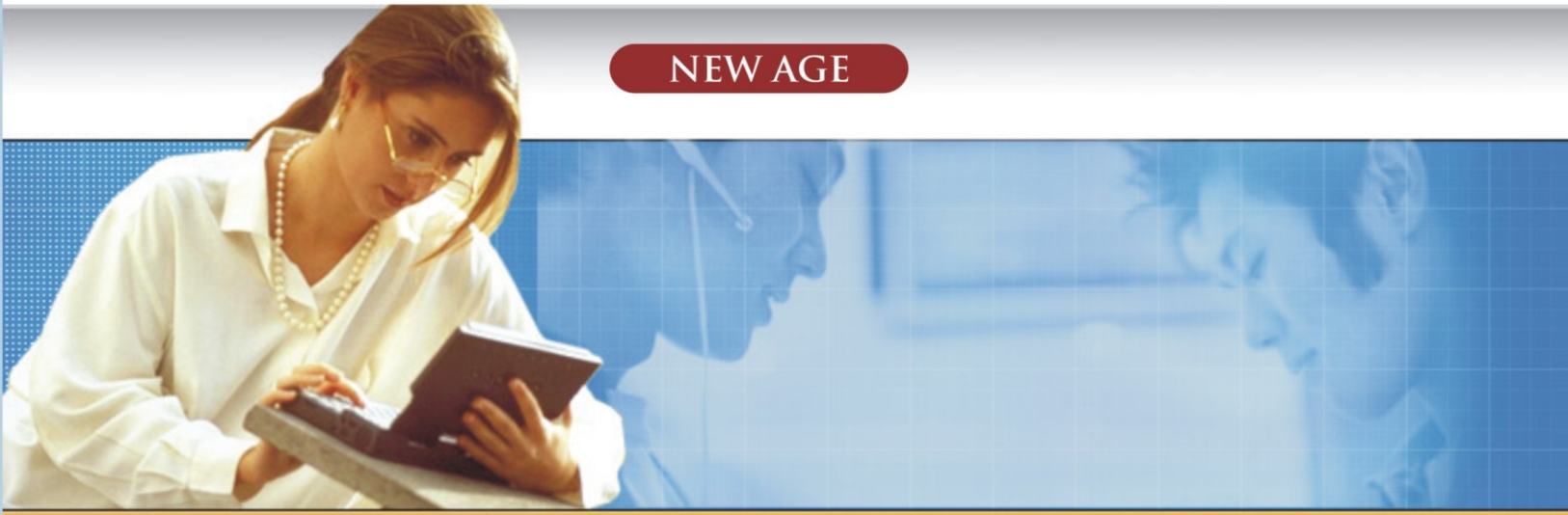


NEW AGE



# A Handbook of VERBAL REASONING

[Useful for U.P.S.C., I.A.S., N.D.A., C.D.S., B.C.S. & Other Major Competitive Exams.]



Surendra Nath Banerjee



NEW AGE INTERNATIONAL PUBLISHERS

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VERBAL REASONING**

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[Useful for U.P.S.C., I.A.S., N.D.A., C.D.S., B.C.S. & Other Major Competitive Exams.]

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# Preface

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In almost all the competitive examinations in our country and abroad, selection of students, trainees and personnel are done through objective type tests by different universities and organisations of both public as well as private sectors. In these days syllabus, curriculum and the standard of examination vary widely from university to university, institution to institution, which makes the comparison or rather discrimination among the candidates a difficult one. Hence such objective type selection is a must in order to find out the right peg for the right hole. Studies conducted in India and abroad have shown that the immediate result of introducing objective type tests for selecting students or personnel for specific courses or jobs is an appreciable reduction in the failure rate.

With my long association with the Psychometric Research and Service Unit of the Indian Statistical Institute, Kolkata, as a faculty, I got the opportunity to conduct a large number of selection programmes for several universities and organisations in both public and private sectors in all over India and thereby developed a large number of objective type Psychometric tests. From these periods I also felt the urge to develop an ideal guide book on General Ability comprising of verbal reasoning, non-verbal abstract reasoning, quantitative reasoning, data interpretation, writing ability, English knowledge and comprehension and breadth of knowledge. The said book must be objective and multiple choice type keeping in view the needs of the candidates appearing in the various competitive examinations conducted by the different examination bodies e.g., U.P.S.C., I.A.S., B.C.S., I.P.S., N.D.A., C.D.S., Banking Service Recruitment Board, S.B.I.P.O., Railway Recruitment Board, I.F.S., L.I.C., G.I.C., Indian Airlines, Hindustan Aeronautics, S.A.I.L., B.H.E.L., CAT, MAT, an various universities and institutes of our country.

Candidates, those who appear for the first time in any competitive examination are generally puzzled after getting the question paper with which they are not at all acquainted in their class room teaching. Moreover, as the candidates are not allowed to take the question papers out of the examination hall, they can't acquaint with the types of questions for which they can prepare prior to any such examination. In this context this book will help the candidates preparing for any competitive examination.

As General Ability Test is a vast subject consisting of different subtests, it is not helpful to cover all these in a single book. In order to cover each aspect of General Ability extensively it is ideal to present in separate books. Keeping all these in view, I am presenting this volume as 'Test of Verbal

Reasoning', which itself is a vast subject consists of tests on Analogies, Analytical Reasoning, Decision Making, Data Sufficiency, Logical Reasoning, Verbal Classification, Series Completion, Coding-Decoding, Blood Relation, Directional Tests, Statement Tests, Critical Reasoning, Venn Diagrams, Sequence Tests and Abstract Reasoning Tests. All the aspects are more or less ably covered in this volume. This book is both a theory book as well as a practical guide for the candidates. First, it will acquaint them with the type of questions they are likely to have in their examination situation. Moreover, in each chapter they will acquaint with the testing tactics for that particular topic which the chapter deals with. Second, the book will serve as a practical guide for drilling them to achieve the desired skill and speed in tackling the examination situation by actually solving the working exercises at the end of each chapter and also the full length model test papers at the end of the book, within the prescribed time limit, which is very essential for success in the examination. Moreover, each of these exercises is provided with the answer keys with proper explanations which will help the candidate to comprehend the subject.

Lastly, I do not want to make any tall claim here, but tried to present the best of my knowledge and experience to the candidates appearing for any competitive examination in the country. Finally, I wish to take this opportunity to thank Messrs New Age International (P) Limited, Publishers, New Delhi, who kindly agreed to publish this book. My best wishes to all the candidates appearing for all the competitive examinations of the country.

**SURENDRA NATH BANERJEE.**

Psychology Research Unit,  
Indian Statistical Institute,  
Kolkata.

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# 1

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## Verbal Classification Test

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### INTRODUCTION

Verbal classification test which is popularly known as “odd man out” test requires assorting of the items of a given group on the basis of a certain common quality they possess and then spotting the odd one in the group—the stranger out. These questions test the abilities of the candidates to observe the differences and similarities among objects or things. In this type of questions out of 5-6 objects (may be letters, words, numbers or figures) all but one are similar in some respect. You have to sort out which one is different (i.e., does not bear the same characteristics as the others in the group) and that gives you the correct answer. There is no rule of thumb to solve problems of this type. You have to sort each answer choice to find out whether it has any association or connection with the other items of the question. The correct answer choice will be that item which has/does not have an association with the other words. Verbal classification questions may involve alphabet/letter, word or numbers, which are as follows:

#### A. ALPHABET/LETTER CLASSIFICATION

In this type you have to identify an alphabet or a group of alphabets that are different from other given items.

#### Directions for Questions 1-32:

In each question below group of letters/alphabets/words are given, four of which are alike in some respect and one is different. Find out the group which is different and mark your answer choice on the answer sheet.

#### Questions:

##### I. Relationship based on position of letters/alphabets

- |            |         |         |         |         |
|------------|---------|---------|---------|---------|
| 1. (A) KL  | (B) OP  | (C) AC  | (D) NO  | (E) WX  |
| 2. (A) EV  | (B) ZA  | (C) CX  | (D) DU  | (E) YB  |
| 3. (A) KMN | (B) BCD | (C) WXY | (D) PQR | (E) FGH |
| 4. (A) PU  | (B) AO  | (C) IZ  | (D) KI  | (E) LE  |

#### Answers and Explanations:

1. (C) Consecutive letters are there in all the other groups except 'C' where one letter has been skipped A(B)C.

2. (D) Here except 'D' all the other pairs consist of one letter from the beginning and one letter from the end of the alphabet series.
3. (A) Here except 'A' all the other groups consist of three consecutive letters. In 'A' one letter has been skipped K(L)MN.
4. (B) Here each pair consists of one consonant and one vowel, except in 'B' where both the letters are vowels.

## II. Relationship based on small and capital letters

- |             |          |          |          |          |
|-------------|----------|----------|----------|----------|
| 5. (A) Bde  | (B) Klm  | (C) nOP  | (D) Rst  | (E) Cbk  |
| 6. (A) AbC  | (B) dEF  | (C) GhI  | (D) KLM  | (E) PqR  |
| 7. (A) ABcd | (B) EFgh | (C) ijKL | (D) MNop | (E) QRst |
| 8. (A) pQrS | (B) dEfG | (C) bCdE | (D) kLmN | (E) uvWX |

### Answers and Explanations:

5. (C) In each pair except 'C' consists of a capital letter in the beginning followed by two small letters; but in 'C' one small letter in the beginning followed by two capital letters.
6. (B) Here except 'B' all the other groups consist of a small letter in between two capital letters. In 'B' the small letter is in the beginning.
7. (C) All the other groups consist of two capital letters in the beginning followed by two small letters.
8. (E) In all the other groups every alternate letter is either small or capital. But in 'E' two consecutive letters in the beginning are small.

## III. Relationship based on vowel and consonant

- |              |          |          |          |          |
|--------------|----------|----------|----------|----------|
| 9. (A) KLMN  | (B) ABCD | (C) EFGH | (D) IJKL | (E) UVWX |
| 10. (A) PiQR | (B) DoCK | (C) AtCD | (D) BuLK | (E) CePT |
| 11. (A) Bond | (B) Ball | (C) Pick | (D) Talk | (E) Boil |
| 12. (A) TPDC | (B) ONGC | (C) KBFM | (D) SMPK | (E) TDMB |

### Answers and Explanations:

9. (A) In all the other groups there are vowels in the beginning. But in 'A' there is no vowel.
10. (C) In each group except 'C' every second letter is a vowel, but in 'C' the letters begin with a vowel.
11. (E) In each group except 'E' there is only one vowel but in 'E' there are two vowels, 'o' and 'i'.
12. (B) In each group except 'B' all the letters are consonant, but in 'B' there is one vowel (o).

## IV. Relationship based on repetition and skipping pattern

- |                |            |            |            |            |
|----------------|------------|------------|------------|------------|
| 13. (A) DDEEFF | (B) KKLLMM | (C) AABCDD | (D) PPQQRR | (E) MMNNOO |
| 14. (A) BdFh   | (B) CeGi   | (C) NpRt   | (D) LnPr   | (E) IkLn   |
| 15. (A) RsuR   | (B) MnpR   | (C) BceG   | (D) KlnP   | (E) PqsU   |
| 16. (A) PaaD   | (B) TbbE   | (C) KmmP   | (D) LttE   | (E) BkkN   |

### Answers and Explanations:

13. (C) In all the other groups letters are repeated except in (C), where the letter 'B' is not repeated.
14. (E) In each group except 'E', one letter has been skipped between each letter, e.g. B(c)d(e)F(g)h., C(d)e(f)G(h)i, etc. But in 'E' it is not so—I(j)KL(m)n, i.e., no skipping between K and L.

15. (A) In all the other groups no letter has been repeated but in (A), the letter 'R' has been repeated.
16. (D) In all the other groups except (D), only two letters have been skipped between the 3rd and 4th letters, e.g., Paa(bc)D, Tbb(cd)E, etc., but in (D) ten letters have been skipped,—Ltt(uvwxyzabcd)E.

#### V. Miscellaneous relationship

17. (A) A                      (B) F                      (C) H                      (D) M                      (E) K
18. (A) P12Q                      (B) C35D                      (C) K23L                      (D) M45N                      (E) H78I
19. (A) O                      (B) S                      (C) G                      (D) C                      (E) T
20. (A) 4A6C                      (B) 2D4F                      (C) 5K6M                      (D) 7P9R                      (E) 1B3D

#### Answers and Explanations:

17. (D) Here the factor is the form of the letter. Except M all the letters are formed by 3 straight lines. Whereas 'M' is formed by 4 lines.
18. (B) Here letter-number combinations are given, where all the four groups except (B) consist of two consecutive letters and numbers, but in 'B' letters are consecutive but the numbers are not.
19. (E) Here also the form of the letters are concerned. Except 'T' all are curved letters.
20. (C) All the other groups, except 'C' consist of letters and numbers and both are skipped, e.g. 4A(5)6(B)C, 2(3)D4(E)F, etc. But in (C) letters are skipped while numbers are not.

#### B. WORD CLASSIFICATION

These questions are like the above examples where there are several basic relationships that could exist between the words. Several types of relationships have been identified and covered below. You do not need to remember the names of these types. You must understand the relationship and be able to solve exercises given below.

##### I. Relationship based on meaning

21. (A) Abase                      (B) Lower                      (C) Humiliate                      (D) Degrade                      (E) Elope
22. (A) Weaken                      (B) Curtail                      (C) Separate                      (D) Mitigate                      (E) Subside
23. (A) Hiss                      (B) Extol                      (C) Praise                      (D) Cheer                      (E) Applaud
24. (A) Discover                      (B) Determine                      (C) Learn                      (D) Ignorant                      (E) Ascertain.

#### Answers and Explanations:

21. (E) All the other words are synonyms or similar in meaning.
22. (C) All the other words are synonyms.
23. (A) All the other words are similar in meaning.
24. (D) All the other words are similar in meaning.

##### II. Relationship based on consistency of words

25. (A) Course                      (B) Bless                      (C) Murder                      (D) Answer                      (E) Letter
26. (A) Best                      (B) Better                      (C) Good                      (D) Bigger                      (E) Volley
27. (A) Dear                      (B) Tear                      (C) Fear                      (D) Care                      (E) Sear
28. (A) Eye                      (B) Atom                      (C) Blast                      (D) Occur                      (E) Ugly

#### Answers and Explanations:

25. (B) Except 'B' all the other words have 6 letters.
26. (A) Except 'A' all the other words have double letters.

27. (D) All the other words have—'ear' in common.  
 28. (C) Except 'C' all the other words begin with a vowel.

### III. Interrelationship of words

29. (A) Tiger (B) Leopard (C) Cat (D) Fox (E) Cougar  
 30. (A) Venus (B) Mercury (C) Earth (D) Mars (E) Moon  
 31. (A) Gold (B) Iron (C) Diamond (D) Copper (E) Silver  
 32. (A) Cow (B) Fish (C) Goat (D) Cat (E) Tiger

### Answers and Explanations:

29. (B) Except 'B' all the others are of the cat family.  
 30. (E) Moon is a satellite, others are planets.  
 31. Here (C) is the answer, as all the other four i.e., Gold, Iron, Copper and Silver are all metals and only diamond is a gem and not metal.  
 32. Here though all the five are animals, but only four of them i.e. Cow, Goat, Cat and Tiger belong to the mammals group. Hence the correct answer is (B) i.e. Fish is not mammal.

## PRACTICE QUESTIONS

### Directions for Questions: 1-60:

In each question below five words are given, marked with A, B, C, D and E, four of which are *alike* in some respect, i.e., they have something in common, only *one* word is *different* from them, i.e. it does not belong to the category to which the other four belong. Find out the word which is different from the rest.

1. (A) Hut (B) Shed (C) House (D) Apartment (E) Capital
2. (A) Kite (B) Rat (C) Bird (D) Dog (E) Cockroach
3. (A) Apple (B) Berry (C) Grapes (D) Potato (E) Mango
4. (A) Ink (B) Pen (C) Pencil (D) Brush (E) Quill
5. (A) Star (B) Sky (C) Cloud (D) Rain (E) Moon
6. (A) Water (B) Milk (C) Ghee (D) Butter (E) Curd
7. (A) Jupiter (B) Earth (C) Moon (D) Mars (E) Venus
8. (A) Boat (B) Ship (C) Yacht (D) Steamer (E) Sea
9. (A) Mother (B) Brother (C) Sister (D) Wife (E) Daughter-in-law
10. (A) Rink (B) Court (C) Arena (D) Ground (E) Farm
11. (A) Fall (B) Tumble (C) Skip (D) Topple (E) Slip
12. (A) Cotton (B) Wool (C) Fur (D) Beard (E) Eyebrow
13. (A) Bangladesh (B) China (C) Japan (D) Pakistan (E) Sri Lanka
14. (A) Cricket (B) Table tennis (C) Football (D) Hockey (E) Tennis
15. (A) Eyes (B) Ear (C) Nose (D) Pancreas (E) Skin
16. (A) Sorrow (B) Anger (C) Weep (D) Love (E) Fear
17. (A) November (B) December (C) January (D) October (E) August
18. (A) Committee (B) Council (C) Panel (D) Cabinet (E) Secretary
19. (A) Sun (B) Moon (C) Wood (D) Gas (E) Coal
20. (A) Trust (B) Confidence (C) Truth (D) Assurance (E) Belief
21. (A) Honesty (B) Morality (C) Anxiety (D) Behaviour (E) Weight
22. (A) Silver (B) Callous (C) Button (D) Gritty (E) Brass
23. (A) Bird (B) Aircraft (C) Radar (D) Rocket (E) Kite

24. (A) Rose (B) Lotus (C) Jasmine (D) Tube rose (E) Dahlia  
 25. (A) Kolkata (B) Mumbai (C) Patna (D) Guwahati (E) Chandigarh  
 26. (A) Libra (B) Saturn (C) Mars (D) Pluto (E) Uranus  
 27. (A) M.K. Gandhi (B) J.V. Stalin (C) Laxmi Bai (D) Abraham Lincoln (E) Indira Gandhi  
 28. (A) Echo (B) Resonance (C) Tone (D) Ear (E) Note  
 29. (A) Bull (B) Camel (C) Buffalo (D) Goat (E) Cow  
 30. (A) Asteroids (B) Meteors (C) Comet (D) Meteorites (E) Cirrus  
 31. (A) AC (B) BD (C) CD (D) DF (E) EG  
 32. (A) ZA (B) YB (C) XC (D) UD (E) VE  
 33. (A) DAB (B) OPL (C) TIM (D) PEN (E) QUC  
 34. (A) Oprs (B) FgHi (C) AcDe (D) KIMn (E) PvWx  
 35. (A) IkLn (B) SuVx (C) GiJl (D) PqrT (E) DfGI  
 36. (A) AktF (B) TbnP (C) OqrS (D) EjcM (E) UbtK  
 37. (A) ABBC (B) XYYZ (C) UWWX (D) RSST (E) MNNO  
 38. (A) PQRT (B) DEFH (C) LMNP (D) RSTU (E) BCDF  
 39. (A) HIKL (B) LMPQ (C) DEGH (D) RSUV (E) KLNO  
 40. (A) ONLK (B) JIGF (C) SRQP (D) UTRQ (E) FECB  
 41. (A) KJLM (B) NMOP (C) QRUT (D) HGJl (E) JIKL  
 42. (A) OPMN (B) JIKL (C) FEGH (D) RQST (E) DCEF  
 43. (A) JLKM (B) FHGI (C) PRQS (D) IJKL (E) ADCE  
 44. (A) KLLM (B) GIJ (C) PRRS (D) TVVW (E) OQQR  
 45. (A) AAEEII (B) BBFFJJ (C) OORRVV (D) MMQQUU (E) PPTTXX  
 46. (A) CAT (B) RAT (C) FAT (D) EAT (E) HAT  
 47. (A) APPLE (B) DEAR (C) MOON (D) FEAR (E) LETTER  
 48. (A) RTSK (B) ADGH (C) MOQR (D) TXSI (E) NUBP  
 49. (A) FFGH (B) GGIR (C) KKLM (D) OOPQ (E) BBCD  
 50. (A) RQPO (B) UTSR (C) EDCB (D) JIHG (E) NMOP  
 51. (A) APPLE (B) OUT (C) ERROR (D) POT (E) IMAGE  
 52. (A) PUKZ (B) LPiT (C) FoMD (D) WKaS (E) TMSe  
 53. (A) CHM (B) HMR (C) RWB (D) DIN (E) LPU  
 54. (A) LEVEL (B) UNCLE (C) FATHER (D) READ (E) PEAR  
 55. (A) D12E (B) A24B (C) P19Q (D) E10F (E) K16L  
 56. (A) KT29 (B) PM25 (C) BN16 (D) FD49 (E) CK36  
 57. (A) E5 (B) H8 (C) L12 (D) B7 (E) P16  
 58. (A) W (B) X (C) V (D) T (E) B  
 59. (A) q (B) h (C) d (D) t (E) k  
 60. (A) B21A (B) D43C (C) F56E (D) H87G (E) I98H

**Answers and Explanations:**

- (E) Capital is the city while others are dwelling places.
- (A) All the others are animals.
- (D) Only grows in the underground.
- (A) It is the medium while others are instruments.
- (D) Only drops in the earth.
- (A) Others are milk products.
- (C) Only the satellite while others are planets.
- (E) All the others are vessels.

9. (B) All the others are woman relatives.
10. (E) All the others are connected with games.
11. (C) All the others are ways of falling down.
12. (A) All the others have hair contents.
13. (C) All the others are neighbouring countries of India.
14. (B) The only indoor game.
15. (D) The only internal organ of the body.
16. (C) It is the expression while others are emotion.
17. (A) Only month with 30 days.
18. (E) Only single person while others are functioning bodies of certain members.
19. (B) All the others can be used as fuel.
20. (C) All the others are sort of faiths.
21. (E) The only physical aspect.
22. (A) All the others have double letters.
23. (C) Radar can not fly.
24. (B) The only water flower.
25. (D) Others are capital city.
26. (A) It is not a planet.
27. (B) All the others are assassinated.
28. (D) All the others are properties of sound.
29. (D) All the others have humps.
30. (E) It is the cloud others are heavenly bodies.
31. (C) Every alternate letter is taken to make the pairs. But in (C) two consecutive letters are taken.
32. (D) Here except (D), all the pairs consist of one letter from the end and one letter from the beginning.
33. (B) Except (B) all the other groups have vowels in the middle.
34. (A) Except (A) each group contains two capital and two small letters.
35. (D) Except (D) all the others have capital and small letter in alternates and also the sequence of letters.
36. (B) Except in (B), each group of letters starts with a vowel.
37. (C) Except in (C), first two letters of all the other groups are consecutive.
38. (D) Only group where the last two letters are consecutive.
39. (B) Only group where double letters are skipped.
40. (C) Only group where no letter is skipped.
41. (C) Only group where sequence of letters are not there.
42. (A) Only group where sequence of letters are different.
43. (E) Only group where letters are not consecutive.
44. (A) Only group where first two letters are consecutive.
45. (C) Pattern should be OO(PQR) SS(TUV) WW.
46. (D) Others have one vowel.
47. (A) Only group begins and ends with vowel.
48. (A) No vowel is there. Others have one vowel.
49. (B) In others no letter has been skipped.
50. (E) In others letters are consecutive from backward.
51. (D) Only word starts with a consonant.
52. (A) In all the other groups vowels are in small letters.
53. (E) In all other groups four intervening letters are skipped.



54. (B) Only word starts with a vowel.  
 55. (C) In all the other groups numbers are divisible by 2.  
 56. (A) In all the other groups numbers are a perfect square, e.g.  $5^2 = 25$ ,  $4^2 = 16$ ,  $7^2 = 49$  and  $6^2 = 36$ .  
 57. (D) In all the other groups exact position number of the alphabet series is given along with the letters.  
 58. (E) All the other letters are formed by straight lines, whereas B is formed by curved lines.  
 59. (A) Except all the other letters having a tail upward, in A(q) the tail is downward.  
 60. (C) In all the other groups position numbers are given according to the alphabetical sequences. But in 'C' it is just reversed, i.e., instead of 'F65E' it is 'F56E'.

### C. JUMBLED WORDS/LETTERS

In these questions letters of the words are presented in a disarranged manner. You will have to find out the word by rearranging the letters. As for example, the following words are presented in a disarranged way, you are to find out the word by rearranging the letters and mark the last letter from given alternatives.

#### Questions:

- |          |       |       |       |       |
|----------|-------|-------|-------|-------|
| 1. ENRGE | (A) N | (B) G | (C) R | (D) E |
| 2. SMITE | (A) E | (B) M | (C) S | (D) T |
| 3. NKIP  | (A) K | (B) I | (C) P | (D) N |
| 4. ATHRE | (A) E | (B) R | (C) H | (D) A |

#### Answers and Explanations:

- (A) The word is 'GREEN', so 'N' is the last letter and thus the correct answer.
- (C) The word is 'TIMES', here 'S' is the last letter.
- (A) The word is 'PINK', so 'K' is the last letter.
- (C) The word is 'EARTH', so 'H' is the last letter. Here the other possible word is 'Heart', but as among the answer choices 'T' is not there, so this word has not been considered.

## PRACTICE TEST

#### Directions for Questions 1-20:

In each question below letters of some word are presented in a disarranged way. You are to find out the word after rearranging the letters and mark the last letter of the words from the alternative answers (marked A, B, C, D or E) given along with each question.

- |            |       |       |       |       |       |
|------------|-------|-------|-------|-------|-------|
| 1. LREVSI  | (A) L | (B) R | (C) I | (D) V | (E) E |
| 2. CSLPAA  | (A) C | (B) P | (C) A | (D) L | (E) S |
| 3. EKLEN   | (A) L | (B) K | (C) N | (D) A | (E) E |
| 4. RTWEA   | (A) W | (B) A | (C) E | (D) T | (E) R |
| 5. YEBTUA  | (A) B | (B) T | (C) Y | (D) E | (E) U |
| 6. DNHAEL  | (A) E | (B) L | (C) H | (D) A | (E) N |
| 7. UANSRT  | (A) T | (B) U | (C) R | (D) N | (E) S |
| 8. EYGXON  | (A) N | (B) Y | (C) O | (D) X | (E) E |
| 9. RAIFAC  | (A) C | (B) F | (C) R | (D) I | (E) A |
| 10. ETLRI  | (A) R | (B) E | (C) T | (D) I | (E) L |
| 11. LTPEOR | (A) T | (B) O | (C) L | (D) P | (E) R |



12. AHPCE	(A) E	(B) C	(C) H	(D) P	(E) A
13. HNBCE	(A) H	(B) N	(C) E	(D) C	(E) B
14. UOLCRO	(A) U	(B) C	(C) O	(D) L	(E) R
15. VTRLEA	(A) T	(B) L	(C) R	(D) E	(E) V
16. EVMUOL	(A) V	(B) M	(C) E	(D) L	(E) O
17. MYLIFA	(A) L	(B) F	(C) M	(D) Y	(E) A
18. TREMSA	(A) R	(B) A	(C) S	(D) M	(E) E
19. IWLEH	(A) H	(B) L	(C) I	(D) E	(E) W
20. BEINOCM	(A) N	(B) E	(C) N	(D) C	(E) O

**Answers and Explanations:**

- (B) The word is 'SILVER', the last letter is 'R' and it is the answer.
- (D) The word is 'PASCAL'.
- (A) The word is 'KNEEL'.
- (E) The word is 'WATER'.
- (C) The word is 'BEAUTY'.
- (A) The word is 'HANDLE'.
- (D) The word is 'SATURN'.
- (A) The word is 'OXYGEN'.
- (E) The word is 'AFRICA'.
- (B) The word is 'LITRE'.
- (C) The word is 'PETROL'.
- (D) The word is 'CHEAP'.
- (A) The word is 'BENCH'.
- (E) The word is 'COLOUR'.
- (B) The word is 'TRAVEL'.
- (C) The word is 'VOLUME'.
- (D) The word is 'FAMILY'.
- (A) The word is 'MASTER'.
- (D) The word is 'WHILE'.
- (B) The word is 'COMBINE'.

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# Verbal Analogy

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## INTRODUCTION

Analogy means similarity in certain respects between different objects. These types of questions ask you to determine the relationship between the members of different pairs of words. You are given a pair of words usually in capital letters and four or five answer choice pairs whose words are related in the same way. The relationship between the words in the original pair will always be specific and precise as will the relationship between the words in the correct or best answer pair. In answering an analogy question, you must determine the exact relationship between the two capitalised words. Before you look at the answer choices, you must see how these capitalised words are related to each other. Then test the possible answers by seeing how well they fit in. Once you have analysed analogy questions you will find that they fall into certain patterns. You should be able to answer them reasonably rapidly. Take a look at an example:

PSYCHOLOGIST: MIND

(A) Botanist: Mango

(B) Orthopaedic: Bone

(C) Heart: Cardiologist

(D) Oculist: Nerve

A 'Psychologist' deals with 'mind', similarly an orthopaedist deals with bones. In alternative 'C' we also find the same relationship, a cardiologist deals with heart, but here the sequence of the words are different from the original capitalised words, i.e. here the person comes second and object comes first. But in original words the person comes first and the object in the second. So, 'B' is the best answer choice here. Among other answer choices, i.e., in 'A' and 'D', we don't find any such relationship. One more thing you will have to look out, i.e., the parts of speech of the capitalised words. In analogy questions, relationship between the parts of speech of the capitalised words and parts of speech of the answer choices is identical, i.e., if the capitalised words are noun and verb, the answer pair will also be a noun and a verb.

Analogies tend to fall into certain basic types. Several possible types of relationships have been identified and covered in this chapter. There is no need to remember the names of these types. If you can discover no apparent relationship between the two capitalised words, try establishing a relationship between them based on the types used below.

### TYPE 1

#### Directions for Questions:

In each question below one pair of capital letters is followed by other four pairs of words (marked

A, B, C and D). The pair of words in capitals are related to each other in some way. Choose from the other four pairs of words, the pair which best expresses the same relationship as the words in capitals.

**Example : 1** (*Antonym relationship*)

POOR: RICH

- (A) Miser: Beggar      (B) Wealth: Money      (C) Cat: Mouse      (D) Dead: Living

**Explanation and Answer:**

Here the first step is to find out the relationship between the capital letters in the question, i.e. POOR: RICH.

They are quite opposite in meaning. Among the answer choices the pairs that has the same relationship, i.e. opposite in meaning we find the answer is (D) Dead: Living. 'Dead' is quite opposite of 'living'. Hence, it is the answer choice.

**A. ANTONYM RELATIONSHIP**

- |   |  |
|---|--|
| <p>1. Nervous : Poise<br/>(A) NERVE : NERVOUS<br/>(B) Advocate : Oppose<br/>(C) Affable : Useless<br/>(D) Humiliate : Abase</p> <p>2. ADULATION : CRTITICISM<br/>(A) Consent : Accede<br/>(B) Abortive : Usuccessful<br/>(C) Steal : Amble<br/>(D) Wax : Wane</p> | <p>3. ORDER : ANARCHY<br/>(A) Iniquitous : Virtue<br/>(B) Renounce : Abjure<br/>(C) Ablution : Survival<br/>(D) Courtesy : Despair</p> <p>4. AGILITY : AWKWARDNESS<br/>(A) Deviation : Aberration<br/>(B) Recidivist : Backslider<br/>(C) Abstinent : Gorge<br/>(D) Profound : Suspended</p> |
|---|--|

**Explanations and Answers:**

1. (B)      2. (D)      3. (A)      4. (C)

In all the above cases the relationship among the words in questions are opposite in meaning. Both words belong to the same part of speech. So, in example 1, only 'B' has the same relationship i.e., Advocate is opposite of 'oppose'. Similarly in 2, wax is the opposite of wane, in 3, iniquitous is opposite of 'virtue' and in 4, Abstinent is the opposite of 'Gorge'.

**Example : 2** (*Gender relationship*)

BOY: GIRL

- (A) Mother: Father      (B) Hen: Cock      (C) Cow: Bull      (D) Horse: Mare

**Explanation and Answer:**

Here, the relationship is of gender or sex. Though we find that all the pairs are of same relationship with each other, the correct or best answer is (D) Horse: Mare, because the sequence of items (D) i.e. male comes first as in question pair i.e., BOY, followed by females. While in all the other alternatives the females comes first.

**B. GENDER RELATIONSHIP**

- |  |  |
|--|--|
| <p>1. HORSE : MARE<br/>(A) Lion : Cub<br/>(B) Mare : Stallion<br/>(C) Husband : Wife<br/>(D) Father : Daughter</p> | <p>3. MAN : WOMAN<br/>(A) Lady : Lad<br/>(B) Swan : Cygnet<br/>(C) Other : Ostrich<br/>(D) Bachelor : Spinster</p> |
|--|--|

2. DOE : STAG  
 (A) Bull : Cow  
 (B) Vixen : Fox  
 (C) Drake : Duck  
 (D) Hen : Crow
4. GANDER : GOOSE  
 (A) Gamin : Gamine  
 (B) Girl : Boy  
 (C) OX : Bull  
 (D) Hen : Chicken

**Answers and Explanations:**

1. (C)                      2. (B)                      3. (D)                      4. (A)

Here the relationship among the words in questions are gender or sex. Though we find, in most of the alternative answers the same relationship but there is only one best possible answer in each question. As in question 1 the best possible answer is 'C', i.e. Husband : Wife; and not 'B' or 'D', because for 'B' the sequence is different and for 'D' Daughter is not exactly the opposite of Father. Similarly in 2, 'B' is the best answer and neither 'A' OR 'C' due to different sequence. For questions 3 and 4 the correct or best answers are 'D' and 'A' respectively.

**Example : 3 (Synonym relationship)**

AGGREGATE : SUM

- (A) Deciduous : Evergreen                      (B) Nepotism : Maturing  
 (C) Inoculate : Infect                              (D) Dearth : Abundance

**Explanation and Answer:**

Here, the Aggregate and Sum are similar in meaning (Synonym). The same relationship is found only in the alternative (C), i.e. Infect is the synonym of Inoculate. Hence, (C) is the correct answer. Others are antonyms.

**C. SYNONYM RELATIONSHIP**

1. MAGNIFICENT : GRANDIOSE  
 (A) Praising : Derogatory  
 (B) Lessen : Dwindle  
 (C) Reconcile : Alienate  
 (D) Devoid : Suspecting
2. THINK : RATIOCINATE  
 (A) Voracious : Ravenous  
 (B) Dilate : Divert  
 (C) Fiery : Acquiver  
 (D) Silence : Din
3. INGENUOUS : NAIVE  
 (A) Insipid : Wily  
 (B) Clever : Cautious  
 (C) Zealot : Fanatic  
 (D) Winsome : Pained
4. VERBOSE : WORDINESS  
 (A) Carnal : Spiritual  
 (B) Surrender : Flee  
 (C) Celibate : Married  
 (D) Baneful : Poisonous

**Answers and Explanations:**

1. (B) Grandiose means magnificent and Dwindle means lessen.  
 2. (A) To Rationale is to think, similarly voracious is to Ravenous.  
 3. (C) Ingenuous is the synonym of Naive as Zealot is the Fanatic.  
 4. (D) Verbose and wordiness are similar in meaning as Baneful and Poisonous.

**Example : 4 (Grammatical relationship)**

FLOWER: BEAUTIFUL

- (A) Enemy: Bad                      (B) Rose: Flower                      (C) Sweet: Smell                      (D) Tall: Man

**Explanation and Answer**

There is a grammatical relationship between the question pairs, e.g., 'Flower' is noun and 'Beautiful' is adjective qualifying the noun 'Flower'. Among the alternatives, except (B) all the other three

have the same relationship. But the best answer choice is (A) i.e., Enemy (noun) and Bad (adjective), because for (C) & (D) though relationships are correct, sequences do not match with the question pair.

#### D. GRAMMATICAL RELATIONSHIP

- |  |   |
|--|---|
| <p>1. PAINT : PAINTER<br/>         (A) Pen : Writer<br/>         (B) Artist : Brush<br/>         (C) Write : Writer<br/>         (D) Cooker : Cook</p> | <p>2. NICETY : NICELY<br/>         (A) Muffle : Muffler<br/>         (B) Mourner : Mournfully<br/>         (C) Mountain : Mountaineer<br/>         (D) Move : Mover</p> |
|--|---|

#### Answers and Explanations:

- (C) Paint is the transitive verb and painter is noun, similarly write is the transitive verb and writer is noun.
- (B) Here 'Nicety' is noun whereas 'Nicely' is adverb the only alternative with same relationship is Mourner : Mournfully.

#### Example : 5 (Creator-createe relationship)

- |   |  |
|---|--|
| CARPENTER : FURNITURE                                 |  |
| <p>(A) Typist : Type<br/>         (C) Poem : Poet</p> | <p>(B) Computer : Programme<br/>         (D) Cook : Cutlet</p> |

#### Explanation and Answer:

Here carpenter creates or prepare a Furniture, similarly a cook prepares a cutlet. So (D) is the best answer choice. In the choice of (C) though relationship is correct but the sequence does not match the question pair.

#### E. CREATOR-CREATEE RELATIONSHIP

- |   |  |
|---|--|
| <p>1. POET : SONNET<br/>         (A) Building : Architect<br/>         (B) Editor : Newspaper<br/>         (C) Prose : Verse<br/>         (D) Composer : Song</p> | <p>(C) Poem : Poet<br/>         (D) Book : Author</p>  |
| <p>2. MASON : WALL<br/>         (A) Sculptor : Statue<br/>         (B) Chair : Carpenter</p>  | <p>3. AUTHOR : BOOK<br/>         (A) Surgeon : Forceps<br/>         (B) Ring : Goldsmith<br/>         (C) Barber : Hair<br/>         (D) Architect : Blueprint</p> |

#### Answers and Explanations:

- (D) A poet creates sonnet similarly a composer creates song.
- (A) A mason builds a wall, a sculptor creates a statue. In other alternatives though same relationships are there the sequences are different.
- (D) An author creates a book, an architect designs a blueprint. In 'B' though same relationship is there, but the sequence is different.

#### Example : 6 (Worker-tool relationship)

- |                         |                           |                              |                             |
|-------------------------|---------------------------|------------------------------|-----------------------------|
| BLACKSMITH : HAMMER     |                           |                              |                             |
| <p>(A) Pen : Writer</p> | <p>(B) Cloth : Tailor</p> | <p>(C) Surgeon : Forceps</p> | <p>(D) Carpenter : Wood</p> |

#### Explanation and Answer:

Here, Blacksmith uses Hammer (tool), similarly 'Surgeon' uses Forceps (tool). So (C) is the best

answer choice. Though (A) has the same relationship it can be eliminated due to sequence. Similarly (B) and (D) should be eliminated as 'Cloth' and 'Wood' are not tools.

#### F. WORKER-TOOL RELATIONSHIP

- |   |   |
|---|---|
| <p>1. PAINTER : BRUSH<br/>         (A) Artist : Picture<br/>         (B) Meat : Cook<br/>         (C) Doctor : Stethoscope<br/>         (D) Paper : Student</p> <p>2. SICKLE : REAPER<br/>         (A) Newspaper : Editor<br/>         (B) Saw : Carpenter<br/>         (C) Boy : Ball<br/>         (D) Driver : Engine</p> | <p>3. HUNTER : GUN<br/>         (A) Carpenter : Vise<br/>         (B) Wall : Mason<br/>         (C) Runner : Sneakers<br/>         (D) Pen : Writer</p> <p>4. TAILOR : SEWING MACHINE<br/>         (A) Cobbler : Shoe<br/>         (B) Forcep : Surgeon<br/>         (C) Writer : Pen<br/>         (D) Book : Pupil</p> |
|---|---|

#### Answers and Explanations:

- (C) As painter uses brush, Doctor uses stethoscope; here 'D' may also have the same relationship but the sequence is different.
- (B) A reaper uses sickle to cut his grain, similarly a carpenter uses a saw for his work.
- (A) A hunter uses gun for hunting similarly a carpenter uses a vise to hold the object being worked on.
- (C) Here tool of the Tailor is sewing machine and tool of the Writer is pen. Though in 'B' and 'D' we find same relationship but the sequences are different.

#### Example : 7 (Cause and effect relationship)

STIMULUS : INCITEMENT

- |                          |                               |
|--------------------------|-------------------------------|
| (A) Infiltrate : Call    | (B) Repercussion : Inhibition |
| (C) Caustic : Invigorate | (D) Irritant : Annoyance      |

#### Explanation and Answer:

Here, (D) is the best answer. As, 'Stimulus' causes 'incitement', similarly 'irritant' causes 'annoyance'. In (A), (B) and (C) no such relationship is found.

#### G. CAUSE AND EFFECT RELATIONSHIP

- |  |   |
|--|---|
| <p>1. FIRE : DESTRUCTION<br/>         (A) Dog : Bark<br/>         (B) Rain : Cloud<br/>         (C) Laugh : Joke<br/>         (D) Rain : Flood</p> <p>2. VIRUS : AIDS<br/>         (A) Malaria : Mosquito<br/>         (B) Diabetes : Sugar<br/>         (C) Exercise : Fatigue<br/>         (D) Leg : Run</p> | <p>3. SOPORIFIC : SLEEPINESS<br/>         (A) Hunger : Fast<br/>         (B) Disease : Death<br/>         (C) Car : Wheel<br/>         (D) Refine : Style</p> <p>4. STIMULUS : INCITEMENT<br/>         (A) Insult : Humiliate<br/>         (B) Injury : Accident<br/>         (C) Fear : Ghost<br/>         (D) Hot : Sun</p> |
|--|---|

#### Answers and Explanations:

- (D) Fire causes destruction and Rain causes flood. In 'C' the sequence is different.
- (C) Virus causes Aids and exercise causes fatigue. Though 'A' and 'B' have the same relationships their sequences are different.
- (B) A soporific causes sleepiness and effect of disease may be death.

4. (A) A stimulus causes incitement and insult results in humiliation.

**Example : 8** (*Tool and object relationship*)

PEN : PAPER

- (A) Pencil : Eraser      (B) Saw : Wood      (C) Pen : Ink      (D) Nail : Iron

**Explanation and Answer:**

Here 'Pen' is used to write on the 'Paper'. So 'Pen' is the tool and 'Paper' is the object. Among the alternatives only (B) we find such relationship, i.e., 'Saw' is used to cut the 'Wood' (Object). Hence (B) is the correct answer.

**H. TOOL AND OBJECT RELATIONSHIP**

- |  |  |
|--|--|
| <p>1. HARROW : SOIL<br/>(A) Knife : Scissors<br/>(B) Coal : Fire<br/>(C) Hammer : Nail<br/>(D) Paper : Book</p> <p>2. KNIFE : FRUITS<br/>(A) Flower : Garden<br/>(B) Eraser : Paper<br/>(C) Lamp : Light<br/>(D) Letter : Type</p> | <p>3. NEEDLE : CLOTH<br/>(A) Cloth : Scissor<br/>(B) Ink : Pen<br/>(C) Polish : Wood<br/>(D) Saw : Wood</p> <p>4. RAZOR : HAIR<br/>(A) Screw-driver : Screw<br/>(B) Lawn : Grass<br/>(C) Cup : Plate<br/>(D) Statue : Marble</p> |
|--|--|

**Answers and Explanations:**

- (C) Here 'Harrow' is the tool and 'Soil' is the object on which it is used, similarly, 'hammer' is used on the nail.
- (B) Fruits are cut by knife and paper is erased by 'Eraser'.
- (D) Needle is used for sewing the cloth and 'saw' is used for cutting the 'wood'.
- (A) Razor is used for shaving the hair, screw-driver is used for tighten the screw.

**Example : 9** (*Difference of degree or intensity relationship*)

ADMIRATION : OBSESSION

- (A) Basic : Fundamental      (B) Usually : Often      (C) Quarrel : War      (D) Decay : Rot

**Explanation and Answer:**

Here the meaning is same but different in degree only. As, 'Obsession' is the extreme point of 'admiration', similarly, 'War' is the extreme point of 'Quarrel'. Hence (C) is the best answer choice. Though in (B) the same relationship is found but its sequence is different.

**I. DIFFERENCE OF DEGREE OR INTENSITY RELATIONSHIP**

- |   |   |
|---|---|
| <p>1. FOND : DOTING<br/>(A) Lady : Calm<br/>(B) Refuse : Deny<br/>(C) Pet : Love<br/>(D) Bushel : Peck</p> <p>2. FLURRY : BLIZZARD<br/>(A) Hail : Storm<br/>(B) Snow : Rain</p> | <p>3. GRASPING : RAPACIOUS<br/>(A) Hold : Comprehend<br/>(B) Police : Thief<br/>(C) Book : Knowledge<br/>(D) Stir : Beat</p> <p>4. QUARREL : WAR<br/>(A) Speckle : Spots<br/>(B) Pubescent : Mature</p> |
|---|---|

- (C) Gale : Tempest  
(D) Storm : Wind

- (C) Axe : Mallet  
(D) Fry : Bake

**Answers and Explanations:**

- (B) 'Fond' is less extreme than 'Doting' and 'Deny' is the extreme form of 'Refuse'.
- (C) A flurry of snow is less extreme than 'Blizzard' and 'Tempest' is the extreme form of 'gale'. Here 'D' has got the same relationship but the sequence is different.
- (D) To be 'grasping' is less extreme than to be rapacious and to 'beat' is more extreme than to 'stir'.
- (A) 'War' is the extreme form of quarrel and 'spots' are extreme form of 'speckle'.

**Example : 10** (*Whole part or part-whole relationship*)

MOTOR : COIL

- (A) Wheels : Bearings      (B) Table : Chair      (C) Regiment : Soldier      (D) Wheel : Car

**Explanation and Answer:**

Here the 'Coil' is the part of a 'Motor' (Whole). Similar relation exists in both (C) and (D), but since the sequence of (D) is different from the question, (C) is the best choice, where 'Soldier' is the part of a 'Regiment' (Whole).

**J. WHOLE PART OR PART-WHOLE OR PART-PART RELATIONSHIP**

1. ISLAND : ARCHIPELAGO

- (A) Car : Wheel  
(B) Book : Paper  
(C) Bombers : Squadron  
(D) Head : Leg

2. SHARD : POTTERY

- (A) Pig : Litter  
(B) Chair : Wood  
(C) Iron : Rod  
(D) Necklace : Bead

3. POEM : CANTO

- (A) Writer : Poet  
(B) Poem : Sonnet  
(C) Empire : Kingdom  
(D) Rupee : Paisa

4. EYE : NOSE

- (A) Smell : Vision  
(B) Leg : Ear  
(C) Head : Body  
(D) Hand : Gloves

**Answers and Explanations:**

- (C) Archipelago is a group of Islands and Squadron is a group of 'bombers'. This is a part-whole relationship.
- (A) This is also a part-whole relationship. Shard is a fragment of Pottery, and litter is a collection of pigs. There is same relationship in 'D' also but the sequence is different.
- (D) This is a whole part relationship. A 'canto' is part of a Poem and Paisa is part of a Rupee.
- (B) It is Part-part relationship. Eye and Nose both are parts of a body and leg and ear are also parts of a body.

**Example : 11** (*Functional relationship*)

SPEAKER : LEGISLATIONS

- (A) Judge : Hearings  
(C) Jury : Court

- (B) Assembly : Member  
(D) Lawyer : Evidence

**Explanation and Answer:**

Here the function of the 'Speaker' is to 'legislate' similarly the function of the 'Judge' is to give judgement on the basis of 'hearings'. Hence (A) is the best choice.

CALENDAR : DATE



- (A) Temperature : Thermometer  
(C) Pen : Ink

- (B) Clock : Time  
(D) Machine : Mechanic

**Explanation and Answer:**

Here the association is functional, as 'Calendar' shows 'dates', similarly 'clock' shows 'time'. So, (B) is the best answer choice here. Though in (A) 'thermometer' shows 'temperature' is also functional relationship, but the sequence is different. But in both (C) and (D), there are associations but not functional.

**K. FUNCTIONAL RELATIONSHIP**

1. SPRING : RESILIENCY

- (A) Asylum : Refuge  
(B) Jury : Court  
(C) Doctor : Patient  
(D) Police : Crime

2. SCISSORS : CUT

- (A) Surgeon : Forcep  
(B) Fuel : Smoke  
(C) Ballast : Stability  
(D) Judge : Court

3. FIRE : BURN

- (A) Earthquake : Volcano  
(B) Cloud : Rain  
(C) Disease : Doctor  
(D) Float : Air

4. SPEAKER : LEGISLATIONS

- (A) M.L.A. : M.P.  
(B) Court : Judge  
(C) Municipal : Mayor  
(D) Judge : Adjudicate

5. PEN : WRITE

- (A) Pen : Pencil  
(B) Axe : Grind  
(C) Ink : Paper  
(D) Cut : Knife

6. ASYLUM : REFUGE

- (A) Doctor : Disease  
(B) School : Teacher  
(C) Hospital : Treatment  
(D) Cow : Milk

7. LULL : STORM

- (A) Brake : Engine  
(B) Sun : Rain  
(C) Cloud : Wind  
(D) Car : Wheel

8. COURT : JUSTICE

- (A) Judge : Law  
(B) Advocate : Brief  
(C) Hospital : Doctor  
(D) School : Education

**Answers and Explanations:**

- (A) Spring provides resiliency to a car, similarly asylum provides refuge or protection.
- (C) Function of the scissor is to cut and function of ballast is to give stability to a ship.
- (B) Fire causes burn and cloud causes rain. Though there are functional relationships in the alternative answers of (A) and (C) but the sequences are different.
- (D) Function of a speaker is to legislate and function of a judge is to participate in court hearings.
- (B) A pen is used for writing and an axe is used for grinding. In 'D' the sequence is different.
- (C) An asylum provides refuge or protection similarly a hospital provides treatment.
- (A) A lull interrupts a storm and a brake interrupts an engine.
- (D) A court is meant for justice and a school is meant for education.

**Example : 12 (Classification relationship)**

DOG : MAMMAL

- (A) Cat : Fish            (B) Rose : Flower            (C) Beef : Mutton            (D) Mushroom : Fungies

**Explanation and Answer:**

Here 'Dog' is classified under Phylum 'Mammalia' similarly 'Mushroom' is classified under sub-

phylum 'Fungi'. Hence (D) is the best choice. Since 'Flower' is the vegetative parts of a plant and not categorised as Phylum or sub-phylum, (B) cannot be a possible answer.

#### L. CLASSIFICATION RELATIONSHIP

- |  |  |
|--|--|
| <p>1. AMPHIBIA : SALAMANDER<br/>         (A) Physics : Metaphysics<br/>         (B) Reptiles : Crocodile<br/>         (C) Frog : Toad<br/>         (D) House : Room</p> <p>2. Sonnet : Poem<br/>         (A) Poet : Poetry<br/>         (B) Book : Page<br/>         (C) Shakespeare : Rabindranath<br/>         (D) Classical : Music</p> | <p>3. METAPHYSICS : PHILOSOPHY<br/>         (A) Sound : Physics<br/>         (B) Medicine : Anatomy<br/>         (C) Aves : Bird<br/>         (D) Biology : Botany</p> <p>4. HERBS : GRASS<br/>         (A) Shrubs : Trees<br/>         (B) Chilli : Cloves<br/>         (C) Arthropoda : Prawn<br/>         (D) Mammal : Seahorse</p> |
|--|--|

#### Answers and Explanations:

- (B) Salamander belongs to Amphibian family and crocodile belongs to Reptiles family.
- (D) A sonnet is a specific kind of poem and classical is a specific type of music.
- (A) Metaphysics belongs to the field of philosophy and sound belongs to the field of Physics. In all the other cases though there are same relations but their sequences are different.
- (C) Grass is classified as herbs and prawn is classified as Arthropods.

#### Example : 13 (Sequential relationship)

- SUMMER : AUTUMN  
 (A) Winter : Spring      (B) A : D      (C) 1 : 3      (D) Monday : Friday

#### Explanation and Answer:

In a season 'Summer' comes first and 'Autumn' third, So (C) is the best choice.

#### M. SEQUENTIAL RELATIONSHIPS

- |   |  |
|---|--|
| <p>1. PROLOGUE : EPILOGUE<br/>         (A) Autumn : Winter<br/>         (B) 2 : 5<br/>         (C) Morning : Day<br/>         (D) Dawn : Twilight</p> <p>2. 18 : 17<br/>         (A) 15 : 16<br/>         (B) L : K<br/>         (C) 25 : 23<br/>         (D) A : B</p> | <p>3. MAY : JULY<br/>         (A) 8 : 10<br/>         (B) March : June<br/>         (C) 6 PM : 9 PM<br/>         (D) October : January</p> <p>4. 12 PM : 1 AM<br/>         (A) April : May<br/>         (B) 9 AM : 10 AM<br/>         (C) 12 AM : 1 PM<br/>         (D) December : January</p> |
|---|--|

#### Answers and Explanations:

- (D) Prologue comes at the beginning of a book and epilogue at its end; similarly, a day starts with dawn and ends with twilight.
- (B) 18 and 17 both consecutive numbers and 18 comes next to 17; similarly L comes next to K, so 'B' is the correct answer and neither 'A' nor 'D'.
- (A) After 'May' one month 'June' has been skipped, similarly after 8, number 9 has been skipped.
- (D) 12 PM is the end of a day and 1 AM is the beginning of the next day, similarly December is the end of an year and January is the beginning of the next year.

**Example : 14** (*Association relationship*)

TEMPERATURE : THERMOMETER

- (A) Weight : Balance (B) Gas : Barometer (C) Hot : Cold (D) Litre : Oil

**Explanation and Answer:**

Here 'temperature' is measured by (associated) the 'thermometer', similarly the 'weight' is measured by the 'balance'. Hence (A) is the best answer choice. Though in (B), (C) and (D) there are associations but not similar to that in question.

**N. ASSOCIATION RELATIONSHIPS**

- |  |   |
|--|---|
| <p>1. PSYCHOLOGY : MIND<br/>         (A) Physiology : Health<br/>         (B) Cranium : Phrenology<br/>         (C) Orology : Mountains<br/>         (D) Philosophy : Human</p> <p>2. STETHOSCOPE : DOCTOR<br/>         (A) Teacher : School<br/>         (B) Sickle : Farmer<br/>         (C) Watch : Clock<br/>         (D) Book : Pen</p> | <p>3. COW : MILK<br/>         (A) Goat : Meat<br/>         (B) Meat : Tiger<br/>         (C) Milk : Water<br/>         (D) Bird : Chicken</p> <p>4. BUCOLIC : CATTLE<br/>         (A) Poet : Poem<br/>         (B) Cow : Goat<br/>         (C) Chair : Table<br/>         (D) Ferric : Iron</p> |
|--|---|

**Answers and Explanations:**

1. (C) Psychology is the science of mind similarly orology is the science of mountains.
2. (B) Stethoscope is associated with doctor and sickle is associated with farmer.
3. (A) Milk is associated with cow as meat is associated with goat.
4. (D) Bucolic is about cattle and ferric is about iron.

**Example : 15** (*Characteristic relationship*)

TIMIDITY : LAMB

- (A) Coward : Intrepid (B) Passivity : Activist (C) Ferocity : Hyena (D) Wisdom : Owl

**Explanation and Answer:**

It is an example of proper characterisation. 'Timidity' is the typical characteristic of the 'Lamb'. Similarly, ferocity is the typical characteristic of Hyena. Hence (C) is the best answer. (A), (B) and (D) are the examples of opposite characterisation.

**O. CHARACTERISTIC RELATIONSHIPS**

- |  |   |
|--|---|
| <p>1. POLITICIAN : SHREWD<br/>         (A) Idealist : Cynical<br/>         (B) Physician : Altruist<br/>         (C) Farmer : Farm<br/>         (D) Cat : Feline</p> <p>2. ACROBAT : INTREPID<br/>         (A) Charlatan : Guileful<br/>         (B) Flower : Colour<br/>         (C) Gymnast : Gymkhana<br/>         (D) Idealist : Cynical</p> | <p>3. VENALITY : PROBITY<br/>         (A) Starveling : Weak<br/>         (B) Passivity : Dog<br/>         (C) Rancour : Surliness<br/>         (D) Indolence : Beaver</p> <p>4. PASSIVITY : ACTIVIST<br/>         (A) Complicity : Culprit<br/>         (B) Repose : Synergist<br/>         (C) Intrepid : Coward<br/>         (D) Fortitude : Patience</p> |
|--|---|

**Answers and Explanations:**

- (B) As a politician is supposed to be shrewd, similarly a physician is expected to be altruistic.
- (A) Intrepid is the characteristic of an acrobat, similarly guileful is the characteristic of charlatan.
- (D) As venality is not the characteristic of probity and indolence is usually not the characteristic of the beaver.
- (C) As an active person cannot be passive similarly a coward cannot be expected to be intrepid.

**Example : 16 (Symbolic relationship)**

RED : STOP

- (A) Clear : Green      (B) Red : Rose      (C) Black : Sorrow      (D) Cross: Church

**Explanation and Answer**

'Red' light/flag signifies a danger signal to the traffic promotes to 'stop', similarly 'Black' colour symbolises 'Sorrow'. So, (C) is the best choice. Though in (A) we find the similar symbolic relationship between 'Clear' and 'Green', it should be discarded due to sequence.

**P. SYMBOLIC RELATIONSHIPS**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>DOVE : PEACE<br/>(A) Party : Symbol<br/>(B) Help : Cross<br/>(C) Love : Rose<br/>(D) Cross: Christianity</li> <li>FLAG : NATION<br/>(A) Crown : Monarchy<br/>(B) Alert : Red<br/>(C) Stars : Fortune<br/>(D) Black : Funeral</li> </ol> | <ol style="list-style-type: none"> <li>KNOWLEDGE : DEGREE<br/>(a) Star : China<br/>(B) Red flag : Communist<br/>(C) Authority : Mace<br/>(D) Professor : Doctor</li> <li>HOSPITAL : REDCROSS<br/>(A) Crown : Gold<br/>(B) Rank : Stars<br/>(C) Swastika : Nazism<br/>(D) State : Kingdom</li> </ol> |
|--|---|

**Answers and Explanations:**

- (D) A dove is the symbol of peace and a cross is the symbol of christianity.
- (A) A flag symbolises a Nation and the crown signifies the authority of the monarchy.
- (C) Knowledge of a person is judged by the degree he obtained and a mace signifies the authority of majesty.
- (B) A redcross symbol symbolises a hospital and stars in the army signify rank. Here 'C' also possesses the same relationship but the sequence is different.

**Example : 17 (Place relationship)**

NEW YORK : ALBANY

- (A) Tajmahal : Agra    (B) Punjab : Chandigarh    (C) Europe : London    (D) Delhi : Kutub Minar

**Explanation and Answer**

Here the best answer is (D), as 'Albany' is in 'New York', 'Kutub Minar' is in 'Delhi'. In (A) the relationship is correct but sequence is not matching the question pair. (B) and (C) cannot be the possible answer as their relationships are between places and unlike the question pair where relationship is between 'place' and 'object'.

**Q. PLACE RELATIONSHIPS**

- |   |   |
|---|---|
| <p>1. ABADAN : PERSIA<br/>         (A) Ava : Burma<br/>         (B) Big Ben : London<br/>         (C) Digboi : India<br/>         (D) New York : USA</p> <p>3. KONARK : ORISSA<br/>         (A) Kanyakumari : Tamil Nadu<br/>         (B) Khajuraho : M.P.<br/>         (C) Ellora : Aurangabad<br/>         (D) Golden Temple : Amritsar</p> | <p>2. TAJMAHAL : AGRA<br/>         (A) Havana : Cuba<br/>         (B) Empire State building : USA<br/>         (C) New Delhi : Jantarantar<br/>         (D) Pyramid : Egypt</p> <p>4. BOLIVIA : LA PAZ<br/>         (A) Norway : Oslo<br/>         (B) India : Kolkata<br/>         (C) Germany : Munich<br/>         (D) Ladak : Leh</p> |
|---|---|

**Answers and Explanations:**

- (C) Famous oil fields of Persia are in Abadan, similarly Digboi is famous for rich oil fields in India.
- (D) Both Tajmahal and Pyramids are among the seven wonders of the world.
- (B) Konark is a small town of Orissa famous for ruined temples, similarly Khajuraho is also a small town in Madhya Pradesh famous for ruined temples. Though 'A', 'C' and 'D' seem to be possible answers, but they are different as Kanyakumari and Golden Temple are not ruined temples and for 'C' Aurangabad is a city and not a state like Orissa or M.P.
- (A) La Paz is the capital city of Bolivia as oslo is for Norway.

**Example : 18 (Material and product relationship)**

GRAPES : WINE

- (A) Chocolate : Coffee (B) Butter : Milk (C) Palm : Cake (D) Cotton : Thread

**Explanation and Answer**

'Wine' is made from 'Grapes', similarly 'Thread' is made from 'Cotton'. So (D) is the correct answer. Though in (B) 'butter' is made from 'milk', but the sequence is not matching the question pair.

**R. MATERIAL AND PRODUCT RELATIONSHIP**

- |   |  |
|---|--|
| <p>1. SUGARCANE : JAGGERY<br/>         (A) Bread : Cake<br/>         (B) Sugar : Honey<br/>         (C) Flour : Bread<br/>         (D) Lemon : Taste</p> <p>2. PULP : PAPER<br/>         (A) Cotton : Thread<br/>         (B) Butter : Milk<br/>         (C) Jelly : Mango<br/>         (D) Pencil : Wood</p> | <p>3. CURD : MILK<br/>         (A) Tea : Coffee<br/>         (B) Pot : Cup<br/>         (C) Milk : Sandesh<br/>         (D) Ketchup : Tomato</p> <p>4. CINCHONA : QUININE<br/>         (A) Cloth : Coal<br/>         (B) Cocoon : Silk<br/>         (C) Fry : Fish<br/>         (D) Cake : Fruit</p> |
|---|--|

**Answers and Explanations:**

- (C) Jaggery is made from sugarcane and bread is made from flour.
- (A) Paper is prepared from pulp and thread is made from cotton. Both 'B' and 'C' have the same relationship but the sequences are different.
- (D) Curd is a product of milk and ketchup is the product of tomatos.
- (B) Quinine is obtained from cinchona tree silk is obtained from cocoon.

**Example : 19** (*Miscellaneous relationships*)

- (i) DESIGN : ARCHITECT  
 (A) Book : Librarian (B) Sermon : Clergyman  
 (C) Doctor : Medicine (D) Court : Judge
- (ii) OIL : LUBRICATION  
 (A) Wash : Water (B) Sweeper : Sweep  
 (C) Sand paper : Abrasion (D) Car : Petrol
- (iii) BALL : CIRCLE  
 (A) Pyramid : Triangle (B) Line : Square  
 (C) Side : Angle (D) Square : Rectangle
- (iv) DOG : MEAT  
 (A) Coal : Oven (B) Petrol : Car (C) Cow : Grass (D) Meat : Tiger
- (v) 4 : 9  
 (A) 3 : 6 (B) 9 : 16 (C) 4 : 16 (D) 1 : 25
- (vi) PLANTS : BOTANY  
 (A) Animal : Biology (B) Cardiac : Heart  
 (C) Earthquake : Seismology (D) Object : Physics
- (vii) DOCTOR : LAWYER  
 (A) Patient : Client (B) Patient : Litigation (C) Client : Illness (D) Ailment : Client

**Explanations and Answers:**

- (i) Here, the relationship is Profession and Person. As 'design' is the profession of an 'Architect', 'sermon' is the profession of a 'clergyman'. So (B) is the best answer choice.
- (ii) Here, the relationship is of Purpose. As 'oil' is used for 'lubrication', 'sand paper' is used for 'abrasion'. So, (C) is the best answer choice.
- (iii) Here, the relationship is of 'shape'. A ball is circular in shape, similarly a pyramid is triangular in shape. So, the answer choice is (A).
- (iv) Here, the relationship is food habit. As 'dog' eats 'meat', 'cow' eats 'grass'. So, (C) is the best answer choice. Here (D), though has the same relationship the sequence is not matching with the question pair.
- (v) It is an example of numerical relationship. Here 4 is the square of 2 and 9 is the square of its next number 3. Similar relation exists in the alternative (B) only, where 9 is the square of 3 and 16 is the square of its next number 4. So (B) is the best answer choice.
- (vi) Here, the relationship is between study and topic. As 'Botany' is the study of 'Plants', 'Seismology' is the study of 'Earthquake'. So (C) is the best answer choice.
- (vii) Here, no obvious relationship exists between the two words in question. But if we search from the alternatives we find some relationship about their functions. 'Doctor' deals with the 'patient' and 'lawyer' deals with the 'client'. So (A) is the best answer choice here.

**S. MISCELLANEOUS RELATIONSHIPS**

- TAXONOMIST : CLASSIFY  
 (A) Plant : Botany (C) Jog : Weariness  
 (B) Cardiologist : Heart (D) Blush : Discomfiture
- WINCE : PAIN  
 (A) Knee : Gout  
 (B) Sprint : Celerity
- MUMBLE : SPEAK  
 (A) Strut : Walk  
 (B) Myopic : Misled  
 (C) Cry : Weep  
 (D) Song : Melody

4. CORONATION : REIGN  
 (A) Tenor : Aria  
 (B) Pilot : Radar  
 (C) Ministry : Election  
 (D) Marriage : Divorce

5. SCULPTOR : ATELIER  
 (A) Artist : Art  
 (B) Football : Ground  
 (C) Miner : Quarry  
 (D) Studio : Artist

**Answers and Explanations:**

- (B) It is an example of definition relationship. A taxonomist is a person who specialises in classification, similarly a cardiologist specialises in heart-disease.
- (D) It is an example of 'action and its significance' relationship. A wince is a sign that one feels pain, similarly a blush signifies discomfiture or embarrassment.
- (A) To mumble is to speak indistinctly and to strut is to walk proudly. It is an example of manner relationship.
- (D) The coronation precedes the reign and the marriage precedes the divorce. It is the time sequence relationship.
- (C) It is an example of worker and work place relationship. A sculptor works in an atelier or studio, and a miner works in a quarry or pit. Here in 'D' though there is same relationship, the sequence is different.

**PRACTICE TEST 1**

**Directions for Questions 1-50:**

In each question below two words in capitals are related to each other in some way. Find among the suggested alternatives (marked A, B, C and D) which pair of words bears the *most similar* relationship as that of the capitalised pair.

**Questions:**

- BLACK : WHITE  
 (A) Red : Orange  
 (B) Hot : Cold  
 (C) Tall : High  
 (D) Sun : Moon
- HUNGER : FOOD  
 (A) Sleep : Dream  
 (B) Lung : Oxygen  
 (C) Thirst : Water  
 (D) Industry : Labour
- PIPE : WATER  
 (A) Street : Car  
 (B) River : Boat  
 (C) Air : Bird  
 (D) Artery : Blood
- CALF : COW  
 (A) Sheep : Goat  
 (B) Child : Woman  
 (C) Mother : Boy  
 (D) Boy : Father
- FLOWER : ROSE  
 (A) Ocean : Sea  
 (B) Tree : Plant  
 (C) Mango : Fruit  
 (D) Bird : Crow
- TOWN : MUNICIPALITY  
 (A) Country : Government  
 (B) Panchayat : Village  
 (C) Mayor : Corporation  
 (D) Parliament : Prime Minister
- DYNAMO : ELECTRICITY  
 (A) Engine : Steam  
 (B) Light : Lamp  
 (C) Car : Petrol  
 (D) Oven : Heat
- WRENCH : MECHANIC  
 (A) Saw : Carpenter  
 (B) Book : Student  
 (C) Medicine : Doctor  
 (D) Paper : Clerk



9. SCISSORS : CUT  
 (A) Door : Entry  
 (B) Book : Study  
 (C) Needle : Sew  
 (D) Beat : Hammer
10. JULY : RAIN  
 (A) December : Winter  
 (B) Summer : May  
 (C) Winter : Cold  
 (D) December : Snow
11. CROWD : PEOPLE  
 (A) Market : Seller  
 (B) Forest : Tree  
 (C) City : Building  
 (D) Factory : Worker
12. EAR : DEAF  
 (A) Mind : Mad  
 (B) Blind : Eye  
 (C) Skin : Sensitive  
 (D) Nose : Face
13. IRAN : ASIA  
 (A) Assam : India  
 (B) London : England  
 (C) Poland : Europe  
 (D) Kargil : Kashmir
14. LARGE : BIG  
 (A) High : Low  
 (B) Quick : Swift  
 (C) Sea : Ocean  
 (D) Table : Chair
15. PATIENT : DOCTOR  
 (A) Client : Lawyer  
 (B) Machine : Mechanic  
 (C) Court : Judge  
 (D) Seller : Buyer
16. ROOM : WINDOW  
 (A) House : Room  
 (B) Lamp : Light  
 (C) Sky : Star  
 (D) Face : Eye
17. MILE : KILOMETER  
 (A) Foot : Pound  
 (B) Length : Weight  
 (C) Fahrenheit : Centigrade  
 (D) Weight : Kilogramme
18. IRON : ORE  
 (A) Page : Book  
 (B) Butter : Milk  
 (C) Copper : Lead  
 (D) Furniture : Wood
19. MOON : DROUGHT  
 (A) Surplus : Deficit  
 (B) Breadth : Length  
 (C) Sun : Moon  
 (D) Famine : Scarcity
20. HERE : NOW  
 (A) There : Where  
 (B) There : That  
 (C) Before : After  
 (D) Where : When
21. CLOCK : TIME  
 (A) Length : Scale  
 (B) Pen : Write  
 (C) Examination : Ability  
 (D) Pressure : Barometer
22. DISLIKE : HATRED  
 (A) Affection : Love  
 (B) Hope : Belief  
 (C) Anger : Violence  
 (D) Sadness : Sorrow
23. MULTIPLY : MANY  
 (A) Rectify : Correct  
 (B) Justify : True  
 (C) Comply : Proper  
 (D) Unify : Same
24. THURSDAY : MONDAY  
 (A) Tuesday : Saturday  
 (B) 7 P.M. : 11 P.M.  
 (C) March : July  
 (D) 11 P.M. : 3 A.M.
25. FREEZING : COOL  
 (A) Rising : High  
 (B) Boiling : Lukewarm  
 (C) Sinking : Heavy  
 (D) Melting : Hot
26. DISLIKE : HATRED  
 (A) Anger : Violence  
 (B) Affection : Love  
 (C) Hope : Belief  
 (D) Sadness : Sorrow
27. ELIGIBLE : CHOSEN  
 (A) Fraudulent : Imposter  
 (B) Trusted : Dependable  
 (C) Incompetent : Rejected  
 (D) Encouraged : Applauded



28. GRIEVANCE : REDRESS  
 (A) Distress : Sympathise  
 (B) Success : Reward  
 (C) Happiness : Rejoice  
 (D) Loss : Compensate
29. RELIABLE : MEASUREMENT  
 (A) Amiable : Guest  
 (B) Verifiable : Theory  
 (C) Justifiable : Practice  
 (D) Expendable : Commodity
30. RECTIFY : CORRECT  
 (A) Amplify : Enlarge  
 (B) Simplify : One  
 (C) Testify : True  
 (D) Clarify : Understand
31. SIN : CRIME  
 (A) Theft : Robbery  
 (B) Deceit : Dishonesty  
 (C) Vice : Guilt  
 (D) Lie : Perjury
32. CITY : MUNICIPAL  
 (A) Village : Rural  
 (B) State : Federal  
 (C) Country : National  
 (D) Metropolis : Mayoral
33. GRAFT : POLITICS  
 (A) Punishment : Sin  
 (B) Cheating : Examination  
 (C) Justice : Court  
 (D) Democracy : Election
34. STEREOTYPE : INDIVIDUALITY  
 (A) Enunciation : Concealment  
 (B) Charity : Mercy  
 (C) Coexistence : Permanence  
 (D) Content : Concreteness
35. SURPLUS : DEFICIT  
 (A) Breadth : Width  
 (B) Need : Wage  
 (C) Monsoon : Drought  
 (D) Famine : Scarcity
36. BORROW : STEAL  
 (A) Hit : Kill  
 (B) Ask : Bag  
 (C) Tell : Speak  
 (D) Enter : Trespass
37. WORD : LETTER  
 (A) Book : Author  
 (B) Sentence : Word  
 (C) Train : Passenger  
 (D) School : Pupil
38. STATE : LEGISLATION  
 (A) Employee : Service rule  
 (B) Assembly : Speaker  
 (C) Train : Timetable  
 (D) Fan : Regulator
39. TABLE : CHAIR  
 (A) Almirah : Cot  
 (B) House : Room  
 (C) Shirt : Trousers  
 (D) Sofa : Bookcase
40. BRAIN : THOUGHT  
 (A) Stomach : Hunger  
 (B) Water : Steam  
 (C) Eye : Sleep  
 (D) Dynamo : Electricity
41. STINT : FRAUD  
 (A) Good : Better  
 (B) Intelligent : Idiot  
 (C) Red : Black  
 (D) Father : Mother
42. BOOK : WRITER  
 (A) Engineer : Machine  
 (B) Cloth : Weaver  
 (C) Gramophone record : Singer  
 (D) Musician : Violin
43. GRANDFATHER : ANCESTOR  
 (A) Page : Book  
 (B) Headmaster : Master  
 (C) Mother : Sister  
 (D) Person : Population
44. WRITER : PUBLISHER  
 (A) Engineer : Factory  
 (B) Retailer : Whole seller  
 (C) Cook : Restaurant  
 (D) Innovator : Manufacturer
45. TELEVISION : ANTENNA  
 (A) Man : Eye  
 (B) Radio : Electricity  
 (C) Table : Chair  
 (D) Book : Paper
46. BLACK : SORROW  
 (A) Stars : Rortune  
 (B) Rose : Red  
 (C) Cross : Christianity  
 (D) Sky : Milkyway

47. SPRING : RESILIENCY  
 (A) Fuel : Thermals  
 (B) Armour : Obduracy  
 (C) Wire : Net  
 (D) Ballast : Stability
48. CARELESSNESS : ACCIDENT  
 (A) Death : Fire  
 (B) Germ : Disease  
 (C) Rain : Cloud  
 (D) Brake : Car
49. BLUEBERRY : PEA  
 (A) Fire : Red  
 (B) Potato : Chips  
 (C) Sky : Grass  
 (D) Leaf : Flower
50. DOCTOR : DISEASE  
 (A) Psychiatrist : Maladjustment  
 (B) Scholar : Knowledge  
 (C) Judge : Crime  
 (D) Lawyer : Law

**Answers and Explanations:**

1. (B) Opposite or antonym relationship.
2. (C) As food is related to hunger water is related to thirst.
3. (D) Carrier relationship.
4. (B) Child-mother relationship (Age-relationship).
5. (D) Classification relationship.
6. (A) Administrative relationship.
7. (D) Functional relationship.
8. (A) Tool-worker relationship.
9. (C) Object-function relationship.
10. (D) Sequential relationship.
11. (B) Whole-part relationship.
12. (A) Functional relationship.
13. (C) Place relationship (country-continent).
14. (B) Intensity relationship.
15. (A) As, a doctor deals with patient, a lawyer deals with client.
16. (D) Part-part relationship.
17. (C) Relationship of unit.
18. (B) Object-source relationship.
19. (A) Antonym relationship.
20. (D) Similar in meaning.
21. (C) As clock measures time examination measures ability.
22. (C) Degree or intensity relationship.
23. (A) Synonym relationship.
24. (D) Sequential relationship. Thursday is in one week followed by Monday in the next week, similarly, 11 P.M. is in one day followed by 3 A.M. in the next day.
25. (B) Degree of difference or intensity relationship. Boiling is the extreme condition of Luke-warm as freezing is the extreme condition of cool.
26. (A) Intensity relationship.
27. (C) As eligible candidates are chosen, incompetent candidates are rejected.
28. (D) Though the relationship is cause and action, grammatical relationship is also there as the first one is noun followed by the verb.
29. (B) As measurement should be reliable, a theory should be verifiable.
30. (A) Synonym relationship.
31. (D) Synonym relationship.
32. (C) As municipal is related to city, national is also related to the country.
33. (B) As grafting is possible in politics, cheating is possible in examination.

34. (A) Opposite in meaning.
35. (C) Antonym relationship.
36. (D) As "borrow" is not an offence whereas 'steel' is an offence, similarly 'Enter' is not an offence but "Trespass" is an offence.
37. (B) Whole part relationship.
38. (A) As a 'state' is guided by its 'legislation', an 'employee' is also guided by his 'service rule'.
39. (C) Association relationship.
40. (D) As 'brain' is the source of 'thought', 'dynamo' is the source of 'electricity'.
41. (B) Just the opposite.
42. (C) Article-worker relationship.
43. (B) Classification relationship.
44. (D) As 'publisher' has to depend exclusively upon the 'Writer', 'Manufacturer', also has to depend exclusively upon the 'innovator'.
45. (A) As 'man' is blind without 'eye', 'television' is useless without 'antenna'.
46. (C) Symbolic relationship.
47. (D) Functional relationship. As 'spring' provides 'elasticity' to a car, 'ballast' gives 'stability' to a ship.
48. (B) Cause and effect relationship.
49. (C) 'Blueberry' and 'Sky' have similar colour as 'Pea' and 'Grass' have the same colour.
50. (A) As 'doctor' helps in curing a 'disease', 'Psychiatrist' helps in curing 'maladjustment'.

## TYPE 2

### Example:

Answer the following questions by putting a tick mark on the most appropriate choice.

1. 'Shoe' is to 'leather' as 'brick' is to  
(A) building (B) clay  
(C) stone (D) fire
2. 'Grief' is to 'tears' 'tension' is to  
(A) death (B) anxiety  
(C) blood pressure (D) accident

Answers: 1. (B) 2. (C)

## PRACTICE TEST 2

1. 'Rubber' is to 'tree' as 'gold' is to  
(A) mine (B) ornament  
(C) metal (D) goldsmith
2. 'Office' is to 'executive', 'home' is to  
(A) children (B) household  
(C) homely (D) housekeeper
3. 'Vegetation' is to 'barren', 'hair' is to  
(A) oil (B) shampoo  
(C) bald (D) style
4. 'Smile' is to 'laugh' as 'suggestion' is to  
(A) advice (B) plan  
(C) execution (D) order
5. 'Labourer' is to 'wages' as 'entrepreneur' is to  
(A) salary (B) bonus  
(C) profit (D) incentive
6. 'Launcher' is to 'missiles' as 'catapult' is to  
(A) stone (B) bullet  
(C) boat (D) train
7. 'Inert' is to 'static' as 'dynamic' is to  
(A) motor (B) active  
(C) politic (D) mathematics
8. 'Each' is to 'all' as 'part' is to  
(A) whole (B) none  
(C) separate (D) many
9. 'Square' is to 'diamond' as 'circle' is to  
(A) round (B) smooth  
(C) triangle (D) oval
10. 'Louvre' is to 'museum' as 'prison' is to  
(A) warden (B) crime  
(C) bastille (D) bars

11. 'City' is to 'municipal' as 'country' is to  
(A) federal (B) national  
(C) government (D) democracy
12. 'Nurse' is to 'Physician' as 'secretary' is to  
(A) executive (B) office  
(C) stenographer (D) clerk
13. 'Past' is to 'regret' as 'future' is to  
(A) ahead (B) hope  
(C) opportunity (D) forecast
14. 'Rod' is to 'fish' as 'gun' is to  
(A) shell (B) shot  
(C) bullet (D) hunt
15. 'Religion' is to 'atheist' as 'Pacifist' is to  
(A) object (B) atlantis  
(C) war (D) conscience
16. 'Awkward' is to 'skillful' as 'deft' is to  
(A) clumsy (B) hearing  
(C) blindness (D) newt
17. 'Sea' is to 'Knot' as 'land' is to  
(A) acre (B) mile  
(C) meter (D) firm
18. 'Door' is to 'Panel' as 'Window' is to  
(A) home (B) glass  
(C) pane (D) ache
19. 'Donkey' is to 'bray' as 'horse' is to  
(A) drive (B) hoof  
(C) saddle (D) neigh
20. 'Nut' is to 'shell' as 'Pea' is to  
(A) pod (B) peel  
(C) green (D) plant
21. 'Word' is to 'sentence' as 'sentence' is to  
(A) paragraph (B) phrase  
(C) letter (D) comma
22. 'Cow' is to 'beef' as 'pork' is to  
(A) buffalo (B) pig  
(C) lard (D) steak
23. 'Potato' is to 'masher' as 'beater' is to  
(A) winner (B) baton  
(C) egg (D) steak
24. 'Preamble' is to 'constitution' as 'prologue' is to  
(A) epilogue (B) prorogue  
(C) adjourn (D) play
25. 'Endure' is to 'last' as 'dispute' is to  
(A) repute (B) argue  
(C) impute (D) invert
26. 'Cavalry' is to 'horse' as 'infantry' is to  
(A) foot (B) travel  
(C) infant (D) armory
27. 'Poet' is to 'verse' as 'sculptor' is to  
(A) artist (B) chisel  
(C) statue (D) stone
28. 'Contralto' is to 'soprano' as 'baritone' is to  
(A) singer (B) orchestra  
(C) sonata (D) tenor
29. 'Guillotine' is to 'behead' as 'hang' is to  
(A) picture (B) gallows  
(C) punishment (D) criminal
30. If 'offices' were 'dens' 'officers' would be  
(A) tigers (B) birds  
(C) hunters (D) snakes

### Answers and Explanations of the Practice Test-2 (Type 2 Verbal Analogy Test)

- (A) Rubber is obtained from trees and gold is obtained from mines.
- (B) An office is meant for an executive or officer, similarly a home is meant for household.
- (C) Without vegetation land becomes barren and without hair the head becomes baldish.
- (D) The difference in degree.
- (C) A labourer gets wages for his labour and an entrepreneur gets the profit of his business.
- (A) A launcher is used to launch a missile while a catapult is used to throw a stone.
- (B) Inert means static while dynamic means active.
- (A) Each is a portion of all, similarly part is a portion of whole.
- (D) Square and oval are alike in the sense both of them have linear surfaces whereas circle and oval are alike for their circular surfaces.
- (C) Louvre is the name of the famous museum of France, similarly Bastille is the famous prison of France.
- (B) Municipal is for the city only while national is for the whole country.
- (A) Nurse helps a physician while the secretary helps the executive.

13. (B) We can express sorrow or regret for the past misdeeds but always hope for better in future.
14. (D) Rod is used to catch fishes while gun is used for hunting the prey.
15. (C) Atheist is against religion and pacifist is against war.
16. (A) Awkward is the opposite character of skillful, as clumsy is opposite character of deft.
17. (B) Distance in sea is measured in knots whereas a distance in land is measured in miles.
18. (C) Panel is the middle rectangular portion of the door whereas a pane is the middle rectangular portion of a window.
19. (D) The cry of a donkey is bray whereas the cry of a horse is neigh.
20. (A) Nut is covered with shell and pea is covered with pod.
21. (A) A word is a part of a sentence and a sentence is a part of a paragraph.
22. (B) The meat of cow is called beef where- as the meat of pig is called pork.
23. (C) Potato is to mash whereas egg is to beat.
24. (D) Preamble is the introduction of the constitution, similarly prologue is the introduction of a drama or play.
25. (B) Endure means to last long whereas dispute means to argue.
26. (A) Cavalry are horse-soldiers whereas infantry are foot-soldiers.
27. (C) A poet creates verse and a sculptor creates statue.
28. (D) Contralto is the opposite of soprano, similarly baritone is the opposite of tenor.
29. (B) As guillotine is used to behead a person, a gallows is used to hang a person.
30. (A) Offices are meant for officers and dens are meant for tigers.

**TYPE 3**

In this type, you will find two words in capitals and four alternative words (marked A, B, C and D). You will have to find out which one of the alternatives is related in some way to *both* the words in capitals.

**Example:**

MAN: COTTON

- (A) Book                      (B) Tree                      (C) Shirt                      (D) Bird

**Answer and Explanation:**

Here, the best answer is (C), i.e., shirt, as 'man' uses 'shirt' and the 'shirt' is made of cotton and no other alternative has got relationship with both the words in capitals.

**PRACTICE TEST**

1. OIL : SNOW  
(A) Stone                      (B) Milk  
(C) Petroleum              (D) Wax
2. STAR : TIGER  
(A) Firefly                      (B) Sun  
(C) Lamp                      (D) Bird
3. ICE : PETROL  
(A) Kerosene                      (B) Winter  
(C) Coal                      (D) Cotton
4. SUGAR : MERCURY  
(A) Salt                      (B) Silver  
(C) Food                      (D) Honey
5. CLOCK : STORM  
(A) Cloud                      (B) Barometer  
(C) Time                      (D) Computer
6. LINE : THERMOMETER  
(A) Fever                      (B) Grade  
(C) Scale                      (D) Temperature
7. TELEVISION : COCKROACH  
(A) Black                      (B) Light  
(C) Figure                      (D) Antenna
8. MILK : NORTHPOLE  
(A) Bear                      (B) Snow  
(C) Stone                      (D) Water

9. MAN : ARROW  
 (A) Beard (B) Hair  
 (C) Bow (D) Rod
10. IRON : CURD  
 (A) Copper (B) Milk  
 (C) Mercury (D) Ship
11. WOOD : LION  
 (A) Cot (B) Tree  
 (C) Cow (D) Colour
12. CAMPHOR : WATER  
 (A) Milk (B) Spirit  
 (C) Wax (D) Flower
13. PEARL : ALCOHOL  
 (A) Water (B) Brandy  
 (C) Milk (D) Ice
14. DAUGHTER : LEO  
 (A) Son (B) Tiger  
 (C) Necklace (D) Virgo
15. HAND : VICTORY  
 (A) Palm (B) Country  
 (C) Shake (D) Stand
16. BLOOD : WOMEN  
 (A) Red (B) Vermilion  
 (C) Scarlet (D) Petrol
17. COFFIN : INSIPID  
 (A) Taste (B) Sugar  
 (C) Pall (D) Water
18. COCKROACH : ATOM  
 (A) Insect (B) Antenna  
 (C) Bomb (D) Bird
19. ACE : ORANGE  
 (A) Lemon (B) Jack  
 (C) Apple (D) Fruit
20. BOOK : AEROPLANE  
 (A) Author (B) Letter  
 (C) Kite (D) Bird

**Answers and Explanations:**

- (B) 'Milk' is liquid and white in colour like 'snow'.
- (A) 'Firefly' is an animal and twinkles like a 'star'.
- (C) 'Coal' is solid like 'Ice' but burns like 'Petrol'.
- (D) 'Honey' is liquid but sweet in taste.
- (B) 'Barometer' is a measuring instrument used for forecasting 'Storm'.
- (C) 'Scale' is a measuring instrument measuring the length of a 'Line'.
- (D) 'Cockroach' has the 'antenna' which is also used for running a 'television'.
- (B) 'Northpole' is covered with 'snow' which is also white in colour like 'milk'.
- (A) 'Man' has got the 'beard' which is also a part of an 'arrow'.
- (C) 'Mercury' is a metal and white in colour like 'curd'.
- (A) 'Cot' is made of 'wood' and has got four legs like 'lion'.
- (B) 'Spirit' is liquid like 'water' and volatile like 'camphor'.
- (C) 'Milk' is white in colour and also liquid.
- (D) 'Virgo' means 'daughter' which is also a zodiacal sign like 'leo'.
- (A) 'Palm' is the inner side of 'hand' which also means 'victory'.
- (B) 'Vermilion' is red in colour used by 'women'.
- (C) 'Pall' is the cloth for covering the 'coffin' and also means 'insipid'.
- (A) 'Insect' is a very small thing like 'atom' and 'cockroach' is an 'insect'.
- (B) 'Jack' is a kind of fruit like 'orange' and also one of the cards like 'ace'.
- (C) 'Kite' is made of 'paper' like 'book' and made to fly like 'aeroplane'.

**TYPE 4**

Here in each question a key group of words which bear some relation is given and followed by another four sets of words (marked A, B, C and D). You are to choose the correct group of words that bears the same relationship as the key words.

**Example:**

INK : PEN : PAPER

(A) Watch : Dial : Strap

(B) Farmer : Plough : Field

(C) Colour : Brush : Canvas

(D) Book : Paper : Words

**Answer and Explanation:**

Here, the answer is (C). The relationship of the key word is between medium (Ink), instrument (Pen) and the object (Paper). So, only the same relation found in (C) where 'Colour' is the medium, 'Brush' is the instrument and 'Canvas' is the object.

**PRACTICE TESTS****Directions for Questions:**

In each question below there is a key group of words that bear some relation followed by another four sets of words (marked A, B, C and D). Choose the correct group of words, from these alternatives that shows the same relationship as the key group.

**Questions:**

1. Ankle : Anklet : Foot
  - (A) Foot : Toe : Knee
  - (B) Wrist : Bangle : Hand
  - (C) Socks : Foot : Toes
  - (D) Figure : Shirt : Body
2. Diver : Depth : Sea
  - (A) Boat : Length : River
  - (B) Land : Crop : Farmer
  - (C) Paper : Books : Read
  - (D) Climber : Height : Mountain
3. Sky : Pilot : Aeroplane
  - (A) Road : Driver : Bus
  - (B) River : Driver : Ship
  - (C) Train : Passenger : Track
  - (D) Reader : Books : Paper
4. Trunk : Twigs : Branch
  - (A) Capital : State : Country
  - (B) Toes : Knee : Foot
  - (C) Arm : Fingers : Hand
  - (D) Room : Windows : Building
5. Humour : Laughter : Comedy
  - (A) Smiles : Joke : Comedy
  - (B) Fear : Ghost : Emotion
  - (C) Emotion : Tune : Music
  - (D) Sadness : Tears : Tragedy
6. Classroom : Pupils : Teacher
  - (A) Trees : Flowers : Gardener
  - (B) Park : Flowers : Gardener
  - (C) Station : Train : Porter
  - (D) Screen : Actor : Auditorium
7. Rope : Acrobat : Trick
  - (A) Guitar : Performer : Music
  - (B) Cook : Recipe : Food
  - (C) Instrument : Tune : Dance
  - (D) Patient : Medicine : Doctor
8. Studio : Cinema : Director
  - (A) Mecca : Madina : Ajmer
  - (D) Nepal : Kashmir : Kolkata
9. Studio : Cinema : Director
  - (A) Medicine : Hospital : Doctor
  - (B) College : Administration : Principal
  - (C) University : Students : Vice-Chancellor
  - (D) Parliament House : Delhi : Prime Minister
10. Think : Head : Brain
  - (A) See : Lashes : Eye
  - (B) Touch : Heat : Skin
  - (C) Chew : Mouth : Teeth
  - (D) Ear : Face : Hear
11. Brazil : Football : Pele
  - (A) Cricket : Gavaskar : India
  - (B) Music : India : Rabishankar
  - (C) India : Peas : Tennis
  - (D) India : Ghazal : Begam Akther
12. Plant : Gardener : Park
  - (A) Road : Foot Path : Street
  - (B) Painting : Painter : Art
  - (C) Book : Librarian : Library
  - (D) Factory : Worker : Iron
13. Hwangho : Wall : China
  - (A) Great Wall : China : Hwangho
  - (B) Wall : China : Hwangho
  - (C) Hwangho : Wall : China
  - (D) China : Hwangho : Wall



- (A) Agra : Tajmahal : India  
 (B) Nile : Pyramid : Egypt  
 (C) Coral Reef : Cricket : Australia  
 (D) Ganges : Kolkata : India
13. Globe : Orange : Football  
 (A) Brick : Book : Box  
 (B) London : America : Paris  
 (C) Egg : Apple : Banana  
 (D) Potato : Mango : Cricket
14. Sarnath : Sanchi : Gaya  
 (A) Ajmer : Varanasi : Mumbai  
 (B) Delhi : Kolkata : Dakha  
 (C) Varanasi : Bhopal : Patna  
 (D) Kanpur : Delhi : Mumbai
15. Milton : Rabindranath : Iqbal  
 (A) Shakespeare : Premchand : Gandhi  
 (B) Nehru : Madhusudan : Hitler  
 (C) Homer : Surdas : Faiz  
 (D) Sachin : Rahul : Baichung
16. Bengali : Urdu : Tamil  
 (A) Telegu : Hindi : Karnatak  
 (B) Hindi : Assam : Gujrati  
 (C) Maithili : English : Kerala  
 (D) Mandarin : Pushto : Simhali
17. Comets : Stars : Satellites  
 (A) Pearl : Fish : Coral  
 (B) Sun : Moon : Light  
 (C) Tiger : Fish : Cow  
 (D) Ape : Man : Seal
18. Head : Arm : Tail  
 (A) Ear : Nose : Blood  
 (B) Twig : Bow : Trunk  
 (C) Leaf : Vein : Tree  
 (D) Lung : Cancer : Brain
19. Egg : Earth : Apple  
 (A) Fish : Meat : Sweet  
 (B) Potato : Brinjal : Lemon  
 (C) Bangle : Ring : Tyre  
 (D) Clock : Mango : Table
20. Grandiose : Simple : Impressive  
 (A) Destitute : Wanton : Devoid  
 (B) Alleviate : Endure : Enlighten  
 (C) Amplify : Publicise : Decrease  
 (D) Aptitude : Talent : Gluttony
21. Altruism : Generosity : Misuliness  
 (A) Amicable: Friendly : Unescapable  
 (B) Antithesis : Contrast : Similarity  
 (C) Fitting : Inappropriate : Exponential  
 (D) Apprehend : Dread : Perceive
22. Hiatus : Gap : Pause  
 (A) Gnome : Alien : Dwarf  
 (B) Believer : Heretic : Pacifist  
 (C) Wickedness : Impiety : Irreverence  
 (D) Grisly : Untidy : Pleasant
23. Halcyon : Peaceful : Calm  
 (A) Glutton : Maitre : Epicure  
 (B) Glorious : Anticipatory : Gregarious  
 (C) Distaste : Gusto : Panic  
 (D) Immaculate : Spotless : Pure
24. April : June : November  
 (A) May : July : September  
 (B) January : August : December  
 (C) September : June : February  
 (D) September : October : November
25. Venus : Mercury : Earth  
 (A) Saturn : Pluto : Neptune  
 (B) Sun : Moon : Earth  
 (C) Jupiter : Venus : Moon  
 (D) Sun : Moon : Comet

**Answers and Explanations:**

1. (B) Relationship is based on 'Part', its 'ornament' and the whole'.  
 2. (D) 3. (A) 4. (C) 5. (D) 6. (B) 7. (A) 8. (B)  
 9. (C) 10. (D) 11. (C) 12. (B)
13. (A) Relation based on shape.  
 14. (C) All are holy places of a religion.  
 15. (C) All of them are poets.  
 16. (D) All three are languages.  
 17. (A) All three are found in the same place  
 18. (B) Parts of a body.  
 19. (C) All three are similar in shape.  
 20. (A) Antonym & Synonym relationship.  
 (D) Is also correct here but the sequence is different



21. (B) Synonym & Antonym relationship.
22. (C) All are synonyms.
23. (D)
24. (B) All the months have same number of days.
25. (A) All these are planets.

**TYPE 5**

In these questions you'll find letters analogy instead of words.

**A. DIRECT ALPHABETIC SEQUENTIAL RELATIONSHIP****Examples:**

1. If AB : PQ then DE : ?  
(A) BK                      (B) GH                      (C) KM                      (D) LK
2. If RS : MN then KL : ?  
(A) AC                      (B) PK                      (C) DU                      (D) OP
3. If KL : BC then XY : ?  
(A) AD                      (B) CB                      (C) QR                      (D) SV
4. If ST : WX then UV : ?  
(A) YZ                      (B) TW                      (C) PT                      (D) NM

**Answers and Explanations:**

1. (B)                      2. (D)                      3. (C)                      4. (A)

Here, in all the cases the question pairs, i.e., AB, PQ, RS, MN, etc., are all in natural alphabetic sequence, so, for the question mark it should be in natural alphabetic sequence also. Hence, the answers are GH, QR, OP and YZ for questions 1, 2, 3 and 4 respectively.

**B. REVERSE ALPHABETIC SEQUENTIAL RELATIONSHIP****Examples:**

1. IF SR : BA then DC : ?  
(A) AB                      (B) DE                      (C) FE                      (D) XU
2. If UT : ZY then NM : ?  
(A) LK                      (B) NL                      (C) PQ                      (D) VX

**Answers and Explanations:**

1. (C)                      2. (A)

From the question pairs it is clear that letters in both the questions are in reverse alphabetic sequence. Hence the answers are FE for 1 and LK for 2.

**C. VOWEL/CONSONANT RELATIONSHIP**

1. POQ:BAC  
(A) ABC:TOV                      (B) QER:SIT                      (C) DEB:KED                      (D) BAQ:PQR
2. ABD:OPR  
(A) EFG:PQR                      (B) TON:EST                      (C) ATS:ORT                      (D) EFH:IJL
3. LOK:NEM  
(A) CEB:QOP                      (B) DOT:TOR                      (C) BAC:EAD                      (D) LIK:PUT
4. PSU:FIO  
(A) RTO:DEF                      (B) KMO:JMU                      (C) DGO:SVE                      (D) NQU:IPS

**Answers and Explanations:**

1. (B) Two Consecutive consonants, in between there is a vowel.

2. (D) Starts with a vowel, followed by two consonants with one letter skipped in between:  
AB (C) D:OP(Q)R, EF(G)H:IJ(K)L
3. (A) Two consonants in the reverse order and in between there is a vowel
4. (C) Two consonants with two letters skipped in between followed by a vowel, e.g.,  
P(QR)SU:F(GH)IO, D(EF)GO:S(TV)VE

#### D. SKIP LETTER RELATIONSHIP

1. BC:EF  
(A) CD:EF                      (B) PQ:ST                      (C) OP:MN                      (D) LK:MN
2. JK:NO  
(A) PQ:TU                      (B) BC:DE                      (C) AD:BC                      (D) MN:PQ
3. DF:PR  
(A) AC:QP                      (B) DE:KM                      (C) LN:GI                      (D) BD:KL
4. TV:UW  
(A) ZY:AZ                      (B) KL:MN                      (C) PR:QT                      (D) BD:CE

#### Answers and Explanations:

1. (B) One letter skipped in between BC:(D)EF, PQ: (R)ST
2. (A) Two letters skipped in between
3. (C) One letter skipped in between both the question letter, e.g., D(E)F: P(Q)R and L(M)N:G(H)I
4. (D) 1st, 3rd, 2nd and 4th letters are consecutive, i.e., 2nd and 3rd letters are to be interchanged, e.g., TUVW and BCDE.

#### E. LETTER-FORM RELATIONSHIP

This type of analogy depends on the form or pattern of the letters in the analogy. So, before answering the question, study the form of the letters carefully e.g. straight lines, circles, tails, closed and open ends, etc. and find out the relationship.

#### Examples:

1. T:I  
(A) N:L                      (B) K:M                      (C) W:X                      (D) V:M
2. P:F::B:?  
(A) K                      (B) E                      (C) W                      (D) X
3. M:W::N:?  
(A) X                      (B) P                      (C) R                      (D) Z
4. Y:M::V:?  
(A) Z                      (B) P                      (C) O                      (D) W
5. p:q::b:?  
(A) o                      (B) d                      (C) a                      (D) p
6. m:n::w:?  
(A) v                      (B) t                      (C) g                      (D) u
7. b:p::d:?  
(A) q                      (B) b                      (C) u                      (D) z

#### Answers and Explanations:

1. A. If we examine the letter 'T' in the question we find, it consists of two straight lines, whereas 'I' consists of one straight line, i.e. decreasing the number of lines. Among answer choices only 'N':'L' fulfils the decreasing order of lines (3:2). Hence 'A' is the answer.

2. B. Here 'P' and 'F' are of same pattern, where 'P' is closed and 'F' is open, similarly 'B' and 'E' are of same pattern, where 'B' is closed and 'E' is open.
3. D. Here 'M' and 'W' have same number of lines but in reverse position; similarly 'N' and 'Z' have same numbers of lines but in side-ways position.
4. D. Here 'V' and 'W' have one and two openings respectively, similarly 'Y' and 'M' have the same number of openings, i.e. 1:2.
5. B. In 'p' circle with line on left going down and 'q' circle with line on right going down. Similarly in 'b', circle with line on left going up and 'd', circle with line on right going up.
6. D. 'm' is actually double 'n' similarly 'w' is double 'u'.
7. A. Same as '5'.

#### F. JUMBLED LETTER RELATIONSHIP

Here the relationship exists between same pair of words with the letters rearranged.

##### Examples:

1. SAMIR:RIMAS  
 (A) ALOK:OLAK (B) SUNIL:NILSU  
 (C) BARIN:NIRAB (D) PARESH:MOHAN
2. BENGAL:GALBEN  
 (A) TAMIL : MILTA (B) KASHMIR:RIMHSAK  
 (C) HARBI:BIHAR (D) GUJRAT:TARJUG
3. BLEDA:BLADE  
 (A) SIDE:EDIS (B) LOOHCS : SCHOOL  
 (C) CANDY : CANYD (D) KNEFI : KNIFE
4. CORNER:ROCNER  
 (A) HINDI : IDNIH (B) BENGAL : NEBGAL  
 (C) POET : TEPO (D) POLITE : ITEPOL

##### Answers and Explanations:

1. C. Just reversing the order of the letters.
2. A. Bringing the last three letters in the beginning.
3. D. Changing the position of the last three letters only.
4. B. Changing the position of the first three letters only.

### PRACTICE TEST

##### Directions:

In each question below there is a key group of letters that bear some relation, followed by another four sets of letters (marked A, B, C and D). Choose the correct set of letters from these alternatives that bear the same relationship as the key group.

##### Questions:

1. KL:BC::MN:?  
 (A) DC (B) OP  
 (C) GN (D) KM
2. ST:AB::YZ:?  
 (A) BK (B) TS  
 (C) CE (D) UV
3. MNO:CDE::RST:?  
 (A) TUV (B) WYX  
 (C) KLN (D) PRS
4. ZA:XC::WD:?  
 (A) QR (B) TP  
 (C) YB (D) AD

5. LK:BA::NM:?  
 (A) BC (B) QP  
 (C) NP (D) HI
6. ABCD:IKLM::OSTU:?  
 (A) GHIJ (B) MNOP  
 (C) QRST (D) UVWX
7. KOD:TIP::MUS:?  
 (A) MAN (B) OPD  
 (C) BDO (D) KPS
8. BKIP:TCOS::MPAG:?  
 (A) AIMS (B) OPRT  
 (C) BCED (D) KPSU
9. PRSU:PSU::STRO:?  
 (A) KOM (B) SRI  
 (C) OKSU (D) BPEN
10. AC:BD  
 (A) KM:LN (B) PR:QT  
 (C) EF:GH (D) IL:JK
11. LJ:KI  
 (A) PR:QS (B) AC:BD  
 (C) ON:PM (D) VT:US
12. PQ:TU  
 (A) AB:DC (B) EF:IJ  
 (C) KL:NO (D) PR:ST
13. IJ:LM  
 (A) RS:VW (B) PT:KL  
 (C) VW:YZ (D) MN:PO
14. AC:KM  
 (A) DF:XZ (B) AC:BP  
 (C) OA:AZ (D) KL:MO
15. DH:IM  
 (A) AD:EH (B) PT:CG  
 (C) MO:GI (D) MQ:RV
16. T:V::N:?  
 (A) P (B) K  
 (C) M (D) L
17. d:b::q:?  
 (A) r (B) t  
 (C) p (D) u
18. u:n::w:?  
 (A) m (B) p  
 (C) s (D) v
19. P:B::F:?  
 A. X B. N  
 C. Y D. E
20. VERBAL:LABREV  
 (A) TOPIC:PICTO  
 (B) BOOK:KOOB  
 (C) CILBUP:PUBLIC  
 (D) NIGHT:THIGN
21. SADSAM:SAMSAD  
 (A) NIHAR:RAHIN  
 (B) WINTER:NETWIR  
 (C) OOKL:LOOK  
 (D) BOLD:LDBO
22. COUSIN:UOCSIN  
 (A) LETTER:TELTER  
 (B) CXEEPT:EXCEPT  
 (C) GROUPS:SPUORG  
 (D) OTHER:EHTOR
23. SRTOKE:ESKTOR  
 (A) LETTER:LREETT  
 (B) VERBAL:LVARBE  
 (C) RAENWS:ANSWER  
 (D) CIRCLE:ECLRCI
24. LEARN:LEANR  
 (A) PUBLIC:PUBCIL  
 (B) RIGHT:RIGTH  
 (C) FORMU:FORUM  
 (D) SAMIR:RIMSA

**Answers and Explanations:**

- (B) As per natural or direct alphabetic sequence.
- (D) As per direct alphabetical order.
- (A) Same as 1 and 2.
- (C) Reverse alphabetic order.
- (B) Same as 4.
- (D) Starts with a vowel, followed by three consonants.
- (A) A vowel in between two consonants.
- (C) a vowel in the third position.
- (B) Only one vowel in the last position. Though in C there is vowel in the last position, the number of vowels are two.

10. (A) 1st, 3rd, 2nd and 4th letters are consecutive.
11. (D) One letter skipped in between in the reverse order.
12. (B) Two consecutive alphabets and a skip of two letters in between, e.g., PQ:(RS)TU and EF:(GH)IJ
13. (C) Two consecutive alphabets with a skip of one letter in between.
14. (A) One letter skipped in between, i.e., A(B)C : K(L)M and D(E)F : X(Y)Z
15. (D) Three letters skipped in between the alphabets, e.g., D(EFG)H:I(JKL)M and M(NOP)Q:R(STU)V
16. (B) Letter-form relationship, i.e., T and V consist of 2 straight whereas N has 3 straight lines, among the alternatives only K has 3 straight lines.
17. (C) Both in 'd' and 'b', the pattern usually is a circle along with a straight line going upward, but in 'q' there is also a circle and a straight line going downwards and only option is 'p' among the 4 alternatives given.
18. (A) The inverted position of 'u' in 'n', similarly the inverted position of 'w' is 'm'.
19. (D) In 'P' one straight line and one circle and in 'B' one straight line and 2 circles, i.e., the number of circles increasing. So, in 'F' there are 3 straight lines, so only option would be 'E', i.e., with 4 straight lines.
20. (B) Just reversing the order of the letters. Though C may be the possible answer, the sequence is different.
21. (C) Bringing the last three letters in the beginning. D will not be the correct answer due to different sequence.
22. (A) Changing the position of the first 3 letters only.
23. (D) Position of the letters are changed in the following way, e.g., 6th or last letter 1st, followed by 1st, 3rd, 5th, 4th and 2nd.
24. (B) Only the positions of the last 2 letters are interchanged, C cannot be correct due to different sequence.

## TYPE 6

### DOUBLE-ANALOGY

Sometimes in questions of analogy you are to find out two words at a time. Some examples are given below:

#### Directions for Questions 1-5:

In each question below, instead of four words with more or less similar relationships between the first two words and the last two words, only second and third words are given and the first and the fourth words are replaced by numbers marked I and II, for each of which four alternatives are given marked E, F, G, H and P, Q, R, S, respectively and four answer choices are also given marked A, B, C and D. Study the words given for alternatives I and II, and find out which words bear a similar relationships between the 1st and the 2nd and 3rd and the 4th. Then choose the best pair as your answer from the alternatives, marked A, B, C and D.

1. I : Length :: Seismograph : II
 

I (E) Balance	(F) Scale	(G) Odometer	(H) Metre
II (P) Current	(Q) Humidity	(R) Earthquakes	(S) Rain
(A) ER	(B) FP	(C) FR	(D) HS
2. I : Herd :: Fish : II
 

I (E) Sheep	(F) Soldier	(G) Cattle	(H) Horse
-------------	-------------	------------	-----------

- II (P) Shoal (Q) Horde (R) Swarm (S) Flock  
 (A) GP (B) ES (C) GR (D) HS.
3. I : Needle :: Chef : II  
 I (E) Thread (F) Cloth (G) Doctor (H) Tailor  
 II (P) Food (Q) Knife (R) Chicken (S) Oven  
 (A) EQ (B) HQ (C) FR (D) GS.
4. I : Mare :: Drone : II  
 I (E) Dog (F) Horse (G) Stag (H) Tiger  
 II (P) Bee (Q) Doe (R) Pony (S) Butterfly  
 (A) EQ (B) GR (C) HS (D) FP.
5. I : Allot :: Presume : II  
 I (E) Abode (F) Abduct (G) Assign (H) Assume  
 II (P) Proud (Q) Predict (R) Assume (S) Replace  
 (A) ER (B) FS (C) GR (D) HQ.

**Answers and Explanations:**

- (C) A scale is used for measuring length and seismograph is used for measuring the intensity of earthquakes. Instrument & measurement relationship.
- (A) Individual and group relationship. Herd is a group of cattle and Shoal is a group of fishes.
- (B) Worker and tool relationship. Needle is the tool used by the tailor, similarly Knife is the tool of the chef.
- (D) Male & Female relationship. Mare is the female horse, and bee is the female drone.
- (C) Word and synonym relationship. Allot means almost same as assign, similarly Presume means the same as assume.

**PRACTICE TESTS****Directions for Questions 1-20:**

In each question below you will find, instead of two pairs of words with more or less similar relationships between the first two words and the last two words, only second and third words are given and the first and the fourth words are replaced by numbers I and II, for each of which four alternatives marked E, F, G, H and P, Q, R, S, respectively and also four answer choices marked A, B, C and D are given. Study the alternatives carefully and choose the best answer.

- I : Ocean :: Stone : II  
 I (E) Glacier (F) Lake (G) Continent (H) River  
 II (P) Rock (Q) Pebble (R) Granite (S) Mountain  
 (A) EQ (B) FS (C) FP (D) HS.
- I : Square :: Arc : II  
 I (E) Line (F) Diagonal (G) Rectangle (H) Perimeter  
 II (P) Chord (Q) Circle (R) Diameter (S) Circumference  
 (A) ES (B) EQ (C) GR (D) HS.  
*(Hotel Management, 1993)*
- I : Garland :: Star : II  
 I (E) Perfume (F) Hero (G) Flower (H) Honour  
 II (P) Galaxy (Q) Shine (R) Sun (S) Night  
 (A) GP (B) GR (C) FS (D) HQ.  
*(Hotel Management, 1993)*

4. I : Foundation :: Tree : II  
 I (E) Brick (F) Morter (G) Earth (H) House  
 II (P) Stem (Q) Leaves (R) Branches (S) Roots  
 (A) EQ (B) ER (C) GS (D) HS.
5. I : Inert :: Active : II  
 I (E) Static (F) Statics (G) Helium (H) Air  
 II (P) Gymnast (Q) Dynamic (R) Participation (S) Smart  
 (A) FP (B) GR (C) EQ (D) HS.
6. I : Silk :: Tree : II  
 I (E) Women (F) Worm (G) Cloth (H) Print  
 II (P) Root (Q) Flower (R) Gum (S) Stem  
 (A) ER (B) FQ (C) HS (D) FR.  
*(Hotel Management, 1993)*
7. I : Increase :: Descend : II  
 I (E) Grow (F) Decrease (G) Rise (H) Price  
 II (P) Reduce (Q) Down (R) Ascend (S) Mountain  
 (A) FP (B) FR (C) HS (D) EQ.  
*(Hotel Management, 1993)*
8. I : Prison :: Curator : II  
 I (E) Jailor (F) Culprit (G) Cell (H) Warder  
 II (P) Cure (Q) Museum (R) Curiosity (S) Maturity  
 (A) ES (B) GP (C) EQ (D) FR.  
*(Hotel Management, 1993)*
9. Part : I :: Class : II  
 I (E) Section (F) Whole (G) School (H) Students.  
 II (P) Students (Q) School (R) Teachers (S) Room.  
 (A) FQ (B) ER (C) GP (D) HS.  
*(Hotel Management, 1993)*
10. Lightning : I :: II : Sky  
 I (E) Cloud (F) Rain (G) Rainbow (H) Sky.  
 II (P) Rain (Q) Wind (R) Thunder (S) Rainbow.  
 (A) HP (B) FR (C) HS (D) ES.  
*(Hotel Management, 1993)*
11. Modern : I :: II : Old  
 I (E) Ancient (F) Death (G) Famous (H) Civilisation.  
 II (P) Industrialisation (Q) Young (R) Fashion (S) Western.  
 (A) ES (B) FP (C) EQ (D) GR.  
*(Hotel Management, 1993).*
12. Summit : Apex :: I : II  
 I (E) Beautiful (F) Picture (G) Attractive (H) Enchanting.  
 II (P) Comfortable (Q) Pretty (R) Healthy (S) Brave  
 (A) EQ (B) FP (C) GR (D) HS.  
*(Hotel Management, 1993).*
13. Bread : I :: II : Clay  
 I (E) Oven (F) Farmer (G) Chef (H) Wheat  
 II (P) Brick (Q) Klin (R) Building (S) Mud  
 (A) ES (B) HP (C) GQ (D) FB
14. Lion : Cub :: I : II  
 I (E) Pony (F) Duck (G) Insect (H) Horse  
 II (P) Larva (Q) Kitten (R) Lamb (S) Child  
 (A) HQ (B) ER (C) FS (D) GP
15. I : Debris :: II : Holocaust  
 I (E) Ruin (F) Smoke (G) Building (H) Explosion  
 II (P) Field (Q) Crop (R) Plough (S) Locust  
 (A) ES (B) FR (C) GQ (D) HS

## 16. Ribs : I :: Shell : II

- |             |               |          |           |
|-------------|---------------|----------|-----------|
| I (E) Man   | (F) Heart     | (G) Eyes | (H) Chest |
| II (P) Skin | (Q) Explosion | (R) Nut  | (S) Cork  |
| (A) FR      | (B) EQ        | (C) GP   | (D) HS    |

## 17. Pen : I :: II : Bore

- |              |         |             |           |
|--------------|---------|-------------|-----------|
| I (E) Paper  | (F) Ink | (G) Student | (H) Write |
| II (P) Auger | (Q) Axe | (R) Chisel  | (S) Knife |
| (A) FR       | (B) EQ  | (C) HP      | (D) GS    |

## 18. Onomatology : I :: II : Language

- |                  |               |               |              |
|------------------|---------------|---------------|--------------|
| I (E) Names      | (F) Races     | (G) Reality   | (H) Insects  |
| II (P) Occultism | (Q) Semantics | (R) Concology | (S) Ontology |
| (A) FS           | (B) EQ        | (C) GP        | (D) HR       |

## 19. Advance : Retreat :: I : II

- |                |             |             |            |
|----------------|-------------|-------------|------------|
| I (E) Cruel    | (F) Abrupt  | (G) Cordial | (H) Sink   |
| II (P) Shallow | (Q) Hostile | (R) Notice  | (S) Kindle |
| (A) ER         | (B) FS      | (C) HP      | (D) GQ     |

## 20. I : Prohibition :: II : Request

- |                  |          |             |          |
|------------------|----------|-------------|----------|
| I (E) Dearth     | (F) Brim | (G) Presage | (H) Ban  |
| II (P) Dissipate | (Q) Flaw | (R) Solicit | (S) Mend |
| (A) HR           | (B) ES   | (C) GP      | (D) FQ   |

**Answers and Explanations:**

- (C) Second is the enlarged form of the first.
- (B) First is the part of the second.
- (A) First is the part of the second.
- (D) Second is the lowest part of the first.
- (C) The words are similar in meaning (synonyms).
- (D) Second is obtained from the first.
- (B) The words are opposite in meaning (antonyms).
- (C) First looks after the second.
- (A) Part and whole relationship.
- (D) Lightning occurs in clouds and Rainbow is formed in the sky.
- (C) Words are antonyms.
- (A) Words are synonyms.
- (B) First is made from the second.
- (D) Cub is the young one of Lion, Larva is the young one of Insects.
- (D) Second is left over after the first.
- (A) First protects the second.
- (C) Pen is used for writing and anger is used for making a bore.
- (B) Onomatology is the study of names and symantics is the study of languages.
- (D) Words are antonyms.
- (A) Words are synonyms.

**TYPE-7:****DETECTING ANALOGIE**

Sometimes the candidates have to face a type of questions where they have to find out the hidden analogy or relationship between the words given in the questions.

**Example :** Violin : Guitar : Sitar



- (A) All are performed in the functions.
- (B) All are used in music.
- (C) All are string musical instruments.
- (D) All are difficult to perform.

**Answer and Explanations:**

Here most suitable answer is (C), as all are string musical instruments. Though (A) and (B) may also be the answer, but they are not so specific as (C). Hence (C) is the best answer here.

**PRACTICE QUESTIONS**

1. Nalanda : Magadh : Takshila
  - (A) These are historical places.
  - (B) All these have ancient universities.
  - (C) These are linked with Lord Buddha.
  - (D) These are old places.
2. Analects : Zerd Avesta : Torah.
 

*(Railways, 1991).*

  - (A) These are places of worship
  - (B) These are three sects of Muslims.
  - (C) These are names of religions.
  - (D) These are names of Religious books.
3. Ostrich : Sparrow : Emu.
  - (A) These are wild animals.
  - (B) These are fast runners.
  - (C) These are pet animals.
  - (D) These are birds.
4. Allahabad : Hardwar : Kolkata.
  - (A) These are ancient cities.
  - (B) These are situated on the bank of river Ganges.
  - (C) These are associated with Kumbh Mela.
  - (D) These are historical places.
5. Mile : Gram : Ohm.
  - (A) These are units of measurements.
  - (B) These are measuring instruments.
  - (C) These are used in mathematics.
  - (D) These are used in trades.
6. Shark : Cod : Eel.
  - (A) These are wild animals.
  - (B) These are mammals.
  - (C) These are fishes.
  - (D) These are amphibians.
7. Cobol : Pascal : Fortran.
  - (A) These are the names of scientists.
  - (B) These are computer languages.
  - (C) These are terms of mathematics.
  - (D) They are mathematicians.
8. Potato : Carrot : Raddish.
  - (A) All these grow underground.
  - (B) These are all stems.
  - (C) These are modified roots.
  - (D) These are fruits.
9. Terylene : Rayon : Nylon.
  - (A) These are all cloths.
  - (B) These are all natural fibres.
  - (C) These are used by all.
  - (D) These are all artificial fibres.
10. Adrenal : Thyroid : Pituitary.
  - (A) These are all animal parts.
  - (B) All these are exocrine glands.
  - (C) These are all endocrine glands.
  - (D) All these are names of diseases.
11. Hair : Feather : Fin.
  - (A) All these are used in winter.
  - (B) All these protect the surface which they cover.
  - (C) All these are organs of birds.
  - (D) All these are of same colour.
12. Drought : Parched : Dry.
  - (A) All these are synonyms.
  - (B) All these are natural calamities.
  - (C) All these are geographical terms.
  - (D) All these are antonyms.
13. Weevils : Borer : Moth.
  - (A) All these produce silk.
  - (B) All these are plants.
  - (C) All these produce nylon.
  - (D) All these are plant pests.
14. Thorium : Uranium : Polonium.
  - (A) All these are names of atoms.
  - (B) All of them are scientists.
  - (C) All these are radioactive elements.
  - (D) All these are rocks.
15. Coal : Raven : Ebony.
  - (A) All these are black in colour.

- (B) All these are used as fuels.  
 (C) All these are obtained from mines.  
 (D) All these are chemical products.
16. Marble : Slate : Gneiss. (C.B.I., 1990)  
 (A) All these have domestic use.  
 (B) All these are metamorphic rocks.  
 (C) All these are found in rivers.  
 (D) All these are similar in colour.
17. Jute : Cotton : Wool. (M.B.A., 1998)  
 (A) All these are artificial fibres.  
 (B) All these are obtained from plants.  
 (C) All these are similar in colour.  
 (D) All these are natural fibres.
18. Sodium : Potassium : Zinc.  
 (A) All these are metals.  
 (B) All these are branches of chemistry.  
 (C) All these are salts.  
 (D) All these have same atomic weight.
19. Hokaido : Honshu : Shikoku. (M.B.A., 1998).  
 (A) All these are volcanoes.  
 (B) All these are capital cities.  
 (C) All these are Japanese Islands.  
 (D) All these are in South America.
20. Edge : Corner : Tip. (C.B.I., 1990)  
 (A) These are all synonyms.  
 (B) These are terms of mathematics.  
 (C) These are terms of orography.  
 (D) These are all antonyms.
21. Dozen : Score : Decade (C.B.I., 1990)  
 (A) All these are numbers.  
 (B) All the terms are used for a definite number of items.  
 (C) All these are measurements.  
 (D) All these are countings.
22. Flood : Fire : Cyclone (M.B.A., 1998)  
 (A) All these are damages.  
 (B) All these are accidents.  
 (C) All these occur during rain.  
 (D) All these are natural calamities.
23. Count : List : Weigh. (C.B.I., 1990)  
 (A) All are terms related to quantitative measurement.  
 (B) All are terms used in qualitative measurement.  
 (C) All are sequences.  
 (D) All these are used for comparison.
24. Emancipate : Free : Release. (M.B.A., 1998)  
 (A) These terms are used in jails.  
 (B) These are terms used in Army.  
 (C) All these are synonyms.  
 (D) All these have same meaning as quit.
25. Kathak : Bihu : Garbha. (C.B.I., 1990)  
 (A) All these are musical instruments.  
 (B) All these are folk dances of north India.  
 (C) All these are martial arts.  
 (D) All these are dances of south India.

**Answers:**

(As all the answers are self explanatory, no separate explanations are given here).

- |          |         |         |         |
|----------|---------|---------|---------|
| 1. (B)   | 2. (D)  | 3. (D)  | 4. (B)  |
| 5. (A)   | 6. (C)  | 7. (B)  | 8. (A)  |
| 9. (D)   | 10. (C) | 11. (B) | 12. (A) |
| 13. (D)  | 14. (C) | 15. (A) | 16. (B) |
| 17. (D)  | 18. (A) | 19. (C) | 20. (A) |
| 21. (B)  | 22. (D) | 23. (A) | 24. (C) |
| 25. (B). |         |         |         |

# 3

## Verbal Series Completion Test

In this type of test which is also called as 'Letter series test', arranged in a given series which follow a particular sequence or order. In the series, some letters are left out with a question mark (?) and the candidates are asked to detect the pattern from the given letters and find the missing letter in the question mark by choosing appropriate letters from the options given. There are no set rules. In each case the candidate is required to detect the pattern using his common sense and reasoning ability.

There can be omission of letters in an order, which may be skipping of one/two/three or more letters in an increasing or decreasing order. Besides these, there may be several other patterns in the latter series, which would be discussed along with examples. The best and easiest way to solve these types of questions is to prepare a 'master key' of alphabets along with its position numbers as shown below and keep it in front.

### Master Key of Alphabet

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M
26	25	24	23	22	21	20	19	18	17	16	15	14

14	15	16	17	18	19	20	21	22	23	24	25	26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
13	12	11	10	9	8	7	6	5	4	3	2	1

### Examples:

							(A)	(B)	(C)	(D)
I.	c	e	g	I	k	?	l	m	n	a
II.	j	m	p	s	v	?	x	w	u	y

**Answers and Explanations:**

I.B, II. D. Here letters are skipped in regular order, i.e., the number of letters skipped remained the same in question I it is skipping of letter forward and in question II, skipping of 2 letters forward, e.g., c(d) e(f) g(h) I(j) k(l) m and j(kl) m(no) p(qr) s(tu) v(wx) y.

**Examples:**

1. B E H K N ? (A) O (B) P (C) Q (D) R
2. Y W U S Q ? (A) N (B) O (C) G (D) T

**Answers and Explanations:**

1. (C) If you carefully study the pattern you will find that every two letters between the alphabets have been skipped here e.g.  ${}^B(CD)^E(FG)^H(IJ)^K(LM)^N(OP)^Q$ .
2. (B) Here every alternate letters from backwards of the alphabets has been skipped in the following way  ${}^O(P)^Q(R)^S(T)^U(V)^W(X)^Y(Z)$ .

In the above examples you have found that letters are skipped in regular order, i.e. in all the cases the number of letters skipped remain the same. But there may be other cases where letters are skipped either in *increasing order* or in *decreasing order*. Here are a few examples.

**Examples:**

1. A C F J O U ? (A) Z (B) W (C) X (D) B
2. A G L P S U ? (A) V (B) X (C) W (D) A

**Answers and Explanations:**

1. (D) It is an example of the letters skipped in ascending or increasing order in the following way:

$$\begin{array}{cccccc} {}^A(B)^C & (DE)^F & (GHI)^J & (KLMN)^O & (PQRST)^U & (VWXYZA)^B \\ 1 & 2 & 3 & 4 & 5 & 6 \end{array}$$

So the skipping pattern here is 1, 2, 3, 4, 5 and 6 letters. Remember that as this is circular numbering of alphabet, after 'Z', 'A' again appears and for that skipping 6 letters from 'U', 'B' comes.

2. (A) In this example, letters are skipped in decreasing order in the following way:

$$\begin{array}{cccccc} {}^A(BCDEF)^G & (HIJK)^L & (MNO)^P & (QR)^S & (T) & U.V \\ 5 & 4 & 3 & 2 & 1 & 0 \end{array}$$

Here, the skipping pattern is 5, 4, 3, 2, 1 and 0.

**SOME MORE EXAMPLES OF VERBAL SERIES COMPLETION TEST**

1. Bc De Fg ? (A) h (B) I (C) H (D) j
2. DDaaEEccFF ? (A) ee (B) dd (C) EE (D) ff
3. aaMNbbOP ? (A) qr (B) cc (C) op (D) DD
4. bCFg, eDgh, ....? (A) iHKL (B) dHJk (C) iJKl (D) dEHl
5. BCeFGij ? (A) Km (B) KL (C) IK (D) kM
6. yzABwxCD ? (A) EF (B) Vu (C) uv (D) tu
7. XX\_Y\_XXXXY\_XXXXY\_X (A) YYYY (B) YXXX (C) XYXX (D) XYYY
8. a\_cbabc\_cb\_ab\_c (A) caba (B) baca (C) acab (D) abab

**Answers and Explanations:**

1. (C) It is an alphabetical progression with letters arranged alternately in small and capital letters, e.g., BcDeFgH.
2. (A) Here also two series are progressing with repetition of letters, one in capital letters progressing alphabetically and the other in small letters progressing by skipping one letter, e.g. DDaaEE (bb) ccFF (dd) ee.
3. (B) A series of alternate small and capital letters progressing with repetition according to the alphabetical sequence, e.g., aaMNbbOPcc
4. (D) The series is bC(DE) Fg, cD(EF)Gh, dE(FG)Hi
5. (A) The series is BC(d)e, FG(h)i, JK(l)m
6. (C) This is a series of alternate pairs of small and capital letters. Capital letters progressing forward and small letters from backward, e.g., yzABwxCDuv
7. (B) Here the pattern is 3X2Y, 4X2Y, 5X2Y and so on
8. (A) Letters are in cyclic order, i.e., the series is abcba, bcacb, cabac.

**PRACTICE TESTS****Directions for Questions 1-50:**

Each question below consists of a series of letters arranged according to some rule. Indicate what will be the letter/letters in the missing portions from the alternative answers given along with each question.

- |     |   |   |   |   |    |       |       |       |       |       |
|-----|---|---|---|---|----|-------|-------|-------|-------|-------|
| 1.  | X | V | T | R | ?  | (A) P | (B) S | (C) Y | (D) Q |       |
| 2.  | B | E | D | G | FI | ?     | (A) O | (B) J | (C) H | (D) K |
| 3.  | A | C | F | J | O  | ?     | (A) R | (B) K | (C) T | (D) U |
| 4.  | R | C | O | F | LI | ?     | (A) K | (B) I | (C) J | (D) L |
| 5.  | H | I | G | K | F  | ?     | (A) L | (B) J | (C) M | (D) E |
| 6.  | K | N | Q | T | W  | ?     | (A) X | (B) P | (C) Y | (D) Z |
| 7.  | A | Z | B | Y | C  | ?     | (A) X | (B) D | (C) E | (D) W |
| 8.  | B | Y | D | W | F  | ?     | (A) V | (B) U | (C) G | (D) H |
| 9.  | T | R | P | N | L  | ?     | (A) K | (B) M | (C) J | (D) I |
| 10. | C | F | I | L | O  | ?     | (A) R | (B) Q | (C) P | (D) M |
| 11. | F | J | N | R | V  | ?     | (A) U | (B) Y | (C) W | (D) Z |
| 12. | J | O | T | Y | D  | ?     | (A) K | (B) I | (C) F | (D) H |
| 13. | P | V | B | H | N  | ?     | (A) Q | (B) T | (C) R | (D) S |
| 14. | K | D | W | P | I  | ?     | (A) D | (B) J | (C) B | (D) K |
| 15. | U | S | P | L | G  | ?     | (A) A | (B) C | (C) B | (D) F |
| 16. | C | J | P | U | Y  | ?     | (A) Z | (B) D | (C) A | (D) B |
| 17. | X | T | O | I | B  | ?     | (A) W | (B) T | (C) U | (D) X |
| 18. | D | H | M | S | Z  | ?     | (A) B | (B) G | (C) H | (D) F |
| 19. | X | R | M | I | F  | ?     | (A) D | (B) E | (C) B | (D) G |
| 20. | A | D | G | J | M  | ?     | (A) N | (B) P | (C) O | (D) L |

21. E H I L M ? (A) O (B) N (C) Q (D) P
22. B C F G J ? (A) L (B) M (C) K (D) O
23. H I M N ? (A) R (B) O (C) P (D) Q
24. X V T R P ? (A) Q (B) N (C) O (D) M
25. U S P N K ? (A) J (B) M (C) I (D) L
26. B D G I L ? (A) M (B) O (C) P (D) N
27. D F J L P ? (A) R (B) T (C) S (D) U
28. D F I M R ? (A) T (B) X (C) W (D) V
29. HV GT FR EP ? (A) ND (B) KL (C) DN (D) MN
30. E Z U P K ? (A) G (B) H (C) L (D) F
31. T S Q N J ? (A) E (B) A (C) D (D) H
32. S Q U S W ? (A) V (B) U (C) B (D) Y
33. U S P L G ? (A) B (B) F (C) E (D) A
34. B E I N T ? (A) Z (B) U (C) A (D) S
35. X Q K F B ? (A) Y (B) Z (C) A (D) T
36. W T P M I ? (A) B (B) F (C) D (D) E
37. V U T S R ? (A) P (B) T (C) W (D) Q
38. BC FG JK ? (A) ON (B) RS (C) NO (D) QR
39. A C B E C ? (A) G (B) D (C) F (D) E
40. B D H N V ? (A) E (B) F (C) D (D) Z
41. C G K O S ? (A) T (B) U (C) V (D) W
42. U Q M I E ? (A) Z (B) C (C) A (D) B
43. BDCbdc F.....? (A) HGfgh (B) ghFGH (C) hgFHG (D) GHfgh
44. ZXVz xv U.....? (A) sqUSQ (B) STUST (C) SQus (D) QSUqs
45. BDGbdg H.....? (A) ljhij (B) JMhjm (C) jmHJM (D) Jlhjl
46. ACCeacce.....? (A) GHHI (B) giik (C) FGGI (D) GIIK
47. XXYXXXXY ? XXXXXXXY ? ? (A) YYY (B) XYY (C) YYX (D) XYX
48. ccb ? c ? bacc ? a ? cba (A) abca (B) bcac (C) acbc (D) ccba
49. a ? cbabc ? cb ? ab ? c (A) bcca (B) cbac (C) baca (D) bcab
50. m N O p Q S t ?? (A) UX (B) UW (C) uv (D) UV

**Answers and Explanations:**

- (A) Skipping one letter from backward.
- (C) Two series, one from 'B' and the other from 'E', with one letter skipped.
- (D) Letters are skipped in increasing order of 1, 2, 3, 4 and 5.
- (B) Two alternate series, one from forward and the other from backward skipping 2 letters from both the sides.
- (C) Here also two alternate series, one from forward with 1 letter skipped and the other from backward with no letter skipped.

6. (D) 2 letters skipped from forward.
7. (A) This series is formed taking 1 letter from the beginning and the other from the end.
8. (B) Two alternate series with 1 letter skipped both from forward and backward.
9. (C) Series from backward with 1 letter skipped.
10. (A) 2 letters skipped.
11. (D) 3 letters skipped.
12. (B) 4 letters skipped.
13. (B) 5 letters skipped.
14. (C) 6 letters skipped from backward.
15. (A) Decreasing order of 5, 4, 3, 2, 1 letters from backward.
16. (D) Decreasing order of 6, 5, 4, 3, 2, 1 letters forward.
17. (B) Skipping is done in decreasing order of 7, 6, 5, 4, 3 letters from backward.
18. (C) Increasing order of 3, 4, 5, 6, 7 letters forward.
19. (A) Increasing order of 1, 2, 3, 4, 5 letters from backward.
20. (B) Skipping 2 letters in between.
21. (D) If the alphabet is arranged in a block of 4 letters series e.g., ABCD, EFGH, IJKL, MNOP, QRST ....etc., this series comprises of the first and last letters of each block.
22. (C) This series comprises of the second and third letters of each block as mentioned in answer of Q.21.
23. (A) 2 consecutive letters and skipping of 3 letters in between.
24. (B) Skipping only one letter backward.
25. (C) Skipping of alternate 1 letter and 2 letters from backward.
26. (D) Same as above from forward.
27. (A) Skipping of alternate 1 letter and 3 letters from forward.
28. (B) Skipping of letters in increasing order from 1, 2, 3, 4, 5.
29. (C) Group of 2 letters taking 1 from forward and the other from backward.
30. (D) Skipping every 5 letters from backward.
31. (A) Decreasing order of 4, 3, 2, 1, 0 letters from backward.
32. (B) Skipping alternately 1 letter backward and 3 letters forward.
33. (D) Decreasing order of 5, 4, 3, 2, 1, letters from backward.
34. (C) Increasing order of 2, 3, 4, 5, 6 letters forward.
35. (A) Increasing order of 2, 3, 4, 5, 6 letters from backward.
36. (B) Skipping of alternate 2 letters and 3 letters from backward.
37. (D)
38. (C) Group of 2 consecutive letters with the skipping of 2 consecutive letter in between.
39. (A) 2 independent series starting from A and C respectively; first one is consecutive and the second one is alternate.
40. (B) Increasing order of 1, 3, 5, 7, 9 letters forward.
41. (D) Skipping of 3 letters in between.
42. (C) Skipping 3 letters from backward.
43. (A) Alternate capital and small letters groups.
44. (C)
45. (B)
46. (D) Alternate capital and smaller letters with skipping of one letter in between.
47. (A) 2X, 1Y, 4X, 2Y, 6X, 3Y .....
48. (C) Pattern will be ccba, ccba .....
49. (C) Pattern will be abcba/bcacb/cabac.
50. (A) Group of small and Capital letters which are in increasing order of 0, 1, 2 letters.

**LETTER-NUMBER MIXED SERIES**

In this type of series alphabets and numerical/digits are used.

**Examples:**

1.  $D_4F_6H_8J_{10} ?$  (A)  $L_{15}$  (B)  $K_{11}$  (C)  $L_{12}$  (D)  $M_{14}$
2.  $K_{16}M_{14}P_{11}T_7 ?$  (A)  $U_6$  (B)  $Y_{25}$  (C)  $X_4$  (D)  $Y_2$
3.  $C^3F^6I^9L^{12} ?$  (A)  $O^{15}$  (B)  $N^{14}$  (C)  $O^{12}$  (D)  $P^{16}$

4. (A) R/9 (B) P/11 (C) Q/13 (D) 16/P

5. 

Z	4	T	10	N	?
1	W	7	Q	13	?

 (A) 16/P (B) 11/K (C) 16/K (D) K/16

**Answers and Explanations:**

1. (C) Here each letter is presented along with the actual position numbers in the alphabetical series and the letters are progressing with a skipping of one letter in between, i.e.,  $D_4(E_5)F_6(G_7)H_8(I_9)J_{10}(K_{11})L_{12}$
2. (D) Here, the alphabets represent the numbers in reverse sequence i.e.,  $Z = 1, Y = 2, X = 3$ , etc. The letters also are progressing with a gap of ascending order, i.e.,  $K_{16}(L_{15})M_{14}(N_{13}O_{12})P_{11}(Q_{10}R_9S_8)T_7(U_6V_5W_4X_3)Y_2$ .
3. (A) Here, the letters are arranged with a skipping of two letters in between and are numbered according to the alphabetical sequence, i.e.,  $C^3(D^4E^5)F^6(G^7H^8)I^9(J^{10}K^{11})L^{12}(M^{13}N^{14})Q^{15}$ .
4. (B) Here, the letters are progressing clockwise starting from D and numbers in reverse sequence anticlockwise. Letters are arranged with a skipping of one and two letters alternately, e.g.,  $D_{23}(E)F_{21}(GH)I_{18}(J)K_{16}(LM)N_{13}(O)P_{11}$
5. (C) Here, the letters are progressing backward with a skip of two letters, e.g.,  $Z_1(Y_2X_3)W_4(V_5U_6)T_7(S_8R_9)Q_{10}(P_{11}O_{12})N_{13}(M_{14}L_{15})K_{16}$ . Here answer 'D' may be correct but the sequence is different.

**PRACTICE TEST**

**Directions for Questions 1-4:**

Find out the missing letters containing '?' in the box.

1. 

	B	
K	I	G
	?	

 (A) C (B) A (C) D (D) H



2. 

	E	
?	J	
	G	

 (A) N (B) K (C) H (D) L
3. 

	O	
X	?	
	Q	

 (A) Z (B) T (C) V (D) S
4. 

	?	
V	R	
	O	

 (A) S (B) P (C) N (D) M

**Directions for Questions 5-12**

In the following blocks letters of certain words are given in a disarranged order. Find out the words from each block and mark the last letter of the word from the alternatives given.

5. 

S	I	R
E	K	T

 (A) E (B) S (C) I (D) T
6. 

A	M	I
L	A	N

 (A) N (B) I (C) L (D) A
7. 

F	O	M
S	U	A

 (A) M (B) O (C) F (D) S
8. 

T	N	N
S	I	E

 (A) N (B) S (C) T (D) E
9. 

V	B	A	E	O
---	---	---	---	---

 (A) E (B) V (C) A (D) O
10. 

C	O	H	R	P
---	---	---	---	---

 (A) P (B) R (C) H (D) C
11. 

P	E	N	O
---	---	---	---

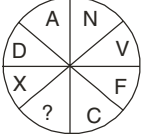
 (A) O (B) E (C) P (D) N
12. 

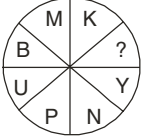
A	H	C	R
---	---	---	---

 (A) R (B) H (C) A (D) C

**Directions for Questions 13-25**

Find out the missing letters or numbers as the case may be.

13.  (A) P (B) L (C) K (D) M

14.  (A) E (B) S (C) F (D) V

15. 

B	E	H	K	?
D	G	J	M	?

 (A) P/N (B) N/O (C) O/N (D) N/P

16. 

C	16	?
4	O	22

 (A) F (B) U (C) 21 (D) P

17. 

B	K	N
E	H	?

 (A) Q (B) P (C) O (D) M

18. 

D	G	J
?	P	M

 (A) C (B) R (C) S (D) O

19. 

B	D	H	Y	M	?	C	O
4	2	25	?	6	13	15	3

 (A) E/7 (B) 8/F (C) L/12 (D) F/8

20. 

14	F	10	?	6	N
D	12	H	?	L	4

 (A) 7/J (B) J/8 (C) K/5 (D) S/8

21. 

A	?	F	6	0	1
21	C	10	J	3	?

 (A) 15/U (B) 19/S (C) 12/L (D) 18/R

22. 

Y	6	U	?	Q	18
3	W	9	S	15	?

 (A) 11/O (B) 12/R (C) 12/O (D) 10/P

23. 

?	C	Z
A	X	N

 (A) L (B) K (C) E (D) M

24. 

F	K	?
U	P	V

 (A) D (B) E (C) U (D) F

25. 

D	8	W
?	?	4

 (A) 23-S (B) 12-V (C) 16-P (D) 2-Y

**Answers and Explanations:**

1. (C)                      2. (A)                      3. (B)                      4. (D)

Now, if we look at all the four questions we can find the pattern of the letter series. The series starts from top box to bottom then anti-clockwise (right side) to the left side; with a skipping of 1, 2 and 3 letters respectively, e.g., B(C)D(EF)G(HIJ)K,E(F)G(HI)J(KLM)N, and so on.

5. (A) The word is STRIKE.
6. (C) The word is ANIMAL.
7. (D) The word is FAMOUS.
8. (B) The word is TENNIS.
9. (E) The word is ABOVE.
10. (C) The word is PORCH.
11. (D) The word is OPEN.
12. (B) The word is ARCH.
13. (A), 14. (C) In both the cases, two halves of the circle are to be considered. For 13, the upper half consists of 4 letters and letters opposite to them in the lower halves are the third letters in the alphabetical series, e.g., A(B)C, D(E)F, V(W)X and N(O)P.  
For 14, here the letters are opposite each other occupy the same positions in the alphabetical order from the beginning and the end, e.g., B & Y (2, 25), M & N (13, 14), K & P (11, 16), F & U (6, 21).
15. (D) Here both in upper and lower halves, letters are progressing by skipping two letters in between, e.g., B(CD)E(FG)H(IK)K(LM)N AND D(EF)G(HI)J(KL)M(NO)P. Here 'A' may also be the possible answer but the sequence is different.
16. (B) Here 1 is added to the position number of each letter in the alphabetical order, e.g., C(3)4, O(15)16, U(21)22.
17. (A) Here letters are arranged in a zig-zag way skipping two letters in between, e.g., B(CD)E(FG)H(IJ)K(LM)N(OP)Q.
18. (C) Here the letters are arranged clockwise with a skip of 2 letters in between, e.g., D(EF)G(HI)J(KL)M(NO)P(QR)S.
19. (D) Here letters and their position numbers are arranged crosswise, e.g., B-2, D-4, H-8, Y-25, M-13, F-6 and so on.
20. (B) Here letters and their position numbers are arranged in a zig-zag way with a skipping of 1 letter in between but in opposite direction, e.g., D(E)F(G)H(I)J(K)L(M)N and 4(5)6(7)8(9)10(11)12(13)14.
21. (A) Here the arrangement is same as 20 with a skipping of 1, 2, 3, 4 and 5 letters respectively in between.

22. (C) Here the letters and numbers are independent series, the letters are progressing with a skipping of 1 letter in between, e.g., Y(X)W(V)U(T)S(R)Q(P)O and the numbers are 3, 6, 9 and so on.
23. (D) Here A-Z, C-X and M-N occupy the same positions from the beginning and the end, e.g., A(1-26)Z, M(13-14)N...
24. (B) Here upper and lower letters occupy the same positions from the beginning and the end, e.g., F(6-21)U, K(11-16)P, E(5-23)V.
25. (A) Here each letter in the box is represented with its position number from the end, e.g., D-23, S-8, W-4.

# 4

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## Coding and Decoding Tests

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In any aptitude test coding and decoding type of items are very common. This is the type of Analytical Aptitude Test. Codes are generally used in the defence services and also by intelligence agencies for communication and secret messages from one place to another. The codes are usually prepared on some basic principles, by which the receiver of the code messages decipher it in order to get the real message. Coding and decoding tests are very common in selection tests. These tests assess the candidate's ability to decipher the law that codes a particular message and break the code to reveal the message and thereby judge the ability of observation and analytical aptitude of the candidate. There may be several categories of coding, which are as follows:

### A. LETTER CODING

The letters of the alphabet are generally used in the coding system. Each letter of a word to be coded is substituted by any other letter of the alphabet. Depending upon the rules used in encoding, letter coding may be of the following types:

- I. Random coding or coding without any specific pattern.
- II. Specific pattern coding. This is of four types which are:
  - (a) Forward sequence pattern
  - (b) Backward sequence pattern
  - (c) Skipped sequence pattern
  - (d) Reverse order pattern

### TYPE 1: RANDOM CODING (WITHOUT ANY SPECIFIC PATTERN)

#### Examples:

#### Directions for Questions 1-5:

A particular code has been used to rewrite a given word. Using the same rule of coding you have to either 'code' or 'decode' the given word or code (as the case may be) and find out which one of the answer choice (marked A, B, C and D) is correct.

**Questions:**

- In a certain code the word BOMBAY is written as XTCXZD. Using the same code what should be the code for the word 'BOY'?  
(A) XTC (B) XZD (C) XTD (D) XTZ
- Using the same rule of coding as in question 1, what should be the word for the code 'CZD'?  
(A) BAY (B) MAY (C) BOM (D) MOB
- In a certain code the word 'COLOURED' is written as 'XDPDNAQZ'. Using the same rule of coding what should be the code for the word 'ORDER'?  
(A) DAZQA (B) DAQZA (C) ADZQA (D) DAZAQ
- Using the same rule of coding as in question 3, what should be the code for the word 'LOUD'?  
(A) PDQZ (B) DPNZ (C) ADZN (D) PDNZ
- Using the same rule of coding as in question 3, what should be the word for the code 'ANPQ'?  
(A) LORE (B) DOOR (C) RULE (D) CODE

**Answers and Explanations:**

- (C) Each coded letter for the word is B(X), O(T), M(C), B(X), A(Z), Y(D), similarly for B(X), O(T), Y(D) = XTD = (C)
- (B) Here, C(M), Z(A), D(Y) = MAY
- (A) Here C(X), O(D), L(P), O(D), U(N), R(A), E(Q), D(Z).  
So, O(D), R(A), D(Z), E(Q), R(A) = DAZQA = (A)
- (D) L(P), O(D), U(N), D(Z) = PDNZ = (D).
- (C) A(R), N(U), P(L), Q(E) = RULE = (C).

**TYPE 2: CODING WITH A SPECIFIC PATTERN**

Here the letters are allotted an artificial value but in a specific pattern, which may be forward, backward or skipped, as follows.

**a. Forward Sequence Pattern:**

Here each letter is coded by the next in alphabetic sequence.

**Example:**

If 'SUBMIT' is coded as 'TVCNJU', what should be the code for the word 'NEVER'?  
(A) OFWSF (B) OFWFS (C) MFWSF (D) OFFSW.

**Answer and Explanation:**

Answer is (B). i.e. OFWFS.

Here, S becomes T, U becomes V, B becomes C, M becomes N, I becomes J and T becomes U. Similarly N = O, E = F, V = W, E = F, R = S.

**b. Backward Sequence Pattern:**

Here each letter is coded either by its previous letter in the alphabet or in backward alphabetic order, e.g., A = Z, B = Y, C = X etc.

**Examples:**

- If 'COME' is coded as 'BNLD', what should be the code for the word 'TRADE'?  
(A) PQBCD (B) SQZCD (C) RPYBC (D) SPZCD
- If 'ZEAL' is coded as 'AVZO', what should be the code of 'HIGH'?  
(A) SRTS (B) RSTR (C) TRST (D) STRS

**Answers and Explanations:**

- (B) Here each letter is coded with exactly its previous letter in the alphabet, e.g., T = S, R = Q, A = Z, D = C and E = D, i.e., SQZCD = B.
- (A) Here, the coding is done in backward alphabetic order, e.g., A = Z, B = Y, C = X and so on. So, H = S, I = R, G = T, i.e. SRTS = A.

**c. Skipped Sequence Pattern:**

Here, the coding is done by skipping of letters. This skipping may be either forward or backward.

**Examples:**

- If 'JOIN' is coded as 'MRLQ', what should be the code of 'BEAT'?  
(A) EDHW (B) DGCV (C) EHDW (D) CFBU
- If 'MILK' is coded as 'IEHG', what should be the code for the word 'BORN'?  
(A) ZMPL (B) XKNJ (C) FSVR (D) YLOK

**Answers and Explanations:**

- (C) Here the codes are formed by skipping two letters forward, i.e., J(KL)M, O(PQ)R, I(JK)L, N(OP)Q. So, B(CD)E, E(FG)H, A(BC)D, T(UV)W.
- (B) Here the codes are formed by skipping three letters backward, i.e. I(JKL)M, E(FGH)I, H(IJK)L, G(HIJ)K. Hence X(YZA)B, K(LMN)O, N(OPQ)R, J(KLM)N.

**d. Reverse Order Pattern:**

Here the coding is done by simple reversing the letters of the word to be coded.

**Examples:**

- In a certain code the word 'ROAST' is written as 'TSAOR'. Using the same pattern what should be the code for the word 'CHINA'?  
(A) DIJOB (B) BGHMZ (C) ANHIC (D) ANIHC
- In a certain code the 'GIVEN' is written as 'NEVIG'. Using the same pattern what should be the word for the code 'ECART'?  
(A) DELHI (B) TRACE (C) LOTUS (D) THORN

**Answers and Explanations:**

- (D) Just reversing the letters of the word CHINA.
- (B) Here also by reversing the letters of the code 'ECART', we get TRACE.

**TYPE 2: CODING WITH NUMBERS**

Sometimes coding is done by using numbers, i.e., the letters of the word to be coded are allotted a numerical value. Depending upon the rules used in encoding, coding with numbers may be of the following types:

- Random numbering or numbering without a specific pattern.
- Numbering with a specific pattern. This is of three types, which are:
  - Coding according to the position number of letters.
  - Coding with skipping of position number of letters.
  - Backward sequence numbering.
  - Random sequence numbering.

**I. Random numbering:**

Here, coding is done by replacing each letter of a word with a unique number.

**Example:**

In a certain code, the word CALCUTTA is written as 53759883. What should be the code for the word ACTUAL ?

- (A) 385937                      (B) 358937                      (C) 358793                      (D) 358973.

**Answers and Explanation:**

1. (B) Here each letter of the word 'CALCUTTA' is replaced by a unique number and all the letters of the word 'ACTUAL' are included in the word 'CALCUTTA'. So the code will be A=3, C=5, T=8, U=9, A=3, L=7, or 358937=(B).

**II. Numbering with a specific pattern:**

Here, the letters are allotted an artificial numbers but in a specific pattern with are as follows:

**a. Coding according to the position number letter in the alphabet:**

Here coding is done by replacing each letter of a word with the position number of that letter in the alphabet.

**Examples:**

1. In a certain code, the word 'BEG' is written as '257'. What should be the code for the word 'CACHE'?
- (A) 31385                      (B) 38135                      (C) 31358                      (D) 35183.
2. If 'BAKE' is coded as '2-1-11-5', what should be the code for the word 'LADY'?
- (A) 25-4-1-12                      (B) 10-1-4-25                      (C) 12-1-4-24                      (D) 12-1-4-25.

**Answers and Explanations:**

1. (A) Here the letters are coded according to their position numbers in the alphabet, i.e. A=1, B=2, C=3, etc. Hence, C=3, A=1, C=3, H=8, E=5, or 31385=(A).
2. (D) Here, also each letter is coded according to its actual position number in the alphabet, i.e., forward sequence numbering.

**b. Coding with skipping of position numbers of letters:**

Here coding is done by skipping forward one or more than one number from its original position numbers in the alphabet.

**Example:**

If 'BED' is coded as '476', what should be the word for the code '839'?

- (A) BAG                      (B) DEB                      (C) FAG                      (D) FAD.

**Answer and Explanation:**

1. (C) Here each letter is coded by skipping one number forward from its original position in the alphabet, i.e., B=2(3)4, E=5(6)7, D=4(5)6. So, 8(7)6=F, 3(2)1=A, 9(8)7=G=FAG=(C).

**TYPE 4: BACKWARD SEQUENCE NUMBERING**

Here for coding, the letters are allotted numbers from the reverse side maintaining the alphabetic sequence in the reverse direction, i.e., A=26, B=25, C=24 and so on.

**Example:**

If 'QUICK' is coded as '10-6-18-24-16', what should be the code for the word 'GOAT'?

- (A) 20-12-25-7                      (B) 15-12-24-20                      (C) 20-12-26-7                      (D) 20-11-26-7.

**Answer:**

- (C) Here, G=20, O=12, A=26, T=7, or 20-12-26-7 = C.



**TYPE 5: RANDOM SEQUENCE NUMBERING**

In this process of coding, any number, taken randomly, allotted to the starting alphabet, keeping letters in their normal alphabetic sequence.

**Examples:**

- If 'DARK' is coded as 7-4-21-14, what should be the code for the word 'ABLE'?  
(A) 4-5-16-8 (B) 4-5-15-8 (C) 4-5-12-8 (D) 1-2-12-5.
- If 'CABLE' is coded as '8-6-7-17-10', what should be the code for the word 'BACK'?  
(A) 5-4-8-14 (B) 6-5-7-15 (C) 2-1-3-11 (D) 7-6-8-16.

**Answers and Explanations:**

- (B) Here the letter 'A' is allotted the number 4 and subsequent scheme follows, i.e., B=5, C=6, D=7, etc. So, for ABLE it would be 4-5-15-8=(B).
- (D) Here the letter 'A' is allotted the number 6. So, B=7, A=6, C=8, K=16 or 7-6-8-16=(D).

**PRACTICE TEST****Directions for Questions 1-30:**

A particular code has been used to rewrite a given word. Using the same rule of coding you have to either 'code' or 'decode' the given word or code (as the case may be) and find out which one of the answer choice (marked A, B, C and D) is correct.

**Questions:**

- If the word 'COLOURED' is coded as 'XDPDNAQZ', what should be the code for the word 'ORDER'?  
(A) DAQZA (B) ADZQA  
(C) DAZQA (D) DAZAQ
- If the word 'BEAST' is written as 'FIEWX', what should be the code for the word 'GIRL'?  
(A) KMVP (B) KNVP  
(C) LIRG (D) LMVP
- If the word 'COME' is coded 'AMKC', what should be the word for the code 'BCJFG'?  
(A) DRILL (B) DOZEN  
(C) DELHI (D) DENSE
- If the word 'SUBMIT', is coded as 'TVCNJU', what should be the code for the word 'NEVER'?  
(A) OFWSF (B) MFWSF  
(C) MFWFS (D) OFWFS
- If the word 'ELECTRICITY' is written as '57542184829', what should be the code for the word 'TIER'?  
(A) 2815 (B) 2851  
(C) 2185 (D) 2581
- If the word 'COLOURED' is coded as 'XDPDNAQZ', what should be the code for the word 'LOUDER'?  
(A) PDNXQA (B) PDNZAQ  
(C) DDPNZQ (D) PDNZQA
- If the word 'CONNECTION' is coded as 'PBDDRXAQBD', what should be the word for the code 'DBAQXR'?  
(A) NATION (B) TONITE  
(C) NOTICE (D) NOTION
- If the word 'BEAUTIFUL' is written as 'DGCWVKHWN', what should be the code for the word 'HANDSOME'?  
(A) JCPFUQOG (B) JPULOQGC  
(C) IBOETPNF (D) JCPFUOQG
- If the word 'VILLAGE' is coded as 'ZPXXMRQ', what should be the code for the word 'LEAVE'?  
(A) XQPZQ (B) XZQMQ  
(C) XQMZQ (D) XQZMQ.
- If the word 'AMMONIA' is coded as 'DPPRQLD', what should be the word for the code 'FKORULQH'?  
(A) CONVENER (B) CHLORINE  
(C) CONVERGE (D) ELECTRON
- If the word 'HUNDRED', is coded as 'FSLBPCB', what should be the code for the word 'PRESIDENT'?  
(A) NPCQGBCLR (B) PQNCGBCLR  
(C) NPQCGBCLR (D) NPQCBGCLR

12. If the word 'AEROPLANE' is coded as 'CGTQRNC PG', what should be the word for the code 'FGVGTOKPGF'?
- (A) DISHONESTY (B) SUFFICIENT  
(C) COMPLETELY (D) DETERMINED
13. If the word 'HORSE' is coded as 'ESROH', what should be the code for the word 'TRAVEL'?
- (A) LEVART (B) VARTEL  
(C) LEARVT (D) LEARTV
14. If the word 'TEMPLE' is coded as 'ELPMET', what should be the word for the code 'EEVEL'?
- (A) FLOOD (B) LEVEE  
(C) LEVEL (D) BREAD
15. If the word 'LAND' is coded as 'OZMW', what should be code for the word 'EARTH'?
- (A) VIZGS (B) VIGAZ  
(C) VZIGS (D) VIZAG
16. If the word 'TENOR' is coded as 'RONET', what should be the code for the word 'CHAINED'?
- (A) BGZHMD C (B) DIBJOFE  
(C) DNIEAHC (D) DENIAHC
17. If the word 'HOTEL' is coded as '12345', what should be the code for the word 'LOTH'?
- (A) 5231 (B) 3521  
(C) 1234 (D) 5321
18. If the word 'LITTLE' is coded as '639962' and 'BARK' is coded as '8754', then what should be the code for the word 'BETTER'?
- (A) 829945 (B) 829925  
(C) 839935 (D) 859952
19. Using the same code as in question 18, what should be the code for the word 'TABLE'?
- (A) 98762 (B) 89762  
(C) 78962 (D) 97862
20. If 'WATER' is coded as 23-1-20-5-18, what should be the code for the word 'FOOD'?
- (A) 7-15-15-4 (B) 6-15-15-4  
(C) 6-17-17-4 (D) 6-16-16-4
21. Using the same code as in question 20, what should be the code for the word 'BALLAD'?
- (A) 2-1-12-12-1-4 (B) 1-2-12-12-1-4  
(C) 2-1-11-11-1-4 (D) 2-1-12-12-2-4
22. If 'SEA' is coded as 21-7-3, what should be the code for the word 'CINEMA'?
- (A) 3-1-14-5-13-1 (B) 4-2-15-6-14-2  
(C) 5-11-16-7-15-3 (D) 5-16-11-7-15-3
23. If 'CHURCH' is coded as '1-6-19-16-1-6', what should be the code for the word 'BODY'?
- (A) 2-15-4-25 (B) 3-16-5-26  
(C) 26-13-2-23 (D) 26-13-2-24
24. If 'EAR' is coded as '22-26-9', what should be the code for the word 'COW'?
- (A) 3-15-23 (B) 24-12-4  
(C) 25-13-3 (D) 4-12-24
25. If 'DOG' is coded as '23-12-20', what should be the word for the code '25-12-26-7'?
- (A) GOAT (B) BIRD  
(C) HAND (D) BOAT
26. If 'CLOCK' is coded as '25-16-13-25-17', what should be the code for the word 'WATCH'?
- (A) 5-1-8-25-20 (B) 5-26-7-24-19  
(C) 23-1-20-3-8 (D) 6-2-9-26-21
27. If 'BANK' is coded as '24-25-12-15', what should be the word for the code '22-21-24-17-6'?
- (A) MONEY (B) DEBTS  
(C) DEBIT (D) RUPEE
28. If 'SCHOOL' is coded as '22-6-11-18-18-15', what should be the code for the word 'TEACHER'?
- (A) 23-8-3-6-11-8-22 (B) 23-8-4-6-11-8-23  
(C) 23-8-4-6-11-8-21 (D) 20-5-1-3-8-5-18
29. If 'HAND' is coded as '9-2-15-5', what should be the word for the code '13-6-8'?
- (A) ARM (B) LEG  
(C) FIT (D) BEG
30. If 'BUS' is coded as '6-25-23', what should be the code for the word 'TRAM'?
- (A) 24-22-5-17 (B) 23-21-4-16  
(C) 20-18-1-13 (D) 7-9-26-14

**Answers and Explanations:**

- (C) Here O=D, R=A, D=Z, E=Q, R=A.
- (A) Skipping 3 letters forward (skipped sequence pattern).

3. (C) Backward sequence pattern.
4. (D) Forward sequence pattern.
5. (B) Coded by unique numbers.
6. (D) Coded by unique letters, i.e., L=P, O=D, U=N, D=Z, E=Q, R=A.
7. (C) Coded by unique letters.
8. (A) Skipped sequence pattern, skipping one letter forward.
9. (C) Coded by unique letters.
10. (B) Skipping two letters forward.
11. (A) Skipping one letter backward.
12. (D) Skipping one letter forward.
13. (A) Reverse order pattern.
14. (B) Reverse order pattern.
15. (C) Backward sequence pattern.
16. (D) Reverse order pattern.
17. (A) Coded by unique numbers.
18. (B) Coded by unique numbers.
19. (D) Coded by unique numbers.
20. (B) Coded according to their position number in the alphabet.
21. (A) Coded according to their position number in the alphabet.
22. (C) Skipping one number forward from its original position.
23. (C) Skipping one number backward.
24. (B) Backward sequence numbering.
25. (D) Backward sequence numbering.
26. (A) Backward sequence numbering, shifting one position number forward.
27. (C) Backward sequence numbering, shifting one position number backward.
28. (C) Random sequence numbering, taking A=4, B=5, C=6, and so on.
29. (B) Random sequence numbering, taking A=2, B=3, etc.
30. (A) Random sequence numbering, taking A=5, B=6, etc.

There may be certain other types of coding/decoding which are given below.

### TYPE 6: CODING BY COMPARISON AND CONTRAST

#### Directions:

Here two columns of letters are presented consisting of a few rows; letters of column I are given in capitals and that of column-II in small letters. Each small letter in Column II stands for some capital letter in Column I of the same row. However the small letters in Column II are not arranged in the same order as their corresponding letter in Column I. The code is the same for all items in Column I. Compare the columns and decode the underlined letters in Column I, from the same row of choices provided by the side of Column II.

#### Questions:

	Column-I	Column-II	(A)	(B)	(C)	(D)	(E)
1.	<u>H</u> N T B Z	v b h n t	n	t	b	v	h
2.	<u>C</u> T N Z B	t h n w v	w	v	h	t	n
3.	<u>D</u> N B Z C	x h v t w	v	x	t	w	h
4.	<u>O</u> H N T Z	t b h i n	h	b	n	i	t
5.	T Z O B <u>K</u>	n i v e t	i	e	v	n	t

**Answers and Explanations:**

1. C, 2. A, 3. B, 4. D, 5. B.

Here, for decoding all the five questions are to be compared. If we see questions 1 and 2, we find that letters N, T, B, Z are common in both the questions in Column I, similarly the code letters v, h, n, t are also common for questions 1 and 2. So, the code for H = b given in alternative 'C' and code for C = w given in alternative 'A'.

Similarly from questions 2 and 3, where C, N, B, Z are common in Column I and t, h, v and w are common in Column II correspondingly and the only number left, uncommon in Column -II against Question-3 is 'x' which should be D, given alternative B.

Similarly, in questions 1 and 4, we find H, N, T, Z are common in Column-I and t, b, h, n are common in Column-II. So, O =i, given in alternative 'D'.

Similarly, we can find T, Z, O, B common in other questions. So, the code for K is 'e', given in alternative 'B'.

**Questions:**

If, 'nad lad zad' means children like fun;

'zad Jad kad' means we like ice creams;

'Jad tad nad' means children want ice creams.

6. What is the 'code' for the word children?

(A) lad (B) nad (C) zad (D) tad.

7. What does 'Jad' means?

(A) children (B) fun (C) like (D) ice creams.

**Answers and Explanations:**

6. (B) From the first and third propositions the 'code' word 'nad' is common, which should be 'children'.

7. (D) From proposition two and three; we find 'ice creams' and the code 'Jad' common. So, 'Jad' means 'ice creams'.

**TYPE 7: CODING WITH SOME RULE**

In this pattern of coding certain rules are followed in coding the letters of a word which can be cleared by the following examples:

**Examples:**

8. If in a certain code JOHN is written as, 'KNIM', what should be the code for the word 'BOYS'?

(A) CPZT (B) ANXR (C) CNZR (D) APXT.

9. If 'DELHI' is coded as 'CFKIH', what should be the word for the code 'JBMQTS'?

(A) BOMBAY (B) BHOPAL (C) NAGPUR (D) KANPUR.

**Answers and Explanations:**

8. (C) Here each odd letter is coded with the following letter and even letter, with the preceding letter in the alphabetic order, e.g. B=C, O=N, Y=Z, S=R, or CNZR=(C).

9. (D) Here odd letters are coded with preceding letters and even letters with the following letters in the alphabetic order, e.g. J=K, B=A, M=N, Q=P, T=U, S=R, or KANPUR=(D).

**Examples:**

10. If FATHER IS CODED AS 'FBTIES', what should be the code for the word 'SISTER'?

(A) SJSUES (B) TJTUFS (C) SHSSEQ (D) SKSVET

11. If 'MOTHER' is coded as 'TOMREH', what should be the code for the word 'NEPHEW'?

(A) HPENWE (B) PENWEH (C) ENHPWE (D) WEHPEN



19. What is the code price of an article worth Rs. 20?  
 (A) BUAR (B) DGAR (C) RAGB (D) GBER.
20. In a certain code 'CHERA' is coded as '12345', what should be the code word for 15?  
 (A) EA (B) CA (C) RA (D) HE

**Answers and Explanations:**

16. (A)  $B=1, R=8, E=5, A=7, D=3$  or  $1+8+5+7+3 = 24 = (A)$ .
17. (B) Here, BUTTER =  $1+2+6+6+5+8 = 28 = (B)$ .
18. (D) EGG =  $5+4+4=13 = (D)$ .
19. (C)  $R=8, A=7, G=4, B=1$ , or  $8+7+4+1 = 20 = (C)$ .
20. (B) Here, for using the code words, or, rather letters, the ad hoc number allotted to them are not added together, e.g. 15 means  $1 = C$  and  $5 = A$  or  $CA = B$ .

**TYPE 10: MISCELLANEOUS CODING SCHEMES**

In this scheme some words and code numbers are given, where the codes are not under their respective words.

**Examples:**

In the following words you will find the codes are not under their respective positions. Study them carefully and answer the questions that follow:

SEAL	LESS	LEASE	FEAR	MESS
9856	2877	7850	0877	08578.

After arranging the above, what is the code or word for the following words or codes?

21. FELL  
 (A) 0890 (B) 0980 (C) 9800 (D) 9866
22. MEALS  
 (A) 08578 (B) 82507 (C) 25087 (D) 28507
23. LAME  
 (A) 0528 (B) 0258 (C) 5820 (D) 8205
24. 9568  
 (A) FEAR (B) FARE (C) MALE (D) SAIL
25. 2508  
 (A) MILL (B) SLUR (C) MALE (D) LEAR

**Answers and Explanations:**

21. (C), 22. (D), 23. (A), 24. (B) and 25. (C).

Arranging of codes can be done by the process of elimination. Among the five words coded, there is only one word which contains five letters, i.e. LEASE and the only five number code is 08578. So,  $L=0, E=8, A=5, S=7, E=8$ . Now, there are two words 'SS' common at the end, may go for '2877' and 0877. As we know,  $L=0$ , we can safely put '0877' under 'LESS' and the remaining '2877' under MESS. Now for the words 'SEAL' and 'FEAR', as the former ends with 'L' whose code is '0', so '7850', will come under 'SEAL' and '9856' will stand for 'FEAR'. So, codes for the letters are,  $M = 2, F = 9$  and  $R = 6$ .

- So for Q:
21. FELL = 9800 = (C)  
 22. MEALS = 28507 = (D)  
 23. LAME = 0528 = (A)  
 24. 9568 = FARE = (B)  
 25. 2508 = MALE = (C).

**TYPE 11: CODING WITH CHARACTER AND SIGNS**

In this coding procedure some special characters or common signs e.g., +, ×, ÷, (), @, \*, !, ", ", =, ;, ,, etc. are used along with letters or numbers (digits). As this analogical coding is done on the ad hoc basis, deciphering of such codes are to be done most carefully.

**Examples:**

26. If PENCIL is coded as = @ ; ? + \* , what should be the code for the word 'CLIP'?

- (A) ? + \* @                      (B) ? ; @ =                      (C) ? \* + =                      (D) ? \* = +

If 'COST' is coded as ÷ ? , = and 'DUPE' as :x\*" following the same code.

27. What should be the code for the word 'POST'?

- (A) : ÷ ? =                      (B) \* × , =                      (C) " ? , =                      (D) \* ? , =

28. What should be the code for the word 'TEST'?

- (A) = , " =                      (B) = " , =                      (C) , = " =                      (D) = ? , =

**Answers & Explanations:**

26. (C) P → =, E → @, N → ;, C → ?, I → + and L → \* So, C = ?, L = \*, I = + and P = '=' or ? \* + = or (C)
27. (D) P = \*, O = ?, S = , and T = '=' or \*?, = or (D)
28. (B) T → '=', E → ", S → ', and T → '=' or "=", = or (B)

**PRACTICE TEST****Directions for Questions 1 to 12:**

In each question below, the capital letters in Column I are written in a code in small letters in Column II. Each small letter in Column II stands for the same capital letter in Column I. The small letters are not arranged in the same order as the capital letters. Study all the questions carefully and find out which small letter stands for the underlined capital letter in each question in Column I.

**Questions:**

Column I	(A)	(B)	(C)	(D)	(E)
1. O B S T <u>U</u>	e	v	w	x	r
2. A <u>Q</u> S O T	d	t	v	r	w
3. D <u>A</u> B T X	g	e	d	w	a
4. U T <u>B</u> A S	w	x	e	d	v
5. U S B T <u>Q</u>	r	x	e	v	w
6. <u>T</u> O L Q S	r	w	t	v	o
7. <u>A</u> C E G L	f	h	j	o	d
8. E G C <u>P</u> L	s	j	o	f	h
9. L G E C <u>B</u>	o	e	j	h	f
10. E C L <u>N</u> G	h	f	q	j	o
11. A L G B <u>T</u>	o	d	j	e	w
12. L P G <u>K</u> N	q	j	s	n	o

**Directions for Questions 13-15:**

If according to a certain code:

'hop', 'mop', 'sop', 'dop' means Rahim is in Agra.

'nop', 'kop', 'mop', 'gop' means Rahim should come here.



'rop', 'zop', 'dop', 'kop' means Subhas is here today.  
 'sop', 'nop', 'zop', 'pop' means Subhas should visit Agra.

**Questions:**

13. What is the code for Agra?  
 (A) sop (B) dop (C) mop (D) hop
14. What does 'rop' mean?  
 (A) Subhas (B) is (C) today (D) here
15. Which is the code for 'come'?  
 (A) nop (B) gop (C) kop (D) mop

**Directions for Questions 16-20:**

If according to a certain code,

'I received a letter', means 'we saw an aircraft'.  
 'Robin received one too', means 'the aircraft is red'.  
 'Robin loves long letter', means 'captain saw red flag'.  
 'I like long one', means 'we believe the captain'.

16. What does the code word 'received' mean?  
 (A) We (B) Blue (C) Aircraft (D) Saw
17. What is the code of the word 'saw'?  
 (A) Letter (B) I (C) Long (D) Loves
18. What does the code word 'Robin' mean?  
 (A) The (B) Flag (C) Captain (D) Red
19. What is the code of the word 'believe'?  
 (A) I (B) Like (C) Long (D) One
20. What is the code for the word 'Captain'?  
 (A) Robin (B) Loves (C) Long (D) Letter.
- If 'CALCUTTA' is coded as 'BBKDTUSB',
21. What is the code of 'MOSCOW'?  
 (A) NPTDPX (B) WOCSOM (C) LNRBNV (D) LPRDNX
22. What is the code of 'PURI'?  
 (A) OVQJ (B) OTQH (C) QVSJ (D) IRUP.
- If according to a certain code 'ATONCE' is coded as 'AVOPCG',
23. What should be the code for the word 'COME'?  
 (A) CPMF (B) CQMG (C) EONE (D) CNMD
24. Decode the letter 'BGRNIP'.  
 (A) BOMBAY (B) LONDON (C) BERLIN (D) NAGPUR
25. If in a certain code 'CROSS' is written as 'ATMUQ', how do you decode 'BGKQQ'?  
 (A) DEMOS (B) DRESS (C) DREGS (D) DENSE
26. If 'LONDON' is coded as 'NOLNOD', what is the code for the word 'MATTER'?  
 (A) TAMTER (B) RETTAM (C) AMTRET (D) TAMRET
27. If 'PENCIL' is coded as 59, what should be the code for the word 'TRAIN'?  
 (A) 39 (B) 62 (C) 31 (D) 60
28. If 'GRAND' is coded as 22, what should be the code for the word 'CAR'?  
 (A) 22 (B) 44 (C) 11 (D) 20
29. If 'SCHOOL' is coded as 66, what should be the code for the word 'TAXI'?  
 (A) 53 (B) 49 (C) 50 (D) 54



30. If 'DEAR' is coded as 7, what should be the code for the word 'BEARS'?
- (A) 9 (B) 45 (C) 36 (D) 18
31. If 'CAR' is coded as 66, what should be the code for the word 'BOOK'?
- (A) 43 (B) 129 (C) 39 (D) 172
32. If 'HIGH' is coded as 5645, what should be the code for the word 'FEEL'?
- (A) 2338 (B) 3449 (C) 3229 (D) 4337

**Directions for Questions 33-38:**

A shopkeeper uses a code SILWOXHAP = 45, where S = Rs. 1, I = Rs. 2, L = Rs. 3, and so on, using the same code, answer the following questions.

**Questions:**

33. What is the price of 'WAX'?
- (A) Rs. 19 (B) Rs. 18 (C) Rs. 20 (D) Rs. 10
34. The price of which article is Rs. 23?
- (A) SOAP (B) POLISH (C) OIL (D) SILL
35. What is the code price of an article worth Rs. 25?
- (A) WASP (B) HAPO (C) PAIL (D) SHAP
36. What is the price of 'OIL'?
- (A) Rs. 9 (B) Rs. 12 (C) Rs. 10 (D) Rs. 15
37. What is the price of the 'POLISH'?
- (A) Rs. 25 (B) Rs. 27 (C) Rs. 26 (D) Rs. 24
38. What is the code of an article worth Rs. 56?
- (A) XH (B) OX (C) HA (D) WO

**Directions for Questions 39-42:**

In a certain code 'FELANPRDI' is coded as '123456789'. Based on this coding answer the following questions.

39. What should be the code for the word 'LEARN'?
- (A) 32475 (B) 34275 (C) 32175 (D) 34725
40. What is the code for 'RIDE'?
- (A) 7892 (B) 7682 (C) 7928 (D) 7982
41. What should be the word for the code '7247'?
- (A) FEAR (B) PEAR (C) REAR (D) RAIR
42. What should be the word for the code '647482'?
- (A) DIAPER (B) PARADE (C) PATRON (D) PARDON

**Directions for questions 43-46:**

In the following words codes are not under their respective positions. Study them carefully and after arranging them answer the following questions:

INSTALL	NATIONS	STRINGS	INSTILL	STATIONS	OPTIONS
324503	4532177	5124953	9624953	4532477	32124953

**Questions:**

43. What is the code for the word 'POSTAL'?
- (A) 693517 (B) 693417 (C) 694517 (D) 692517
44. What is the word for the code '2933'?
- (A) BOSS (B) TELL (C) TILL (D) TOSS

45. What is the code for the word 'LOTION'?
- (A) 753214                      (B) 792945                      (C) 792495                      (D) 792594
46. What is the word for the code '3950'?
- (A) PAST                      (B) SONG                      (C) SNOB                      (D) SING

**Directions for questions 47-50:**

If in a certain code 'RAIL' is written as =+;@ and DEEP is written as ÷, , \* answer the following questions.

47. What should be the code for the word 'DEAR'?
- (A) ÷,+ =                      (B) ÷, = +                      (C) , ÷ + =                      (D) ÷, \* +
48. What should be the word for the code '\*,+ = '?
- (A) PEAL                      (B) PEAT                      (C) PEAR                      (D) PEAK
49. What should be the code for the word 'REAP'?
- (A) \*+, =                      (B) , = + \*                      (C) +, = \*                      (D) =, + \*
50. What should be the word for the code '@,; = '?
- (A) LIAR                      (B) LIER                      (C) LEAP                      (D) LEAD

**Answers and Explanations:**

1. (D), 2. (B), 3. (C), 4. (C), 5. (A), 6. (B), 7. (E), 8. (A), 9. (B), 10. (C), 11. (E), 12. (D) All the 12 questions are to be compared here.
13. (A) We find 'Agra' in 1<sup>st</sup> and 4<sup>th</sup> propositions, where only 'Sop' is common.
14. (C) 'Rop' is the new code for the new word or only word 'today'.
15. (B) 'Come' is also unique word in 2<sup>nd</sup> propositions, so 'gop' must be the code.
16. (C) 17. (A), 18. (D), 19. (B), 20. (C) Comparing all the propositions and by the process of elimination, 21. (D)
22. (A) Odd letters are coded with preceding letters and even letters with the following letters.
23. (B), 24. (C) Here only even letters are coded with the skipping of one letter forward.
25. (A) Here odd letters are coded with the skipping of one letter backward and even letters with the skipping of one letter forward.
26. (D) Reversing first 3 letters and then the last 3 letters.
27. (B) By adding the position numbers of the alphabets.
28. (C) By adding the position numbers and then divided by 2.
29. (C) By adding the position numbers and then subtracted the number of letters.
30. (A) By adding the position numbers and then divided by the number of letters.
31. (D) By adding the position numbers and then multiplied with the number of letters.
32. (C) Ad hoc coding, e.g., D=1, E=2, F=3 and so on.
33. (B), 34. (A), 35. (D), 36. (C), 37. (B),
- |         |   |   |   |   |   |   |   |   |   |      |
|---------|---|---|---|---|---|---|---|---|---|------|
| 38. (B) | S | I | L | W | O | X | H | A | P |      |
|         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | = 45 |
39. (A), 40. (D), 41. (C), 42. (B) (Same as above).
43. (A), 44. (D), 45. (C), 46. (B) By comparing all the six words and six codes and by process of elimination.
47. (A), 48. (C), 49. (D), 50. (B)
- |         |         |
|---------|---------|
| R A I L | D E E P |
| = + ; @ | ÷ , , * |

## B. MATRIX CODING

In this type of coding system letters and their code numbers are given in two matrices. Questions that follow containing letters from both the matrices. So for searching of code numbers both the matrices as well as the position number of letters are to be consulted.

### Example:

Matrix-I						Matrix-II					
	0	1	2	3	4		5	6	7	8	9
0	D	O	B	A	I	5	W	N	R	M	L
1	O	B	A	I	D	6	N	R	M	L	W
2	B	A	I	D	O	7	R	M	L	W	N
3	A	I	D	O	B	8	M	L	W	N	R
4	I	D	O	B	A	9	L	W	N	R	M

### Directions for Questions 1-3:

Each of the following questions are based on these two matrices. Study each letter of the word and find out the code from the matrices given, and answer the question.

1. WORD

(A) 55, 01, 76, 41      (B) 96, 42, 66, 14      (C) 69, 01, 58, 14      (D) 55, 01, 75, 44

2. ROOM

(A) 98, 10, 42, 85      (B) 66, 24, 24, 77      (C) 57, 01, 00, 67      (D) 98, 42, 42, 89

3. BAIL

(A) 02, 04, 03, 86      (B) 11, 30, 31, 79      (C) 43, 12, 40, 95      (D) 43, 04, 14, 59

### Answers and Explanations:

- (B) 96, 42, 66, 14. From Matrix-II, the codes of 'W' are found 55, 69, 78, 87 and 96. From Matrix-I, the codes of the word 'O' are 01, 10, 24, 33 and 42. From Matrix-II, the codes for the word 'R' are 57, 66, 75, 89 and 98. From Matrix-I, 'D' is coded by 00, 14, 23, 32, 42..  
(In all the cases code numbers are represented first by rows and next by columns.) Clearly only (B) contains all the correct codes.
- (A) 98, 10, 42, 85. Here code numbers for 'R' and 'O' are given in question-1. For 'M' coded from matrix-II are 58, 67, 76, 85 and 99. Here only (A) gives all the correct codes.
- (C) 43, 12, 40, 95. Here from matrix-I 'B' can be coded 02, 11, 20, 34 and 43, 'A' can be coded as 03, 12, 21, 30 and 44; 'I' can be coded as 04, 13, 22, 31 and 40. From matrix-II, 'L' can be coded as 59, 68, 77, 86 and 95. Only correct alternative containing all the correct codes is (C).

### Substitution:

In this type of coding system some substitute names (codes) are assigned for some particular objects. Here, the questions are to be answered in the substitute or code names.

### Examples:

- If mouth is called leg, leg is called nose, nose is called ear and ear is called eye, with which of the following a person walks?

- (A) leg            (B) ear            (C) eye            (D) nose            (E) mouth
2. If book is called watch, watch is called bag, bag is called car and car is called window, which is used for measuring time?
- (A) watch            (B) bag            (C) car            (D) window            (E) book

**Answers and Explanations:**

- (D) Nose. A person walks with the legs, but here leg is called nose, so a person with his nose, hence (D) nose is the correct answer.
- (B) Bag. Normally watch is used for measuring time, but here watch is renamed as bag. Hence (B) is the correct answer.

**Mixed Number Coding:**

In this type of coding certain message is coded with a group of numbers. Here codes are deciphered by comparison and elimination of a few messages in the question.

**Examples:**

- In a certain code language '134' means 'good and tasty', '478' means 'see good pictures' and '729' means 'pictures are faint', which of the following digit stands for 'see'?  
(A) 9            (B) 2            (C) 1            (D) 8            (E) 7
- In a certain code language '526' means 'sky is blue', '247' means 'blue colour pen', '436' means 'colour is beautiful', which digit stands for 'beautiful'?  
(A) 3            (B) 2            (C) 4            (D) 5            (E) 7.

**Answers and Explanations:**

- (D) 8. In the first and second statements the common word is 'good' and common number is '4'. So '4' means 'good'. Between 2nd and 3rd statements common word is 'picture' and common number is '7'. So only number left for the 2nd message is '8' which must be for 'see'.
- (A) 3. In 1st and 2nd statements the common word is 'blue' and common number is '2'. Hence '2' means 'blue'. In the 2nd and 3rd statements the common word is 'colour' and the common number is '4'. In 1st and 3rd statements common word is 'is', and common number is '6', so only uncommon number left in the 3rd statement is '3' which means 'beautiful'.

**PRACTICE TEST- 4.3****Directions for Questions 1-10:**

Each question below is based on the two matrices given above the question. Identify the set for the word given in each question and mark the correct answer.

Matrix-I

	0	1	2	3	4
0	D	K	A	E	C
1	C	D	K	A	E
2	K	C	E	A	D
3	K	C	D	E	A
4	E	D	A	K	C

Matrix-II

	5	6	7	8	9
5	P	L	O	T	N
6	T	P	N	L	O
7	P	N	T	O	L
8	O	N	T	P	L
9	L	O	P	N	T

(I. Tax of Central Excise, 1996)

## 1. COLD

(A) 44, 96, 95, 22 (B) 31, 99, 77, 22 (C) 30, 66, 86, 43 (D) 10, 85, 79, 24.

## 2. POND

(A) 55, 96, 67, 11 (B) 66, 69, 68, 24 (C) 55, 78, 98, 44 (D) 85, 76, 55, 32.

## 3. LEAP

(A) 68, 03, 20, 55 (B) 79, 33, 42, 88 (C) 89, 13, 14, 76 (D) 95, 40, 02, 87.

Matrix-I

	0	1	2	3	4
0	E	A	H	T	S
1	A	T	S	H	E
2	E	S	T	H	A
3	T	H	A	E	S
4	S	T	H	E	A

Matrix-II

	5	6	7	8	9
5	I	P	L	K	R
6	K	R	I	L	P
7	I	R	K	L	P
8	K	R	I	P	L
9	R	K	L	P	I

(C.B.I., 1996)

## 4. RISK

(A) 99, 66, 88, 98 (B) 95, 12, 67, 98 (C) 59, 99, 21, 77 (D) 76, 21, 59, 89

## 5. STEP

(A) 12, 22, 14, 69 (B) 12, 14, 96, 41 (C) 22, 41, 21, 96 (D) 41, 12, 14, 96.

Matrix-I

	0	1	2	3	4
0	F	A	N	O	I
1	I	O	F	A	N
2	A	N	O	I	F
3	O	F	I	N	A
4	N	I	A	F	O

Matrix-II

	5	6	7	8	9
5	S	E	H	B	T
6	H	S	E	T	B
7	B	T	S	E	H
8	E	H	T	B	S
9	T	S	E	H	B

(S.S.C., 1996)

## 6. NEST

(A) 33, 85, 88, 86 (B) 21, 76, 77, 76 (C) 14, 67, 66, 67 (D) 02, 56, 55, 59.

## 7. FAITH

(A) 43, 42, 41, 78, 89 (B) 31, 34, 23, 76, 79 (C) 29, 31, 10, 59, 57 (D) 12, 20, 40, 68, 65.

## 8. FINE

(A) 31, 32, 33, 82 (B) 24, 19, 21, 78 (C) 00, 04, 02, 56 (D) 12, 10, 13, 67.

## 9. HEAT

(A) 79, 53, 20, 87 (B) 65, 56, 13, 57 (C) 29, 85, 34, 93 (D) 57, 56, 01, 59.

## 10. BOTH

(A) 88, 30, 85, 86 (B) 75, 22, 76, 79 (C) 69, 67, 68, 59 (D) 58, 02, 68, 56.

11. If 'sky' is called 'sea', 'sea' is called 'water', 'water' is called 'air', 'air' is called 'cloud' and 'cloud' is called 'river', then what do we drink when thirsty?  
(Bank P.O., 1996)

(A) sky (B) water (C) air (D) sea (E) cloud

12. If air is called 'green', green is called 'blue', blue is called 'sky', sky is called 'yellow', yellow is called 'water', and water is called 'pink', then what is the colour of clear sky?  
(S.B.I.P.O., 1994)
- (A) blue            (B) sky            (C) yellow            (D) water            (E) pink
13. If orange is called 'butter', butter is called 'soap', soap is called 'ink', ink is called 'honey' and honey is called 'orange', which of the following is used for washing clothes? (R.B.I. 1990)
- (A) honey            (B) butter            (C) orange            (D) soap            (E) ink
14. If white is called 'blue', blue is called 'red', red is called 'yellow', yellow is called 'green', green is called 'black', black is called 'violet' and violet is called 'orange', what should be the colour of human blood?  
(Bank P.O. 1994)
- (A) red            (B) green            (C) yellow            (D) violet            (E) orange
15. If cloud is white, white is called 'rain', rain is called 'green', green is called 'air', air is called 'blue', and blue is called 'water', where will the birds fly?  
(Bank P.O. 1991)
- (A) air            (B) cloud            (C) white            (D) rain            (E) blue
16. If water is called 'blue', blue is called 'red', red is called 'white', white is called 'sky', sky is called 'rain', rain is called 'green' and green is called 'air', which of the following is the colour of milk?  
(Bank P.O., 1994)
- (A) air            (B) green            (C) white            (D) sky            (E) rain
17. If the animals which can walk are called 'swimmers', animals who crawl are called 'flying', those living in water are called 'snakes' and those which fly in the sky are called 'hunters', then what will a lizard be called?  
(Bank P.O. 1991)
- (A) swimmers    (B) snakes            (C) flying            (D) hunters            (E) none of these
18. In a certain code '256' means 'red colour chalk'; '589' means 'green colour flower' and '245' means 'white colour chalk' which digit is the code of 'white'?  
(Bank P.O., 1991)
- (A) 2            (B) 4            (C) 5            (D) 8            (E) none of these
19. In a certain code '253' means 'books are old'; '546' means 'man is old'; and '378' means 'buy good books', what stands for 'are' in the code?  
(S.B.I.P.O., 1990)
- (A) 2            (B) 4            (C) 5            (D) 6            (E) 9
20. In a certain code language 3a, 2b, 7c means 'Truth is Eternal'; 7c, 9a, 8b, 3a means 'Enmity is not Eternal'; and 9a, 4d, 2b, 8b means '~Truth does not perish', which of the following means 'enmity' in that language?  
(S.B.I.P.O., 1991)
- (A) 3a            (B) 7c            (C) 8b            (D) 9a            (E) None of these
21. In a certain code '256' means 'you are good', '637' means 'we are bad', and '358' means 'good and bad', which of the following represents 'and' in the code?  
(Railway, 1994)
- (A) 8            (B) 2            (C) 3            (D) 5            (E) None of these
22. In a certain code language '743' means 'mangoes are good'; '657' means 'eat good food', and '934' means 'mangoes are ripe', which digit means 'ripe' in that language?  
(Hotel Management, 1992)
- (A) 4            (B) 5            (C) 7            (D) 9
23. In a certain code, '247' means 'spread red carpet', '256' means 'dust one carpet'; and '264' means 'one red carpet', which digit in that code means 'dust'?  
(R.B.I., 1990)
- (A) 2            (B) 3            (C) 5            (D) 6            (E) Can't say

#### Directions for Questions 24-25:

Each question is based on the following codes. Study the codes and answer the following questions.

- I. 134 means 'you are well'.
- II. 758 means 'they go home'.
- III. 839 means 'we are home'.

(Bank P.O. 1994)

24. Which of the following represents 'they' in that code language?  
 (A) 5 (B) 7 (C) 3 (D) 8 (E) Data inadequate
25. Which of the statements can be dispensed with while answering the above question?  
 (A) I only (B) II only (C) I & II only (D) II & III only (E) None of these
26. In a certain code language 'col tip mot' means 'singing is appreciable'; 'mot baj min' means 'dancing is good' and 'tip nop baj' means 'singing and dancing', which of the following means 'good' in the code language?  
 (A) mot (B) min (C) baj (D) can't determined (E) None of these. *(Nabard, 1994)*
27. If 'nitco Sco tingo' stands for 'softer than flower'; 'tingo rho mst' stands for 'sweat flower' fragrance' and 'mst sco, tmp stands for 'sweet than smile', what would 'fragrance' stands for?  
 (A) tmp (B) mst (C) rho (D) sco. *(Central Excise, 1989)*

**For Questions 28-29:**

In a certain code language.

- I. 'Pic ric nic' mean 'winter is cold'.  
 II. 'to nic re' means 'summer is hot'.  
 III. 're pic boo' means 'winter and summer'.  
 IV. 'ric tho pa' means 'nights are cold'. *(Bank P.O. 1994).*
28. Which word in that language means 'summer'?  
 (A) nic (B) to (C) pie (D) re
29. Whith of the given statements is superfluous?  
 (A) only I (B) only IV (C) Both I and IV (D) Neither I nor IV
30. In a certain language 'Oka Peru' means fine cloth; 'meta lisa' means clear water; and 'dona lisa Peru' means fine clear weather, which word in that language means 'weather'?  
 (A) dona (B) oka (C) meta (D) Peru. *(U.T.I. 1990).*

**Answers and Explanations:**

1. (D) 10, 85, 79, 24. From matrix I, C can be coded as 04, 10, 21, 31 and 44.  
 From matrix II, O can be coded as 57, 69, 78, 85 and 96.  
 From matrix II, L can be coded as 56, 68, 79, 89 and 95.  
 From matrix I, D can be coded as 00, 11, 24, 32 and 41.  
 Clearly only (D) contains all the correct codes.
2. (A) 55, 96, 67, 11. From matrix II, P can be coded as 55, 66, 75, 88 and 97.  
 From matrix II, O can be coded as 57, 69, 78, 85 and 96.  
 From matrix II, N can be coded as 59, 67, 76, 86 and 98.  
 From matrix I, D can be coded as 00, 11, 24, 32 and 41.  
 Clearly only (A) contains all the correct codes.
3. (B) 79, 33, 42, 88. From matrix II, L can be coded as 56, 68, 79, 89 and 95.  
 From matrix I, E can be coded as 03, 14, 22, 33 and 40.  
 From matrix I, A can be coded as 02, 13, 23, 34 and 42.  
 From matrix II, P can be coded as 55, 66, 75, 88 and 97.  
 Clearly only (B) contains all the correct codes.
4. (C) 59, 99, 21, 77. From matrix II, R can be coded as 59, 66, 76, 86 and 95.  
 From matrix II, I can be coded as 55, 67, 75, 87 and 99.  
 From matrix I, S can be coded as 04, 12, 21, 34 and 40.  
 From matrix II, K can be coded as 58, 65, 77, 85 and 96.  
 Clearly only (C) contains all the correct codes.



5. (A) 12, 22, 14, 69. From matrix I, S can be coded as 04, 12, 21, 34 and 40.  
From matrix I, T can be coded as 03, 11, 22, 30 and 41.  
From matrix I, E can be coded as 00, 14, 20, 33 and 43.  
From matrix II, P can be coded as 56, 69, 79, 88 and 98.  
Clearly only (A) contains all the correct codes.
6. (D) 02, 56, 55, 59. From matrix I, N can be coded as 02, 14, 21, 33 and 40.  
From matrix II, E can be coded as 56, 67, 78, 85 and 97.  
From matrix II, S can be coded as 55, 66, 77, 89 and 96.  
From matrix II, T can be coded as 59, 68, 76, 87 and 95.  
Clearly only (D) contains all the correct codes.
7. (B) 31, 34, 23, 76, 79. From matrix I, F can be coded as 00, 12, 24, 31 and 43.  
From matrix I, A can be coded as 01, 13, 20, 34 and 42.  
From matrix I, I can be coded as 04, 10, 23, 32 and 41.  
From matrix II, T can be coded as 59, 68, 76, 87 and 95.  
From matrix II, H can be coded as 57, 65, 79, 86 and 98.  
Clearly only (B) contains all the correct codes.
8. (C) 00, 04, 02, 56. From matrix I, F can be coded as 00, 12, 24, 31 and 43.  
From matrix I, I can be coded as 04, 10, 23, 32 and 41.  
From matrix I, N can be coded as 02, 14, 21, 33 and 40.  
From matrix II, E can be coded as 56, 67, 78, 85 and 97.  
Clearly all the correct codes are present in (C).
9. (D) 57, 56, 01, 59. From matrix II, H can be coded as 57, 65, 79, 86 and 98.  
From matrix II, E can be coded as 56, 67, 78, 85 and 97.  
From matrix I, A can be coded as 01, 13, 20, 34 and 42.  
From matrix II, T can be coded as 59, 68, 76, 87 and 95.  
Clearly only (D) contains all the correct codes.
10. (B) 75, 22, 76, 79. From matrix II, B can be coded as 58, 69, 75, 88 and 99.  
From matrix I, O can be coded as 03, 11, 22, 30 and 44.  
From matrix II, T can be coded as 59, 68, 76, 87 and 95.  
From matrix II, H can be coded as 57, 65, 79, 86 and 98.  
Clearly only (B) contains all the correct codes.
11. (C) air. We drink water when thirsty, here 'water is called air', hence (C).
12. (B) sky. Colour of clean sky is blue, but 'blue' is called sky here, hence (B).
13. (E) Ink. Soap is used for washing cloths, but soap is Ink here, hence (E).
14. (C) Yellow. Colour of human blood is red, but red is called yellow here, hence (C).
15. (E) blue. Birds fly in the air, but here air is blue, hence (E).
16. (D) sky. Colour of milk is white, but here white is called sky, hence (D).
17. (C) flying. Lizard usually crawls, but her crawl means flying, hence (C).
18. (B) 4. In the 1st, 2nd and 3rd statements common code digit is 5 and the common word is colour, so '5' means colour. In the 1st and 3rd statements other common digit is 2 and common word is chalk so 2 means chalk. So the remaining digit in 3rd statement is 4 which should mean 'white'.
19. (A) 2. In the statements I and II the common digit is '5' and common word is old. So, '5' means old. In 1st and 3rd statements common digit is '3' and common word is books, so '3' means books. So only digit left in the 1st statement is '2' which means 'are'.
20. (C) 8b. In the 1st and 2nd statements common codes are 3a and 7c and common words are 'is' and 'Eternal'. In the 2nd and 3rd statements common code is 9a and common word



is 'not'. So, 9a means 'not'. So, in the 2nd statement only uncommon code left is 8b, which must mean 'enmity'.

21. (A) 8. In 1st and 3rd statements the common digit is '5' and common word is 'good'. In 2nd and 3rd statements common digit is '3' and common word is 'bad'. So, only digit left in the 3rd statement is 8 which must mean 'and'.
22. (D) 9. In the 1st and 3rd statements common digits are 3 and 4 and common words are 'mangoes' and 'are'. So, only digit left in the 3rd statement is '9' which must mean 'ripe'.
23. (C) 5. In 1st, 2nd and 3rd statements common code is '2' and common word is carpet. In 2nd and 3rd statements common code is '6' and common word is 'one'. So only digit left in the 2nd statement is '5' which must mean 'dust'.
24. (E) Data inadequate. In the 2nd and 3rd statements only common digit is '8' and common word is 'home'. But there is no other common digit or word between the statements.
25. (A) I only. Clearly statement 'I' is not necessary in answering the question no. 24.
26. (B) min. In 1st and 2nd statements common code is 'mot', and common word is 'is'. So, 'mot' means 'is'.  
The common code between 2nd and 3rd statements is 'baj' and common word is dancing. So only uncommon code left in statement-2 is 'min', which must mean 'good'.
27. (C) rho. In the 1st and 2nd statements the common code is 'tingo' and common word is 'flower'. The common code between 2nd and 3rd statements is 'mst', and common word is 'sweet'. So, only uncommon code in statement 2 is 'rho', which must mean 'fragrance'.
28. (D) re. In statements II and III. Common code is 're' and common word is 'summer'. So, 're' means 'summer'.
29. (C) Both I and IV clearly, both statements I and IV are superfluous.
30. (A) dona. In the 1st and 3rd statements, the common code word is 'Peru' and the common word is 'fine'. So, 'Peru' means 'fine'.  
In 2nd and 3rd statements the common code is 'lisa' and common word is 'clear', so 'lisa' means 'clear'. So only code left in the 3rd statements is 'dona' which must mean 'weather'.

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## Analytical Reasoning Tests

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In analytical reasoning tests (AR) some scattered information, given in the outline portion of the question, which is also the part of the 'AR' test, describes a certain situation in the form of a small passage or statements, followed by some questions to be answered by drawing inferences from passage or statements. These questions require you to think through a complicated set of conditions and to keep these conditions in mind as you answer a group of questions. It therefore makes sense for you to treat each group of questions as a unit and attempt to answer all the questions while you still have the conditions clearly in mind. So you have to first arrange the information in a proper order or sequence. In some cases it helps to quickly draw a diagram depicting the information given in the outline. Do not skip from one group to a second before you answer all the questions in the first group, otherwise you lose time refamiliarising yourself with the relationships. But within a group it is always helpful to skip from question to question, i.e., suppose in answering fourth question of a certain group, you may gain an insight into the total relationship that will help you to answer questions 2 and 3. Though the questions (AR) are not intended to be ambiguous, the test makers, instead of using language precisely, use so many words that it is easy to get lost. So simplify the information by using diagrams, abbreviations and symbols. Then highlight key words that limit the situation critically. First, eliminate answer choices ruled out by individual conditions, then work through the remaining choices or guess.

Analytical reasoning requires three basic skills, e.g.,

- (i) examinee's ability to structure a given problem,
- (ii) his/her persistence and willingness to try different approaches to crack a problem, and
- (iii) an ability to reason logically.

Analytical reasoning questions directly attack and stimulate several basic thought processes, e.g., memory, concept formation, attention, concentration, anticipation and visual organisation. Analytical reasoning questions can be framed in various ways. To answer such questions, you do not need to have training in formal logic to handle these questions. Pay particular attention to key words e.g. absolute terms like always, exactly, never and relative terms like sometimes, approximately and almost. Rather than jumping in blindly and analysing each and every aspect of the argument look at the question stem then examine the argument, do no more work than necessary. You will save time and effort. Go through the answer choices, keeping sight of your goal while you think the argument through.

There may be a number of analytical reasoning tests. Some of most commonly found AR tests along with working exercises are presented in this chapter. They are (i) Test related to direction, (ii) Tests related to mutual connection or Blood-relation tests, and (iii) Logical or Symmetrical relationship tests. Besides these the scope of Analytical reasoning tests can be widened to include questions on (iv) Data Analysis, (v) Decision Making and (vi) Data Sufficiency Tests.

## 5.1 TESTS RELATED TO DIRECTION

### A. Simple Direction Test

In such tests, questions involve a direction puzzle. You are expected to analyse the given information pertaining to the movement of any person or vehicle in a particular direction and to ascertain the final direction or position of the person or vehicle. To solve these problems you must have a knowledge about the main directions as shown in the following Fig. 1.

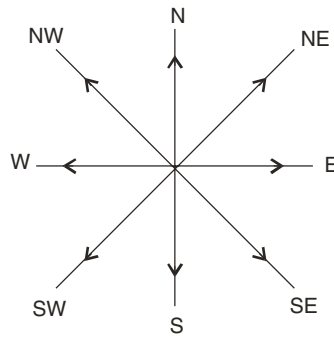


Fig. 1

#### Examples:

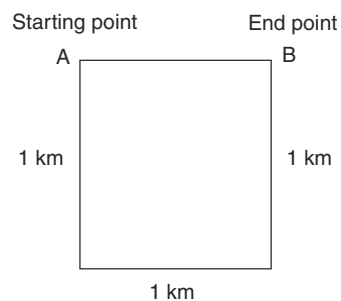
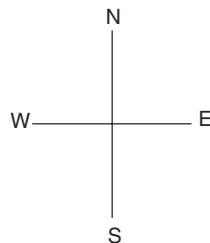
Rahim starts from point 'A' goes one kilometre south then one kilometre east. Again he turns left and goes one kilometre north.

#### Questions:

- How far Rahim away from the starting point 'A'?  
 (A) 3 km                      (B) 2 km                      (C) 1 km                      (D) 4 km.
- How much did Rahim walk?  
 (A) 3 km                      (B) 5 km                      (C) 4 km                      (D) 1 km.

#### Answers and Explanations:

1. (C), 2. (A) Here you have to remember the directions and turns given in the question and the distance covered. For easy solution the situation should be quickly sketched in the following way:



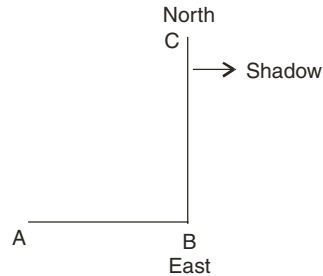
Here, 'A' = Starting point  
 B = Final or finishing point  
 Distance between A and B = 1 km.  
 Position of 'B' from 'A' is 'East'.

**Example:**

3. You are walking straight in the afternoon, then turned left. While proceeding farther you noticed your shadow in your right, in which direction you started walking in the beginning?  
 (A) Towards the north  
 (B) Towards the east  
 (C) Towards the south  
 (D) Towards the west

**Answer and Explanation:**

3. (B)



Consider, AB = initial direction and BC = final direction.

Here, afternoon sun is in the 'west', so if we travel 'north' only then our shadow would be in the 'right'. So at the final stage he was walking towards north. But before that he made a turn left, so initially he was travelling towards east as shown in the sketch.

**B. Direction Sense Test**

These tests usually measure the sense of direction of the candidates. A Fig. is given below which shows four main directions e.g. North, South, East and West and also the four angular direction showing the four cardinal points, e.g. North-East, North-West, South-East and South West.

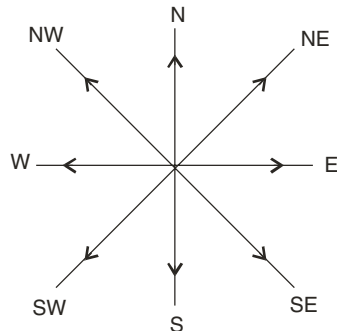


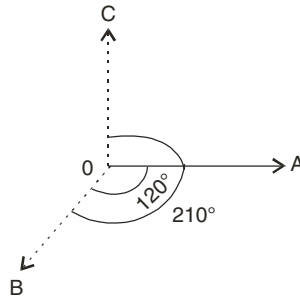
Fig. 1

**Examples:**

1. A man is facing East. He turns  $120^\circ$  in the clockwise direction and then  $210^\circ$  in the anticlockwise direction. Which direction is he facing now?  
(A) South (B) South West (C) North (D) North East.
2. A man is facing North-East. He turned  $90^\circ$  in the clockwise direction, then  $180^\circ$  in the anticlockwise and then another  $90^\circ$  in the same direction. Which direction is he facing now?  
(A) North (B) South West (C) North-West (D) South-East.
3. Ramesh starts walking from point a walks 12 kms towards North from there the turns right and walks 4 km, then he again turns right and walks 9 km. How far and which direction he is from his starting point?  
(A) 13 km. East (B) 13 km. South (C) 5 km. North (D) 5 km. North-East.

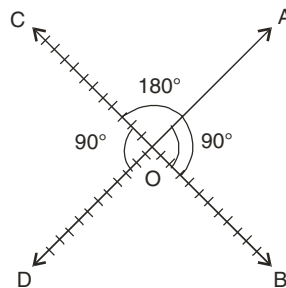
**Answers and Explanations:**

1. (C) North

**Fig. 1**

As shown in the Fig. 1 the man initially faces OA direction. On moving  $120^\circ$  clockwise he faces OB direction. On further moving  $210^\circ$  anti-clockwise he faces OC direction, which is North.

2. (B) South-West

**Fig. 2**

As shown in the Fig. 2 the man initially faces North-East direction, i.e. OA. On moving  $90^\circ$  clockwise he faces OB direction. On further moving  $180^\circ$  anticlockwise he faces OC direction and at last after moving  $90^\circ$  in the anticlockwise he finally faces OD direction, which is South-West.

3. (D) 5 km. North-East

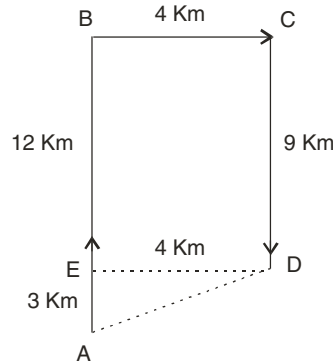


Fig. 3

It is clear from the Fig. 3 that Ramesh moves from A 12 km Northwards upto B, then turns right (i.e. towards East) 4 km upto C then moves right (towards South) and walks 9 km upto D.

Then  $AE = AB - BE$  or  $AB - CD = 12 - 9 = 3$  km.  
and  $ED = BC = 4$  Km.

$$\begin{aligned} \therefore AD &= \sqrt{(AE)^2 + (DE)^2} = \sqrt{3^2 + 4^2} \\ &= \sqrt{9+16} = \sqrt{25} = 5 \text{ Km.} \end{aligned}$$

and D is North-East of A. So, answer is (D).

### PRACTICE TESTS

1. A man is facing North-West. He turns  $90^\circ$  in the clockwise direction and then  $135^\circ$  in the anticlockwise direction. Which direction he is facing now? *(Hotel Management, 1996).*  
(A) East (B) West (C) North (D) South
2. A man is facing south. He turns  $135^\circ$  in the anticlockwise direction and then  $180^\circ$  in the clockwise direction. Which direction he is facing now? *(Hotel Management, 1996).*  
(A) North-East (B) North-West (C) South-East (D) South-West.
3. A man is facing north-west. He turns  $90^\circ$  in the clockwise direction then  $180^\circ$  in the anticlockwise direction and then another  $90^\circ$  in the same direction. Which direction he is facing now? *(Hotel Management, 1997).*  
(A) South East (B) West (C) South West (D) South.
4. A man is facing west. He turns  $45^\circ$  in the clockwise direction and then another  $180^\circ$  in the same direction and then  $270^\circ$  in the anticlockwise direction. Which direction he is facing now? *(Hotel Management, 1997).*  
(A) South (B) North West (C) South West (D) West.
5. I am facing east. I turn  $100^\circ$  in the clockwise direction and then  $145^\circ$  in the anticlockwise direction. Which direction I am facing now? *(Hotel Management, 1998).*  
(A) East (B) North East (C) North (D) South West
6. Radha moves towards South-East a distance of 7 km, then she moves towards west and travels a distance of 14 km. From here, she moves towards North-West a distance of 7 km and finally

she moves a distance of 4 km towards East and stood at a point. How far is the starting point from where she stood? (I. Tax and Central Excise, 1995).

- (A) 3 km (B) 4 km (C) 10 km (D) 11 km.

7. A child is looking for his father. He went 90 metres in the east before turning to his right. He went 20 metres before turning to his right again to look for his father at his uncle's place 30 metres from this point. His father was not there. From there he went 100 metres to his North before meeting his father in a street. How far did the son meet his father from the starting point?

(Central Excise, 1996).

- (A) 100 metres (B) 80 metres (C) 140 metres (D) 260 metres

8. Kishenkant walks 10 km towards north. From there he walks 6 km towards south. Then he walks 3 km towards east. How far and in which direction he is with reference to his starting point? (M.B.A., 1998).

- (A) 5 km West (B) 5 km North-East (C) 7 km. East (D) 7 km West

9. A man walks 1 km towards East and then he turns to south and walks 5 km again he turns to east and walks 2 km, after this he turns to north and walks 9 km. Now, how far he is from his starting point? (M.B.A., 1998).

- (A) 3 km (B) 4 km (C) 5 km (D) 7 km

10. Rohit walked 25 metres towards south. Then he turned to his left and walked 20 metres. He then turn to his left and walked 25 metres. He again turn to his right and walked 15 metres. At what distance he is from the starting point and in which direction? (Bank P.O., 1996).

- (A) 35 metres east (B) 35 metres north (C) 40 metres east (D) 60 metres east.

11. From his house, Lokesh went 15 km. to the north. Then he turned west and covered 10 km. Then, he turned south and covered 5 km. Finally, turning to east he covered 10 km. In which direction he is from his house? (C.B.I. 1996).

- (A) East (B) West (C) North (D) South

12. Gaurav walks 20 metres towards north. Then he turns left and walks 40 metres. He again turns left and walks 20 metres. Further, he moves 20 metres after turning to the right. How far is his original position? (Bank P.O., 1997).

- (A) 20 metres (B) 30 metres (C) 60 metres (D) None of these.

### Answers and Explanations:

1. (B) West. It is clear from the Fig. 1 that the man initially faces in the direction OA. Then he moves  $90^\circ$  clockwise and faces OB. Then again moving  $135^\circ$  anticlockwise, he faces in the direction OC, which is west.

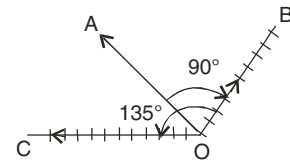


Fig. 1

2. (D) South west. From the Fig. 2 it is clear that originally the man was facing south in the direction OA. Then he moves  $135^\circ$  anticlockwise and facing in the direction OB. Then he again moves  $180^\circ$  clockwise and facing in OC direction which is south west.

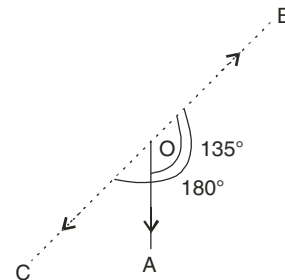


Fig. 2

3. (A) South east. From Fig. 3, it is clear that the man initially was facing north west in the direction OA, then he turns  $90^\circ$  clockwise and faces OB direction, then he turns  $180^\circ$  anti-clockwise and faces OC direction and finally he turns  $90^\circ$  anticlockwise and faces OD direction which is south east.

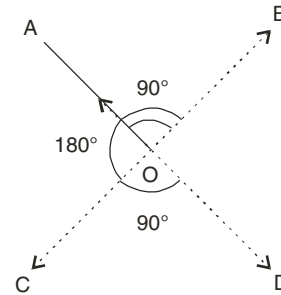


Fig. 3

4. (C) South west. From Fig. 4 it is clear that the initially the man was facing west in OA direction; then he moves OB direction which is  $45^\circ$  clockwise from his original position, then he moves  $180^\circ$  clockwise and facing OC direction, then he moves  $270^\circ$  anticlockwise and facing OD direction which is south west.

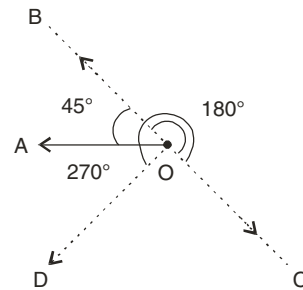


Fig. 4

5. (B) North east. From the Fig. 5 it is clear that initially I was facing east in OA direction. Then I turn  $100^\circ$  clockwise and facing OB direction, then I turn  $145^\circ$  anticlockwise direction and facing OC which is north east.

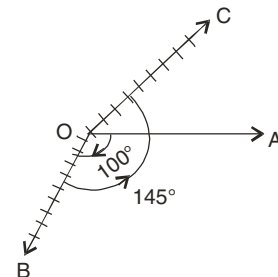


Fig. 5

6. (C) From the Fig. 6 Radha starts from O goes 7 km south-east reaches A, then goes 14 km west reaches B, then goes 7 km north-west reaches C and finally goes 4 km east reaches D. So her distance from the starting point is OD which is  $OD = (OC - CD) = (14 - 4) = 10$  kms [  $AB = OC$  ]

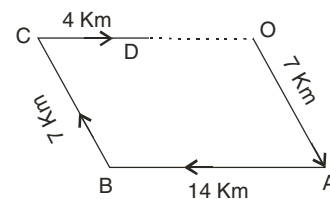


Fig. 6



7. (A) 100 metres. From the Fig. 7 it is clear that the child moves from O to 90 metres east reaches A, from there 20 metres towards south reaches B, then turns right, i.e. east 30 metres reaches C, then moves northwards 100 metres and reaches D.

So,  $OA = 90$  m.  $AB = 20$  m.  $BC = 30$  m.  $CD = 100$  m.  
 $CD = (CE + ED)$   
 $ED = (CD - CE) = (100 - 20) = 80$  m (  $CE = AB = 20$  m)  
 $OA = (OE + AE)$  or  $OE = (OA - AE) = (90 - 30)$   
 $= 60$  m. (  $AE = BC = 30$  m)

∴ child's distance from the starting point is OD, which is

$$OD = \sqrt{(OE)^2 + (DE)^2}$$

$$= \sqrt{60^2 + 80^2} = \sqrt{3600 + 6400} = \sqrt{10000} = 100 \text{ m.}$$

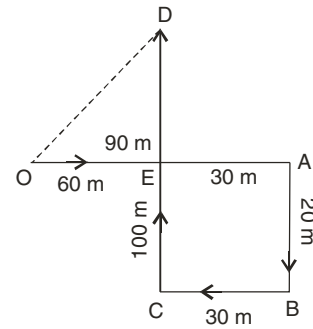


Fig. 7

8. (B) 5 km. North east

From the Fig. 8, it is clear that Kishenkant starts from O goes to A 10 km north and back to B 6 km south and finally goes to C which is 3 km east. Clearly 'C' is north east of 'O' his starting point. Now the distance of

$$OC = \sqrt{(OB)^2 + (BC)^2} = \sqrt{4^2 + 3^2}$$

$$= \sqrt{16 + 9} = \sqrt{25} = 5 \text{ Km.}$$

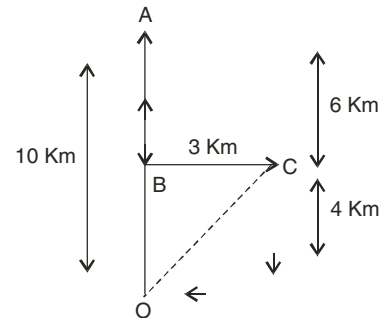


Fig. 8

9. (C) 5 km

The movement of the man is shown in Fig. 9.

$$O \xrightarrow{1 \text{ Km}} A \xrightarrow{5 \text{ Km}} B \xrightarrow{2 \text{ Km}} C \xrightarrow{9 \text{ Km}} D$$

So, it is also clear that  $AB = CE = 5$  km ∴  $DE = 9 - 5 = 4$  km. and  $AE = BC = 2$  km and  $OE = OA + AE = 1 + 2 = 3$  km.

$$\therefore OD = \sqrt{(OE)^2 + (DE)^2}$$

$$= \sqrt{3^2 + 4^2} = \sqrt{9 + 16} = \sqrt{25} = 5 \text{ Km.}$$

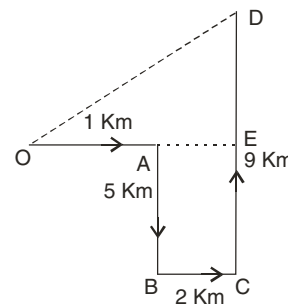


Fig. 9

10. (A) 35 metres east

The movements of Rohit are shown in Fig. 10. Rohit starts from O and finally reaches D. So OD is the distance from his starting point.  $OD = OC + CD = AB + CD = 20 + 15 = 35$  metres

$$[\because OC = AB = 20 \text{ m}]$$

Also D is east of O.

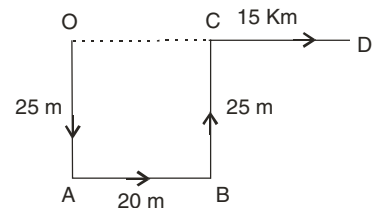


Fig. 10

11. (C) North. From the Fig. 11, O is the house of Lokesh. He starts from

$O \rightarrow A \rightarrow B \rightarrow C \rightarrow D$ .

So 'D' is his final position, which is clearly north to his house 'O'.

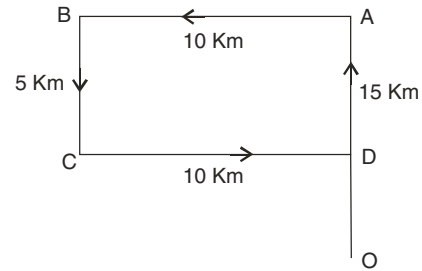


Fig. 11

12. (C) 60 metres.

The movements of Gaurav are shown in Fig. 12.  $O \rightarrow A \rightarrow B \rightarrow C \rightarrow D$ . So 'D' is his final position. The distance  $OD = (CO + CD) = (AB + CD) = (40 + 20) = 60$  metres

[ $\because CO = AB = 40$  m].

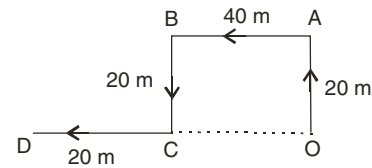


Fig. 12

## PRACTICE TEST

### Directions for Questions 1-3:

Read the following and answer the questions that follows.

Ratna travels 10 kms. to the north, turns left travels 4 km and then again turns right and cover another 5 km. And then turns right and travels another 4 km.

- How far Ratna from the starting point?  
(A) 23 km. (B) 14 km.  
(C) 15 km. (D) 5 km.
- In which direction Ratna was travelling in her final spell?  
(A) Towards east (B) Towards south  
(C) Towards north (D) Towards west
- What is the final position of 'Ratna' from her starting point?  
(A) East (B) North  
(C) South (D) West
- Tarun drives to the North from his home at A and after travelling 25 km. finds that he was in wrong direction. He then turns to his right and travels 2 km and again turns right and drives straight another 25 km. How much distance and direction has he now to cover to return to the home.  
(A) 52 km South (B) 2 km East  
(C) 25 km West (D) 2 km West

- Mihir started his journey from his residence and drove 10 km. towards north and turned to his left and drove another 5 km. to meet Rahim. After meeting Rahim he turned to his right and continued to drive another 10 km. If he has covered a distance of 25 km. altogether, in which direction he was driving during his last phase?  
(A) East (B) North  
(C) South (D) West
- A man goes 10 km. east and then turns right goes 2 km. and finally he turns right and travels 7 km. How far is he from his starting point and in which direction he is moving during his final phase?  
(A) 32 km & South (B) 5 km & North  
(C) 5 km. & West (D) 3 km. & West
- Subir walks a distance of 1 km towards north. He then turns left and walking 1 km. Finally he turns right at an angle of  $45^\circ$  and starts walking. In which direction he is moving finally?  
(A) South-West (B) North-West  
(C) South (D) South-east.
- A play ground is situated to the east of my school which is to the north of my house and the post-office is situated to the north

of the playground. If I have to go to the post-office from my house, in which direction I will have to go?

- (A) North (B) East  
(C) North-West (D) North-east.

9. Salil and Ramen are walking in the morning in a park. They are walking in the opposite direction. If Salil's shadow falls to the right, which direction Ramen is moving?

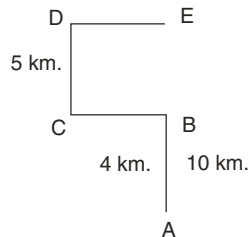
- (A) South (B) West  
(C) North (D) East.

10. Paresh, Dulal, Rumki and Himani are playing cards in a table occupying four sides of it. No lady is facing east. Partners are not of same sex. Dulal is facing South. Which direction are ladies facing?

- (A) West & South (B) North & West  
(C) North & South (D) East & West

### Answers & Explanations:

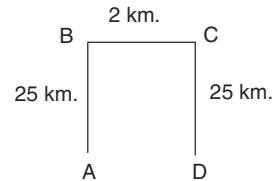
1. (C) If we draw like this



So distance of BE = 5 km

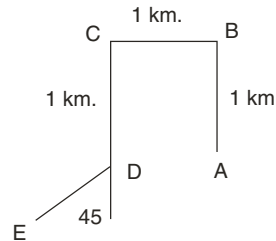
and AE = 15 km = C.

2. (A)  
3. (B)  
4. (D)



So distance between A & D is 2 km. = D.

5. (B), 6. (C),  
7. (A)



So 'DE' is in south-west direction.

8. (D), 9. (C)

As, morning sun is in the east and Salil's shadow is facing right, he is facing south. So Ramen is moving in the opposite direction i.e. towards North.

10. (B)

## 5.2 REASONING TESTS RELATED TO MUTUAL CONNECTION

This type of test is popularly called the "blood-relation test". Though the problem of this test are quite interesting but sometimes confusing or puzzle like and consume a lot of time. Before solving these problems a fair knowledge of blood relations is required. Some such relations and terms referring such relationships are given below:

1. Father's/Mother's father : Grand father. (Also husband of Grand Mother)
2. Father's/Mother's mother : Grand mother. (Also wife of Grand father)
3. Father's wife : Mother
4. Mother's husband : Father
5. Father's/Mother's son : Brother
6. Father's/Mother's daughter : Sister
7. Father's brother : Uncle (His wife is Aunt).
8. Mother's brother : Maternal Uncle (His wife is also Aunt).
9. Father's sister : Aunt (Her husband is also Uncle).
10. Mother's Sister : Maternal Aunt (Her husband is also Uncle).
11. Son's wife : Daughter in law

12. Daughter's husband : Son in law.
13. Husband's/Wife's Brother : Brother in law.
14. Husband's/Wife's Sister : Sister in law.
15. Brother's/Sister's son : Nephew.
16. Brother's/Sister's daughter : Niece.
17. Uncle's/Aunt's son : Cousin brother.
18. Uncle's/Aunt's daughter : Cousin sister.
19. Brother's wife : Sister in law.
20. Sister's husband : Brother in law.

### A. Simple Blood Relations:

#### Examples:

1. If a certain lady is the daughter of my grandfather's only son, how the said lady is related to me?  
(A) Mother            (B) Sister            (C) Wife            (D) Sister-in-law.
2. Bikash, pointing to his son's picture, said to a woman. "His mother is the only daughter of your father". How was the woman related to Bikash?  
(A) Mother            (B) Sister            (C) Niece            (D) Wife
3. There are five members M, N, O, P, Q in a family. M and N are brothers. P is the sister of M. O is the brother of Q who is the daughter of N. Who is the uncle of O?  
(A) P            (B) Q            (C) M            (D) N

#### Answers and Explanations:

1. (B) My grand father's only son is my father and daughter of my father is my sister.
2. (D) Bikash's son's mother is Bikash's wife.
3. (C) According to the statement.  

N _____	M _____	P _____	O _____	Q _____	N.
Brother	(Sister)	(Brother)	(daughter)		

 So, the uncle of 'O' is 'M'.

### PRACTICE TEST

1. Pointing out to a lady, Ratan said, "She is the daughter of the woman who is the mother of the husband of my mother. How is the lady related to Ratan?  
(A) Mother            (B) Grand mother    (C) Aunt            (D) Sister
2. Pointing towards a man in the bus Bina said, "He is the brother of the daughter of the wife of my husband". How is the man related to 'Bina'?  
(A) Brother            (B) Son            (C) Father            (D) Brother-in-law.
3. If Mohan's father is the only son of the grand mother of Swapna, how the said Mohan is related to Swapna?  
(A) Father            (B) Grand father    (C) Daughter        (D) Brother
4. Pointing to a lady in the bus Subir told Paresh, "She is the elder daughter of the brother-in-law of my friend's father". How is the lady related to Subir's friend?  
(A) Mother            (B) Cousin sister    (C) Sister-in-law    (D) Sister
5. If Sushil's father's brother-in-law's son is my brother, how Sushil is related to my father?  
(A) Nephew            (B) Son            (C) Brother-in-law    (D) None
6. If yours Mother-in-law's only daughter is my sister, how are you related to me?  
(A) Brother            (B) Brother-in-law    (C) Brother            (D) Son-in-law

7. Showing a photograph of an woman, Ramesh said to Mahim, "She is the wife of your father-in-law, who is also the brother of my father". How is the woman in photograph related to Ramesh?  
 (A) Mother (B) Mother-in-law (C) Aunt (D) None of these

**Directions for Questions 8-15:**

Read the following information carefully and answer the questions that follows:

A family consists of six members P, Q, R, S, T and U. Q is the son of R. P and R are a married couple. T is the brother of R. S is the daughter of P. P is the sister of U.

**Questions:**

8. How 'U' is related to 'R'?  
 (A) Brother-in-law (B) Brother (C) Son (D) None of these.
9. Who is the father of Q?  
 (A) P (B) R (C) U (D) T
10. How 'S' is related to 'Q'?  
 (A) Mother (B) Daughter (C) Sister (D) None of these.
11. How many children does 'P' have?  
 (A) One (B) Four (C) Three (D) Two
12. How many female members are there in the family?  
 (A) Two (B) Five (C) Three (D) Four.
13. How 'P' is related to 'T'?  
 (A) Sister (B) Brother (C) Sister-in-law (D) Brother-in-law.
14. How 'U' is related to 'Q'?  
 (A) Uncle (B) Maternal Uncle (C) Brother (D) None of these.
15. How 'S' is related 'T'?  
 (A) Daughter (B) Mother (C) Sister (D) Niece.

**Directions for Questions 16-20:**

Read the following instructions carefully and answer the questions that follows:

If  $A+B$  means A is the father of B;  $A-B$  means A is the mother of B;  $A \times B$  means A is the wife of B;  $A \div B$  means A is the husband of B;  $A > B$  means A is the son of B;  $A < B$  means A is the daughter of B;  $A = B$  means A is the Brother of B and  $A \neq B$  means A is the sister of B, then,

**Questions:**

16. Which of the following means 'C' is the brother-in-law of 'D'?  
 (A)  $C = W+D$  (B)  $C = W \times D$  (C)  $D = C \times W$  (D)  $C \neq W \times D$ .
17. If  $P < K = R$ , how P is related to 'R'?  
 (A) Daughter (B) Mother (C) Niece (D) Brother
18. Which of the following means 'P' is the son-in-law of Q?  
 (A)  $P \div K < Q$  (B)  $P \div K > Q$  (C)  $P \times K > Q$  (D)  $P + K \div Q$
19. If  $C \times K > D$ , how 'C' is related to 'D'?  
 (A) Father (B) Father-in-law (C) Daughter (D) Daughter-in-law.
20. If  $C \neq P \times D$ , how C is related to D?  
 (A) Brother-in-law (B) Wife (C) Father-in-law (D) Sister-in-law.

**Answers and Explanations:**

- (C) Mother's husband = father, his mother = grand mother, her daughter = sister of father = Aunt.
- (B) Husband's daughter's brother = Son.

3. (D) Swapna's grand mother's only son = father of Swapna who is also the father of Mohon, so Mohon is the brother of Swapna.
4. (B) Friend's father's brother-in-law = Maternal uncle whose daughter = Cousin sister of Subir's friend.
5. (A) Sushil's father's brother-in-law is the Maternal uncle of Sushil = my brother's father = my father.
6. (B) Mother-in-law's only daughter = his wife.
7. (C) Father's brother's wife = aunt.
8. (A) 9. (B), 10. (C), 11. (D), 12. (A), 13. (C), 14. (B), 15. (D).  
'P' = sister of 'U'; so 'P' is the wife of 'R'; 'P' = mother of 'Q'; S is also daughter of 'R'. So, Q and S are brother and sister. So, only two female members in the family.
16. (B) 'C' is the brother-in-law of 'D' means 'C' is the brother of the husband/wife (say 'W') of 'D'. So  $C = W \times D$ .
17. (C) 18. (A), 19. (D), 20. (D).

### 5.3 RELATION QUIZ

In this type a number of mutual blood-relation, relations are given from which information about more than one are to find out.

#### Examples:

Read the following information carefully and answer the following questions that follow:

In a coaching class there are six students namely A, B, C, D, E and F. A and E are brothers. F is the sister of E. C is the only son of A's uncle. B and D are daughters of the brother of C's father.

1. How many male students are there?  
(A) 1                      (B) 2                      (C) 3                      (D) 4                      (E) 5.
2. How many female students are there?  
(A) 2                      (B) 3                      (C) 4                      (D) 5                      (E) 6.
3. How D is related to A?  
(A) Uncle                (B) Sister                (C) Niece                (D) Cousin                (E) None of these.
4. How F is related to C?  
(A) Cousin                (B) Sister                (C) Brother                (D) Uncle                (E) Son.

#### Answers and Explanations:

1. (C) 3. From the information, we see A and E are brothers, hence males and C is the son of A's uncle, hence male. So there are three males.
2. (B) 3. From question 1 we find out of six students, three are males, so rest are females, hence three.
3. (D) Cousin. From the information, D's father is the brother of C's father who is also uncle of 'A'. So D's father is also A's uncle. So 'D' is A's cousin.
4. (A) Cousin. 'F' is 'E's sister hence she is also the sister of 'A'. 'C' is the son of F's uncle. So 'C' and 'F' are cousins.

#### C. Coded Blood Relations:

Sometimes in questions the relationships are represented by certain symbols or codes e.g. +, -, ×, ÷, @, \*, etc.

#### Examples:

Read the following information and answer the questions that follow:

A + B means A is the daughter of B; A-B means A is the husband of B; A × B means A is the brother of B.

1. If  $X + Y - Z$  which of the following is true?
 

(A) Z is the mother of X.	(B) Z is the aunt of X.
(C) Z is the mother-in-law of X.	(D) Z is the father of X.
2. If  $X \times Y + Z$  which of the following is true?
 

(A) X is the uncle of Z	(B) X is the father of Z
(C) X is the son of Z.	(D) X is the brother of Z.
3. If  $X + Y \times Z$  which of the following is true?
 

(A) X is the daughter of Z.	(B) X is the cousin of Z.
(C) X is the son of Z.	(D) X is the niece of Z.

**Answers and Explanations:**

1. (A) Z is the mother of X.  $X + Y - Z$  means X is the daughter of Y who is the husband of Z, hence 'Z' is the mother of X.
2. (C) X is the son of Z.  $X \times Y + Z$  means X is the brother of Y who is the daughter of Z, hence X is the son of Z.
3. (D) X is the niece of Z.  $X + Y \times Z$  means X is the daughter of Y who is the brother of Z, so X is the niece of Z.

**PRACTICE TESTS**

1. Deepak is the brother of Ravi. Rekha is the sister of Atul. Ravi is son of Rekha. How is Deepak related to Rekha? (C.B.I., 1997)

(A) Son	(B) Brother	(C) Nephew	(D) Father
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2. Rahul's mother is the only daughter of Monika's father. How is Monika's husband related to Rahul? (C.B.I., 1994)

(A) Uncle	(B) Father	(C) Grandfather	(D) Brother
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(E) Data inadequate.
3. Daya has a brother Anil. Daya is the son of Chandra. Bimal is Chandra's father. In terms of relationship, what is Anil to Bimal? (C.B.I., 1994)

(A) Son	(B) Brother	(C) Grandson	(D) Grandfather
---------	-------------	--------------	-----------------
4. If (i) M is brother of N; (ii) B is brother of N; and (iii) M is brother of D, then which of the following statements is definitely true? (B.S.R.B. 1995)

(A) N is the brother of B	(B) N is the brother of D
(C) D is the brother of M	(D) M is the brother of B

(E) None of these.
5. A is father of C and D is son of B. E is brother of A. If C is sister of D, how is B related to 'E'?
 

(A) Daughter	(B) Brother-in-law	(C) Husband	(D) Sister-in-law
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6. Q's mother is sister of P and daughter of M. S is daughter of P and sister of T. How is M related to T? (Bank P.O., 1995)

(A) Grandmother	(B) Father
(C) Grandfather	(D) Grandfather or Grandmother

(E) None of these.
7. A and B are brothers C and D are sisters. A's son is D's brother. How is B related to C? (M.B.A. 1998)

(A) Father	(B) Uncle	(C) Brother
(D) Grandfather	(E) None of these.	
8. A is the brother of B. B is the brother of C. D is the father of A. Based on these three statements, which of the following state-ments cannot be definitely true? (B.S.R.B., 1997)



- (A) B is the brother of A
- (B) B is the son of D
- (C) A is the brother of C
- (D) C is the brother of A
- (E) A, B, C are D's children.

9. Rajan is the brother of Sachin and Manick is the father of Rajan. Jagat is the brother of Priya, and Priya is the daughter of Sachin. Who is the uncle of Jagat?

(Transmission Executives, 1994)

- (A) Rajan
- (B) Sachin
- (C) Manick
- (D) None of these

**Directions for Questions 10-14:**

Read the information given below and answer the questions that follow: (Bank P.O., 1995)

- (i) A, B, C, D, E and F are six members of a family.
- (ii) One couple has parents and children in the family.
- (iii) A is the son of C and E is the daughter of A.
- (iv) D is the daughter of F who is the mother of E.

10. Who are the male members in the family.

- (A) A, C
- (B) C, F
- (C) A, B, D
- (D) Cannot be determined
- (E) None of these.

11. Which of the following pairs is the parents of the children?

- (A) B, C
- (B) C, F
- (C) A, F
- (D) B, F
- (E) None of these.

12. Which of the following pairs is the parents of the couple?

- (A) AB
- (B) BC
- (C) AF
- (D) CF
- (E) None of these.

13. How many female members are there in the family?

- (A) Two
- (B) Three
- (C) Four
- (D) Cannot be determined
- (E) None of these.

14. What relationship do D and E bear to each other?

- (A) Brother and sister
- (B) Mother and son
- (C) Grandmother and Grand daughter
- (D) Sister
- (E) None of these.

15. A, B, C, D, E, F and G are members of a family consisting of four adults and three children, two of whom F and G are girls. A and D are brothers and A is a doctor. E is an engineer married to one of the brothers and has two children. B is married to D and G is their child. Who is C?

(I.A.S. 1998)

- (A) A's son
- (B) E's daughter
- (C) F's father
- (D) G's brother

16. If  $P + Q$  means P is the brother of Q;  $P \times Q$  means P is the father of Q; and  $P - Q$  means P is the sister of Q, then which of the following represent S is the niece of T?

(Bank P.O., 1995)

- (A)  $T \times M + S - K$
- (B)  $K - S \times M + T$
- (C)  $T + M \times S - K$
- (D)  $T \times S + M - K$
- (E) None of these.

17. If  $A + B$  means A is the brother of B;  $A \div B$  means A is the father of B and  $A \times B$  means A is the sister of B, which of the following means M is the uncle of A?

(S.B.I. P.O., 1997)

- (A)  $N + P \div M$
- (B)  $M + S \div R \div P$
- (C)  $M \div N \times P$
- (D)  $M + K \div T \times P$
- (E) None of these.

18. If  $P \times Q$  means P is the sister of Q;  $P + Q$  means P is the father of Q;  $P - Q$  means P is the mother of Q. Which of the following means S is the aunt of T?

(B.S.R.B, 1997)

- (A)  $T \times M + S$
- (B)  $S + T \times M$
- (C)  $S \times M + T$
- (D)  $S \times M + R - T$
- (E) None of these.



19. If  $P+Q$  means P is the husband of Q;  $P÷Q$  means P is the sister of Q and  $P×Q$  means P is the son of Q, which of the following shows A is the daughter of B? (Bank P.O., 1996)
- (A)  $C×B÷A$  (B)  $B+C×A$  (C)  $D×B+C÷A$  (D)  $A÷D×B$   
 (E) None of these.
20. If  $X-Z$  means X is the mother of Z;  $X×Z$  means X is the father of Z and  $X+Z$  means X is the daughter of Z. Now if  $M-N×T+Q$ , then which of the following is not true? (B.S.R.B. 1998)
- (A) T is N's daughter (B) N is wife of Q  
 (C) M is the mother-in-law of Q (D) Q is the wife of N  
 (E) T is grand daughter of M.

**Directions for Questions 21-22:**

The following questions are based on the following information. (S.S.C. 1993)

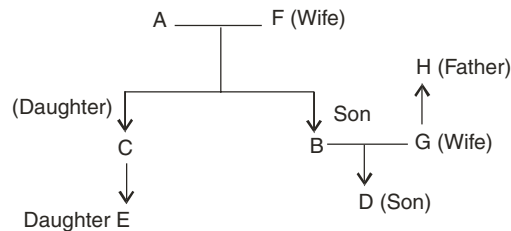
- A is the father of C, but C is not his son.  
 E is the daughter of C, F is the spouse of A.  
 B is the brother of C, D is the son of B.  
 G is the spouse of B, H is the father of G.

21. Who is the grand mother of D?  
 (A) A (B) C (C) F (D) H
22. Who is the son of F?  
 (A) B (B) C (C) D (D) E.

**Answers and Explanations:**

- (A) Son. Deepak is the brother of Ravi who is the son of Rekha; so Deepak is also the son of Rekha.
- (B) Father. Clearly Rahul's mother is Monika as she is the only daughter of her father. Therefore Monika's husband is Rahul's father.
- (C) Grandson. As Daya and Anil are brothers, and Daya's father is Chandra who is also the father of Anil; so, Chandra's father Bimal is the grandfather of Anil.
- (D) M is the brother of B. As M is the brother of N and B is the brother of N, so M is the brother of B. Here it is not clear whether N and D are brothers or sisters, so alternatives A, B and C are not definitely true.
- (D) Sister-in-law. Here, A is the father of C who is the sister of D; so, A is also the father of D who is also the son of B, so C's mother must be B, and as E is the brother of A and B is the wife of A, so, B is the sister-in-law of E.
- (D) Grandfather or Grand mother. As S is the daughter of P who is the daughter of M, so, S is the grand daughter of M and as S is the sister of T. So 'M' must be either grandfather or grandmother of T also.
- (B) Uncle. As C and D are sisters and A's son is D's brother, so D is the daughter of A and C is also the daughter of A and when B is the brother of A, so, B must be uncle of C.
- (D) C is the brother of A. Here A is the brother of B and B is the brother of C, so it is not clear whether C is the brother or sister of B. So, (D) is not definitely true.
- (A) Rajan. As Jagat is the brother of Priya who is the daughter of Sachin. So, Sachin is also the father of Jagat and Sachin's brother Rajan must be the uncle of Jagat.
- (D) Cannot be determined. From the findings we can know the gender of A, E, D and F but not B and C.
- (C) A, F. From the information (iii) and (iv) it is clear that A and F are the parents of D and E.

12. (B) B, C. Clearly B and C are the parents of the couple.
13. (C) Four. From the information IV we find that D, E and F are females. Another female member is either B or C.
14. (D) Sister. From information III and IV, it is clear that D and E are sisters.
15. (A) A's son. As 'B' is married to D, E must be married to A. Thus A, B, D and E are four adults and C, F and G are children. As B and D have a girl child G. So two children of A and E are C and F and as F is a girl, C must be boy. So, C is the son of A and E.
16. (C)  $T+M \times S-K$ . S is the niece of T means T is the brother of S's father (say M) and 'S' is the sister of M's son (say K). So  $T+M \times S-K$ .
17. (D)  $M+K+T \times P$ . M is the uncle of P means M is the brother of P's father (say K). Here only option matches is (D) where T is the sister of P.
18. (C)  $S \times M+T$ . S is the aunt of T means S is the sister of T's father, say M.
19. (D)  $A+D \times B$ . A is the daughter of B means A is the sister of B's son say D.
20. (B) N is the wife of Q.  $M-N \times T+Q$  means M is the mother of N who is the father of T who is the daughter of Q. As N is the father of T, so Q must be the mother of T, so N can not be wife of Q.
21. (C) F. If we draw the family chart like this it would be easier to solve the relations.



So, clearly, 'F' is the grandmother of 'D'.

22. (A) B. 'B' is the son of 'F'.

## 5.4 LOGICAL OR SYMMETRICAL RELATIONSHIP TESTS

These tests are also called reading recall tests.

### Example:

Read the following and answer the questions that follows:

- (i) P is richer than Q.
- (ii) R is richer than P.
- (iii) S is richer than R and
- (iv) T is richer than S.

If they are made to sit in the descending order of the degree of richness then:

1. Who is the richest?  
 (A) R                      (B) T                      (C) S                      (D) P
2. Who is in the middle position?  
 (A) T                      (B) P                      (C) Q                      (D) R
3. Who is the poorest?  
 (A) Q                      (B) P                      (C) S                      (D) T.

**Answers & Explanations:**

1. (B), 2. (D), 3. (A) It would be easier if we draw the following diagram according to the proportion of richness.  
 $T > S > R > P > Q$  [when  $>$  denote richer than].  
 So, 'T' is the richest of all, 'Q' is the poorest of all and 'R' comes in the middle position.

**PRACTICE TEST****Directions for Questions 1-5:**

Read the following statements and answer the questions that follow:

- (i) Rathin is younger to Sunil but elder than Ram.
- (ii) Ram is elder than Robin.
- (iii) Sovon is elder than Ram but younger than Rathin.
- (iv) Subir is a year older than Sunil.
- (v) Sunil is two years older than Bimal.
- (vi) Dipak is a year older than Bimal.

**Questions:**

1. Who is the oldest?  
 (A) Sunil            (B) Dipak            (C) Subir            (D) Bimal.
2. Who is the youngest of all?  
 (A) Ram            (B) Robin            (C) Sunil            (D) Sovon.
3. Among Bimal, Rathin and Sovon, who is the youngest?  
 (A) Sovon            (B) Bimal            (C) Rathin            (D) Cannot be ascertained.
4. Between Sovon, Ram and Robin, who is the oldest?  
 (A) Sovon            (B) Robin            (C) Ram            (D) Cannot be ascertained.
5. Among Sunil, Subir and Dipak who is the youngest?  
 (A) Subir            (B) Sunil            (C) Dipak            (D) Cannot be ascertained.

**Directions for Questions 6-12:**

Read the following statements and answer the questions that follow:

**Statements:**

- (i) Arun and Bimal play football and hockey.
- (ii) Chinmoy and Dinesh play badminton and cricket.
- (iii) Bimal and Chinmoy play cricket and football.
- (iv) Arun and Dinesh play hockey and badminton.

**Questions:**

6. Who plays badminton, football and hockey?  
 (A) Bimal            (B) Arun            (C) Chinmoy            (D) Dinesh
7. Who plays cricket, football and badminton?  
 (A) Arun            (B) Bimal            (C) Dinesh            (D) Chinmoy
8. Who does not play cricket?  
 (A) Arun            (B) Bimal            (C) Chinmoy            (D) Dinesh
9. Who plays hockey, football and cricket?  
 (A) Arun            (B) Dinesh            (C) Bimal            (D) Chinmoy
10. Who does not play football?  
 (A) Arun            (B) Dinesh            (C) Chinmoy            (D) Bimal

11. Who plays badminton, hockey and cricket?  
 (A) Dinesh (B) Chinmoy (C) Bimal (D) Arun
12. Who does not play badminton?  
 (A) Dinesh (B) Chinmoy (C) Bimal (D) Arun

**Directions for Questions 13-16:**

Each question below is based on the following statements. Study them carefully and answer the following questions.

**Statements:**

- P and Q play badminton.
- R and S play tennis.
- Q and R play cards.
- P and S play chess.

**Questions:**

13. Who among the friends neither play badminton nor chess?  
 (A) P (B) S (C) Q (D) R
14. Who among the friends neither play tennis nor cards?  
 (A) P (B) Q (C) R (D) S
15. Who plays both tennis and chess?  
 (A) P (B) S (C) Q (D) R
16. Who plays both cards and badminton?  
 (A) P (B) R (C) Q (D) S

**Directions for Questions 17-22:**

Each question below is based on the following statements. Study the statements carefully and answer the following questions.

**Statements:**

Dhiren, Ratna and Mala have some number of apples, mangoes and oranges.

- (i) Dhiren has two more apples than Mala.
- (ii) Ratna has same number of apples, mangoes and oranges.
- (iii) The number of Mala's apples and Dhiren's mangoes is the same.
- (iv) The total number of fruits is 58.
- (v) Ratna has two fruits more than Dhiren, while Mala has three less than Ratna.
- (vi) Mala has three oranges.
- (vii) The total number of mangoes is 22.
- (viii) Dhiren has two oranges less than Ratna.
- (ix) Ratna has one more mango than Dhiren.

**Questions:**

17. Who has got the maximum mangoes?  
 (A) Mala (B) Ratna (C) Dhiren (D) Can't be said.
18. What is the total number of apples?  
 (A) 20 (B) 21 (C) 19 (D) 23
19. Dhiren has how many oranges more/less than apples?  
 (A) 3 more (B) 2 less (C) 2 more (D) 3 less

20. How many oranges does Ratna have?  
 (A) 6 (B) 8 (C) 7 (D) 9
21. What is the total number of fruits that Mala has?  
 (A) 18 (B) 19 (C) 20 (D) 21
22. What is the total number of oranges?  
 (A) 20 (B) 15 (C) 12 (D) 18

**Directions for Questions 23-32:**

Each question below is based on the following statements. Study them carefully and answer the following questions.

**Statements:**

Naren, Sudhir and Mridul are friends and married to Nina, Rubi and Seema and the couples live in Kolkata, Mumbai and Chennai.

- (i) Naren does not live in Mumbai nor he is married to Rubi.
- (ii) Nina does not live in Kolkata or Mumbai.
- (iii) Mridul is not married to Nina or Seema.
- (iv) Seema and Nina are cousin sisters.
- (v) Seema is not the wife of Sudhir.

**Questions:**

23. Who is Naren's wife?  
 (A) Nina (B) Rubi (C) Seema (D) Can't be said.
24. Where does Sudhir live?  
 (A) Kolkata (B) Chennai (C) Mumbai (D) Can't be said.
25. Who is the husband of Rubi?  
 (A) Mridul (B) Sudhir (C) Naren (D) Can't be said.
26. Seema lives in  
 (A) Mumbai (B) Chennai (C) Kolkata (D) Can't be said.
27. How is Nina related to Naren?  
 (A) Friend (B) Sister (C) Cousin (D) Sister-in-law.
28. How Seema's son is related to Nina?  
 (A) Son-in-law (B) Nephew (C) Brother (D) None of these.
29. Where does Mridul live?  
 (A) Mumbai (B) Kolkata (C) Chennai (D) Can't be said.
30. Who is Nina's husband?  
 (A) Naren (B) Mridul (C) Sudhir (D) Can't be said
31. Where does Nina live?  
 (A) Kolkata (B) Chennai (C) Mumbai (D) Can't be said.
32. Who is the father-in-law of Seema?  
 (A) Naren (B) Sudhir (C) Mridul (D) can't be said.
33. After 1 P.M. something went wrong with the mechanism of a certain clock and at 1-30 P.M. it struck 2 hours. Then it went on striking every half an hour in the routine way indicating wrong hours. Find out when did it strike the correct hour next?  
 (A) 12.30 A.M. (B) 11 P.M. (C) 6.30 P.M. (D) Never.

**Directions for Questions 34-39:**

Five friends, Sudhir, Nita, Joy, Nanda and Amit are sitting on a bench. Sudhir is sitting next to Nita and Joy is next to Nanda, Nanda is not sitting with Amit, Amit is on the left end of the bench and

Joy is on second position from the right hand side. Sudhir is on the right side of Nita and to the right side of Amit. Sudhir and Joy are sitting together.

Study the above statements and answer the following questions:

34. Sudhir is sitting between  
 (A) Nita and Nanda (B) Amit and Nanda  
 (C) Nita and Joy (D) Nanda and Joy
35. Who is sitting in the centre?  
 (A) Nanda (B) Joy (C) Nita (D) Sudhir
36. Who is sitting on the extreme right side of the bench?  
 (A) Sudhir (B) Nanda (C) Joy (D) Nita
37. Joy is sitting between  
 (A) Nanda and Sudhir (B) Sudhir and Amit  
 (C) Nita and Nanda (D) Amit and Nanda
38. Sudhir is sitting how many places away and in which side of Amit?  
 (A) 2 right (B) 1 left (C) 1 right (D) 3 left
39. Nita is sitting how many places away and in which side of Nanda?  
 (A) 2 right (B) 2 left (C) 1 right (D) 3 left

**Directions for Question 40:**

The question is based on the following information given in the statements. Which of the statements is sufficient to answer the question?

**Statements:**

- I. P has two children of which D is one.  
 II. D's sister is the daughter of C.

**Question:**

40. Is C mother of D?  
 (A) only statement I is sufficient. (B) only II is sufficient.  
 (C) Both I & II together are needed. (D) Both the statements are not sufficient.

**Directions for Questions 41-46:**

Each question below is based on the following statement. Study the statement carefully and answer the following questions.

**Statement:**

Four persons Arun, Bimal, Chinmoy & Dinesh are camping at four separate camp sites, say, E, F, G and H, not necessary in that order. The campsites are located on four separate lakes, say, I, J, K, and L, not necessary in that order, which are in four separate states, say, Gujarat, Bihar, Rajasthan and Tamil Nadu, not necessarily in that order.

Bimal is camping on lake 'K', campsite 'H' is on lake 'J', which is in Bihar. The person at lake 'I', a native of Tamil Nadu camps only in that state. Dinesh is at the campsite 'F'. Arun is camping in Rajasthan.

**Questions:**

41. Where is Bimal camping?  
 (A) At 'E' campsite (B) In Gujarat (C) On lake 'I' (D) In Bihar.

42. Lake 'I' is the site of  
 (A) 'F' campsite (B) Arun's Camp (C) The camp in Rajasthan (D) 'G' campsite.
43. Which of the following is true for Lake 'L'?  
 (A) Chinmoy is camping here (B) It is in Gujarat  
 (C) Arun is camping here (D) it is the site of 'F' campsite.
44. On the basis of information given, it is possible to deduce that  
 I. Arun is not at 'H' campsite. II. Chinmoy camps in Tamil Nadu.  
 III. Dinesh is not at campsite 'E'.  
 (A) I only (B) II only (C) II and III only (D) I and III only.
45. Rajasthan is the site of  
 I. Lake 'L'. II. Campsite 'F'.  
 (A) I only (B) II only (C) I and II both (D) Neither I nor II.
46. Which cannot be determined on the basis of the information given?  
 (A) Which state lake 'K' is in? (B) Who is camping at 'E' campsite?  
 (C) Who is camping in Bihar? (D) What campsite in Tamil Nadu?

**Answers and Explanations:**

1. (C), 2. (B), 3. (D), 4. (A), 5. (C).

If we draw like this:

Robin < Ram < Rathin < Sunil < Subir (When > means older than and < means younger than)

Ram < Sovon < Rathin

Subir > Sunil > Bimal < Dipak.

1 yr. 2 yrs. 1 yr.

6. (B), 7. (D), 8. (A), 9. (C), 10. (B), 11. (A), 12. (C).

	Football	Hockey	Badminton	Cricket
Arun -	✓	✓	✓	×
Bimal -	✓	✓	×	✓
Chinmoy -	✓	×	✓	✓
Dinesh -	×	✓	✓	✓

13. (D), 14. (A), 15. (B), 16. (C), 17. (A), 18. (B), 19. (D), 20. (C), 21. (A), 22. (B).

Dhiren > Mala. Ratna → Oranges = Apples = Mangoes.

(2 apples) (3) (3) (3)

Mala (Apples) = Dhiren (mangoes)

(1 Mango)

Dhiren < Ratna

(2 Oranges)

Total Fruits = 58.

Total Mangoes = 22.

Ratna > Dhiren

(2 fruits)

Mala < Ratna

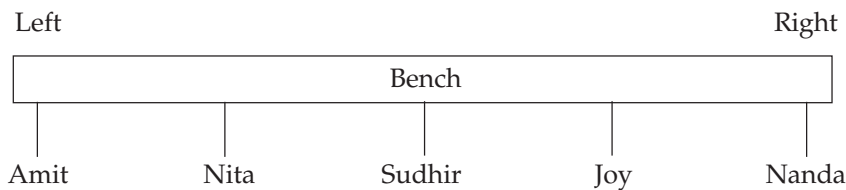
(3 fruits)

23. (C), 24. (B), 25. (A), 26. (C), 27. (D), 28. (B), 29. (A), 30. (C), 31. (B), 32. (D).

	Sister					
	Rubi	Nina	Seema	Kolkata	Mumbai	Chennai
Naren	×	×	✓	✓	×	×
Sudhir	×	✓	×	×	×	✓
Mridul	✓	×	×	×	✓	×

33. (A) (At 12:30 A.M. it struck 1 hour). 34. (C), 35. (D), 36. (B), 37. (A), 38. (C), 39. (B)

**For Questions 34-39:**



40. D. (Though 'D' is the child of 'P' and 'C', it can't be said from the given statements that 'C' is the mother of 'D', may be father of 'D' also).

**For Questions 41-46, the following diagram is helpful.**

Name →	Arun	Bimal	Chinmoy	Dinesh
Site			H	F
Lake		K	J	I
State	Rajasthan		Bihar	Tamil Nadu

There are four states. Of these Arun lives in Rajasthan, Bihar has lake J and Tamil Nadu has lake I. Bimal must on lake 'K' which must be in Gujarat. Since Dinesh is at 'F' campsite, which must be on lake 'I' in Tamil Nadu. So, Arun must be at lake 'L'. Arun and Bimal must be either of 'G' or 'E' campsites, but not sure who is where.

41. (B). (only state left after the diagram).

42. (A), 43. (C), 44. (D), 45. (A), 46. (B).

### 5.5 DATA ANALYSIS TESTS

In this form of analytical reasoning some data is given followed by a few questions, which test the ability of the examinee to analyse the data meaningfully and arrange it in a suitable form in order to interpret it accordingly.

**Examples:**

#### Direction for Questions 1-10

Some data are given in a passage below, followed by 10 questions based on the data. Choose the correct answer from the alternatives and mark it accordingly on the answersheet.



**Passage:**

Five friends Manisha, Anita, Reba, Kiron and Prova are musician, actress, doctor, engineer and artist by profession and live in Lucknow, Delhi, Mumbai, Kolkata and Chennai but not in that order.

1. Reba and Prova do not live in Lucknow or Chennai and neither of them is an actress or doctor.
2. Anita and Manisha are not artist or engineer and they do not live in Delhi or Lucknow.
3. Kiron is neither a doctor nor a musician.
4. The woman living in Lucknow is neither an artist nor an engineer.
5. Manisha does not live in Kolkata and Anita is not a doctor.
6. The musician does not live in Mumbai or Chennai.
7. Prova is not an artist.
8. The artist does not live in Delhi.

**Questions:**

1. Who is the actress?  
(A) Prova (B) Anita (C) Kiron (D) Manisha (E) Reba
2. Who lives in Lucknow?  
(A) Anita (B) Kiron (C) Reba (D) Prova (E) Manisha
3. Who is the artist?  
(A) Manisha (B) Prova (C) Kiron (D) Anita (E) Reba
4. The musician lives in  
(A) Kolkata (B) Mumbai (C) Chennai (D) Delhi (E) Lucknow
5. Who lives in Delhi?  
(A) Kiron (B) Reba (C) Anita (D) Prova (E) Manisha
6. Who lives in Chennai?  
(A) Anita (B) Reba (C) Manisha (D) Kiron (E) Prova
7. The woman living in Mumbai is  
(A) an artist (B) a musician (C) a doctor (D) an engineer (E) an actress
8. Who is the engineer?  
(A) Anita (B) Prova (C) Manisha (D) Reba (E) Kiron
9. What is the profession of Anita?  
(A) Doctor (B) Engineer (C) Artist (D) Musician (E) Actress
10. Doctor lives in  
(A) Mumbai (B) Delhi (C) Kolkata (D) Lucknow (E) Chennai

**Answers and Explanations:**

1. (C) 2. (B) 3. (E) 4. (A) 5. (D) 6. (C) 7. (A) 8. (B) 9. (D) 10. (E).

The best way to answer these questions is to tabulate the data according to the conditions given in the following way.

	Mus.	Actress	Doct.	Engi.	Artist	Lucknow	Mumbai	Kol.	Delhi	Chennai
Manisha	×	×	✓	×	×	×	×	×	×	✓
Anita	✓	×	×	×	×	×	×	✓	×	×
Reba	×	×	×	×	✓	×	✓	×	×	×
Kiron	×	✓	×	×	×	✓	×	×	×	×
Prova	×	×	×	✓	×	×	×	×	✓	×

From the above table which is arranged according to the conditions 1-8 given in the paragraph we conclude the following:

1. Manisha is a doctor and she lives in Chennai.
2. Anita is a musician and she lives in Kolkata.
3. Reba is an artist and she lives in Mumbai.
4. Kiron is an actress and she lives in Lucknow.
5. Prova is an engineer and she lives in Delhi.

## PRACTICE TEST

### Directions for Questions 1-7:

Read the following passage and information carefully and answer the questions that follows.

#### Passage

The Cricket Control Board of India (BCCI) has decided to use the following five grounds for the triangular one-day international series involving India, Pakistan and South Africa. The grounds are in Delhi, Bangalore, Chennai, Mumbai and Kolkata.

There are twelve league matches to be followed by three finals. Each match is to be played between two teams. All the three teams play equal number of matches during league round while the best two teams go to the finals. The winner of the triangular tournament will be the team which wins two out of three finals and the third final will be played only if the need arises.

The following constraints must be kept in mind while allocating matches to the grounds.

1. Each ground can be allotted a maximum of five matches.
2. Three finals must be held at Mumbai, Kolkata and Bangalore, in that order.
3. India must play all its matches at either Mumbai or Kolkata as the crowd support for the home team on these two grounds were tremendous in the past.

#### Questions:

1. The country that ends up as a winner of the competition must have played a minimum number of matches. What is that number?  
(A) 9                      (B) 10                      (C) 11                      (D) 12
2. The country that ends up as a runner-up in the competition must have played a maximum number of matches. What is that number?  
(A) 11                      (B) 9                      (C) 10                      (D) 12
3. If India enters the finals, then how many matches it would have played in Mumbai and Kolkata taken together till the end of the competition?  
(A) 4                      (B) 8                      (C) 10                      (D) 11
4. Chennai must be given two matches in the league round and Delhi can be given at the most 4 matches in league round. Then the number of matches Pakistan and South Africa could have played at Chennai and Delhi are  
(A) 1 at Chennai and 3 at Delhi                      (B) 3 at Chennai and 2 at Delhi.  
(C) 2 at Chennai and 4 at Delhi                      (D) 2 at Chennai and 2 at Delhi.
5. If Pakistan enters the finals then how many matches it would have played in Mumbai and Kolkata together till the end of the tournament?  
(A) 10                      (B) 8                      (C) 6                      (D) 7
6. Which of the following statement is true?  
(i) Pakistan vs. South Africa league match can not be played at Kolkata.

- (ii) Pakistan vs. South Africa league match can not be played at Mumbai.  
 (iii) Pakistan vs. South Africa match can never be played in Mumbai or Kolkata during the competition.
- (A) (i) only      (B) (ii) only      (C) (iii) only      (D) Both (i) and (ii)
7. The past record shows that India has always won against South Africa in Kolkata, hence BCCI allocates all the India vs. South Africa matches to Kolkata. Then how many matches India would have played in Mumbai in league round?  
 (A) 4      (B) 2      (C) 3      (D) 1

**Directions for Questions 8-12:**

Read the following passage and the set of conditions carefully and answer the questions that follow.

**Passage**

- (i) In a party, five men say A, B, C, D and E and five women, say, S, T, U, V and W, occupy a row of ten seats. The men are in odd-numbered seats, starting from the left and each woman sits to the right of the man seems to be her lover.
- (ii) 'D' is the lover of 'V'.
- (iii) 'W' is not at the right end of the row and her lover is not at the left end of the row.
- (iv) 'C' is one seat away from the right of the row.
- (v) The lover of 'W' also likes 'T' among the other women and so he occupies the seat right of 'T'.
- (vi) 'B' and his lover occupy the middle pair of seats.
- (vii) 'V' seats next to 'B'.

**Questions:**

8. Which of the following lists of the five persons sitting adjacent to one another from left to right?  
 (A) U, V, D, B, T    (B) B, T, A, W, C    (C) D, V, B, T, W    (D) D, V, B, T, and either A or E.
9. U's lover may be  
 (A) A or C      (B) A or E      (C) D or E      (D) C or E.
10. Which of the following cannot be determined on the basis of the information given?  
 I. Who occupies the seat farthest to the left.  
 II. Who occupies the seat farthest to the right.  
 III. Which other women are nearest to T.  
 (A) I only      (B) III only      (C) I and II only    (D) II only.
11. Which of the following could be determined exactly if the position of either A or E was given?  
 (A) The identity of A's lover      (B) The identity of E's lover  
 (C) Which women is not seated between two men  
 (D) The identity of A's lover or E's lover, but not both
12. In order to determinate the position of T, it is necessary to use how many of the numbered statements?  
 (A) 6      (B) 5      (C) 4      (D) 7

**Directions for Questions 13-20:**

Read the following information and answer the questions that follow.

- (i) Six scientists A, B, C, D, E and F of the disciplines, Chemistry, Botany, Zoology, Physics, Mathematics and Geology but not necessarily in this order, want to demonstrate an integrated experiment based on inter-disciplinary approach.

- (ii) Each day only one scientist will perform the part of his discipline.
- (iii) The experiment will start on Monday and end on Sunday. One day will be the rest day, which otherwise is a part of the experiment.
- (iv) Chemistry will be on the very next day of Geology.
- (v) A, who is a Mathematician, can perform either on a second day or the last day but should not be immediately preceded by Botany.
- (vi) C will demonstrate on the third day and Physics will be on the fifth day.
- (vii) E, who is a Zoologist, performs on the second day.
- (viii) B performs on Monday and after F's performance will be the rest day.

**Questions:**

13. On which day will the Chemist perform?  
(A) Monday      (B) Sunday      (C) Thursday      (D) Saturday
14. The experiments will start with which of the following discipline?  
(A) Botany      (B) Zoology      (C) Geology      (D) Physics
15. Which day will be the rest day?  
(A) Sunday      (B) Saturday      (C) Wednesday      (D) Thursday
16. Physics will be preceded by  
(A) Mathematics      (B) Zoology      (C) Geology      (D) Chemistry
17. Which of the following is the correct sequence of scientists performing?  
(A) BDCAFE      (B) BEDCFA      (C) BECDFA      (D) BCEFDA
18. The rest day appears between which two disciplines?  
(A) Physics-Mathematics      (B) Botany-Zoology  
(C) Chemistry-Mathematics      (D) Physics-Geology
19. What is the discipline of F?  
(A) Chemistry      (B) Physics      (C) Botany      (D) Geology
20. What is the discipline of D?  
(A) Geology      (B) Physics      (C) Chemistry      (D) Can not be determined.

**Answers and Explanations:**

1. (B) According to the given conditions each team plays 8 matches in league phase. If a team ends as winner, it must win at least 2 of the 3 finals which may be the first two or the last two or 1st and 3rd. So it has to play either  $8 + 3 = 11$  matches maximum. So here a minimum of 10 matches are to be played by the winner or runners-up team.
2. (A) In the same logic as in Q. 1., a runners-up team must have played 11 matches as maximum, out of which it loses two matches in the final.
3. (C) It plays 8 matches in the league phase and all the matches are to be played in Mumbai and Kolkata, and also two finals are to be played in Mumbai and Kolkata. So, total number of matches in Mumbai and Kolkata till the end of the tournament will be  $8 + 2 = 10$ .
4. (D) Altogether 4 league matches are to be played between Pakistan and South Africa, and out of which 2 must be in Chennai. So, only alternative D fulfills the condition given in the question, i.e., 2 matches in Chennai and total number of matches are 4.
5. (C) Pakistan plays 4 league matches against India and all these matches are to be played in Mumbai and Kolkata. Moreover, 2 more final matches are to be played in Mumbai and Kolkata. So total number of matches are  $2 + 4 = 6$ . Hence, (C).

6. (D) It is clear from the conditions that no Pakistan vs. South Africa league match are to be played in Mumbai and Kolkata. So both the first two statements are true. But if both of them enter in the final then they have to play the first two finals in Mumbai and Kolkata. So statement III is not correct. Hence (D) is the correct answer.
7. (A) India altogether plays 8 league matches, out of which 4 with Pakistan and 4 with South Africa, and as all the 4 South Africa matches are played in Kolkata, then only 4 matches with Pakistan in the league round are to be played in Mumbai. Hence A is the correct answer.
8. (D) 9. (B) 10. (C) 11. (D) 12. (A)

If we draw a diagram according to the conditions given in the passage in the following way, then it would be easy to find out the answers.

Seats	1	2	3	4	5	6	7	8	9	10
Persons	A	U	D	V	B	T	E	W	C	S
	E	S					A			U

For answering 13-20, if we draw a table like this as per the conditions given in the information, we can get the answers easily.

Discipline	Scientist	Day
Chemistry	D	Thurs (4)
Zoology	E	Tue (2)
Botany	B	Mon (1)
Physics	F	Fri (5)
Geology	C	Wed (3)
Mathematics	A	Sun (7)
Rest day	-	Sat (6)

13. (C) Thursday    14. (A) Botany    15. (B) Sat.    16. (D) Chemistry  
 17. (C)    18. (A)    19. (B) Physics    20. (C) Chemistry

## 5.6 DECISION-MAKING TESTS

In our day-to-day activity either at home or in the field of our job we are to face various problematic situations. In order to overcome these we have to make some decision. This is very common in the management, particularly in the selection situation to fill up the vacancy either in office or in educational institutions by putting the right man for the right job. Here one has to identify a particular course of action to be followed, depending upon the given information or conditions.

### Example:

#### Directions for Questions 1-10

The following are the criteria for organising the training programme of an institute in different hotels.

- A. To organise any training programme in the hotel Taj Bengal, the following criteria must be fulfilled.

- (i) The duration of the programme should not be more than 7 days.
  - (ii) The number of participants should be at least 50.
  - (iii) The fee per participant should not be less than Rs. 5000.
  - (iv) The programme should be in one of these areas: HRD, Computers, Statistics, Advertising, etc.
  - (v) The programme coordinator should be of the rank of Director, Deputy Director or Jt. Director.
  - (vi) However, the rank of the programme coordinator may be relaxed up to Assistant Director, provided the fee per participant is more than Rs. 7000.
- B. To organise any training programme in the hotel Oberoi Grand the following criteria must be fulfilled.
- (i) All the criteria mentioned in 'A' above are to be fulfilled except (i) and (vi).
  - (ii) The duration of the course must be more than 7 days.
- C. The criterion of the Great Eastern Hotel are as follows:
- (i) All the criteria mentioned in 'A' above except (iv), (v) and (vi) are to be fulfilled.
  - (ii) The number of participants may be less than 50 but more than 30.
  - (iii) If the programme is other than the areas mentioned in (iv) under 'A', but the programme coordinator is of Jt. Director level.
- D. If the fee per participant is less than Rs. 5000, but more than Rs. 3500, the programme are to be organised in the hotel Peerless Inn.
- E. If the data are inadequate.

To answer the following questions you are to decide about the appropriate course of action based on the above criterion and the information provided in each question. The pattern of answer will be (A), i.e., the programme can be organised in the hotel Taj Bengal, or (B), i.e., in Hotel Oberoi Grand, or (C), i.e., in Great Eastern Hotel, or (D), i.e., in the hotel Peerless Inn, or (E) i.e., if the data provided are insufficient.

1. A training programme on Advertising is to be organised for 40 participants. The fee per participant is Rs. 7000 and the duration of the course is 7 days.
2. Dr. B.K. Mukherjee, Jt. Director of OCM Institute wants to organise a programme on computer for 60 candidates with a fee of Rs 6000 per participant. The duration of the course is 4 days.
3. Joint Director of an institute is organising five days programme on Microbiology with 60 participants and the fee per participant is Rs. 6000.
4. Mr. S.R. Roy, Asst. Director, HRD is organising a programme on statistics for 60 participant with a fee of Rs. 8000 per participant.
5. Prof. J. Das, Director is organising a 8-day training programme with 58 candidates. The fee per participant is Rs. 5000. The area of the programme is computer.
6. Dr. S. Banerjee, Jt. Director, is organising a 6-day training programme on clinical psychology with a total fee of Rs. 1,92,500 for 35 participants.
7. Dr. (Mrs.) D. Gupta, Deputy Director is organising a 4-day programme on computer. The fee per participant is Rs 4000 with a total of Rs. 2,40,000.
8. The Director of ISI is offering 5-day's training programme on computers for 60 participants with a fee of Rs. 6000 per participant.
9. A nine-day training programme by Deputy Director is to be organised in the field of Advertising. The total fee for each participant is Rs. 4200 and the number of participants is 20.
10. A training programme on statistics is proposed by an Asst. Director with a total fee of Rs. 3,30,000 for 50 participants and the duration will be for 10 days.

**Answers and Explanations:**

1. (E) Data is inadequate, no mention about the programme coordinator.
2. (A) All the criteria of Hotel Taj Bengal are fulfilled.
3. (C) The programme is outside the area mentioned in the criteria (iv) of Hotel Taj Bengal.
4. (E) The duration of the programme is not given.
5. (B) The number of days exceed 7.
6. (C) The fee per participant is Rs.  $1,92,000 \div 35 =$  Rs. 5500. The number of participants is more than 30.
7. (D) As the fee per participant is Rs. 4000, which is more than Rs. 3500, hence suitable hotel is hotel Peerless Inn.
8. (A)
9. (E) Data inadequate. Though all the information given are adequate, but as the number of participant is only 20, does not fulfil the criteria of any of the hotels.
10. (B) The fee per participant is  $3,30,000 \div 50 =$  6600. The number of days exceeds 7.

**PRACTICE TEST****Directions for Questions 1-20:**

Below you will find some information and conditions followed by a few questions. Study the information carefully and answer each question accordingly.

**Information for questions 1-10:**

From an advertisement of a reputed public sector undertakings in the local newspaper for selecting a 'Management Trainee', the candidates must possess the following qualifications and experience:

- (i) Post-graduate in Commerce with 60% marks or C.A.
- (ii) Age between 20-25 years as on 1.12.99.
- (iii) Have fluency in English and Bengali. Knowledge of Hindi is preferable.
- (iv) Be in a position to pay Rs. 10,000 as security deposit to the company.
- (v) Ready to give an undertaking for working for at least 5 years for the company.

However, if a candidate satisfies all the conditions except (i) mentioned above, he should be referred to the Managing Director of the Company, and if a candidate satisfies all the conditions except (iv) and/or (v) above, he should be referred to the chairman of the company.

Based on the above conditions and information you are to decide whether (A) the candidate can be selected as Management Trainee, (B) can not be selected, (C) information incomplete, (D) the candidate is to be referred to the Managing Director or (E) the candidate is to be referred to the chairman.

**Questions:**

**(Mark your answer by putting A, B, C, D or E.)**

1. 23 years old Prakash is an M.Com with 65% marks, and fluent in Bengali. Knowledge of English and Hindi also are there but no fluency. He can pay the required deposit and ready to give 5 years undertaking.
2. 24 years old Swapan is a C.A. with 60% marks and fluent in English, Bengali and Hindi. He is ready to pay the amount and the undertaking as required.
3. 22 years old Binay is a post-graduate in Commerce with 60% marks, fluent in English and



Bengali and has a working knowledge of Hindi. He can pay only Rs. 5000 as security deposit and 5 years undertaking.

4. Bijay, 23 years old, a post-graduate in commerce with 65% marks. He can pay the requisite fee and undertaking.
5. Mohan is a C.A. with 70% marks, fluent in English, Bengali and Hindi. His date of birth is 15.10.1980.
6. Ruchira, whose date of birth is 22.9.72 and obtained 65% in post-graduation and also completed C.A. She is fluent in English, Bengali and Hindi, can pay the required deposit and has no objection in giving 5 years undertaking to the company.
7. 22 years old Manisha is a post-graduate in Science with 70% marks and also fluent in English and Bengali and has a working knowledge of Hindi. She can also pay Rs. 10,000 as deposit and also give the 5 years undertaking as required.
8. 24 years old Raman, M.Com. with 60% marks, fluent in English, Bengali and Hindi. But he can give only Rs. 5000 as security deposit and an undertaking of 3 years only.
9. 23 years old Bina, C.A with 68% marks, fluent in English and Bengali. She can pay the required deposit and is ready to give 5 years undertaking.
10. 21 years old Ratan, is a M.Com. with 60% marks. He is ready to give an undertaking of 5 years.

**Information for Questions 11-20:**

The following are the subjects for the annual examination of class IX in a school.

Subject	Full marks
1. English	200
2. Bengali	200
3. Mathematics	100
4. Physical Science	150
5. Social Science	150

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Total = 800

A student is declared pass and allowed promotion to the next higher class according to the following rules:

- (A) Securing 40% or above marks in each subject.
- (B) Securing minimum 50% marks in the aggregate but failed in one subject by upto 10 marks only.
- (C) Securing minimum 60% marks in the aggregate but failed either in one subject by upto 20 marks only or two subjects by upto 10 marks only in each subject.
- (D) Securing 70% marks in the aggregate but failed either in one subject by upto 30 marks or a maximum of three subjects by upto 10 marks only in each subject.
- (E) If no condition is satisfied the student fails.

**Directions for Questions 11-20:**

Below a table containing the obtained marks for each subject and the total marks of 10 students in the annual examination of the school. On the basis of the above criteria you are to decide whether a student passes or fails. If the student passes, decide under which condition(s) he/she passes.



Sl. No.	Name of the student	Eng. (200)	Beng. (200)	Math. (100)	Ph. Sc. (150)	Soc. Sc. (150)	Total (800)
1.	P	140	150	60	45	80	475
2.	Q	170	180	85	130	135	700
3.	R	120	120	30	25	40	335
4.	S	70	120	65	90	120	465
5.	T	60	120	80	120	100	480
6.	U	140	160	70	90	80	540
7.	V	70	80	90	140	50	430
8.	W	100	100	60	50	90	400
9.	X	170	160	10	130	130	600
10.	Y	70	150	80	130	50	480

**Questions:** Mark your answer by putting (A), (B), (C), (D) or (E) as the case may be.

- |                              |                              |
|------------------------------|------------------------------|
| 11. What is the result of P? | 16. What is the result of U? |
| 12. What is the result of Q? | 17. What is the result of V? |
| 13. What is the result of R? | 18. What is the result of W? |
| 14. What is the result of S? | 19. What is the result of X? |
| 15. What is the result of T? | 20. What is the result of Y? |

**Answers and Explanations:**

- (B) No fluency in English.
- (A) Fulfilled all the criteria.
- (E) He can pay only Rs. 5000 as deposit instead of Rs. 10,000.
- (C) Information incomplete. Fluency of the languages not given, i.e., does not satisfy the condition (iii).
- (B) Does not satisfy the conditions (ii), (iv) and (v). His age is below 20 years.
- (B) Her age is above 25 years.
- (D) To be referred to the Managing Director, as the candidate is a post-graduate in Science, not in Commerce.
- (E) To be referred to the chairman as he can pay only Rs. 5000 as deposit.
- (A) Satisfies all the conditions.
- (C) Information incomplete. Language fluency and the payment of security are not known.
- (E) Though the aggregate is above 50% but below 60% and failed in Physical science by 15 marks.
- (A) Passes in all the subjects with more than 80% marks.
- (E) Failed in Mathematics, Physical Science and Social Science and the aggregate is also below 50%.
- (B) Though there is a short of 10 marks in English, his aggregate is above 50% marks.
- (C) Though failed in English by 20 marks, his aggregate is above 60%.
- (A) Passed in all the subjects with more than 50% marks in each subject.
- (E) Failed in English and Social Science by 10 marks each and as his aggregate marks is also below 60%, he could not be allowed to pass under C.
- (B) A short of 10 marks in Physical Science, but aggregate is 50%.

19. (D) Though failed in Mathematics by 30 marks, his aggregate is above 70%.
20. (C) Though aggregate marks is 60%, but failed in English and Social Science by 10 marks each.

### 5.7 DATA SUFFICIENCY TEST

This type of analytical reasoning tests the ability of the students to find out whether a given set of data is sufficient to answer the question asked. There is no need to work out the answers to the questions asked. The pattern of the 'Data Sufficiency' problem consists of a basic data followed by two statements. You have to judge only the relevance of the data given in the two statements for arriving at the answer. More clearly, it may be said that you have to decide whether the data given in the statements is sufficient to answer the question. So the data sufficiency problems require some basic knowledge of mathematics and logical thinking.

The format of Data Sufficiency test consists of (i) the basic data, which comprises of a question with limited available data which is insufficient to arrive at a solution to the question that follows and (ii) two statements which follow the basic data. They contain additional data which may be an aid to arrive at a possible answer.

#### Examples:

#### Directions for Questions 1-4:

Each of the following consists of a question or conclusion followed by two statements. You are to decide whether the data given in the statements is sufficient to answer the question. Mark your answer choice from the four alternatives given below.

- (A) If the statement I alone is sufficient to answer the question.  
 (B) If the statement II alone is sufficient to answer the question.  
 (C) If both the statements together are needed to answer the question.  
 (D) If neither statement I nor II is sufficient to answer the question.

#### Questions

- Paresh, Subir and Shyamal went to a party at different times. Who went there first.
  - Subir stayed there for one hour only.
  - Shyamal went there not later than Paresh and not earlier than Subir.
- Rama is the tallest girl in the class. Who is the tallest student in the class?
  - Robin is the tallest boy in the class.
  - Rama is shorter than two boys in the class.
- Who sings better: Lata or Asha?
  - Neither Arati nor Asha sings as well as Lata.
  - Both Lata and Sandhya sing well.
- If Nanda and Shyamal fight Nanda will win.
  - Nanda has not been beaten so far and is considered invincible.
  - Shyamal has defeated almost everybody he has fought with so far and is considered almost unbeatable.

#### Answers and Explanations:

- (B) We do not get the answer from the statement I alone. But we note that in statement II that Shyamal went there either at the same time or earlier than Paresh, but in the question we find that all of them went there at different times, so Shyamal went there before Paresh. From statement II we can also know that Shyamal went there not earlier than Subir. So Subir was the first man to go there. So statement II only is sufficient to answer the question.

2. (C) In the question we see Rama is the tallest girl in the class. In statement II we find that Rama is shorter than two boys in the class, and in statement I, it is given that Robin is the tallest boy in the class. So obviously Robin is the tallest student in the class. So here both the statements I and II are required to answer the question.
3. (A) Here from the statement I itself we can find that Asha does not sing as well as Lata. So statement I alone is sufficient to arrive at the conclusion.
4. (D) Neither statement I nor II gives us a clue about what will happen in the fight between Nanda and Shyamal.

## PRACTICE TEST

### Direction for Questions 1-20:

Each question below consists of a conclusion or question followed by two statements marked I and II. You are to decide whether

- (A) The statement I alone is sufficient to answer the question.
- (B) The statement II alone is sufficient to answer the question.
- (C) Both the statements I and II are required to answer the question.
- (D) Neither the statements I nor II is sufficient to answer the question.

### Questions:

1. Usha came first in the race.
  - I. Usha broke all the previous world records in the race.
  - II. Usha left all other runners far behind at the finishing line of the race.
2. Is Gopal an architect?
  - I. Gopal stood first in the B. Arch. examination.
  - II. Gopal is a good student.
3. Which train is the fastest P, Q, R or S?
  - I. Q is slower than R.
  - II. P and S are slower than Q.
4. Is Puri to the north of Behrampur?
  - I. Bhubaneswar and Balasore are to the north of Behrampur.
  - II. Chennai and Behrampur are to the south of Puri.
5. All state capitals in the country are ports also. Is city Cochin is a state capital?
  - I. Cochin has museums, schools and colleges.
  - II. Cochin is a sea port.
6. On what day of the week does 1st October of the year 2000 fall?
  - I. 1st March of that year was Wednesday.
  - II. Year 2000 is a leap year.
7. In a meeting the President spoke for 20 minutes and the Secretary spoke for 30 minutes. Did the chief guest speak for more than 40 minutes?
  - I. Chief guest spoke for a longer time than the President.
  - II. Chief guest spoke for a shorter time than the Secretary.
8. All army officers who served in Indian army were honest. Was Mr. Saxena honest?
  - I. Mr. Saxena was an officer who served in Indian army for long years.
  - II. Mr. Saxena was a Major.
9. More students are taking drugs today than in 1990.
  - I. The percentage of students taking drugs today is actually slightly less than in 1990.
  - II. The student population has nearly trebled since 1990.

10. 100 people were invited for a party. How many attended?
  - I. Not more than 40 failed to respond to the invitation.
  - II. Not less than 60 attended.
11. 70 people were invited in a function. How many attended?
  - I. Not more than 20 failed to respond to the invitation.
  - II. Not more than 50 attended.
12. Why was the thief released after the trial?
  - I. The jury did not find any incriminating evidence against the person.
  - II. A person is innocent unless proved guilty.
13. Did Pankaj kill the woman?
  - I. In the court Pankaj was convicted of killing the woman.
  - II. Witness say that the court judgement was fair.
14. If X occurs, Y also occurs.
  - I. If X occurs, P will also occur and Q is one of the causes for R, provided X does not occur.
  - II. Y is caused by R if P occurs; R occurs if P occurs, while K is one of the causes for R if X does not occur.
15. Did Basanta believe in fate?
  - I. He always consulted a palmist.
  - II. He lost a lot of money in business.
16. Does Rahim drink?
  - I. He always buys drinks from Royal Liquor shop.
  - II. He is an intellectual.
17. Can this bucket hold 8 litres of water.
  - I. The bucket is made of plastic.
  - II. The capacity of the bucket is 6 litres.
18. Is there a primary school in the village Manikpur?
  - I. There are primary schools within 2 kms from the Barasat subdivisional office.
  - II. Manikpur is a village of Barasat and is situated 5 kms away from its subdivisional office.
19. Who scored the highest runs.
  - I. Sachin and Saurav together scored 320 runs.
  - II. Saurav was adjudged 'Man of the Match'.
20. The courses offered to the students in an university are not always relevant to most of them.
  - I. Professors often offer courses which are close to their areas of research.
  - II. Many areas of research are obscure and useful only in their limited context.

### Answers and Explanations:

1. (B) Statement II clearly indicates that Usha left behind all the other runners in the finishing line of the race.
2. (A) Here from the statement (I) only we get the answer.
3. (C) Here we cannot get answer either from I alone or from II alone, but if we combine these two we can get the answer.
4. (B) Here from II only we can get the answer.
5. (D) Here it is clear that we cannot get the answer from I alone, II gives us that Cochin is a sea port. Now, it is given that all state capitals in the country are port also. But all ports in the country are not necessarily state capitals. So Cochin may be a sea port but not necessarily a state capital. If there are, say, ten capitals and twelve ports, then all the state capitals can be ports but it is clear that some of the ports are not capitals. So no definite answer can be given taking all the statements into considerations. Hence (D).

6. (A) Here we can get the answer from the statement I itself as the number of days in English calendar are fixed and the statement II does not matter as the count starts only from March.
7. (B) From II it is clear that the chief guest spoke for less than 30 minutes, which is enough for answering the question. As from I, we say that he spoke for more than 20 minutes but can't say whether it is 40 minutes or more.
8. (A) From the statement I only we can arrive at the conclusion.
9. (C) On combining I and II, we can find though the percentage of students taking drugs today is slightly less than in 1990, but the actual student population has been increased three times more today than in 1990, so we can come to the conclusion with both I and II.
10. (D) From statement I we find that the number of people who did not attend was 40 or less. Hence, the number attended may be 60 or more. So no exact Fig. can be said; similarly from II we can get almost the same information that at least 60 attended, but not exact figure. So we cannot say exactly how many attended from both the statements.
11. (C) Though the question seems to be more or less similar to question 10, but it is quite different one. Here statement I shows that number of people did not attend was 20 or less. Hence, at least (70-20) 50 people attended. But statement II gives us that not more than 50 people attended the function. So, 50 people would be the possible answer. So we get the answer from both I and II, hence (C).
12. (A) From the statement I only we can get the answer.
13. (D) Both statements cannot provide any conclusive proof of Pankaj having killed the woman.
14. (C) Here don't worry about a number of relationships. We see that the statement I says that if X occurs, P will also occur and statement II says that if P occurs Y also occurs, thus X and Y occur together.
15. (A) Here only the statement I gives the answer of the question.
16. (D) Here from statement I we can't say that he takes drinks as only buying drinks cannot be a proof of drinking, he may buy drinks for others also and statement II is irrelevant here.
17. (B) Here only from the statement II we can say that bucket of 6 litres can not hold 8 litres of water.
18. (C) Here we can give the answer of the question only by combining the two statements.
19. (D) Here both the statements are insufficient to answer the question. Saurav might have been awarded the 'Man of the Match' award for taking a few wickets also, besides his runs. Hence (D).
20. (C) Statements I and II together imply that there could be courses offered which are obscure and useful in a limited context which in turn implies that it may not be relevant to most students.

## SOME MORE QUESTIONS ON DATA SUFFICIENCY

### Directions for Questions 1-20:

Each question below has a problem followed by two statements numbered I and II. You have to decide whether the given information is sufficient to answer the question by indicating:

- (A) If statement I alone is sufficient.
- (B) If statement II alone is sufficient.
- (C) If either statement I or statement II alone is sufficient.
- (D) If both the statements together are not sufficient.
- (E) If both these together are needed to answer the question.

**Questions:**

1. What is Dilip's age?
  - I. Dilip, Pradhan and Biren are all of the same age.
  - II. Total age of Pradhan, Biren and Sunil is 36 and Sunil is as old as Pradhan and Biren together.
2. In a certain code language 297 means 'tie clip button'. Which number means button?
 

*(Bank P.O., 1995).*

  - I. In that language 926 means 'clip your tie'.
  - II. In that language '175' means 'hole and button'.
3. Is D brother of F?
 

*(Bank P.O., 1994).*

  - I. B has two sons of which F is one.
  - II. D's mother is married to B.
4. Manoj, Prabhakar, Akash and Kamal are four friends. Who among them is the heaviest?
 

*(Bank P.O., 1994).*

  - I. Prabhakar is heavier than Manoj and Kamal but lighter than Akash.
  - II. Manoj is lighter than Prabhakar and Akash but heavier than Kamal.
5. What day is the fourteenth of a given month?
 

*(S.B.I., P.O., 1994).*

  - I. The last day of month is wednesday.
  - II. The 3rd saturday of the month is seventeenth.
6. When is Manohar's birthday this year?
 

*(Bank P.O. 1993)*

  - I. It is between January 13 and 15, January 13 being wednesday.
  - II. It is not on Friday.
7. How B is related to A?
 

*(Bank P.O., 1995).*

  - I. A is B's sister.
  - II. D is the father of A and B.
8. How many brothers does Tarun have?
 

*(Bank P.O., 1998)*

  - I. Tarun's father has three children.
  - II. Tarun has two sisters.
9. Vipin's and Javed's salaries are in proportion of 4 : 3 respectively. What is Vipin's salary?
  - I. Javed's salary is 75% that of Vipin's salary.
  - II. Javed's salary is Rs. 4500.
10. Who is C's partner in a game of cards involving four players A, B, C and D?
  - I. D is sitting opposite to A.
  - II. They are playing contact bridge.
11. At what time did Sonali leave her home for office?
 

*(S.B.I., P.O. 1997).*

  - I. Sonali received a phone call at 9.15 A.M. at her home.
  - II. Sonali's car reached office at 10.45 A.M., 45 minutes after she left her residence.
12. How many sons does D have?(S.B.I. P.O., 1994).
  - I. A's father has three children.
  - II. B is A's brother and son of D.
13. In a code 'lee pee tin' means 'Always keep smiling'. What is the code for 'smiling'?
 

*(Bank P.O., 1993).*

  - I. 'tin lut lee' means 'Always keep left'.
  - II. 'dee pee' means 'Rose smiling'.
14. On which day in April is Gautam's birthday?
 

*(Bank P.O., 1994).*

  - I. Gautam was born exactly 28 years after his mother was born.
  - II. His mother will be 55 years 4 months and 5 days on August 18 this year.

15. What time did the train leave today? (Bank P.O., 1996)  
 I. The train normally leaves on time.  
 II. The scheduled departure is at 14-30 hrs.
16. Is Arun taller than Sachin?  
 I. Dinesh is of same height as Arun and Sachin.  
 II. Sachin is not shorter than Dinesh.
17. Rohit, Kajol, Tanmay and Suman are four friends. Who is the oldest among them? (Bank P.O., 1998).  
 I. The total age of Kajol and Tanmay together is more than that of Suman.  
 II. The total age of Rohit and Kajol together is less than that of Suman.
18. What is Reena's rank in the class? (Bank P.O., 1995)  
 I. There are 26 students in the class.  
 II. There are 9 students who have scored less than Reena.
19. Who is the father of M? (S.B.I. P.O., 1994)  
 I. A and B are brothers.  
 II. B's wife is sister of M's wife.
20. The chairman of a big company visits one department on Monday of every week except for the Monday of the third week of every month. When did he visit the Purchase department?  
 I. He visited Accounts department in the second week of September after having visited Purchase department on the earlier occasion.  
 II. He had visited Purchase department immediately after visiting Stores department but before visiting Accounts department.

**Directions for Questions 21-25:**

Each question below is followed by three statements I, II and III. Read the statements carefully and find out which of the statements either alone or in pair or all the statement together are sufficient in answering the question.

**Questions:**

21. What does 'come' represent in a code language? (S.B.I. P.O., 1997).  
 I. 'Pit na tac' means 'come and go' in that code language.  
 II. 'Ja ta da' means 'you are good' in that code language.  
 III. 'na da rac' means 'you can come' in that code language.  
 (A) I and II together  
 (B) II and III together  
 (C) I and III together  
 (D) I, II and III together.  
 (E) None of these.
22. Five persons P, Q, R, S and T are sitting in a row. Who is the sitting in the middle?  
 I. Q is between T and R.  
 II. Q is right to T.  
 III. S is between P and T.  
 (A) I and II together  
 (B) II and III together  
 (C) I and III together  
 (D) I, II and III together.  
 (E) None of these.



23. How many sons does X have?
- I. B and D are brothers of F.
  - II. K is the sister of A and B.
  - III. K and F are daughters of X.
- (A) I and II only.
  - (B) II & III only.
  - (C) I, II and III only
  - (D) I, II & III together are not sufficient.
  - (E) None of these.
24. Prabir is younger than Sunil and Sonali is older than Tarun. Who among them is the oldest?
- I. Sonali is older than Prabir.
  - II. Sunil is older than Sonali.
  - III. Tarun is youngest of all.
- (A) Only I
  - (B) Only II
  - (C) I and II together
  - (D) I, II and III together
  - (E) None of these.
25. Four subjects Physics, Chemistry, Mathematics and Biology were taught in four consecutive periods of one hour each starting from 8.00 A.M. At what time was chemistry period scheduled?  
(S.B.I. P.O., 1995).
- I. Mathematics period ended at 10.00 A.M. which was preceded by Biology.
  - II. Physics was scheduled in the last period.
  - III. Mathematics period was immediately followed by chemistry.
- (A) only I.
  - (B) only I or only II.
  - (C) II only.
  - (D) II and III together
  - (E) Either I and II together or I & III together.

**Answers and Explanations:**

1. (E) From statement I we get  $D=P=B$ . From statement II we get  $P+B+S = 36$  and  $S = P+B$ . So,  $2S = 36$  or  $S = 36/2 = 18$ . So,  $P+B = 18$ ,  $P=B=9$ . So,  $D = 9$  also, as  $D=P=B$ . So, both the statements are required to solve the problem.
2. (C) In statement I and question we find the numbers 2 and 9 are common, which means 'clip' and 'tie', so number of button is 7. So, statement I is sufficient. Again between question and statement II the number common is 7 and the common word is 'button'. So statement II is also sufficient. So either statement I or statement II is sufficient.
3. (E) From statements I and II we find D's father is B who has two sons of which F is one, the other must be D. So D is the brother of F. So, both the statements are required to answer the question.
4. (E) From I, we have,  $P>M$ ,  $P>K$ ,  $A>P$ .  
From II, we have  $P>M$ ,  $M<A$ ,  $M>K$ , but combining these we have  $A>P>M>K$ . So, Akash is the heaviest. So, both the statements are required.
5. (B) From II we find Saturday is 17th, so 14th is Wednesday. So, only II is sufficient to answer the question.



6. (A) From I we find 14th is between 13 and 15 January, as 13 is Wednesday, 14 is Thursday. So, only I is sufficient here.
7. (D) From statements I and II we can't find the sex of B - may be brother or sister. So, both the statements together are not sufficient to answer the questions.
8. (E) From I and II we get Tarun's father have got two daughters and one son, so Tarun does not have any brother. So, both the statements are required.
9. (B) From I we can't find anything. From II we find Vipin's & Javed's proportion of salary.  
 $\frac{4}{3} \times 4500 = 6000 = \text{Vipin's salary. So, statement II alone is sufficient.}$
10. (A) From statement I we find the answer as D is opposite to A, means D is A's partner. So B and C are also partners.
11. (B) From statement II we find that Sonali left home 45 minutes before 10:45 A.M., i.e. at 10 A.M. From I we can't find that. So, II alone is sufficient here.
12. (D) From both the statements we can't find the whereabouts of the third child. So, answer cannot be given from both the statements together.
13. (C) From I, and the question we find the common codes 'lee tin' and common words 'Always 'keep'. So 'pee' means smiling. Statement I can do. Again from II and the question we find 'pee' means smiling. So, statement II is also do.  
 So either statement I or II alone are sufficient.
14. (E) In answering the question we require help from both the statements.
15. (D) Clearly, even both the statements together do not reveal the exact time of departure of the train today.
16. (A) From I we can find the answer that Arun and Sachin are of equal height. So I is sufficient.
17. (D) From both the statements we find  $K+T>S$  and  $R+K<S$ , so, who is the oldest is not known.
18. (E) From I and II we find Reena is 17th in the rank, as there are 16 students above Reena in the rank. So, both the statements required.
19. (D) From both the statements we can't find the answer of the question.
20. (A) From statement I we can get the answer that chairman visited purchase department on Monday of the first week of September. No day of visit is mentioned in II. So only I is sufficient here.
21. (C) From I and III we find the common word 'come' and common code 'na', so I and III together are sufficient.
22. (D) From I, II and III we find the sitting arrangement P, S, T, Q, R. So, T is the middle. So, I, II and III together are required.
23. (D) From all the statements together we can't find the answer of the question.
24. (B) Given  $P < Su$  and  $So > T$ .  
 From I  $So > P$ . From II  $Su > So$  and III T is the youngest.  
 From I & III  $P < Su$ ,  $T < So < Su$ , so Sunil is the oldest. So, only II is required.
25. (E) From I and II we get the arrangement of the subjects taught in the order Biology, Mathematics, Chemistry and Physics. So, chemistry period schedule is from 10 A.M. after Mathematics. So, I and II together are enough to answer the question.  
 From I and III, we also find chemistry period began at 10 A.M. after Maths so, either I and II or I & III together are relevant here.

### REASON AND ASSERTION TYPE

This type of tests are used in judging the candidates's knowledge and ability of reasoning. The question usually consists of two statements, one of which is Assertion (A) and the other is called

Reason (R). The candidate is to judge whether the said statements (assertion or reason) are true or false and whether the reason (R) correctly explain the assertion (A) or not.

**Examples:**

**Directions:** For the Assertions (A) and Reasons (R) below, choose the correct alternative from the following:

- (A) Both A & R are true and R is the correct explanation of A.
- (B) Both A and R are true but R is *not* the correct explanation of A.
- (C) A is true but R is false.
- (D) A is false but R is true.
- (E) Both A and R are false.

**Questions:**

1. Assertion (A): India exports tea to the foreign countries.  
Reason (R): Indian teas are best in the market.
2. Assertion (A): Mercury is the hottest planet.  
Reason (R): It is farthest from the sun.
3. Assertion (A): Carbon dioxide sullies the water.  
Reason (R): Carbon dioxide turns lime water milky.
4. Assertion (A): India is a democratic country.  
Reason (R): India has several states.
5. Assertion (A): Malaria is a viral infection.  
Reason (R): The disease is caused by vitamin deficiency.

**Answers and Explanations:**

1. (A) Here both A and R are true and R explains A.
2. (C) Here A is true, but R is false.
3. (D) Here A is false but R is true.
4. (B) Here both A and R are true, but R does not explain A.
5. (E) Here both A and R are false, as Malaria is neither a viral infection and nor is caused by vitamin deficiency.

## PRACTICE TESTS

**Directions:** Each question below consists of an Assertion (A) and a Reason (R) find out the correct alternative from the following:

- (A) Both A and R are true as R is the correct explanation of A.
  - (B) Both A and R are true but R is not the correct explanation of A.
  - (C) A is true but R is false.
  - (D) A is false but R is true.
  - (E) Both A and R are false.
1. Assertion (A): Noise pollution is fatal for the human ear.  
Reason (R): High decibel sound causes noise pollution.
  2. Assertion (A): Universal blood donors have blood group of 'O' type.  
Reason (R): 'AB' is also a type of blood group.
  3. Assertion (A): Sprouting should not be done before consuming grains.  
Reason (R): Sprouting kills many vital vitamins.
  4. Assertion (A): Earthworms break down the soil into fine particles and make it soft.  
Reason (R): Earthworms are not good for Agriculture.

5. Assertion (A): Babur founded Din-e-Ilahi.  
Reason (R): Babur was the founder of Mughal empire.
6. Assertion (A): Simla is colder than Chandigarh.  
Reason (R): Chandigarh is at a lower altitude as compared to Simla.
7. Assertion (A): Sweat evaporates faster in humid climate.  
Reason (R): We feel comfortable in humid climate.
8. Assertion (A): Copper is used to make electric wires.  
Reason (R): Copper has very high electrical resistance.
9. Assertion (A): Land breeze blows during night.  
Reason (R): Land gets heated up quickly.
10. Assertion (A): Bronze is used for making statues.  
Reason (R): Bronze is resistant to corrosion.
11. Assertion (A): On the equinoxes the position of the earth with respect to the sun is such that the north pole inclined more towards the sun than that of the south.  
Reason (R): On the equinoxes, the day and night are equal all over the globes.
12. Assertion (A): India's female population is less than that of males.  
Reason (R): India's female literacy rate is less as compared to males.
13. Assertion (A): Chlorophyll is present in all the green plants.  
Reason (R): Chlorophyll is not essential for photosynthesis.
14. Assertion (A): India's National anthem was written by Bankimchandra.  
Reason (R): Bankimchandra won the Noble Prize in literature.
15. Assertion (A): Igloos are made of snow.  
Reason (R): No other material except snow is available there.
16. Assertion (A): Carbon mono-oxide when inhaled causes death.  
Reason (R): Carbon mono-oxide combines with the haemoglobin of the blood.
17. Assertion (A): President of India are elected directly by the people of India.  
Reason (R): India is a democratic country.
18. Assertion (A): Influenza is an infectious disease.  
Reason (R): It is not wise to remain in the same room with an influenza patient.
19. Assertion (A): Water contains hydrogen and oxygen.  
Reason (R): Hydrogen does not burn but helps in burning.
20. Assertion (A): Fishes are cold blooded animals.  
Reason (R): Fishes live in water.
21. Assertion (A): Electrical fuses are resistant to electric current.  
Reason (R): Electrical fuses are made up of materials having high melting point.
22. Assertion (A): Indian Constitution came into force with effect from 15th August, 1947.  
Reason (R): 15th August is celebrated as the Independence day in India.
23. Assertion (A): Taj Mahal was built by Shajahan.  
Reason (R): Shajahan was the son of Akbar.
24. Assertion (A): Birds can fly in the air.  
Reason (R): Birds are warm blooded animals.
25. Assertion (A): Calcutta was the capital of British India.  
Reason (R): Calcutta is the capital of West Bengal.

**Answers and Explanations:**

1. (A) Here, both A and R are true and R explains A.
2. (B) Here, though, both A and R are true, but R does not explain A.

3. (E) Here both A and R are false, as sprouted grains should be consumed as sprouting enhances the nutrient content of the grains.
4. (C) Here A is true but R is false; as earthworms are always good for agriculture.
5. (D) Here A is false but R is true, Din-e-Ilahi was founded by Akbar.
6. (D) Here both A and R are true, and R clearly explains A, as higher altitudes causes decrease in temperature.
7. (E) Here both A and R are false, sweat does not evaporate quickly in humid climate, for which we feel uncomfortable.
8. (C) Here, A is true but R is false, copper has low electrical resistance.
9. (B) Both A and R are true, but R does not explain A.
10. (A) Both A and R are true and R explains A, Bronze is an alloy of copper and tin it prevents corrosion.
11. (D) Here A is false but R is true, as on the equinoxes neither pole of the earth is inclined towards the sun and for that day and night are equal all over the globe.
12. (B) Both A and R are true in separate sense, but R does not explain A.
13. (C) A is true here but B is false, as chlorophyll is always essential for photosynthesis.
14. (E) Here both A and R are false, India's National anthem was written by Rabindra Nath Tagore and Bankimchandra did not honour with Noble Prize.
15. (C) A is true here but not R, Igloos are made of snow only because the snow being the bad conductor of heat keep these igloos warm inside.
16. (A) Here both A and R are true, because carbon mono-oxide when inhaled combines with the haemoglobin of the blood and prevents transport of oxygen causing death.
17. (D) A is false but R is true, President of India are elected by the elected representatives of the people and not directly by the people.
18. (A) Both A and R are true here.
19. (C) A is true here but R is false, as Hydrogen gas burns in air but does not help in burning.
20. (B) Both A and R are true but R does not explain A.
21. (E) Here both A and R are false, as electrical fuses are neither resistant to electric current nor having high melting point.
22. (D) A is false but R is true, as Constitution of India came into force from 26th January, 1950.
23. (C) A is true R is false, Shajahan was the grand son of Akbar.
24. (B) Both A and R are true, but R does not explain A.
25. (B) Both A and R are true here but R does not explain A.

### TEST OF TRUTH VERIFICATION

In this type of questions some statements are given followed by four or five alternatives which are some of the essential parts related to these statements. But you are to select *the most essential part* from the alternatives given as all the others are also essential in some respect.

#### Examples:

1. A marriage always has  
 (A) priest                      (B) bride-bridal                      (C) invitees  
 (D) food                      (E) pandal
2. A book always has  
 (A) story                      (B) author                      (C) paper                      (D) picture                      (E) cover
3. A sea always has  
 (A) sand                      (B) shore                      (C) wave                      (D) water                      (E) roar
4. A flower always has  
 (A) petals                      (B) colour                      (C) odour                      (D) show                      (E) leaf.

**Answers and Explanations:**

1. (B) In a marriage presence of bride and groom is always essential otherwise marriage does not occur, other alternatives may not be so essential, without them marriage also occur.
2. (C) The paper is always essential to form a book, without paper no book cannot be formed. Others are not so essential.
3. (D) Without water a sea cannot be imagined, other things are not so essential for a sea.
4. (A) A flower may be without colour, odour, show or leaf, but without petals no flower can be imagined.

**PRACTICE TEST**

1. A shirt always has  
(A) collar (B) button (C) cloth (D) pocket (e) sleeve.
2. A person always has  
(A) intelligence (B) eyes (C) skin (D) arm (e) heart
3. A cinema must have  
(A) hall (B) screen (C) sound (D) colour ((e) spectators
4. Which of the following an animal always has? *(Bank P.O. 1996)*  
(A) lungs (B) skin (C) mind (D) heart (E) life
5. A school always has  
(A) classes (B) building (C) teacher (D) student (e) blackboard
6. Cricket always has  
(A) pads (B) pitch (C) stumps (D) gloves (E) bat
7. All animals have  
(A) instincts (B) legs (C) eyes (D) tails (E) mind
8. An examination must have  
(A) question paper (B) score (C) hall (D) student (E) invigilators.
9. Which of the following a drama must have? *(R.B.I., 1990)*  
(A) actors (B) sets (C) story (D) director (E) spectators
10. A mirror always *(M.B.A., 1994)*  
(A) reflects (B) retracts (C) distorts (D) refracts (E) reveals the truth.
11. A hospital always has  
(A) nurse (B) building (C) telephone (D) doctor (E) bed.
12. A T.V. set always has  
(A) box (B) antenna (C) plug (D) picture tube (E) sound system.
13. A disease always has *(M.B.A., 1998)*  
(A) cure (B) medicine (C) cause (D) germs (E) patient
14. A chair always has  
(A) handles (B) legs (C) wood (D) chair person (E) cushion.
15. A pressure cooker always has  
(A) cover (B) whistle (C) steel body (D) heat (E) handle
16. A song always has  
(A) tune (B) musician (C) lyric (D) tone (E) word
17. A car always has *(Bank P.O., 1989)*  
(A) driver (B) bonnet (C) dicky (D) bumper (E) wheels
18. A tree always has which of the following? *(Management Trainees, 1991)*  
(A) branches (B) leaves (C) fruits (D) roots (E) shadow

19. A jail always has (M.B.A., 1998)  
 (A) bars (B) locks (C) jailor (D) lawyer (E) prisoners
20. A camera always has (M.B.A., 1998)  
 (A) lens (B) reels (C) flash (D) photograph (E) stand
21. Danger always involves (S.S.C., 1987)  
 (A) enemy (B) attack (C) fear (D) help (E) red signal.
22. Which of the following is always associated with justice? (S.S.C., 1987)  
 (A) legitimacy (B) hypocrisy (C) magnanimity (D) Diminutiveness
23. What is always in worry? (U.D.C., 1986)  
 (A) Difficulty (B) Unrest (C) Non-cooperation (D) Poignancy
24. A hill always has (S.S.C., 1987)  
 (A) trees (B) animals (C) water (D) height
25. Controversy always involves (M.B.A., 1998)  
 (A) dislike (B) injustice (C) disagreement (D) passion
26. A child must have had (Railways, 1998)  
 (A) toys (B) parents (C) friends (D) education
27. A chocolate always has  
 (A) cocoa (B) wrapper (C) nuts (D) milk
28. A newspaper always has  
 (A) advertisement (B) sports (C) paper (D) politics (E) editor
29. A desert always has  
 (A) camels (B) oasis (C) thorns (D) sand (E) heat
30. Which of the following is always found in bravery?  
 (A) stamina (B) courage (C) power (D) experience (E) knowledge.

**Answers and Explanations:**

1. (C) Without cloth a shirt is impossible.
2. (E) Heart is essential for a person.
3. (B) Cinema without a screen is impossible.
4. (E) Life is always essential for an animal.
5. (D) Without student a school is impossible.
6. (E) Without a bat cricket cannot be played.
7. (A) Without an instinct an animal cannot live.
8. (B) No examination is possible without a score.
9. (C) Without a story a drama is not possible.
10. (A) Reflection is the most essential quality of a mirror.
11. (D) A doctor is a must in a hospital.
12. (D) Without a picture tube a T.V. set cannot occur.
13. (C) A disease always has a cause.
14. (B) A chair without legs is impossible.
15. (A) Without a cover pressure cannot be formed in a pressure cooker.
16. (E) A song must have words.
17. (E) A car must have wheels, otherwise it can't move.
18. (D) Root is the most essential part of a tree.
19. (B) Without locks jail is impossible.

20. (A) A camera must have lens.
21. (C) Danger always involves fear.
22. (A) Justice is always associated with legitimacy.
23. (B) When there is worry then there must be unrest.
24. (D) A hill must have a height.
25. (C) Where there is a controversy there is disagreement.
26. (B) A child cannot be born without parents.
27. (A) Cocoa is a must in a chocolate.
28. (C) A newspaper must have a paper first.
29. (D) Without sand a desert cannot be formed.
30. (B) 'Bravery' is the quality found only among the courageous persons.

### **SITUATIONAL TESTS**

In this type of test some situation is described followed by a few suggested reactions. Candidates are required to choose the best reaction from the alternatives to overcome the situation.

#### **Examples:**

1. If in the examination hall, you find that the question paper is too stiff to be answered, then the best thing you should do is to
  - (A) demonstrate outside the examination hall with shouting slogans.
  - (B) disrupt the examination hall, in order to compel the others to walk out.
  - (C) try to solve as many questions as you can with a cool brain and leave the hall after submitting the papers.
  - (D) try to copy from other examinees or cheat in the examination.
2. While you are travelling in a car you come across an injured man lying unconscious on the road, you should
  - (A) drive away to your destination without paying attention to the person.
  - (B) take the person immediately to a hospital with the help of local people.
  - (C) go to the police station to inform them and drive away.
  - (D) come down from the car and advice local people to take him to the hospital and drive away.
3. While travelling in a bus you find somebody is travelling in the same bus without a valid ticket you would
  - (A) ask the person to buy a ticket from the conductor.
  - (B) compel him to get down from the bus.
  - (C) overlook the fact and go on travelling on your own.
  - (D) bring it to the notice of the bus conductor.

#### **Answers and Explanations:**

1. (C) Normally one should not disturb other examiners and disrupt the examination situation. He should try to solve as many questions as he can with cool brain and leave the hall after submitting the papers.
2. (B) Clearly it is an emergency situation, the person should be given first aid immediately after that the police may be informed.
3. (D) In such a situation one should not take the law in his own hand. The best thing he can do, as a law binding citizen, to bring it to the notice of the bus conductor.



**PRACTICE TESTS**

1. You are walking down the street suddenly you see two boys are fighting madly with each other, and a crowd standing there are enjoying the fight. You would,  
(A) become a member of the crowd and enjoy the situation and encourage one against the other.  
(B) pass on, to your own destination, avoiding the situation.  
(C) interfere and try to separate the boys and prevent them from in-fighting.  
(D) ask the crowd to foil them from in-fighting.
2. While getting in a taxi you find a briefcase containing valuables and papers and you would  
(A) take the briefcase and go to your home.  
(B) try to identify the owner from the papers and drive straight to his home and return it to him or deposit that in the nearest police station.  
(C) ask the taxi driver either to identify the owner and return it to him or hand it over to the nearest police station.  
(D) leave it as it is in the taxi and get down to your own destination.
3. You have made some silly mistakes which have been pointed out to you. You will:  
*(Railways, 1993)*  
(A) laugh it away      (B) get angry      (C) feel miserable      (D) feel thankful.
4. While sitting in a railway compartment, you observe that a person got into the compartment and left a suitcase beneath a bench in front of you and never turned up. You would:  
(A) take away the suitcase.  
(B) search for the person.  
(C) inform the railway police immediately.  
(D) do not bother about the situation and go on travelling as usual.
5. You are walking down the street and suddenly you see two hundred rupee notes on the pavement. What action will you take?  
*(Railways, 1993)*  
(A) Pocket it yourself.      (B) Leave it where it is.  
(C) Give the money to a beggar.      (D) Deposit it in the nearest police station.
6. You are travelling in a bus for going to the venue of your final examination which is about to start within half an hour time. On the midway, you come across a terrible traffic jam due to some demonstration of a political party. What will you do?  
(A) get down from the bus, try for alternative routes, if available, otherwise walk all along to the examination centre.  
(B) wait within the bus as long as the jam would be cleared.  
(C) go to the demonstrators and persuade them to clear the road for your examination.  
(D) Drop the examination and return to your home.
7. You find that the person whom you call your friend has been cheating you, what would you do?  
*(M.B.A. 1998)*  
(A) Break relations with him.      (B) Give him tit for tat.  
(C) Make him realise his mistake.      (D) Tell other friends about him.
8. On reaching the railway station, you find that the train you wanted to catch is about to start and there is hardly any time left for purchasing the ticket. The next train will be on the next day. The best thing you can do is to  
(A) go to the ticket counter and purchase the ticket and after that catch the train if it is there.  
(B) rush to the train rather than miss it and inform the T.T.I. as soon as you meet him and get a valid ticket from him.  
(C) rush to the train and perform your journey quickly, without having a ticket.  
(D) wait for the next day train.



9. Suppose you are in-charge of the Front Office of a five-star hotel. It is around midnight and you are busy in allotting room to the several guests waiting in the lobby. They were all delayed flight passengers and were very much tired. Suddenly you are informed by a line bearer on duty, that some Mr. X has fallen ill suddenly in his room no. 721. You have not sufficient man power on the counter. What will you do? *(Hotel Management, 1998).*
- (A) Ask the line bearer to contact a doctor of the hotel over phone.
  - (B) Rush to the room no. 721 at once and arrange for the medical help to the ailing guest, without any arrangement for the waiting guests.
  - (C) After completing the allotment of rooms for all the waiting guests and then go to the room no. 721 for medical help to the ailing guest.
  - (D) Politely explain the situation to the waiting guests after posting somebody at the Front Office to entertain them with tea and snacks, and rush to room no. 721 and arrange for the medical help to the ailing guest and return quickly to the front office.
10. You are in a bus. The bus reaches your stop but still you have not purchased the ticket because of heavy rush. What will you do? *(Railways, 1993).*
- (A) Jump out quickly to avoid embarrassment.
  - (B) Call the conductor, give him the money and get the ticket.
  - (C) Hand the money to someone sitting nearby to give it to the conductor.
  - (D) Give the money to the driver.
11. Your friend has not invited you to his marriage party. You will *(Railways, 1993)*
- (A) hold it against him.
  - (B) attend the ceremony.
  - (C) send him your best wishes.
  - (D) ignore the whole affair.
12. You are a guest at a dinner. The host asks you to take one more chapati after your stomach is full. You would: *(M.B.A., 1998).*
- (A) make a blunt refuse.
  - (B) take the chapati.
  - (C) make a bad face at him.
  - (D) politely say that the food was too good and you have already eaten much.
13. You find that the person, whom you know as your enemy has suddenly come to your house, you would:
- (A) Ask him not to enter in your house.
  - (B) Give him tit for tat.
  - (C) Welcome him as if he is your friend.
  - (D) Do not meet him.
14. You are waiting for your friend in his home for some urgent business. Suddenly the entire building is plunged into darkness for going out of the fuse. There is no male member in the house. What will you do?
- (A) Come out of the house and wait outside till your friend returns.
  - (B) Ask for fuse wire from your friend's wife and repair the fuse.
  - (C) Ask your friend's wife to call an electrician.
  - (D) Wait inside the home till your friend returns.
15. You are interviewed for a new job. Which of the following question is most important to you? *(Railways, 1993)*
- (A) Opportunities for promotion.
  - (B) Remuneration you will be paid.
  - (C) Scope to develop your ideas and use them to improve the working of the organisation.
  - (D) All the above are equally important.
16. While preparing food for you, your cook gets burn injuries on his hand. You would:
- (A) ask him to go to a hospital immediately.
  - (B) apply some ointment to the affected hand at once.

- (C) dip his hand in cold water for sometime and then apply some ointment to his hand.
- (D) call a doctor.

**Directions for Questions 17-19:**

Below a situation has been described. The questions below are based on this situation. Study the situation carefully and answer the questions accordingly. *(Hotel Management, 1998)*

**Situation:**

It was around 1:30 A.M., when the person-in-charge of the front office came to know that one Mr. Aiyer had started dancing on the 3rd floor corridor in the 700 line, obviously intoxicated. The line bearer on duty tried to pacify Mr. Aiyer, but the latter became violent towards the line bearer. The line bearer then called the security people of the hotel to tackle the situation. The security men were about to become offensive towards Mr. Aiyer.

The person from the Front Office is well aware that Mr. Aiyer is a distinguished guest of the hotel. He hails from XYZ Co. which gives the hotel an annual business of about Rs. 30 lacs and Mr. Aiyer himself is largely instrumental to such a huge business.

**Questions:**

17. Suppose you are in-charge of Front Office of the hotel, what would be your reaction on hearing about the above incident?
  - (A) No reaction at all, as it is quite natural for an intoxicated person.
  - (B) You must be apprehensive of possible ill treatment to intoxicated guests.
  - (C) Ask the line bearer to tackle the situation, without disturbing you.
  - (D) Laugh it away.
18. Do you think you should visit the spot immediately, if so, why?
  - (A) No, you better ask the security people to see that decorum is maintained.
  - (B) Not immediately, after sometime when the situation would be more or less calm.
  - (C) Yes, and try to tackle the situation with the security people.
  - (D) Yes, you should visit immediately the spot and bring Mr. Aiyer under control by persuasion, without the security people.
19. Do you feel that you should do something after Mr. Aiyer would return to senses, and if so, why?
  - (A) Yes, Mr. Aiyer be told about the incident casually and intelligently so that he does not resort to such behaviour in future.
  - (B) No, Mr. Aiyer will view things logically on his own, when he comes back to senses.
  - (C) Yes, he should be met and asked to maintain the decorum of the hotel.
  - (D) Yes, he should be cautioned against this sort of ill behaviour in future.
20. Suppose you are the officer-in-charge of the accounts department of a five-star hotel. One day when you visited your department you witnessed that a scuffle was going on between Mr. P, a supplier of the hotel and the concerned members of the staff of your department regarding the amount of subscription which they are eager to collect from the suppliers and contractors for their annual congregation. Mr. P who was a regular supplier of mutton was very helpful during an emergency situation of the hotel. He somehow managed to supply all the essential items as required in the hotel even during curfew days. You found, there was exchange of hot words from both the sides and ultimately Mr. P was about to be manhandled by some of your staff members. What would you do? *(Hotel Management, 1998)*
  - (A) Just overlook the situation and go to your seat and should not intervene until you are asked for.

- (B) Remind your staff members the role of Mr. P during the difficult days and make them accept whatever subscription Mr. P is willingly giving.
- (C) Support your staff members and try to persuade Mr. P to clear the amount whatever they were demanding.
- (D) Report the entire thing to the Managing Director of the hotel and ask him to intervene.

**Directions for Questions 21-22:**

Each question below is based on the following situations. Read this carefully and answer the questions. *(Hotel Management, 1998).*

**Situation:**

R.S. and Co. Ltd. which is a regular client of star category hotel, books a banquet hall of the hotel for Board Meeting. The Secretary of the company informs the manager of the hotel that there is a threat from one of the employees' union to create trouble in the Board Meeting if some of their immediate demands are not met by the company.

21. Suppose you are the Manager of the hotel what should you do?
- (A) Under these circumstances booking should be refused.
  - (B) Booking may not be refused, but ask them to tackle the situation on their own so that no untoward incident may occur.
  - (C) Booking should not be refused under any circumstances and ask your security staff to tackle the situation if there is any.
  - (D) Ask the company to meet the immediate demands of the Union.
22. If as a manager you allow the booking, what action you should take to avoid trouble, assuming that the hotel is having insufficient internal security infrastructure?
- (A) Union people are not allowed to enter into the hotel premises.
  - (B) If union people enter unnoticed, they would be handed over to the police.
  - (C) Banquet hall would be kept under lock and key as long as the meeting is going on.
  - (D) Ways and means may be adopted to misdirect or confuse the union people even if they enter unnoticed.
23. Suppose you are a Restaurant Manager of a star category hotel. One night two seemingly dignified persons came to have dinner in one of your restaurants. You have been cautioned earlier about these people by the police, who told you to inform the police as soon as they arrive. They have done some questionable offence earlier. How would you tackle the situation? *(Hotel Management, 1998).*
- (A) Do not inform the police. Allow them to escape safely after dinner.
  - (B) Inform the police, allow them to take dinner, take as much time as possible to prepare the bill till the police party come.
  - (C) Inform the police, and get them arrested without serving the dinner to them.
  - (D) Do not take the responsibility, inform the Managing Director of the hotel to tackle the situation.
24. You are watching a world cup football match in the T.V. channel. Suddenly there is a power failure, what would you do?
- (A) Close the T.V. set and wait patiently for the power to restore.
  - (B) Immediately rush to the local power distribution office and ask them to restore the power immediately.
  - (C) Immediately rush to the local power house with some more people and demonstrate and ransack the office and compel them to restore power immediately.
  - (D) Being angry break the T.V. set.

25. You are travelling in a crowded bus, suddenly you notice a valuable gold chain under your feet. You would:
- (A) take the chain and pocket it yourself.
  - (B) take the chain and search for the owner in the bus.
  - (C) take the chain and deposit it at any police station nearby.
  - (D) take the chain, inform the conductor of the bus and then deposit it to the bus depot.

**Answers and Explanations:**

1. (C) Immediate need is to separate the boys, in order to prevent them from injury.
2. (B) Immediate need is to handover the suitcase to its genuine owner. This is to be done on your own without reliance to the taxi driver, who may be faithful, but not known to you.
3. (D) Pointing out a silly mistake to anybody should always welcome.
4. (C) Such left luggage may contain explosive or time bomb, so police is to be informed immediately.
5. (D) As a responsible citizen anything found on the pavement should be handed over to the police.
6. (A) Immediate need is to reach the examination venue as early as possible.
7. (C) Take the matter patiently so that he can realise his mistake.
8. (B) As for emerging you should catch the train and at the same time as a responsible citizen you can't travel without a valid ticket.
9. (D) In such situation ailing guest is more important than others.
10. (B) As a responsible citizen you can't travel without a valid ticket.
11. (C) Your friend may be forgotten you must do your duty.
12. (D) In a party you must be polite and eat as per your capacity.
13. (C) In such a situation tactful management is required.
14. (B) The urgent need is to get the fuse repaired as quickly as possible.
15. (D) All the questions are equally important in an interview for a new job.
16. (C) Cold water is most helpful in burn injuries.
17. (B) As a front office in-charge he must be aware the status of guest at the same time he is to see that the hotel decorum is maintained.
18. (D) Security people are not supposed to know the status of the guest, so they should not be involved in such a situation. Hence front office man must intervene to prevent damage to hotel's reputation.
19. (A) It is expected that Mr. Aiyer will view things logically when he comes back to senses, then he should be requested to forget and forgive the incident.
20. (B) Should strike a balance between colleagues and Mr. P. No element of coercion for contribution.
21. (C) As a manager of a star category hotel he must see to the interest of the hotel, at the same time a regular clients' interest has to be safeguarded, special demand has to be met.
22. (D) As a manager of a star category hotel you should not be hostile even with the union people here, the best way is to misdirect the location of the board meeting, without raising suspicion to the union people.
23. (B) Restaurant manager is to serve the guests in befitting manner at the same time to help police as far as possible.
24. (A) You have to face the reality in cool brain. No hasty decision should be taken.
25. (D) Here the urgent need is to return the chain to its genuine owner. The only possible way to get such lost articles in a bus in the bus depot.

### SOME MORE PRACTICE TEST

#### Directions for Questions 1-4:

Read the following information and answer the questions that follow: *(Railways, 1993)*  
 Four young men Raj, Prem, Ved and Ashok are friendly with four girls. Sushma, Kusum, Vimla and Poonam. Sushma and Vimla are friends. Ved's girl friend does not like Sushma and Vimla. Kusum does not care for Ved. Prem's girl friend is friendly with Sushma. Sushma does not like Raj.

1. Who is Raj's girl friend?  
 (A) Sushma                      (B) Kusum                      (C) Vimla                      (D) Poonam
2. With whom is Sushma friendly?  
 (A) Raj                      (B) Prem                      (C) Ved                      (D) Ashok
3. Who is Poonam's boy friend?  
 (A) Ashok                      (B) Ved                      (C) Prem                      (D) Raj
4. Who does not like Sushma and Vimla?  
 (A) Poonam                      (B) Raj                      (C) Ashok                      (D) Ved
5. Ravi is not wearing white and Ajay is not wearing blue. Ravi and Sohan wear different colours. Sachin alone wears red. What is Sohan's colour, if all of them are wearing different colours?  
*(Central Exercise, 1992)*  
 (A) Red                      (B) Blue                      (C) White                      (D) Can't say
6. In a cricket season, India defeated Australia twice, West Indies defeated India twice, Australia defeated West Indies twice, India defeated New Zealand twice and West Indies defeated New Zealand twice. Which country has lost most number of times?  
*(I. Tax & Central Exercise, 1992)*  
 (A) India                      (B) Australia                      (C) New Zealand                      (D) West Indies

#### Directions for Questions 7-11:

Read the following information and answer the questions based on it. *(Bank P.O., 1996)*

In a school there were five teachers, A and B were teaching Hindi and English, C and B were teaching English and Geography. D and A were teaching mathematics and Hindi. E and B were teaching History and French.

7. Who among the teachers was teaching maximum number of subjects?  
 (A) A                      (B) B                      (C) C                      (D) D                      (E) E
8. Which of the following pairs was teaching both Geography and Hindi?  
 (A) A & B                      (B) B & C                      (C) C & A                      (D) D & B                      (E) None of these
9. More than two teachers were teaching which subject?  
 (A) History                      (B) Hindi                      (C) French                      (D) Geography                      (E) Mathematics
10. D, B and A were teaching which of the following subjects?  
 (A) English only                      (B) Hindi & English                      (C) Hindi only  
 (D) English & Geography                      (E) Mathematics & Hindi.
11. Who among the teachers was teaching less than two subjects?  
 (A) A                      (B) B                      (C) D                      (D) Data inadequate  
 (E) There is no such teacher.

#### Directions for Questions 12-16:

Read the following information carefully and answer the questions that follow:

*(Bank P.O., 1995)*

- (i) Five friends P, Q, R, S and T travelled to five different cities of Chennai, Kolkata, Delhi, Bangalore and Hyderabad by five different modes of transport of Bus, Train Aeroplane, Car and Boat from Mumbai.

- (ii) The person who travelled to Delhi did not travel by boat.  
 (iii) R went to Bangalore by car and Q went to Kolkata by aeroplane.  
 (iv) S travelled by boat whereas T travelled by train.  
 (v) Mumbai is not connected by bus to Delhi and Chennai.
12. Which of the following combinations of person and mode is not correct?  
 (A) P-bus (B) Q-aeroplane (C) R-car  
 (D) S-boat (E) T-aeroplane
13. Which of the following combinations is true for S?  
 (A) Delhi-bus (B) Chennai-bus (C) Chennai-boat  
 (D) Data inadequate (E) None of these.
14. Which of the following combinations of place and mode is not correct?  
 (A) Delhi-bus (B) Kolkata-aeroplane (C) Bangalore-car  
 (D) Chennai-boat (E) Hyderabad-bus.
15. The person travelling to Delhi went by which of the following modes?  
 (A) Bus (B) Train (C) Aeroplane  
 (D) Car (E) Boat
16. Who among the following travelled to Delhi?  
 (A) R (B) S (C) T  
 (D) Data inadequate (E) None of these

**Directions for Questions 17-21:**

Study the following information carefully and answer the questions that follow: (M.B.A., 1997)

Madhu and Shobha are good in Dramatics and Computer Science.

Anjali and Madhu are good in Computer Science and Physics.

Anjali, Poonam and Nisha are good in Physics and History.

Nisha and Anjali are good in Physics and Mathematics.

Poonam and Shobha are good in History and Dramatics.

17. Who is good in Computer Science, History and Dramatics?  
 (A) Anjali (B) Madhu (C) Shobha (D) Nisha
18. Who is good in Physics, Dramatics and Computer Science?  
 (A) Shobha (B) Poonam (C) Madhu (D) Anjali
19. Who is good in Physics, History and Dramatics?  
 (A) Poonam (B) Shobha (C) Madhu (D) Anjali
20. Who is good in History, Physics, Computer Science and Mathematics?  
 (A) Poonam (B) Nisha (C) Madhu (D) Anjali
21. Who is good in Physics, History and Mathematics but not in Computer Science?  
 (A) Madhu (B) Poonam (C) Nisha (D) Anjali

**Directions for Questions 22-26:**

Study the given information carefully and answer the questions that follow: (L.I.C., 1994)

- (i) A, B, C, D, E, F and G are sitting on a wall and all of them are facing east.  
 (ii) C is on the immediate right of D.  
 (iii) B is at an extreme end and has E as his neighbour.  
 (iv) G is between E and F.  
 (v) D is sitting third from the South end.
22. Who is sitting to the right of E?  
 (A) A (B) C (C) D  
 (D) F (E) None of these.



23. Which of the following pairs of people are sitting at the extreme ends?  
 (A) AB (B) AE (C) CB (D) FB  
 (E) cannot be determined.
24. Name the person who should change places with C such that he get the third place from the north end.  
 (A) E (B) F (C) G (D) D
25. Immediately between which of the following pairs of people is D sitting?  
 (A) AC (B) AF (C) CE (D) CF  
 (E) None of these.
26. Which of the conditions (i) to (v) given above is not required to find out the place in which A is sitting?  
 (A) (i) (B) (ii) (C) (iii) (D) All are required  
 (E) None of these

**Directions for Questions 27-31:**

Read the following information carefully and answer the questions given below it.

(Bank P.O., 1995)

- (i) Eight persons E, F, G, H, I, J, K and L are seated around a square table two on each side.  
 (ii) There are three lady members and they are not seated next to each other.  
 (iii) J is between L and F.  
 (iv) G is between I and F.  
 (v) H, a lady member is second to the left of J.  
 (vi) F, a male member is seated opposite E, a lady member.  
 (vii) There is a lady member between F and I.
27. Who among the following is seated between E and H?  
 (A) F (B) I (C) J  
 (D) Cannot be determined (E) None of these.
28. How many persons are seated between K and F?  
 (A) One (B) Two (C) Three  
 (D) Cannot be determined (E) None of these.
29. Who among the following are the three lady members?  
 (A) E, G and J (B) E, H & G (C) G, H & J  
 (D) Cannot be determined (E) None of these.
30. Who among the following is to the immediate left of F?  
 (A) G (B) I (C) J  
 (D) Cannot be determined (E) None of these.
31. Which of the following is true about J?  
 (A) J is a male member (B) J is a female member  
 (C) Sex of J cannot be determined  
 (D) Position of J cannot be determined  
 (E) None of these.
32. A group of eight members sit in a circle. D is between A and F and is opposite to G. E is to the right of A but on the left of C, whose right hand neighbour is G. B enjoys having H to his left and F to his right. Find the member who is diagonally opposite to A. (Central Exercise, 1995)  
 (A) B (B) F (C) G (D) H

**Directions for Questions 33 & 34:**

On the basis of the information given below, answer questions 33 and 34.

(S.B.I. P.O., 1995)

Eight friends A, B, C, D, E, F, G and H are sitting in a circle facing the centre. B is sitting between G and D. H is third to the left of B and second to the right of A. C is sitting between A and G and B and E are not sitting opposite to each other.

33. Who is third to the left of D?  
 (A) A (B) E (C) F  
 (D) Cannot be determined (E) None of these
34. Which of the following statements is correct?  
 (A) C is third to the right of D. (B) A is sitting between C and F.  
 (C) D and A are sitting opposite to each other. (D) E is sitting between F and D.  
 (E) E and C are sitting opposite to each other.

**Directions for Questions 35 & 36:**

The following questions are based on the information given below: (S.B.I. P.O., 1995)

- (i) Seven books are placed one above the other in a particular way.  
 (ii) History book is placed exactly above Civics book.  
 (iii) Geography book is fourth from the bottom and English book is fifth from the top.  
 (iv) There are two books in between Civics and Economics books.
35. How many books are there between Civics and Science books? To answer this question, which other extra information is required, if any, from the following? (S.B.I. P.O., 1995)  
 (A) There are two books between Geography and Science books.  
 (B) There are two books between Mathematics and Geography books.  
 (C) There is one book between English and Science books.  
 (D) The Civics book is before two books above Economics book.  
 (E) No other information required.
36. Out of the following which three books are kept above English book?  
 (A) The Economics book is between English and Science books.  
 (B) There are two books between English and History books.  
 (C) The Geography book is above English book.  
 (D) The Science book is placed at the top.  
 (E) No other information is required.

**Directions for Questions 37-41:**

Read the following information carefully and answer the questions given below it: (MAT, 1997)

Seven friends Kamala, Manish, Rohit, Amit, Gaurav, Pritam and Priya are sitting in a circle. Kamala, Manish, Rohit, Amit, Pritam and Priya are sitting at equal distances from each other.

Rohit is sitting two places right of Pritam, who is sitting one place right of Amit. Kamala forms an angle of 90 degrees from Gaurav and an angle of 120 degrees from Manish. Manish is just opposite to Priya and is sitting on the left of Gaurav.

37. Who is only person sitting between Rohit and Manish?  
 (A) Pritam (B) Amit (C) Gaurav (D) Kamala
38. Gaurav is not sitting at equal distances from  
 (A) Rohit and Pritam (B) Amit and Kamala  
 (C) Manish and Pritam (D) All of the above.
39. Gaurav is sitting ..... Priya  
 (A) to the left of (B) to the right of  
 (C) two places right of (D) None of these.
40. The angle between Gaurav and Manish in the clockwise direction is  
 (A) 150° (B) 180° (C) 210° (D) None of these.



41. Which of the following statements is not correct?

- (A) Pritam is between Manish and Kamala.
- (B) Manish is two places away from Priya.
- (C) Gaurav is sitting opposite to Pritam.
- (D) All of the above.

**Directions for Questions 42-46:**

Read the following information carefully and answer the questions given below it:

*(Bank P.O., 1991)*

In a car exhibition, seven cars of seven different companies viz. Cadillac, Ambassador, Fiat, Maruti, Mercedes, Bedford and Fargo were displayed in a row, facing east such that:

- (i) Cadillac car was to the immediate right of Fargo.
  - (ii) Fargo was fourth to the right of Fiat.
  - (iii) Maruti car was between Ambassador and Bedford.
  - (iv) Fiat, which was third to the left of Ambassador car, was at one of the ends.
42. Which of the following was the correct position of the Mercedes?
- (A) Immediate right of Cadillac
  - (B) Immediate left of Bedford
  - (C) Between Bedford and Fargo
  - (D) Fourth to the right of Maruti
  - (E) None of these.
43. Which of the following is definitely true?
- (A) Fargo car is between Ambassador and Fiat.
  - (B) Cadillac car is to the immediate left of Mercedes.
  - (C) Fargo is the immediate right of Cadillac.
  - (D) Maruti is fourth to the right of Mercedes.
  - (E) None of these.
44. Which cars are on the immediate either sides of the Cadillac car?
- (A) Ambassador and Maruti
  - (B) Maruti and Fiat
  - (C) Fiat and Mercedes
  - (D) Ambassador and Fargo
  - (E) None of these.
45. Which of the following is definitely true?
- (A) Maruti is to the immediate left of Ambassador.
  - (B) Bedford is to the immediate left of Fiat.
  - (C) Bedford is at one of the ends.
  - (D) Fiat is second to the right of Maruti.
  - (E) None of these.
46. Which of the following groups of cars is to the right of the Ambassador car?
- (A) Cadillac, Fargo and Maruti
  - (B) Maruti, Bedford and Fiat
  - (C) Mercedes, Cadillac and Fargo
  - (D) Bedford, Cadillac and Fargo.

**Directions for Questions 47-51:**

Study the following information given below and answer the questions that follow:

*(Bank P.O., 1995)*

- (i) A, B, C, D, E are six students in a class.
- (ii) B and C are shorter than F but heavier than A.
- (iii) D is heavier than B but taller than C.
- (iv) E is shorter than D but taller than F.
- (v) F is heavier than D.
- (vi) A is shorter than E but taller than F.

47. Who is the tallest of all?  
 (A) A (B) B (C) D (D) E (E) None of these.
48. Who is third from the top when they are arranged in descending order of height?  
 (A) A (B) B (C) C (D) E (E) None of these.
49. Which of the following groups of friends is shorter than A?  
 (A) B, C only (B) B, C, D only (C) B, C, E only  
 (D) B, C, F only (E) None of these.
50. Who among them is the lightest?  
 (A) A (B) B (C) C  
 (D) E (E) Data inadequate.
51. Which of the following statements is true for F as regards height and weight?  
 (A) He is lighter as well as taller than E.  
 (B) He is heavier than B and taller than E.  
 (C) He is heavier than B and C but shorter than D.  
 (D) He is lighter than E and also shorter than E.  
 (E) He is lighter than B and C but taller than D.
52. Sudhanshu is as much older than Kokila as he is younger than Praveen. Nitin is as old as Kokila. Which of the following statements is wrong? *(Bank P.O., 1995)*  
 (A) Kokila is younger than Praveen.  
 (B) Nitin is younger than Praveen.  
 (C) Sudhanshu is older than Nitin.  
 (D) Praveen is not the oldest.  
 (E) Kokila is younger than Sudhanshu.
53. Among five boys Vineet is taller than Manik, but not as tall as Ravi. Jacob is taller than Dilip but shorter than Manik. Who is the tallest in this group? *(NABARD, 1994)*  
 (A) Ravi (B) Manik (C) Vineet  
 (D) Cannot be determined (E) None of these
54. If P is taller than Q, R is shorter than P, S is taller than T but shorter than Q, then who among them is the tallest? *(B.S.R.B., 1995)*  
 (A) P (B) Q (C) S  
 (D) T (E) Cannot be determined.
55. Pune is bigger than Jhansi, Sitapur is bigger than Chittor. Rajgrah is not as big as Jhansi, but is bigger than Sitapur. Which is the smallest? *(Railways, 1994)*  
 (A) Pune (B) Jhansi (C) Sitapur (D) Chittor
56. In an examination, Raj got more marks than Mukesh but not as many as Priya. Priya got more marks than Gaurav and Kavita. Gaurav got less marks than Mukesh but his marks are not the lowest in the group. Who is second in descending order of marks? *(Bank P.O., 1997)*  
 (A) Priya (B) Kavita (C) Raj  
 (D) Cannot be determined (E) None of these
57. A is elder to B while C and D are elder to E who lies between A and C. If C be elder to B, which one of the following statements is necessarily true? *(Hotel Management, 1995)*  
 (A) A is elder to C (B) C is elder to D  
 (C) D is elder to C (D) E is elder to B.
58. If X knows more than A, Y knows as much as B, Z knows less than C and A knows more than Y, then best knowledgeable person amongst all is: *(S.C.R.A., 1996)*  
 (A) X (B) Y (C) A (D) C
59. Five children were administered Psychological tests to know their intellectual levels. In the report Psychologists pointed out that the child A is less intelligent than the child B. The child

C is less intelligent than the child D. The child B is less intelligent than the child C and the child A is more intelligent than the child E. Which child is the most intelligent? (Bank P.O., 1996)

- (A) A (B) B (C) D (D) E (E) None of these

The following information for the question 60-63; read them carefully and answer the questions:  
(M.B.A., 1997)

A \* B means A and B are of same age.

A - B means B is younger than A.

A + B means A is younger than B.

60. Sachin \* Madan - Reena means  
(A) Reena is the youngest (B) Reena is the oldest  
(C) Madan is younger than Reena (D) None of these.
61. X + Y + Z is same as  
(A) Y - X - Z (B) Z - Y - X  
(C) Z - X - Y (D) None of these
62. For an expression Farha-Farida-Arif which of the following cannot be correct under any circumstances?  
(A) Arif is the father of Farha  
(B) Arif is the younger brother of Farha  
(C) Farha is the mother of both Arif and Farida  
(D) None of these
63. Deven - Shashi \* Hemant is opposite to  
(i) Hemant + Shashi + Deven (ii) Hemant - Shashi + Deven (iii) Shashi \* Hemant + Deven  
(A) (i) only (B) (i) & (ii) only (C) (ii) and (iii) only (D) None of these

#### Answers and Explanations:

1. (B), 2. (D), 3. (B), 4. (A)

If we analyse the information given we get,

- (i) Ved's girlfriend does not like Sushama and Vimla and Kusum does not care Ved, *so only lady left is Poonam, who must be the girlfriend of Ved.*
- (ii) Sushma and Vimla are friends and Prem's girlfriend is friendly with Sushma, *so Prem's girl friend is Vimla.*
- (iii) Sushma does not like Raj, *so Raj's girlfriend must be Kusum and Sushma is Ashok's girl friend.*
5. (D) Can't say. If we draw like this.

Colour	Red	Blue	White	?
Person	Sachin	Ravi or Sohan	Ajay or Sohan	Ravi or Ajay or Sohan

So, from the figure it is not clear which is the fourth colour, and except Sachin, nobody's colour is clear. Hence, the data is inadequate.

6. (C) New Zealand. Australia was defeated twice by India.  
India was defeated twice by West Indies.  
West Indies was defeated twice by Australia.  
New Zealand was defeated twice by India and twice by West Indies, so altogether four times.
7. (B), 8. (E), 9. (B), 10. (C), 11. (E)

If we make a diagram of the information given in the following way it would be easier to answer the questions.

Subjects →	English	Hindi	Geography	Mathematics	History	French
Teachers ↓						
A	✓	✓		✓		
B	✓	✓	✓		✓	✓
C	✓		✓			
D		✓		✓		
E					✓	✓

It is clear from the figure that 'B' teaches the maximum number of subjects that is 5. Only 'B' teaches Hindi and Geography. Three teachers were teaching Hindi and English, but as the option English is not there, Hindi is the correct answer. A, B and D were teaching only Hindi. There was no such teacher who was teaching less than two subjects.

12. (E), 13. (C), 14. (A), 15. (B), 16. (C).

If we draw a diagram according to the information in the following way, we can get the answers easily.

Person	Mode	Place
P	Bus	Hyderabad
Q	Aeroplane	Kolkata
R	Car	Bangalore
S	Boat	Chennai
T	Train	Delhi

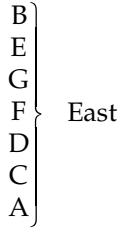
17. (C), 18. (C), 19. (A), 20. (D), 21. (C).

The following diagram can be drawn from the given information.

Subjects →	Comp. Sc.	History	Dramatics	Physics	Mathematics
Persons ↓					
Madhu	✓		✓	✓	
Shobha	✓	✓	✓		
Anjali	✓	✓		✓	✓
Poonam		✓	✓	✓	
Nisha		✓		✓	✓

For questions 22-26 if we draw a diagram like this as per information given we find:

North

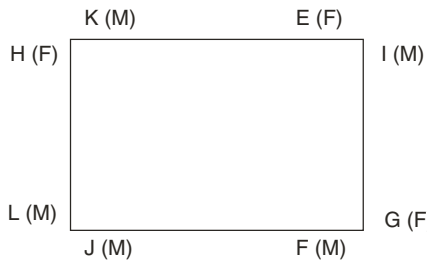


As D is third from south end and C is immediate right of D. As, 'B' is at an extreme-end and its neighbour is E and G is in between E and F, there is no such scope at the south end, so 'B' must be at the north end and A is at the south end.

South

22. (E) None of these. As G is sitting right of E.
23. (A) AB. A and B are sitting at the extreme ends.
24. (C) G. G should change place with C to make it third from north.
25. (D) CF. D is sitting between C and F.
26. (D) All are required. All the conditions (i) to (v) are required to determine the correct sequence.

For questions 27-31 if we draw a diagram as per information given we find:



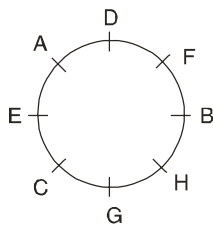
J is between L and F and G is between I and F.

H is second to the left of J, i.e. besides L.

From here we got the sequence from left to right is H, L, J, F, G and I.

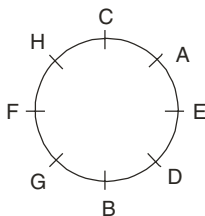
H is a female member and E is sitting opposite to F, a male member. So the member 'G' sitting between F and I is a female.

27. (E) None of these. From the diagram it is clear that K is between E and H.
28. (C) Three. There are three persons - H, L and J, are between K and F.
29. (B) E, H and G. The lady members are E, H and G.
30. (C) J. Immediate left of F is J.
31. (A) J is a male member. As there are only three female members, eg., E, H and G, J must be a male member.
32. (D) H. If we draw the circular arrangement as per information we have:



So, clearly, H is diagonally opposite to A.

For question 33 and 34 if we draw the sitting arrangements as per information given we get:

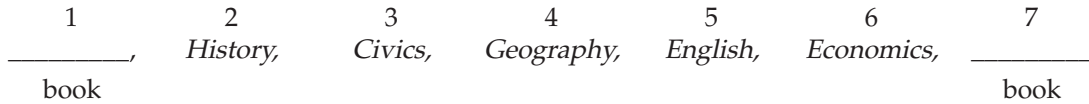


B is between G and D, H is third to the left of B and second to the right of A. C is between A and G, but as E is not opposite of B, C must be between A and H, i.e. opposite of B. F must be between G and H and E is between A and D.

33. (C) F. Clearly F is third to the left of D.

34. (A) C is third to the right of D. This is only true statement, others are false.

For questions 35 and 36 if we arrange the books as per information the sequence will be:

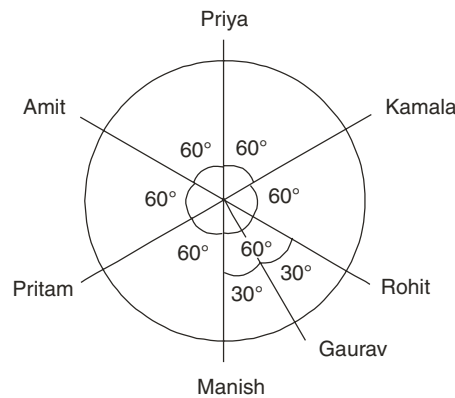


35. (C) There is one book between English and Science books.

From (C) it is clear that science book is placed in the 7th or last position. Thus we know that there are three books between Civics and Science books.

36. (E) No other information is required. From the sequence it is clear that History, Civics and Geography are three books kept above English. So, no other extra information required to answer the question.

For questions 37-41, if we draw a diagram as per information given we find:



37. (C) Gaurav.

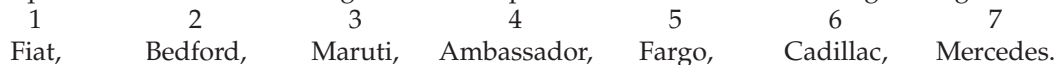
38. (D) All of the above. Gaurav is sitting not equal distances from Rohit and Pritam, or Amit and Kamala or Manish and Pritam.

39. (D) None of these. Gaurav is sitting three places right of Priya.

40. (D) None of these. The angle is 30°.

41. (D) All the above. All the statements are not correct.

For questions 42-46 if we arrange the cars as per information from left to right we get:



42. (D) Fourth to the right of Maruti. It is clear from the above sequence that Mercedes is in 7th position, i.e. fourth to the right of Maruti.

43. (B) Cadillac car is immediately left of Mercedes.

44. (E) None of these. On either side of Cadillac car are Fargo and Mercedes.

45. (A) Maruti is to the immediate left of Ambassador.

46. (C) Mercedes, Cadillac and Fargo.

For questions 47-51: As per information

For Height

$B < F, C < F, C < D, E < D, F < E, A < E$  and  $F < A$

or  $C < F < E < D, B < F, F < A < E.$

or  $B < C < F < A < E < D$  or  $C < B < F < A < E < D.$

For weight

$A < B$ ,  $A < C$ ,  $B < D$ ,  $D < F$  or  $A < B < D < F$ ,  $A < C$ .  
or  $A < C < B < D < F$  or  $A < B < C < D < F$  or  $A < B < D < C < F$ .

47. (C) D. D is the tallest.
48. (A) A. A is third from the top in descending order of height.
49. (D) B, C, F. Clearly B, C and F are shorter than A.
50. (E) Data inadequate. Data is inadequate here as the E's weight is not given.
51. (C) F is heavier than B and C, but shorter than D.
52. (D) Praveen is the oldest. From the information we have, Nitin = Kokila < Sudhanshu < Praveen.
53. (A) Ravi. From the information sequence becomes Ravi > Vineet > Manick > Jacob > Dilip.
54. (A) P. From the information the sequence becomes either  $P > R > Q > S > T$  or  $P > Q > R > S > T$ .
55. (D) Chittor. From the information the sequence becomes Pune > Jhansi > Rajgarh > Sitapur > Chittor.
56. (C) Raj. In terms of marks obtained the descending order of merit of the persons is Priya > Raj > Mukesh > Gaurav > Kavita (as Gaurav's marks are not the lowest). So, Raj is second.
57. (D) E is elder to B. From the information the sequence becomes either  $D > C > E > A > B$  or  $C > D > E > B$ .  
So E must be elder to B.
58. (A) X. From this information the sequence becomes  $X > A > Y = B > C > Z$ . So, X is the best knowledgeable person.
59. (C) D. The sequence becomes  $D > C > B > A > E$ .
60. (A) Reena is the youngest. Since Sachin \* Madan – Reena means Sachin and Madan are of same age and Reena is younger than Madan and thereby Sachin. So, Reena is the youngest.
61. (B) Z-Y-X.  $X+Y+Z$  means X is younger than Y and Y is younger than Z, similarly Z-Y-X also means the same.
62. (A) Arif is the father of Farah. Farha–Farida–Arif means Farida is younger than Farha and Arif is younger than Farida, so, Arif cannot be the father of Farha, as Arif is younger than Farah.
63. (D) None of these. Deven–Shashi \* Hemanta means Sashi is younger than Deven and Sashi and Hemant are of same age, so Deven is the oldest. Its opposite would be Deven is the youngest whose sequence would be Shashi \* Hemant – Deven, which is not present in the alternative answers, hence, none of these.

## 5.8 SEQUENTIAL ORDER OF EVENTS

In this type of questions, some clues are given regarding the sequential order of happenings of some events. You are to study these information and find out the right sequence of occurrence for answering these questions.

### Examples:

#### Directions for Questions 1-5:

Study the following informations carefully and answer the questions that follow:

A medical representative plans to visit each of the six doctors A, B, C, D, E and F exactly once during the course of one day. He is setting up his schedule for the day according to the following conditions:

- (i) He must visit A before B and E.  
 (ii) He must visit B before D.  
 (iii) The third doctor he visits must be C.
- If the representative visits F first, which doctor must he visit second?  
 (A) A (B) B (C) C (D) D (E) E.
  - Which of the following must be true of his schedule?  
 (A) He visits B before E. (B) He visits C before A.  
 (C) He visits A before D. (D) He visits C before F.  
 (E) He visits D before E.
  - He could visit anyone of the following doctors immediately after C except:  
 (A) E (B) A (C) B (D) F (E) D
  - If the representative visits D immediately before E and immediately after F, he must visit D  
 (A) first (B) second (C) fourth (D) fifth (E) sixth
  - Which of the following should be the order in which the representative visits the six doctors?  
 (A) D, B, C, E, F, A (B) A, E, B, D, C, F  
 (C) C, F, A, E, D, B (D) C, E, A, B, D, F  
 (E) A, F, C, B, E, D.

**Answers and Explanations:**

- (A) Of the six doctors if F is first, C is third and the orders A, B, D, E should follow. So, A must be visited second.
- (C) From condition (i) and (ii) we find that, he visits A before B and B before D, so he must visit A before D.
- (B) Since C is at third place and order A, B, D, E are to be followed, so immediately after visiting C he can visit any doctor except A because A may occupy first or second place before B, D, E & F.
- (D) If D is visited immediately before E and immediately after F and C is to be visited third always, the sequence will be A, B, C, F, D, E. So, D will be in fifth position.
- (E) As per condition C must be third and position of A, B and D must not be violated, and following all these conditions the only arrangement or order must be A, F, C, B, E, D.

**PRACTICE QUESTIONS****Directions for Questions 1-4:**

Read the following information carefully and answer the questions given below it.

(S.B.I. P.O., 1997)

- Eight doctors P, Q, R, S, T, U, V and W visit a charitable dispensary every day except on a holiday i.e. Monday.
  - Each doctor visits for one hour from Tuesday to Sunday except Saturday. The timings are 9 a.m. to 1 p.m. and 2 p.m. to 6 p.m.; 1 p.m. to 2 p.m. is lunch break.
  - On Saturday, it is open only in the morning i.e. 9 a.m. to 1 p.m. and each doctor visits for only half an hour.
  - No other doctor visits the dispensary before doctor Q and after doctor U.
  - Doctor W comes immediately after lunch break and is followed by R.
  - S comes in the same order as P in the afternoon session.
- Doctor P visits in between which of the following pairs of doctors?  
 (A) S and V (B) U and W (C) R and W (D) R and U (E) None of these.



2. At what time the visit of doctor R is over on Sunday?  
(A) 1 P.M. (B) 3 P.M. (C) 4 P.M. (D) 5 P.M. (E) None of these.
3. At what time the visit of doctor T would be over on Saturday?  
(A) 10 A.M. (B) 11 A.M. (C) Either 10 A.M. or 11 A.M.  
(D) Data inadequate (E) None of these.
4. If the lunch break and subsequent visiting hours are reduced by 15 minutes, at what time Doctor U is expected to attend the dispensary?  
(A) 3.15 P.M. (B) 4 P.M. (C) 4.15 P.M. (D) 4.45 P.M. (E) None of these.
5. Five boys took part in a race. Raj finished before Mohit and behind Gaurav. Ashish finished before Sanchit but behind Mohit. Who won the race? (I. Tax and Central Exercise, 1995)  
(A) Raj (B) Gaurav (C) Mohit (D) Ashish

**Directions for Questions 6-10:**

Read the following information to answer the given questions.

The Director of the Institute has announced that six guest lectures on different areas like Leadership, Decision Making, Quality Circles, Motivation, Assessment Centre and Group Discussion are to be organised only one on each day from Monday to Sunday.

(Bank P.O., 1996)

- (i) Motivation should be organised immediately after Assessment Centre.
  - (ii) Quality Circle should be organised on Wednesday and should not be followed by Group Discussion.
  - (iii) Decision Making should be organised on Friday and there should be a gap of two days between Leadership and Group Discussion.
  - (iv) One day there will be no lecture (Saturday is not that day), just before that day Group Discussion will be organised.
6. Which of the pairs of lectures were organised on first and last day?  
(A) Quality Circle & Motivation (B) Group Discussion & Quality Circle  
(C) Group Discussion & Decision Making (D) Leadership & Assessment Centre.  
(E) None of these.
  7. How many lectures are organised between Motivation and Quality Circle?  
(A) One (B) Two (C) Three (D) Four (E) None of these.
  8. Which day will lecture on Leadership be organised?  
(A) Tuesday (B) Wednesday (C) Friday (D) Saturday (E) None of these
  9. On which day there is no lecture?  
(A) Sunday (B) Monday (C) Tuesday (D) Wednesday (E) None of these.
  10. Which of the following information is not required for the above lecture arrangements?  
(A) only (i) (B) only (ii) (C) only (iii) (D) only (iv) (E) All are required.

**Directions for Questions 11-13:**

Read the following information carefully and answer the questions that follow. (Bank P.O. 1995)

Five plays A, B, C, D and E are to be staged from Monday to Friday of a week. On each day, only one play will be staged. D or E should not be either the first or last to be staged. E should be immediately followed by C. B should be staged immediately after D. One play is staged between A and B.

11. Which is the first play to be staged?  
(A) A (B) B (C) C (D) Cannot be determined  
(E) None of these.
12. Which of the following is the correct sequence of staging all the plays?  
(A) ADBCE (B) AECDB (C) BDAEC (D) DBECA (E) None of these.

13. Which play was staged on Wednesday?  
 (A) A (B) B (C) Either B or C (D) Cannot be determined  
 (E) None of these.

**Directions for Questions 14-18:**

Read the following information carefully and answer the questions that follow. (S.B.I. P.O., 1994)  
 Six lectures A, B, C, D, E and F are to be organised in a span of seven days from Sunday to Saturday, only one lecture on each day in accordance with the following:

- (i) A should not be organised on Thursday.
  - (ii) C should be organised immediately after F.
  - (iii) There should be a gap of two days between E and D.
  - (iv) One day there will be no lecture (Friday is not that day) just before that D will be organised.
  - (v) B should be organised on Tuesday and should not be followed by D.
14. On which day there is no lecture?  
 (A) Monday (B) Friday (C) Sunday (D) Cannot be determined  
 (E) None of these.
15. How many lectures are organised between C and D?  
 (A) None (B) One (C) Two (D) Three  
 (E) None of these.
16. Which day will the lecture F be organised?  
 (A) Thursday (B) Friday (C) Saturday (D) Sunday  
 (E) None of these.
17. Which of the following is the last lecture of the series?  
 (A) A (B) B (C) C  
 (D) Cannot be determined (E) None of these.
18. Which of the following information is not required in finding the complete sequence of organisation of lectures?  
 (A) (i) only (B) (ii) only (C) (i) and (ii) only  
 (D) (v) only (E) All are required.

**Directions for Questions 19 & 20:**

Read the following information carefully and answer questions 19 and 20 based on it.

(Bank P.O. 1997)

Seven executives P, Q, R, S, T, U and W reach office in a particular sequence. U reaches immediately before P but does not immediately follow S. R is the last one to reach office. T follows immediately after P and is subsequently followed by W.

19. Among the executives, who reaches of the office first?  
 (A) Q (B) S (C) U  
 (D) Cannot be determined (E) None of these.
20. Who ranks fourth in the sequence of reaching office?  
 (A) W (B) U (C) T (D) P (E) None of these.

**Answers and Explanations:**

**For Questions 1-4:**

From information (iv) we find Q visits first and U visits last, from (v), we find, W visits immediately after lunch and is followed by R and from (vi), we find, that P visits after lunch break and S in the morning session. So the sequence of visit after lunch break becomes WRPU and in the morning session of Q, V or T, S, T or V.

1. (D) Clearly P visits between R and U.
2. (C) After lunch break W visits from 2 P.M.-3 P.M. and R from 3 P.M.-4 P.M., so the visit of Dr. R is over at 4 P.M.
3. (C) Clearly T visits either 2nd or fourth in the morning session and as on Saturday each doctor visits only for half an hour, T's visit will be over either at 10 A.M. or at 11 A.M.
4. (B) Then, after lunch break W will visit at 1:45 P.M., R at 2:30 P.M., P at 3:15 P.M. and U at 4 P.M.
5. (B) From the information we find Raj finished before Mohit but behind Gaurav, so the sequence is Gaurav, Raj, Mohit. Again Ashish finished before Sanchit but behind Mohit; so the sequence is Gaurav, Raj, Mohit, Ashish and Sanchit. So Gaurav comes first.

**For Questions 6-10:**

If we draw the following chart from the information given we get.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Group Discussion	No lecture	Quality Circle	Leadership	Decision Making	Assessment Centre	Motivation

6. (E) Clearly from the chart Group Discussion is first and Motivation is last.
7. (C) There are three lectures between motivation and Quality circle.
8. (E) Lecture on Leadership is on Thursday.
9. (C) There is no lecture on Tuesday.
10. (E) All the informations are required for the arrangement.

**For Questions 11-13:**

From the information we find D or E should not be either first or last, and E should be immediately followed by C. B should be immediately after D and one play is staged between A and B. So the sequence would be

Monday	Tuesday	Wednesday	Thursday	Friday
A	D	B	E	C

11. (A) A is 1st play to be staged.
12. (E) The correct order is ADBEC.
13. (B) B was staged on Wednesday.

**For Questions 14-18:**

From the information given we find B is organised on Tuesday and should not be followed by D. D is followed by the day with no lecture. There should be a gap of two days between D and E. D cannot be organised on Thursday as Friday would not be a no lecture day. B cannot be followed by D. So, D will be organised on Sunday and A on Saturday. So the sequence will be

Sun	Mon	Tue	Wed	Thurs	Fri	Sat
D	X	B	E	F	C	A

14. (A) There is no lecture on Monday.
15. (D) Three lectures between C & D – B, E and F.
16. (A) F is organised on Thursday.

17. (A) A is the last lecture of the series.  
 18. (E) All the informations are required in finding the sequence.

**For Questions 19 & 20:**

From the information we find U is followed by P, P by T and T by W and R is last and U does not immediately follow S, so the sequence is S, Q, U, P, T, W, R.

19. (B) S reaches first in the office.  
 20. (D) P is fourth in the sequence.

## 5.9 SOME PUZZLE PROBLEMS

### A. Condition based Problems:

In this type of question certain conditions are given for selection of items. You are to keep these conditions in mind and make the required selection as per directions given for each question.

**Example:**

Study the following information carefully and answer the question given below it.

In an office some committees are to set up from among its eleven staff members consisting of U.D.clerks, L.D.clerks and Section officers. Among them five are males A, B, C, D and E and six females P, Q, R, S, T and U. Among them A, B and R are section officers, P, Q, S, C and D are U.D. clerks and the rest are L.D. clerks. The conditions are:

- (i) U, A and P have to be together.
  - (ii) E and Q have to be together.
  - (iii) C and T have to be together.
  - (iv) D and P cannot go together.
  - (v) B cannot go with D or R.
  - (vi) C cannot go with Q.
1. If the team consist of one section officer, two U.D.clerks, three L.D.clerks and C may not go with T, the members of the team are  
 (A) BEQSTU    (B) EQRSTU    (C) AEPQSU    (D) AEPQTU
  2. If the team is to consist of two section officers, two female U.D.clerks and one L.D.clerk the members of the team are:  
 (A) ABPQU    (B) ABPSU    (C) APRSU    (D) BEQRS
  3. If the team is to consist of one male section officer, one male U.D.clerk, one female U.D. clerk and two L.D.clerks, the numbers of the team are:  
 (A) ACPTU    (B) ADEPU    (C) BCEQU    (D) ADEPT
  4. If the team is to consist of one section officer, three U.D.clerks, and one male L.D.clerk, the members of the team are:  
 (A) ADPSU    (B) CDRST    (C) DEQRS    (D) DEQRT
  5. If the team is to consist of two section officers, two U.D.clerks, two L.D.clerks and not more than three females, the members of the team are  
 (A) ACPRTU    (B) ABEQRT    (C) AEPQRT    (D) ABCPTU

**Answers and Explanations:**

From information we get A and B are two male section officers and R is only female section officer. C and D are two male U.D. clerks, P, Q and S are three female U.D. clerks. E is only male L.D.clerk and T & U are two female L.D.clerks.

1. (D) The team consists of 3 L.D.clerks, E, T and U. A, P and U have to be together, E and Q

- have to be together. So the team will be AEPQTU.
2. (B) The team consists of A, B two section officers, A, P, U have to be together. P is an U.D. clerk and U is a L.D. clerk. So we have to select another female U.D.clerk from Q and S. But if we take Q we must also take E, as per condition. So, we can select S here. So the team will be ABPUS.
  3. (A) If A is selected P and U will be selected, D and P cannot go together, so a male U.D.clerk C will be selected and since C and T will be together, T will come and the team will be ACPTU. The team can also be BCEQT, but as there is no such alternative, the former team is given in alternative (A) is chosen.
  4. (C) The only male L.D.clerk is E, so he will be selected, Q should also be selected. Since U is not selected A and P cannot be selected, since C cannot go with Q, C cannot be selected, so D and S may be selected. Since B cannot go with D or R, as B cannot be selected. So only section officer left is R is to be selected. So the team will be DEQRS.
  5. (D) Here alternatives (A) and (C) are wrong as both these teams have more than three female members. Alternative (B) is also correct as B cannot go with R and A must be with P and U. So (D) is the correct alternative.

### B. Jumbled or Mixed Problem Type:

In these question some mixed or jumbled clues regarding more than three qualities of a person or thing are given. You are to analyse these information with respect to different qualities before answering these questions.

#### Example:

Read the following information carefully and answer the questions (1-5) that follow:

- (i) Among the five group of persons – P, Q, R, S and T, one is a psychologist, one is a chemist, one is a doctor, one is a businessman and one is a teacher.
- (ii) Three of them P, R and the teacher are smokers and two of them – Q and the doctor are non-smokers.
- (iii) The businessman and S and P are friends to one another but two of them are not smokers.
- (iv) The Psychologist is R's brother.

1. Who is a Psychologist?

- (A) P                      (B) Q                      (C) R                      (D) S                      (E) T.

2. Who is the businessman?

- (A) T                      (B) S                      (C) R                      (D) Q                      (E) P.

3. Which of the following groups includes a person who is smoker but is not a teacher?

- (A) PRT                      (B) ST                      (C) QRT                      (D) QS                      (E) None of

these.

4. Who is the chemist?

- (A) P                      (B) Q                      (C) R                      (D) S                      (E) T.

5. Which of the above statements is superfluous?

- (A) (i)                      (B) (ii)                      (C) (iii)                      (D) (iv)                      (E) None.

#### Answers and Explanations:

From the information we find:

P, R and the teacher are smokers and Q and the doctor are non-smokers. Again the businessman, S and P are friends and two of them are non-smokers. Here, it is clear that S and the businessman are non-smokers as P is a smoker. So, Q is a businessman and S is a doctor.

Now among P, R and the teacher remain. Clearly, T is the teacher. Psychologist is R's brother, so P should be the psychologist and R is a chemist.

Now we may draw a chart like this

Person	P	R	S	Q	T
Profession	Psychologist	Chemist	Doctor	Businessman	Teacher
Preference	Smoker	Smoker	Non-Smoker	Non-Smoker	Smoker

- (A) P is the psychologist.
- (D) Q is the businessman.
- (E) Clearly P and R are smokers, but are not teachers.
- (C) R is the chemist.
- (E) All the statements are required for answering the questions and none of them are superfluous.

### PRACTICE TESTS

Directions for questions 1-3: Read the following information carefully and answer the questions given below it: *(Bank P.O., 1996)*

Eight students A, B, C, D, E, F, G and H are planning to enjoy a car racing. There are only two cars and following are the conditions:

- One car can accommodate maximum five and minimum four students.
  - A will sit in the same car in which D is sitting but H is not sitting in the same car.
  - B and C can't sit in the same car in which D is sitting.
  - F will sit in the car of four people only along with A and E but certainly not with G.
- If H and G are sitting in the same car, who are the other two students sitting in the same car?  
 (A) B & C (B) C & D (C) B & D  
 (D) E & B (E) None of these.
  - If A & E are sitting in the same car, which of the following statements is true?  
 (A) Five students are sitting in the same car. (B) B is sitting in the same car.  
 (C) F is not sitting in the same car. (D) G is not sitting in the same car.  
 (E) None of these.
  - Which of the following statements is superfluous for the above sitting arrangements?  
 (A) only (i) (B) only (ii) (C) only (iii)  
 (D) only (iv) (E) None of these.

#### Directions for Questions 4-8:

Study the following information carefully and answer the questions that follow:

*(Hotel Management, 1996)*

A team of five is to be selected from amongst five boys A, B, C, D and E and four girls P, Q, R and S.

Some criteria for selection are:

- A and S have to be together.
- P cannot be put with R.
- D and Q cannot go together.
- C and E have to be together.
- R cannot be put with B.

Unless otherwise stated, these criteria are applicable to all the questions below:

- If two of the members have to be boys the team will consist of:  
 (A) ABSPQ (B) ADSQR (C) BDSRQ (D) CESPQ

5. If R be one of the members the other members of the team are:  
(A) PSAD (B) QSAD (C) QSCE (D) SACE
6. If two of the members are girls and D is one of the members, the other members of the team are:  
(A) PQBC (B) PQCE (C) PSAB (D) PSCE
7. If A and C are members, the other members of the team cannot be:  
(A) BES (B) DES (C) ESP (D) PQE
8. If including P at least three members are girls the members of the team other than P are:  
(A) QSBD (B) QSAB (C) QSCE (D) RSAD

**Directions for Questions 9-13:**

Study the following information carefully and answer the questions that follow:

*(L.I.C.A.A.D., 1995)*

From amongst five doctors A, B, C, D and E, four Engineers G, H, K and L and six teachers M, N, O, P, Q and R some teams are to be selected. Of these A, B, G, H, O, P and Q are females and the rest are males.

The formation of team is subject to the following conditions:

Wherever there is a male doctor, there will be no female teacher.

Wherever there is a male engineer, there will be no female doctor.

There shall not be more than two male teachers in any team.

9. If the team consists of two doctors, three female teachers and two engineers, the members of the team are:  
(A) ABOPQGH (B) CDKLOPQ (C) CDOPQGH (D) DEGHOPQ
10. If the team consists of two doctors, one engineer and four teachers, all the following teams are possible except:  
(A) ABGMNOP (B) ABHMOPQ (C) ABHMRPQ (D) ABKNRPQ
11. If the team consists of two doctors, two female teachers and two engineers all the following teams are possible except:  
(A) ABGHOQ (B) ABGHPQ (C) ABKLPQ (D) OPGHAB
12. If the team consists of three doctors, two male engineers and two teachers, the members of the team could be:  
(A) ABCKLMR (B) BCDKLNLR (C) CDEKLMN (D) CDEKLPR
13. If the team consists of two doctors, two engineers and two teachers, all the following teams are possible except:  
(A) ABGHOP (B) ABGHMN (C) CEKLNLR (D) CDKLOP

**Directions for Questions 14-18:**

Read the following information carefully and answer the questions that follow: *(Railways, 1994)*

- (i) P, Q, R, S, T and U are travelling in a bus.
  - (ii) There are two reporters, two technicians, one photographer and one writer in the group.
  - (iii) The photographer P is married to S who is a reporter.
  - (iv) The writer is married to Q who is of same profession as U.
  - (v) U is brother of R.
14. Which of the following is a pair of technicians?  
(A) RS (B) SU (C) PT (D) QU
  15. Which of the following is a pair of reporters?  
(A) PQ (B) RT (C) ST (D) SU
  16. How is R related to U?  
(A) Brother (B) Sister (C) Uncle (D) Cannot be determined.



17. Which of the following pairs is a couple?  
 (A) PQ (B) QR (C) QS (D) PT
18. Which of the following is a pair of husbands?  
 (A) PQ (B) PR (C) QS (D) Cannot be determined

**Directions for Questions 19-22:**

On the basis of the information given below, answer the questions that follow: (S.B.I.P.O., 1994)

- (i) P, Q, R, S, T and U are six members of a group of which three are males and there are females.  
 (ii) There are two engineers, two lawyers, one teacher and one doctor in the group.  
 (iii) Q, T, P and R are two married couples and no person in this group has the same profession.  
 (iv) T, a teacher with blue dress, married a male lawyer with brown dress.  
 (v) Colour of the dresses of both the husbands and that of both the wives is the same.  
 (vi) Two persons have blue dress, two have brown and the remaining one each has black and green.  
 (vii) P is a male engineer whose sister S is also an engineer.  
 (viii) Q is a doctor.
19. Who is the wife of P?  
 (A) Q (B) R (C) S (D) T (E) None of these.
20. Which of the following is a group of female members?  
 (A) QSR (B) QST (C) QSU (D) QTU (E) UST
21. Which of the following is a pair of married ladies?  
 (A) PR (B) TS (C) QT  
 (D) Data inadequate (E) None of these.
22. What is the colour of U's dress?  
 (A) Black (B) Green (C) Black or Green  
 (D) Data inadequate (E) None of these.

**Directions for Questions 23-27:**

Study the following information carefully and answer the questions given below it:

(L.I.C.A.A.D. 1995)

There are five friends A, B, C, D and E. Two of them are businessmen while the other three belong to different occupations viz. medical, engineer and legal. One businessman and the lawyer stay in same locality 'S', while the other three stay in three different localities P, Q and R. Two of these five persons are Hindus while the remaining three come from different communities, viz., Muslim, Christian, and Sikh. The lawyer is the oldest in age while one of the businessman who runs a factory is the youngest. The other businessman is a cloth merchant and agewise lies between the doctor and the lawyer. D is a cloth merchant and stays in locality S while E is a Muslim and stays in locality R. The doctor is a Christian and stays in locality P. B is a Sikh while A is a Hindu and runs a factory.

23. Who stays in locality Q?  
 (A) A (B) B (C) C (D) E
24. What is E's occupation?  
 (A) Business (B) Engineer (C) Lawyer (D) Doctor
25. Agewise who among the following lies between A and C?  
 (A) Lawyer (B) Doctor (C) Cloth merchant (D) Engineer
26. What is B's occupation?  
 (A) Business (B) Engineer (C) Lawyer (D) Doctor



27. What is C's occupation?

- (A) Doctor      (B) Lawyer      (C) Engineer      (D) Business

**Directions for Questions 28-32:**

Study the information carefully and answer the questions that follow: *(Bank P.O., 1993)*

- (i) There are eight faculty members A, B, C, D, E, F, G and H in the institute, each teaching a different subject.
- (ii) There are three lady members and of the eight, four are holding Ph.D Degree.
- (iii) E teaches Psychology and is Ph.D. A teaches chemistry.
- (iv) The one who teaches Economics is not Ph.D. No lady member teaches either commerce or Law. Law faculty does not award Ph.D.
- (v) D and G do not teach either Commerce and Physics.
- (vi) H and C are lady members and are not Ph.D. F who is Ph.D. teaches Zoology.
- (vii) B and G are Ph.D.'s and G is a lady member.

28. Who teaches Physics?

- (A) C      (B) Either H or C      (C) H  
(D) Either C or G      (E) None of these.

29. Which of the following lady members is/are Ph.D.?

- (A) G      (B) G and H      (C) C and D  
(D) Cannot be determined      (E) None of these.

30. Which of the following statements is true?

- (A) Two lady members are Ph.D.  
(B) Three male members are Ph.D.  
(C) The person who teaches zoology is not Ph.D.  
(D) The person who teaches Economics is Ph.D.  
(E) None of these

31. Which of the following combinations is not correct?

- (A) Commerce-Male-Ph.D.      (B) Economics-Lady-Non-Ph.D.  
(C) Physics-Lady-Ph.D.      (D) Zoology-Male-Ph.D.  
(E) Chemistry-Male-Non-Ph.D.

32. What is the subject taught by G?

- (A) Zoology      (B) Either Physics or Zoology      (C) Either Physics or Economics  
(D) Cannot be determined      (E) None of these

**Directions for Questions 33-37:**

Study the following information carefully and answer the questions given below it:

*(Hotel Management, 1996)*

Of the five boys A, B, C, D and E two are good, one is poor and two are average in studies. Two of them study in Post-graduate classes and three in under-graduate classes. One comes from a rich family, two from middle class families and two from poor families. One of them is interested in music, two in acting and one in sports. Of those studying in under-graduate classes, two are average and one is poor in studies. Of the two boys interested in acting, one is a post-graduate student. The one interested in music comes from a middle class family. Both the boys interested in acting are not industrious. The two boys coming from middle class families are average in studies and one of them is interested in acting. The boy interested in sports comes from a poor family, while the one interested in music is industrious. E is industrious, good in studies, comes from a poor family and is not interested in acting, music or sports. C is poor in studies inspite of being industrious. A comes from a rich family and is not industrious but good in studies. B is industrious and comes from a middle-class family.

33. Name the boy interested in sports.  
 (A) A (B) B (C) C (D) D
34. Name the boy interested in music.  
 (A) A (B) B (C) C (D) D
35. Name the middle-class family boy interested in acting.  
 (A) A (B) B (C) C (D) D
36. Name the boys studying in post-graduate classes.  
 (A) A, D (B) A, E (C) B, C (D) D, E
37. Name the boy who is not industrious and is average in studies.  
 (A) A (B) B (C) C (D) D

**Directions for Questions 38-42:**

Study the information given below and answer the questions that follow: (M.A.T., 1998)

A, B, C, D, E and F are cousins. No two cousins are of the same age, but all have birth days on the same date. The youngest is 17 years old and the oldest E is 22. F is somewhere between B and D in age. A is older than B. C is older than D.

38. Which of the following is not possible?  
 (A) D is 20 years old (B) F is 18 years old  
 (C) F is 19 years old (D) F is 20 years old
39. Which of the following could be the ages of D and C respectively, if B is 17 years old?  
 (A) 18 and 19 (B) 19 and 21 (C) 18 and 20 (D) 18 and 21
40. Which of the following must be true if exactly two of the cousins are between C and F in age?  
 (A) A is between F and D in age. (B) B is 17 years old.  
 (C) B is younger than D. (D) F is 18 years old.
41. If A is 1 year older than C, the number of logically possible orderings of all six cousins by increasing age is  
 (A) 2 (B) 3 (C) 4 (D) 5
42. Which of the following must be true if C is 19 years old?  
 (A) A is 19 years old and D is 21 (B) B is 19 years old and A is 20.  
 (C) B is 20 years old and A is 21 (D) D is 17 years old and B is 21.

**Answers and Explanations:****For Questions 1-3:**

From the given information, if we consider two cars as X and Y and prepare a chart like this:

Car	X	Y
Students	A, D, F, E	H, B, C, G

A, D, in the same car say car X.

H, cannot be with A and D, so he may be in car Y.

B, C, can't sit with D, so they will be in car Y.

F will sit with A & E but not with G, so F and E will be in car X and G in car Y.

- (A) B and C are in the same car with H and G.
- (D) G is not sitting in the same car with A and E.
- (A) Clearly, condition (i) is not necessary.

**For Questions 4-8:**

- (A) A and S to be together, if B is selected R cannot be selected and if D is selected Q cannot be selected. So the teams consist of ADSQR (B) and BDSQR (C) are not possible. Also CESPQ is not possible as S must be with A. So the possible team will be ABSPQ(A).

5. (D) As R cannot go with P, alternative (A) is wrong. Q & D cannot go together, so (B) is wrong. S must be with A, so (C) is also wrong. So (D) SACE is correct here.
6. (C) As D cannot go with Q, PQBC and PQCE are wrong. As A and S must be together PSCE also is wrong. So (C) PSAB is only possible here.
7. (D) If A and C are selected S and E must also be selected, so P, Q, E is not possible.
8. (B) As P cannot go with R, RSAD is wrong. As A and have to be together QSBD and QSCE also are wrong. So, QSAB is only correct here.

**For Questions 9-13:**

From the information given if we made a chart like this.

Persons	A	B	C	D	E	G	H	K	L	M	N	O	P	Q	R
Profession	Doctors					Engineers				Teachers					
Sex	F	F	M	M	M	F	F	M	M	M	M	F	F	F	M

9. (A) As, there are only three female teachers O, P and Q, all of them are to be selected and no male doctor can be selected so two female doctors A, B are to be selected. As no female teacher will go with male engineer so K, L cannot be selected. Only G, H are to be selected. So the team will be ABOPQGH (A).
10. (D) As four teachers to be selected, it would be from both males and females as there are only three male teachers, so no male doctor can be selected. So the two female doctors selected are A, B. As female doctor can not go with male engineer, K and L can not be selected, so either G or H can be selected. So the team ABKNRPQ is not possible at all as K is there.
11. (C) The team consists of ABKLPQ is impossible as male engineers K, L cannot go with female doctors A and B. Other three teams are possible.
12. (C) As two male engineers K and L are to be selected, no female doctor can be selected, so doctors C, D and E are to be selected. As all three doctors are male no female teacher can be selected, so two of the three male teachers M, N and R will be selected. So the team will be CDEKLMN.
13. (D) As male doctors C, D cannot go with female teachers O, P, so the team (D) CDKLOP is impossible.

**For Questions 14-18:**

P is a photographer, S is the reporter, they are married, so one couple is PS. Writer is married to Q. Q and U have same profession, which can not be photographer, writer or reporter. So Q and U must be technicians and R is the writer, so another couple is QR. U is brother of R. Only T is left, he may be the other reporter.

14. (D) Q, U are technicians.
15. (C) S and T are two reporters.
16. (D) Since sex of R is not mentioned, so, R may be the brother or sister of U.
17. (B) Q and R is a couple.
18. (D) Since the sex of P, Q, R and S is not given, the pair of husbands cannot be determined.

**For Questions 19-22:**

Since, T is a teacher with blue dress married a male lawyer with brown dress, T must be a female.  
P is a male engineer and S is a female engineer.

Q is a doctor, she must be female and married to P, so one couple is PQ; so, T must be married to R who is a lawyer, so the other couple is RT.

As colour of dresses of both the husbands and that of both the wives is the same, the dress of T is blue, so dress of other wife Q must be blue. The dress of R is brown so also the dress of P is also brown. As S is a female engineer, U must be a male lawyer. Both S and U have either black or green dress. So, we may have draw a chart like this

Persons	P	Q	R	S	T	U
Sex	M	F	M	F	F	M
Profession	Engineer	Doctor	Lawyer	Engineer	Teacher	Lawyer
Colour of Dress	Brown	Blue	Brown	Black or Green	Blue	Black or Green

19. (A) Q is the wife of P.
20. (B) Q, S and t are female members.
21. (C) Q and T are married ladies.
22. (C) U's dress is either black or green.

**For Questions 23-27:**

A is a Hindu, B is a Sikh, E is a Muslim, the doctor is Christian, D is a cloth merchant, he must be Hindu, and C must be doctor, a Christian.

D, a businessman stays in locality S and E in locality R, doctor C stays in locality P. A is a factory owner so he must stay in the locality Q. As D and E are staying in different localities E must not be the lawyer, he must be an engineer. So B should be the lawyer and stays with D in the locality S. Now if we draw a chart,

Persons	A	B	C	D	E
Religion	Hindu	Sikh	Christian	Hindu	Muslim
Locality	Q	S	P	S	R
Profession	Factory owner	Lawyer	Doctor	Cloth merchant	Engineer

23. (A) A stays in locality Q.
24. (B) E is an engineer.
25. (D) Agewise E, the engineer lies between A and C.
26. (C) B is a lawyer.
27. (A) C is a doctor.

**For Questions 28-32:**

From the information we find, E is a Ph.D. teaches Psychology. A teaches chemistry, F is a Ph.D. teaches Zoology. These ladies are there H, C and G of which G is only Ph.D. So out of four Ph.D.'s, three are males.

No lady member teaches either Commerce or Law, so these are to be taught by the males. D & G do not teach either Commerce and Physics, one who teaches Economics is not Ph.D.

28. (B) As no ladies teach Commerce or Law, either H or C can teach Physics and Economics is not Ph.D.

29. (A) Among the three lady members only G is a Ph.D.  
 30. (B) Out of four Ph.D. holders, only one is a lady.  
 31. (C) G is only lady Ph.D. but she does not teach Physics.  
 32. (D) It is not clear from the information about the subject teaches by G.

**For Questions 33-37:**

If we analyse the information we find:

A and E are good in studies, C is poor in studies, B and D come from middle-class families and are average in studies. A & E study in post-graduate classes and B, C & D are in under-graduate classes. A is from rich family, E belongs to a poor family, B and D are from middle class families. The remaining C belongs to poor family (as two boys are from poor families). B, C and E are industrious, but A and another boy i.e. D is not industrious.

Two boys interested in acting are not industrious, they are A and D. Again the boy interested in music is from middle class family, so B is interested in music as D is in acting. E is not interested in any activity, clearly C is interested in sports.

33. (C) C is interested in sports.  
 34. (B) B is interested in music.  
 35. (D) D is the middle-class family boy interested in acting.  
 36. (B) A and E are studying in Post-graduate classes.  
 37. (D) D is not industrious and is average in studies.

**For Questions 38-42:**

From the given information we get,

E is oldest and 22 years old, youngest is 17 years old, F is between B and D, and  $A > B$ ,  $C > D$ . The possible arrangements may be

Age →	22	21	20	19	18	17
(i)	E	A	B	F	C	D
(ii)	E	A	C	B	F	D
(iii)	E	A	B	C	F	D
(iv)	E	A	C	D	F	B
(v)	E	C	D	F	A	B
(vi)	E	C	D	A	F	B
(vii)	E	C	A	B	F	D
(viii)	E	C	A	D	F	B

38. (D) From the above chart it is clear that 'F is 20 years old' is impossible.  
 39. (B) B is 17 years old in (iv), (v), (vi) and (vii) in the above chart, but only in (viii) D's age is 19 years and C's age is 21 as shown in alternative (B). In other cases these ages are not tally with the given alternatives.  
 40. (D) In (vi), (vii) and (viii) of the above chart we find two cousins are between C and F in age, and this is possible only when F is 18 years old in all the cases. So it must be true. Other alternatives are possible only a few cases but not always.  
 41. (A) Clearly in the above chart A is one year older than C in only two orderings - (ii) and (iv).  
 42. (C) In ordering (iii) C is 19 years, B is 20 years and A is 21 years. Other alternatives are not possible.

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## Logical Reasoning Tests

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Logical reasoning is the process of thinking which aims to arrive at certain valid conclusions. This test is used for assessing the ability of the student to comprehend, dissect and evaluate the given information. It is also used to judge the candidate's ability to arrive at conclusions from a study of the given statements or situations. Ability to grasp relations between ideas or between objects and to analyse and synthesise them on the basis of given statements are also inherent to logical reasoning.

A word gives us a unit of thought. For example, if we say 'Tiger', this word gives us simply a physical image of the animal called tiger, and nothing else, nor even anything about the tiger. But if we say that 'tigers are ferocious animals', we get some idea about the nature of tiger. It can become an unit of an argument. A unit of thought is called a *term* and a unit of argument is called a *proposition*, which is also expression of thought. It is also a statement showing some relation between two or more terms analogous to a sentence. Here the example, 'tigers are ferocious animals', is a proposition. Here 'tigers' (subject) is the first term and 'ferocious animals' (*predicate*) is the second term. The joining word 'are' is called the *copula*.

### I. PROPOSITIONS

Propositions are mainly of 4 types, e.g., (1) Categorical Proposition, (2) Hypothetical Proposition, (3) Disjunctive Proposition and (4) Relational Proposition.

Each standard form of proposition is said to have both a quality and a quantity. The quality of a proposition means affirmative or negative according to whether class inclusion is affirmed or denied by the proposition wholly or partially. This may be universal affirmative or particular affirmative propositions and universal negative or particular negative propositions. Similarly, the quantity of a proposition is also universal or particular according to whether the proposition refers to all members or only some members of the class designated by the subject term. Thus, universal affirmative and universal negative propositions refer to all members, while particular affirmative and particular negative propositions refer to some members of the class designated by the subject term.

#### 1. Categorical Propositions:

It is a type of proposition in which the predicate term confirms or denies the subject term. There are four different standard forms of categorical propositions which are as follows.

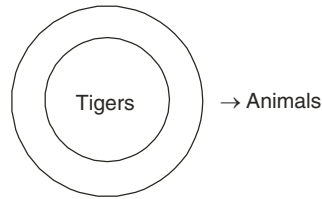
**A. Universal Affirmative Proposition:**

In the universal affirmative proposition the class denoted by the subject term is included or continued in the class denoted by the predicate term. This implies that every member of the first class is also a member of the second class and this inclusion is complete or universal and the sentence is affirmative in nature. This proposition is technically known as 'A' proposition and schematically represented as 'All S(subjects) is P(predicates)'

**Example:**

All tigers are animals  
           S          P

This 'A' proposition which clearly indicates that all tigers are included in the category of animals. This may be diagrammatically represented in the following way:



Here, it is clear that all tigers are included in the animal kingdom but at the same time all animals are not tigers.

**B. Universal Negative Proposition:**

In the Universal Negative Proposition the class denoted by the first term is wholly excluded from the second term such that there is no member of the first class who is also the member of the second class. Such propositions are technically called as 'E' propositions and are schematically represented as 'No S is P'.

**Example:**

No brother is sister  
           S          P

The class of brother is not included in the class of sister. This may be diagrammatically represented in the following



Here both the classes are independent.

**C. Particular Affirmative Proposition:**

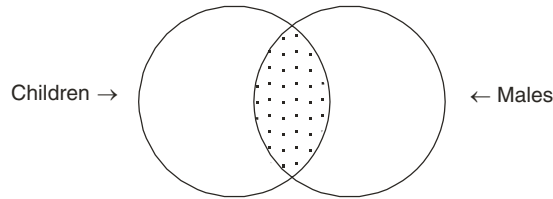
In this proposition the class denoted by the subject term has only some members in common with the class denoted by the predicate term. This is technically known as 'I' proposition and schematically represented as 'Some S is P'. The statement is affirmative in nature.

**Example:**

Some children are males.  
           S          P

This proposition affirms that some members of the class of all children are also members of the

class of all 'males'. This proposition neither affirms nor denies that all children are males. Since the word 'some' is indefinite, it is customary to take the word 'some' as meaning 'at least one'. This may be diagrammatically represented in the following way.



Here two circles are intersecting each other and the shaded portion stands for proposition 'some children are males', which refers to the segment of the circles and not to the whole of the circles.

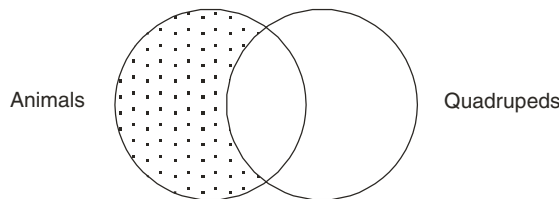
**D. Particular Negative Proposition:**

In this proposition the subject is particular, i.e., 'some' not 'whole' and the statement is negative. This is technically known as 'O' proposition and is schematically represented as 'Some S is not P'.

**Example:**

Some animals are not quadrupeds.  
                   S                                  P

This particular negative proposition does not refer to animals universally but only to some particular member or members of that class who are excluded from the whole of the class of 'quadrupeds'. This may be diagrammatically represented in the following way:



Here also the two circles are intersecting each other and as the subjective term refers to some only and the predicative term refers to all.

**2. Hypothetical Propositions**

It is a type of conditional sentence with two parts—the antecedent with 'if' clause in the present indefinite tense and the consequent clause in future indefinite tense.

**Example:**

If he works hard he will succeed.  
 Here the antecedent is 'if he works hard' and the consequent is 'he will succeed'.

**3. Disjunctive Proposition**

It is a type of sentence with either - or.

**Example:**

Either he is educated or he is illiterate.



#### 4. Relational Propositions

It is a type of sentence in which some relation or comparison between the subject and the predicate is shown.

**Example:**

Rahim is as intelligent as Saurav. (Symmetrical)  
 Suresh is more intelligent than Mina. (Non symmetrical)  
 Shyamal is the secretary of Subir. (Asymmetrical)

## II. ARGUMENTS

An argument is a sequence of two or more propositions, phrases, clauses or statements, of which one is a *conclusion* that follows from a few other propositions called *premises*. A proposition by itself is not an argument. Generally, arguments are of two different types—deductive and inductive. In a deductive argument, the premises provide conclusive grounds for the truth of its conclusion or in other words, the conclusion is arrived at by going from the universal to the particular proposition.

**Example:**

(i) Man is mortal	Premises
(ii) King is a man.	
So, king is mortal—Conclusion.	

Here, the first premise is a universal statement and the conclusion is particular as it refers to one individual.

Whereas in an inductive argument the premises provide only some support for its conclusion but not conclusive grounds. So, unlike a deductive argument, inductive argument can not be labelled valid or invalid. Also it may proceed from a particular to a universal proposition.

**Example:**

(i) All tigers are animals.	Premises
(ii) All cats are also animals.	
So, all cats are tigers.—Conclusion	

Here the reasoning proceeds from a particular to a universal proposition though it may not be valid.

## III. SYLLOGISM

A syllogism is a deductive or logical argument in which the conclusion is inferred from two premises. Syllogism is the process of thinking which aims to arrive at valid conclusions. It means a mediate inference, consisting of two premises and a conclusion. The two premises jointly imply the conclusion, in which a relation between two terms contained in the premises is established through a common term. Syllogism is simply concerned with the validity of the premises and not with material truth. There are three characteristics of syllogism which are:

- (i) The conclusion of the syllogism follows from the two premises taken jointly, and not from any of them by itself.
- (ii) The conclusion of the syllogism cannot be more general than the premises.
- (iii) Syllogism does not concern with the material truth of the premises; the conclusion is true, provided the given propositions are true.

A syllogism consists of only three propositions, i.e., two given propositions and an inferred proposition or conclusion. The three propositions contain exactly three terms, e.g., the *major term*, *minor term* and the *middle term*.

Each of the three terms occurs in exactly two of the constituent propositions. The conclusion also contains two of the syllogism's three terms. The *predicate term* of the conclusion is called the *major term*. The term that occurs as the subject term of the conclusion is called *minor term* and the term which does not occur in the conclusion but appears in both the premises is called *middle term*.

**Example:**

- (i) All men are mortal.
- (ii) All kings are men.

Therefore, all kings are mortal.

Here the term mortal is the *predicate* and the major term of the conclusion. The *subject* term of the conclusion *kings* is the *minor term* and *Men* is the *middle term*. Here the premise containing the major term is the *major premise* and is usually stated first in a standard form of syllogism. The minor term occurs in the premise second in order and is called minor premise and the conclusion is stated last.

**CATEGORICAL SYLLOGISM**

This type of syllogism is used to assess the ability of the person to comprehend, dissect and evaluate the given information. It is devised to judge the person's ability to arrive at conclusions from a study of the given statements or situations. There are problems to solve, which require higher levels of thinking on the part of the candidates. By having a lot of practice in tackling such questions one will be able to see through reasoning oneself and get the right answer.

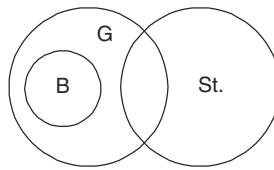
This type syllogism containing only categorical propositions. A standard form of categorical syllogism must fulfil the following rules.

1. Every syllogism must contain three and only three terms, i.e., major, minor and middle terms.
2. The conclusion should not contain the middle term.
3. Every syllogism must consist of only three propositions.
4. The middle term must be distributed at least once in the premises.
5. If one premise is negative the conclusion must be negative.
6. No conclusion follows if
  - (a) both the premises are negative
  - (b) both the premises are particular
  - (c) the major premise is particular and minor premise is negative.
7. If one premise is particular, the conclusion must be particular.
8. No term can be distributed in the conclusion if it is not distributed in the premise.
9. If both the premises are affirmative and universal, the conclusion would be affirmative and universal.
10. If major premise be affirmative, the conclusion must be particular.

Violation of any of the above rules leads to fallacy. A few examples are given below. Syllogism can be easily understood by using Venn diagrams. These Venn diagrams are somewhat different from that used in set theory in mathematics. Venn diagrams are the use of circles to denote the terms in a proposition.

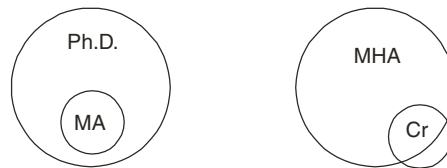
**Examples:**

1. All boys are girls.  
Some girls are students.  
*Conclusion:* All girls are boys.



Here, the conclusion is invalid since it contains the middle term 'girl', which violates the rule no 2 above.

2. All Master of Arts are eligible for Ph.D. course.  
 A criminal is a master of his art.  
*Conclusion:* A criminal is eligible for Ph.D. course.

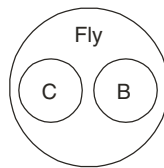


Here the conclusion is invalid or fallacious, because it violates the rule (1) mentioned above. Because the middle term mentioned as 'master of his art' used in minor premise is different in sense from that used in major premise, i.e., 'Master of Arts'.

3. All fishes have red blood.  
 All red blooded animals are quadrupeds.  
 All quadrupeds are mammals.  
*Conclusion:* All fishes are mammals.

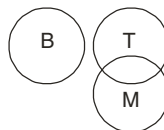
Here, the conclusion is invalid because it violates the rule (3) mentioned above, i.e., it contains four propositions.

4. All birds can fly.  
 All cockroaches can fly.  
*Conclusion:* All cockroaches are birds.



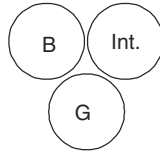
Here, the inference is false, as the middle term 'fly' is undistributed in both propositions which are universal affirmatives. So it violates rule (4) above.

5. No Bengalee is Tamil.  
 Some Tamils are Muslims.  
*Conclusion:* Some Muslims are Bengalees.



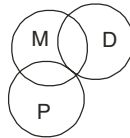
Here also, the inference is fallacious as it violates the rule 5, if it is negative it would be valid.

6. No boy is intelligent.  
 No girl is boy.  
*Conclusion:* No girl is intelligent.



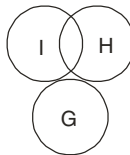
Here, the conclusion is invalid as both the premises are negative, which violates the rule 6(a).

7. Some men are dishonest.  
 Some men are politicians.  
*Conclusion:* Some politicians are dishonest.



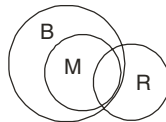
Here, the conclusion is uncertain, as it violates the rule 6(b), i.e., here both premises are particular.

8. Some Indians are Hindus.  
 No Indian is a Greek.  
*Conclusion:* Some Greeks are Hindus.



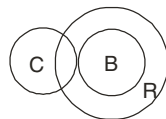
Here, the conclusion is invalid, because it violates the rule 6(c), i.e., the major premise is particular and the minor premise is negative.

9. Some men are rich.  
 All men are beautiful.  
*Conclusion:* All beautiful men are rich.



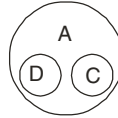
Here also, the inference is invalid, as it violates the rule 7, i.e., one premise is particular, but the conclusion is universal.

10. No cat is bat.  
 All bats are rats.  
*Conclusion:* No rat is cat.



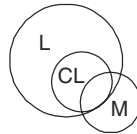
Here, the inference is invalid as the term 'rat' is distributed only in the inference but not in the premise, which is a clear violation of rule 8.

11. All cows are animals.  
All dogs are animals.  
*Conclusion:* All dogs are not cows.



Here, the conclusion is invalid, since it violates the rule 9, i.e., both the premises are affirmatives and universal but the conclusion is particular and negative.

12. All clerks are lazy.  
Some men are clerks.  
*Conclusion:* All lazy are men.



Here, the conclusion is invalid as it violates the rule 10, i.e., here the major premise is affirmative but the conclusion, instead of being particular, is universal.

Some more examples of categorical syllogism is given below:

### Examples:

#### Directions for Questions 1 to 6:

Certain 'conclusions' have been drawn on the basis of given facts. Judge whether a conclusion is (A) 'True' (correctly drawn from the given facts), (B) 'False' (wrongly drawn from the given facts) or (C) 'Uncertain' (neither definitely true nor definitely false).

#### Given facts:

- Some athletes are students.  
All students are men.

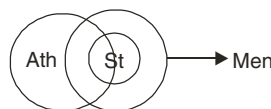
#### Conclusions:

1. Some men are athletes.
2. All athletes are men.
3. No man is athlete.
4. Some athletes are men.
5. Some athletes are not men.
6. Most men are athletes.

#### Answers and Explanations:

1. (A), 2. (B), 3. (B), 4. (A), 5. (A), 6. (C).

These can be solved easily by using Venn diagrams. According to the given facts in the example "Some athletes are students"—Proposition-I, and "All students are men"—Proposition-II. These proposition according to the Venn diagram should be like this:



So for the *conclusion-1*, the common portion of the diagram including 'Men' and Athletes proves its validity. So the right answer for question-1 is (A).

For *conclusion-2*, "All athletes are men" clearly contradicts the propositions according to the diagram. So it is false and the answer is (B).

For *conclusion-3*, "No men are athletes" also contradicts the proposition. So the answer is (B).

For *conclusion-4*, "Some athletes are men" is true according to the propositions and diagram. So the answer is A.

For *conclusion-5*, "Some athletes are not men" is also true according to the diagram, so the answer is A.

For *conclusion-6*, "Most men are athletes" is uncertain, neither definitely true nor definitely false, so it is C.

## PRACTICE TEST

### Directions for Questions 1-60:

Certain '*conclusions*' have been drawn on the basis of certain '*given facts*'. Judge whether the said conclusion is (A) '*True*' (correctly drawn from the given facts) or (B) '*False*' (contradicts the given facts) or (C) '*Uncertain*' (neither definitely true, nor definitely false).

### Questions:

#### Given facts:

Sohan is stronger than Rahim.  
Rahim is weaker than John.

#### Conclusions:

1. Rahim is weaker than Sohan.
2. Rahim is stronger than John.
3. Sohan is stronger than John.
4. John is stronger than Rahim.
5. Sohan and John are equally strong.

#### Given facts:

X is older than Y.  
Y is older than Z.  
Z is younger than W.

#### Conclusions:

- 6 Z is younger than Y.
7. Z is older than X.
8. W and Y are of same age.

#### Given facts:

A is taller than B.  
B is shorter than C.  
C is as tall as D.

#### Conclusions:

9. D is taller than B.

10. A is as tall as D.
11. C is taller than A.
12. D is shorter than B.

#### Given facts:

L does not cost more than M.  
M costs less than N.  
O does not cost less than N.

#### Conclusions:

13. M costs as much as L.
14. O costs more than M.
15. L costs more than N.
16. O costs less than L.

#### Given facts:

All X is Z and  
Some X is Y.

#### Conclusions:

17. Some Y is Z.
18. Some Z is not Y.
19. No, Z is Y.
20. Some Y is not Z.

#### Given facts:

No Z is X and

All X is Y.

**Conclusions:**

21. All Y is Z.
22. Some Y is not Z.
23. Some Z is not Y.

**Given facts:**

All P is Q and  
Some P is not R.

**Conclusions:**

24. All Q is R.
25. Some Q is not R.
26. No R is Q.

**Given facts:**

No X is Y and  
Some Y is Z.

**Conclusions:**

27. Some Z is not X.
28. Some X is Z.
29. All Z is X.

**Given facts:**

X is larger than Y.  
Z is smaller than Y.  
W is not smaller than X.

**Conclusions:**

30. X is the largest.
31. W is larger than Z.
32. Y is the smallest
33. W is larger than X.
34. Z is the smallest.
35. Y is larger than W.

**Given facts:**

X is taller than Y by 5 centimetres.  
Y is taller than Z by 10 centimetres.  
Z is shorter than A by 5 centimetres.  
A is shorter than X by 10 centimetres.  
B is shorter than Z by 10 centimetres.

**Conclusions:**

36. A is shorter than Y by 5 centimetres.
37. The combined height of X and A is twice that of A.
38. Y is shorter than A by 5 centimetres.

39. B is shortest of all.

40. The height of X is between 165 and 170 centimetres.

41. When the persons are arranged according to their height, it will run thus X, Y, A, B, and Z.

42. The height of B is 100 centimetres.

43. Z is the shortest of all.

44. The difference between the heights of X and Y is equal to that between A and Z.

**Given facts:**

Some students are Poets.  
All Poets are men.

**Conclusions:**

45. Some men are students.
46. All students are men.
47. Some students are not men.
48. Some students are men.
49. No men are students.

**Given facts:**

A, B, C and D are running a race.  
B is ahead of C and second in the race.  
D is just a few feet behind C.  
B is well behind A.

**Conclusions:**

50. A is at the top of the race.
51. C is ahead is A.
52. D is 100 metre behind C.
53. C is third in the race.
54. D is ahead of B.

**Given facts:**

P got 50 marks more than Q.  
R got 2 times than that of Q.  
S got 20 marks less than P.  
T got 10 marks more than R.

**Conclusions:**

55. T got the highest mark.
56. Q got more marks than S.
57. P got more marks than R.
58. If pass mark is 30 then S must have passed the examination.
59. T got less marks than Q.
60. Q got less marks than T.

**Directions for Questions 61-66:**

Certain 'conclusion' has been drawn on the basis of 'given facts'. Judge whether the conclusion is (A) *true* (correctly drawn from the given facts), (B) *false* (wrongly drawn from the given facts) or (C) *uncertain* (neither definitely true nor definitely false). Symbols used have the following meanings: > means 'is greater than'; < means 'is less than'; = means 'is equal to'  $\nabla$  means 'is not greater than';  $\nless$  means 'is not less than';  $\neq$  means 'is not equal to'.

Given facts:	Conclusions:
61. $X > Y$ and $Z > Y$	$x = z$
62. $X \nless Y$ and $Z = Y$	$z > x$
63. $X \nless Y$ and $Y \nless Z$	$x \neq z$
64. $X \nabla Y$ and $Z > Y$	$x = z$
65. $X > 3Y$ and $Z < 2Y$	$z < x$
66. $2X > Y$ and $Z \nless Y$	$z \nabla x$

**Answers and Explanations:**

**For Questions 1-5:**

According to the premises we can arrange 'stronger than' as > and 'weaker than' as <, so according to given facts

Sohan > Rahim and Rahim < John.

Thus, 1. (A), 2. (B), 3. (C), 4. (A), 5. (C).

**For Questions 6-8:**

As per given facts, we may say > means 'older than' and < means 'younger than'. So  $X > Y > Z < W$ . Thus, 6. (A), 7. (B), 8. (C).

**For Questions 9-12:**

As per given facts, we may say > means 'taller than', < means 'shorter than' and = means 'as tall as'. So,  $A > B, B < C, C = D$ .

Thus, 9. (A), 10. (C), 11. (C), 12. (B).

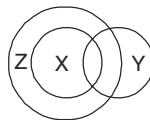
**For Questions 13-16:**

As per given facts, we may say  $\nabla$  means 'does not cost more than',  $\leq$  means 'less than or equal to', < means 'less than',  $\nless$  means 'does not cost less than' and  $\geq$  means 'more than or equal to'.

Thus, 13. (C), 14. (A), 15. (B), 16. (B).

**For Questions 17-20:**

If we draw the following diagram based on the given facts we have



Thus, 17. (A), 18. (A), 19. (B), 20. (C).

**For Questions 21-23:**

On the basis of the given facts, if we draw the following diagrams, we find

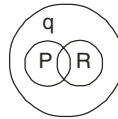




Thus, 21. (B), 22. (A), 23. (C) → from diagram (i) it is not possible, but in diagram (ii) it is possible, hence 'uncertain' i.e. (C).

**For Questions 24-26:**

On the basis of the given facts, if we draw a diagram, we find



Thus, 24. (B), 25. (A), 26. (B).

**For Questions 27-29:**

From the given facts two diagrams are possible which are



Thus, 27. (A), 28. (C) [in diagram (i) it is not possible but in (ii) it is possible], 29. (B).

**For Questions 30-35:**

From the given facts we can arrange like this

$X > Y, Z < Y, W \nless X$  or  $W \geq X$ , when  $>$  means 'greater than',  $<$  means 'less than',  $\nless$  means 'not less than' and  $\geq$  means 'greater than or equal to'.

Thus, 30. (C), 31. (A), 32. (B), 33. (C), 34. (A), 35. (B).

**For Questions 36-44:**

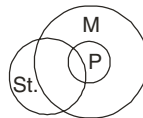
From the given facts we have

$X > Y > A > Z > B$ , where  $>$  means 'is taller than'.  
           5cm 5cm 5cm 10cm

Thus, 36. (A), 37. (B), 38. (B), 39. (A), 40. (C), 41. (B), 42. (C), 43. (B), 44. (A).

**For Questions 45-49:**

From the given facts if we draw a diagram like this we find



Thus, 45. (A), 46. (B), 47. (C), 48. (A), 49. (B).

**For Questions 50-54:**

From the given facts we may arrange the runners like this

$A > B > C > D$ , where  $>$  means 'ahead'.

Thus, 50. (A), 51. (B), 52. (C), 53. (A), 54. (B).

**For Questions 55-60:**

From the given facts we have

$P > Q$ ,  $R > Q$ ,  $S < P$  and  $T > R$ , where  $>$  means 'greater than' and  $<$  means 'less than'.

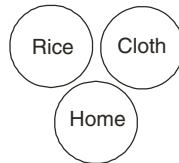
50 marks    2 times    20 marks    10 marks

Thus, 55. (C), 56. (B), 57. (C), 58. (A), 59. (B), 60. (A).

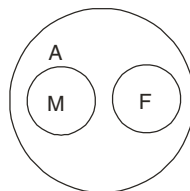
- 61. (C) Uncertain.
- 62. (B) False. Given that Y is not greater than X and as Z is equal to Y, so, Z cannot be greater than X.
- 63. (C) Uncertain. Given that Y is not greater than X and Z is not greater than Y. So it can not be definitely said that X is not equal to Z.
- 64. (B) X is not greater than Y and Y is less than Z, so, X cannot be equal to Z.
- 65. (A) True. X is greater than 3Y and 2Y is greater than Z. So X must greater than Z.
- 66. (C) Uncertain.  $2X$  greater than Y and Z is not less than Y. So Z may or may not be greater than X.

**IV. LOGICAL VENN DIAGRAMS**

In logical Venn diagrams relation between certain groups of items are analysed. Suppose, you are to relate between three items, e.g. Rice, Cloth and House. As these three items bear no relationship to each other, the possible Venn diagrams for this is



Suppose you are given another three items, Audience, Males, Females. Here the diagram would be

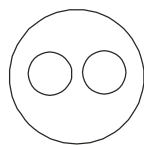


Clearly males and females are two separate classes, though both of them are audience.

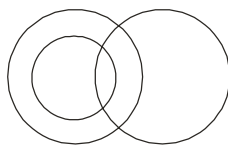
**Examples:**

**Type 1: Directions for Questions 1-5:**

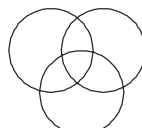
Below four types of figures are given followed by five group of items with three classes. You are to indicate which figure will best represent the relationship among the three classes.



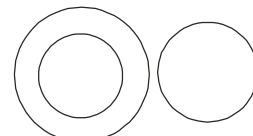
A



B



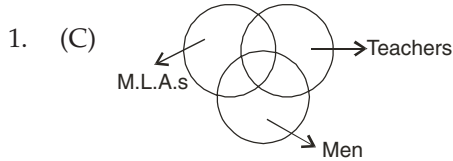
C



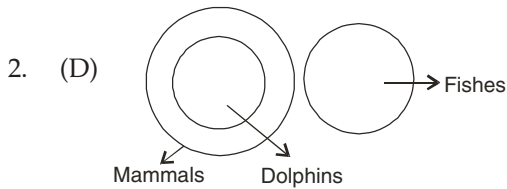
D

1. M.L.A.s, Teachers, Men
2. Dolphins, Mammals, Fishes
3. Mango, Orange, Fruits
4. Wives, Widows, Women
5. Boys, Students, Players.

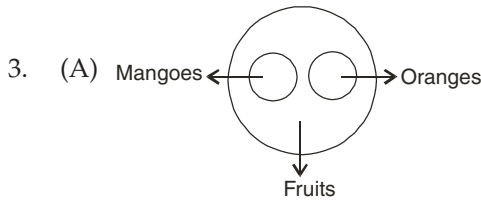
**Answers and Explanations:**



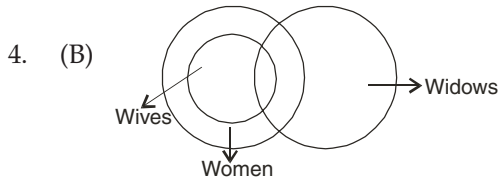
Some teachers can be M.L.A.s, some teachers can be men, so M.L.A.s can be men.



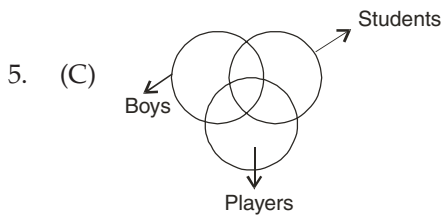
All dolphins are mammals, but fishes are not mammals.



Mangoes and oranges are two different types of fruits.



All wives are women. Some wives are widows, So some women can be widows.

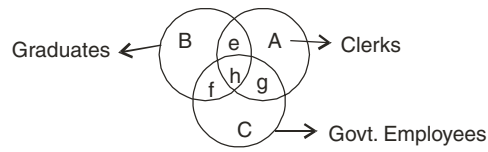


Some boys are students, some students are players. So some boys are players.

**TYPE 2:**

**Examples:**

**Directions:** In the following diagrams three intersecting circles each representing graduates, clerks, government employees are given. The circles are marked A, B and C, and the intersections are marked e, f, g and h. Which part best represents the statements in questions 6-10?

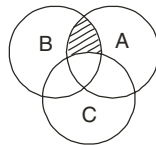


**Questions:**

6. Some clerks are graduates.  
 (A) e                      (B) h                      (C) g                      (D) f
7. Who are clerks as well as government employees?  
 (A) e                      (B) f                      (C) g                      (D) h
8. Who are graduate govt. employees but not clerks?  
 (A) e                      (B) f                      (C) g                      (D) h
9. Who are graduate govt. employees working as clerks?  
 (A) e                      (B) f                      (C) g                      (D) h
10. Who are non-govt. graduate clerks?  
 (A) e                      (B) f                      (C) g                      (D) h

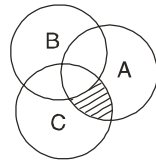
**Answers and Explanations:**

6. (A) Here the shaded portion, between A and B in Fig. 1 represents the graduate clerks.



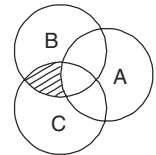
**Fig. 1**

7. (C) Here the shaded portion between A and C in Fig. 2 is the answer.



**Fig. 2**

8. (B) Here the shaded portion in Fig. 3 represents the graduate govt. employees.



**Fig. 3**

9. (D) Here the shaded portion between A, B and C in Fig. 4 represents the graduate govt. employees working as clerks.

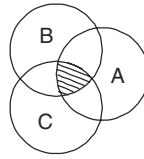


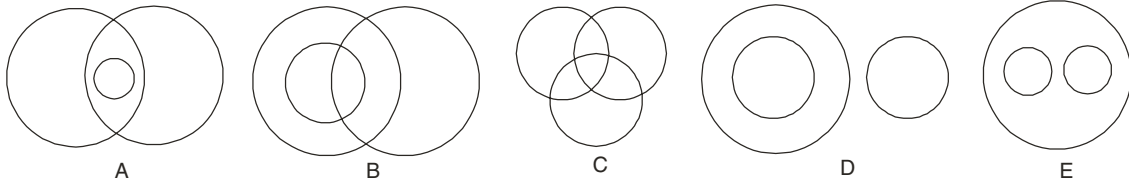
Fig. 4

10. (A) The non-govt. graduate clerks are represented in the shaded portion mentioned in Fig. 1.

### PRACTICE QUESTIONS

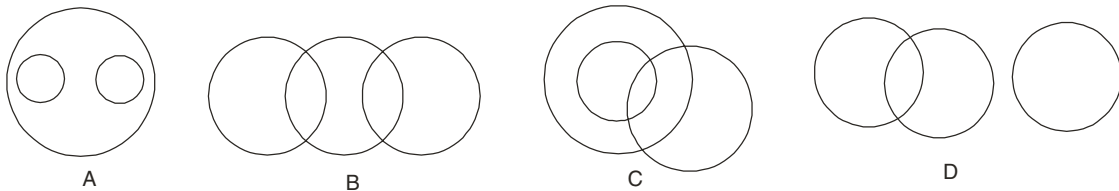
**Directions for Questions 1-10:**

Below, five diagrams are given followed by a few questions. Select the diagram that best represents the relation of terms given in the questions that follow:

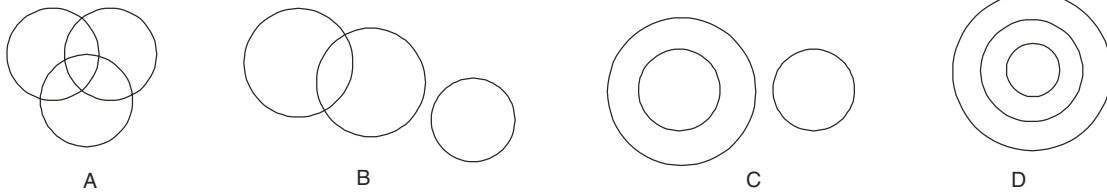


**Questions:**

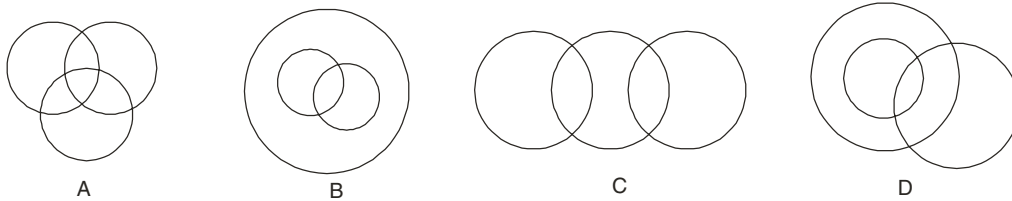
1. Lions, Horse, Animals.
2. Cousins, Males, Nephews.
3. Doctors, Surgeons, Musicians.
4. Medical entrance candidates, Males, Students.
5. Bedroom, Drawing room, Dwelling.
6. Chemical engineers, Mechanical engineers, Engineers.
7. People, Professors, Cats.
8. Young creatures, Colts, Horses.
9. Men, Story teller, Liers.
10. Mothers, Females, Nurses.
11. Which of the following diagrams correctly represents Elephants, Wolves, Animals?  
(I.A.S. 1992)



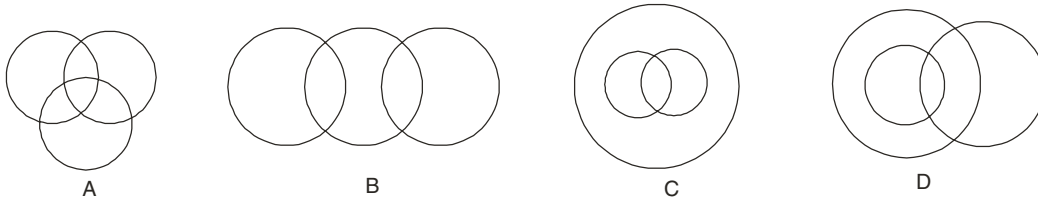
12. Select from the given diagrams, the one that illustrates the relationship among the given three classes: Judge, Thief, Criminal.  
(S.C.R.A. 1994)



13. Which one of the following diagrams correctly represents the relationship among the classes: Tennis fans, Cricket players, Students? (I.A.S., 1990)

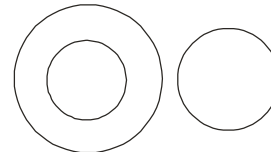


14. Which is the most suitable Venn diagram among the following, which represents interrelationship among Antisocial elements, Pick pockets and Black Mailers? (M.B.A., 1997)



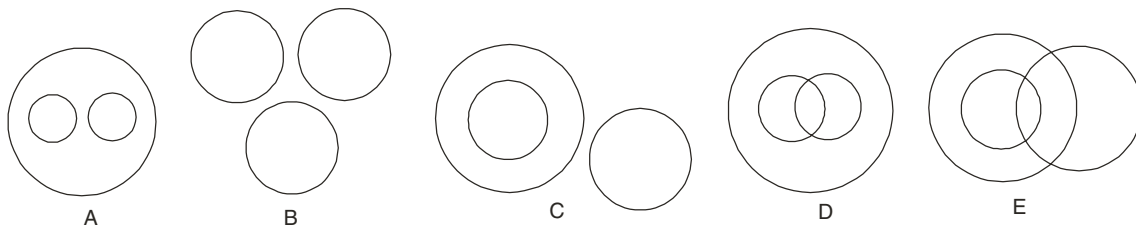
15. Which one of the following sets is best represented in the adjoining diagram? (S.C.R.A., 1994)

- (A) Animals, Insects, Cockroaches.
- (B) Country, States, Districts.
- (C) Animals, Males, Females and Hermaphrodites.
- (D) States, Districts, Union Territory.



**Venn diagrams for Questions 16-21:**

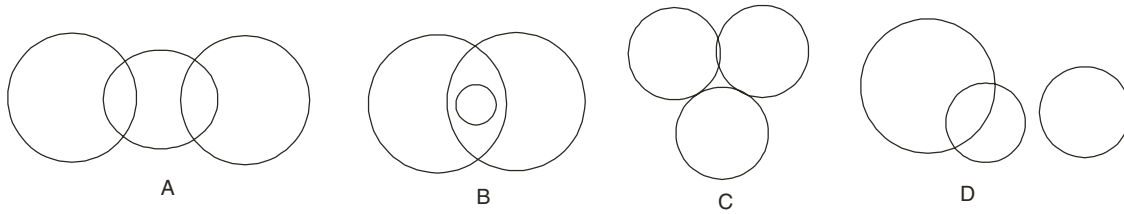
Choose the Venn diagram which best illustrates the relationship among three given items given in each question. (Hotel Management, 1991)



- 16. Diseases, Leprosy, Scurvy.
- 17. Hockey, Cricket, Games.

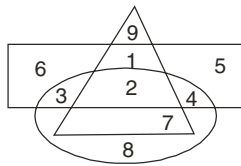
18. Yak, Zebra, Bear.  
 19. Sun, Moon, Star.  
 20. Animals, Men, Plants.  
 21. Mercury, Mars, Planets.  
 22. If animals that live on land and the animals live in water are represented by two big circles and animals that live both in water and on land are represented by small circle, the combination of these three can be best represented as

(C.B.I. 1991)



23. In the figure given below, triangle represents the women, rectangle represents the employed and circle represents the doctors, find out the area of the figure which represents women doctors who are not employed.

(C.B.I., 1993)

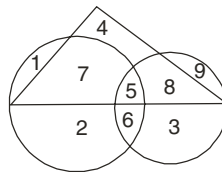


- (A) 1      (B) 3      (C) 7      (D) 8

**Directions for Questions 24-28:**

The following five questions are based on the following diagram in which the triangle represents female graduates, small circle represents self employed females and the big circle represents self employed females with bank loan facility. Numbers are shown in the different sections of the diagram. On the basis of these numbers answer the following.

(M.B.A. 1997)

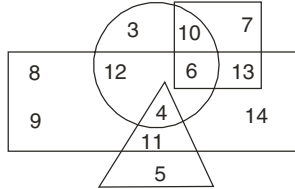


24. Who are graduate self employed females without using bank loan facility?  
 (A) 4      (B) 8      (C) 9      (D) 3
25. Who are unemployed female graduates?  
 (A) 7      (B) 5      (C) 4      (D) None of these.
26. Who are non-graduate self-employed females with and without bank loan facility?  
 (A) 6      (B) 5      (C) 2      (D) 3
27. Who are graduate, self-employed females with bank loan facility?  
 (A) 1      (B) 7      (C) 2      (D) 8
28. Who are graduate, self-employed females with and without bank loan facility?  
 (A) 2      (B) 6      (C) 7      (D) 5

**Directions for Questions 29-36:**

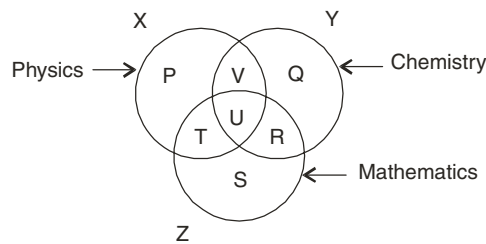
The following questions are based on the diagram given below:

(I.A.S., 1985)



- (i) Rectangle represents Males.
- (ii) Triangle represents educated.
- (iii) Circle represents urban.
- (iv) Square represents civil servants.

29. Who among the following is an educated male who is not an urban resident?  
(A) 4 (B) 5 (C) 9 (D) 11
30. Who among the following is neither a civil servant, nor educated but is urban and not a male?  
(A) 2 (B) 3 (C) 6 (D) 10
31. Who among the following is a female, urban resident and also a civil servant?  
(A) 6 (B) 7 (C) 10 (D) 13
32. Who among the following is an educated male who hails from urban area?  
(A) 4 (B) 2 (C) 11 (D) 5
33. Who among the following is uneducated and also an urban male?  
(A) 2 (B) 3 (C) 11 (D) 12
34. Who among the following is only a civil servant but not a male, nor urban oriented and uneducated?  
(A) 7 (B) 8 (C) 9 (D) 14
35. Who among the following is a male, urban oriented, and also a civil servant but not educated?  
(A) 13 (B) 12 (C) 6 (D) 10
36. Who among the following is a male civil servant, who is neither educated nor belongs to urban area?  
(A) 7 (B) 13 (C) 4 (D) 1
37. The diagram below represents the students who study Physics, Chemistry and Mathematics. Study the diagram and identify the region which represents the students who study Physics and mathematics but not Chemistry?  
(S.S.C. 1995; I.A.S. 1995)

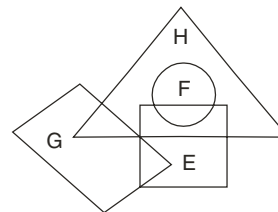


- (A) T
- (B) P+T+S
- (C) V
- (D) P+T+S+R+U+V

**Directions (Questions 38-40):**

These questions are based on the following:

- (i) The triangle stands for Hindi people.
- (ii) Circle for French-speaking people.
- (iii) Square for English speaking people.
- (iv) Rectangle for German-speaking people.



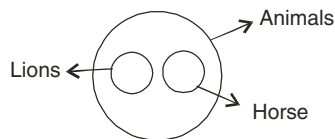
(M.B.A., 1998)



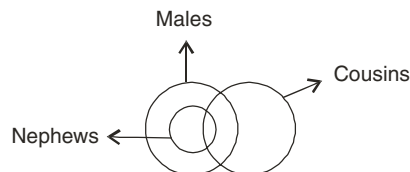
38. In the above diagram, which one of the following statements is true?  
 (A) All French speaking people speak German.  
 (B) All French speaking people speak English.  
 (C) All German speaking people speak English and Hindi.  
 (D) All French speaking people speak Hindi also.
39. In the diagram which one of the following statements is true?  
 (A) There are some people who speak all four languages.  
 (B) Some German speaking people can speak either Hindi or English.  
 (C) Some English speaking people can speak all the other languages.  
 (D) All Hindi speaking people speak French but not German.
40. In the above diagram, which one of the following is not true?  
 (A) German-speaking people cannot speak French.  
 (B) No French-speaking people can speak German.  
 (C) Some Hindi-speaking people can speak English, French and German as well.  
 (D) Some French-speaking people can speak Hindi and English but not German.

**Answers and Explanations:**

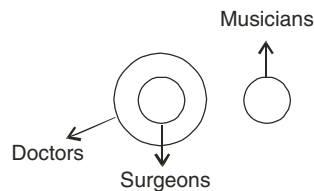
1. (E) Lions and Horses both are animals but of different species.



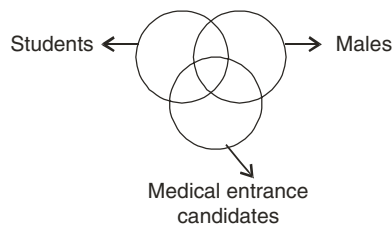
2. (B) All Nephews are males, but all cousins are not males. Some cousins may be nephews, and also may be males.



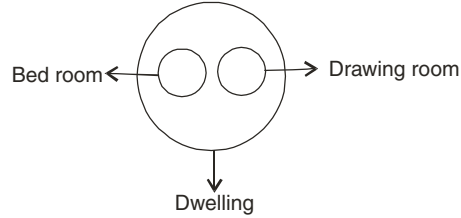
3. (D) All surgeons are doctors, but musicians are different entities.



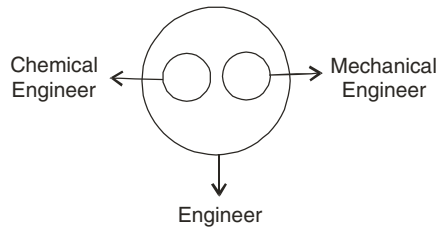
4. (C) All these are overlapping. Medical-entrance candidates may be students and also males. Students may also be males.



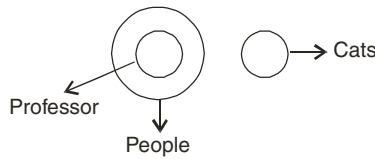
5. (E) Both bedroom and drawing room are within a dwelling house, but each has a separate entity.



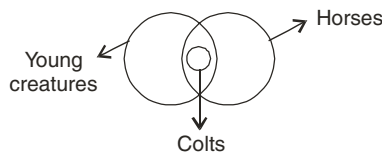
6. (E) Both Chemical and Mechanical are different branches of Engineering.



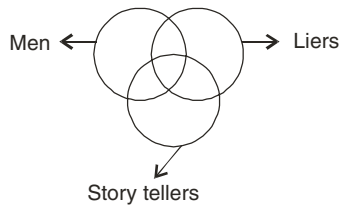
7. (D) All professors are people, but cat has different entity.



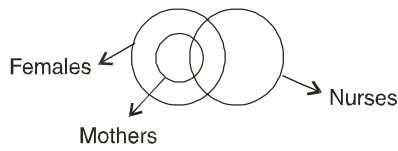
8. (A) All colts are young creatures, all colts are also horses. Some horses are also young creatures.



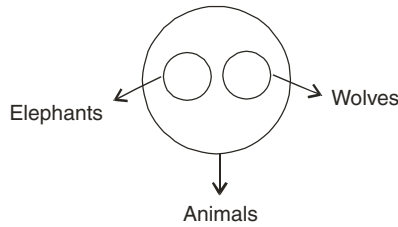
9. (C) Some men are story tellers. Some story tellers are liars. So, some men are also liars. All are overlapping each other.



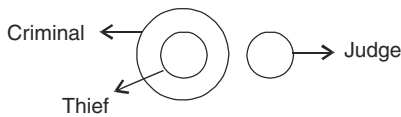
10. (B) All mothers are females. Some nurses are also females. Some nurses are also mothers.



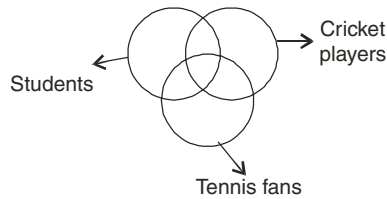
11. (A) Both elephants and wolves are animals, but each of them is a different species.



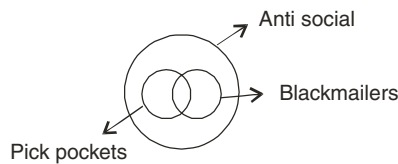
12. (C) All thieves are criminals. But Judge is entirely different.



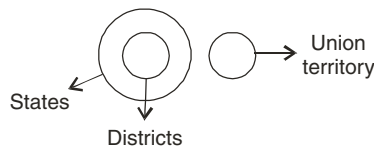
13. (A) Some students may be cricket players, some cricket players can be tennis fans. Some students may be tennis fans. They are partly related to each other.



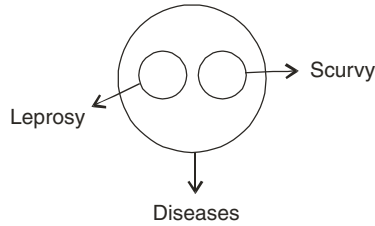
14. (C) Both pickpockets and Blackmailers are anti-social elements. But some pickpockets can be blackmailers and vice-versa.



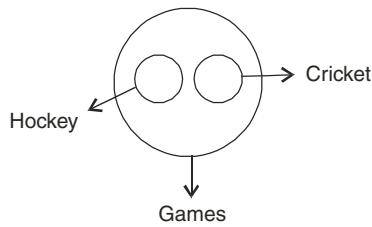
15. (D) Districts are within the states. But Union territory is entirely different.



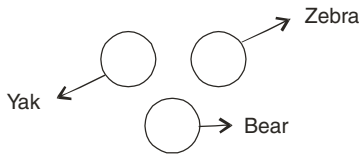
16. (A) Both Leprosy and Scurvy are diseases. But both are entirely different from each other.



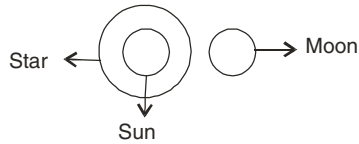
17. (A) Both hockey and cricket are games. But both are entirely different from each other.



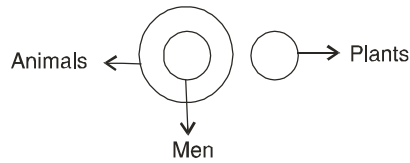
18. (B) Yak, Zebra and Bear are all different from each other.



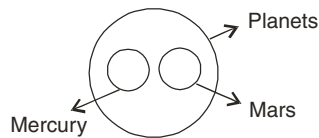
19. (C) Sun is a star. Moon is a satellite.



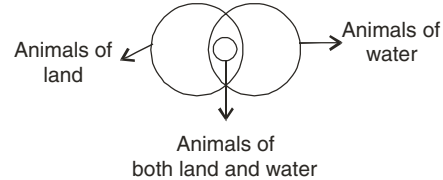
20. (C) Men belong to the class of animals. Plants entirely different from the two.



21. (A) Mercury and Mars though both are planets have entirely different entities.



22. (B) Clearly each one of the animals that live in water and on land, lies in both the other two categories. Also some of the animals that live on land also live in water.



23. (C) The required region is common to triangle and circle but not within the rectangle.  
 24. (B) The required region is common to the triangle and small circle only.  
 25. (C) The required region is only within the triangle.  
 26. (A) The required region is within both the circles but not in the triangle.  
 27. (B) The required region is common to the triangle and the big circle but not within small circle.  
 28. (D) The required region is within all the three figures.  
 29. (D) The required region is common to rectangle and triangle only.  
 30. (B) The required area is only within the circle.  
 31. (C) The region is within circle and square only.  
 32. (A) The region is within triangle, circle and rectangle, but not in the square.  
 33. (D) The area is common to circle and rectangle only.  
 34. (A) The area is only within the square.  
 35. (C) The area is common to square, rectangle and circle, but not in the triangle.  
 36. (B) The area common to square and rectangle only.  
 37. (A) The area common to X and Z only.  
 38. (D) As the circle is completely within the triangle. No other alternatives are possible.  
 39. (B) Rectangle (German-speaking) overlaps triangle (Hindi-speaking) and square (English-speaking).  
 40. (C) If this is true then all the figures including the circle are to be overlapped each other.

## V. SEQUENTIAL INPUT-OUTPUT TRACING TESTS

In this type of questions some inputs are given as a message comprising of randomised words followed by steps of rearrangement to give sequential outputs. You are to trace out the pattern of the rearrangement and determine the actual output asked in the questions.

### Example:

Study the following information to answer the given questions:

A word arrangement machine, when given an input line of words, rearranges them following a particular rule in each step. The following is an illustration of input and the steps of rearrangement:

Input : before its court seeking permission to carryout a test.

Step I : its before court seeking permission to carryout a test.

Step II : its before carryout court seeking permission to a test.

Step III : its before carryout court permission seeking to a test.

Step IV : a its before carryout court permission seeking to test.

Step V : a its before carryout court permission seeking test to.

As per the rules followed in the above steps, find out in the given questions the appropriate step for the given input.

**Questions:**

- Which step is the last step for the given input?  
Input : in this volume provides the  
(A) I (B) II (C) III (D) IV (E) None of these.
- Input : these many other clinicians and which of the following steps would be – and clinicians many these others?  
(A) I (B) III (C) IV (D) II (E) None of these.
- Step III of a certain line of words is like this – in play role schooling vital, which of the following will definitely be the input?  
(A) in play schooling vital role. (B) schooling play vital role in  
(C) in schooling play vital role (D) Cannot be determined  
(E) None of these.
- Which of the following will be Step II for an input – modern man is becoming a chronic victim?  
(A) a becoming modern man is chronic victim.  
(B) a becoming chronic modern man is victim.  
(C) a modern man is becoming chronic victim.  
(D) a becoming chronic is man modern victim.  
(E) None of these.

**Answers and Explanations:**

From the information and the arrangements in steps it is clear that the words have been arranged in alphabetical sequence altering the position of only one word at a time in each step. Following this rule if we rearrange the words given in the question we find.

- (C) Input : in this volume Provides the.  
Step I : in volume provides the this  
Step II : in provides volume the this  
Step III : in provides the this volume, so step III is last.
- (B) Input : these many other clinicians and  
Step I : and these many other clinicians.  
Step II : and clinicians these many others.  
Step III : and clinicians many these others. So, it is step III.
- (B) Tracing the output steps for an input we have Step III as given in the question, we must start with that first and going back like this.  
Step III : in play role schooling vital.  
Step II : in play schooling vital role.  
Step I : in schooling play vital role.  
Input : Schooling play vital role in.
- (A) Input : modern man is becoming a chronic victim.  
Step I : a modern man is becoming chronic victim.  
Step II : a becoming modern man is chronic victim. so, (A) is the correct answer.

**PRACTICE QUESTIONS****Directions for Questions 1-5:**

Study the following information and answer the questions given follow it: (Bank P.O. 1998)

The admission ticket for an exhibition bears a password which is changed after every clock hour based on set of words chosen for each day. The following is an illustration of the code an steps of rearrangement for subsequent clock hours. The time is 9 a.m. to 3 p.m.

Day's first password: *First Batch* – 9 a.m. to 10 a.m.

is not ready cloth simple harmony burning.

*Second Batch* – 10 a.m. to 11 a.m.

ready not is cloth burning harmony simple.

*Third Batch* – 11 a.m. to 12 noon.

cloth is not ready simple harmony burning.

*Fourth Batch* – 12 noon to 1 p.m.

not is cloth ready burning harmony simple.

*Fifth Batch* – 1 p.m. to 2 p.m.

ready cloth is not simple harmony burning and so on.

- If the password for the first batch was - "rate go long top we let have", which batch will have the password - "go rate top long have let we"?  
(A) Second (B) Third (C) Fourth (D) Fifth (E) None of these.
- Day's first password - "Camel road no toy say me not".  
What will be the password for fourth batch i.e. 12 noon to 1 p.m.?  
(A) road camel toy no not me say (B) no road camel toy not me say  
(C) toy no road camel not me say (D) toy camel road no say me not  
(E) None of these.
- If the batch 2 of the day has the password - "came along net or else key lot", what would be the password for batch 4 (i.e. 12 noon to 1 p.m.)?  
(A) net or came along else key lot. (B) came or net along lot key else.  
(C) or net along came lot key else. (D) along net or came else key lot.  
(E) None of these.
- If the password for 11 a.m. to 12 noon was - "soap shy miss pen yet the she", what was the password for the first batch?  
(A) pen miss shy soap she the yet (B) pen soap shy miss yet the she  
(C) soap pen miss shy she the yet (D) miss shy soap pen she the yet.  
(E) None of these.
- If the password for the 6th batch i.e. 2 P.M. to 3 P.M. is - "are trap cut he but say lap", what will be the password for 2nd batch i.e. 10-11 a.m.?  
(A) trap are he cut lap say but (B) he cut trap are lap say but  
(C) cut he are trap but say lap (D) are he cut trap lap say but  
(E) None of these.

### Directions for Questions 6-10:

Study the following information and answer the given questions:

A word arrangement machine, when given an input line of words, rearranges them following a particular rule in each step. The following is an illustration of input and the steps of rearrangement.

(S.B.I. P.O. 1997)

Input : Go for to Though By easy To Access at.

Step I : Access Go for to Though By easy To at.

Step II : Access at Go for to Though By easy To

Step III : Access at By Go for to Though easy To

Step IV : Access at By easy Go for to Though To

Step V : Access at By easy for Go to Though To

Step VI : Access at By easy for Go Though to To

Step VII : Access at By easy for Go Though To to

(and Step VII is the last step for this input).

As per rules followed in the above steps, find out in the given questions the appropriate step for the given input.

6. Input : story For around on was He at  
which of the following will be step IV for the given input?  
(A) around at For He on was story (B) around at For He on story was  
(C) around at For He story on was (D) around at He For story on was  
(E) None of these.
7. Input : every and peer to an for  
which of the following steps would be 'an and every for peer to'?  
(A) II (B) III (C) IV (D) V (E) None of these.
8. Input : Together over series on feast the so  
which of the following steps will be the last but one?  
(A) II (B) III (C) IV (D) V (E) None of these.
9. Input : Over Go For through at one  
which step number will be the last step of the above input?  
(A) III (B) V (C) VI (D) VII (E) None of these.
10. Step II of an input is as follows:  
'and Do pet to on that'. Which of the following would definitely be the input?  
(A) Do on pet to and that (B) Do pet to and that on  
(C) Do and pet to on that (D) Cannot be determined  
(E) None of these.

**Directions for Questions 11-14:**

Study the following information to answer the given questions:

A word arrangement machine, when given an input line of words, rearranges them following a particular rule in each step.

(S.B.I. P.O. 1995)

Input : As if it on an zoo figure of in at.

Step I : an As if it on zoo figure of in at.

Step II : an As at if it on zoo figure of in.

Step III : an As at figure if it on zoo of in.

Step IV : an As at figure if in it on zoo of.

Step V : an As at figure if in it of on zoo.

(and Step V is the last step for this input).

As per the rules followed in the above steps, find out in the given questions the appropriate step for the given input.

11. Which of the following will be step II for the given input?  
Input : am ace all if Is  
(A) ace all am Is if (B) all am ace if Is (C) Is if am ace all  
(D) ace all am if Is (E) None of these
12. Input : You are at fault on this  
which of the following steps would be – are at fault on you this?  
(A) I (B) II (C) III (D) IV (E) V
13. Input : Him and His either or her.  
Which step will be the last step for this input?  
(A) I (B) II (C) III (D) IV (E) V
14. Step IV of an input was like this – an apple at cot was red on one side  
Which of the following will definitely be the input?



- (A) was cot red an on at one apple side.      (B) cot an at apple was red on one side.  
 (C) apple at an cot was red on one side.      (D) Cannot be determined.  
 (E) None of these.

**Answers and Explanations:**

**For Questions 1-5:**

If we look at the steps we find how the arrangements are made e.g.

In the second batch, the first three and the last three words are rewritten in reverse order. In the third batch, first four and last three letters are again written in reverse order and the process is repeated again in the successive batches. Following this rule we find the answers (for every odd batch, 1st four and last three words, and for even batches, 1st three and last three words)

1. (C) 1st batch : rate go long top we let have  
 2nd batch : long go rate top have let we  
 3rd batch : top rate go long we let have  
 4th batch : go rate top long have let we = (C)
2. (A) 1st batch : camel road no toy say me not  
 2nd batch : no road camel toy not me say  
 3rd batch : toy camel road no say me not  
 4th batch : road camel toy no not me say = (A)
3. (D) 2nd batch : came along net or else key lot.  
 3rd batch : or net along came lot key else.  
 4th batch : along net or came else key lot = (D)
4. (B) 11 A.M. to 12 noon is the true for the third batch. So,  
 3rd batch : soap shy miss pen yet the she  
 2nd batch : miss shy soap pen she the yet  
 1st batch : pen soap shy miss yet the she = (B)
5. (C) 6th batch : are trap cut he but say lap  
 5th batch : he cut trap are lap say but  
 4th batch : trap cut he are but say lap  
 3rd batch : are he cut trap lap say but  
 2nd batch : cut he are trap but say lap = (C)

**For Questions 6-10:**

It is clear from the steps the words are rearranged according to the alphabetical order in a sequence altering only one word at time in each step. Following the rule we find:

6. (C) Input : story For around on was He at  
 Step I : around story For on was He at  
 Step II : around at story For on was He  
 Step III : around at For story on was He  
 Step IV : around at For He story on was = (C)
7. (B) Input : every and peer to an for  
 Step I : an every and peer to for  
 Step II : an and every peer to for  
 Step III : an and every for peer to = (B)
8. (D) Input : Together over series on feast the so  
 Step I : feast Together over series on the so  
 Step II : feast on Together over series the so

- Step III : feast on over Together series the so  
 Step IV : feast on over series Together the so  
 Step V : feast on over series so Together the (last but one step) = (D)  
 Step VI : feast on over series so the Together (last step)
9. (E) Input : over Go For through at one  
 Step I : at over Go For through one  
 Step II : at For over Go through one  
 Step III : at For Go over through one  
 Step IV : at For Go one over through = last step = (E)
10. (E) None of the given alternatives (A, B and C) becomes the desired input of the Step II given in the question.

**For Questions 11-14:**

It is clear from the arrangements in steps that the words are rearranged in alphabetical sequence by changing only one word in each step. Following this rule we find:

11. (D) Input : am ace all if Is.  
 Step I : ace am all if Is.  
 Step II : ace all am if Is = (D)
12. (D) Input : you are at fault on this  
 Step I : are you at fault on this  
 Step II : are at you fault on this  
 Step III : are at fault you on this  
 Step IV : are at fault on you this = (D)
13. (C) Input : Him and His either or her  
 Step I : and Him His either or her  
 Step II : and either Him His or her  
 Step III : and either her Him His or  
 Since, in Step III all the words are rearranged in alphabetical sequence it should be the last step. Hence the answer is (C).
14. (A) Tracing the output steps of an input we are to calculate backwards. Here we have step-4, as given in the question we may start with that first and going back like this.  
 Step IV : an apple at cot was red on one side.  
 Step III : an apple at was cot red on one side.  
 Step II : an apple was cot red on at one side.  
 Step I : an was cot red on at one apple side.  
 Input : was cot red an on at one apple side = (A).

**Step A**

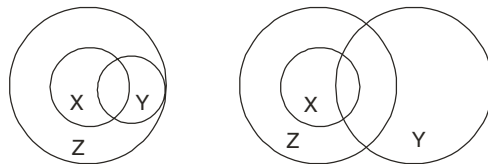
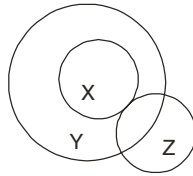
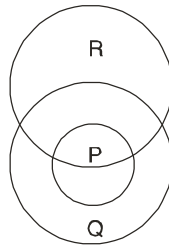


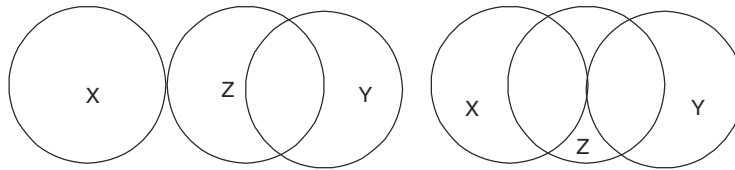
Diagram 17



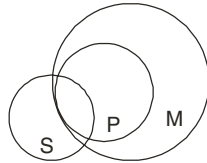
**Diagram 21**



**Diagram 24**



**Diagram 27**



**Diagram 45**

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## Statement Tests

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These tests are based on statements. Though these tests may be called as the parts of logical reasoning test, here some statements or assumptions or arguments are given followed by a few conclusions. Students have to say whether the said conclusions are valid or relevant or not. The questions may take any of the following forms: (i) statement-conclusion, (ii) statement-reasoning and (iii) statement-argument.

### **TYPE 1: STATEMENT-CONCLUSION TYPE**

In such questions one or more statements are given. The candidate is required to analyse the given statements, understand their implications and then decide whether the conclusions follow or not.

#### **Examples:**

#### **Directions for Questions 1-4:**

For each question below some statements are given followed by a conclusion you have to say whether the said conclusions:

- (A) necessarily follows from the statements.
- (B) is only a long drawn one.
- (C) definitely does not follow from the statements.
- (D) is doubtful.

1. *Statements:* (i) Early rising is good for health.  
(ii) Rama generally rises early in the morning.  
*Conclusion:* Therefore Rama has good health.
2. *Statements:* (i) All green apples are sour.  
(ii) All the apples of Simla are green.  
*Conclusion:* All the apples of Simla are sour.
3. *Statements:* (i) All boys in a hostel get up at 5 A.M..  
(ii) Robin is a boy.  
*Conclusion:* Therefore Robin gets up at 5 A.M..
4. *Statements:* (i) Last year there was a major train accident in March.  
(ii) Year before last there also was a major train accident during March.  
*Conclusion:* So this year also there will be a major train accident in the month of March.

**Answers and Explanations:**

1. (D) The word 'generally' in the 2<sup>nd</sup> statement makes the conclusion doubtful.
2. (A) The two statements directly lead to the conclusion.
3. (C) Because nowhere it is said that Robin lives in a hostel.
4. (B) Only two examples are not sufficient to come to a general conclusion.

**PRACTICE TEST****Directions for Questions 1-30:**

For each question below some statements are given followed by a conclusion. Study the statements and the conclusion carefully and say whether the said conclusion:

- (A) necessarily follows from the statements.  
 (B) is only a long drawn one.  
 (C) definitely does not follow from the statements.  
 (D) is doubtful.
1. *Statements:* (i) Ramesh generally walks in the morning.  
 (ii) Morning walk is good for health.  
*Conclusion:* Therefore Ramesh has good health.
  2. *Statements:* (i) Clouds are formed in the higher regions.  
 (ii) Mountains are high.  
*Conclusion:* Therefore there are more rains on the mountains.
  3. *Statements:* (i) People living in cold countries generally have white complexion.  
 (ii) Germany is a cold country.  
*Conclusion:* All Germans have white complexion.
  4. *Statements:* (i) Gastro-enteritis increases during rainy season.  
 (ii) July and August are the months of rain.  
*Conclusion:* The number of Gastro-enteritis patients is more during July and August than in other months.
  5. *Statements:* (i) Maximum growth of the brain takes place during the first few years of the child.  
 (ii) Protein is helpful for the growth of brain.  
*Conclusion:* Mental deficiency occur during early years of the child.
  6. *Statements:* (i) Metals are generally hard but ductile.  
 (ii) Stone is also hard but not ductile.  
*Conclusion:* So stone is not a metal.
  7. *Statements:* (i) Students who work hard and attend school regularly pass the examination.  
 (ii) Namita attends school regularly.  
*Conclusion:* So Namita must have passed the examination.
  8. *Statements:* (i) The sum of the angles of a triangle is 180 degrees.  
 (ii) The sum of the two sides of a triangle is greater than the third side.  
*Conclusion:* So ABC is a right angled triangle.
  9. *Statements:* (i) All Government offices are closed on Saturday.  
 (ii) Sudip is a government employee.  
 (iii) Today is Saturday.  
*Conclusion:* Sudip will not go to office today.
  10. *Statements:* (i) In Kolkata Schools start from 10 A.M.  
 (ii) Sonia is a school child.  
*Conclusion:* Therefore, Sonia should reach her school at 10 A.M.

11. *Statements:* (i) Vitamins are good for health.  
(ii) Fruits and Vegetables may contain vitamin.  
(iii) Apples are fruits and carrots are vegetables.  
*Conclusion:* Therefore those having weak health should take apples and carrots.
12. *Statements:* (i) Soma is better than Nagen in studies.  
(ii) Nagen and Dipak are equal in height.  
*Conclusion:* So Soma is also better than Dipak in studies.
13. *Statements:* (i) Milk or milk product is good for health.  
(ii) Tea is generally prepared with milk.  
(iii) Pratap regularly takes tea in the morning.  
*Conclusion:* Therefore Pratap is healthy.
14. *Statements:* (i) True art has power to move.  
(ii) Music often moves listeners.  
*Conclusion:* Music is an art.
15. *Statements:* (i) Cigarette smoking is injurious to health.  
(ii) Cigarette smoking generally causes cancer.  
(iii) Subodh is a chain-smoker.  
*Conclusion:* Therefore, Subodh will be attacked with Cancer in future.
16. *Statements:* (i) Some trees are tall.  
(ii) All tall trees are coconut trees.  
*Conclusion:* Therefore all trees are coconut trees.
17. *Statements:* (i) Students generally fail in Mathematics.  
(ii) Suman has failed in class X.  
*Conclusion:* Suman must have failed in Mathematics.
18. *Statements:* (i) Mahatma Gandhi was born on 2<sup>nd</sup> October.  
(ii) Lal Bahadur Shastri was also born on 2<sup>nd</sup> October.  
*Conclusion:* Therefore all children born on 2<sup>nd</sup> October are bound to be politicians.
19. *Statements:* (i) Power-cuts hamper production in mills.  
(ii) Workers' strike also affect production.  
*Conclusion:* Whenever there are power-cuts, there are strikes.
20. *Statements:* (i) Some mammals have four legs.  
(ii) Man is a mammal.  
*Conclusion:* Man must be having four legs.
21. *Statements:* (i) Ramesh works under Probir.  
(ii) Probir is junior to Rathin.  
*Conclusion:* Rathin is senior to Ramesh.
22. *Statements:* (i) A majority population of our country is illiterate.  
(ii) Majority generally plays a vital role in democracy.  
*Conclusion:* So a government in India is elected by the illiterates.
23. *Statements:* (i) Good Engineers are always good in Mathematics.  
(ii) Accountants have Mathematical ability.  
*Conclusion:* Accountants can be good Engineers.
24. *Statements:* (i) In a certain examination 70% boys pass in Mathematics.  
(ii) Only 30% pass in English.  
*Conclusion:* The boys who are good in Mathematics are bad in English.
25. *Statements:* (i) Doctors usually prefer to marry doctor.  
(ii) Sunil is a doctor.  
*Conclusion:* So, Sunil's wife must be a doctor.

26. *Statements:* (i) Othello and Desdimona died for each other.  
 (ii) Romeo and Juliet also met the same end.  
 (iii) In films often there are such happenings.  
*Conclusion:* Love never has happy ending.
27. *Statements:* (i) Too much use of cosmetics spoils the skin.  
 (ii) Mina does not use cosmetics.  
*Conclusion:* Mina's skin must be very good.
28. *Statements:* (i) Original paintings are rare to find.  
 (ii) They are also costly.  
*Conclusion:* Paintings displayed for sale at cheap rates are not originals.
29. *Statements:* (i) Those who want to lose weight should give up cream.  
 (ii) They should also control their sugar intake.  
*Conclusion:* Ice-creams are harmful for obesity.
30. *Statements:* (i) So far, all the Nobel laureates of India were from Kolkata.  
 (ii) Prof. Amartya Sen won the Nobel Prize in Economics.  
 (iii) Prof. Sen is also from Kolkata.  
*Conclusion:* So in future Nobel prize winners of India must be from Kolkata.

#### Answers and Explanations:

1. (D) The word 'generally' makes the conclusion doubtful.
2. (B) The conclusion is a long drawn one. It is only expectation.
3. (D) As in question 1.
4. (A) Both the statements clearly lead to the conclusion.
5. (C) No link between protein and mental deficiency is found from the statements.
6. (D) The word generally makes the conclusion doubtful.
7. (D) Here Namita shows only one quality, which is not sufficient to come to a conclusion. So, it is doubtful.
8. (C) Conclusion does not tally with the statements.
9. (A) Conclusion directly drawn from the statements.
10. (C) Nowhere it is written that Sonia lives in Kolkata.
11. (B) Apples and carrots are one type of fruit and vegetable. So, no conclusion can be drawn from this single type.
12. (C) No relation between studies and height.
13. (D) The word 'generally' makes the conclusion doubtful.
14. (A) The conclusion clearly follows the statements.
15. (D) The word 'generally' makes the conclusion doubtful.
16. (C) Some trees, not all trees are tall, so it contradicts the statements.
17. (D) The same as question 13.
18. (B) It is a long drawn one. No conclusion can be drawn with only two examples.
19. (C) Nowhere in the statements it is written that power-cut coincides with the strikes.
20. (C) Some mammals have four legs, not all mammals.
21. (A) The conclusion directly follows the statements.
22. (D) The word 'generally' makes the conclusion doubtful.
23. (B) No conclusion should be drawn from a single common factor.
24. (C) Conclusion does not tally with the statements.
25. (D) The word 'usually' makes the conclusion doubtful.
26. (B) The examples are too few for generalisation.
27. (B) It is a long drawn one.

28. (C) The conclusion does not follow the statements.  
 29. (A) The conclusion directly follows the statements.  
 30. (B) The conclusion is just hopefully based on the statements, hence long drawn one.

### TYPE 2: STATEMENT-REASONING TYPE

In making logical conclusions from some statements it is desirable to judge whether they logically follow from the given statements, disregarding commonly known facts. Because, sometimes, the statements, given to be true, even they seem to be at variance from commonly known facts.

#### Examples:

##### Directions for Questions 1-2:

1. *Statements:* All goats are cows but all cows are not goats.  
*Conclusion:* I. Some cows are goats.  
 II. Some goats are not cows.
2. *Statements:* At high altitudes there is less oxygen in the air.  
 Oxygen is necessary for life.  
*Conclusion:* I. Oxygen is necessary for burning.  
 II. Mountaineers need supplementing oxygen supply for their expedition.

#### Answers and Explanations:

1. (A) Only I follows the statements.  
 2. (B) Only conclusion II is correct as conclusion I does not have any reference in the statements.

## PRACTICE TESTS

### Directions for Questions 1-20:

Each question below consists of some statements followed by two conclusions numbered I and II. You have to decide whether the conclusions.

- (A) only I follows or, (B) only II follows or, (C) both I and II follow or  
 (D) either I or II follows or (E) neither I nor II follows from the statements.

1. *Statements:* If a body is moving it will continue moving in the same direction unless some force is applied to stop it. If someone brakes suddenly while driving a scooter moving fast.  
*Conclusions:* I. He will stop abruptly, without falling.  
 II. He will fall back.
2. *Statements:* His brother is a good football player.  
 He is a good cricketer.  
 His sister is a good singer.  
*Conclusions:* I. They are all talented.  
 II. They are all sportsmen.
3. *Statements:* Wood catches fire when heated.  
 Metals expand on heat.  
*Conclusions:* I. Wood may be a metal.  
 II. Wood cannot be a metal.
4. *Statements:* Robin is an early riser and has a habit of morning walk.  
 Probir also gets up early in the morning but does not go for a walk.



- Conclusions:* I. In one respect they are similar.  
II. In the other they are dissimilar.
5. *Statements:* A is the brother of B.  
C is the brother of A.  
*Conclusions:* I. B is a girl.  
II. B is a boy.
6. *Statements:* Fish is a protein food and good for health.  
Prawns are not fish.  
*Conclusions:* I. Prawn is not good for health.  
II. Chicken has got protein.
7. *Statements:* Oxygen and Hydrogen are gases.  
Water contains 2 parts of Hydrogen and 1 part of Oxygen.  
*Conclusions:* I. Water is also a gas.  
II. Water is a compound of two gases.
8. *Statements:* X is a friend of Y.  
Y is a friend of Z.  
*Conclusions:* I. X is a friend of Z.  
II. X, Y and Z are friends.
9. *Statements:* The metropolis does not represent the real India.  
*Conclusions:* I. People in New Delhi live in the western style.  
II. The real India can be seen only in the rural areas.
10. *Statements:* All the years that are divided by four, are leap years.  
*Conclusions:* I. 1964 was a leap year.  
II. 3000 will not be a leap year.
11. *Statements:* Treatment of Aids is very expensive.  
*Conclusions:* I. People with low incomes do not suffer from Aids.  
II. People prefer expensive treatment.
12. *Statements:* Dipak is studying in a co-educational college.  
In his class the students sit on dual desks, two on one desk.  
*Conclusions:* I. Dipak sits by the side of a boy.  
II. A girl sits by the side of Dipak.
13. *Statements:* Half of the people in a locality are Hindus. One fourth are Muslims.  
*Conclusions:* I. Hindus are in majority.  
II. One fourth people are neither Hindus nor Muslims.
14. *Statements:* Water, when heated changes into steam but when cooled changes into ice.  
*Conclusions:* I. Water is a gas.  
II. Water is a solid.
15. *Statements:* All the goats are tigers but all tigers are not goats.  
*Conclusions:* I. Some tigers are goats.  
II. Some goats are not tigers.
16. *Statements:* All the planets go round the sun. Satellites move in the orbit round the planets.  
*Conclusions:* I. Satellites move round the sun.  
II. Planets and satellites have parallel paths.
17. *Statements:* Fishes live in water.  
Tigers live in land.  
Amphibians live both in water and on land.  
*Conclusions:* I. Therefore fishes, amphibians and tigers belong to the same family.  
II. Both the amphibians and tigers can live in land.

18. *Statements:* Air is a bad conductor of heat.  
Cotton is also a bad conductor of heat.  
*Conclusions:* I. Quilts contain cotton as well as air to enable us to keep ourselves warm.  
II. During winter it is better to sleep in open air, instead of sleeping in a room.
19. *Statements:* Anxiety and tension create blood pressure.  
These also increase blood sugar level.  
*Conclusions:* I. Free from tension and mental anxiety leads to a good health.  
II. Diabetes patients should not be tensed.
20. *Statements:* Tanmoy is working hard for his M.Sc. Examination.  
He can cram facts and figures well.  
*Conclusions:* I. Tanmoy may succeed in the examination.  
II. Only good memory cannot help him to succeed in the examination.

**Answers and Explanations:**

1. (E) None of the conclusions follows from the statements.
2. (A) Only conclusion I follows, conclusion II is wrong.
3. (E)
4. (C) Both the conclusions are possible.
5. (D) Either conclusion I or II is possible, both not possible at the same time.
6. (E) None of the conclusions follows from the statements.
7. (B) Here only II follows, I is not correct.
8. (E) None of the conclusions follows from the statements.
9. (B) Only conclusion II follows.
10. (A) Only I is true.
11. (E) Both the conclusions are not relevant to the statements.
12. (D) Both cannot follow. Only one follows, either I or II.
13. (C) Both the conclusions can follow.
14. (E) Neither I or nor II follows from the statement.
15. (A) Only conclusion I follows from the statement.
16. (A) Only I follows from the statements.
17. (B) Only II follows from the statements.
18. (A) Only I can be possible not II.
19. (C) Both the conclusions I and II follow from the statement.
20. (D) Either conclusion I follows or conclusion II follows, both can not follow at a time.

**TYPE 3: STATEMENT-ARGUMENTS**

Sometime while making or justifying any decision we are to deal with certain arguments which may be 'strong' or 'weak'. 'Strong' arguments are those which are directly related to the decision and are very important too. Whereas 'weak' arguments may or may not directly related to the decision and have either minor importance or no importance at all.

In this type of questions, a statement is given, followed by two arguments. The candidate is required to analyse the statement first, then the arguments in context of the statement and then decide which of the arguments holds strong as regards the statement.

**Examples:****Directions for Questions 1 and 2:**

Each question below is a statement followed by two arguments numbered I and II. You have to decide which of the arguments is 'strong' and which is 'weak' and give answer accordingly if (A)

only I is strong (B) only II is strong (C) both I and II are strong (D) either I or II is strong (E) neither I nor II is strong.

1. A stitch in time saves nine.

**Arguments:**

- I. Yes, it is true that if we rectify the fault immediately, it does not magnify.
  - II. No, one should not worry unnecessarily.
2. Degrees should not be compulsory for jobs.

**Arguments:**

- I. No, they are compulsory, otherwise it will become very difficult to access the eligibility of candidates for a particular job.
- II. No, otherwise there would be a lack of motivation among the students towards education.

**Answers and Explanations:**

1. (A) Only Argument I is strong, the second one is hardly any argument in favour.
2. (C) Here both the arguments are equally strong.

## PRACTICE TESTS

**Directions for Questions 1-20:**

Each question below is a statement followed by two arguments numbered I and II. You have to decide which of the arguments is 'strong' or 'weak' and give answer accordingly if, either (A) only I is strong, or (B) only II is strong, or (C) both I and II are strong, or (D) either I or II is strong or (E) neither I nor II is strong.

1. Nuclear families are better than joint families.

**Arguments:**

- I. Yes, members of nuclear families enjoy greater freedom.
- II. No, in joint families there are greater security.

2. Sanskrit should be the national language of India.

**Arguments:**

- I. Yes, it is our cultural heritage.
  - II. Yes, because every Indians, more or less, knows the language.
3. Should railway travelling without a valid ticket be encouraged?

**Arguments:**

- I. Yes, railway fares are excessively high.
- II. No, it is antinational to do so.

4. Should smoking be prohibited?

**Arguments:**

- I. Yes, smoking needs to be abolished because it is injurious to health.
- II. No, otherwise it will throw thousands of workers in the tobacco industry out of employment.

5. English language should be made compulsory in primary education in our country.

**Arguments:**

- I. Yes, with only the knowledge of English language, students could be enriched in education.
  - II. No, it would be an extra burden of language for the little children, because only mother tongue can help the student to enrich in education.
6. Honesty always pays.

**Arguments:**

- I. Amongst dishonest people it may not pay immediately.
  - II. Amongst honest people it does pay immediately.
7. Begging should be banned.

**Arguments:**

- I. Begging lowers the self esteem of a person.
  - II. Begging is not good.
8. Inter-caste marriages should be encouraged.

**Arguments:**

- I. Yes, this will lead to National integration.
  - II. No, this will lead to a lot of maladjustment of married couples in adjusting with the rituals and dogmas of different castes.
9. Plain living and high thinking is a good principle of life.

**Arguments:**

- I. This makes one a great person.
  - II. No, one cannot think high with simple living.
10. Married life is better than unmarried life.

**Arguments:**

- I. Married life enables one to adjust better emotionally.
  - II. Unmarried persons can contribute more to the welfare of the society.
11. Should one follow a more or less rigid programme daily?

**Arguments:**

- I. Yes, it will lead to better discipline.
  - II. No, it will kill creativity in individual.
12. Should all property belong to State?

**Arguments:**

- I. Yes, it will ensure equitable distribution of necessities of life to all.
  - II. No, it will kill private endeavour.
13. Traditional culture is better than the new culture.

**Arguments:**

- I. The new culture is ruining the society.
- II. Both have their good points as well as weak points.

14. The drop-outs in elementary schools can be checked.

**Arguments:**

- I. By increasing awareness among the parents.
- II. With the improvement of economic condition of the families.

15. Should students have their unions.

**Arguments:**

- I. Yes, it will help fighting for the cause of the students.
- II. No, it will hamper their study.

16. Are children free from worries?

**Arguments:**

- I. Yes, their interests are looked after by their guardians.
- II. No, they have worries of their own.

17. Racial prejudices should be abolished.

**Arguments:**

- I. An ordinance to this effect can achieve the purpose.
- II. Proper legislation is required for the purpose.

18. Should those who receive dowry, despite the law prohibiting it, be punished?

**Arguments:**

- I. Yes, those who violate the law, must be punished.
- II. No, dowry system is firmly rooted in the society since time immemorial.

19. Are engine drivers responsible for train accidents?

**Arguments:**

- I. Yes, because they are careless.
- II. No, it occurs only because of wrong signals.

20. Are solved papers useful for students?

**Arguments:**

- I. Yes, students can have ready-made materials from these papers.
- II. No, they hamper the student's creativity and mental ability.

**Answers and Explanations:**

1. (C) Both the arguments are equally strong.
2. (E) None of the arguments puts forth any support to the proposition.
3. (B) Here only argument II is strong, the first one is hardly any argument in favour.
4. (A) Here argument I is much stronger than the second argument.
5. (D) Here either of the arguments may be strong but not both at the same time.
6. (C) Here both the arguments are equally strong.
7. (A) Here only argument I is strong, argument II is not at all an argument.
8. (A) Here also argument I is much relevant for the proposition.
9. (A) Here only argument I is relevant.
10. (C) Here both the arguments are equally strong for the proposition.
11. (D) Though both the arguments are strong, they can't go together.
12. (C) Both arguments are weighty.

13. (B) Here only argument II is strong.
14. (C) Both arguments are essential for the proposition.
15. (C) Both arguments are strong.
16. (B) The second argument is stronger than the first.
17. (E) Prejudice is something psychological and cannot be removed by any law.
18. (A) Laws are generally made to ensure that no person pursues any wrong practice, however deeply rooted it may be. So, persons who violate the laws should be punished and for that argument I hold and argument II is vague.
19. (D) There are both the possibilities, it could be either way.
20. (B) Here the second argument is stronger than the first.

#### **TYPE 4: STATEMENT AND COURSES OF ACTION**

In this type of questions some report or statement is given followed by two or three suggested courses of actions. You are to find out the appropriate course or courses of action assuming the problem or policy being talked about in the statement.

#### **Examples:**

1. *Statement:* There will be a summit talk between India and Pakistan in the month of July this year.

*Courses of action:*

- I. They will discuss only the main issue, i.e. Kashmir.
- II. They should discuss and resolve all the issues including Kashmir.

2. *Statement:* Six infants died on the same day at the medicine ward of a hospital.

*Courses of action:*

- I. All the attending physicians of the medicine ward are to be dismissed immediately.
- II. An enquiry is to be done immediately and possible preventive measures are to be taken.

3. *Statement:* The death toll from consuming mushrooms in Darjeeling has risen to ten.

*Courses of action:*

- I. An immediate enquiry in this regard should be done and in order to find out the actual causes of death and preventive measures to be taken accordingly.
- II. Production and consumption of mushrooms are to be stopped immediately by an ordinance.

4. *Statement:* The army has been alerted in the coastal areas of Gujarat following a meteorological warning of severe cyclonic storm within 48 hours.

*Courses of action:*

- I. People of coastal areas should be shifted to the safer places.
- II. Relief to these people should be arranged.
- III. Adequate medical facilities should be arranged.

#### **Answers and Explanations:**

1. There are many problems between India and Pakistan, of which Kashmir is one of these. All these problems are to be solved mutually through bilateral discussion between the heads of two neighbouring countries. So, only II course of action is important here and must follow.
2. The death of so many infants at a same time in a hospital is a very serious issue. An immediate enquiry and preventive measure should be taken immediately. So, only courses of action II follows here.
3. So many death from mushroom consumption is also a serious issue. An immediate enquiry is to be done to find out whether these mushrooms were poisonous or not or any other cause for such death and preventive measures are to be taken accordingly. So course of action I will follow.
4. Since severe damage may be caused by cyclone, so all the courses of actions are to be taken.

## PRACTICE TESTS

### Directions for Questions 1-25:

In each question below is given a Statement followed by two Courses of action numbered I and II. Assuming the problem given in the statement you have to decide which course of action is to be taken or logically follows and answer in the following way:

- |                                |                                  |
|--------------------------------|----------------------------------|
| (A) If only I follows;         | (B) If only II follows;          |
| (C) If either I or II follows; | (D) If neither I nor II follows; |
| (E) If both I and II follows.  |                                  |

1. *Statement:* A devastating earthquake has ravaged the city of Bhuj killing thousands of people and rendering many more homeless.

*Courses of action:*

- I. The affected people should immediately be shifted to the alternate temporary housing in a safer place.
- II. Government and civic administration should immediately arrange for relief, food, medicine for the victims.

2. *Statement:* Chinese missiles can strike major Indian cities.

*Courses of action:*

- I. India should ask China to stop its missile production.
- II. India should take immediate preventive measures for its defence.

3. *Statement:* The already high prices of potatoes in the state will increase further owing to a mismatch in demand and supply.

*Courses of action:*

- I. State Government should take immediate steps to stop transporting potatoes outside the state by the businessmen and buy potatoes from elsewhere so that supply in the state can be maintained.
- II. People should be asked to stop consuming potatoes.

4. *Statement:* Youngsters are often found staring at obscene posters. *(Bank P.O., 1993)*

*Courses of action:*

- I. Children should be punished and penalised if they are found doing so.
- II. Any display of such material should be banned.

5. *Statement:* Since its launching in 1981, Vayudoot has so far accumulated losses amounting Rs. 153 crore during the last ten years. *(Bank P.O., 1992)*

*Courses of action:*

- I. Vayudoot should be directed to reduce wasteful expenditure and to increase passenger fare.
- II. An amount of about Rs. 300 crore should be provided to Vayudoot to make the airliner economically viable.

6. *Statement:* There are more than 200 villagers in the hill area of Uttar Pradesh which are severely damaged due to cyclone and it causes an extra burden of Rs. 200 crore on State Government for relief and rehabilitation work. *(Bank P.O., 1993)*

*Courses of action:*

- I. People of hill area should be shifted to other safer places.
- II. State Government should ask more financial support from Central Government.

7. *Statement:* One of the problems facing the food processing industry is the irregular supply of raw material. The producers of raw material are not getting the reasonable price.

*(Bank P.O. 1993)*

*Courses of action:*

- I. The Government should regulate the supply of raw material to other industries also.



- II. The Government should announce an attractive package to ensure regular supply of raw material for food processing industry.
8. *Statement:* If the retired Professors of the same Institute are also invited to deliberate on restructuring of the organisation, their contribution may be beneficial to the Institute.

(Bank P.O., 1996)

*Courses of action:*

- I. Management may seek opinion of the employees before calling retired professors.
- II. Management should involve experienced people for the systematic restructuring of the organisation.
9. *Statement:* Doordarshan is concerned about the quality of its programmes particularly in view of stiff competition it is facing from STAR and other satellite T.V. channels and is contemplating various measures to attract talent for its programmes.

(Bank P.O., 1993)

*Courses of action:*

- I. In an effort to attract talent, the Doordarshan has decided to revise its fee structure for the artists.
- II. The fee structure should not be revised until other electronic media also revise it.
10. *Statement:* Universities of Eastern regions are facing severe financial crisis even to run their regular courses.

*Courses of action:*

- I. These Universities should close down some of its regular courses immediately till the situation improves.
- II. The Universities should curtail the staff strength at least by 50% immediately.
11. *Statement:* The minister said that the teachers are still not familiarised with the need, importance and meaning of population education in the higher education system. They are not even clearly aware about their role and responsibilities in the population education programme.

(Bank P.O. 1996)

*Courses of action:*

- I. Population education programme should be included in the college curriculum.
- II. Orientation programme should be conducted for teachers on population education.
12. *Statement:* The Government has decided not to provide financial support to voluntary organisation from next five year plan and has communicated that all such organisations should raise funds to meet their financial needs.

(Bank P.O. 1993)

*Courses of action:*

- I. Voluntary organisations should explore other sources of financial support.
- II. They should collaborate with foreign agencies.
13. *Statement:* Exporters in the capital are alleging that commercial banks are violating a Reserve Bank of India directive to operate a post shipment export credit denominated in foreign currency at international interest rates from January this year.

(Bank P.O., 1992)

*Courses of action:*

- I. The officers concerned in the commercial banks are to be suspended.
- II. The RBI should be asked to stop giving such directives to commercial banks.
14. *Statement:* The sale of Ambassador car has gone down considerably in recent years causing great concern to the company.

*Courses of action:*

- I. The company should make a proper study of other rival cars in the market.
- II. The price of the ambassador car should be reduced much to attract the prospective buyers.



15. *Statement:* India's performance in the recent Olympic games was very poor not even a single medal could be bagged by the players. Government has spent Rs. 5 crores in training and deputing a team of players to participate in the Olympic games. (Bank P.O. 1992)

*Courses of action:*

- I. India should stop sending players to the future Olympic games.
  - II. Government should immediately set up an enquiry commission to find out the reason for India's dismal performance.
16. *Statement:* A leading U.S. multinational engineering and construction firm is keen to invest in India in a variety of sectors ranging from power to land management. (Bank P.O. 1992)

*Courses of action:*

- I. Such multinational companies should not be allowed to operate in India.
  - II. India should encourage multinational companies from other developed countries to invest in power sectors to bring in competitive climate.
17. *Statement:* The chairman stressed the need for making education system more flexible and regretted that the curriculum has not been revised in keeping with the pace of the changes taking place. (Bank P.O. 1996)

*Courses of action:*

- I. Curriculum should be reviewed and revised periodically.
  - II. System of education should be made more flexible.
18. *Statement:* The Asian Development Bank has approved a \$285 million loan to finance a project to construct coal ports by Paradip and Madras Port Trusts. (Bank P.O., 1992)

*Courses of action:*

- I. India should use financial assistance from other International financial organisations to develop such ports in other places.
  - II. India should not seek such financial assistance from the International financial agencies.
19. *Statement:* The Government could consider the possibility of increasing the software budget from the current Rs. 20 crore to Rs. 100 crore in the Eighth Plan, provided there are concrete suggestions for the utilisation of the funds. (Bank P.O., 1993).

*Courses of action:*

- I. The Government should consult the trade unions in this regard.
  - II. Software companies should submit detailed proposals to the Government.
20. *Statement:* There is a serious constitutional crisis in the State of Manipur after its two years old elected government lost its majority in the State Assembly due to a large scale defection.

*Courses of action:*

- I. Opposition parties should be invited by the Governor to form the Government.
  - II. President's rule should be imposed in the State immediately after desolving the State Assembly.
21. *Statement:* The secretary lamented that the electronic media was losing its credibility and that it should try to regain it by establishing better communications with the listeners and the viewers. He also emphasised the need for training to improve the functioning. (Bank P.O, 1993)

*Courses of action:*

- I. Efforts should be made to get organised feedback on the programme.
  - II. The critical areas in which the staff requires training should be identified.
22. *Statement:* Orissa and Andhra Pradesh have agreed in principle to set up a joint control board for better control, management and productivity of several inter-state multipurpose projects. (Bank P.O. 1992)

*Courses of action:*

- I. Other neighbouring states should set up such control boards.

II. The proposed control board should not be allowed to function as such joint boards are always ineffective.

23. *Statement:* Like previous years, this year also at the beginning of the monsoon Malaria has become a major epidemic in the city. (Bank P.O. 1995)

*Courses of action:*

I. People should use mosquito net during sleeping as a precautionary measure.  
II. State Government should ask people to use mosquito repellent as a precautionary measure.

24. *Statement:* Usually Judicial courts take too long is deciding important disputes of various departments.

*Courses of action:*

I. Courts should be avoided for such cases.  
II. Courts should be ordered to speed up matters.

25. *Statement:* The Government will slap legally enforceable penalties on coal companies defaulting on quality and quantity of coal supplies to bulk consumers, especially to the thermal power stations. (Bank P.O. 1993)

*Courses of action:*

I. The requirement of coal for thermal power stations should be assessed realistically.  
II. The coal companies should introduce welfare measures for their employees.

#### Directions for Questions 26-40:

In each question below a statement is given followed by three courses of action numbered I, II and III. Analyse the statement and decide which of the three courses of action logically follows and answer according to the alternative answers given along with each question.

26. *Statement:* If the faculty members also join the strikes there is going to be a serious problem. (Bank P.O. 1993)

*Courses of action:*

I. The faculty members should be persuaded not to go on strike.  
II. Those faculty members who join the strike should suspended.  
III. The management should not worry about such small things.  
(A) None follows (B) Only I follows (C) Only I & II follow  
(D) Only II & III follow (E) All follow.

27. *Statement:* Higher disposal costs encourage those who produce waste to look for cheaper ways to get rid of it. (Bank P.O. 1993)

*Courses of action:*

I. The disposal costs should be made higher.  
II. The disposal costs should be brought down.  
III. A committee should be set up to study the details in this respect.  
(A) All follow (B) Only I follows (C) Only II follows  
(D) Either I & II follow (E) Only I & III follow.

28. *Statement:* The army has been alerted in the district following floods triggered by incessant rains.

*Courses of action:*

I. Relief to flood affected people should be arranged.  
II. Supply of food articles should be arranged.  
III. Adequate medical facilities should be arranged.  
(A) None follows (B) only I follows (C) only II follows  
(D) Only I & III follow (E) All follow.

29. *Statement:* Faced with a serious resource crunch and a depressing overall economic scenario,

Orissa is unlikely to achieve the targeted percent compound annual growth rate during the 8th plan. (Bank P.O., 1993)

*Courses of action:*

- I. The target growth should be reduced for the next year.
  - II. The reasons for the failure should be studied.
  - III. Orissa's performance should be compared with that of other States.
    - (A) None follows (B) Only I follows (C) Only II & III follow
    - (D) Only I & III follow (E) All follow.
30. *Statement:* Over 27,000 bonded labourers identified and freed are still awaiting rehabilitation. (Bank P.O. 1993)

*Courses of action:*

- I. More cases of bonded labourers should be identified.
  - II. Till the proper rehabilitation facilities are available, the bonded labourers should not be freed.
  - III. The impediments in the way of speedy and proper rehabilitation of bonded labourers should be removed.
    - (A) None follows (B) Only I follows (C) Only II follows
    - (D) Only III follows (E) Only II and III follow.
31. *Statement:* In one of the worst accidents in an unmanned railway level crossing fifty people died when a bus carrying them collided on to a running train. (Bank P.O., 1995)

*Courses of action:*

- I. The train driver should immediately be suspended.
  - II. The driver of the bus should be tried in court for negligence on his part.
  - III. The railway authority should be asked to man all its level crossings.
    - (A) None follows (B) Only I & II follow (C) Only III follows
    - (D) Only II & III follow (E) None of these.
32. *Statement:* There was a spurt in criminal activities in the city during the recent festival season. (Bank P.O. 1995)

*Courses of action:*

- I. The police should immediately investigate into the causes of this increase.
  - II. In future the police should take adequate precautions to avoid recurrence of such situation during festival.
  - III. The known criminals should be arrested before any such season.
    - (A) None follows (B) Only I & II follow (C) Only II & III follow
    - (D) All follow (E) None of these.
33. *Statement:* The weather bureau has through a recent bulletin forecast heavy rainfall during the next week which may cause water logging in several parts of the city. (Bank P.O. 1995)

*Courses of action:*

- I. The bulletin should be given wide publicity through the mass media.
  - II. The civic authority should keep in readiness the pumping system for removal of water from these parts.
  - III. The people should be advised to stay indoors during this period.
    - (A) None follows (B) Only I & II follow (C) Only II follows
    - (D) Only II & III follow (E) None of these.
34. *Statement:* In the Teacher's day function, Sri Roy, a state awardee and a retired principal, had questioned the celebration of Teacher's day in "today's materialistic world". (S.B.I. P.O., 1994)

*Courses of action:*

- I. The expenditure on Teacher's day celebration should be reduced.

- II. More funds should be allocated for the celebration of Teacher's day.  
 III. The role and responsibilities of teachers should be seen in today's perspective.  
 (A) None follows (B) Only II & III follow  
 (C) All follow (D) Either I or II follows  
 (E) Only III follows.
35. *Statement:* Lack of coordination between the University, its colleges and various authorities has resulted in students ousted from one college seeking migration to another. (S.B.I. P.O., 1994)

*Courses of action:*

- I. If a student is ousted from a college, the information should be sent to all the other colleges of the University.  
 II. The admission to all the colleges of the University should be handled by the University directly.  
 III. A separate section should be made for taking strict action against students indulging in anti social activities.  
 (A) Only I follows (B) Only II follows (C) Only III follows  
 (D) Only I & III follow (E) Only II & III follow.
36. *Statement:* According to officials, paucity of funds with the organisation has led to the pathetic condition of this brilliant architectural structure. (S.B.I. P.O., 1994)

*Courses of action:*

- I. A new architectural structure for the building should be designed.  
 II. The reasons for the poor condition of the structure should be found out.  
 III. Grant should be given to improve the condition of the structure.  
 (A) Only I follows (B) Only II follows (C) Only II & III follow  
 (D) Only III follows (E) Only I & III follow.
37. *Statement:* The Institute has fixed for the investors a validity period of one year for transfer forms for some of its listed schemes. (S.B.I. P.O., 1994)

*Courses of action:*

- I. The Institute should consult investors before fixing the duration of validity period.  
 II. The investors should be duly informed about the validity period.  
 III. List of schemes covered under this validity period should be communicated.  
 (A) Only I & II follow (B) Only III follows  
 (C) Only I & III follow (D) Only II & III follow  
 (E) All follow.
38. *Statement:* In the city, over 75 per cent of the people are living in slums and sub-standard houses which is a reflection on the housing and urban development policies of the Government. (S.B.I. P.O., 1994)

*Courses of action:*

- I. There should be a separate department looking after housing and urban development.  
 II. The policies in regard to urban housing should be reviewed.  
 III. The policies regarding rural housing should also be reviewed so that such problems could be avoided in rural areas.  
 (A) Only I follows (B) Only I & II follow  
 (C) Only II follows (D) Either II or III follows  
 (E) Only II & III follow.
39. *Statement:* Without the active cooperation between the proprietor and the employees of the mill, it cannot remain a profitable concern for long. (Bank P.O. 1994)

*Courses of action:*

- I. The mill should be closed down.  
 II. The workers should be asked to cooperate with the owners.

- III. The owner should be asked to cooperate with the employees.  
 (A) None follows (B) Only I & II follow  
 (C) All follow (D) Only II & III follow  
 (E) None of these.
40. *Statement:* The department of Education has recommended that the Primary level admission to Government and Government aided schools should be done purely by random selection and not by admission tests. This is necessitated as the number of admission seekers are much more than the available seats. *(Bank P.O. 1995)*

*Courses of action:*

- I. The Government should instruct the private schools also to follow the same practice.  
 II. The Government should set up an independent body to regulate the primary level admissions.  
 III. The schools should be asked to select students only from those who stay in the neighbouring area of the school.  
 (A) None follows (B) Only I & II follow (C) Only II & III follow  
 (D) Only II follows (E) None of these.

**Answers and Explanations:**

1. (E) Here both the actions logically follow as in natural calamities like earthquakes such actions should immediately be taken.
2. (B) In a situation a possible threat to our defence, India should strengthen its defence first, hence only II follows logically. Action I is irrelevant here.
3. (A) Here also action II is irrelevant. Action I is the most appropriate step to check the price rise of potatoes.
4. (B) Bad things often attract youngsters, but often they are not quite aware of those, but punishing them should not be the remedy, they should be made aware or rather convinced in this regard. So, best way is to stop display of such type of posters.
5. (A) Only way to reduce the loss is to reduce the wasteful expenditure, at the same time for economic gain, passenger fare may be increased, hence I follows.
6. (E) In natural calamities like cyclone, top priority to be given to action I and for relief work, huge amount needed must be met by the central government, so both the actions should follow here.
7. (B) For a food processing industry a regular supply of raw material is a must, hence action II is must here.
8. (B) For restructuring of any organisation top priority to be given to get the help of experienced people, hence only II follows. For this opinion of all the employees will do no good.
9. (A) In a competitive market Doordarshan, as a national channel should take upperhand in attracting talents, without waiting for the other rival groups. So, action I logically follows here.
10. (D) None of the actions is the remedial measure for a fund crunch University, only Government grant and reduction of wasteful expenditure will help, hence none of the courses follows here.
11. (B) In order to make awareness and knowledge to the teachers regarding population programme, orientation course is most helpful, which should be taken immediately, hence only II follows here.
12. (A) Voluntary organisations should not depend entirely on government grant it should explore other sources also, hence only I follows here.
13. (D) Here the allegation against the commercial banks is the violation of R.B.I., but none of the actions has taken any step against this, hence none follows.

14. (A) The cause of diminished sale of any product in the market is that it lost to attract people, hence, to assess that a proper study of other rival cars whose sale have increased, and then proper action may be taken, hence only I follows.
15. (B) In a competition first step to find out is weakness of the team and then take remedial measures, hence only II follows here.
16. (B) Such arrangement should always be welcomed for the development of the country, hence only II follows here.
17. (E) With the change of time periodical review and revision of curriculum should be done at the same time education should be made more flexible, hence both courses of action follow.
18. (A) For the development of a country funding from outside agencies is always welcome, hence the action I follows.
19. (B) Government funds to any projects should be properly utilised and for this detailed proposal should be submitted to the government in advance; hence only action II follows here.
20. (C) In such constitutional crisis either there should be an alternative government or President's rule, no other option is there. But both cannot be done at the same time, hence either I or II follows.
21. (E) To gain the credibility of the electronic media both the actions are to be taken.
22. (A) If two states of the country have proved the effectiveness of such control board, other state should also follow that, hence I follows.
23. (C) As a preventive measure against malaria any one of the courses action will do.
24. (B) For quick disposal of cases, courts should be speeded up; avoiding the court is not the solution, hence only II will follow.
25. (D) None of the courses of action is the remedy for the default of supply, so neither I nor II follow.
26. (B) In this case somehow faculty members are to be refrained from joining the strike, hence only I follows.
27. (E) Waste disposal is a must and at the same time its cost should not be less, otherwise the waste producers would be encouraged, hence only I and III will follow.
28. (E) For the flood affected people all the three courses of action are equally important, hence all follow.
29. (C) Under this circumstances Orissa's performance during the 8th plan should be studied in comparison with other states and its reasons behind the failure also be detected, hence II and III follow.
30. (D) All freed bonded labourers are to rehabilitate quickly, hence only III follows.
31. (C) To prevent this sort of accidents in every unmanned level crossings there should be man; hence only III follows.
32. (D) As a precautionary measure all the three courses of action may follow.
33. (D) In such a situation instead of wide publicity, prevention and relief and rescue operations are the immediate need, hence only II and III follow.
34. (E) What Shri Roy was meant to say that mere celebration of Teacher's day won't do its purpose, the role and responsibilities of the teachers were also to be judged in this day; hence only III follows.
35. (A) In order to prevent such situation there should be proper coordination between the University and its Colleges, hence only I follows here.
36. (D) Under the present circumstance only remedy is more fund to the organisations, hence only III follows here.

37. (D) Validity period and details of transfer forms for the schemes of the Institute should be communicated to the investors in proper time, hence only II and III will follow. To fix the validity period is the administrative measure of the Institute, which should not be consulted with the outsiders.
38. (B) It is a matter of urban area development, there is no scope of rural housing here, hence only I and II follow.
39. (D) A mill would be profitable only by mutual cooperation between its employer and employees, hence only II and III follow.
40. (A) As the number of Government and Government aided primary schools are meagre in comparison to the pupils, primary level admission to these schools should be by random selection only. So all the three courses of action are irrelevant here.



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## Critical Reasoning Tests

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The critical reasoning tests are designed to test the ability to evaluate an assumption, paragraph, inference or argument. This test is also basically a type of reasoning test, but it measures the following abilities:

- (a) to comprehend
- (b) to draw inference from a given statement or passage
- (c) to recognise assumptions underlying the given statement
- (d) to examine the validity of an assumption in the light of given subsequent statements
- (e) to evaluate the arguments and counter arguments.

Each question consists of a short passage/paragraph/proverb/statement/argument followed by a question or an assumption or conclusion about the said passage/statement, etc. The principal object of the critical reasoning test is to test skills in constructing and evaluating arguments. An argument is a sequence of two or more phrases, clauses, sentences or statements followed by a conclusion.

**Example:**

**Sentence:**

He has got a high fever, he must have been suffering from malaria.

Here the first part of the sentence, 'He has got a high fever', is a premise and the second part of the sentence, i.e., 'he must have been suffering from malaria', is the conclusion of the sentence based on the premise. Now, the question is, whether the said conclusion is valid or not. Here, the conclusion is not valid. Because, 'high fever' may be the cause for a variety of diseases, so, no definite conclusion can be drawn here.

There may be a few types of critical reasoning tests, e.g., (i) paragraph type, (ii) proverb/assumption type, (iii) inference type, (iv) flaws type and (v) statements of facts.

**TYPE 1: PARAGRAPH TYPE**

This type consists of a paragraph followed by a few conclusions drawn from the paragraph. Your task will be to study the paragraph carefully and assess the conclusions whether they are:

- (A) Definitely true
- (B) Probably true
- (C) Can't say
- (D) Probably false
- (E) Definitely false.



**Example:****Paragraph:**

Blood flow in human or animal body is indeed complex due to very complicated structure and function of blood and blood vessels. However the structure and function of blood as well as blood vessels including the various aspects of blood flow are widely used for the diagnosis of pathological pattern in human or animal physiology.

**Conclusions:**

1. Blood is composed by many chemicals.
2. The composition of blood helps in the diagnosis of various ailments.
3. In man the blood flow system is very simple.
4. Pathological pattern of a disease is very much understood from the examination of blood.
5. Various aspects of blood flow are important for diagnosis.
6. Diagnosis of a disease in human being is not always possible only by the blood test.

**Answers and Explanations:**

1. (C) No such information given in the paragraph.
2. (A) It is clearly described in the paragraph.
3. (E) It contradicts the paragraph.
4. (B) It may be true.
5. (A) It is clearly written in the paragraph.
6. (D) It seems to be a vague statement and probably false.

## PRACTICE TEST

**Paragraph:**

In the sphere of education, in order to foster awareness and understanding of the impact of ecological interdependence, environment education should be made compulsory in the curricula of colleges and schools, starting from the primary level. This education, while catering to students should also be imparted to adults and professionals whose activities are directly concerned with the preservation, improvement and quality of the environment.

**Conclusions:**

1. Environment education should be included in the curriculum of the primary education.
2. In the environment there is interdependence of human life and animal life.
3. Education should lead to character building.
4. Environment education should be given to all adults.
5. There are certain things in nature which do not fall within the ecological interdependence.
6. Environmental awareness should be encouraged among the students.
7. Quality of environment is generally improved with the environment education.

**Paragraph:**

At the time of introduction of computer system in India there was an abrupt objection to its introduction by the leaders of various Trade Unions. It was argued that this technical device will certainly minimise the chances of employment. It was described as anti-labour. Indian Statistical Institute, Calcutta, got the first computer system in India. But the results are just the reverse. It has, not only created better opportunities for fresh jobs, but has also entrusted the employees with more creative jobs, motivation and job satisfaction with qualitative and quantitative advancement in the

routine work. In fact such technological changes should always be welcomed with enthusiasm, leaving aside the wrong notions.

**Conclusions:**

8. Trade Unionist do not believe in the nation's progress.
9. Computer system has proved very useful for the workers.
10. Labourers have wrong notions about the various schemes launched by the government.
11. Shallow knowledge is the cause of various industrial disputes.
12. Technological advancement brings satisfaction among the working class.
13. India's first computer system was introduced in Calcutta.
14. There was labour unrest in the Indian Statistical Institute for the introduction of computer system.
15. Computer system can also create jobs.
16. Employment opportunity is not at all minimised with the introduction of computer system.
17. The notion of the Trade Union leaders about the computer system in India was found perfect.

**Paragraph:**

Growth indicates improved motor performances with age. Growth is more than enlargement. Parts of the body change in relative size, glands and their secretion take on new functions and innumerable changes take place in the body's microanatomy and biochemistry. Change in height and weight is most striking in early adolescence. Adolescence sees great increase in height and weight, change from childish to adult body proportions, change in the sexual organs, change in the glandular functions and change in voice.

**Conclusions:**

18. Growth means obesity.
19. Physical changes of human body generally takes place during puberty.
20. Change in height and weight usually occurs during adolescence.
21. Glands stop secretion with the advancement of adolescence.
22. Biological changes of the body extend over several years.
23. Change of voice does not depend on the glandular function.
24. In adolescence, the child undergoes some behavioral changes also.
25. Girls enter the adolescence ahead of boys.

**Paragraph:**

Having a lot of money is not civilised. A man who has all the wealth and luxury at his command may be miles away from culture and the term 'civilised'. On the other hand, some intellectual, living in a remote slum may enrich the civilisation through his precious contribution and may be thoroughly cultured and civilised.

**Conclusions:**

26. All rich men are uncivilised.
27. The rich never contribute to civilisation.
28. Money is no standard for judging 'culture and civilisation'.
29. People living in slums are highly cultured.
30. All people living in slums contribute towards civilisation.

**Answers and Explanations:**

1. (A) It directly follows the paragraph.
2. (C) It is nowhere mentioned in the paragraph.
3. (E) It does not follow the paragraph at all.

4. (B) Though it is not directly mentioned in the paragraph there are some hints, so it is probably true.
5. (D) It seems to be a vague statement and probably false.
6. (A) It directly follows from the paragraph.
7. (B) Though it is not written directly in the paragraph it may be assessed from the paragraph.
8. (E) It is nowhere mentioned in the paragraph so, definitely false.
9. (A) It has direct reference in the paragraph.
10. (C) Can't say.
11. (B) To some extent it is mentioned in the paragraph.
12. (E) It contradicts the paragraph.
13. (A) It is mentioned in the paragraph.
14. (C) Can't say.
15. (B) It has some reference in the paragraph.
16. (A) It directly follows from the paragraph.
17. (E) It contradicts the paragraph.
18. (D) It has no direct reference in the paragraph.
19. (C) It cannot be said from the paragraph.
20. (A) It directly follows from the paragraph.
21. (E) It is nowhere written in the paragraph.
22. (B) Though it is not directly mentioned in the paragraph, it may be assumed from the statements.
23. (D) The statement is vague, and probably false.
24. (C) It is not mentioned in the paragraph.
25. (D) It is vague conclusion, hence, may be false.
26. (D) It is not directly mentioned in the paragraph.
27. (C) It is not mentioned in the paragraph.
28. (A) It directly follows from the paragraph.
29. (C) It is also not written in the paragraph.
30. (D) It is neither mentioned in the paragraph nor it can be assumed, so, probably it is false.

## TYPE 2: PROVERB/ASSUMPTION TYPE

Proverbs are generally explained in different ways. In this type you will have to find out the most logical explanation of a proverb from a number of such explanations.

### Examples:

In each question below some proverbs/statements/assumptions are given at the top followed by certain explanations marked A, B, C and D. You are to choose from these explanations the best logical explanation of the said proverb/statement or assumption.

1. Proverb: Brevity is the soul of wit.
  - (A) All brave people are witty.
  - (B) 'Wit' expressed in a few words is the best.
  - (C) Wit is the soul of humour.
  - (D) If expressed in short, wit loses its soul.
2. Proverb: Man proposes God disposes.
  - (A) God does not allow us to make plans.
  - (B) God has always been against man.

- (C) Man made plans are often shattered by God's will.
- (D) Man does not know the actions of God.

**Answers and Explanations:**

1. (B) If one knows the literary meaning of the words of the proverb, he can answer this easily. Here brevity means briefness hence B is the appropriate answer.
2. (C) All the other three alternatives, A, B, and D, are not reflecting the idea of the proverb.

**PRACTICE TEST**

1. Proverb: Pen is mightier than sword.
  - (A) The tip of the pen is much pointed than that of the sword.
  - (B) The character assault through writings can harm a person much more than wounds caused by a sword.
  - (C) Swords are cheaper than pen.
  - (D) Pen is harder than sword, it can't break easily.
2. Proverb: Rome was not built in a day.
  - (A) The Romans were lazy lot, they could not work in time.
  - (B) It took about twelve years to build Rome.
  - (C) The Romans did not have sophisticated equipments and infrastructure to build a city like Rome.
  - (D) It took years of patience, hard work and determination to construct a city like Rome.
3. Proverb: Faint heart never won fair lady.
  - (A) One should be bold enough to achieve some extraordinary thing.
  - (B) Those who faint easily, cannot get beautiful wives.
  - (C) Ladies do not like men who have heart trouble.
  - (D) Strong men always have some weakness towards pretty women.
4. Proverb: A king has no relations.
  - (A) Those who are alone and got no relatives are made kings.
  - (B) A king is so powerful that no one dare to have any relationship with him.
  - (C) A king should not be partial to his relatives.
  - (D) A king has no diplomatic relations with other countries.
5. Proverb: A liar needs a good memory.
  - (A) A liar can memorise easily.
  - (B) Because he can make controversial statements.
  - (C) Because with a good memory one can take it lying down.
  - (D) Because he can try to speak the truth.
6. Proverb: Begger may sing before a pick-pocket.
  - (A) A begger has nothing to lose.
  - (B) Beggers always sing while begging.
  - (C) Beggers are good singers.
  - (D) A pick-pocket always helps the beggers.
7. Proverb: A bad workman quarrels with his tools.
  - (A) Bad workmen are always quarrelsome.
  - (B) Workmen who are quarrelsome are not good.
  - (C) A bad workman can not utilise their tools properly.
  - (D) An inefficient man complains of circumstances.

8. Proverb: Fair words butter no parsnips.
  - (A) Parsnips are no choice for butter.
  - (B) Parsnips can not grow only by word.
  - (C) Empty promise will not help anybody in distress.
  - (D) Fair words are necessary to get some work to be done.
9. Proverb: Barking dogs seldom bite.
  - (A) Angry words and threats lead to nothing worse.
  - (B) Beware of dogs.
  - (C) Dogs always bark before bite.
  - (D) Tame dogs do not bite.
10. Proverb: Those who live in glass-houses should not pelt stones at others.
  - (A) Those who live in glass houses are always anxious.
  - (B) Those who deserves criticism should criticise others.
  - (C) Pelting stones towards glass-houses are harmful.
  - (D) Make sure of your position before you fall foul of others.
11. Proverb: A broken hand works but not a broken heart.
  - (A) If heart is broken, the person dies instantly.
  - (B) If a person loses interest he cannot work.
  - (C) Lovers with broken heart are unable to do any work.
  - (D) Broken hand can be replaced but not the broken heart.
12. Proverb: Blood is thicker than water.
  - (A) The relative density of blood is more than water.
  - (B) Blood clots easily while water does not.
  - (C) A person feels more attached to his close relatives than to others.
  - (D) Blood stain cannot be wiped out by water.
13. Proverb: Ailing marriages often need first-aid.
  - (A) A marriage on breaking point can be saved by timely advice, help and understanding.
  - (B) It is better to avoid uneven marriages.
  - (C) Every married couple should keep a first-aid box handy because ailments are inevitable.
  - (D) Every ailment needs first aid.
14. Proverb: He who loses honour has nothing else to lose.
  - (A) Person having honour has nothing else.
  - (B) Careless persons lose honour.
  - (C) People only lose honour when they have lost everything else.
  - (D) Nothing is more valuable than honour.
15. Proverb: Better an empty house than an ill tenant.
  - (A) It is better to leave one's house unoccupied rather than having a sick tenant.
  - (B) Better to live alone than in evil company.
  - (C) If a tenant is ill the house cannot be recovered.
  - (D) An empty house is the ideal den for the evil persons.
16. Proverb: It takes two to make a quarrel.
  - (A) Whenever two persons meet, they quarrel.
  - (B) More than two people never quarrel.
  - (C) Quarrel never starts unless both the parties are aggressive.
  - (D) Meeting of two persons should be avoided.

17. Proverb: Fair fowls have fair feathers.  
(A) Things that are beyond one's reach always look very attractive and fascinating.  
(B) Beautiful things are beautiful in all respect.  
(C) Those fowls who are beautiful have beautiful white feathers.  
(D) Beautiful things are always unattainable.
18. Proverb: Crows are never the whiter for washing themselves.  
(A) Blackish people never becomes whitish just by washing themselves.  
(B) One's own original nature cannot be changed with any effort.  
(C) Dark skinned persons are generally shrewd.  
(D) Crows remain black inspite of washing themselves.
19. Proverb: Wisdom rides upon the ruins of folly.  
(A) Folly ruins a person but wisdom makes him ride.  
(B) When foolishness is ruined then only wisdom comes.  
(C) Wise people can overcome the follies.  
(D) He, who, suffers the consequences of his foolish acts becomes wise.
20. Proverb: Beggars cannot be choosers.  
(A) Beggars do not have a good choice.  
(B) Choosing for beggars is prohibited by law.  
(C) One who has to depend upon others should be contented with whatever he gets.  
(D) Begging and choosing are reciprocal.
21. Proverb: One cannot make a crab walk straight.  
(A) A stubborn person refuses to listen to sense.  
(B) Dancers always walk with a twist.  
(C) A crab only walks straight when it wants to.  
(D) Crabs and snakes cannot walk straight.
22. Proverb: More things are brought by prayer than this world dreams of.  
(A) Dreams can be fulfilled by prayer.  
(B) Everything is possible with faith.  
(C) Wishes can be fulfilled by praying to God.  
(D) Dreams are good but prayers are better.
23. Proverb: Freedom is not worth having if it does connote freedom to err.  
(A) Freedom makes people free to err.  
(B) To err is human.  
(C) Freedom is not given to those who lead a sinful life.  
(D) Freedom, in the true sense, means responsible and disciplined behaviour.
24. Proverb: Better pay the cook than the doctor.  
(A) A cook can expect better payment for the delicious food he prepared.  
(B) One who visits hotels regularly, does not require to go to the doctors.  
(C) It is better to keep a good health by taking good food, than to visit a hospital.  
(D) Cooks are poorly paid than the doctors.

**Directions for Questions 25-30:**

In each question below there is an assumption followed by four implications marked as A, B, C and D. Choose the most appropriate implication and mark accordingly. If all the implications are equally appropriate mark E on the answer sheet.

25. Assumption: The doctor was surprised to see that the patient was talking to his friends.  
(A) The patient was dumb.

- (B) The patient did not talk to anyone.  
 (C) The patient was under anaesthesia.  
 (D) The doctor had declared the patient dead.
26. Assumption: Arun said to Bimal, "So you have come!"  
 (A) Arun had been waiting for Bimal.  
 (B) Arun had been waiting for someone else, who sent Bimal instead.  
 (C) Bimal had said that he would not be able to come.  
 (D) Arun had given up all hopes of his coming.
27. Assumption: X to Y, "Tell me your father's office address".  
 (A) X had some official work with Y's father.  
 (B) X did not want to go to Y's home.  
 (C) X was transferred to Y's father's office.  
 (D) Y's father had asked X to come to his office.
28. Assumption: P to Q, "Here is the dictionary!"  
 (A) P and Q wanted to find out the meaning of some word.  
 (B) P had challenged Q about the spellings or use of certain word.  
 (C) The dictionary had been misplaced.  
 (D) P had challenged Q about some word.
29. Assumption: I like Byron too.  
 (A) I like Byron too much.  
 (B) I am a bit like Byron.  
 (C) I have not read much about Byron, still I like him.  
 (D) I like some other poet and Byron is my second choice.
30. Assumption: Mr. Jalan provides no medical facilities to the workers.  
 (A) Mr. Jalan's workers are never ill.  
 (B) It is a criticism of Mr. Jalan's attitude towards his employees.  
 (C) Mr. Jalan himself gives the medicines.  
 (D) Only the family members of Mr. Jalan get such facilities.

### Answers and Explanations:

1. (B) All the other three alternatives are not appropriate.
2. (D) No. great work can be done easily.
3. (A), 4. (C) King should be impartial.
5. (B), 6. (A) Beggars are not afraid of pick-pocket.
7. (D), 8. (C) (People in distress need concrete help, not more promise).
9. (A), 10. (D), 11. (B) Every work needs proper interest.
12. (C) Here 'blood' means blood relation.
13. (A), 14. (D), 15. (B), 16. (C), 17. (A), 18. (B) One's own nature remains unchanged.
19. (D), 20. (C), 21. (A), 22. (B), 23. (D), 24. (C), 25. (B) Self explanatory.
26. (E) All the choices are probable, 27. (A), 28. (E), All the choices are possible, 29. (D), 30. (B).

### TYPE 3: INFERENCE TYPE

In each question some statement or fact is given. You are to identify a conclusion or inference or claim which follows from it.

#### Examples:

1. Monopoly is characterised by an absence of or decline in competition, Maruti-Suzuki company realises that its cars are in competitive industries.



Which of the following conclusions may be inferred from the above statement?

- (A) Monopoly is defined as one seller in the market.
  - (B) Maruti-Suzuki company has no domestic competitors.
  - (C) Maruti-Suzuki's market is not monopolistic.
  - (D) Maruti-Suzuki has enjoyed the largest government share.
2. A government press note quoted as saying that the rate of inflation has gone up because of a recent increase in the price of fruits and vegetables.

Which of the following cannot be inferred from the statement?

- (A) Consumers have decreased their consumption of fruits and vegetables.
- (B) The costs of fruits and vegetables is a major item in the price index.
- (C) The cost of fruits and vegetables has risen sharply.
- (D) Other items that can make up the inflation rate have not significantly decreased in price.

**Answers and Explanations:**

1. (C) Since Maruti-Suzuki cars are in competitive industry, there can be no monopoly in its market. So, 'C' is the correct answer.
2. (A) It is not possible to infer whether consumers have decreased their consumption of fruits and vegetables with the increase of price of these products. While the other alternative answers are quite possible. So 'A' is the correct answer.

**TYPE 4: FLAWS TYPE**

In this type of test, the best or correct answer would be the one which, if true, would mean that either the original statement had a flaw or was weak.

**Example:**

The United States gives billions of dollars in foreign aid to India. But the leaders at New Delhi resent foreign aid, particularly from the U.S. The United States should discontinue direct foreign aid to developing countries.

Which of the following statements, if true, would weaken the above argument?

- (A) India's economy is growing.
- (B) India is not a developing country.
- (C) India has got a democratic government.
- (D) India does not need any foreign help.

**Answers and Explanations:**

1. (B) From the above statement it is clear that U.S. aid is only for the developing countries. But, if it proved that India is not a developing country, then only the premise and the conclusion can be said to be invalid. So, 'B' is the correct answer.

**TYPE 5: STATEMENT OF FACTS**

In these type of questions you are to find out the answer that best agrees with, summarises or completes the statement.

**Example:**

1. Which of the following statements best completes the passage below?

**Passage:**

In department stores the placing of aisles, display stands and shelves, is designed to direct a customer's movements. Different sorts of products are also situated to ensure that a customer will



move through different parts of the store. More expensive items are usually placed in the upper floors, while cheaper items are usually placed near the entrance and also adjacent to the cashier. This sort of planning is intended to —

- (A) keep customer flowing in the store as smoothly as possible.
- (B) utilise the sales persons as efficiently as possible.
- (C) prevent long queues and undue waiting time at cash counter.
- (D) maximise sales by exposing customers to as many products as possible.

**Answers and Explanations:**

1. (D) Here, though all the alternative answers seem to be associated with the idea expressed in the passage, the best among them is 'D', where both the customers and the store authority are benefited.

### TACTICS FOR ANSWERING CRITICAL REASONING TESTS

The following are a few tips of how to answer the questions of critical reasoning tests. These tips are all equally useful in dealing with the questions of all the types of logical reasoning tests also. If you follow the tips carefully you will find all the logical reasoning tests, critical reasoning tests, analytical reasoning tests, etc., are quite easy to answer.

1. First read the passage/statement/argument carefully. Then read all the possible answers carefully, in order to identify the question type.
2. Now, if you recognise just what a given question is asking for, i.e., assumption, or inference or conclusion, or central point, or support, or weaken, or summarises or completes the statement.
3. Then pinpoint the conclusion of the statements/arguments and grounds on which it is based, e.g., an argument or statement is based upon certain assumptions made by its author. If an argument's/statement's basic premises are sound, the argument/statement is strengthened, but if they are flawed, the statement/argument is weakened. Pinpoint what the argument/statement assumes, then choose the best answer from the given alternatives.

### PRACTICE TEST

**Directions for Questions 1-20:**

For each question below some statement/argument/report/passage is given, followed by a few alternative answer choices marked A, B, C, D and E, of which *only one* would be the best possible answer. Read the passage/statement/argument carefully and choose the best possible answer from the alternatives given.

**Questions:**

1. Some experts have concluded that the rise in price of pepper means that the switch by some growers from pepper to cocoa left those growers no better off than if none of them had switched. This conclusion, however, is unwarranted because it can be inferred likely that
  - (A) Those growers could not have foreseen how high the price of pepper would go.
  - (B) Supplies of pepper would not be as low as they are if those growers had not switched crops.
  - (C) As more growers turn to growing cocoa, cocoa supplies will increase and the price of cocoa will fall precipitously.
  - (D) The initial cost involved in switching from pepper to cocoa is substantial.
  - (E) Cocoa crops are not so susceptible to being affected by bad weather as are pepper crops.

2. It is important to each students to use computers effectively. Therefore, students should be taught computer programming in school. Which of the following, if true, most weakens the argument above?
- (A) Only people who use computers effectively are skilled at computer programming.
  - (B) Only people skilled at computer programming use computer effectively.
  - (C) Some people who use computers effectively cannot write computer programmes.
  - (D) School students can learn computer programming easily than the elders.
  - (E) Some schools teach computer programming more effectively than others.
3. Four years ago, the government introduced a youth training programme to guarantee, to teenagers leaving school, an alternative to dole. Today over 1,50,000, 16 and 17 year-olds are still signing on for unemployment benefits.
- Each of the following statements, if true, could account for the above, *except*—
- (A) The number of 16 and 17 year old youths has increased over the past 4 years.
  - (B) The programme provides uninteresting work.
  - (C) It is difficult to find work for all the programme's graduates.
  - (D) Unemployment benefits are known while future salaries are not.
  - (E) Youths are unaware of the programme's benefits.
4. Many people are murdered by killers whose homicidal tendencies are triggered by an official execution. There was a murder-rate increase of at least 66% of executions since 1977. In each of the 1,788 death row prisoners were to be executed up to 7,152 additional murders would be one of the results. Which of the following, if true, would weaken the above argument?
- (A) The rate of murders to executions is 1 to 1.66.
  - (B) Executions result from the higher incidence of violent crime.
  - (C) The death penalty will be abolished.
  - (D) There is no relation between executions and murders.
  - (E) Not all death row prisoners will be executed.
5. Sales campaigns aimed at strengthening the faltering Personal Computer (PC) market have strongly emphasised ease-of-use, called user-friendliness. This emphasis is oddly premature and irrelevant in the eyes of most potential buyers who are trying to address the logically prior issue of whether
- Which of the following best completes the above passage?
- (A) User-friendliness also implies that owners can service their own computers.
  - (B) The more user-friendly the PC, the more it costs.
  - (C) Currently available models are user-friendly enough to suit them.
  - (D) The people promoting PCs use them in their own homes.
  - (E) They have enough sensible uses for a PC to justify the expense of buying one.
6. Literary historians today, have rejected conventional analyses of the development of English Renaissance drama. They no longer accept the idea that the sudden achievement of the Elizabethan playwrights was a historical anomaly, a sort of magical rediscovery of ancient Greek dramatic form applied to contemporary English subject matter. Instead, most students of the theater now view Elizabethan drama as being organically related to traditional local drama, particularly medieval morality plays.
- Which of the following is *not* consistent with the passage above?
- (A) England had a dramatic tradition before the Renaissance period.
  - (B) Elizabethan drama, once thought to be a sudden blossoming forth of creativity, is now seen as part of a historical continuum.
  - (C) Although English Renaissance drama treats English as subject matter, its source of form and method is classical Greek drama.

- (D) Historians' views of the antecedents of English Renaissance drama have changed considerably.
- (E) Current scholarship applies an evolutionary model to English Renaissance drama.
7. A study of illusionistic painting inevitably begins with the Greek painter, Zeuxis. In an early work, which is the basis for his fame, he painted a bowl of grapes that was so lifelike that birds pecked at the fruit. In an attempt to expand his achievement to encompass human figures, he painted a boy carrying a bunch of grapes. When birds immediately came to peck at the fruit, Zeuxis judged that he had failed. This judgement of Zeuxis was based on an assumption. Which of the following could have been that assumption?
- (A) People are more easily fooled by illusionistic techniques than the birds.
- (B) Birds are not likely to peck at fruits when they see that a human being is present.
- (C) The use of illusionistic techniques in painting had become commonplace by the time Zeuxis had completed his later work.
- (D) The grapes in the later painting were even more realistic than the ones in the earlier work.
- (E) After the success of his early work, Zeuxis was unable to live up to the expectations of the general public.
8. I'm afraid that Rahim will never be an outstanding football player again. Last year he injured his knee and the doctors had to remove some of the cartilage.  
The above argument is based on which of the following assumptions?
- I. One must have healthy knees to play football.
- II. How well one plays football may be influenced by the condition of one's knees.
- III. Healthy knees are necessary for a professional football career.
- (A) only I    (B) I and II only    (C) I, II and III    (D) only II    (E) II and III only
9. In an examination system of an institution, 100 students have been graded (from A - D in descending order) on the basis of the marks they received in the three terminal examinations, in which the pass-marks were 50%. Examiners are instructed to follow the following criteria:
- I. All students who scored between 90% and 100% in any two examinations could receive an A.
- II. Students who came in the top overall were to be awarded an A.
- III. Notwithstanding I and II, if any student failed a paper, the highest he or she could get was a B.
- IV. The top 20 students in the whole year, when the overall examination percentages were averaged, could receive an A.
- On the basis of above criteria, which of the following would definitely not be permissible?
- (A) Bikash, who got 95% in Chemistry and 92% in Biology, received a B.
- (B) Suparna, who stood first in Physics and got 96% in Mathematics, received a B.
- (C) Amitava failed in English, but because he ranked 9th overall out of 100 students was awarded an A grade.
- (D) Bandana was given an A because she came 20th though she had failed to get above 90% in any of the three examinations.
- (E) Bipin though failed in Mathematics, but topped his other two examinations and was awarded a B.
10. The only unemployment problem we have is not that people can't find work, but that they won't work. Thousands of jobs go begging everyday, but the unemployed are too lazy to go out and find them.  
The above argument would be more persuasive if it were established that
- (A) Most unemployed persons do not seek work until their unemployment benefits expire.
- (B) The majority of available jobs require unusually high levels of skill or experience or both.

- (C) Unemployed persons tend to be geographically clustered in regions distant from available jobs.
- (D) Most unemployed persons are back at work within 6 months.
- (E) A high unemployment rate has been fostered by the government in order to control inflation.
11. My father, three of my uncles and both my grandfathers became bald within 5 years of starting practice of law. I don't want to lose my hair so I'm going to become a doctor.  
Which of the following most closely resembles the reasoning used in the argument above?
- (A) Every time I drink coffee after dinner, I have a disturbed sleep. But I want to sleep well tonight, so I am going to take a sleeping pill.
- (B) Each time train accident occurs only on Thursdays. So I don't want to travel by train on Thursdays.
- (C) Everyone, except I, got transferred out of our department within three years of starting. I don't want to work in another department, so I am going to start working harder.
- (D) Each of the other operators on my shift was seriously injured on the job within a week of eating at the factory's canteen. I want to maintain my safety record, so I am bringing my food from home.
- (E) Each of the three other men who are members of our tea-club became irritable after they quit smoking. I want to be pleasant, so I am going to quit my tea club.
12. The new PXB model of our automatic washing machine is the best washing machine you will ever own. It comes in eight decorator-colours. It is so quiet that you will find yourself checking to see if it is really on. And best of all, it comes in different heights and widths so that finding one that fits into the space you have won't be a problem.  
The argument above is most weakened by its failure to mention
- (A) The terms of warranty.
- (B) How well the machine washes clothes.
- (C) The specific sizes available.
- (D) How much electricity the machine uses.
- (E) How many clothes the machine can hold at a time.
13. The latest Hollywood film, Titanic (winner of 10 Oscar awards), is clearly the best foreign film of the year since its box-office breaks the record of Ben Hur, which also won 10 Oscar a few years ago.  
The argument above is based on which of the following assumptions?
- (A) Only a film based on a true story and having good photography, can be judged to be best.
- (B) Foreign films should be judged by standards different from those used for Indian films.
- (C) Foreign films should be judged by the same standards used for Indian films.
- (D) The criteria for judging whether the film is the best one should be the number of Oscars won.
- (E) The quality of a film can be measured by the number of people who go to see it.
14. Which of the following contradicts the view that only the smart become rich?
- (A) Amar is stupid, yet he amassed a large fortune by the age of 30.
- (B) Biren was smart, yet he was poor his whole life.
- (C) Smart and rich are relative terms.
- (D) Different people are smart in different ways.
- (E) Some smart people do not desire to become rich.
15. Television convinces viewers that the likelihood of their becoming the victims of violent crime is extremely high; at the same time by its very nature, television persuades viewers to passively accept whatever happens to them.  
The argument above leads most logically to the conclusion that
- (A) People should not watch television.

- (B) Television promotes a feeling of helpless vulnerability in its viewers.  
(C) Television-viewers are more likely to be victimised than other persons.  
(D) The contents of television programmes should be changed to avoid fostering the attitudes mentioned.  
(E) Television viewing promotes criminal behaviour.
16. Over the last 20 years the rate of increase in total production in India has been second to none in the world. However, the growth is more modest when calculated per capita of total population. Over the last ten years progress has been much slower.  
If the information above is accurate, which of the following must be true?  
(A) India has a very large population.  
(B) Total production has increased faster than population growth.  
(C) Productivity per capita has not grown as fast during the past ten years.  
(D) The birth rate has declined.  
(E) The per capita production rate has not declined.
17. Lavoisier, the 18th century scientist, became more influential and famous than most of his contemporaries in his field, because not only did he discover and isolate many of the chemical elements but he also gave them names which both described the element in terms of its power and function, and which came to be accepted by other scientists in subsequent generation.  
Which of the following can be inferred from the above passage?  
(A) Lavoisier was a great scientist of 18th century.  
(B) Lavoisier discovered many chemical elements.  
(C) Discovery of Lavoisier had been largely accepted by the other scientists in subsequent generations.  
(D) The elements which Lavoisier isolated were given names which described their properties.  
(E) Lavoisier was the most influential scientist of 18th century.
18. If Robin is on the steering committee, then he is on the central committee. This statement can be logically deduced from which of the following statement?  
(A) Some members of the central committee are on the steering committee.  
(B) All members of the central committee are on the steering committee.  
(C) Robin is on either the central committee or on the steering committee.  
(D) No central committee members are members of steering committee.  
(E) Everyone who is on the steering committee is also on the central committee.
19. Vinod must be a football player, he is wearing a football jersey.  
The conclusion above is valid only if it is true that  
(A) Only football players wear football jerseys.  
(B) Football players often wear football jerseys.  
(C) All football players wear football jerseys.  
(D) Football players never use any other garments except football jerseys.  
(E) Football players are required to wear football jerseys.
20. A garden in springtime is beautiful, even if no one is there to appreciate it.  
The statement above would be a logical rebuttal to which of the following claims?  
(A) People will see only what they want to see.  
(B) Beauty exists only to be appreciated.  
(C) Beauty exists only in the eye of the beholder.  
(D) There is no accounting for taste.  
(E) The greatest pleasures available to mankind is the contemplation of beauty.

**Answers and Explanations:**

1. (B) Here the assumption is that those growers, if they had not switched crops would have continued to grow pepper. But if suppliers of pepper were not as low as they are, the price of pepper would not have risen enough either to equal or above the price of cocoa, and the growers in question would not have done financially, as they actually did as a result of switching to cocoa. Therefore 'B' is the best answer here, Though better foresight mentioned in option 'A', but it is irrelevant here like 'C', 'D' and 'E'.
2. (C) In the passage it is stated that to use computers effectively, knowledge of computer programming is a must. But choice (C) contradicts this statement.
3. (A) It is stated that the number of 16 and 17 year-olds has increased, but it is not stated that they do not join the training. It is possible that all of them be absorbed into the programme and the increase in population may not account for the increase in number of youths on dole.
4. (D) In the statement we find a positive correlation between execution and homicides (murders). Among the alternatives only 'D' contradicts the argument, hence 'D' is the answer.
5. (E) Only answer choice 'E' should be appropriate answer as it directly questions the logic of emphasising the user-friendliness in campaigns. Choice 'A' just describes the meaning of user-friendliness in campaigns. Choice 'A' just describes the meaning of user-friendliness and 'B', 'C' and 'D' are irrelevant.
6. (C) Here the task is to find an answer choice *not* consistent with the statement, and in only 'C' we find this inconsistency. So, 'C' is the best answer choice.
7. (B) His conclusion was that he failed to paint the human figure with the illusion of life.
8. (D) A person can play football and even be a professional player even if he has weak knees. Only to be an outstanding player one must have healthy knees. So, the health of one's knees affects the quality of playing.
9. (C) Bikash and Suparna may have failed in any other subject, so, it is possible they get B grades. Amitava, however, could not have got an A as he failed in one subject.
10. (A) The argument says that the only cause of the unemployment problem is the laziness of workers. This is stated in choice A. Choice D tends to weaken the cause and B, C and E are irrelevant.
11. (D) In the argument we find an example of poor reasoning. It is reasoned that practising law causes baldness; the heredity factor which might have been the probable cause has been overlooked. In D, we find similar faulty reasoning where unsafe working conditions have been overlooked.
12. (B) The advertisement states that the said washing machine is the best but only gives details of its luxury features, not how well it functions. This is stated in (B) and thus it is the reason that weakens the advertisement.
13. (E) The Titanic is judged the best foreign film because of its better box-office record. So, the quality of a film is measured by the number of people who watch it.
14. (A) As per (A), a stupid person, Amar, amassed a fortune. Thus the statement is contradicted. In B, Biren could have been rich, so the statement is not contradicted. The other sentences are irrelevant.
15. (B) The statements suggest that it is very possible that people be victimised, and that when they are victimised they should accept it. Thus B is a logical conclusion. Choices 'A' and 'D' are incorrect as they are statements of fact and not conclusions.
16. (C) From the statement it is clear that increase in production has not been at par with the increase in population, i.e., population has increased at a faster rate than productivity.



17. (D) Choices A, B, C and E refer only a part about Lavoisier, whereas the choice 'D' describes about this main performance for which he became a famous scientist of 18th century. Hence 'D' is the best answer choice.
18. (E) The statement given is true only if all members of the steering committee belong to the central committee.
19. (A) If anyone other than a football player wears a football jersey, the conclusion would not be valid. So it is valid if only choice A is true.
20. (C) The original statement says that the beauty has an existence independent of the persons perceiving it. D says the opposite; something is beautiful only if a person looking at it finds it beautiful.

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## Alphabetic Sequence and Word Formation Tests

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In these questions certain alphabets/words are given either in order or in a disorderly fashion. Candidates are required to place them according to conditions given.

### TYPE 1: LETTER WORD PROBLEMS

#### Examples:

#### Directions for Questions 1-4:

The following questions are based on the set of alphabets given below. Answer the questions as per given conditions.

ABCDEFGHIJKLMONPQRSTUVWXYZ.

#### Questions:

1. Which letter is missing in the above set of letters?  
(A) V            (B) T            (C) N            (D) F            (E) None of these
2. Which letter is out of its normal position?  
(A) K            (B) N            (C) H            (D) R            (E) None of these
3. How many vowels are there?  
(A) 6            (B) 7            (C) 4            (D) 3            (E) 5
4. Which two letters are sandwiched between two vowels?  
(A) GH            (B) VW            (C) NP            (D) DG            (E) TV

#### Answers and Explanations:

1. (D) F. According to the usual order of alphabets 'F' comes in between 'E' and 'G'.
2. (B) N. Its usual position should be after 'M' and before 'O'.
3. (E) 5. A, E, I, O and U, these are the five vowels in the alphabets.
4. (A) GH. 'GH' these two letters are within the vowels 'E' and 'I', as shown in the alphabets in question.



## PRACTICE TEST

### Directions for Questions 1-8:

If the following letters are re-written by reversing the order of first seven and last six letters, then answer the following questions.

DISINTERESTEDNESS

### Questions:

1. If all vowels are removed, which letter will have one preceding and one following letter in the same order as in the English alphabet?  
(A) T            (B) S            (C) R            (D) N            (E) D
2. Which letter will be the tenth letter towards left?  
(A) S            (B) T            (C) E            (D) R            (E) I
3. Which letter would be the sixth letter towards right?  
(A) I            (B) E            (C) S            (D) N            (E) T
4. Which letter will be exactly in the middle?  
(A) R            (B) S            (C) E            (D) T            (E) D
5. How many vowels are there to the left of the letter exactly in the middle?  
(A) 2            (B) 5            (C) 4            (D) 1            (E) 3
6. If every alternate letter is dropped in the above sequence starting from 'I', which of the following will be the second to the left of the eighth position from the left?  
(A) S            (B) E            (C) T            (D) N            (E) D
7. Which of the following will be the fifth to the right of the fifteenth position from the right?  
(A) R            (B) E            (C) D            (D) I            (E) None of these
8. Which of the following will be the third to the right of the eleventh position from the left?  
(A) S            (B) R            (C) E            (D) N            (E) I
9. If it is possible to make a meaningful word with the second, sixth, ninth and twelfth letters of the word CONTRIBUTION, which of the following will be the last letter of that word? If no such word possible, mark(E) as your answers choice.  
(A) T            (B) N            (C) R            (D) O            (E) None of these
10. If the position of the first and sixth letters of the word PROPORTION are interchanged similarly the positions of the second and the seventh and so on, which of the following will be the seventh letter from the right?  
(A) R            (B) P            (C) T            (D) I            (E) O
11. A pair of letters is there in the word LEMON which have as many letter between them in the word as in the alphabet. Which one of the two letter comes first in the alphabet series?  
(A) E            (B) N            (C) O            (D) L            (E) M
12. How many pairs of letters are there in the word HORIZON which have as many letters between them in the alphabet series?  
(A) One            (B) Three            (C) Two            (D) Four            (E) None of these
13. PKKNTRTM KPPN KNTR PRKN KPMRT which letter is exactly in the middle of the 21st letter from the last and 15th letter from beginning?  
(A) P            (B) K            (C) N            (D) R            (E) T
14. If the last four letters of the word CONCENTRATION are written in reverse order followed by next two in the reverse order and then followed by the first four letters in the reverse order, counting from the end which letter would be eighth in the new order?  
(A) N            (B) R            (C) E            (D) N            (E) A
15. How many letters are there in the word BUCKET which have as many letters between them in the word as in the alphabet?  
(S.B.I.P.O., 1999)

- (A) Two      (B) Three      (C) Four      (D) One      (E) None of these
16. How many letters are there in the word CREATIVE which have as many letters between them in the word as in the alphabet? *(S.B.I.P.O., 1997)*  
(A) 1      (B) 2      (C) 3      (D) 4      (E) None of these
17. How many pairs of letters are there in the word DONATE which have as many letters between them as there are in the alphabet? *(BANK P.O. 1995)*  
(A) Nil      (B) One      (C) Three      (D) Two      (E) Four
18. How many pairs of letters are there in the word PENCIL which have as many letters between them in the word as in the alphabet? *(Bank P.O. 1991)*  
(A) One      (B) Two      (C) Three      (D) Nil      (E) None of these
19. How many pairs of letters are there in the word ADEQUATELY which have as many letters between them in the word as in the alphabet? *(Bank P.O. 1991)*  
(A) Four      (B) Two      (C) One      (D) Three      (E) More than four
20. If any two letters in the word PRISON have as many letters between them in the word as there are in the English alphabet, they form an alpha-pair. How many such alpha-pairs are there in the word PRISON? *(NABARD, 1994)*  
(A) Nil      (B) 1      (C) 2      (D) 3      (E) More than 3
21. How many independent words can 'HEARTLESS' be divided into without changing the order of the letters and using each letter only once. *(RBI. 1990)*  
(A) 2      (B) 3      (C) 4      (D) 5      (E) None of these
22. From the word ASTOUNDER, how many independent words can be made without changing the order of the letters and using each letter only once? *(S.B.I.P.O., 1991)*  
(A) Nil      (B) One      (C) Two      (D) Three      (E) Four
23. From the word LAPAROSCOPY how many independent meaningful words can be made without changing the order of the letters and using each letter only once? *(LIC, 1994)*  
(A) One      (B) Two      (C) Three      (D) Four      (E) None of these
24. Which letter in the word SELFRIGHTEOUS-NESS does not change its position when the letters are reversed? *(Hotel Management, 1996)*  
(A) T      (B) E      (C) H      (D) G      (E) None of these
25. If the positions of the first and sixth letters in the word BENEFICIAL are interchanged, similarly the positions of the second and seventh letters are interchanged and so on, which letter will be third from the right end after rearrangement? *(Bank P.O., 1992)*  
(A) C      (B) E      (C) N      (D) F      (E) None of these
26. Which letter will be the fifth from the right if the first and the second, the third and the fourth and so on are interchanged in the word COMPANIONATE? *(Bank P.O., 1996)*  
(A) O      (B) I      (C) N      (D) A      (E) None of these
27. If the positions of the first and the sixth letters in the word DISTRIBUTE are interchanged, similarly the positions of the second and the seventh, the third and the eighth and so on, which of the following letters will be the fifth from the left after interchanging the positions? *(Bank P.O., 1995)*  
(A) E      (B) I      (C) S      (D) T      (E) None of these
28. If in the word DISTURBANCE the first letter is interchanged with the last letter, the second letter is interchanged with the tenth letter and so on, which letter would come after the letter 'T' in the newly formed word? *(LIC, 1994)*  
(A) I      (B) N      (C) B      (D) S      (E) U
29. How many independent words can be formed by dividing the word STAINLESS, without changing the order of the letters and using each letter only once?  
(A) Nil      (B) One      (C) Two      (D) Three      (E) None of these.

30. If the positions of the fifth and twelfth letters of the word GLORIFICATIONS are inter-changed and likewise the position of the fourth and fourteenth letters, the third and the tenth letters, the second and eleventh letters and the first and the thirteenth letters are interchanged, which of the following will be twelfth letter from the right end? (UTI, 1993)
- (A) I                      (B) O                      (C) R                      (D) F                      (E) T

**Answers and Explanations:**

1. (B) S      By rewriting the word DISINTERESTEDNESS as per directions we get ETNISIDRESTSSENDE. Removing all the vowels we get 'TNSDRSTSSND'. So 'S' is the correct answer here preceded by 'R' and followed by 'T'.
2. (D)R      Here tenth letter towards left from the reverse side is 'R'.
3. (A)I      Here sixth letter towards right from the beginning is 'I'.
4. (C)E      There are altogether seventeen letters out of which ninth letter i.e. 'E' is in the middle position.
5. (E) 3      There are altogether 3 vowels exactly left of the middle letter 'E'.
6. (C)T      If it is rewritten as per direction in the question it would be ETNDETSNE. Here letter in the eighth position is 'N' and second to the left of 'N' is 'T'.
7. (A)R      Here fifteenth position letter from the right is 'N' and fifth to the right of 'N' is 'R'.
8. (C)E      Here eleventh position letter is 'T' and third to the right of 'T' is 'E'.
9. (D)O      The 2nd, 6th, 9th and 12th letters in the given word is O, I, T, N. The word formed is INTO and the last letter is 'O'.
10. (E) O      If the word is rewritten as per direction we get RTIONPROPO, here 7th letter from the right side is 'O'.
11. (B) N      Such a letter pair is 'ON', of these 'N' comes 1st in the alphabet.
12. (C) Two.      Such letter pairs are 'RO' and 'ON'. Here in between 'R' and 'O' there are two letters – 'T' and 'Z', in the alphabet series there are also two letters 'P' and 'Q'. Similarly 'O' comes just after 'N' in the alphabet.
13. (A)P      Here 21st letter from last is 'T' and 15th letter from the beginning is 'K'. So in between 'T' & 'K' 'P' is occupying exactly the middle position.
14. (B) R      If the word is rewritten as per direction we have NOITARTNECNOC, and 8th letter from the right end is 'R'.
15. (D)One.      Here the letters are 'CKE' and in the alphabet it is CDE. So one letter between them.
16. (C) Three.      Here the letters in the word are CRE, ATIVE and TIV, the alphabetical sequences are CDE, ABCDE and TUV. So three such letters.
17. (D)Two.      Here the letters are DONA and ON, Alphabetic sequences are DCBA & ON.
18. (B) Two.      Here such letters are two PEN and ENC, alphabet PON and EDC.
19. (D)Three.      Here there are three such letter groups, DE, QUAT and QUATEL, in alphabet these are DE, QRST, and QPONML.
20. (E) > 3.      Here four such letter groups. PRIS, RISO, RISON and ON, in alphabet these are PQRS, RQPO, RQPON and ON.
21. (B) 3      The words are HE, ART and LESS.
22. (D)3      The words are AS, TO and UNDER.
23. (B) 2      The words are LAP and COPY.
24. (A)T      As 'T' is the 9th letter out of 17 letters of the word, its position would not change if the word is rewritten in the reverse order.
25. (C)N      If the word is rewritten as per direction we get ICIALBENEF. The 3rd letter from the right is 'N'.
26. (B) I      If the word is rewritten as per direction we get OCPMNAOIANET. The 5th letter from the right is 'I'.

27. (A)E After rearranging the word we get IBUTEDISTR, the 5th letter from the left is 'E'.  
 28. (D)S After rearrangement of the word we get ECNABRUTSID, clearly 'S' comes after 'T'.  
 29. (C)Two The words are 'STAIN' and 'LESS'.  
 30. (E)T After rearrangement of the letters of the word we get NITSOFICAOLIGR, and 12th letter from the right is 'T'.

### TYPE 2: LETTER SKIPPING OR RULE DETECTION

In this type some letters are given with a number of letters skipped in between the adjacent letters following a certain rule. You are to find out the correct group of letters following that particular rule.

#### Examples:

- Number of letters skipped in between adjacent letters in the series is one. Which one of the following series observe this rule?  
 (A) BDGIJ (B) KMOQS (C) TUVWX (D) PBNQR
- Number of letters skipped in between adjacent letters in the series is odd. Which of the following series observe this rule?  
 (A) BDHLR (B) FIMRX (C) EIMQV (D) MPRUX

#### Answers and Explanations:

- (B) KMOQS. KLMNOPQRS. Clearly one letter has been skipped in between adjacent letters. Hence answer is (B).
- (A) BDHLR. BC D EFG H IJK L MNOPQ R, clearly odd number of letters are skipped in between adjacent letters. Hence (A) is the correct answer.

### TYPE 3: ALPHABETICAL ORDER OF WORDS OR DICTIONARY ARRANGEMENT

In a dictionary, all words are arranged in an alphabetical order. In this type of questions, certain words are given in a disorderly fashion. They have to be arranged in an order in which they are found in the dictionary.

#### Examples:

- Arrange the given words in the order in which they occur in the dictionary and then choose the correct sequence.  
 I - SIGN II - SOLID III - SCENE IV - SIMPLE  
 (A) III, I, II, IV (B) III, IV, I, II (C) III, I, IV, II (D) III, IV, II, I
- Arrange the given words in alphabetical order and mark one that comes first.  
 (A) Cloud (B) Middle (C) Grant (D) Chain
- Arrange the given words in alphabetical order and mark the one that comes in the middle.  
 (A) Hobby (B) Holiday (C) Hoarse (D) Hollow (E) Hobble
- Arrange the given words in the alphabetical order and mark the one that comes last.  
 (A) Abandon (B) Actuate (C) Accumulate (D) Achieve

### TYPE 4: ALPHABETICAL PUZZLE

In this type of questions alphabets from A to Z are given. The position of letters is given in the form of a puzzle. You are to find out this letter satisfying the conditions specified in the question occurs.

#### Examples:

- In the following alphabet series which letter is eighth to the left of the 16th letter from the right end?

ABCDEFGHIJKLMNOPQRSTUVWXYZ.

(A) X (B) C (C) S (D) H (E) B

2. If the above alphabet series is written in reverse order which letter will be 4th to the left of the 17th letter from the left?

(A) N (B) M (C) F (D) O (E) P

3. How many K's are there in the following series which are immediately followed by D but not immediately preceded by W?

PKDCWKDWNKGDWWKDHVKDBKDW

(A) One (B) Two (C) Three (D) Four (E) Six

### Answers and Explanations:

- (B) C Counting from right end, i.e., from 'Z' the 16th letter is 'K' and 8th letter towards left from 'K' is 'C'.
- (A) N Reversing the alphabet series 'Z' comes as 1st letter and 'A' becomes the last letter. Now counting from left, i.e., from 'Z' 17th letter is 'J' and 4th letter to the left of 'J' is 'N'.
- (C) Three P KDCWKDWNKGDWWKDHV KDB KDW. Clearly only three 'K's as shown inside the box satisfy the given condition. Hence 'three' is the right answer.

## PRACTICE TEST

### Directions for Question 1-15:

Each of the following questions is based on the following alphabet series.

ABCDEFGHIJKLMNOPQRSTUVWXYZ.

- Which letter is in the immediate left of 'R'?  
(A) S (B) Q (C) T (D) P (E) None of these
- Which letter is exactly midway between 'H' and 'S' in the given alphabet? (S.B.I.P.O., 1994)  
(A) L (B) M (C) N (D) O (E) No such letter
- Which letter is 14th to the right of the letter which is fifth to the left of K?  
(A) S (B) F (C) T (D) R (E) G
- Which alphabet comes immediately before the 6th alphabet from the left extreme of the given alphabets? (LIC, 1994)  
(A) E (B) F (C) V (D) U (E) V
- If the above alphabets are arranged in reverse order, which letter will be the eighth letter to the left of the seventh letter counting from the right end?  
(A) P (B) O (C) N (D) G (E) None of these
- If the first ten letters of the above alphabet series are written in the reverse order, which of the following letters will be the 7th to the left of the 12th letter from the right end?  
(A) H (B) I (C) C (D) B (E) G
- Which letter is the 7th to the right of the 13th letter from the left? (Bank P.O. 1993)  
(A) U (B) S (C) V (D) T (E) None of these
- Which letter is 7th to the right of the 18th letter from the right end of the alphabet? (BSRB, 1995)  
(A) P (B) O (C) K (D) R (E) None of these
- If every second letter of the alphabet series is cancelled after reversing the order of the series, then which letter divides the remaining letters of the alphabet in two equal parts?  
(A) L (B) M (C) P (D) N (E) None of these

10. If every alternate letter starting from B is deleted from the given alphabet, which of the following will be 10th letter from the right end? *(Bank P.O., 1995)*  
 (A) Q (B) D (C) G (D) H (E) None of these
11. If every alternate letter starting from B of the given alphabet is written in small letters, rest all are written in capital letters, how will the month of 'September' be written?  
 (A) SEpteMbeR (B) SEptEMbEr (C) SEptembeR (D) sePTemBeR (E) None of these.
12. Which is the letter as far from the first letter of the alphabet given below as the letter C is from the letter midway between K and R in 'QUICKSILVER'?  
 (A) C (B) D (C) E (D) J (E) F
13. If the alphabet is written in the reverse order and every alternate letter starting with 'Y' is dropped which letter will be exactly in the middle of the remaining letters of the alphabet? *(Bank P.O. 1996)*  
 (A) M (B) O (C) N (D) M or O (E) None of these
14. If the first and the second letters interchange their positions and similarly the 3rd and the fourth, the fifth and the 6th and so on, which letter will be 21st letter from the right?  
 (A) E (B) F (C) I (D) J (E) None of these
15. If the alternate letters in the alphabet starting from 'A' are written in small and rest all in capital letters, which of the following will represent the third month after July? *(Bank P.O., 1995)*  
 (A) OCTOBER (B) OCTobEr (C) oCtObEr (D) ocToBeR (E) None of these
16. How many 'A's are there in the following series which are immediately followed by B as well as immediately preceded by 'Z'? *(Bank P.O., 1993)*  
 (AMBZANAABZABAZBAPZABAZAB)  
 (A) Nil (B) One (C) Two (D) Three (E) More than three
17. In the following series, count each N which is immediately followed by X, but X is not immediately followed by T. How many such N's are there?  
 NXNTQMNXTMXNXC�QMNNXQNXTXNAMXNXM. *(RBI, 1990)*  
 (A) 2 (B) 4 (C) 5 (D) 7 (E) 9

**Directions for Questions 18 to 21:**

The following questions are based on the letter series given below; study the series and answer the questions that follow:

HDYSMWNBQPOCRTBLZVEGUF.

*(Hotel Management, 1992)*

18. Which is the only letter that occurs twice?  
 (A) B (B) E (C) M (D) S
19. Which two neighbours in the given arrangement are farthest in the alphabetical order?  
 (A) B and Q (B) U and F (C) D and Y (D) V and E
20. Which letter has the same neighbours as in the alphabetical order although they have changed places?  
 (A) M (B) N (C) O (D) P
21. Which three letters have the same distance as they have in the alphabetical order although they have changed places?  
 (A) HMP (B) YLF (C) NQZ (D) QOE

**Directions for Questions 22-23:**

In each question below number of letters skipped in between adjacent letters in the series increases by one.

22. Which of the following series observe the ruling given above?  
 (A) AEIMQUY (B) ACFJQUB (C) DINSXCH (D) EHKNQTW



23. Which of the following series observe the ruling given above?  
(A) CIOUB (B) CHMRW (C) PRUYD (D) HLPTX
24. Number of letters skipped in between adjacent letters in the series is two. Which of the following series observes this rule? *(U.D.C. 1995)*  
(A) MPSVYBE (B) QSVYZCF (C) SVZCGJN (D) ZCGKMPR
25. The letters skipped in between the adjacent letters in the series are followed by equal space which of the following series observes this rule? *(I.Tax & Central Excise, 1995)*  
(A) HKNGSW (B) RVZDFG (C) SUXADF (D) RVZDHL
26. Select the series in which the letters skipped in between adjacent letters do not decrease in order.  
(A) EQZFI (B) PJXHM (C) MGVFK (D) GWIQU
27. Number of letters skipped in between adjacent letters in the series decreases by one. Which one of the following series is observing the rule? *(UDC, 1995)*  
(A) BGKNPR (B) CINRTU (C) EJNQST (D) LQUXAP
28. Select the series in which letters skipped in between adjacent letters decrease in order. *(SSC, 1995)*  
(A) AGMRV (B) HNSWA (C) NSXCH (D) SYDHK
30. In which of the following letter sequences, there is a letter leaving two letters of the alphabet in order, after the letters placed at odd-numbered positions and leaving one letter of the alphabet in order after the letters placed at even-numbered positions? *(CBI, 1995)*  
(A) ADFIKN (B) BEGJLN (C) CFHKLO (D) DFIKNP
31. Arrange the given words in alphabetical order and choose the word that comes first.  
(A) Grammar (B) Granary (C) Gradient (D) Grand (E) Granule
32. Arrange the following words in alphabetical order and choose the word that comes first.  
(A) Filter (B) Homage (C) Chastise (D) Charge (E) Certify
33. In a telephone directory which of the following names will appear in the middle? *(Bank P.O., 1993)*  
(A) Sajewat (B) Segvan (C) Sajevar (D) Sajewet (E) Salwar
34. Arrange the words in alphabetical order and tick the one that comes in the middle. *(NA Bard, 1999)*  
(A) Amphibian (B) Amorphous (C) Amphidextrous  
(D) Ambiguous (E) Ambivalent
35. Arrange the given words in alphabetical order and choose the one that comes last.  
(A) Window (B) Marriage (C) Widow (D) Distress (E) Matrimonial

**Directions for Questions 36-38:**

In each of the following questions, arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence.

36. I select II Seldom III Send IV Selfish V Seller. *(U.D.C. 1995)*  
(A) I, II, IV, V, III (B) II, I, V, IV, III (C) II, I, IV, V, III  
(D) II, V, IV, I, III.
37. I Wrinkle II Wriggle III Writhe IV Wretch V Wrath.  
(A) IV, V, I, II, III (B) V, IV, II, I, III  
(C) IV, II, V, I, III (D) V, II, I, III, IV
38. I Liver II Long III Late IV Load V Luminous  
(A) III, I, II, IV, V (B) III, I, II, V, IV  
(C) III, I, V, IV, II (D) III, I, IV, II, V





23. (C) 'PRUYD'.  $\begin{matrix} \underline{PQ} & \underline{R} & \underline{ST} & \underline{U} & \underline{VWX} & \underline{Y} & \underline{ZABCD} \\ & 1 & 2 & 3 & 4 & & \end{matrix}$
24. (A) 'MPSVYBE'.  $\begin{matrix} \underline{MNO} & \underline{P} & \underline{QR} & \underline{S} & \underline{TUV} & \underline{WXY} & \underline{ZA} & \underline{B} & \underline{CDE} \\ & 2 & 2 & 2 & 2 & 2 & 2 & 2 & \end{matrix}$
25. (D) 'RVZDHL' Same as Q. no. 24 and difference between letters are 3.
26. (B) 'PJXHM'.  $\begin{matrix} \underline{P} & \underline{J} & \underline{X} & \underline{H} & \underline{M} \\ 19 & 13 & 9 & 4 & \\ -6 & -4 & -5 & & \end{matrix}$  This is the only alternative where the skipping of letters between the adjacent letter are decreasing without maintaining any order.
27. (C) 'EJNQST'.  $\begin{matrix} \underline{EFGHIJ} & \underline{KLM} & \underline{NOP} & \underline{Q} & \underline{R} & \underline{ST} \\ & 4 & 3 & 2 & 1 & 0 \end{matrix}$
28. (D) 'SYDHK'.  $\begin{matrix} \underline{STUVWXYZ} & \underline{ABCDEFGHIJK} \\ & 5 & 4 & 3 & 2 \end{matrix}$  Decreasing in order.
29. (B) 'MORTVX'.  $\begin{matrix} \underline{MNOPQRSTU} & \underline{VWX} \\ & 1 & 2 & 1 & 1 & 1 \end{matrix}$  Not following any rule.
30. (A) 'ADFIKN'.  $\begin{matrix} \underline{ABCDEFGHIJKL} & \underline{MN} \\ & 2 & 1 & 2 & 1 & 2 \end{matrix}$
31. (C) 'Gradient'. Gradient, Grammar, Granary, Grand, Granule.
32. (E) 'Certify'. Certify, Change, Chastise, Filter, Homage.
33. (D) 'Sajewet', Sajevar, Sajewat, Sajewet, Salwar, Segvan.
34. (B) 'Amorphous'. Ambiguous, Ambivalent, Amorphous, Amphibian, Amphidextrous.
35. (A) 'Window'. Distress, Marriage, Matrimonial, Widow, Window
36. (C) II, I, IV, V, III. Seldom, Select, Selfish, Seller, Send.
37. (B) V, IV, II, I, III.
38. (D) III, I, IV, II, V.
39. (A) 'Meeta'. The correct order is Many, Me, Meeta, Meets, Mother.
40. (E) 'She'. The correct order is Sample, Several, She, Showed, Snaps.

### TYPE 5: WORD FORMATION TEST

In this type of questions some words are given from which a few meaningful words may be formed. You are to find out those words.

#### Examples:

- If with the help of 3rd, 5th, 6th, 11th and 12th letters of the word CENTRALISATION, a word can be formed, then write the middle letter of the word. If no such letter is there, Choose 'E' as your answer.  
(A) N                      (B) R                      (C) A                      (D) T                      (E) X
- Select the combination of numbers so that letters arranged accordingly will form a meaningful word.  
RUSGA  
1 2 3 4 5  
(A) 15423                  (B) 53412                  (C) 52314                  (D) 32451
- Choose one word out of the given alternatives, which cannot be formed from the letters of the word UNIFORMITY.  
(A) Rent                  (B) Torn                  (C) Tiny                  (D) Form

#### Answers and Explanations:

- (C) A. 3rd, 5th, 6th, 11th and 12th letters of the word 'CENTRALISATION' are N, R, A, T and I, from which the word TRAIN can be formed, whose middle letter is 'A'.

2. (D) 32451. Clearly, the given letters when arranged in the order 32451 we get the word 'SUGAR'.
3. (A) Rent. Carefully looking at the word, we find that the word UNIFORMITY does not contain the letter 'E'. So the word 'RENT' cannot be formed.

### PRACTICE TEST

#### Directions for Questions 1-10:

In each of the following questions a group of letters is given which are numbered 1, 2, 3, 4, 5, 6, etc. Below are given four alternatives marked A, B, C and D containing combinations of these numbers. Select the combination that forms a meaningful word.

1. RESTLU (A) 346125 (B) 453261 (C) 563412 (D) 652143  
1 2 3 4 5 6
2. TPSLOI (A) 462531 (B) 263154 (C) 254361 (D) 364251  
1 2 3 4 5 6
3. EOCDLI (A) 325461 (B) 423561 (C) 324561 (D) 423651  
1 2 3 4 5 6
4. IPELOC (A) 254163 (B) 143526 (C) 345126 (D) 451236  
1 2 3 4 5 6  
*(Railways, 1995)*
5. ELBMAG (A) 456312 (B) 316452 (C) 654321 (D) 216354  
1 2 3 4 5 6
6. TLEMNA (A) 264531 (B) 435162 (C) 324651 (D) 532461  
1 2 3 4 5 6
7. TRIFU (A) 31245 (B) 53214 (C) 43215 (D) 42531  
1 2 3 4 5  
*(Railways, 1995)*
8. ACPETS (A) 163425 (B) 234156 (C) 563412 (D) 653421  
1 2 3 4 5 6  
*(Railways, 1995)*
9. ETCCKOP (A) 314562 (B) 216534 (C) 653412 (D) 412356  
1 2 3 4 5 6
10. KATCEL (A) 423156 (B) 124563 (C) 653241 (D) 324165  
1 2 3 4 5 6
11. If it is possible to form a word with the 4th, 5th, 7th, 8th and 10th letters in the word COMPROMISE. Write the middle letter of the word. Otherwise your answer will be E.  
(A) M (B) I (C) R (D) P (E) X
12. If it is possible to form a word with the 1st, 4th, 7th and 11th letters in the word SUPERFLUOUS, write the first letter of that word. Otherwise your answer is X.  
(A) L (B) O (C) S (D) E (E) X
13. If it is possible to make a meaningful word with 3rd, 5th, 8th and 10th letters of the word DISTRIBUTE. Which of the following will be the 3rd letter of the word? If no such word can be made give X as the answer and if more than one such word can be made give M as the answer.  
*(Bank P.O. 1995)*  
(A) S (B) E (C) R (D) X (E) M
14. A meaningful word is made if we take the 1st, 4th, 5th, 7th, 10th, 11th and 12th letters of the word, FELICITATIONS. Which of the following will be the 5th letter of that word from the right end?  
*(UTI, 1993)*  
(A) T (B) C (C) N (D) I (E) None of these
15. If it is possible to make a meaningful word with the 1st, 4th, 7th and 11th letters of the word INTERPRETATION, which of the following will be the 3rd letter of that word? If more than one

such word can be made give M as the answer and if no such word can be made give X as the answer. (SBI, P.O. 1997)

(A) I (B) R (C) T (D) X (E) M

16. Which one word can be formed from the following letters?

a a d e f g r s u

(CBI, 1993)

(A) Stagnation (B) Safeguard

(C) Pseudo-grade (D) Grandson

17. Which one word can be formed from the following letters?

a a b c i l l n o o o r t

(CBI, 1993)

(A) Collapsible (B) Locomotive

(C) Colourfulness (D) Collaboration

### Directions for Questions 18-25:

In each of the following questions find which one word cannot be made from the letters of the given word? (I. Tax and Central Excise, 1995)

18. CARPENTER

(A) Nectar (B) Carpet (C) Painter (D) Repent

19. CONSOLIDATE

(A) Lentil (B) Slain (C) Condole (D) Detail (SSC, 1994)

20. SUPERIMPOSABLE

(A) Spire (B) Reptile (C) Possible (D) Reposure (CBI, 1995)

21. TRIBUNAL

(A) Latin (B) Brain (C) Urban (D) Tribble (SSC, 1995)

22. KNOWLEDGE

(A) Wedge (B) Godown (C) Kleen (D) Golden (Central Excise, 1995)

23. DISSEMINATION

(A) India (B) Nations (C) Mention (D) Action (CBI, 1995)

24. CHOREOGRAPHY

(A) Ogre (B) Graph  
(C) Photography (D) Geography (CBI, 1994)

25. ENDEAVOUR

(A) Drown (B) Devour (C) Drove (D) Round (SSC, 1995)

### Answers and Explanations:

1. (C) Lustre, 2. (B) Pistol, 3. (D) Docile, 4. (A) Police, 5. (C) Gamble, 6. (B) Mental, 7. (D) Fruit, 8. (A) Aspect, 9. (C) Pocket, 10. (D) Tackle.
11. (B) I The word will be PRIME.
12. (A) L The new word will be LESS.
13. (E) M More than one word can be formed e.g. SURE, USER, RUSE.
14. (B) C The word formed is FICTION.
15. (E) M More than one words can be formed, e.g. TIER, RITE, TIRE.
16. (B) Safeguard, 17. (D) Collaboration, 18. (C) Pointer, 19. (A) Lentil, 20. (B) Reptile, 21. (D) Tribble, 22. (B) Godown, 23. (D) Action, 24. (C) Photography, 25. (A) Drown.

## Abstract Reasoning Tests

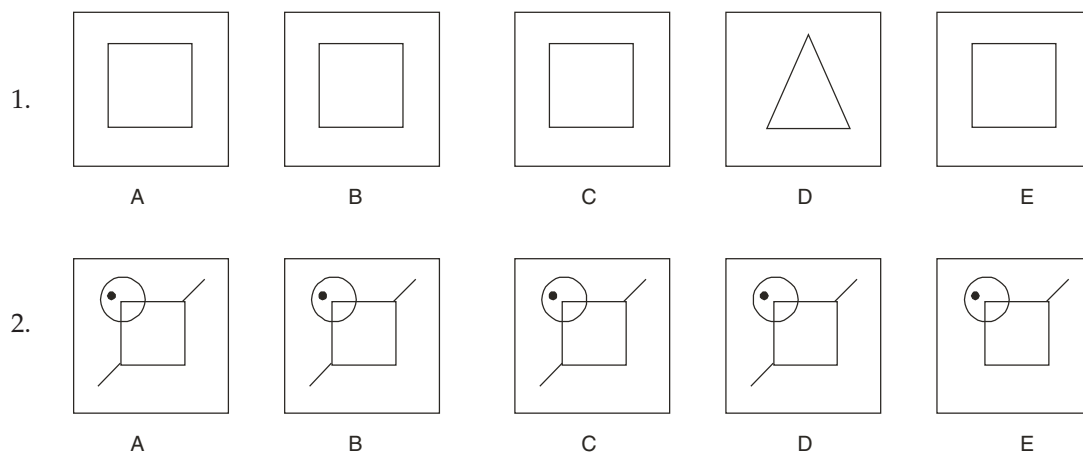
These are non-verbal tests used for measuring the power of logical reasoning, quickness of thinking, spatial knowledge and perception and related mental abilities. As there is no use of any word, digit, letter, etc. in this type of tests, they are also called as culture free or culture fair tests and may be used for studying mental ability of candidates irrespective of any linguistic group. Most competitive examinations today, particularly for the selection of design engineers, architectures, etc. use such tests for measuring their mental ability and aptitude.

The most commonly used non-verbal tests are series completion, odd one out, analogies, spotting similar patterns, pattern completion, sequential arrangement of figures, etc. Each one of these types is explained with examples in this chapter.

### TYPE 1: CLASSIFICATION (ODD ONE OUT)

In these problems there is generally a group of five figures marked serially A-E. Out of these five figures, four are similar in some way and one is dissimilar. You are to find out one which is odd, or not matching with the other figures in the series.

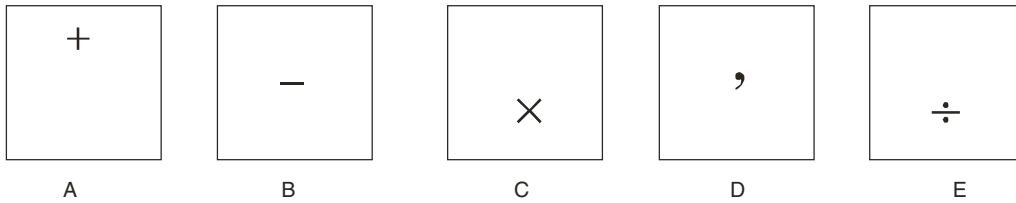
#### Examples:



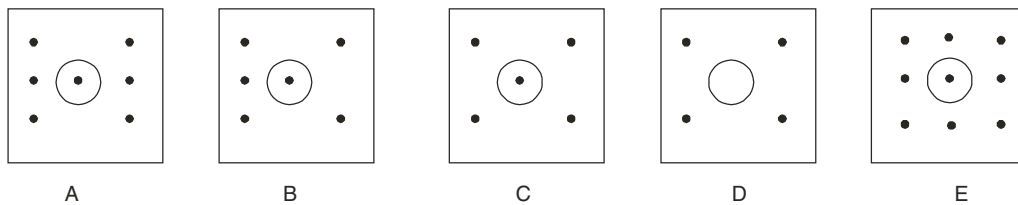
**Answers and Explanations:**

- (D) Figures A, B, C and E are squares and only D is triangle, hence it is odd here.
- (E) Here figure 'E' is odd as there is only one line in one corner of the square, others have two lines in two corners of the square.

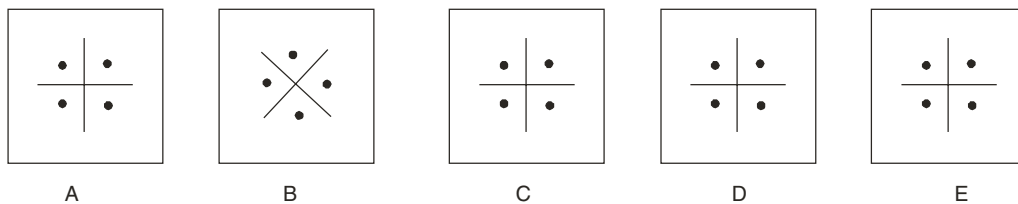
There may be various types of classification tests, e.g., qualitative, quantitative, directional, divisional, structural, etc. Each of them is described below along with examples.

**Sub type 1: Qualitative type****Example:****Answer and Explanation:**

Here the correct answer is 'D'. Here we find that the figures have a qualitative relationship, i.e. figures A, B, C and E are mathematical symbols and belong to the same class, where as figure 'D' contains 'coma' which is not a mathematical symbol. Hence, D is odd here which is spotted out.

**Sub type 2: Quantitative type****Example:****Answer and Explanation:**

Here the correct answer is 'E'. Here we find, each figure contains a circle inside a square and few dots inside. Dots are decreasing in numbers from figure A to D, i.e. from seven in figure A to four in figure 'D'. But in 'E' it again increases to nine, instead of three, which it should be. Hence, 'E' is odd here.

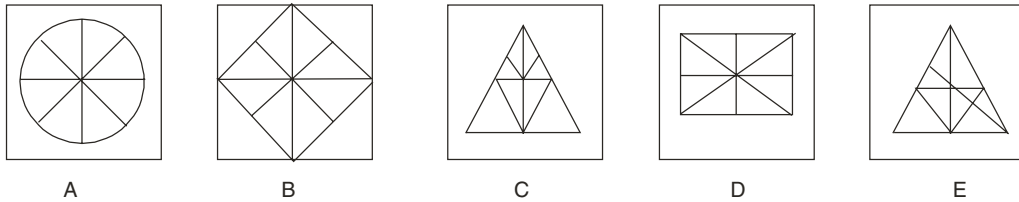
**Sub type 3: Directional type****Example:**

**Answer and Explanation:**

Here the correct answer is 'B'. Here, in the figures A, C, D and E, we find one vertical line intersected by a horizontal line. Whereas in figure 'B' we find a different pattern, i.e. both the lines are inclined and in different direction. Hence it is odd.

**Sub type 4: Divisional type**

**Example:**

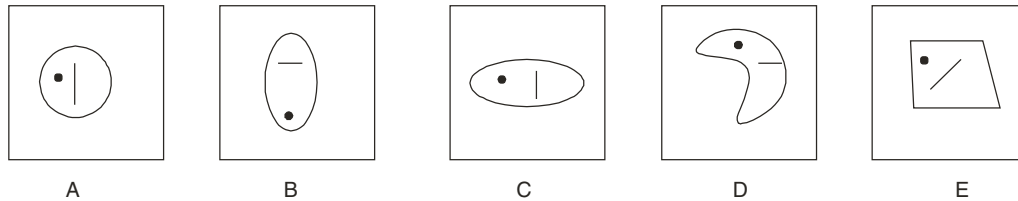


**Answer and Explanation:**

Here the correct answer is 'E'. Here figures A, B, C and D are divided into eight parts whereas figure E is divided into nine parts, hence it is odd here.

**Sub type 5: Structural type**

**Example:**



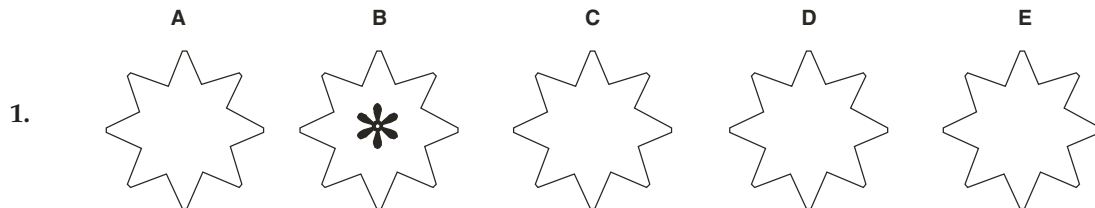
**Answer and Explanation:**

Here the correct answer is 'E'. Here all the diagrams resemble each other in one form or other, i.e. all the figures except 'E' are made of curved lines, whereas in 'E' it is made of straight lines, hence it is odd here.

**PRACTICE TESTS**

**Directions for Questions 1-64:**

In this test, in each question below contains five figures, four of which are alike in some respect and one is different. Look carefully at each figure and *find out the odd or different one* and mark it on the answer sheet.



	A	B	C	D	E
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

	A	B	C	D	E
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					



	A	B	C	D	E
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
31.					
32.					

	A	B	C	D	E
33.					
34.					
35.					
36.					
37.					
38.					
39.					
40.					
41.					
42.					
43.					

	A	B	C	D	E
44.					
45.					
46.					
47.					
48.					
49.					
50.					
51.					
52.					
53.					
54.					

	A	B	C	D	E
55.					
56.					
57.					
58.					
59.					
60.					
61.					
62.					
63.					
64.					

**Answers and Explanations:**

1. (B) Only star with a small star inside.
2. (A) Only figure inclined towards left.
3. (E) White design inside is different from other four figures.
4. (D) Only ship with mast on the right hand side.
5. (A) The figure has only one dot below, others have two.
6. (C) The pattern of arms is different here.
7. (D) One extra dot below in the left hand side.
8. (B) Here the circle of the right hand side is overlapping upon the left hand side circle.
9. (E) All the other figures have four portions, here there are eight such.
10. (A) All the other has one bigger circle, here it is small one.
11. (B) The only figure where the gap between the upper portion and lower portion is very small.
12. (D) The only figure where the internal white shade is on the right and lower side.
13. (B) The only figure where the bending is opened upwards, in all the other figures the bending is closed there.
14. (C) In all the other figures shades are alternately black and white in the same pattern, but in 'C' it is different.
15. (B) Only figure where the heads of arrows are different, square-triangle and circle-square. In others there are square-square and circle-triangle.
16. (D) The triangle inside is pointing towards right hand side.
17. (A) Only figure with black square and white circle.
18. (E) Only figure where arc is on the bigger circle.
19. (B) All the other flags are diagonally crossed.
20. (C) Only figure where two small lines are facing opposite to the circle.
21. (D) Patterns of both white star and black triangle are different from other four figures.
22. (C) In all the other figures two lines are vertical and the other two are horizontal, whereas in 'C' all the four lines are horizontal.
23. (D) The only kite where the pattern is different.
24. (A) Only figure turning clockwise.
25. (B) Only triangle in the series. Other figures consist of two circles and two squares, one big and one small in each case.
26. (C) Only rhombus is there, others are triangles.
27. (D) Only five sides star. Others consist of same figures big and small.
28. (C) Only complete figure with two squares and two triangles in the series.
29. (A) Only flag with four shaded portions inside others have either three or single shade inside.
30. (D) 'A' and 'B' have seven lines each and 'C' and 'E' have three lines each, 'D' has only four lines.
31. (E) Only figure where star and bent line are there, whereas in other figures bent lines are with black circles and stars are with white circles.
32. (A) Only circle with six spokes, others have eight.
33. (D) Only figure with three types of figures – square, circle and line. Others have only two types.
34. (B) Here figures 'A' and 'D' are similar, 'C' and 'E' are also similar, whereas, 'B' is different.
35. (D) Here rectangle is with bent lines, which should be with straight lines like figures 'A' and 'C'.

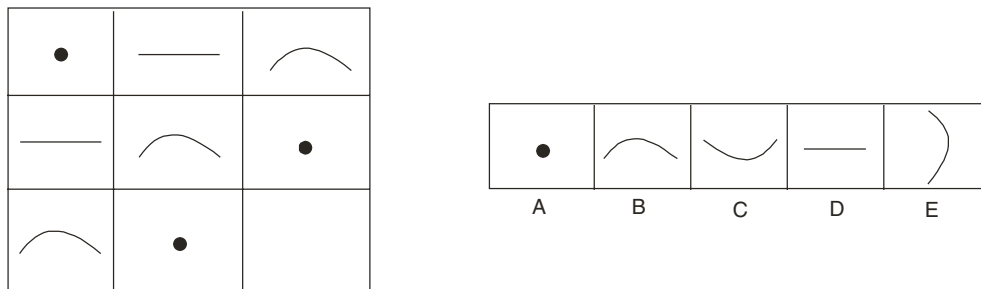
36. (A) Here figure 'D' is 180° turning of figure 'B' and figure 'E' is 180° turning of figure 'C' but no such figure matches with 180° turning of 'figure A'.
37. (E) We find same types of figures in 'A' and 'B' and 'C' and 'D', each with a big white one followed by a black small one. Whereas in 'E' only black big figure is there.
38. (C) Figures 'A' and 'B' are multicornered and overlapped; figure 'D' and 'E' are circular and joined, whereas figure 'C' is multicornered but joined, which is single.
39. (E) Figures are alternately clockwise and anticlockwise from 'A' to 'D', but in 'E' the pattern is different.
40. (B) Figure 'C' is the upside down of figure 'A' and figure 'E' is upside down of figure 'D', whereas figure 'B' does not match similar way to other figures.
41. (B) Figure 'A' is superimposed on 'E', figure 'C' is superimposed on 'D', but 'B' is single here.
42. (E) If we superimpose 'A' on 'D' and 'B' on 'C', we find two complete black squares, whereas 'E' is different here.
43. (D) Only complete figure; other figures are incomplete.
44. (B) Only with multiple figures, others have only two types of figures.
45. (B) Only figure with two hands; 'A' and 'C' have four hands and 'D' and 'E' have three hands each.
46. (C) Only complete figure.
47. (A) For 'B' and 'E' and 'C' and 'D' figures are same but with different positions, whereas no such match for 'A'.
48. (B) Only figure without any shaded figure inside.
49. (D) Superimposing 'B' upon 'A' and 'E' upon 'C' we get two complete black square figures, whereas 'D' is not a matching figure here.
50. (E) Superimposing 'B' upon 'A' and 'D' upon 'E' we get two similar type of figures. Whereas 'E' though more or less similar to figure 'A' is somewhat different.
51. (E) Figure 'C' is the reverse side of figure 'A' and figure 'D' is reverse side of figure 'B', only 'E' is different here.
52. (C) In all the other similar figures 'A' and 'E' buds situated in left hand side are black, here it is not.
53. (B) Figure 'D' is reverse side of figure 'A', similarly figure 'E' is reverse side of figure 'C', whereas 'B' is the same side of figure 'C', so figure 'B' is different here.
54. (C) Half circle alternately changes its position from left to right, but in 'C' the same sequence is there as in 'B', hence it is odd.
55. (A) For 'B' and 'C' and 'D' and 'E' start with a single figure first then vertically reversed and overlapped with another similar figure. But in 'A' only overlapping figure is there, no single figure is there, hence it is odd.
56. (E) Small square followed by a bigger one from 'A' to 'D', 'E' is different.
57. (E) 'C' is the mirror image of 'A' and 'D' is the mirror image of 'B', only 'E' is different.
58. (A) Only straight arrow with a head and a tail, other two straight arrows 'B' and 'D' have either both tails or both heads.
59. (D) Pattern should be filled square followed by filled circles as in 'A' and 'B', 'C' and 'D' should be unfilled square followed by unfilled circles, which is not found in 'D', so 'D' is odd here.
60. (E) Triangles are alternately big and small and then reversed with same sequence, but in 'E' the said sequence is maintained. Hence 'E' is different here.

61. (B) Each figure consists of three patterns and only two patterns are to be changed at a time as found in figures 'A', 'C', 'D' and 'E'. But in 'B' three patterns have changed which is exception, hence odd.
62. (D) Here also in 'D' all the three figures have changed instead of two as in other figures.
63. (B) Direction of the bird and one of its wings are to be changed alternately, but in 'B' direction has not changed.
64. (C) In each figure one arm is moving clockwise and another arm anti-clockwise, alternately but in 'C' the vertical arm remains static, which should move anticlockwise.

### TYPE 2: SET OR SERIES COMPLETION (FIGURES)

This test consists of incomplete sets of patterns, which are the problem figures and followed by a set of five answer patterns. One of the answer patterns will complete the set of series. The patterns are based on mixed operations in which various elements change their directions/positions, increase or decrease in number as well as changing qualitatively. The answers choice for each item are marked with A, B, C, D and E. The pattern within a set are arranged in a certain way. To find out how they are arranged look at the patterns from left to right and also from top to bottom. The missing pattern will be one of the answer patterns. The correct answer will complete the set or series of patterns.

#### Example:



#### Answer and Explanation:

**Answer:** 'D' Look at the set of patterns as rows or columns. The first two rows and also in columns have 1 dot, 1 straight line and 1 curved line. The last row has only a dot and a curved line. So a straight line is missing from the pattern, which is given in answer D. So, the answer is 'D'.

**PRACTICE TEST**

**Directions for Questions 1-40:**

This test consists of incomplete sets of patterns, which are the problem figures and followed by set of five answers choice, marked A, B, C, D and E. Find out the best answer which can fit to complete the set. Mark your answer on the answer sheet.

**Set of Patterns**

**Answers**

1.


A	B	C	D	E

2.


A	B	C	D	E

3.

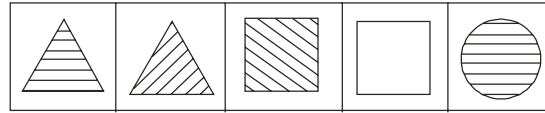
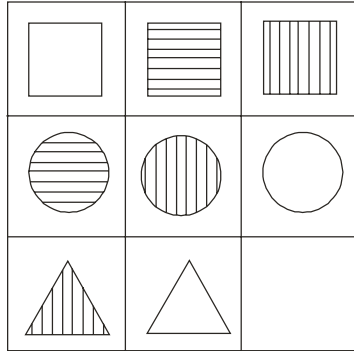

A	B	C	D	E



Set of Patterns

Answers

4.



A

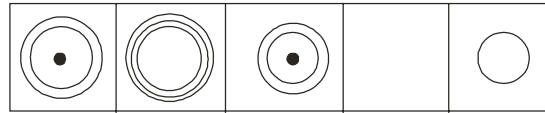
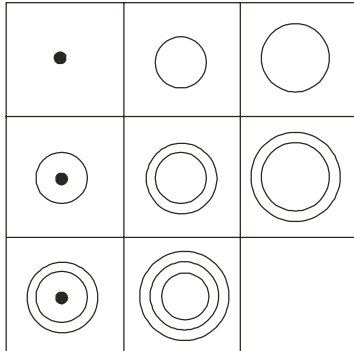
B

C

D

E

5.



A

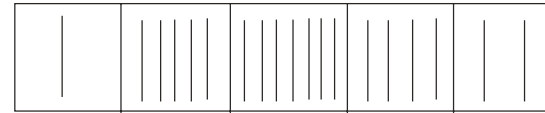
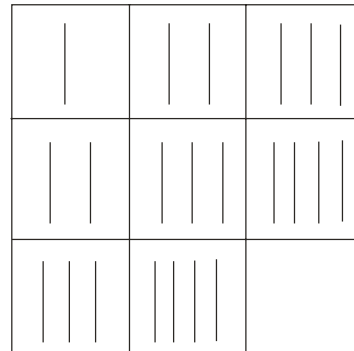
B

C

D

E

6.



A

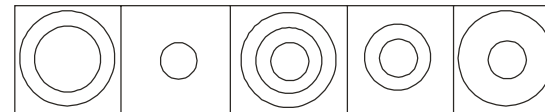
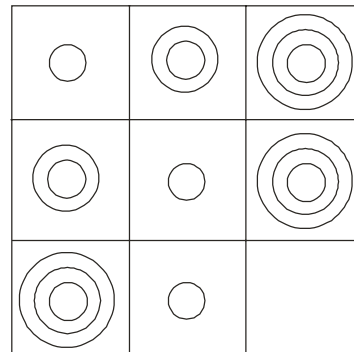
B

C

D

E

7.



A

B

C

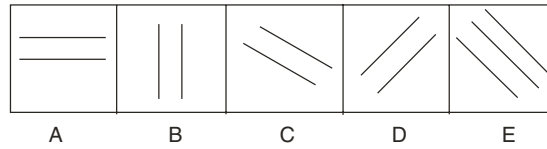
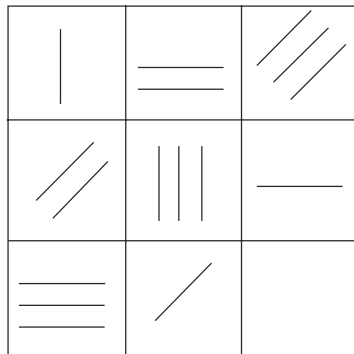
D

E

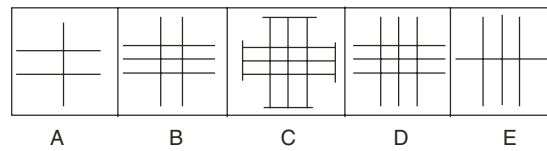
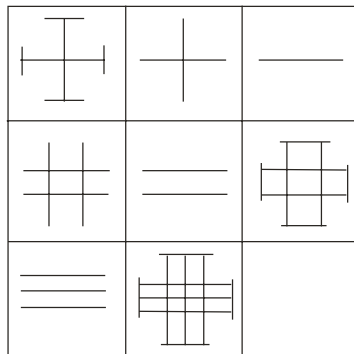
Set of Patterns

Answers

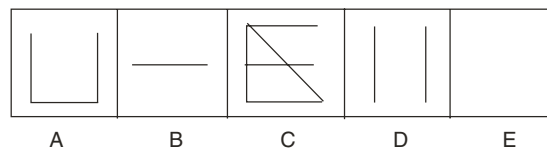
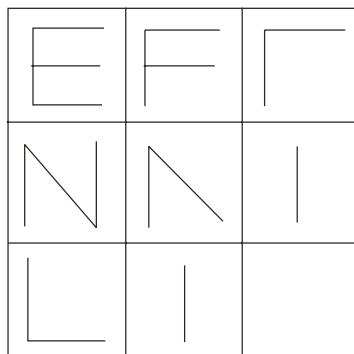
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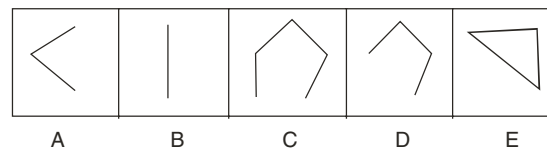
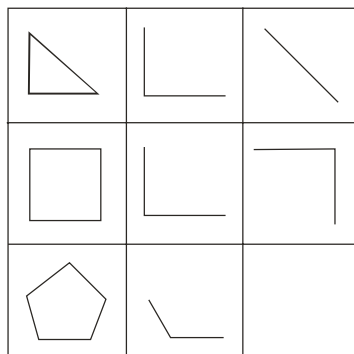
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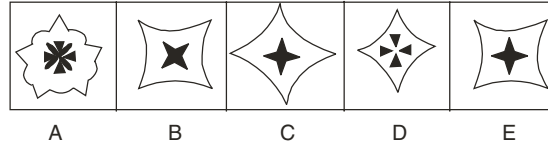
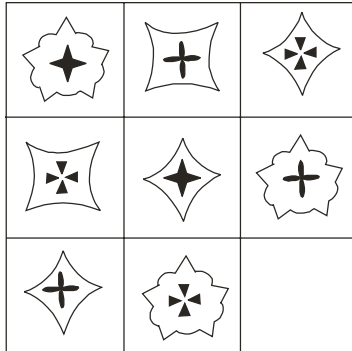
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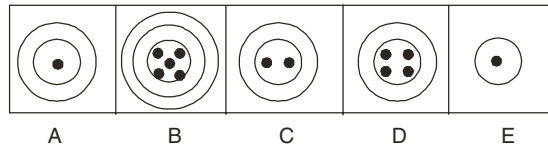
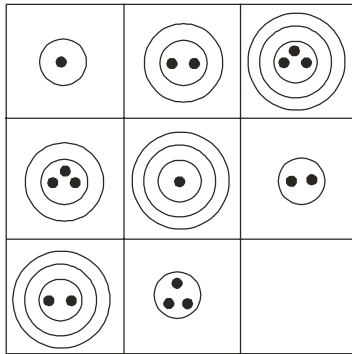
Set of Patterns

Answers

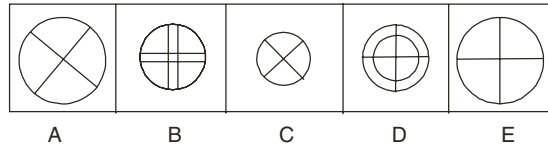
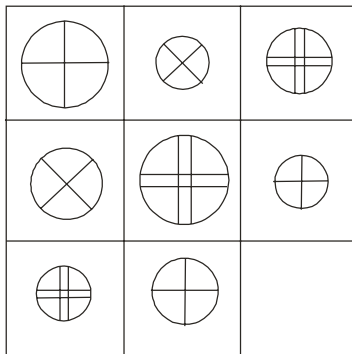
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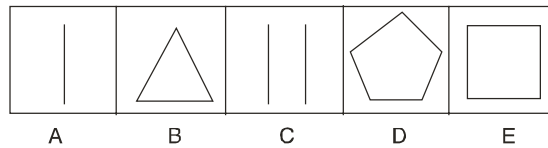
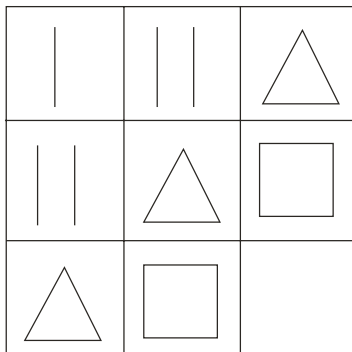
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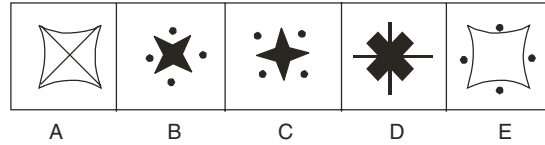
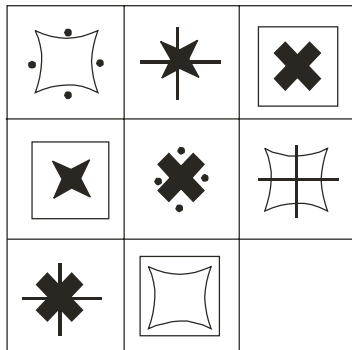
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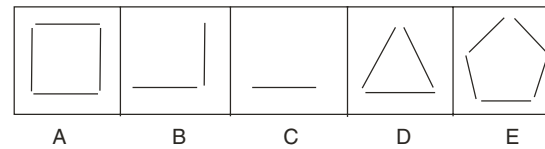
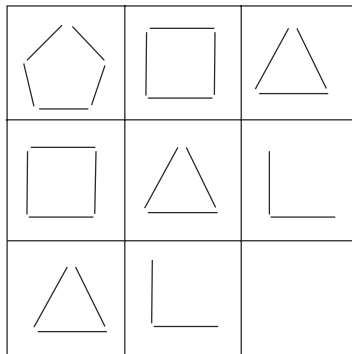
Set of Patterns

Answers

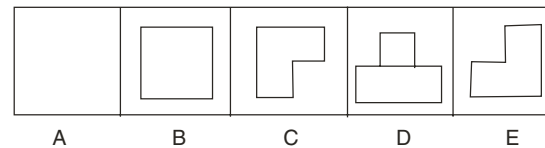
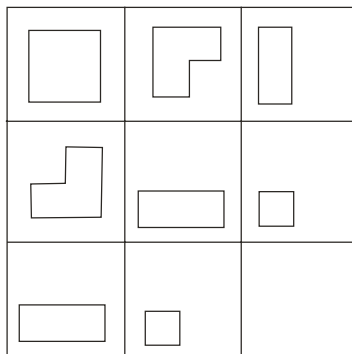
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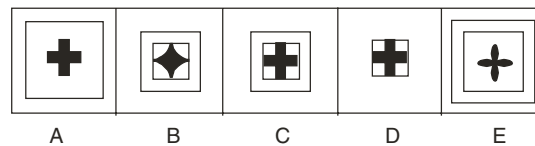
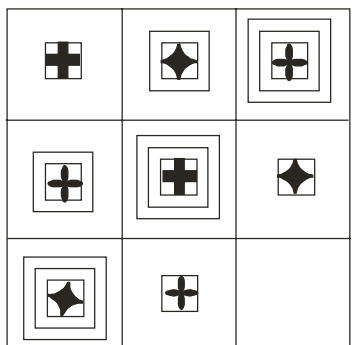
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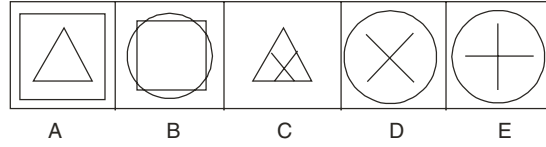
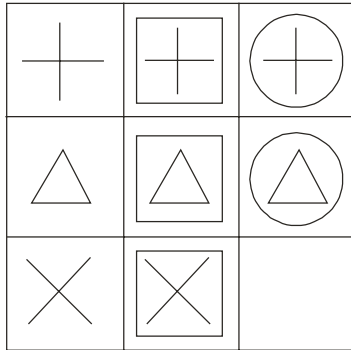
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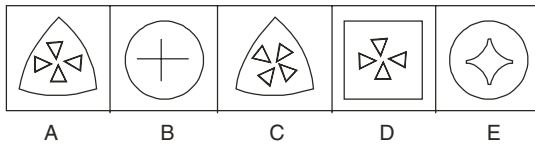
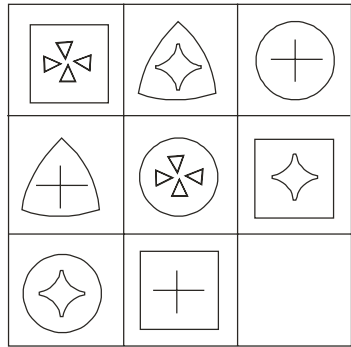
Set of Patterns

Answers

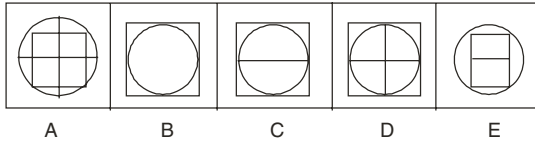
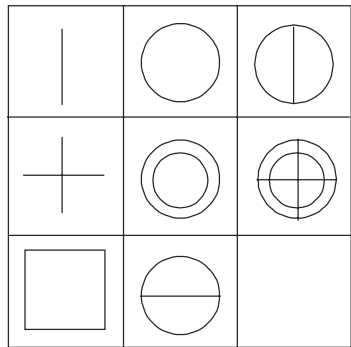
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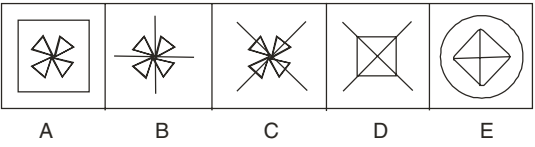
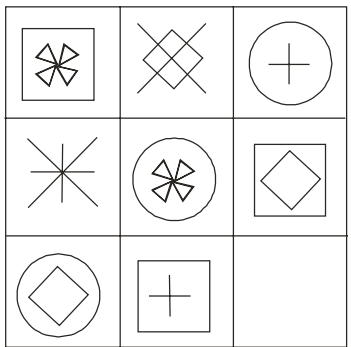
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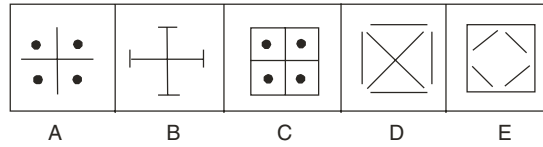
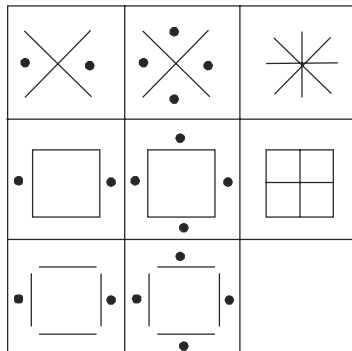
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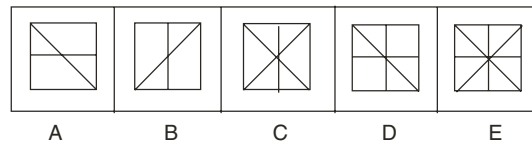
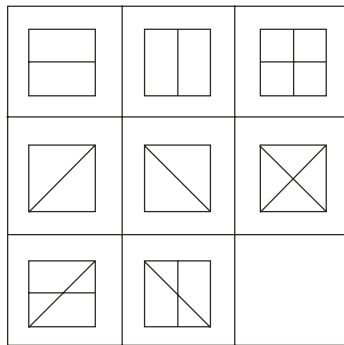
Set of Patterns

Answers

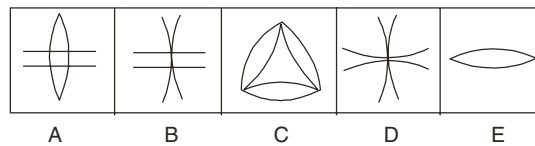
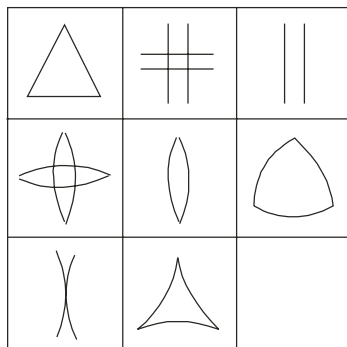
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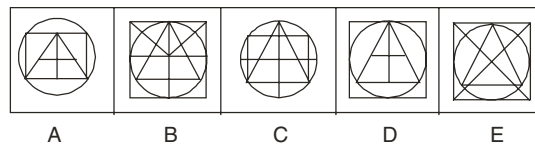
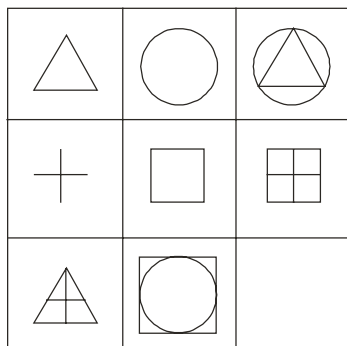
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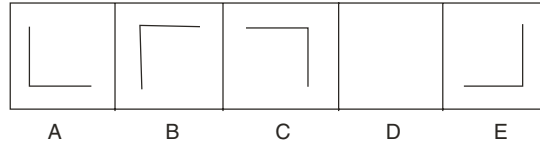
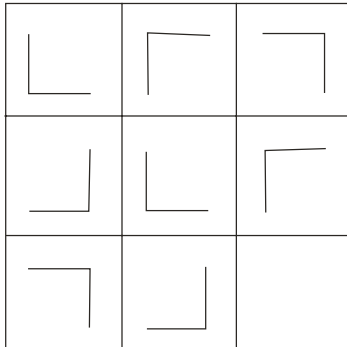
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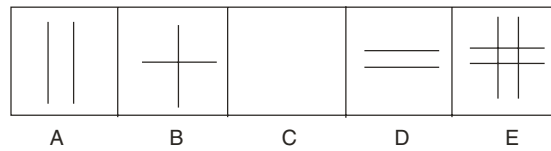
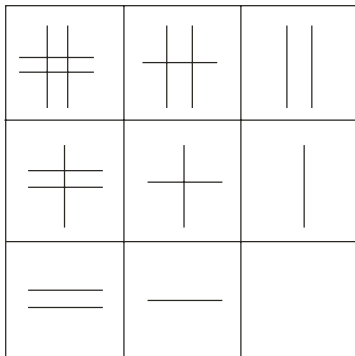
Set of Patterns

Answers

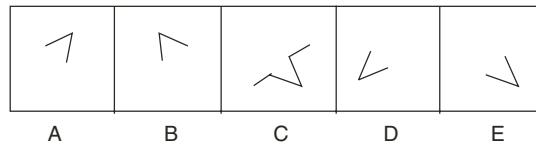
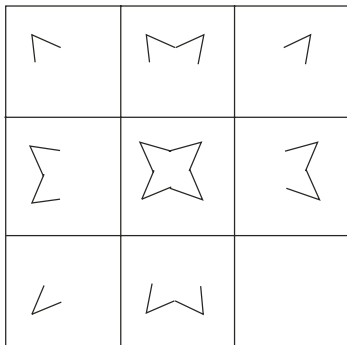
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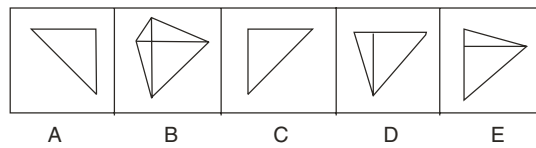
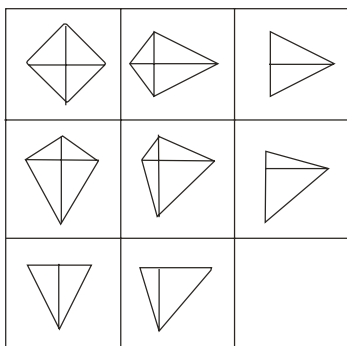
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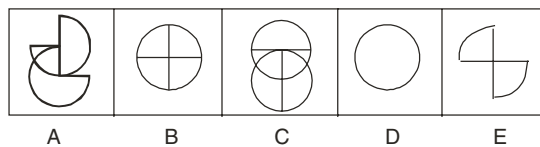
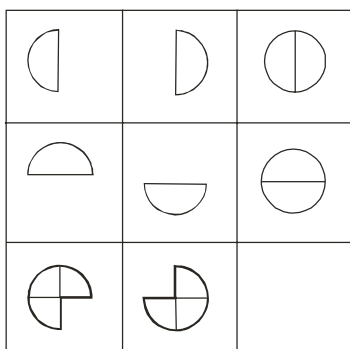
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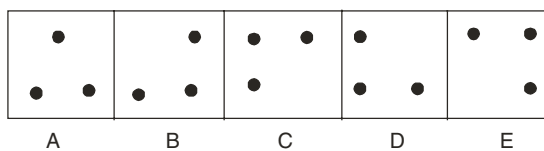
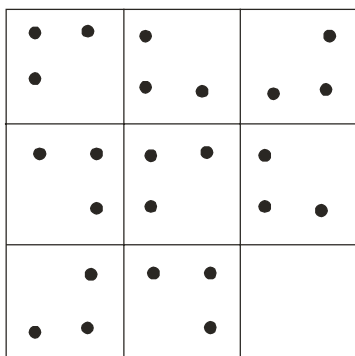
Set of Patterns

Answers

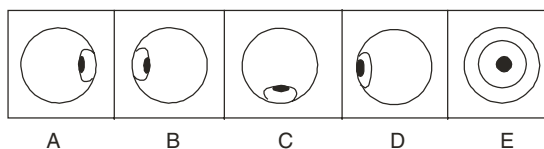
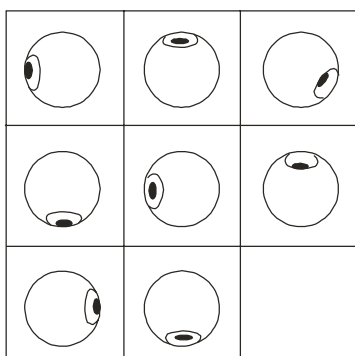
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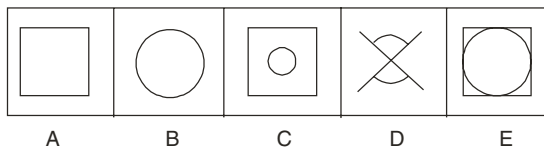
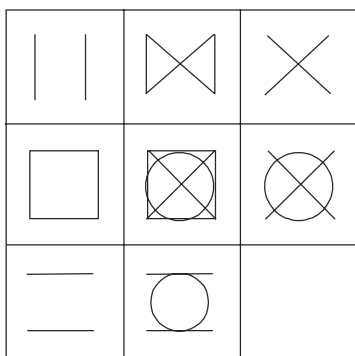
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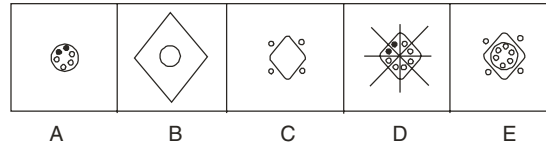
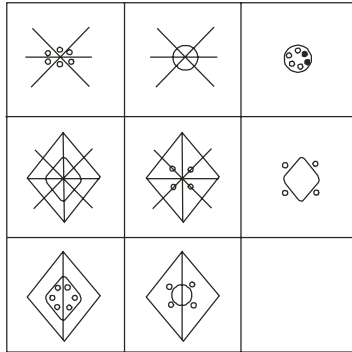




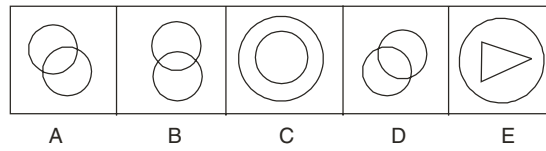
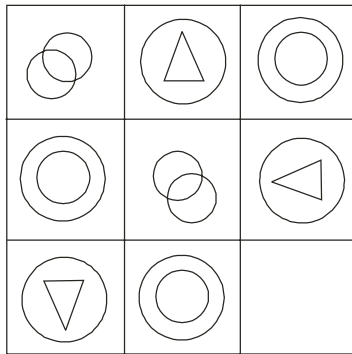
Set of Patterns

Answers

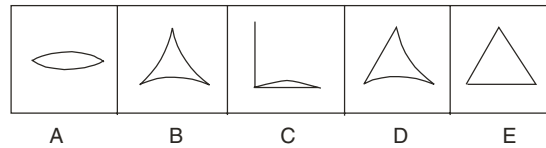
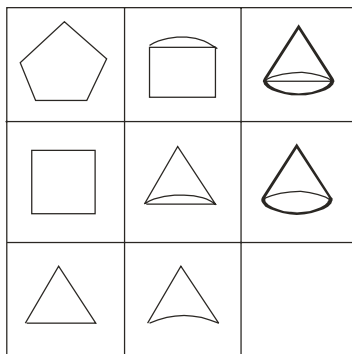
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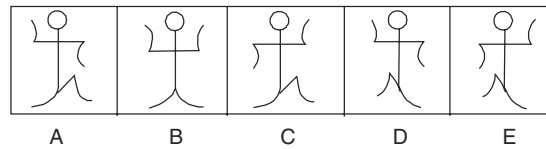
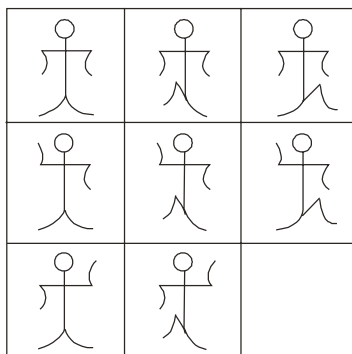
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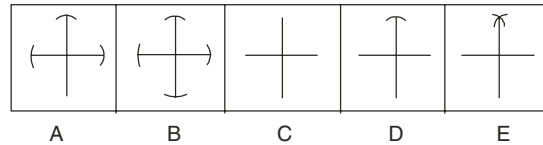
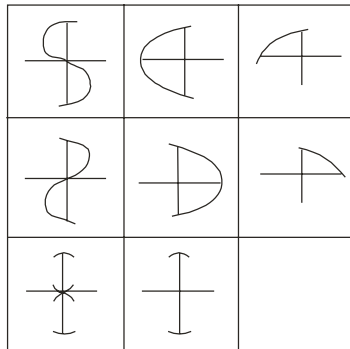
39.



Set of Patterns

Answers

40.



Answers and Explanations:

- (E) Set of patterns consist of one triangle; four circles and seven dots in each row and column. So to complete the set we require seven dots in a particular patterns as in set, which is found in 'E'.
- (C) This pattern is missing in the set.
- (A) This is the figure which is missing in the set.
- (A) Each column consists of one square, one circle and one triangles out of which two are filled with vertical and horizontal lines and one is unfilled. In third column we find only two figures one square filled with vertical lines, one unfilled circle and missing figure should be one triangle filled with horizontal lines which is found in 'A'.
- (B) Each column consists of one circle, two circles and three circles, so the missing figure of third column should be three circles; i.e. 'B'.
- (B) In each row and column one line has been increased in each figure, so the missing figure should be with five lines, i.e. 'B'.
- (D) Each row and column consists of one circle, two circles and three circles, so the missing figure is two circles which is 'D': though 'A' and 'E' have two circles each, their size and patterns are different from the set.
- (B) In the set there are three types of lines in each row and column—single line, double lines and triple lines, one is vertical, one is horizontal and one is slanting right. Here the missing lines must be double and vertical, so, 'B'.
- (D) First row consists of one vertical line, one cross and one filled cross: the pattern remains same but the number of lines has been increased by one in 2nd and 3rd row. So the missing figure must be of unfilled cross with three lines as in 'D'.
- (E) In each row and column of the set a line has been diminished each time. So in third column there are two lines in 1st row, single line in 2nd and no line in the third row, hence 'E'.
- (D) Here figures of the 1st column is formed by joining e figures of 2nd and 3rd columns; so the missing figure must be 'D', which when joins with the figure of the 2nd row will form a pentagon as the 1st figure of the row.
- (E) Each row and column consists of three large patterns inside of which there are three small patterns. The missing figure will be 'E' where both the patterns are not there in other two figures. Here in 'B' though external pattern may be similar to the missing figure, the internal pattern is different.


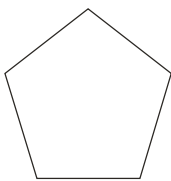
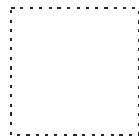


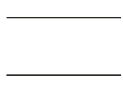

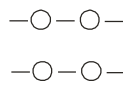

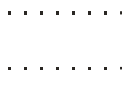
13. (A) Here, according to the pattern the missing figure must be two circles and a dot inside, which is 'A'.
14. (A) The pattern consists of three proportionately bigger circle from a smaller ones and one cross, one plus and one double plus inside. In the missing row there are small circle with double cross and a bigger circle with plus sign, so the missing figure must be the biggest circle with a cross sign, which is 'A'.
15. (D) According to the pattern the missing figure must be a pentagon.
16. (B) According to the pattern a star with dots are missing, which is 'B'.
17. (C) In each row a line has been decreased, hence 'C'.
18. (A) Each time some portion of the figures remain has been reduced which is equal to a small square, so ultimately no figure remains as in 'A'.
19. (C) Two squares and a cross inside in the missing figure here.
20. (D) The missing figure should be a cross within a circle.
21. (A) As per 1st and 2nd columns the figure missing is the triangular figure with four petals inside as in (A), Though in (C) more or less similar pattern is there, but the pattern of the petals are different.
22. (C) According to the set figures of the 1st column are superimposed upon the figures of the 2nd column, forming the third column. So, the missing figure would be (C).
23. (C) The figure missing is crossed petals not within any figure, hence (C).
24. (B) Figures of the 1st and 2nd columns are almost similar, only there are two dots extra with each of the figures in column two. The third column no dots are there only a plus sign is superimposed upon the figure of the 1st column, so the missing figure must be (B).
25. (E) Here also the figures of 1st column are superimposed upon the figures of the 2nd column forming the 3rd column, hence the missing figure is (E).
26. (D) In the 1st row, there are two vertical straight lines, three straight lines forming a triangle and four straight lines forming a cross. In the 2nd row we found the similar pattern with curved lines. So in the 3rd row the missing figure must be four curved lines forming a cross as in 'D'.
27. (D) Figures of the 1st column are superimposed upon the figures of the 2nd column forming the figures of the 3rd column, hence the missing figure is (D).
28. (A) Figures of the 1st column moving 90° clockwise forming figures of the 2nd column and again moving 90° clockwise forming the figures of the 3rd column, hence the missing figure is (A).
29. (C) Each time one horizontal line is diminished from the figures columnwise, hence (C), i.e., 1st column two horizontal lines, 2nd one and 3rd must be zero or none.
30. (E) Figures of the 3rd column are the mirror images of 1st column, hence (E).
31. (C) Here in each row vertical lines within the figures are gradually moving upwards and ultimately vanished in 3rd row, hence, figure (C) would be the appropriate missing figure.
32. (B) Here the figures of the 1st and 2nd columns are joined together forming the 3rd column, hence, (B).
33. (C) In each row dots are moving anticlockwise hence (C).
34. (B) In each column though the circle is moving anticlockwise but its inside patterns are different. Hence (B) is the correct answer here.
35. (B) Figures of the 1st column and 3rd column join together forming the figures of the 2nd columns, hence (B) is the best answer here.
36. (E) In each row there are three types of patterns which are repeated twice, in the last row the missing figure must be (E).

- 37. (D) In each row there are three figures which are moving 90° anticlockwise from one row to next row. Hence 'D' is the correct figure has not (B) or (A).
- 38. (D) In each row straight lines are decreased by one and curved lines are increased by one from column 1 to column 3. So, following this pattern the missing figure will be one straight line and two curved lines as in (D).
- 39. (C) In each columns right hand and left hand of the figures are moving ups and downs alternately, so the missing figure must be (C) here.
- 40. (D) Figures of the 1st row are moving 120° from left to right forming the 2nd row. Whereas in the 3rd row 50% of the curved lines is withdrawn from each figure, i.e. on the 1st figure of the 3rd row has four curved lines, 2nd figure has two only, and by withdrawing 50% curved lines from the 2nd figure we find only one curved line on the cross, i.e. in (D).

**TYPE 3: FIGURE MATCHING**

This test consists of sets of patterns and each set has five items patterns in the top followed by five answer patterns marked with A, B, C, D and E. Each item within a set differs from all the others in a certain way and can match *only with one answer pattern of that particular set*. The task is to match answers to the items. Though there is only one correct answer, but any answer may be correct for one or more items or correct for any item. Look at the example below.

**Example:**

Items				
				
1	2	3	4	5
Answers				
				
A	B	C	D	E

**Answers and Explanations:**

1. D, 2. A, 3. E, 4. B, 5. A.

Here five items are made up of different types of lines. Here the type of line describes the class to which the item belongs. Item 1 is matched by answer 'D', as both have same kind of lines; similarly item 2 is matched with A, item 3 with E, item 4 with 'B' and item 5 again matched with A. Here for 'C' there is no matching figures in the items.

**PRACTICE TEST**

**Directions for Questions 1-40:**

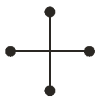
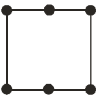
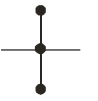
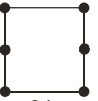

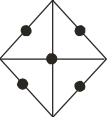
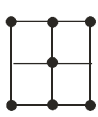
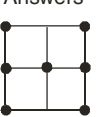
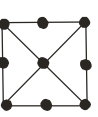
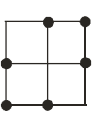
This test consists of sets of patterns and each set has five patterns followed five answer patterns. Your task will be to match the answers to the items and indicate your answer choice on the answer sheet.

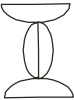
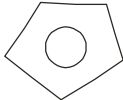
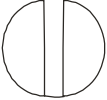
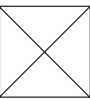
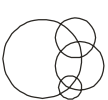
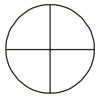




Items				
 1	 2	 3	 4	 5
Answers				
 A	 B	 C	 D	 E

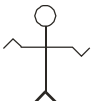
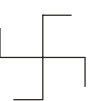

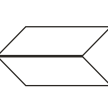
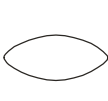



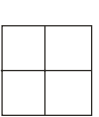

Items				
 6	 7	 8	 9	 10
Answers				
 A	 B	 C	 D	 E






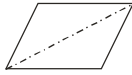



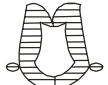
Items				
 11	 12	 13	 14	 15
Answers				
 A	 B	 C	 D	 E

Items				
 16	 17	 18	 19	 20
Answers				
 A	 B	 C	 D	 E

		<b>Items</b> 		
21	22	23	24	25
<b>Answers</b>				
				
A	B	C	D	E

		<b>Items</b> 		
26	27	28	29	30
<b>Answers</b>				
				
A	B	C	D	E

		<b>Items</b> 		
31	32	33	34	35
<b>Answers</b>				
				
A	B	C	D	E

		<b>Items</b> 		
36	37	38	39	40
<b>Answers</b>				
				
A	B	C	D	E

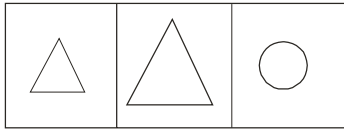
**Answers and Explanations:**

1. (B) The pattern of cross matches only with 'B' here as the edges are straight.
2. (D) The pattern matches only with (D) as the edges are curved.
3. (E) Here, the edges of the cross are pointed, so matches only with (E).
4. (C) Here, the shape of the cross matches only with (C).
5. (A) Here, the shape and edges of the cross matches only with (A).
6. (D) Four sides of the cross are guarded, which matches only with (D).
7. (E) Figure consists of two horizontal lines and a vertical line as in (E).
8. (B) Only two sides of the cross, left and down are guarded here as in (B).
9. (A) Only one side of the cross, i.e., left side is unguarded here as in (A).
10. (C) Three horizontal lines and one vertical line, as in (C).
11. (D) The pattern matches only with (D).
12. (C) The pattern matches only with (C).
13. (E) The lines match only with (E).
14. (B) The lines match only with (B).
15. (A) The lines match only with (A).
16. (B) If the two figures are joined together forming the figure (B).
17. (D) The two figures joined together to form a square as in (D).
18. (E) This two figures joined together to form a triangle as in (E).
19. (A) This two figures joined together to form the figure (A).
20. (C) This two figures if joined together to form a rectangle as in (C).
21. (E) There are four dots on the four ends of the cross which matches only with (E).
22. (B) Dots are only on the upper and lower portions of the figure as in 'B'. Though in 'B' there is a dot in the middle also, that is due to presence of the cross there.
23. (B) Three dots on the vertical line of the cross as in (B).
24. (C) Dots are only on the sides as in (C).
25. (A) Only dot on the joint of the cross as in (A).
26. (C) Two separate half circles and two joined half circles.
27. (E) Pentagon and circle as in (E).
28. (B) Two half circles joined at one end as in (B).
29. (A) Cross within a figure as in (A).
30. (D) Four circles are there as in (D).
31. (C) Pattern is more or less similar to (C).
32. (D) Pattern is more or less similar to a cross as in (D).
33. (E) Triangle as in (E).
34. (A) Pattern is more or less cylindrical as in (A).
35. (B) Two arcs as in (B).
36. (C) Star more or less similar to (C).
37. (A) Dotted line divides a figure as in (A).
38. (B) Two straight lines and a curved line as in (B).
39. (E) Shaded figure with some white portion inside as in (E).
40. (D) Two circles as in (D).

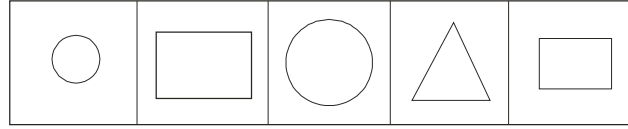
**TYPE 4: FIGURE ANALOGIES**

This test consists of analogies in the form of patterns. Each item consists of three problem figures and five answer figures, marked with A, B, C, D and E. First two figures of the problems are related to each other in some respect, following the same relationship find out the one answer choice from the answer figures for the third problem figure. Look at the example below.

**Problem**



**Answers**



A B C D E

**Answer and Explanation:**

Here the first two problem figures are triangles i.e. of same shape but the second one is larger than the first. Similarly the third problem figure is a circle of small size and in the answer figures there are two circles, No. A is smaller and No. C is larger. So the correct answer is 'C'.

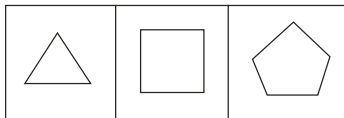
**PRACTICE TEST**

**Directions for Questions 1-40:**

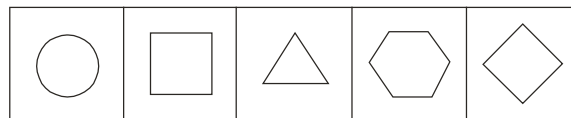
In each question below you will find a set of three item figures in the left and a set of five answer figures in the right. The first two item figures are related to each other in some way, following the same relation find out one from the answer figures, which possess the same relation with the third problem figure. Mark your answer choice on the answer sheet.

**Problems**

1.

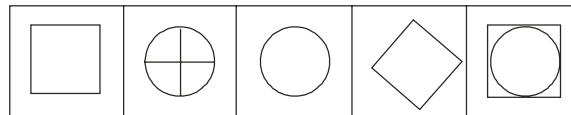
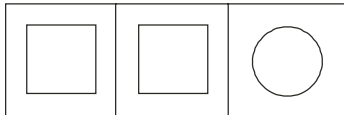


**Answers**



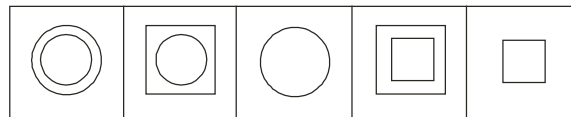
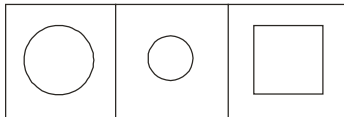
A B C D E

2.



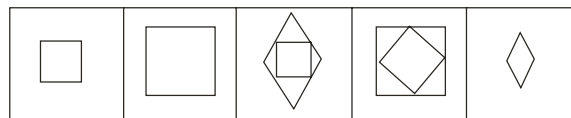
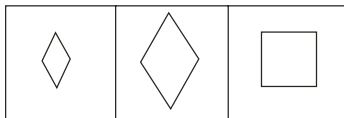
A B C D E

3.



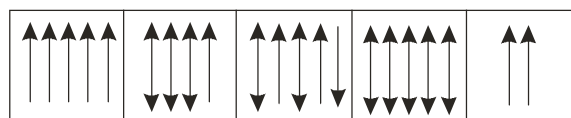
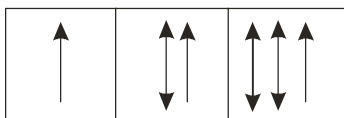
A B C D E

4.



A B C D E

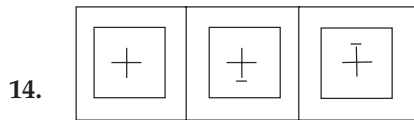
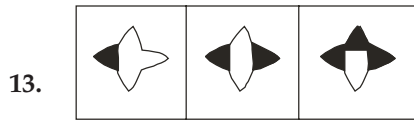
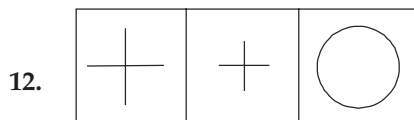
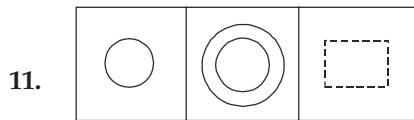
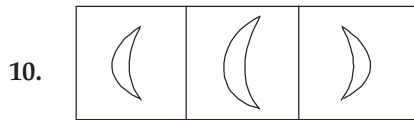
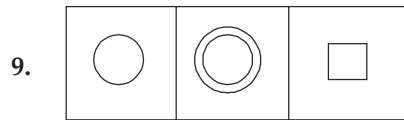
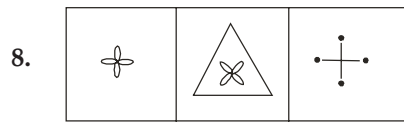
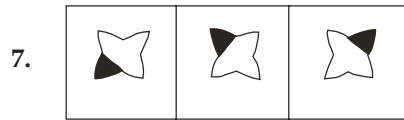
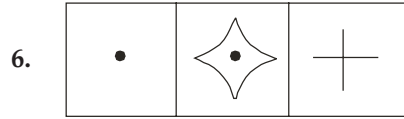
5.



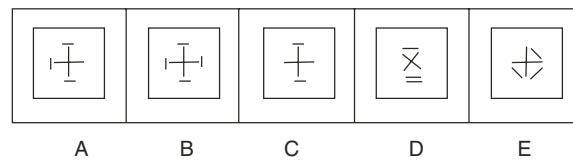
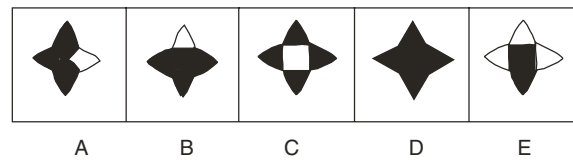
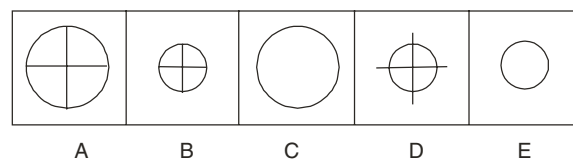
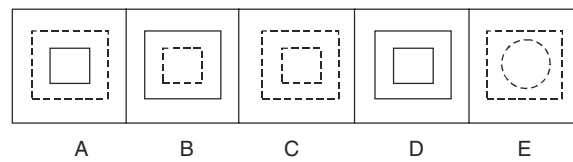
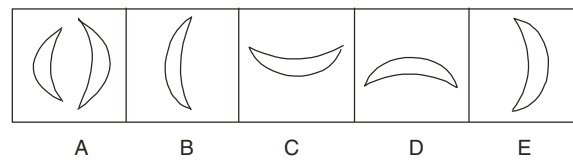
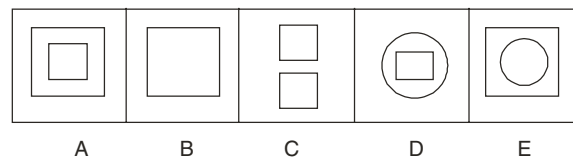
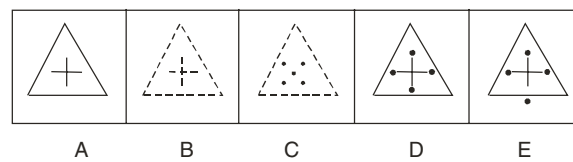
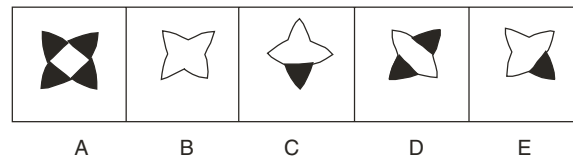
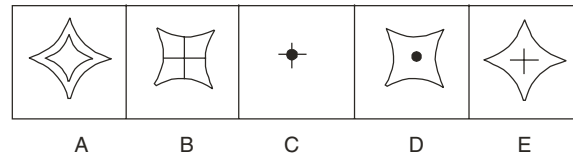
A B C D E



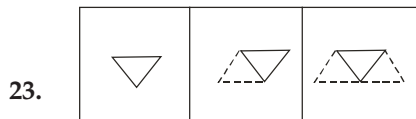
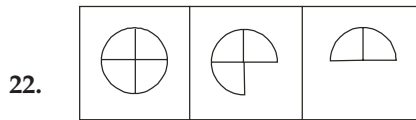
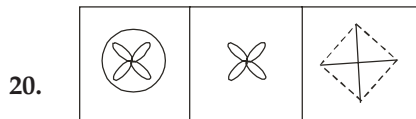
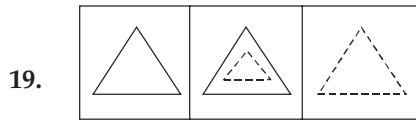
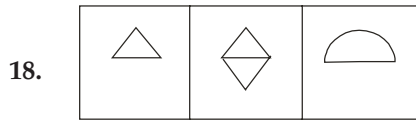
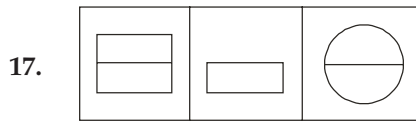
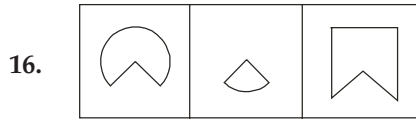
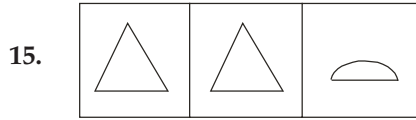
Problems



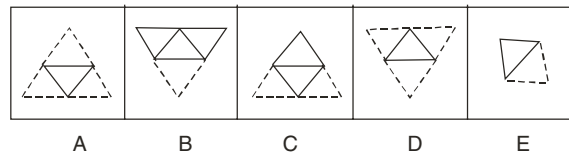
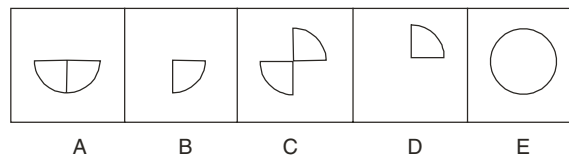
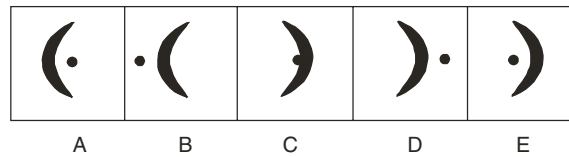
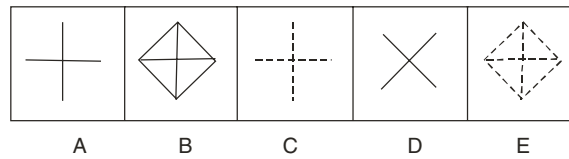
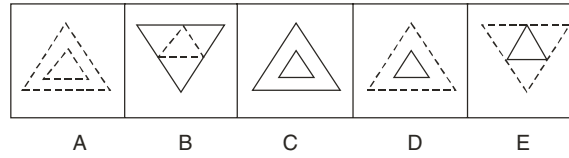
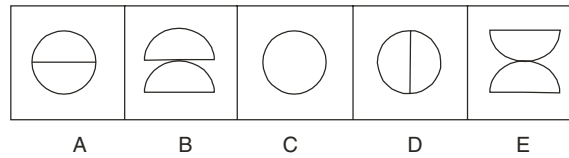
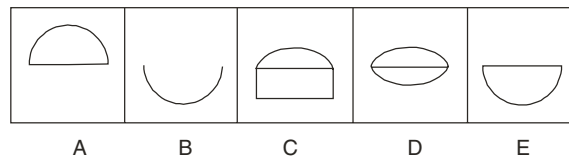
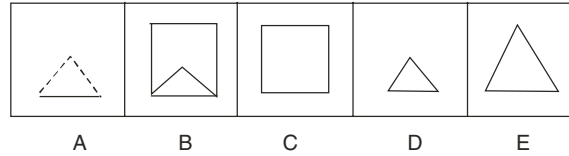
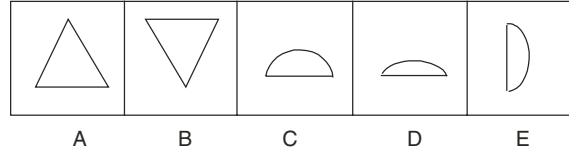
Answers



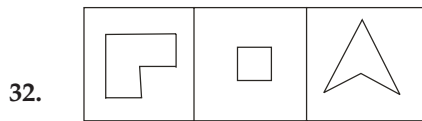
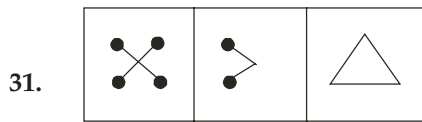
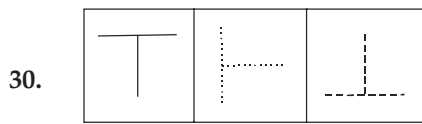
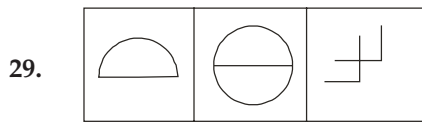
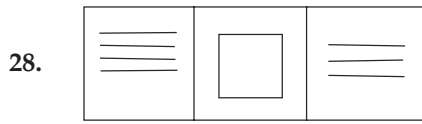
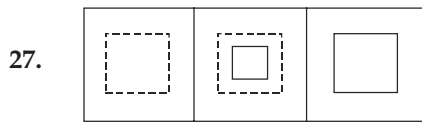
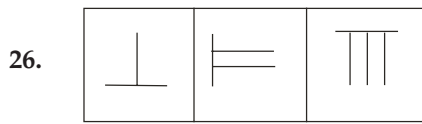
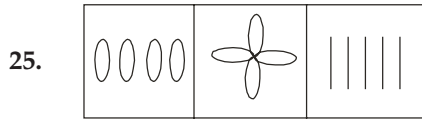
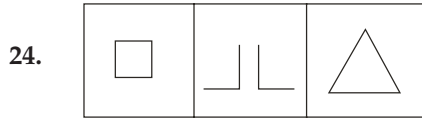
Problems



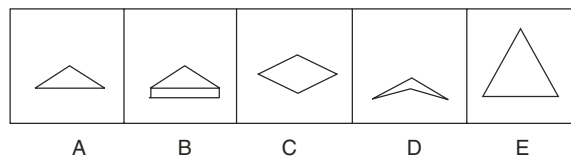
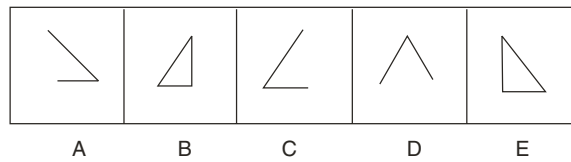
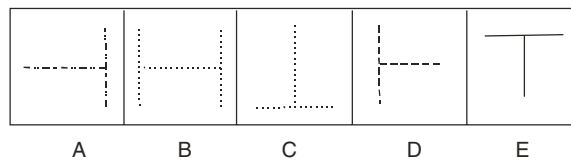
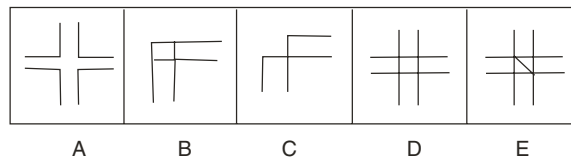
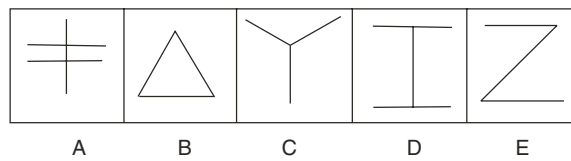
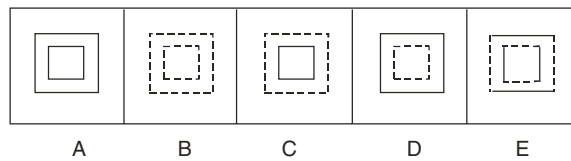
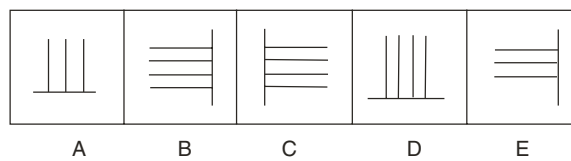
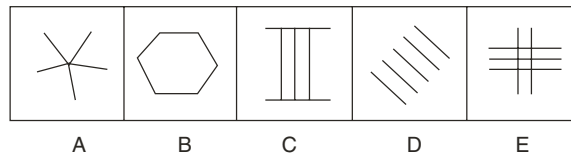
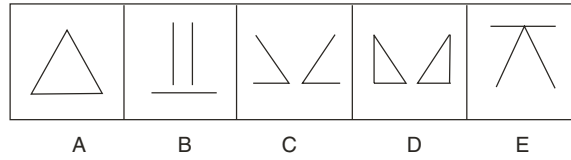
Answers



Problems

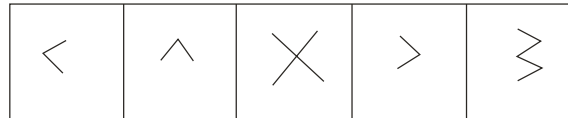
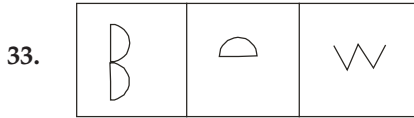


Answers

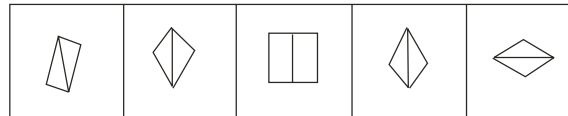
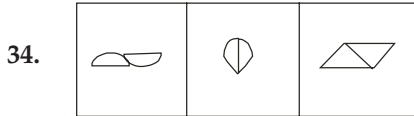


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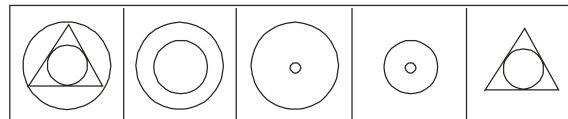
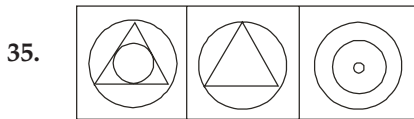
**Answers**



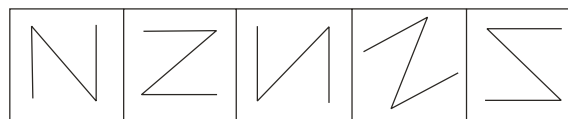
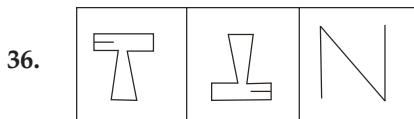
A B C D E



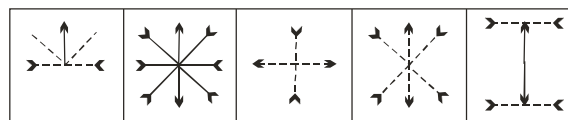
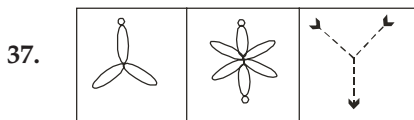
A B C D E



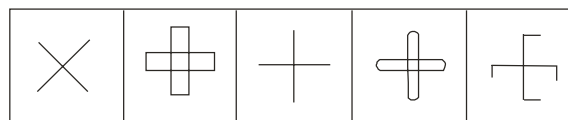
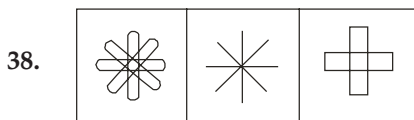
A B C D E



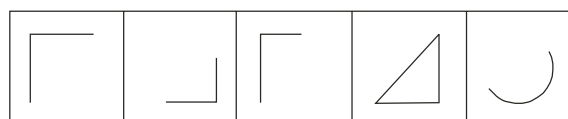
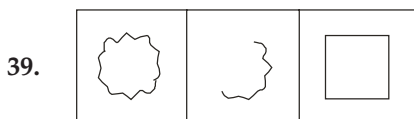
A B C D E



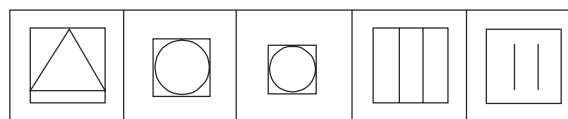
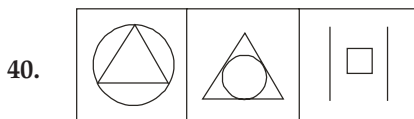
A B C D E



A B C D E



A B C D E



A B C D E

**Answers and Explanations:**

- (D) 1st figure is a triangle and the 2nd figure is a square, i.e. increased by one arm, similarly the third figure is a pentagon, so, the fourth figure must be hexagon as in (D).

2. (C) 1st two figures are similar, so also the 3rd and fourth which is (C).
3. (E) 1st and 2nd figures are circle but the 2nd figure is smaller, similarly the 4th figure must be a smaller square as in 'E'.
4. (B) As 2nd is the bigger size of 1st figure, fourth figure must be a square bigger in size as in (B).
5. (B) One arrow with heads on both sides has been increased in the left hand side of the 2nd figure. So the 4th figure must be one original arrow and three other arrows with heads on both sides as in (B).
6. (E) In 1st figure an open dot is there which is enclosed within a figure in the 2nd, similarly an open plus sign is there in the 3rd figure, the fourth figure should be enclosed within a similar figure as in two, hence (E) is the best choice.
7. (E) The flower is moving  $90^\circ$  clockwise, hence the fourth figure must be (E).
8. (D) Same as question 6 above.
9. (A) In the 2nd figure we find the circle of the 1st figure has been enclosed within a larger circle, similarly the fourth figure should be a small square enclosed within a bigger square.
10. (E) 2nd figure is the bigger form of the 1st figure, so, only figure 'E' has the same relation with the 3rd figure.
11. (C) The circle of the 1st figure has been encircled by a bigger circle in the 2nd figure, similarly encircled dotted square is found in (C).
12. (E) Here the 2nd figure is the same as 1st but smaller in size, so the 4th figure must be a smaller circle as in (E).
13. (C) The shaded portion (side) of the star has been increased by one in each figure, so in the 4th figure 4 sides must be shaded as in (C).
14. (C) In the 1st figure there is a plus sign within a square, in the 2nd figure a minus sign has been added below the plus sign, similarly in the 3rd figure there is a plus sign and above which there is a minus sign, so in 4th figure again there will be a minus sign below as in (C).
15. (D) 2nd figure is the repetition of the 1st figure, so the 4th figure must be (D).
16. (D) 2nd figure is a cut off portion of the 1st figure, i.e., circle, so the 4th figure must be cut off portion of the square, which is (D).
17. (E) As 2nd figure is the lower half of the 1st figure, the 4th figure should be the lower half of the 3rd figure as in (E).
18. (A) In the 2nd figure a similar figure has been added to complete the figure as square, similarly if a half circle is added to the 3rd figure, the figure would be a full circle with a line in the middle as in (A), Here, (C) should not be the answer as it is originally a circle. (B), (D) and (E) are not answers as the additions are not according to the specification given in the 2nd figure.
19. (D) 1st figure is a triangle and the 2nd figure is a dotted triangle within a triangle, so the 4th figure must be a triangle with straight lines within the triangle of the dotted lines as in (D).
20. (A) 1st figure contains a flower within a circle, 2nd figure only flower is there, in the 3rd figure there is a plus sign within a rectangle, so the 4th figure must only the plus sign as in (A).
21. (E) 2nd figure is formed by reversing the 1st figure, similarly by reversing the 3rd figure we find the figure as in (E).

22. (D) 1st figure there is a complete circle but in 2nd and 3rd figures a quarter of the circle has been cut off each time in clockwise direction, so the fourth figure must be (D), as per sequence.
23. (A) Each time a dotted triangle has been added in anticlock wise direction.
24. (C) 2nd figure is formed by cutting the 1st figure diagonally and placed in reversed sides, by the doing the same operation to the 3rd figure we get the figure as in (C).
25. (A) 2nd figure is formed by joining the four separate petals in the centre, similarly if we join five lines given in the 3rd figure in the centre we find a figure as in (A).
26. (B) Here two operations as that 1st figure is moving clockwise and an extra line is added horizontally, so the fourth figure must be (B).
27. (D) Two types of squares one with straight lines another with dotted lines encircled.
28. (B) If four lines are added together to their edges we find a square, similarly if we add three lines to their edges we find a triangle as in (B).
29. (D) 2nd figure is formed by adding a similar figure i.e. half circle below the half circle given in the 1st figure, similarly if we add a similar figure in the 3rd figure below it we find the figure similar to (D).
30. (A) Here also two type of 'Ts' appeared alternately in each figure and at the sametime it is moving anticlockwise, so the 4th figure must be (A).
31. (C) 2nd figure is formed by cutting of the right half of the 1st figure, so if we cut off the right half of the triangle we find a figure as in (C).
32. (A) 2nd figure is the cut off portion of the 1st figure, so the cut off portion of the 3rd figure, i.e. triangle is (A).
33. (D) 2nd figure is the half portion of the 1st figure moving anticlockwise direction, so the 3rd figure with similar operations must be the figure as in (D).
34. (B) Here two portions of the previous figure has been joined side by side.
35. (B) In the 1st figure there are three figures, in the 2nd figure there are only two, similarly in the 3rd figure there are three circles, 4th figure must be with two circles of the same as in 3rd figure, which in (B). One thing to be noted here, as per sequence only central circle has been removed in all the cases, so (C) and (D) will not be possible answers.
36. (A) Here, the 1st figure has been made upside down forming the 2nd figure, by doing the same operations with the 3rd figure we get the figure as in (A).
37. (D) 2nd figure is joined by imposing a similar inverted figure with the 1st figure, similar operations with the 3rd figure we get a figure as in (D).
38. (C) 2nd figure is the single line representation of the 1st figure, so the single line representation of 3rd figure is (C).
39. (B) 2nd figure is a quarter of south east portion of the 1st figure, similar portion of the 3rd figure will be (B).
40. (E) 1st figure is a triangle inside a circle, in the 2nd if is reversed, i.e. triangle outside and circle inside and the sizes is also changed, similarly in the 3rd figure two vertical lines outside and a small square inside, so the 4th figure must be a bigger square outside and two small vertical lines inside as in (E).

#### **TYPE 5: FIGURE COMBINATIONS**

This test consists of set of patterns. In each set there are four types of patterns indicated by letters A, B, C and D. Each type of patterns is given in a separate row, indicated by four figures. Each item consists of a combination of two or more types of patterns indicated by letters followed by five answer patterns numbered from 1 to 5. Out of these five answer patterns only one shows the correct

combination of pattern types. Find out that pattern and mark accordingly on the answer sheet. Look at the example below.

**Example:**

Patterns			
A			
B			

Combination					
AB					
	1	2	3	4	5

**Answer and Explanation: 4.**

Here only two types of patterns—'A' and 'B' are given, where the first row explains that 'A' is a 'square' figure and the second row explains that 'B' means figures with vertical lines. So, for combinations AB, the correct answer will be a square filled in with vertical lines, i.e., answer 4 is correct answer choice here.

**PRACTICE TEST**

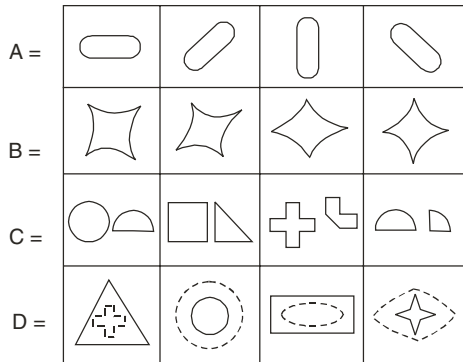
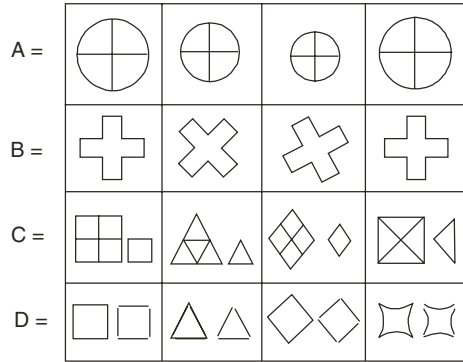
**Directions for Questions 1-40:**

In this test you will find a few sets of patterns and in each set there are four types of patterns indicated by A, B, C and D. Each item consists of combination of two or more types of patterns indicated by the letters followed by five answer patterns marked from 1 to 5. Find out which answer pattern presents the item combination.

Patterns			
A =			
B =			
C =			
D =			

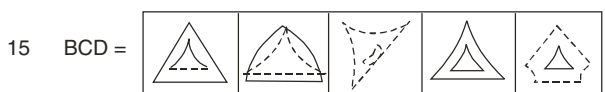
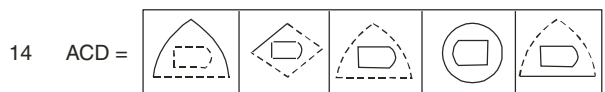
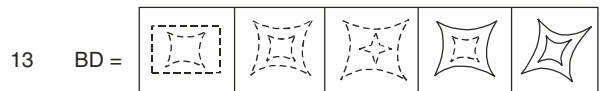
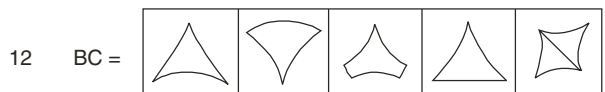
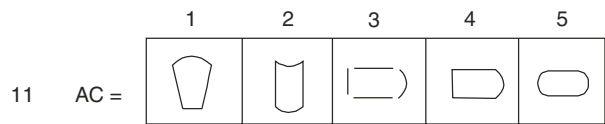
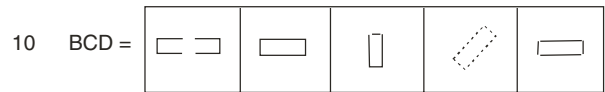
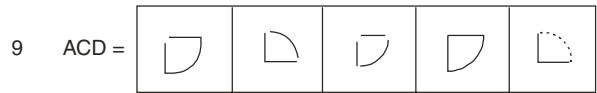
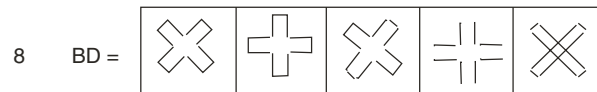
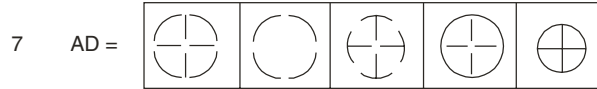
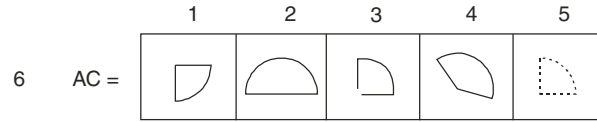
Item	Combination	Answers				
		1	2	3	4	5
1	AC =					
2	BD =					
3	ACD =					
4	ABD =					
5	BCD =					

Patterns



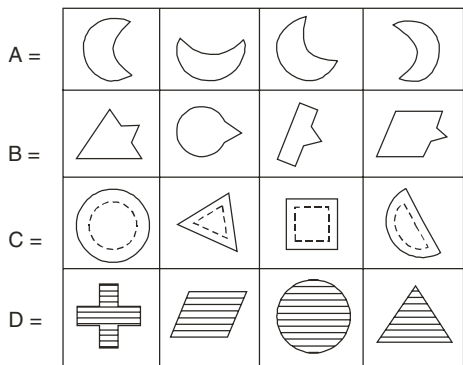
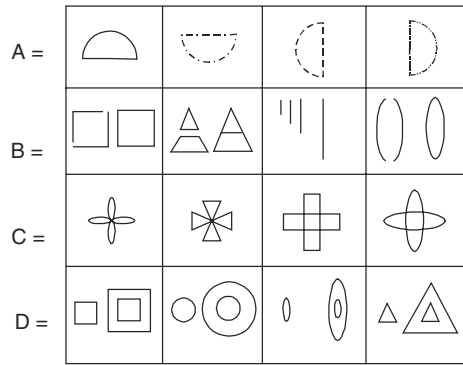
Item Combination

Answers



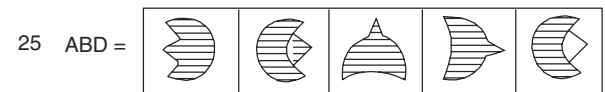
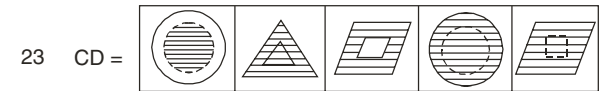
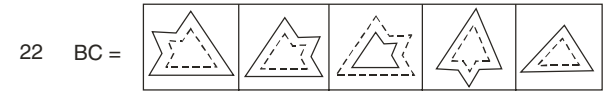
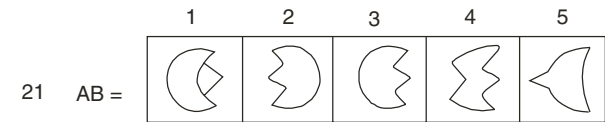
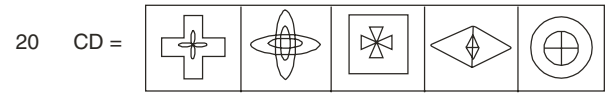
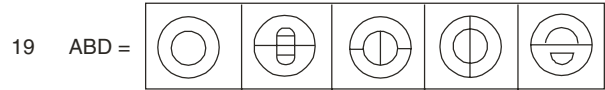
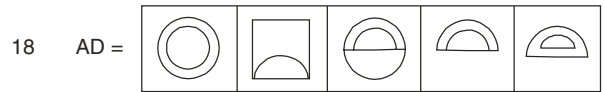
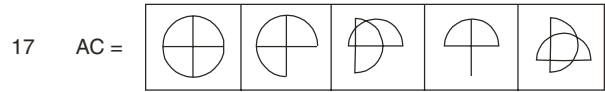
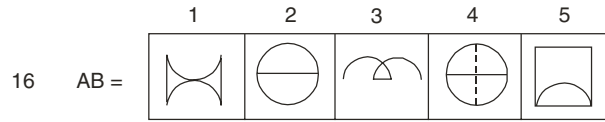


Patterns

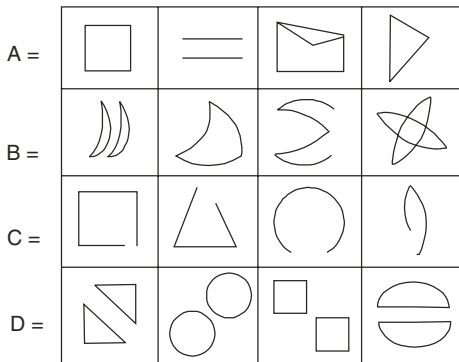
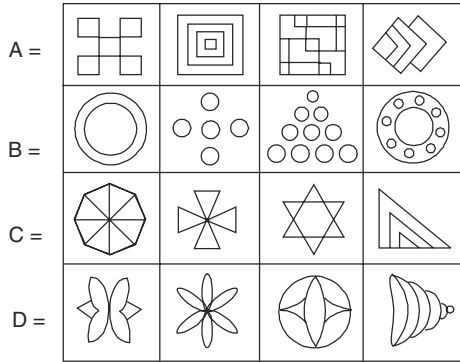


Item Combination

Answers

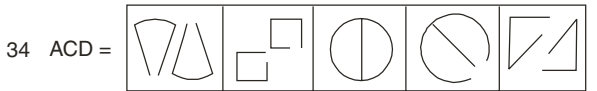
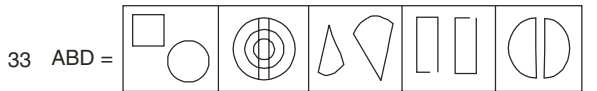
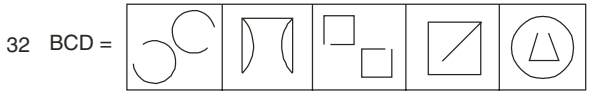
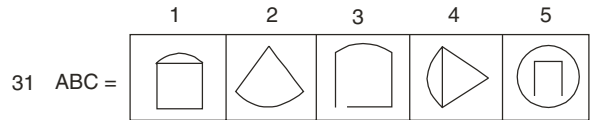
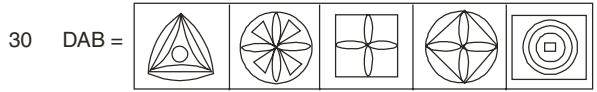
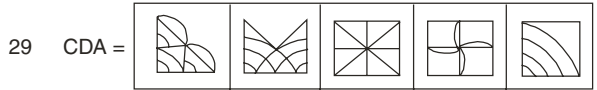
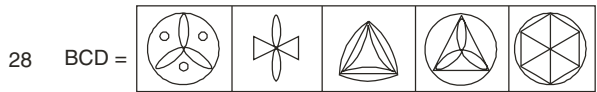
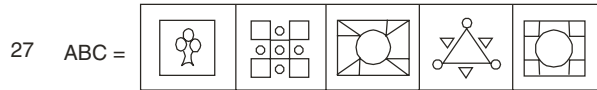
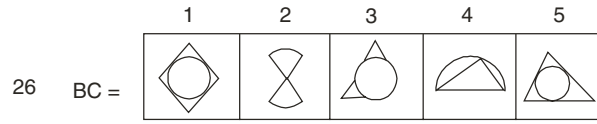


Patterns



Item Combination

Answers



Patterns	Item	Combination	Answers
<p>A =</p>	36	AC =	<p>1 2 3 4 5</p>
<p>B =</p>	37	ABC =	
<p>C =</p>	38	BCD =	
<p>D =</p>	39	ACD =	
	40	ABD =	

**Answers and Explanations:**



















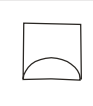
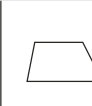
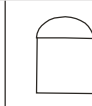


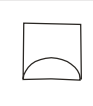
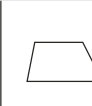
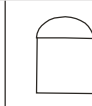










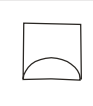
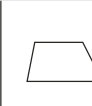
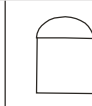
1. (2) AC patterns must be a triangle with dots as in (2).
2. (1) BD patterns is square or rectangle with vertical lines, as in (1).
3. (3) Combined pattern of ACD is, triangle with, dots and vertical lines inside as in (3).
4. (4) Here the combined patterns is a triangle, a square, and vertical lines inside as in (4).
5. (2) The pattern is square, with dots and vertical lines inside.
6. (1) The pattern is the lower right hand quarter portion of the circle.
7. (1) The pattern is unfilled circle with unfilled cross inside.
8. (1) The pattern is unfilled cross joints as in (1). All the joints should be unfilled.
9. (3) The pattern is lower right hand quarter of the circle with all the joints unfilled as in (3).
10. (5) Right hand side quarter of the cross with all the joints unfilled.
11. (4) Half portion of the capsule as in (4).
12. (4) Half portion of the curved rectangles, but not all the lines are curved as in (4). Here figure (1) is wrong as it does not represent the figures given in (C).
13. (4) A dotted curved rectangle within a curved rectangle.
14. (3) Half portion of the capsule within a complete dotted figure as in (3).
15. (5) Half of the curved rectangle within a complete dotted figure as in (5).
16. (2) Half circles joined together as in (2).
17. (5) Half circles joined together in such a way that there are four sides as in (5).
18. (5) Half circle within a half circle as in (5).
19. (4) Two half circles joined together within which there is another joined small half circle.
20. (2) A cross type figure within a cross type figure.

21. (3) A notch is formed on the right hand side of the concave portion of the semi-circle as in (3). Here (1) is not right answer as the notch is joined here.
22. (2) A similar dotted figure within a figure with a notch on the right hand side. (3) is not correct here as dotted figure is in the outside.
23. (4) Two similar figures one dotted within the plane ones with horizontal lines inside as in (4).
24. (1) Semicircle with horizontal lines inside as in (1).
25. (4) Half circle with a notch on the right hand side with horizontal lines insides as in (4).
26. (5) A circle within a triangle.
27. (3) Four triangular figures and a circle within a square as in (3).
28. (4) A combination of circle, triangle and petal like figure, of which one must be in the centre as in (4).
29. (1) A combination of square, triangle and petals like figures, one within the other.
30. (4) Petals, square and circle, one within the others as in (4).
31. (3) A combination of straight line, curved line and incomplete figure as in (3).
32. (1) A combination two similar curved lined incomplete figures as in (1).
33. (5) A combination of two similar figures with curved as well as straight lines as in (5).
34. (2) Two similar incomplete figures with straight lines as in (2). Here in (5) two figures are not similar.
35. (1) Two incomplete figures of same size as in (1).
36. (3) Complete figure with curved lines.
37. (3) Curved line, straight line and complete figure as in (3).
38. (5) Straight line, complete figure with design inside as in (5).
39. (2) Curved lines, complete figure with design inside as in (2).
40. (4) Curved lines, straight lines with design inside as in (4).

**TYPE 6: FIGURE DEFINITIONS**

This test consists of a few sets of patterns presented in four rows which show combinations of four types of patterns. Each item asks for definition of each type of pattern indicated by letters A, B, C and D, followed by five answers indicated by numbers 1 to 5. To find out the definition for a type of pattern, look at the two rows which present it in combination with other types of pattern in both the rows. Choose the answer pattern which correctly defines that type of pattern. Look at the example given below.

**Example:**

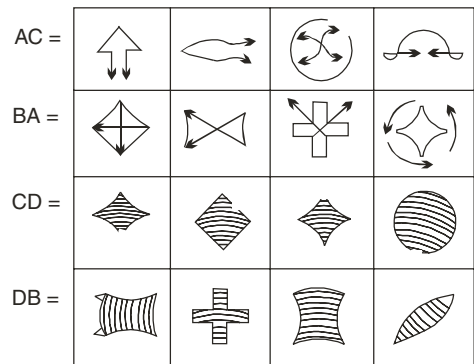
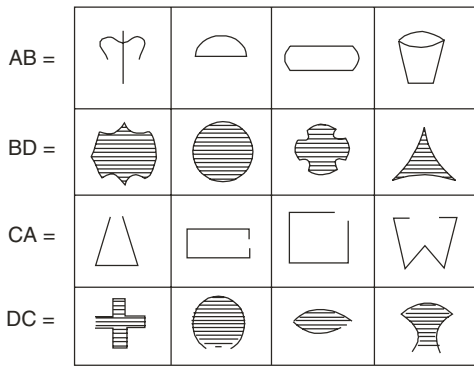
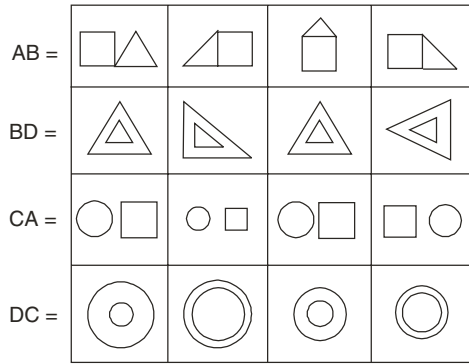
<b>Pattern Combinations</b>	<b>Answers</b>																						
<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 5px;">AB =</td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> <tr> <td style="padding: 5px;">AC =</td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>	AB =					AC =					<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 5px;">A = ?</td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> </tr> </table>	A = ?							1	2	3	4	5
AB =																							
AC =																							
A = ?																							
	1	2	3	4	5																		

**Answer and Explanation:**

Here, the correct answer is 4. The item asks for definition of pattern A. In two rows of pattern combinations we find four sided figures along with other figures. In the first row, i.e., AB, contains

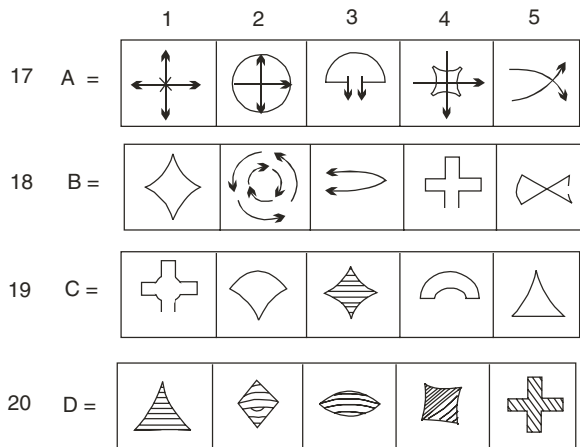
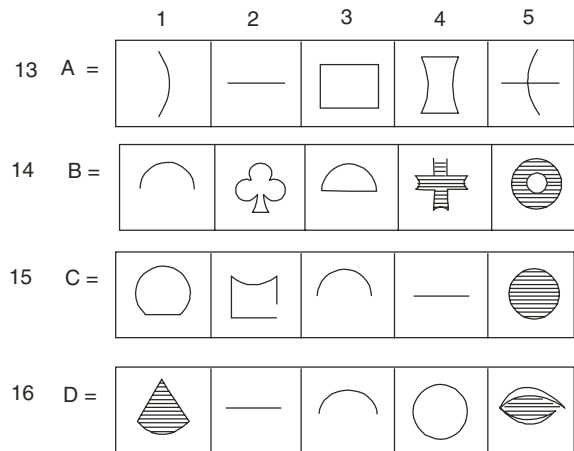
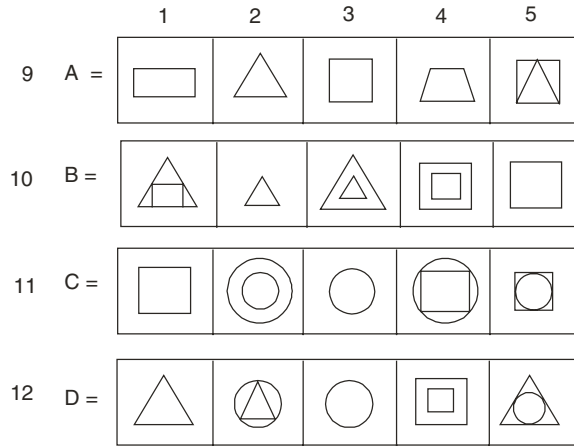


Pattern Combinations

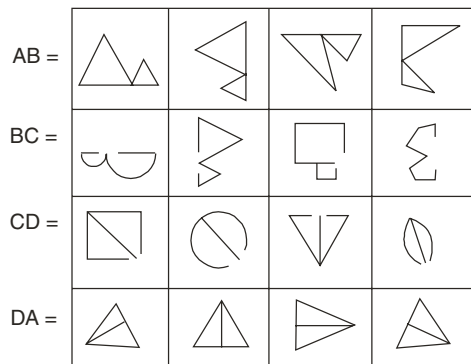
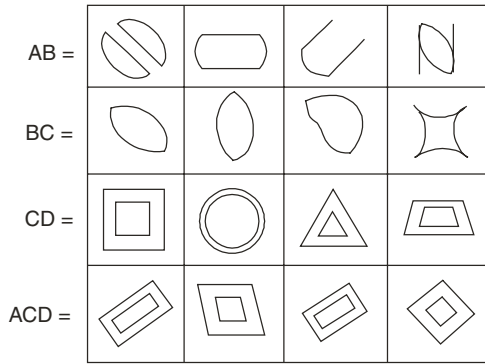
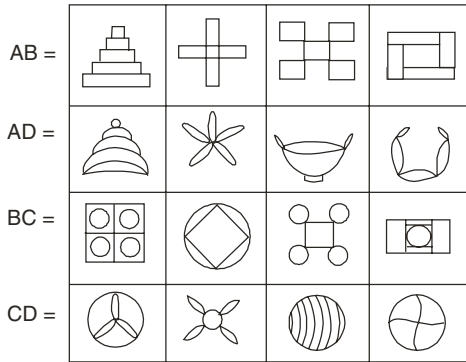


Item Pattern

Answers

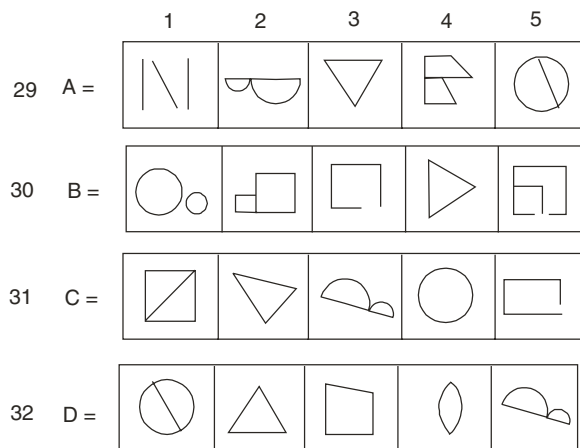
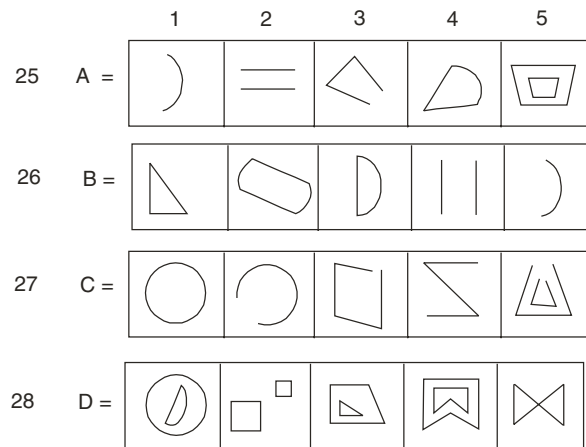
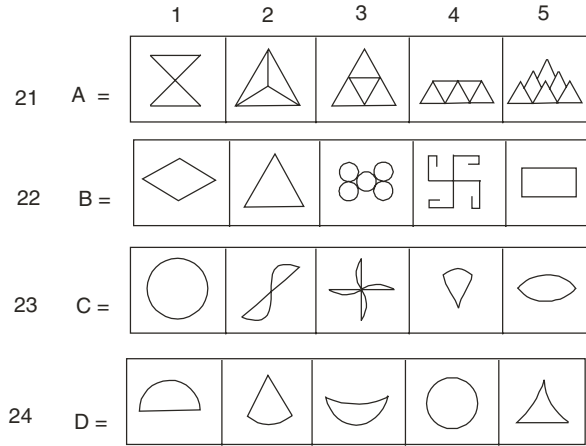


Pattern Combinations

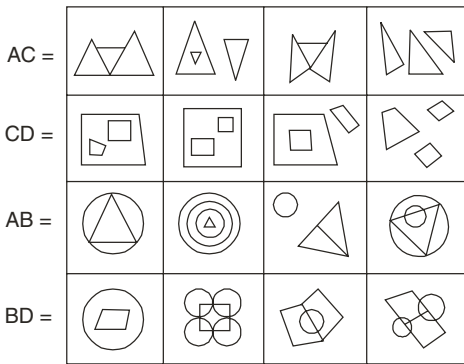
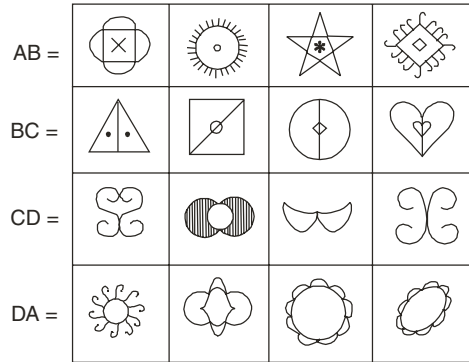


Item Pattern

Answers

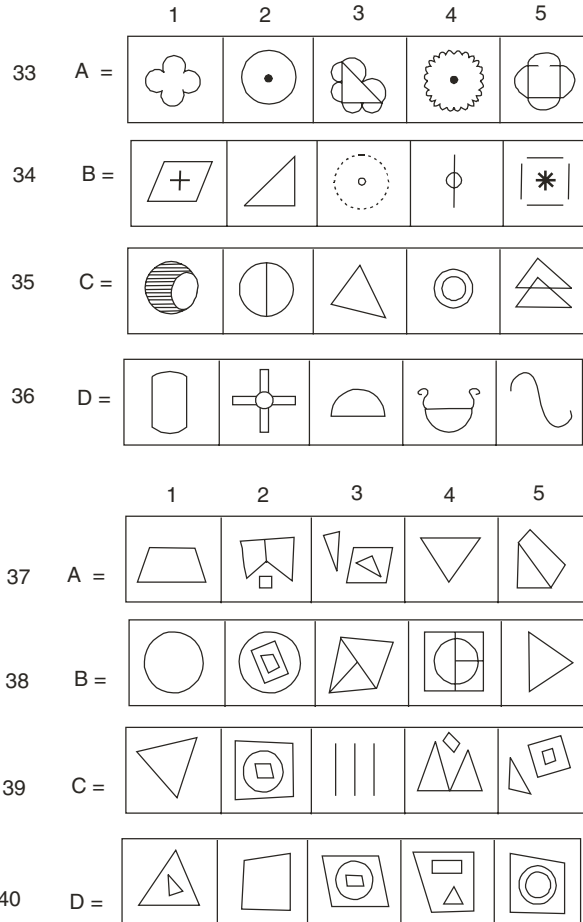


Pattern Combinations



Item Pattern

Answers



Answers and Explanations:

- (2) From the pattern AB we got two types of figures-triangle and half circle and from BC we find triangle and capsule, so triangles are common in both the figures, so 'A' must be half circle without any shade, i.e. (2).
- (1) In the same logic 'B' must be a triangle.
- (1) In BC two types of figures-capsule or triangle as we already know from question-2, B = triangle, so C must be a complete capsule as in (1).
- (5) As we already known A = half circle, so 'D' must be some figure shaded with lines inside. As in patterns 1-4, shades are not similar to those given in the pattern combinations, so (5) is the best choice here.
- (1) AB is a combination of straight and curved lines, but we see in BC curved lines are there, but not straight lines, so 'A' must be straight line, as in (1).
- (3) In the same logic as in 5, B is the curved lines as in (3).
- (4) If we analyse pattern combinations of BC and CD, we find, B = curved lines, D = dotted lines, so the only pattern left is a cross it must be 'C' as in (4).



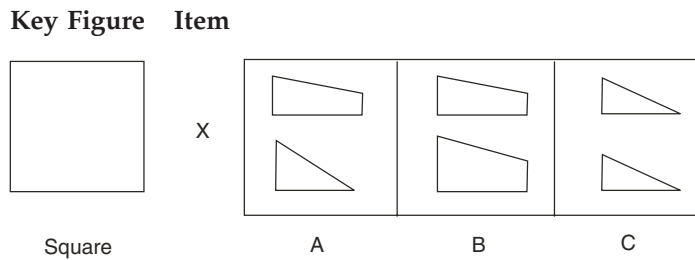
8. (1) Figure with all dotted lines as in (1).
9. (3) If we compare patterns AB and BD, we find square and triangle and triangle is common in both these patterns, so 'B' must be a triangle and 'A' is a square as in (3).
10. (2) Already known from question 9.
11. (3) In AC, we find one circle and one square, as we know A = square, C must be a circle.
12. (4) 'D' must be two similar figures one within the other, the only such figure is (4)..
13. (2) From the patterns AB and BD, we find B is curved line, so A must be a straight line.
14. (1) B is a curved line as in (1).
15. (2) C = some incomplete figure on the verge of completion as in (2).
16. (1) D = Some figure shaded with horizontal lines as in (1).
17. (5) If we compare the patterns AC and BA, we find lines with arrow heads are common, which must be 'A'.
18. (1) As per logic of question 17 B must be curved lines.
19. (1) C must be some incomplete figure as in (1).
20. (3) D = some figure shaded with curved lines inside in the same pattern as in (3).
21. (4) From the patterns AB and AD we find the common is five figures joined together as in (4).
22. (5) From AB and BC we find square or rectangle is common which must be 'B'.
23. (1) From BC and CD we find the circle common in both these patterns, so 'C' must be a circle as in (1).
24. (3) From AD and CD we find semi circular curved lines are common which must be 'D' as in (3).
25. (2) From patterns AB and BC we find curved lines are common which must be B, so A must be straight lines as in (2).
26. (5) B = curved line as we know from (25).
27. (1) C = something complete figure as in (1).
28. (4) D = two similar types of figures one within the other as in (4).
29. (3) From patterns AB and DA we find triangles are common which must be A.
30. (2) From AB and BC we find two similar figures one big and one small are joined together, which are common and which must be 'B' as in (2).
31. (5) From BC and CD we find incomplete figure common which must be 'C'.
32. (1) From CD and DA we find the common figure is central midline bifurcating the figure as in (1).
33. (3) From AB and AD we find figures with a number of curved lines and straight lines joined together are common which must be 'A' as in (3).
34. (1) Some figure within a complete figure is common in AB and BC, which must be 'B' as in (1).
35. (2) C = some similar figures joined in the centre as in (2).
36. (5) From CD and DA we find curved line is common which is 'D' as in (5).
37. (4) From AC and AB we find the common figure is triangle which must be 'A' as in (4).
38. (1) From AB we find A = triangle, so B must be a circle.
39. (3) From AC and CD we find the common is three similar figures which must be 'C' as in (3).
40. (2) From CD and BD we find four sided figures are common which must be 'D' as in (2).

#### **TYPE 7: FIGURE CONGREGATION**

This test is also called figure assembly test, where some small pieces are to be assembled to form a key geometrical figure, which may be a circle or triangle or square. Each item of this test consists

of three groups of pieces marked A, B and C, and a key figure given above. You are to find out which one of these groups of pieces when joined together makes the key figure. In some cases the pieces may have to be rotated or reversed in order to fit and all the pieces in the group are to be utilised and none can be left out in order to make the key figure. Look at the example below.

**Example:**



**Answer and Explanation:**


Here you can easily see that only pieces in group B when joined together make a square. Pieces in groups A and C do not make a square. Therefore the correct answer is B.

**PRACTICE TEST**

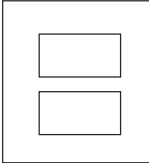
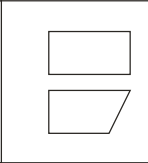
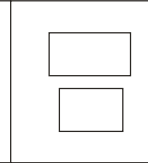
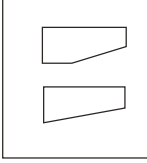
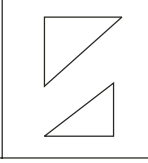
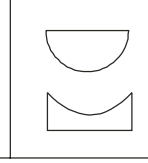
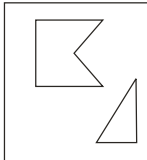
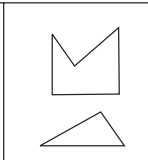
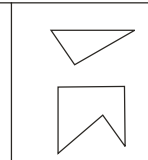
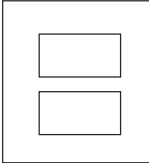
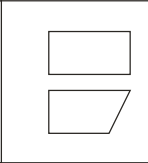
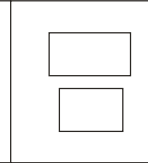
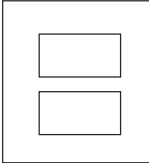
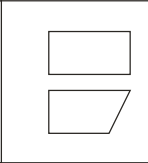
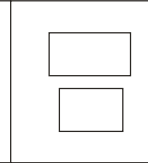
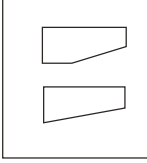
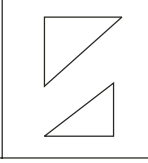
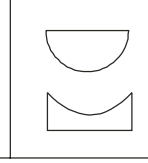
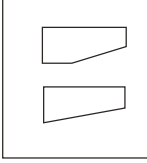
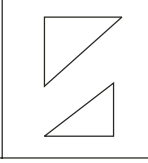
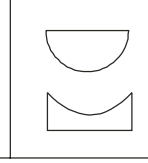
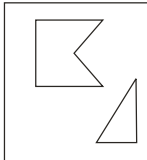
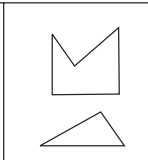
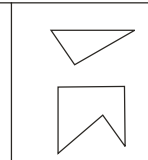
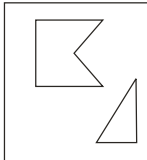
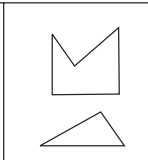
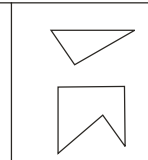
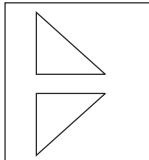
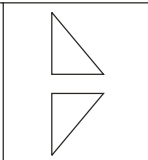
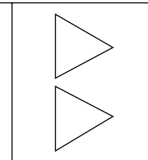
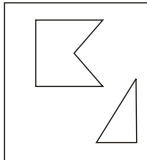
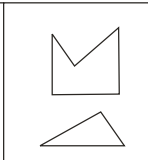
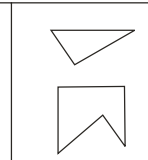



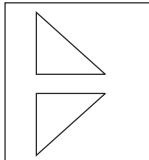
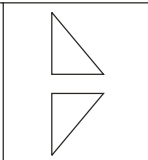
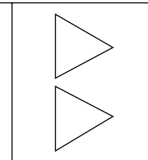
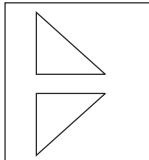
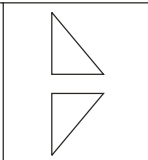
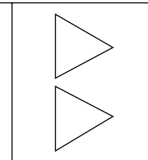
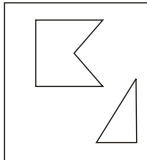
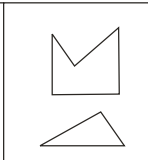
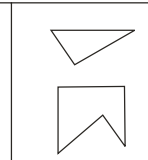
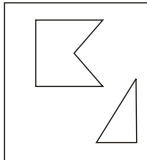
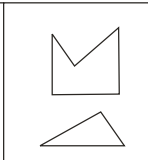
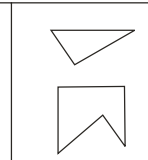






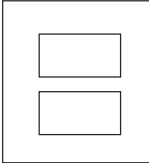
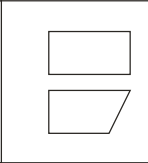
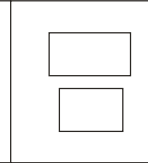
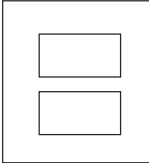
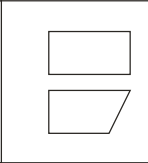
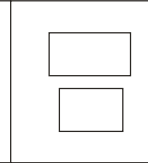
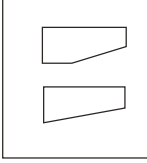
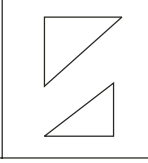
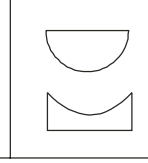
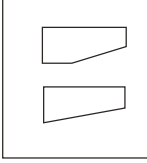
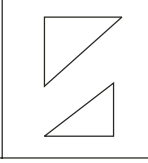
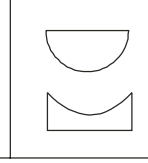
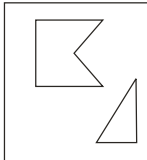
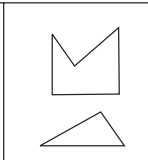
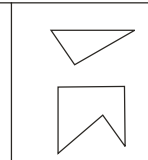
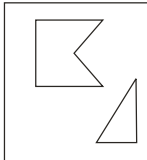
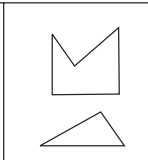
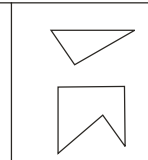
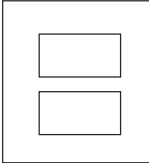
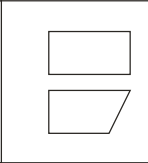
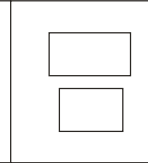
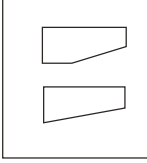
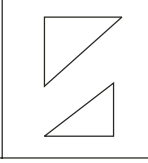
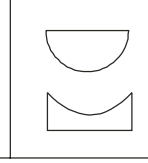
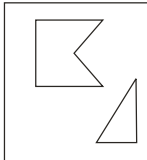
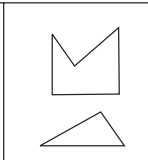
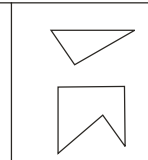
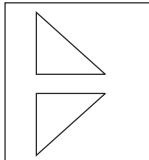
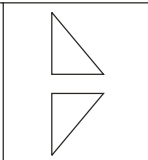
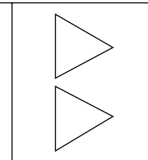
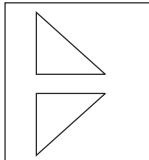
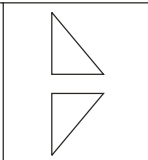
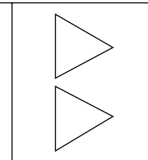
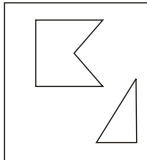
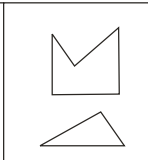
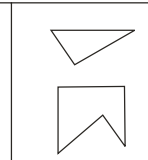
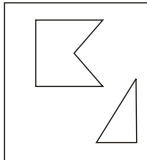
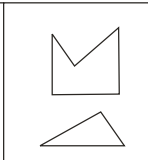
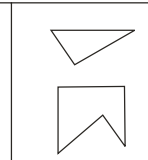






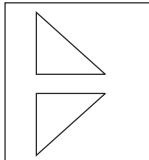
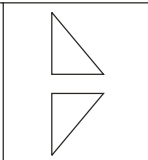
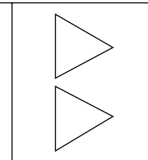
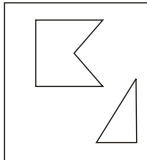
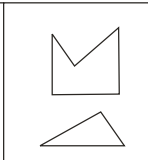
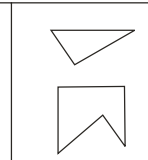



**Directions for Questions 1-60:**

In this test you will find three sections and each section has a separate key figure followed by 20 items. Each item has three groups of pieces marked A, B and C. You are to find out which group of pieces when joined together makes up the key figure. Also note that all the pieces in a group must be used and none can be left out. In some cases the pieces may have to be rotated or reversed in order to fit. You are to find out the group A or B or C and mark accordingly on the answer sheet. It may also happen that in some cases none of the groups (A, B or C) makes the key figures on joining, in such cases mark against D.

**SECTION I: Containing Items from 1 to 20.**

Key Item for Figure 1 - 20 – Square 

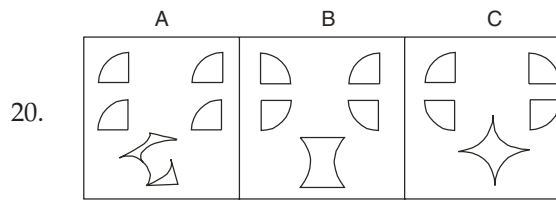
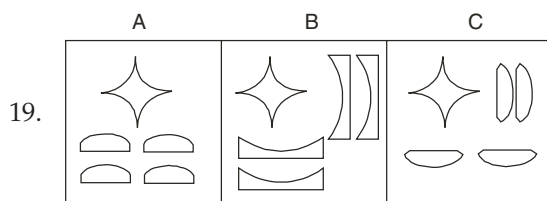
**Items**

<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">B</td> <td style="text-align: center;">C</td> </tr> <tr> <td style="text-align: center;">1.</td> <td style="text-align: center;">3.</td> <td style="text-align: center;">5.</td> </tr> <tr> <td style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table> </td> <td style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table> </td> <td style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table> </td> </tr> </table>	A	B	C	1.	3.	5.	<table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>				<table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>				<table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>				<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">B</td> <td style="text-align: center;">C</td> </tr> <tr> <td style="text-align: center;">2.</td> <td style="text-align: center;">4.</td> <td style="text-align: center;">6.</td> </tr> <tr> <td style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table> </td> <td style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table> </td> <td style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table> </td> </tr> </table>	A	B	C	2.	4.	6.	<table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>				<table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>				<table border="1" style="border-collapse: collapse;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>			
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Items

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6.				13.			
7.				14.			
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9.				16.			
10.				17.			
11.				18.			

Items

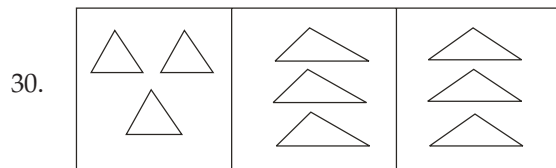
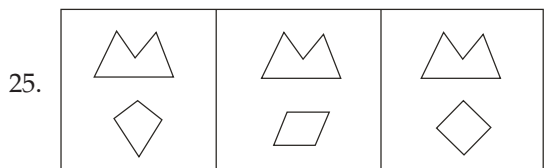
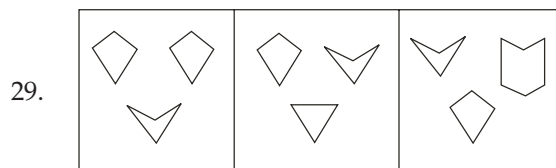
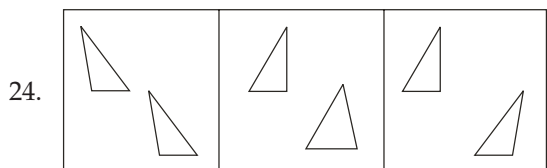
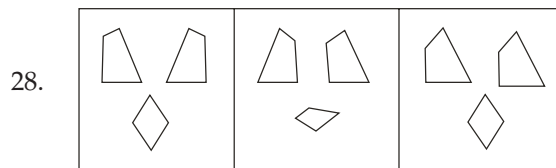
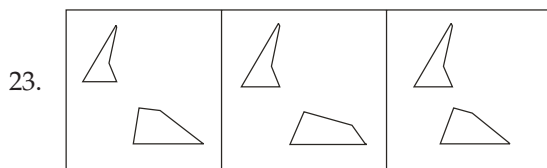
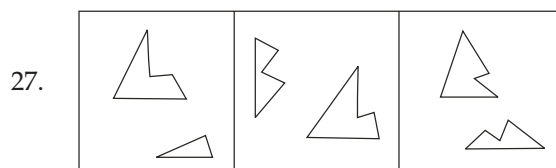
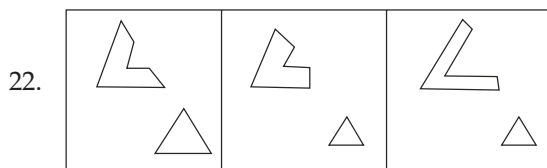
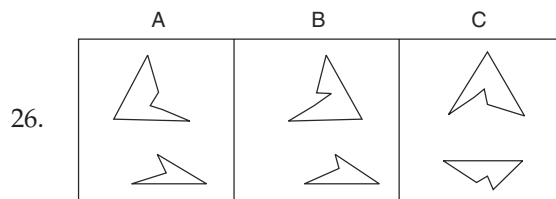
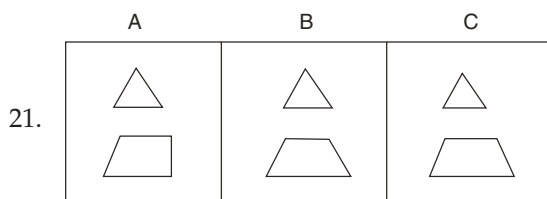


SECTION II: Containing Items from 21 to 40

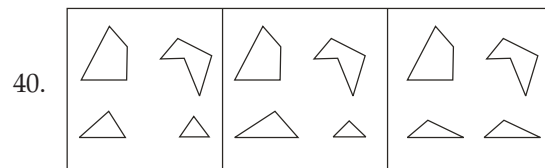
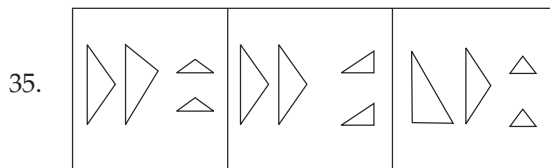
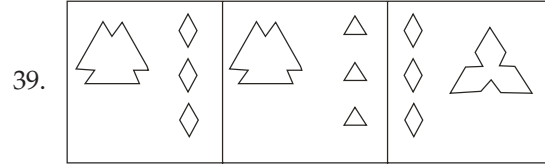
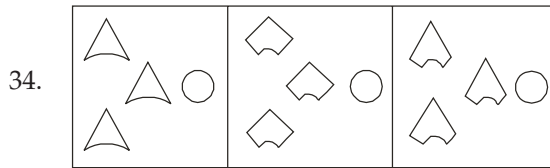
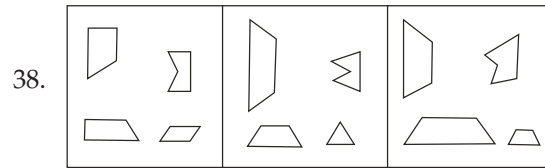
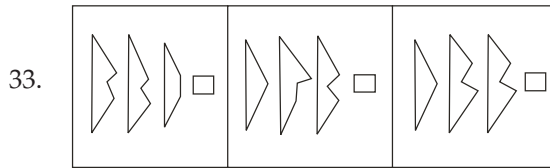
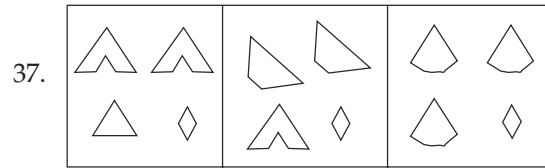
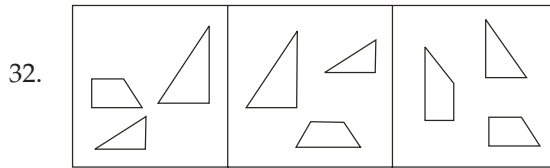
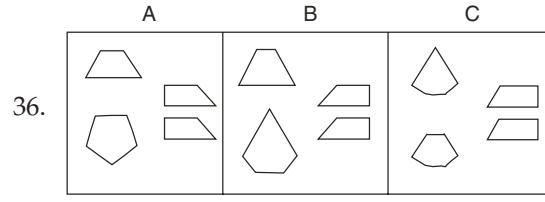
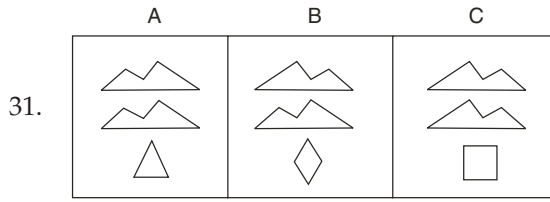
Key Figure for items 21 to 40 – Triangle



Items



Items

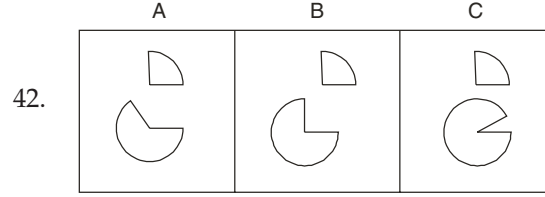
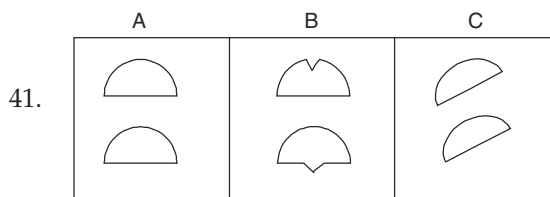


SECTION III: Containing Items from 41 to 60

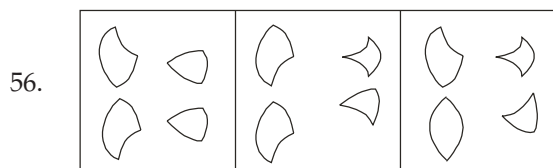
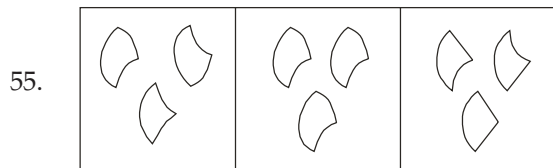
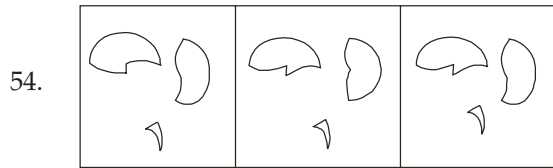
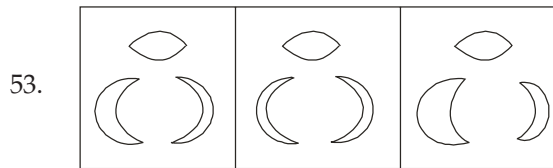
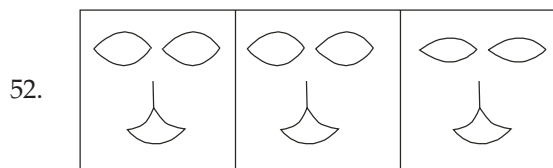
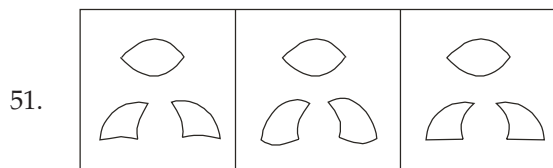
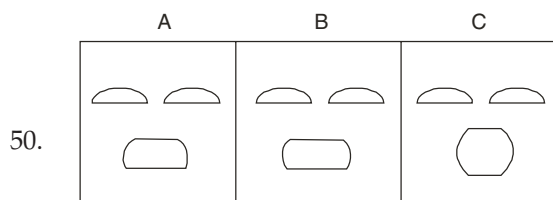
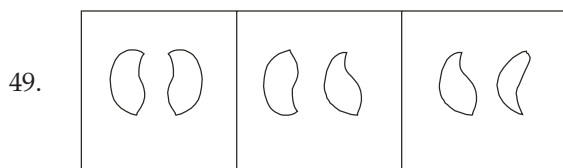
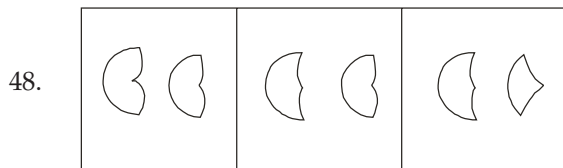
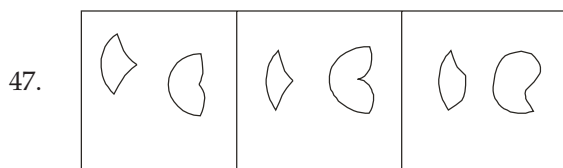
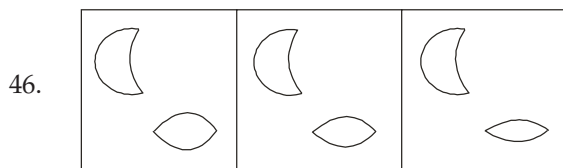
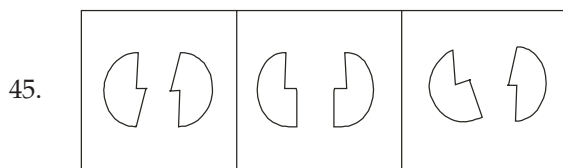
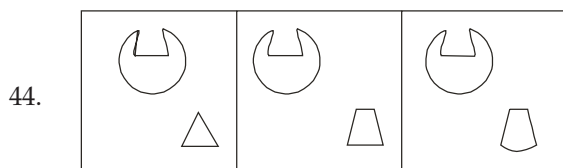
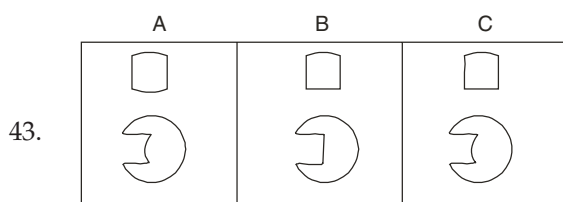
Key Figure for items 41 to 60 – Circle



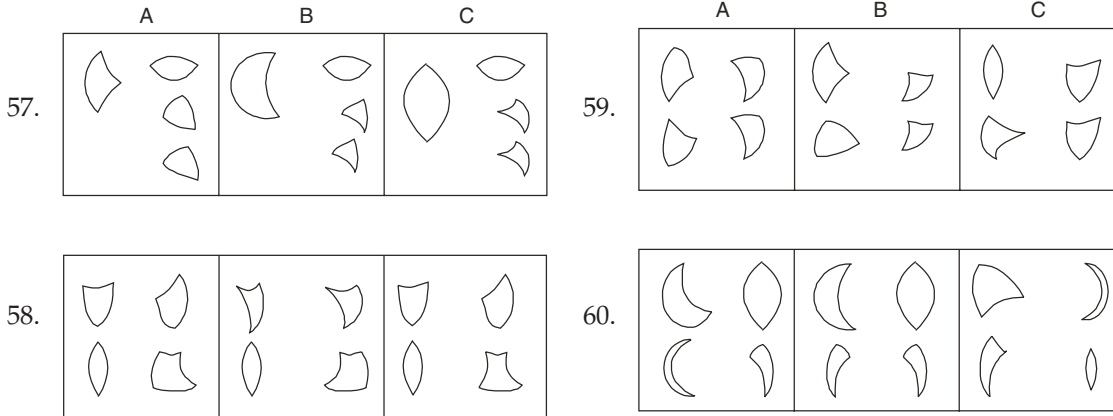
Items



Items



## Items



## Answers and Explanations:

## Section-I

1. (A) Two rectangles joined together to form a square.
2. (A) A square is formed by joining two equilateral triangles.
3. (D) None of these groups makes a square.
4. (B) By joining these two portions a square is formed.
5. (A) We can get the square by joining these two portions.
6. (A) A square is obtained after joining these two figures.
7. (C) A square is formed by joining these three pieces of figures.
8. (B) Joining these three pieces we find a square.
9. (B) Joining these three pieces a square is obtained.
10. (B) A square is obtained by joining these three pieces.
11. (B) A square is obtained by joining these three pieces.
12. (C) If we join these four pieces perfectly we can obtain a square.
13. (B) After perfect joining these four pieces of figures we get a square.
14. (A) A square is obtained by joining these four pieces of figures.
15. (A) Joining these four pieces a square is formed.
16. (C) Joining these four pieces a square is obtained.
17. (D) None of these groups make the key figure on joining.
18. (A) Taking the circle in the centre and joining the other four pieces accordingly a square is formed.
19. (D) None of these groups on joining make the key figure.
20. (C) Joining these five pieces of figures perfectly we can obtain the key figure.

## Section-II

21. (B) Joining these two pieces a triangle is formed.
22. (D) No triangle is formed by joining any of these groups.
23. (A) Joining these two pieces a triangle is formed.
24. (C) Joining these two portions we can have the key figure.

25. (B) Joining these two figures the key figure is obtained.
26. (B) Joining these two pieces the key figure is obtained.
27. (B) Joining these two pieces the key figure can be obtained.
28. (C) Joining these three pieces the key figure is obtained.
29. (D) None of the groups can make the key figure on joining.
30. (C) Joining these three pieces a triangle is obtained.
31. (D) None of the groups can make the key figure on joining.
32. (A) These three pieces when joined together the key figure is obtained.
33. (B) By joining these four pieces we can find the key figure.
34. (D) None of these groups can make the key figure on joining.
35. (B) On joining these four pieces we can find the key figure.
36. (B) The key figure is obtained by joining these four pieces.
37. (D) None of these groups can make the key figure on joining.
38. (C) On joining these four pieces a triangle is formed.
39. (A) The key figure is obtained by joining these four pieces perfectly.
40. (A) Joining these four pieces the key figure can be made.

### Section-III

41. (A) Joining these two half circles a full circle is formed.
42. (B) Joining these two pieces the key figure is formed.
43. (B) Joining these two pieces the key figure is obtained.
44. (D) None of these groups can make the key figure on joining.
45. (B) Joining these two portions a circle is obtained.
46. (B) A circle is formed by joining these two figures.
47. (D) None of these figures can make the key figure on joining.
48. (B) Joining these two pieces we can find the key figure.
49. (A) Joining these two pieces we can find the key figure.
50. (B) The key figure is obtained by joining these three pieces.
51. (C) Joining these three pieces the key figure can be made.
52. (A) These three pieces when joined together makes the key figure.
53. (A) These three pieces when joined together makes the key figure.
54. (C) These three pieces when joined perfectly the key figure is formed.
55. (B) The key figure can be made after joining these three pieces.
56. (C) Joining these four pieces accordingly makes the key figure.
57. (C) These four pieces when joined together makes the key figure.
58. (D) None of these groups makes the key figure on joining.
59. (C) These four pieces when joined together makes the key figure.
60. (A) These four pieces when joined together makes a circles.

## TEST PAPERS

### ABSTRACT REASONING TEST

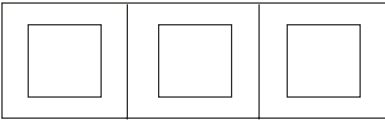
#### Directions for Questions 1-60:

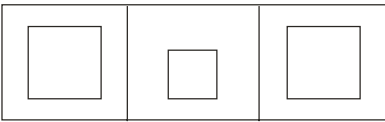
In each question below you will find two rows of designs or figures in two separate sets. The first set is called problems figures and the second set consists of answer figures marked with A, B, C and

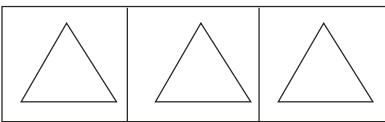


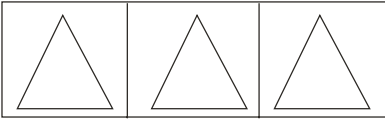
D. First you are to find out the nature of the series of the problem figures and then find out one from the answer figures that can best fit as fourth figure to complete the series of the problem figures.

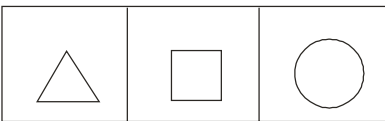
**Problem Figures**

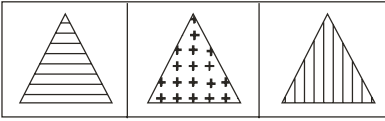
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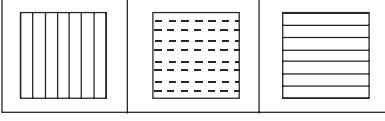
2. 


3. 

4. 

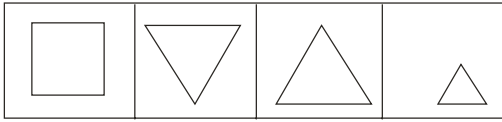
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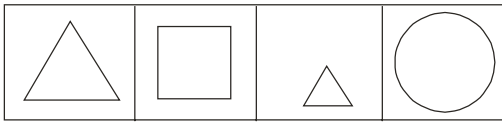
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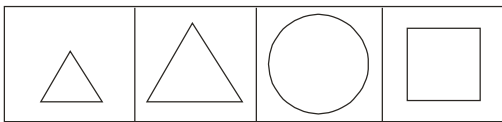
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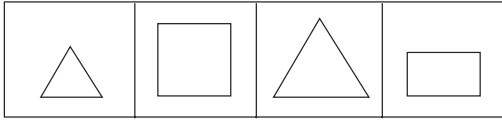
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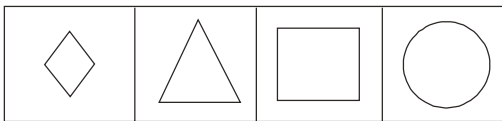
**Answer Figures**

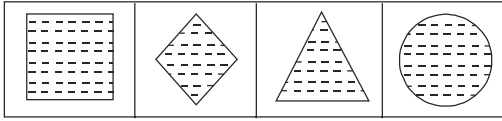
A B C D 

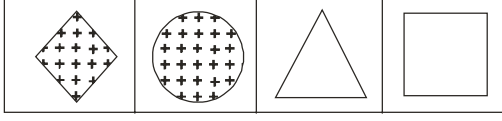
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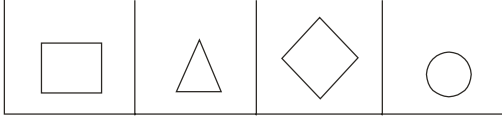
A B C D 

A B C D 

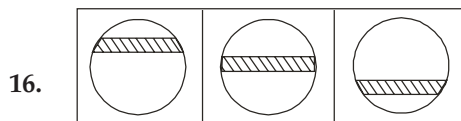
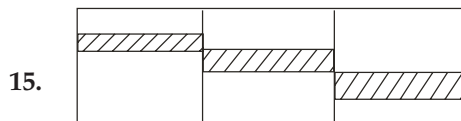
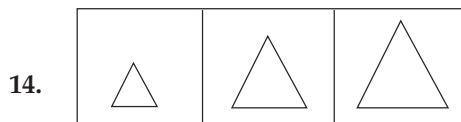
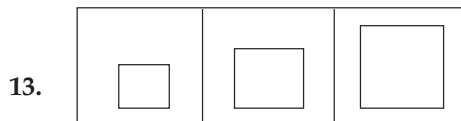
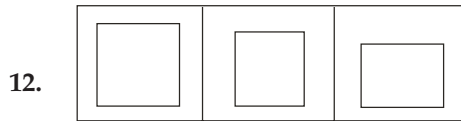
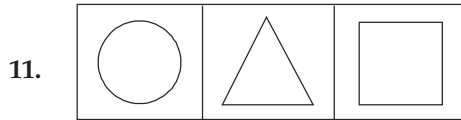
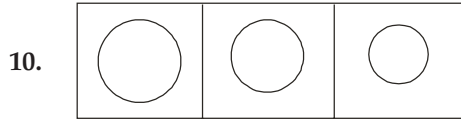
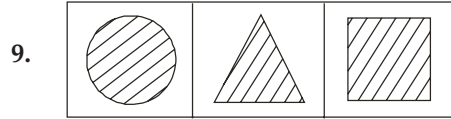
A B C D 

A B C D 

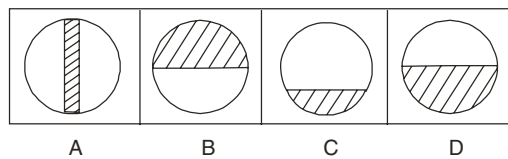
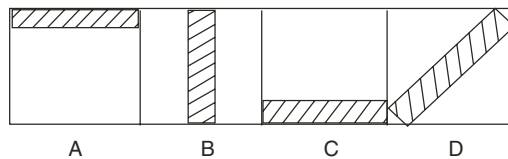
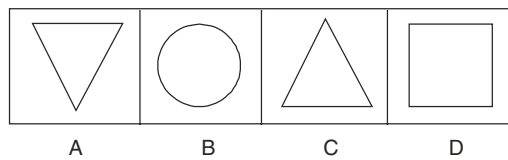
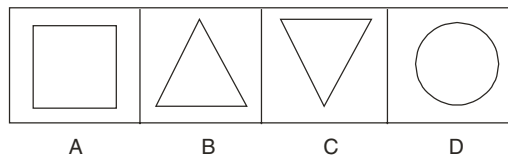
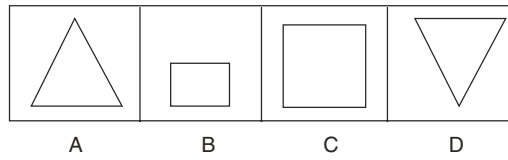
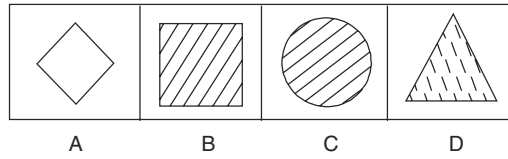
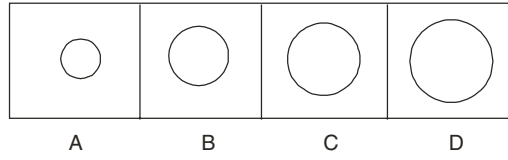
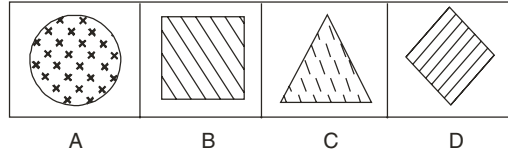
A B C D 

A B C D 

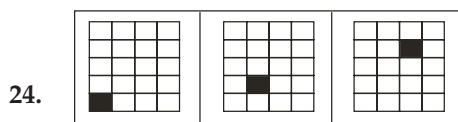
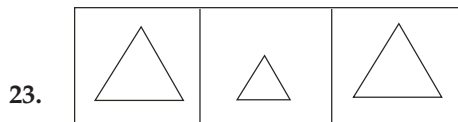
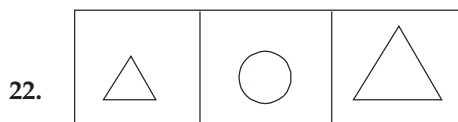
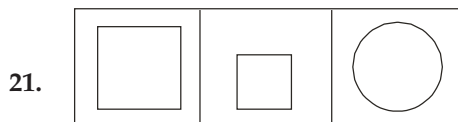
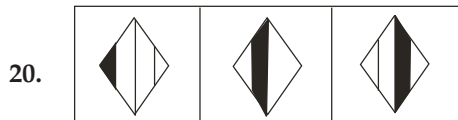
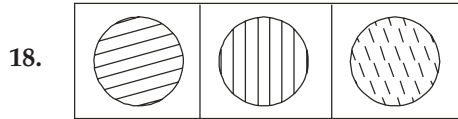
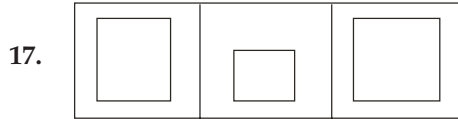
**Problem Figures**



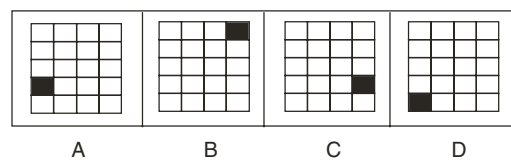
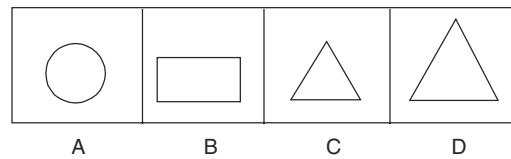
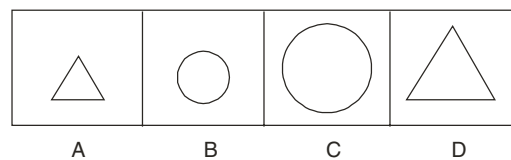
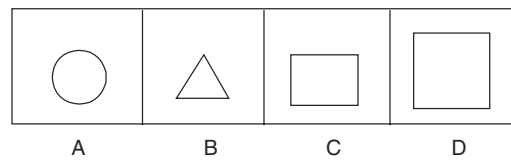
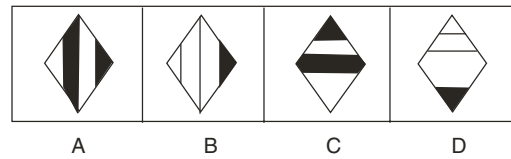
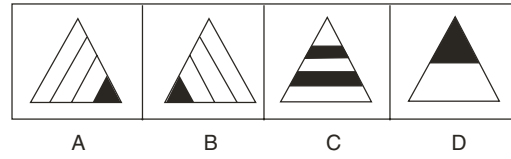
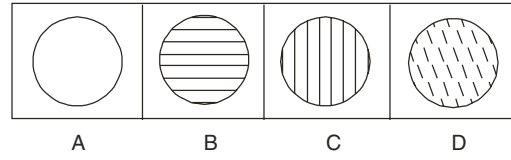
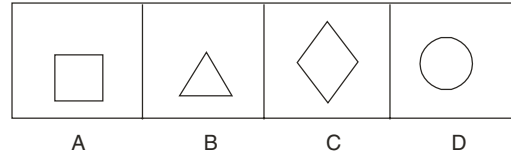
**Answer Figures**



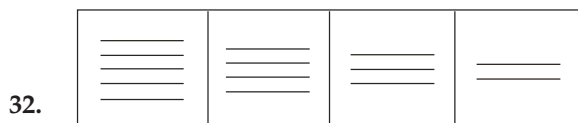
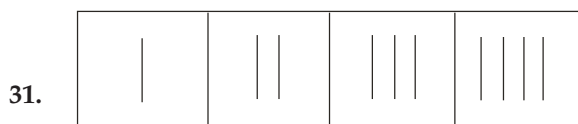
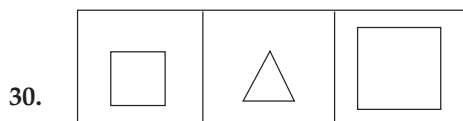
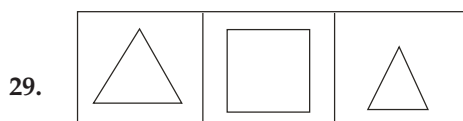
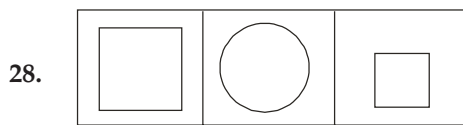
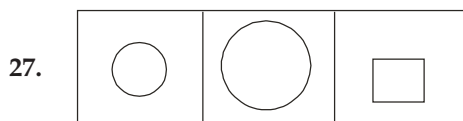
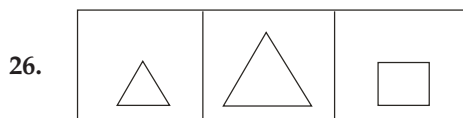
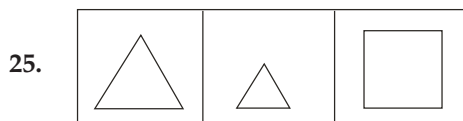
**Problem Figures**



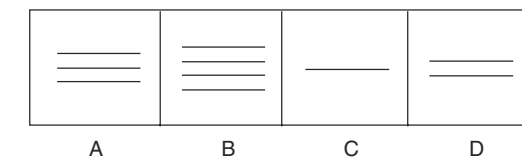
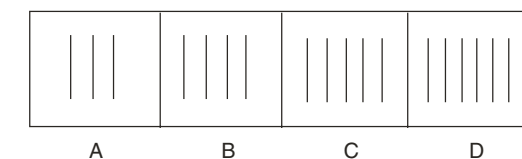
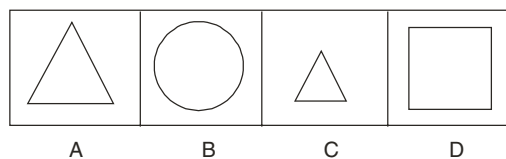
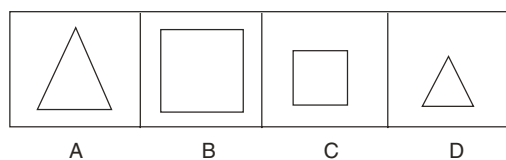
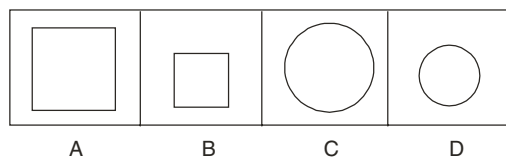
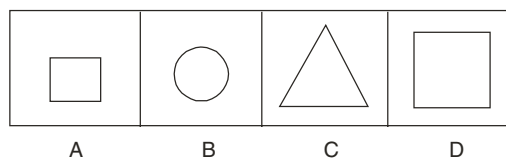
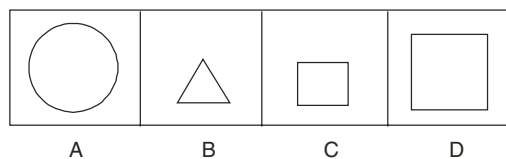
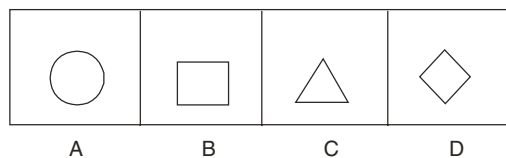
**Answer Figures**



**Problem Figures**

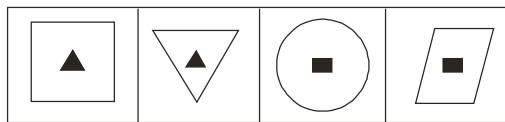
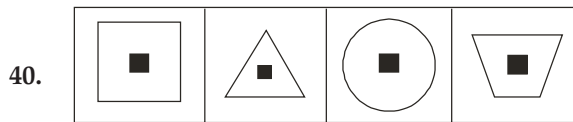
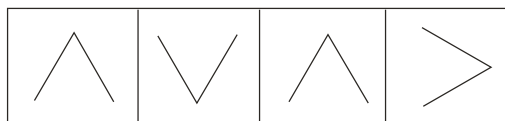
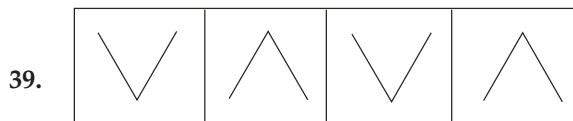
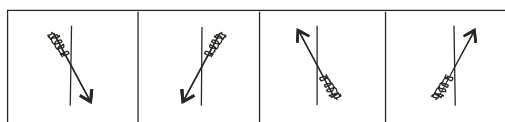
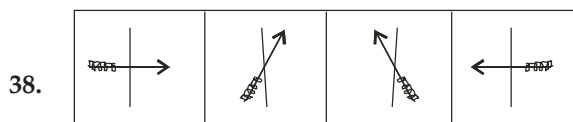
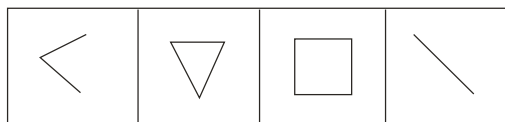
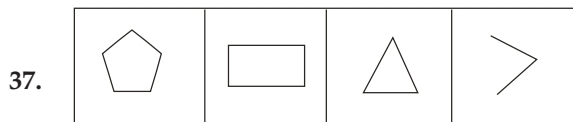
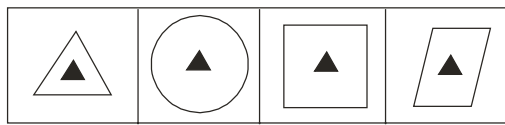
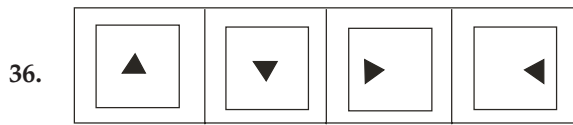
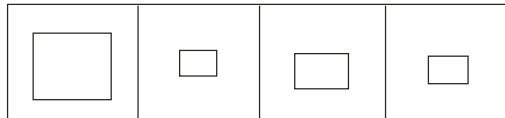
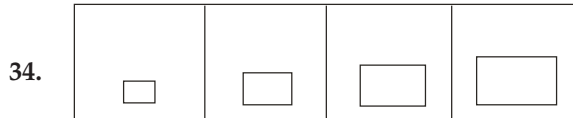
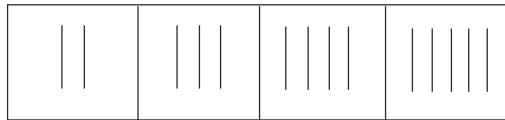
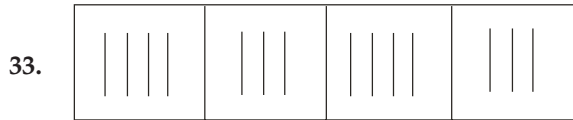


**Answer Figures**



**Problem Figures**

**Answer Figures**



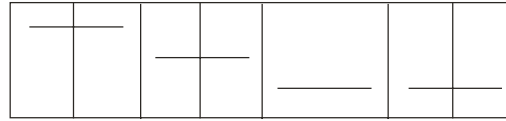
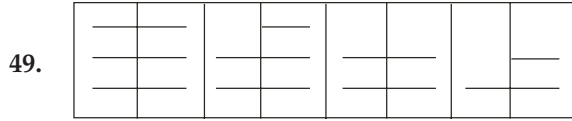
**Problem Figures**

**Answer Figures**

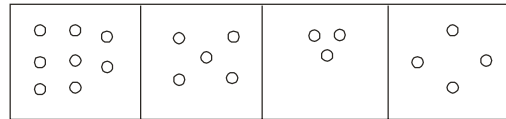
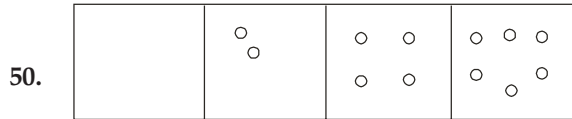
41.		
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Problem Figures

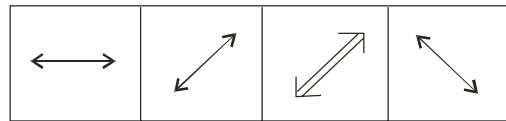
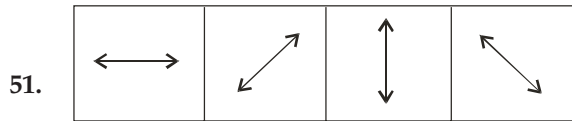
Answer Figures



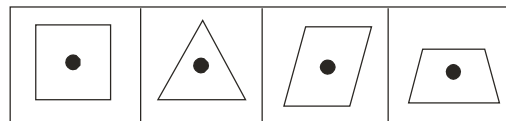
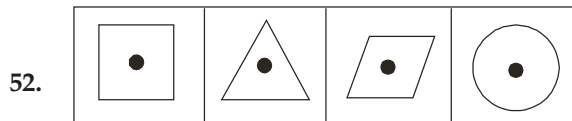
A B C D



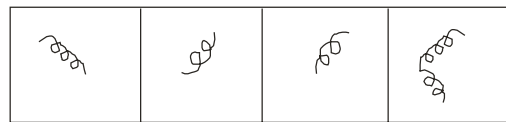
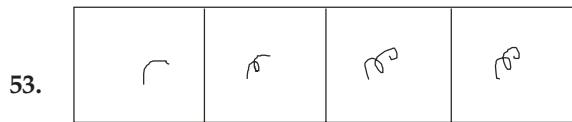
A B C D



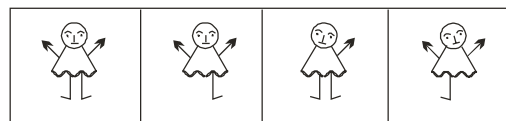
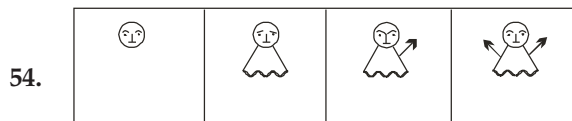
A B C D



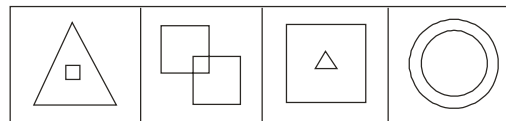
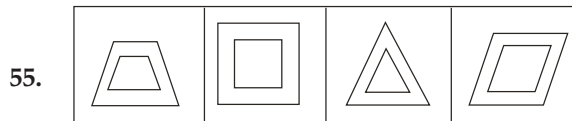
A B C D



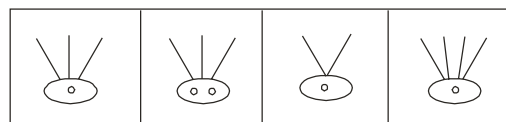
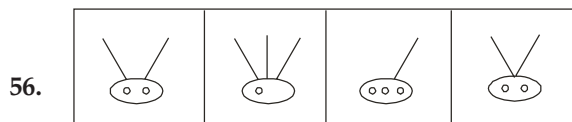
A B C D



A B C D



A B C D



A B C D

**Problem Figures**

**Answer Figures**

57.		A	B	C	D
58.		A	B	C	D
59.		A	B	C	D
60.		A	B	C	D

**Answers and Explanations:**

1. (A) As all the figures are squares, thus a square best complete the series, so (A).
2. (B) As all are squares though of different size, a square best fits here.
3. (B) A triangle of same size will best complete the series hence (B).
4. (C) As in 3.
5. (A) In each case the figure has been changed, hence (A).
6. (C) All are triangles but shaded differently.
7. (A) All are rectilinear figures with shades, so (A).
8. (C) All the figures are different.
9. (D) All the figures are different but with same shades hence (D).
10. (A) The size of the circle is gradually reducing.
11. (A) All are different types of figures but without any shade.
12. (B) The size of the square is reduced each time.
13. (A) The size of the square is increasing each time.
14. (C) All are triangles with same postures.
15. (C) The shade is moving downwards each time.
16. (A) Each circle has same type of shade.
17. (A) One big square followed by a small one.
18. (A) All are circles but the shades are not repeated, hence (A), as in (B), (C), (D), the shades are already there.
19. (A) The black shaded portion within the triangle is moving towards right each time.
20. (B) Same as 19.
21. (B) The shaded portion of the square is moving upwards each time.



22. (C) Small triangle followed by small circle, hence big triangle should be followed by a big circle.
23. (C) Big triangle followed by a small triangle.
24. (A) Big square, followed by a small one, so big circle should be followed by a small circle.
25. (B) Same as 24.
26. (D) Small one followed by a big one of the same figure.
27. (D) Same as 26.
28. (D) Big square followed by big circle, so small square must be followed by small circle as in (D).
29. (C) As in 28.
30. (A) All the figures are different each time contains straight lines and the 1st two figures are small in size, so the fourth figure must be big, with straight lines and different, hence (A).
31. (C) Each time a line has been added.
32. (C) Number of horizontal lines are decreasing each time.
33. (C) Alternately four and three vertical lines, so the fifth row must be with four vertical lines as in (C).
34. (A) Each time the size of the quadrilateral has been increased.
35. (B) Each time the size of a horizontal line from below has been reduced, e.g. in the 2nd figure is one, in the 3rd two and so on, hence (B).
36. (C) Each time the shaded triangle inside the square changed its position.
37. (D) Each time the number of line is reduced by one.
38. (B) Each time the arrow is moving anticlockwise.
39. (B) Each time the angle changes its position facing up and down.
40. (D) Each time different type of figure is there but the inside shade, a square remains as it is, hence (D); In (A) and (B) though figures are different but the inside shades are also different.
41. (A) Each time one eye and one leg have been added.
42. (C) Each time the number of circles inside has been reduced by one.
43. (B) Though all the figures are quadrilateral but each time its size and structure is changed and the middle line bifurcating the figure alternately changed its position from horizontal to vertical.
44. (C) 1st figure is a 'T' and 2nd one is an angle, the 3rd one again a 'T' with changed position, fourth figure an angle with changed position, so 5th figure must be a 'T' with its position changes as in (C).
45. (C) Number of arms has been increased gradually each time.
46. (D) Number of circles has been reduced by two each time.
47. (A) Cross and the circle are moving clockwise.
48. (D) Each time three small circles change their position but the position of the arc in lower right portion of the square remains intact, hence (D).
49. (D) Each time the half of the horizontal line from above has been cut off alternately from left to right.
50. (A) Each time two circles have been added.
51. (A) The arrow is moving anticlockwise direction each time.
52. (D) Each figure is different but a dot inside, hence (D).
53. (C) Each time the thread is twisted gradually.
54. (B) Each time a single part of the body has been introduced on the left side of the figure hence, (B).

- 55. (D) Each time there is a different figure but the inside figure remains same as the original, hence (D), as both the figures are circle here.
- 56. (A) In 1st figure there are two arms and two eyes, in the 2nd three arms and one eye, in the 3rd, one arm and three eyes, and in the 4th figure two arms and two eyes, i.e. when arms increased eye decreased, so in the 5th figure one arm will be added and one eye will be reduced as in (A).
- 57. (D) Each time a different type of figure with alternately vertical and horizontal position.
- 58. (D) Each time the position of the design changes anticlockwise.
- 59. (C) Every alternate figure has an angle and a star on the right hand side above, hence (C).
- 60. (B) Each time the position is changed alternately, vertically and horizontally. 2nd figure is the vertically reverse of the 1st, 3rd one is the horizontal reverse of the 2nd, 4th one is the reverse of 3rd and 5th should be reverse of the 4th, hence (A).

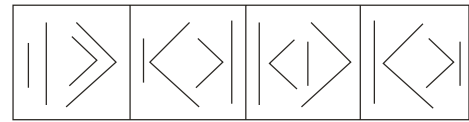
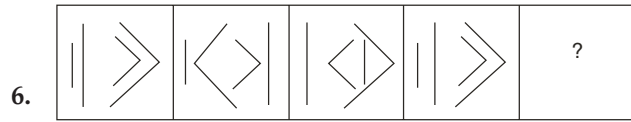
**SOME MORE PRACTICE TEST ON ABSTRACT REASONING**

**Directions for Questions 1-35:**

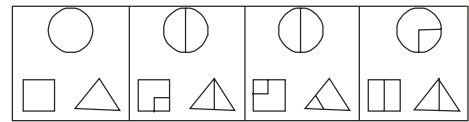
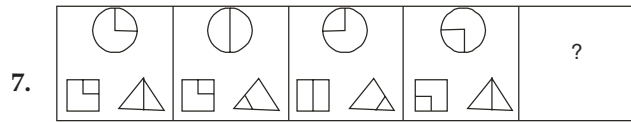
*(D. E. H.A.L., 1993)*

In each question below, there is a set of four figures and a question mark (?) in the left hand side followed by a set of four answer figures (marked A, B, C and D) in the right hand side. You are to study the patterns of the question figures carefully and find out from the answer figures the right figure to be placed in the gap containing the '?' mark.

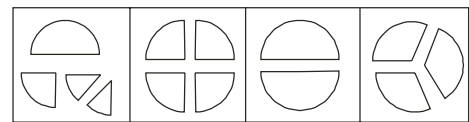
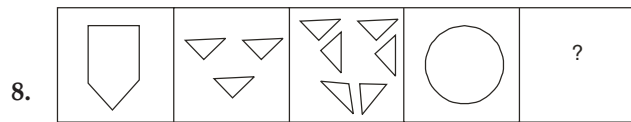
1.		
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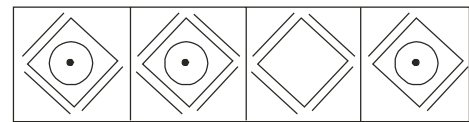
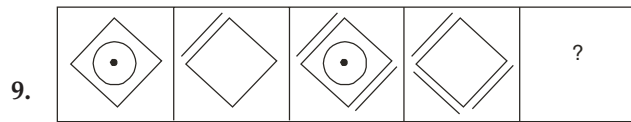
A B C D



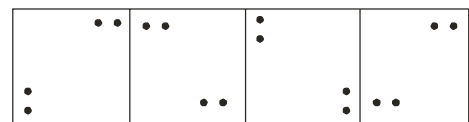
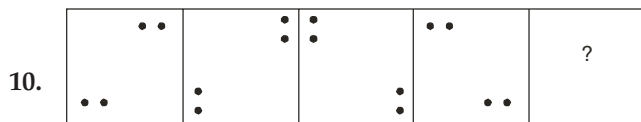
A B C D



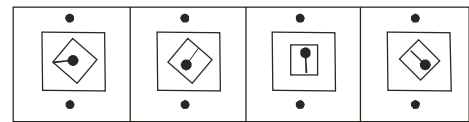
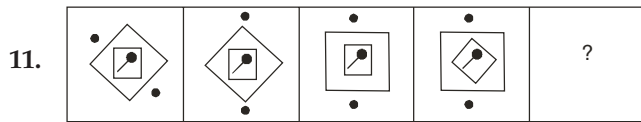
A B C D



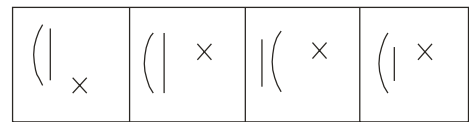
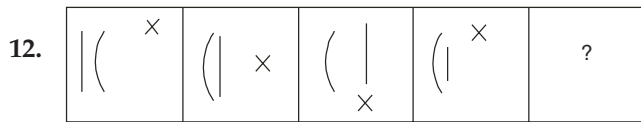
A B C D



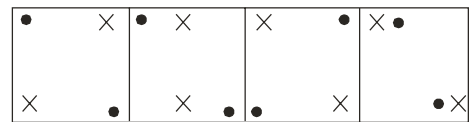
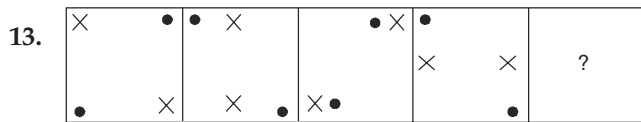
A B C D



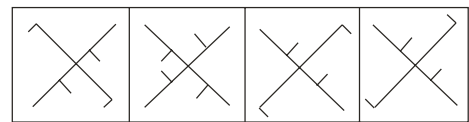
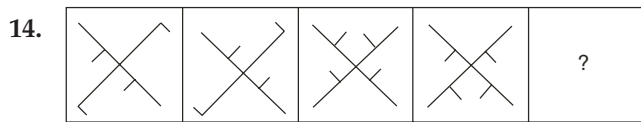
A B C D



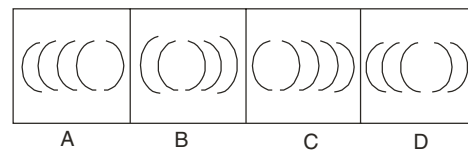
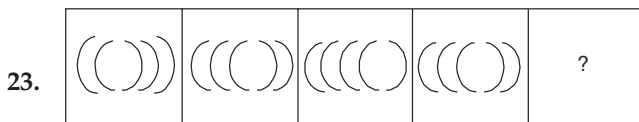
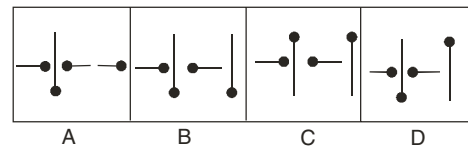
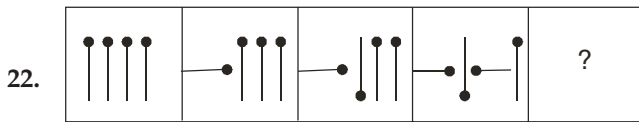
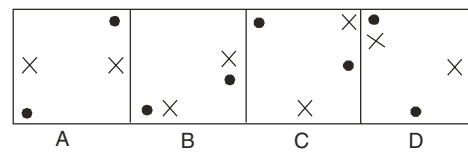
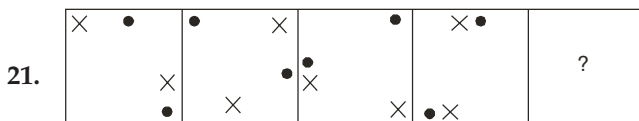
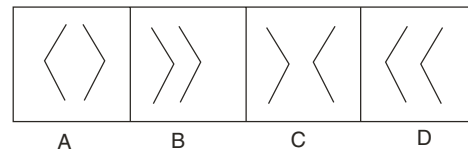
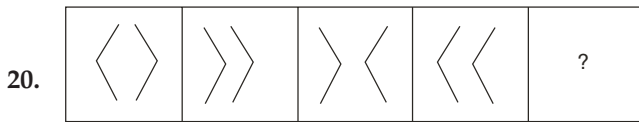
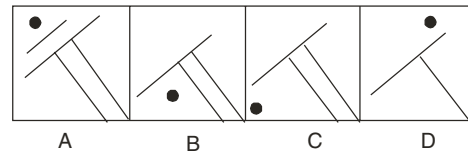
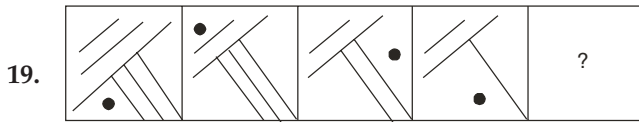
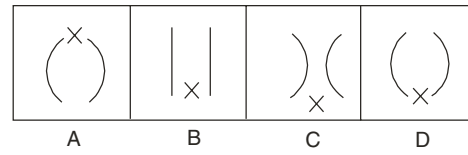
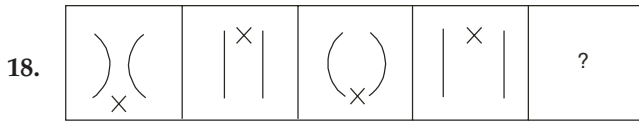
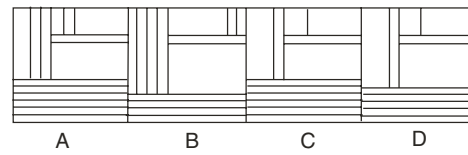
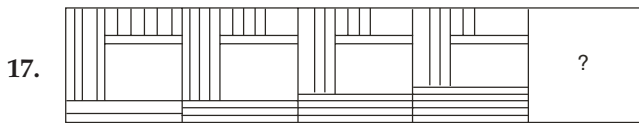
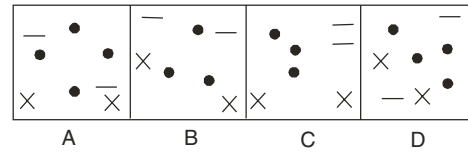
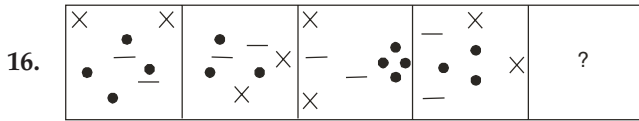
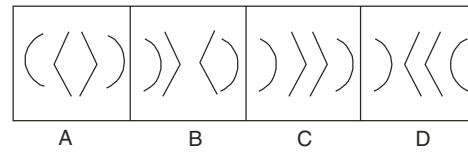
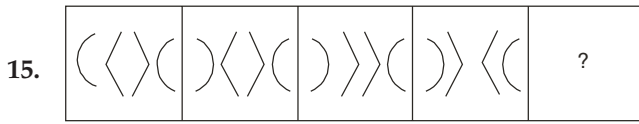
A B C D

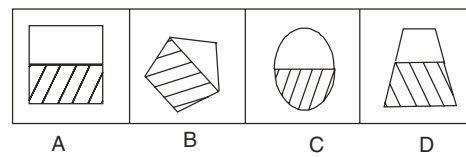
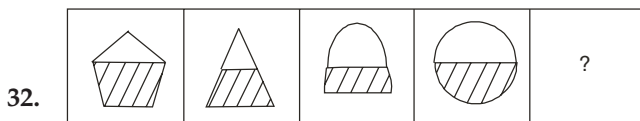
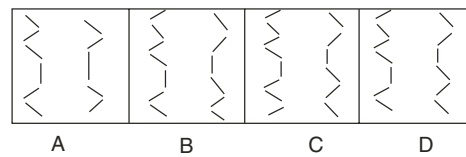
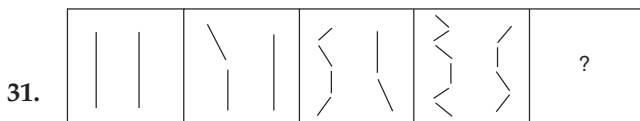
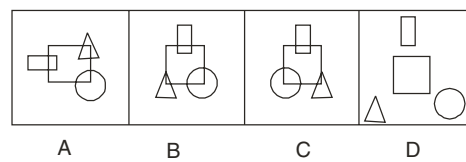
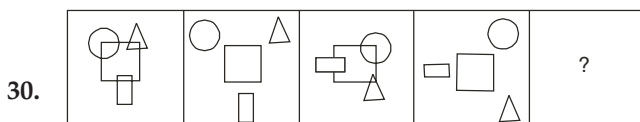
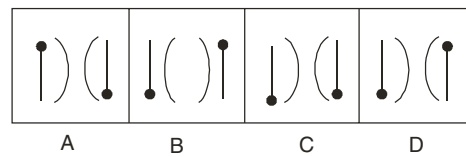
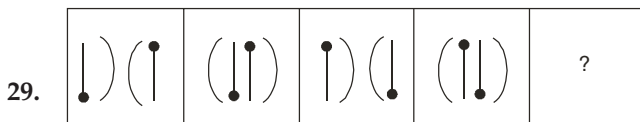
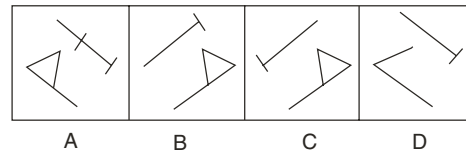
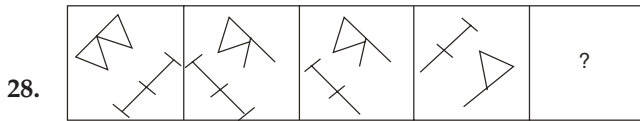
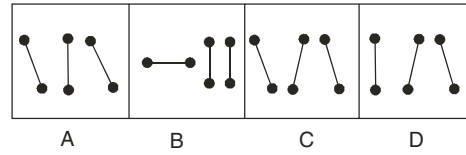
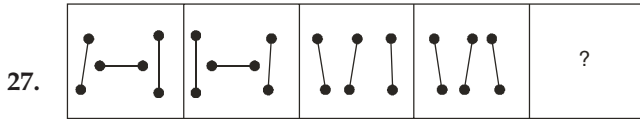
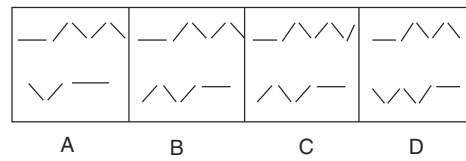
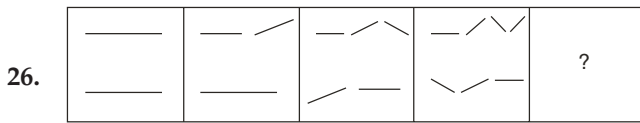
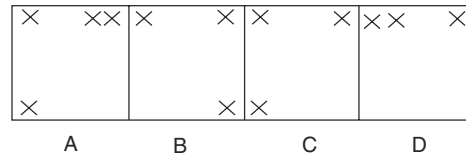
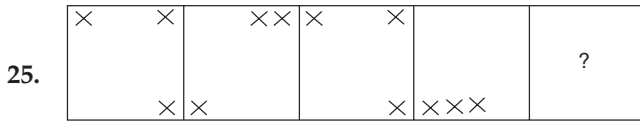
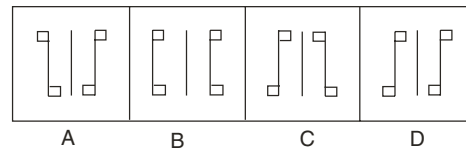
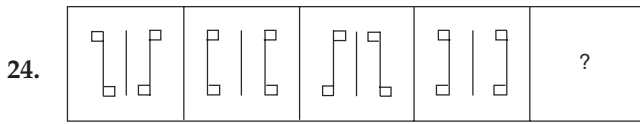


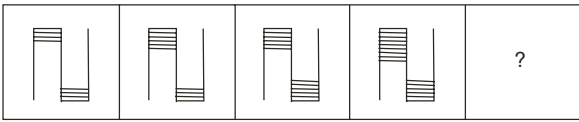
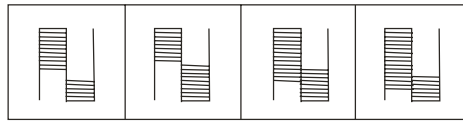
A B C D

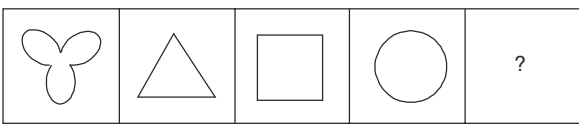
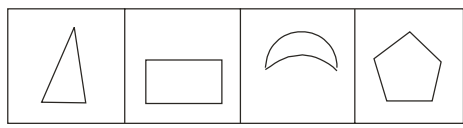


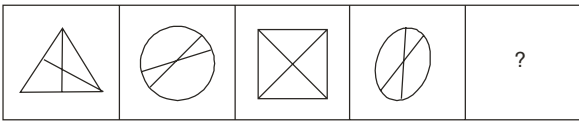
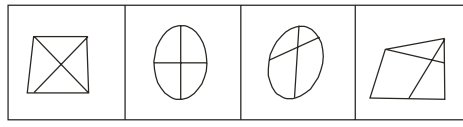
A B C D





33.  

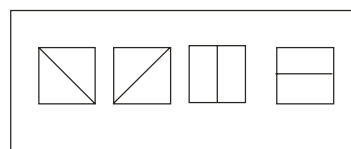
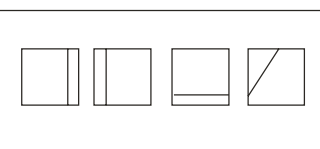
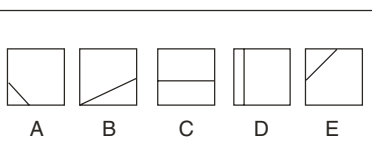

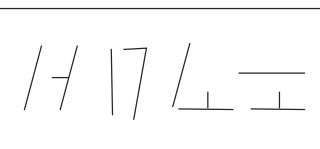
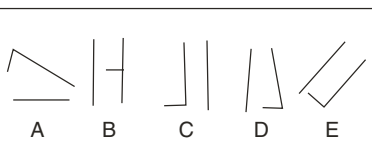
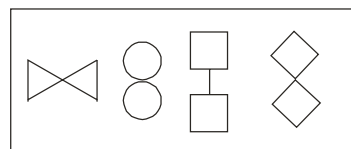
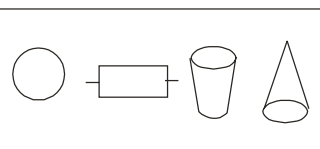
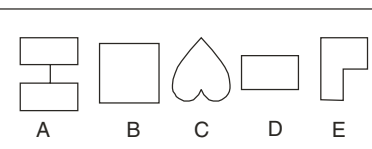
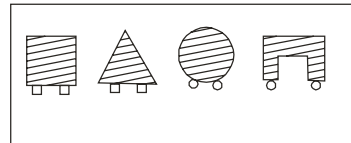
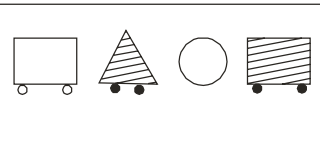
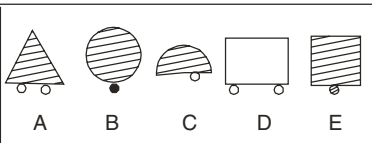
34.  

35.  

**Directions for Questions 36-49:**

(D.E., H.A.L., 1995)

Here for each question there are three sets of figures; Set-I, Set-II and the Answer Set. Studying the first two sets of figures i.e., Set-I and Set-II you will have to find out that characteristic which is possessed by all the figures in Set-I and none in Set-II. Then find out from among the answer set (figures marked A, B, C, D and E) that figure which has this characteristic.

	Set I	Set II	Answer Set
36.			
37.			
38.			
39.			

	Set I	Set II	Answer Set
40.			
41.			
42.			
43.			
44.			
45.			
46.			
47.			

	Set I	Set II	Answer Set
48.			<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> A</div> <div style="text-align: center;"> B</div> <div style="text-align: center;"> C</div> <div style="text-align: center;"> D</div> <div style="text-align: center;"> E</div> </div>
49.			<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> A</div> <div style="text-align: center;"> B</div> <div style="text-align: center;"> C</div> <div style="text-align: center;"> D</div> <div style="text-align: center;"> E</div> </div>

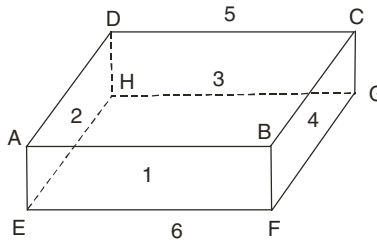
### SURFACE DEVELOPMENT TEST OR BOX OPEN TEST

**Directions for Questions 1-30:**

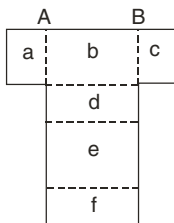
*(C.E., B.H.E.L., 1979) (C.E., C.M.C., 1980)*

Here a solid figure is given followed by a few problems. Each surface of the solid figure (marked with 1, 2, 3, 4, 5, 6, etc.) corresponds to certain specific surface of the given problem. Your task will be to find out how it corresponds.

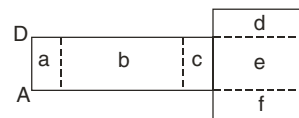
**Key Figure I**



- |                   |         |                   |         |
|-------------------|---------|-------------------|---------|
| 1 refers to plain | A B F E | 2 refers to plain | A D H E |
| 3 refers to plain | C D H G | 4 refers to plain | B C G F |
| 5 refers to plain | A B C D | 6 refers to plain | E F G H |

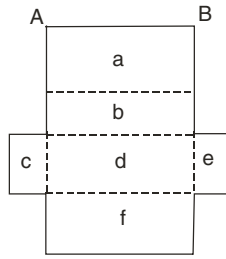


**Problem (I)**

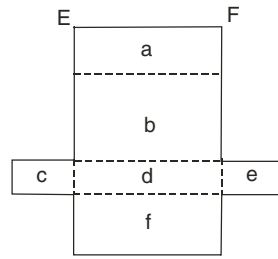


**Problem (II)**

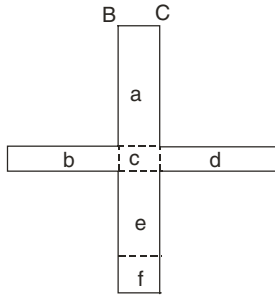




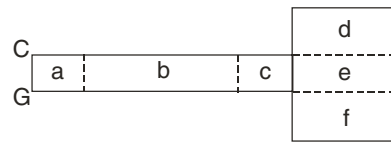
**Problem (III)**



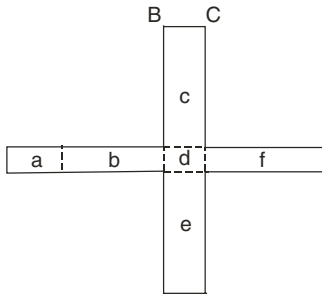
**Problem (IV)**



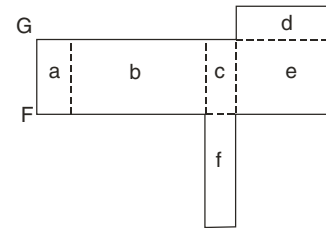
**Problem (V)**



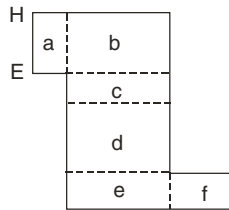
**Problem (VI)**



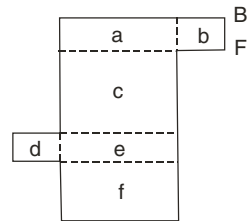
**Problem (VII)**



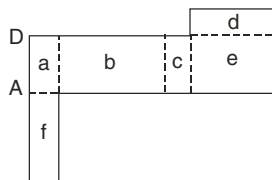
**Problem (VIII)**



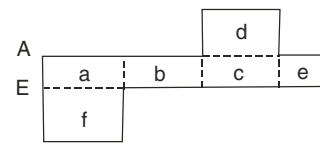
**Problem (IX)**



**Problem (X)**



**Problem (XI)**

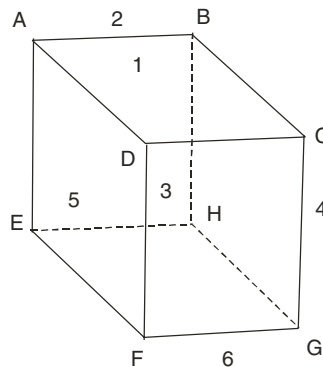


**Problem (XII)**

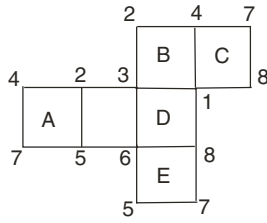
**Questions related to Key Figure 1:**

1. Surface "c" of Problem (I) corresponds to  
 (A) surface 2 of the figure (B) surface 4 of the figure  
 (C) surface 3 of the figure (D) surface 1 of the figure  
 (E) surface 6 of the figure.
2. Surface "d" of Problem (II) corresponds to  
 (A) surface 4 (B) surface 5 (C) surface 3 (D) surface 2 (E) surface 1
3. Surface "b" of problem (III) corresponds to  
 (A) surface 3 (B) surface 2 (C) surface 1 (D) surface 6 (E) surface 5
4. Surface "f" of problem (IV) corresponds to  
 (A) surface 5 (B) surface 1 (C) surface 2 (D) surface 4 (E) surface 6
5. Surface "c" of problem (V) corresponds to  
 (A) surface 4 (B) surface 2 (C) surface 3 (D) surface 1 (E) surface 6
6. Surface "e" of problem (VI) corresponds to  
 (A) surface 5 (B) surface 2 (C) surface 1 (D) surface 3 (E) surface 4
7. Surface "a" of problem (VII) corresponds to  
 (A) surface 2 (B) surface 1 (C) surface 6 (D) surface 3 (E) surface 4
8. Surface "f" of problem (VIII) corresponds to  
 (A) surface 1 (B) surface 5 (C) surface 2 (D) surface 4 (E) surface 3
9. Surface "f" of problem (IX) corresponds to  
 (A) surface 2 (B) surface 3 (C) surface 4 (D) surface 1 (E) surface 5
10. Surface "e" of problem (X) corresponds to  
 (A) surface 3 (B) surface 6 (C) surface 4 (D) surface 1 (E) surface 5
11. Surface "f" of problem (XI) corresponds to  
 (A) surface 5 (B) surface 1 (C) surface 4 (D) surface 6 (E) surface 2
12. Surface "e" of problem (XII) corresponds to  
 (A) surface 4 (B) surface 3 (C) surface 2 (D) surface 1 (E) surface 5

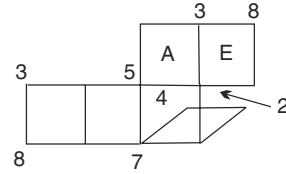
**Key Figure 2**



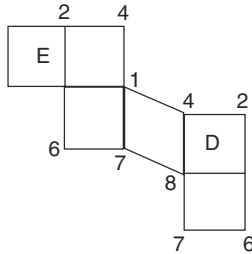
- |   |                       |         |   |                       |         |
|---|-----------------------|---------|---|-----------------------|---------|
| 1 | refers to the surface | A B E H | 2 | refers to the surface | A B C D |
| 3 | refers to the surface | C D F G | 4 | refers to the surface | B C G H |
| 5 | refers to the surface | A D E F | 6 | refers to the surface | E F G H |



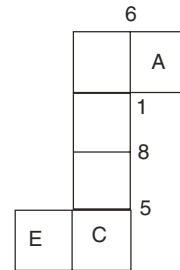
Problem (XIII)



Problem (XIV)



Problem (XV)



Problem (XVI)

**Questions related to Key Figure 2:**

**Consider Problem (XIII) only :**

- 13. If surfaces B and D in problem XIII correspond to surfaces 1 and 3 respectively in key figure 2, then the points marked as 5 in problem XIII correspond to which point in the key figure 2?  
 (A) E (B) F (C) G (D) D (E) H
- 14. If surface E represents surface 6 and line 6-8 corresponds to line EH then line 4-1 represents line  
 (A) BH (B) AE (C) CB (D) GH (E) DC
- 15. If surface A represents surface 3 then surface C corresponds to surface  
 (A) 2 (B) 5 (C) 4 (D) 1 (E) None of these

**Consider Problem (XIV) only :**

- 16. Line 3-8 corresponds to line BH and surface A corresponds to surface 1, then surface E represents surface  
 (A) 4 (B) 5 (C) 2 (D) 6
- 17. Line 4-7 represents line EF and line 3-2 represents line BC, then point 8 corresponds to point  
 (A) A (B) C (C) E (D) D (E) H

**Consider Problem (XV) only :**

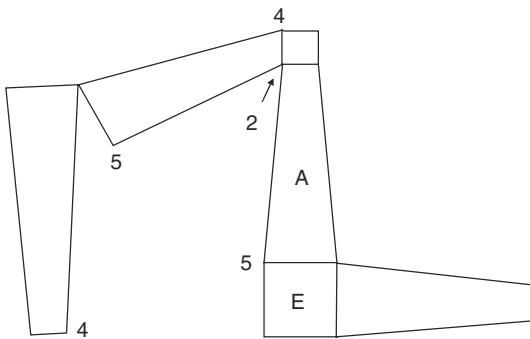
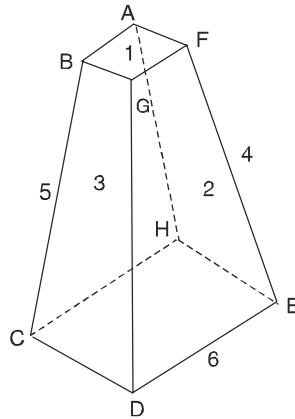
- 18. The two lines marked as 7-6 represent line HE and line 2-4 represents line DC, then the surface D corresponds to surface  
 (A) 1 (B) 2 (C) 3 (D) 4
- 19. Points 1, 7 and 8 represent points B, H and G respectively, then surface E corresponds to surface  
 (A) 3 (B) 2 (C) 4 (D) 5  
 (E) 1 (F) 6

**Consider Problem (XVI) only :**

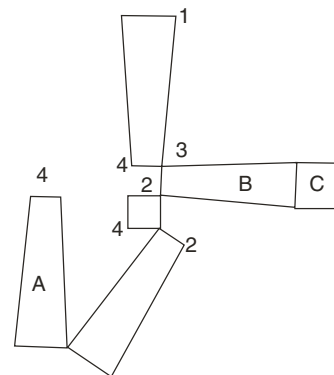
- 20. Surface C represents surface 1, line 5-8 corresponds to line BH then line 6-1 represents line—  
 (A) GH (B) GF (C) CD (D) CG

21. Surfaces C and E represent surface 1 and 5 respectively, then surface A represents surface  
 (A) 4 (B) 3 (C) 2 (D) 6

Key Figure 3



Problem (XVII)



Problem (XVIII)

Questions related to Key Figure 3:

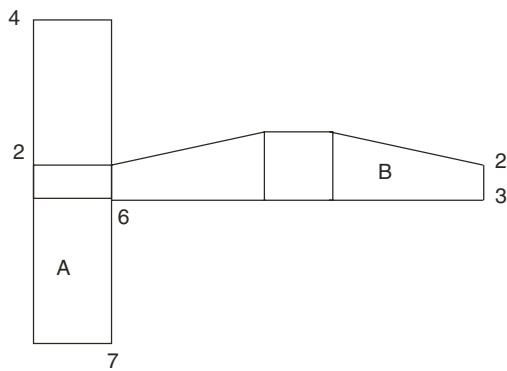
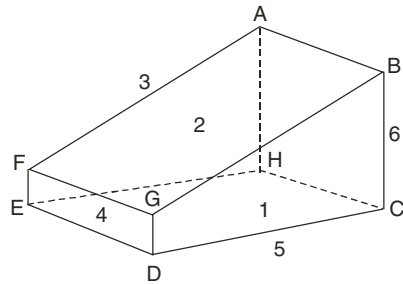
Consider Problem (XVII) only :

22. Surfaces A and E correspond to surfaces 4 and 6 respectively and the points marked as 4 represents point B, then the points marked as 5 correspond to point  
 (A) C (B) D (C) E (D) H
23. Surfaces A and E correspond to surfaces 4 and 6 respectively, then point 2 corresponds to point  
 (A) A (B) G (C) B (D) F

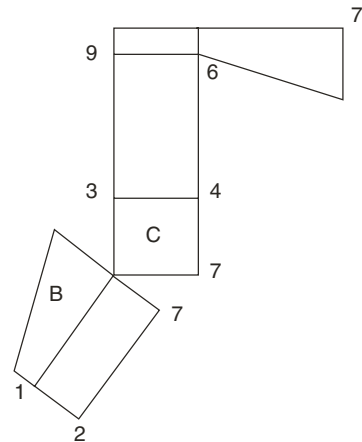
Consider Problem (XVIII) only :

24. Surfaces A, B and C correspond to surfaces 5, 2 and 6 respectively and the points marked as 2 correspond to point G then all the points marked as 4 correspond to  
 (A) A (B) B (C) F (D) G (E) E
25. Surfaces A, B and C correspond to surfaces 5, 2 and 6 respectively and all the points marked as 2 correspond to point G then line 3-1 represents line  
 (A) GD of surface 3 (B) BC of surface 3 (C) DG of surface 2  
 (D) EF of surface 2 (E) None of these.

Key Figure 4



Problem (XIX)



Problem (XX)

**Questions related to Key Figure 4:**

**Consider Problem (XIX) only :**

- 26. Surfaces A and B correspond to surfaces 5 and 1 respectively and line 2-3 represents line GD then line 4-2 corresponds to line  
 (A) GB                      (B) GF                      (C) BA                      (D) Cannot be said
- 27. Surfaces A and B correspond to surfaces 5 and 1 respectively and line 2-3 represents line GD then line 7-6 represents  
 (A) EC                      (B) EF                      (C) ED                      (D) Cannot be said

**Consider Problem (XX) only :**

- 28. Surface C corresponds to surface 6 and line 1-2 corresponds to line ED then surface B represents surface  
 (A) 1                      (B) 2                      (C) 3                      (D) 5
- 29. Surface C corresponds to surface 6 and line 3-4 corresponds to line AB then line 9-6 corresponds to line  
 (A) FG                      (B) ED                      (C) GD                      (D) Cannot be said
- 30. Surface C represents surface 6, line 1-2 corresponds to line ED, then all the points marked as 7 should correspond to point  
 (A) B                      (B) C                      (C) A                      (D) Unknown point

**Answers and Explanations:**

- 1. (D) Circular figure is rotating anticlockwise with increasing of one dot each time.

2. (C) Each time faces of the vertical line changed with dots changing their positions from fig-1 to figure - 3, again in figure - 4, the original figure appears, hence the fifth figure should be similar to the figure - 2 as in (C).
3. (B) Starting line and the side line are changing their positions alternately and the peripheral dots also are changing positions; all are moving in a clockwise direction.
4. (B) The total figure is moving upside down, then anticlockwise, again right to left and then clockwise and so on, hence (B).
5. (A) Positions of dots and arrows are changing alternately.
6. (B) Here the big line and big angle are changing their positions twice, similarly small angle and small line also are changing position twice but alternately with the bigger ones. Each time the angles facing their corresponding lines also, hence (B).
7. (C) Lines within the circle, square and triangle are moving and each time a straight line must be, there alternately within any one of the figures. There should not be two straight lines at a time, hence (C).
8. (D) In the 2nd figure we find three divisions of first figure and in the 3rd we find further 3 divisions of 2nd, hence, the fifth figure must be 3 divisions of the circle.
9. (B) Here the circle with a dot inside the rectangle appears and disappears alternately and addition of extra line outside the rectangle, hence (B).
10. (D) Here all the four dots are moving clockwise.
11. (A) There are altogether four types or figures-two dots, one rectangle within which there is a square within which there is a line along with a dot. Each time only one type of figure or figures are changing position clockwise at an angle of  $45^\circ$ , hence lastly the innermost line with the dot which remains static upto the fourth figure will change, so (A).
12. (C) Here only the line and the cross are changing position. According to the changing pattern, the star must be in the middle position and line should be away from the semicircle, hence (C) is the best option here.
13. (C) Here both dots and crosses are moving clockwise but the dots are moving at an angle of  $180^\circ$  and crosses  $90^\circ$ , hence (C).
14. (A) In the first sequence the entire figure changes position at an angle of  $180^\circ$ , in the next sequence the small lines at the end of the big line coming closer towards the centre and another two small lines nearer to the centre on another big line are moving towards periphery. These operations are going on alternately, hence (A).
15. (B) Only one figure is changing its face each time starting from left semi-circle, then left angle, then right angle and lastly the right semi-circle, hence (B).
16. (A) Here crosses are moving taking 40% (approx.) of the path at a time and the small lines also moving one towards up another towards down covering 30% of the path each time, and the number of dots are changing alternately from three to four, hence (A).
17. (C) In the pattern the small vertical lines above are decreasing by one and the lower horizontal lines are increasing by one each time, whereas the vertical lines of left hand side of the figure also are decreasing by one but alternately, hence (C).
18. (C) Each time the pattern is changing with curved and straight lines and also the position of the cross also changing from down to up and vice versa. Each time the facing of the curved lines are also changed, hence (C).
19. (C) Here the number of slanting lines above and below are decreasing alternately and the dot is changing its position crosswise travelling approximately 40% of the path, hence (C).
20. (A) Each angle is changing faces alternately each time.
21. (D) Both dots and crosses are moving anticlockwise, dots travelling half of the line and cross covering the full line.

22. (B) Each time one stick is changing its position vertically and horizontally alternately, hence (B).
23. (B) Semicircles are changing its position from left to right only one at a time, hence (B).
24. (A) Each time squares above and below along the lines of the left and right side the central line are changing their faces alternately above and below and left and right.
25. (B) Here, the three crosses are joined and separated alternately in an increasing order and at the sametime when separated their positions remain same, hence (B).
26. (B) The number of lines are increasing like the series 2, 3, 5, 7, 9. So, only (B) has 9 lines.
27. (B) The sticks are changing their positions alternately in the order one and two respectively.
28. (B) Each time one of the lines is removed in the order 10, 9, 8, 7 and 6, taking alternately from the triangle and the straight line.
29. (D) Here curved lines and changing faces each time but the sticks are changing position alternately.
30. (B) Circle, triangle and rectangle are moving along the square clockwise at the sametime they are joined with the square alternately, hence (B).
31. (C) 1st line is increasing in the order 1, 2, 4, 6, 8 and but the 2nd line is changing in the order 1, 1, 2, 4, 6.
32. (A) Each time a new figure appears, hence (A).
33. (B) Upper and lower horizontal lines are increasing by 2 alternately.
34. (D) Each time a new figure appears almost of same size, hence (D).
35. (D) Alternate straight lined and curved lined figures at the same time a new type of figure appears.
36. (C) In all the figures of set-1, a central line is there which bifurfacates the square, and this characteristic does not present any of the figures in set-II. The similar figure is there in (C).
37. (E) Both the lines are parallel and the straight line facing the bended portion as in (E), In (C) the lines are though parallel, but the bended position does not facing the straight line.
38. (A) All the figures of set are joined in the middle.
39. (A) All the figures of set-1 are filled with two unfilled wheels below as in (A).
40. (B) All are different types of figures with half filled and half unfilled with a dot attached with it as in (B).
41. (D) Two lines makes  $90^\circ$  angle with each other without touching.
42. (C) One line is emerged from each of the figures in set-1 as in (C).
43. (B) Each figure of set-1 contains four lines joining each other.
44. (D) Each figure contains two different types of figures are within the other with a dot in the middle as in (D).
45. (E) Each figure contains more than one similar figures joined together like a chain as in (E).
46. (C) Each figure contains two similar figures above and below joined together with a line.
47. (A) All the spirals in set-1 are clockwise, but in set-2 all are anticlockwise, hence (A).
48. (C) Each figure of the set-1 contains more than one numbers of similar type of figures as in (C). In (B) figures are different types, though seems to be similar.
49. (E) In each of figure of the set-I, three similar types of figures are joined together in such a way that there in a common space of all the three figures as in (E).

#### Answers and Explanations of Surface Development Test or Opening and Closing of Box Test

1. (B) Here, the box is opened with surfaces 5 or ABCD in the middle keeping two surfaces 2 and 4 by the side in left and right side respectively.
2. (C) If we open the box sideways from the side AD, we find  $a = 2$ ,  $b = 6$ ,  $c = 4$ ,  $e = 5$ ,  $d = 3$  and  $f = 1$ .

3. (A) Opening the box as it is i.e. along with the line AB, we find surface a correspond to surface 5 and 6 correspond to surface 3.
4. (E) If we open the box from the line EF, we find the narrow surface 'a' correspond to 1, then broader surface  $b = 5$ ,  $d = 3$  and  $f = 6$ .
5. (B) If we open the box with the line BC on top we find surface  $a = 5$  and next narrow surface  $c$  must be 2.
6. (D) If we open the box side ways from C the narrow surface 'a' must be 4,  $b = 1$ ,  $c = 2$  and  $e = 3$ .
7. (E) If we open the box from the line BC on the top we find surface  $c = 5$ , surface  $d = 2$ ,  $f = 3$ ,  $b = 1$  and  $a = 4$ .
8. (A) If we open the box from the line GE with G on top we find surface  $a = 4$ ,  $b = 5$ ,  $c = 2$ ,  $e = 6$ ,  $d = 3$  and  $f = 1$ .
9. (C) If we open the box from the line HE with H on the top we find surface  $a = 2$ ,  $b = 5$ ,  $c = 1$ ,  $d = 6$ ,  $e = 3$  and  $f = 4$ .
10. (D) If we open the box from the line BF with B on the top, we find surface  $b = 4$ ,  $a = 3$ ,  $c$  may be 5 or 6, and  $e = 1$ , in both the cases.
11. (B) If we open the box from the line AD we find surface  $a = 2$  and  $f = 1$ .
12. (C) If we open the box from the line AE with A on the top we find surface  $a = 1$ ,  $f = 6$ ,  $b = 4$ ,  $c = 3$ ,  $d = 5$  and  $e = 2$ .
13. (A) As surface  $D = 3$ , whose sides are D, C, F, G and as side F, G is also found in surface 6, so E must be surface 6, the other side of E and H, which must be equal to the line 5-7 in the problem, so the point E = 5.
14. (C) As surface E = 6 line 6-8 = EH, then surface D and B must be 2 and 1 respectively, so the line 4-1 correspond to line CB in figure 5.
15. (C) When surface A represents 3, then other surfaces remain almost same as in problem 14, so, surface B = 1 and surface C must be 4.
16. (A) When line 3-8 correspond to line BH and surface A = surface 1, then surface E = 4 as in this surface only we got the common line BC with surface 1.
17. (E) The set is same as in problems 15 and 16, i.e. line 4-7 = EF and line 3-2 = BC, then surface E must be 4, and A = 1, then point 8 must be correspond to H, as line 3-8 = BH.
18. (A) The line 7-6 = line HE and 2-4 = DC, as these surfaces are adjacent its common line must be AB which is only possible when the lower surface is 2 and the upper surface, i.e. D = 1.
19. (D) When points 1, 7 and 8 = B, H and G, are only possible when the two surfaces are 2 and 4, and above 2, it must be surface-1 as with common line of AB and the adjacent surface E must be equal to 5 as only if has common line DC with surface 1.
20. (D) As surface C = 1 and line 5-8 represents BH, which is common only in surface 2 and 4, but there is no point A in surface 4, so the surface above C must be 2, and the next surface is 6 as with common line EH, above it the surface must be 3 as with common line FG with 6, So the line 6-1 must be CG as it is the common line only between the surfaces 3 and 4.
21. (A) As surface C = 1 and E = 5, and as per the arrangements made in problem 20, we find surface A must be = 4.
22. (D) As surfaces A and E are 4 and 6 and point 4 = B, the above surface must be correspond to surface 1, then sides AB of surface 1 common only with surface 5, the point 5 must be H which is also common with the surfaces 4 and 6.
23. (A) As surfaces A and E = 4 and 6 and point 4 = B, the above surface must be correspond to surface 1, then sides AB of surface 1 common only with surface 5, the point 5 must be H which is also common with the surfaces 4 and 6 also.



23. (A) As surfaces A and E = 4 and 6, then the above surface is 1. So the point 2 must be A as it is common with the surfaces 6, 1 and 5.
24. (A) As surface A, B, C corresponds to surfaces 5, 2 and 6 respectively and the points 2 = G, then, the point 4 must be equal to A as it is common in the surfaces 5, 1 and 4.
25. (E) As the arrangements remain same as in problem 24, the line 3-1 must be correspond to FE of surface 4, hence (E).
26. (A) As surfaces A and B correspond to surfaces 5 and 1 respectively, and line 2 and 3 represent GD, then point 2 must be G, and as point G is common only in surface 1, 2 and 4 and as 1 is = B and surface 4 must be with surface 5 which is A, then line 4-2 must be of the surface 2, which is BG.
27. (D) As it is already known that surface A = 5, so line 7-6 of surface A must be one side of surface 5 of which one point is not marked hence unknown, so, (D) is the answer.
28. (C) When surface C = 6 and line 1-2 = ED, where point E is common to surface 'B' whose another point is unmarked and attached to surface 'C', so, surface 'B' must be 3.
29. (A) As the arrangement is same as in previous problem, the surface above C must be surface 2 as its common lines with surface 6 and also with surface 4 where the common line is GF which must be 9-6.
30. (B) As the same arrangement like previous problems we find all the points marked 7 is the point C of surface 6, 5 and 1.

## Evaluate Yourself

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This chapter is designed to give you further experience is what to expect on the verbal and abstract reasoning questions in actual examination situation. You can now work through the last papers given in this chapter. In preparing these tests we have tried to visualise the questions you are likely to face in your actual selection situation. These tests should serve as a basis for analysis, which for some may signal the need for further drill before taking the other tests and for others may indicate that preparation for this part of the test is adequate. So, for the best results take these tests only after reviewing your weak areas, found as a result of completing all the previous ten chapters of this book.

Simulate actual test conditions as you take each test. In actual test situation you will find several section consisting of questions on verbal, numerical, abstract, English knowledge and comprehension, general knowledge, etc. So for a 2-3 hour test you will find not more than 30-40 questions in each section. However, each section is separately timed – approximately 1 minute for each question. You have to complete each section within the time allotted to you for that section. If you finish any section before time you are allowed to go neither ahead nor back to any other section. So, keep an accurate record of your time and if you complete a section before the suggested time has elapsed, check or revise your work and do not start another section. Don't be worried, however, if you are not able to answer all questions in the allotted time. This may also occur on the actual test. No one is expected to know the answers of all the questions on an aptitude test. In order to get the maximum benefit from these tests, remember the following points :

- (1) Read carefully the directions given in each question. This is very important because you have to know exactly what is asked in the question.
- (2) Do not spend too much time on questions that seem difficult for you. Better try the next one, because all the questions carry equal credit. Budget your time equally for all the questions. By spending more time on one question, you may be forced to leave the questions where you are sure to score.
- (3) Remember no penalty is generally imposed in guessing. Your score is determined by the number of correct answers. Therefore, it is to your advantage to answer every question — even if you have to guess. Better eliminate as many incorrect answer choices as you can and then guess from the remaining ones.
- (4) In these types of questions only one answer is the correct or best answer from among the four or five answer choices provided along with each question. And, you are to answer any

question by choosing answer from the given answer choices only. Even if you have some other answer to any question, say, which is not given as any of the answer choices, you have to select the most correct or best answer from the given answer choices only.

After you have devoted the specified time allowed for each section of this chapter, refer to the answer key furnished, determine your raw score and judge from your progress. If you find some questions are still difficult for you to answer, it needs further review, refer to the previous chapters where this topic is treated before attempting to take the next section. You should then carefully study the explanations for the correct answers for these questions that gave you difficulty. If you follow this procedure, by the time you complete the last section of this chapter you will feel confident about your success. Work through all the questions given in this chapter and rate your performance. After finishing this allow a gap of one week and then repeat the test. It will definitely improve your performance in each attempt, twice, thrice and so on. This will give you sufficient practice and drilling to face the actual examination most successfully and with full confidence.

## PRACTICE TEST PAPER 1

### Directions for Questions 1-10:

In each question below five words are given, marked with A, B, C, D and E, four of which are alike in some respect, i.e., they have something in common, only one word is different from them, i.e., it does not belong to the category to which the other four belong. Find out the word which is different from the rest and mark accordingly on your answer script.

#### Questions:

1. (A) Mother (B) Brother (C) Daughter-in-law  
(D) Sister (E) Aunt
2. (A) Toast (B) Fry (C) Bake (D) Freeze (E) Boil
3. (A) Pantene (B) Forhans (C) Promise (D) Pepsodent (E) Colgate
4. (A) Home (B) Den (C) Manger (D) Nest (E) Pen
5. (A) India (B) Japan (C) France (D) Pakistan (E) Australia
6. (A) Conscience (B) Weight (C) Morality (D) Conduct (E) Character
7. (A) Jakarta (B) London (C) New York (D) Thimpu (E) Moscow
8. (A) FG (B) CE (C) XZ (D) HJ (E) MO
9. (A) OpRs (B) TuWx (C) FgHi (D) AbDe (E) LpOn
10. (A) ABCD (B) LMNO (C) QRST (D) DEFG (E) STUV

### Directions for Questions 11-20:

In each question below a pair of capital letters are given followed by other four pairs of words (marked by A, B, C and D). The pair of words in capitals are related to each other in some way. Choose, from the other four pair of words, one which best expresses the same relationship as the words in capitals and mark your answer choice on the answer sheet.

11. LETTER : WORD  
(A) Cloth : Shirt (B) Quarter : Full  
(C) Numbers : Digit (D) Particle : Matter
12. WATER : OXYGEN  
(A) Salt : Sodium (B) Hydrogen : Nitrogen  
(C) Copper : Metal (D) Room : House
13. LAWYER : COURT  
(A) Husband : House (B) Hospital : Doctor  
(C) Maid : Kitchen (D) Student : Classroom

## 14. PROLONG : SHORTEN

- (A) Hurry : Fast (B) Pride : Modesty  
(C) Work : Worship (D) Journey : Train

## 15. EMBROIDER : CLOTH

- (A) Stain : Glass (B) Carve : Knife  
(C) Gild : Gold (D) Chase : Metal

## 16. SERRATIONS : SAW

- (A) Cogs : Gear (B) Incisions : Scalpel  
(C) Butcher : Knife (D) Morter : Trowel

## 17. SPIKE : SLEDGE

- (A) Runner : Sleigh (B) Clip : Paper  
(C) Nail : Hammer (D) Pole : Ski

## 18. THIRST : DRIVE

- (A) Success : Ambition (B) Smell : Sense  
(C) Hunger : Food (D) Taste : Gusto

## 19. OGLE : OBSERVE

- (A) Clamor : Dispute (B) Discern : Perceive  
(C) Glare : Glower (D) Flaunt : Display

## 20. CHAFF : WHEAT

- (A) Dregs : Wine (B) Mote : Dusk  
(C) Yolk : Egg (D) Gold : Lead

**Directions for Questions 21-35:**

In each question below you will find a series of letters arranged in a particular way and the last letter is missing. Follow the pattern of arrangement and find the missing letter from the alternatives marked A, B, C and D, given along with each question.

21. C F I L O ? (A) P (B) R (C) S (D) Q  
22. I M Q U Y C ? (A) F (B) C (C) D (D) G  
23. B E I N T ? (A) U (B) R (C) A (D) V  
24. T S Q N J ? (A) E (B) K (C) L (D) F  
25. JAZ, LEX, NIV, PMT, ??? (A) QUR (B) RQR (C) RUS (D) RUP  
26. CD, HI, MN, ?? (A) QS (B) OP (C) ST (D) RS  
27. ZUA, XOC, VIE, TEG, ??? (A) RAJ (B) RAI (C) QUA (D) RAG  
28. A C F a c f g ? ? (A) ILGjl (B) ILGil (C) ilGil (D) ILgil  
29. XX?Y?XXXXY?XXXXXY?X (A) YXXY (B) YXXX (C) XYYY (D) XYXX  
30. AGMSagms ???? (A) BHNT (B) AHNT (C) bhnt (D) ahnt  
31. D-23, F-21, H-19, J-17, ? (A) L-12 (B) M-18 (C) K-16 (D) L-15  
32. C<sup>3</sup>, F<sup>6</sup>, I<sup>9</sup>, L<sup>12</sup>, ? (A) Q<sup>17</sup> (B) O<sup>15</sup> (C) P<sup>15</sup> (D) O<sup>12</sup>  
33. E-22, G-20, J-17, L-15, O-12, ?? (A) P-11 (B) Q-17 (C) Q-10 (D) R-9  
34. O-12, Q-10, S-8, U-6, W-4, ?? (A) X-3 (B) Y-25 (C) X-24 (D) Y-2  
35. K-11, M-13, P-16, T-20 ?? (A) Y-25 (B) U-21 (C) V-22 (D) W-23

**Directions for Questions 36-41:**

A particular code has been used to rewrite a given word. Using the same rule of coding you have to either code or decode the given word or code (as the case may be) and find out which one of the answer choice (marked A, B, C or D) is correct.

**Questions:**

36. In a certain code the word TEACHER is written as XWPBRWM. Using the same code what should be the code for the word CHART?  
 (A) PBRMX (B) BRPMX (C) BRMPX (D) BPRMX
37. If MOTHER is coded as NPUIFS then what should be the code for the word WIFE?  
 (A) FGJX (B) VHED (C) XJGF (D) JXGF
38. If BACKING is coded as GNIKAB then what should be the code for the word MUMBAI?  
 (A) MUMIAB (B) NVNCBJ (C) OWODCK (D) IABMUM
39. If NAGPUR is coded as PCIRWT, then what should be the code for the word TERMS?  
 (A) VGTOU (B) VGOUT (C) VTOUG (D) VTGOU
40. If SUPER is coded as VXSHU, then what should be the word for the code QDJSXU?  
 (A) LONDON (B) KANPUR (C) BOLPUR (D) NAGPUR
41. If the word MAILED is coded as NBJMFE, what should be the word for the code BDUFE?  
 (A) DATED (B) ACTED (C) ALTER (D) ACTOR

**Directions for Questions 42-46:**

The word COMBINE has been coded in five different ways marked as A, B, C, D and E. It is followed by five questions, each containing a word in capital letters and its corresponding code. You have to determine which coding scheme has been followed in each question.

COMBINE :

- (A) BNLAHMD (B) ENIBMOC (C) DPNCJOF (D) EQODKPG (E) FRPELQH
42. TENDER : REDNET
43. NOODLES : MNCKDR
44. HELPER : JGNRGT
45. PEONS : QFPOT
46. HOTEL : KRWHO

**Directions for Questions 47-50:**

In a certain code EXAMINATIONS is coded as 123456375869. Using the same code what should be the codes for the words given in the following questions?

47. MATES  
 (A) 43619 (B) 43718 (C) 43519 (D) 43719
48. TENSION  
 (A) 7619586 (B) 7169586 (C) 7168956 (D) 7169856
49. NATION  
 (A) 637586 (B) 637589 (C) 637856 (D) 635786
50. STAMINA  
 (A) 9374563 (B) 9743563 (C) 9734563 (D) 9734653

**Directions for Questions 51-55:**

Below two columns of letters are presented consisting of a few rows. Letters of column I are given in capitals and that of column II are given in small letters. Each small letter in column II stands for some capital letters of the same row, but not in the same order as their corresponding letter in column I. The code is the same for all the items in column I. Compare the columns and decode the underlined letters in column I for each question from the same row of choices provided in column II.

<i>Column I</i>	<i>Column II</i>				
	(A)	(B)	(C)	(D)	(E)
51. <u>L</u> OBEQ	g	d	t	i	w
52. <u>B</u> LOPQ	h	i	g	d	t
53. MT <u>C</u> LQ	u	l	e	g	d
54. OB <u>T</u> PL	g	d	t	h	l
55. BQ <u>L</u> OP	h	i	t	g	d

**Directions for Questions 56-60:**

In a certain code BAKE is coded as 2-1-11-5, then what will be the codes for the words given in the following questions?

56. LOAD (A) 12-15-4-1 (B) 1-4-15-12 (C) 15-12-1-4 (D) 15-12-4-1  
 57. DEAL (A) 4-5-1-12 (B) 5-4-1-12 (C) 4-5-12-1 (D) 23-22-26-15  
 58. SHOOT (A) 8-19-12-12-7 (B) 19-7-15-15-20 (C) 19-8-12-12-7 (D) 19-8-15-15-20  
 59. 2-5-1-20 (A) BELT (B) BEAT (C) BEAM (D) YEAR  
 60. LADY (A) 15-26-23-2 (B) 12-1-4-24 (C) 12-1-4-25 (D) 15-26-22-2

**Directions for Questions 61-65:**

If PEN is coded as 11-22-13, what will be the code or decode of the following words or numbers?

61. RATE (A) 9-26-7-22 (B) 9-22-7-26 (C) 9-25-7-22 (D) 9-26-8-22  
 62. 25-26-13-16 (A) BARK (B) BORN (C) BAND (D) BANK  
 63. QUICK (A) 10-8-17-24-16 (B) 10-6-18-24-16 (C) 10-5-18-24-16 (D) 10-6-18-24-15  
 64. 20-22-26-9 (A) DEAR (B) BEAR (C) GEAR (D) FEAR  
 65. GOAT (A) 20-12-26-7 (B) 20-11-26-7 (C) 20-12-25-7 (D) 20-26-12-7  
 66. If DARK is coded as 26-23-14-7, what will be the code for the word ABLE?  
 (A) 24-23-8-1 (B) 23-24-7-1 (C) 1-2-12-5 (D) 23-24-8-1  
 67. If DATE is coded as 7-4-23-8, then what should be the word for the code 5-4-6-14?  
 (A) DARK (B) BACK (C) BANK (D) BARK  
 68. If PENCIL is coded as 59, what is the code for the word SCALE?  
 (A) 45 (B) 39 (C) 40 (D) 41  
 69. If the word GRAND is coded as 22 then what should be the code for the word KWALITY?  
 (A) 40 (B) 101 (C) 55 (D) 50.5  
 70. If PLANT is coded as 12.60 what will be the code for the word PENCIL?  
 (A) 9.83 (B) 9 (C) 59 (D) 29.5  
 71. Rahim travels 10 km to the north, turns left and travels 4 km and then again turns right and covers another 5 km and then turns right and travels another 4 km. How far is he from the starting point?  
 (A) 10 km (B) 15 km (C) 23 km (D) 20 km  
 72. Suman drives from a point and proceeds 10 km towards north and turned to his left and drives another 5 km. After waiting a few minutes there, he turned to his right and continues to drive another 10 km. He has covered a distance of 25 km so far, but in which direction would he be now?  
 (A) East (B) South (C) West (D) North  
 73. Kamal drives 10 km towards east and then turns to the right and drives 3 km. Then he drives towards west 3 km and then turns to his left and drives 2 km. Finally he turns to his right and travels 7 km. How far is he from his starting point and in which direction?  
 (A) 5 km west (B) 3 km north (C) 8 km north (D) 5 km east

**Directions for answering the Questions 74-77:**

Anil is the son of Rabin. Sumita, Rahim's sister, has a son Subir and a daughter Radha. Ramesh is the maternal uncle of Subir. Considering these relationships answer the following questions.

74. How is Anil related to Subir?  
 (A) Nephew (B) Cousin (C) Uncle (D) None of these
75. How is Radha related to Ramesh?  
 (A) Sister (B) Daughter (C) Niece (maternal) (D) Niece (paternal)
76. How many nephews does Ramesh have?  
 (A) 3 (B) 1 (C) 0 (D) 2
77. What is the relationship of Rabin with Ramesh?  
 (A) Brother (B) Uncle (C) Nephew (D) No relation

**Directions for answering the Questions 78-82:**

Some information are given below followed by a few questions. Study the information carefully and answer the following questions.

**Information:**

- (i) A and B play football and hockey.
- (ii) C and D play badminton and cricket.
- (iii) B and C play football and cricket.
- (iv) A and D play badminton and hockey.

78. Who plays badminton, football and hockey?  
 (A) B (B) D (C) A (D) C
79. Who plays cricket, football and badminton?  
 (A) D (B) C (C) B (D) None of these
80. Who plays hockey, football and cricket?  
 (A) B (B) A (C) D (D) C
81. Who does not play cricket?  
 (A) D (B) C (C) A (D) None of these
82. Who plays only one game?  
 (A) B (B) C (C) A (D) None of these

**Directions for Questions 83-90:**

Certain 'conclusions' have been drawn on the basis of 'given facts'. Judge, whether the conclusion is (A) True (correctly drawn from the given facts), (B) False (wrongly drawn from the given facts), (C) Uncertain (neither definitely true nor definitely false).

**Questions:****Given facts:**

- Some teachers are students.
- All students are girls.

**Conclusions:**

- 83. All teachers are girls.
- 84. Some girls are teachers.
- 85. Majority of the girls are students.
- 86. All students are teachers.

**Given facts:**

All windows are rods.  
Some rods are frames.

**Conclusions:**

87. Some rods are frames.  
88. All frames are windows.  
89. Some windows are frames.  
90. No window is a frame.

**Directions for Questions 91-95:**

For each question below some statements are given followed by a conclusion. You are to find out whether the said conclusion.

- (A) necessarily follows from the statements  
(B) is only a long drawn one.  
(C) definitely does not follow from the statements  
(D) is doubtful.

**Questions:**

91. *Statements:* (i) Clouds are formed in the higher regions.  
(ii) Mountains are high.  
*Conclusion:* So there is more rain on the mountains.
92. *Statements:* (i) People living in cold countries generally have white complexion.  
(ii) Canada is a cold country.  
*Conclusion:* Therefore, all Canadians have white complexion.
93. *Statements:* (i) Mammals suckle their young ones.  
(ii) Dogs suckle their young ones.  
*Conclusion:* Therefore, dogs are mammals.
94. *Statements:* (i) Ramen is better than Sohan in studies.  
(ii) Sohan has same height as Asit.  
(iii) Sohan and Asit are equal in studies.  
*Conclusion:* Therefore, Ramen has same height as Asit.
95. *Statements:* (i) True art has power to move.  
(ii) Music often moves listeners.  
*Conclusion:* So, music is an art.

**Directions for Questions 96-100:**

Each question below consists of some statements followed by two conclusions numbered I and II. You have to decide whether the given conclusions logically follows from the two given statements or not and answer in the following way :

- (A) Only I follows                      (B) Only II follows                      (C) Both I and II follow  
(D) Either I or II follows              (E) Neither I nor II follows from the statements.

**Questions:**

96. *Statements:* Uneasy lies the head of the Prime Minister.  
The Prime Minister of a country enjoys a number of privileges.  
*Conclusions:* (i) One should not be a Prime Minister.  
(ii) One should always try to become a Prime Minister of a country.



97. *Statements:* Evaporation causes cooling.  
Cow's milk is very cold.  
*Conclusions:* (i) Some of this milk must have evaporated.  
(ii) Cows yield very cold milk.
98. *Statements:* The rise in prices is more than the pay rise.  
Biren's pay has become double in the last five years.  
*Conclusions:* (i) Biren can live more lavishly now.  
(ii) Pay cannot keep pace with the current inflation.
99. *Statements:* Only those buildings are white which are not red.  
Only some red buildings have gates.  
*Conclusions:* (i) White buildings do not have gates.  
(ii) Some red buildings do not have gates.
100. *Statements:* More than half of the students are fair.  
The remaining ones have dark complexion.  
*Conclusions:* (i) Fair students are majority in the class.  
(ii) Dark complexioned students are intelligent.

**Answer Key**

- |         |          |         |         |         |         |         |
|---------|----------|---------|---------|---------|---------|---------|
| 1. (B)  | 2. (D)   | 3. (A)  | 4. (C)  | 5. (E)  | 6. (B)  | 7. (C)  |
| 8. (A)  | 9. (E)   | 10. (C) | 11. (D) | 12. (A) | 13. (C) | 14. (B) |
| 15. (D) | 16. (A)  | 17. (C) | 18. (B) | 19. (D) | 20. (A) | 21. (B) |
| 22. (D) | 23. (C)  | 24. (A) | 25. (B) | 26. (D) | 27. (B) | 28. (D) |
| 29. (C) | 30. (A)  | 31. (D) | 32. (B) | 33. (C) | 34. (D) | 35. (A) |
| 36. (B) | 37. (C)  | 38. (D) | 39. (A) | 40. (D) | 41. (B) | 42. (B) |
| 43. (A) | 44. (D)  | 45. (C) | 46. (E) | 47. (D) | 48. (B) | 49. (A) |
| 50. (C) | 51. (B)  | 52. (E) | 53. (D) | 54. (E) | 55. (B) | 56. (C) |
| 57. (A) | 58. (D)  | 59. (B) | 60. (C) | 61. (A) | 62. (D) | 63. (B) |
| 64. (C) | 65. (A)  | 66. (D) | 67. (B) | 68. (C) | 69. (D) | 70. (A) |
| 71. (B) | 72. (D)  | 73. (A) | 74. (B) | 75. (C) | 76. (D) | 77. (A) |
| 78. (C) | 79. (B)  | 80. (A) | 81. (C) | 82. (D) | 83. (B) | 84. (A) |
| 85. (C) | 86. (B)  | 87. (A) | 88. (B) | 89. (C) | 90. (C) | 91. (B) |
| 92. (D) | 93. (A)  | 94. (C) | 95. (A) | 96. (D) | 97. (E) | 98. (B) |
| 99. (C) | 100. (A) |         |         |         |         |         |

**PRACTICE TEST PAPER-2****Directions for Questions 1-5:**

In each question below you will find a few letters arranged in a given series following a particular direction or order or rule followed by a question mark (?). Following this rule you will have to find out the next letter of the series from the alternatives given along with each equation.

- |              |       |       |       |       |
|--------------|-------|-------|-------|-------|
| 1. Z W T Q ? | (A) M | (B) N | (C) P | (D) R |
| 2. G J M P ? | (A) U | (B) Q | (C) T | (D) S |
| 3. E H L Q ? | (A) R | (B) P | (C) W | (D) O |
| 4. F I L O ? | (A) R | (B) Q | (C) P | (D) N |
| 5. Z X V T ? | (A) R | (B) T | (C) S | (D) V |

**Directions for Questions 6-10:**

In each question below there are five groups of letters (marked as A, B, C, D and E) four of which are alike in some respect and the one is different. Find the one which is different.

- |          |      |      |      |      |
|----------|------|------|------|------|
| 6. UKL   | IMP  | BAD  | OPS  | ACN  |
| (A)      | (B)  | (C)  | (D)  | (E)  |
| 7. BDG   | QUY  | FJN  | BFJ  | JNR  |
| (A)      | (B)  | (C)  | (D)  | (E)  |
| 8. BDF   | EGI  | NPR  | KMO  | IKL  |
| (A)      | (B)  | (C)  | (D)  | (E)  |
| 9. ITPA  | EFRO | UQJI | OUST | APKE |
| (A)      | (B)  | (C)  | (D)  | (E)  |
| 10. AEBI | OUTD | EKIO | IODA | UESI |
| (A)      | (B)  | (C)  | (D)  | (E)  |

**Directions for Question 11-15:**

In each question below letters of some word are presented in a disarranged way. You are to rearrange the letters to find out the word and mark the last letter of the word so obtained from the alternatives given along with each question.

- |                   |                   |       |       |       |       |
|-------------------|-------------------|-------|-------|-------|-------|
| 11. A L E B D     | (A) B             | (B) L | (C) E | (D) A | (E) D |
| 12. C A D D E E   | (A) E             | (B) A | (C) D | (D) C |       |
|                   | (E) None of these |       |       |       |       |
| 13. O E N A R S   | (A) R             | (B) O | (C) S | (D) A | (E) N |
| 14. A C E M R B H | (A) B             | (B) M | (C) A | (D) R | (E) C |
| 15. H S O E T     | (A) T             | (B) E | (C) H | (D) O | (E) S |

**Directions for Questions 16-20:**

In each question below you will find three words in capitals of which the first two are related to each other in some way, while for the third you are to choose from among the alternatives given along with each question the word having the same or similar relationship like the first two words in capitals.

16. LAGNEB : BENGAL :: ? : HARYANA  
 (A) IBSZBOB (B) GZQXZMZ (C) ANAYRAH (D) AHNARAY
17. ROSE : QNRD :: LOTUS ?  
 (A) MPUVT (B) NQVWU (C) SUTOL (D) KNSTR
18. BREAD : CSFBE :: ? : CVUUF  
 (A) FATTEN (B) BUTTER (C) SELDOM (D) LESSON
19. REASON : TGCUQP :: TABLE : ?  
 (A) VCDNG (B) UBCMF (C) SZAKO (D) FLBAT
20. NYQAYJ : PASCAL :: ? : INDEX  
 (A) XEDNI (B) JOEFY (C) GLBCV (D) KPFZ

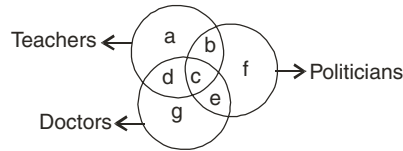
**Directions for Questions 21-26:**

In each question below you will find a set of letters arranged in some way followed by four sets of letters marked A, B, C and D. From among these set of letters you are to find out which set of letters have the same or similar characteristics as the set in question.

- |          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 21. RSVW | (A) TUPQ | (B) BCDF | (C) KLMN | (D) LMPQ |
| 22. KAIT | (A) LOOK | (B) TALK | (C) BDUS | (D) PRSU |
| 23. ABLE | (A) GOEL | (B) UGLO | (C) LOCK | (D) OMEN |
| 24. PSQT | (A) ROTU | (B) LMNP | (C) ADBE | (D) UVWX |
| 25. CEFH | (A) CDGH | (B) IJKM | (C) RTSW | (D) MOPR |
| 26. GKHL | (A) DHEI | (B) ABDE | (C) KMLN | (D) LHKG |

**Directions for Questions 27-31:**

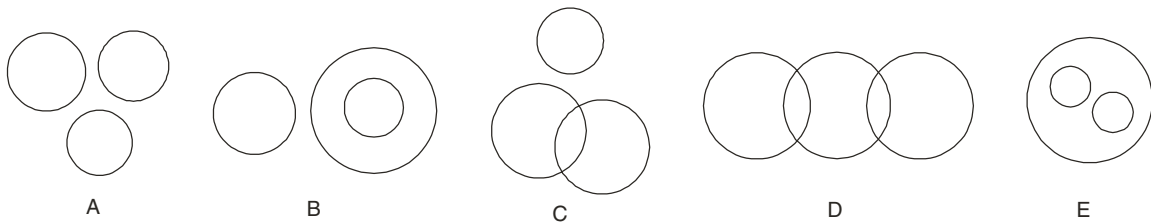
A figure consisting of three interlocking circles is given below. Each circle represents a certain class. Study the figure and answer the questions that follow.



27. Who are teachers as well as politicians but not doctors?  
 (A) d (B) c (C) b (D) e
28. Who are only politicians?  
 (A) g (B) f (C) a (D) b
29. Which letter represents doctors as well as politicians, but not teachers?  
 (A) e (B) g (C) f (D) b
30. Which letter represents doctors who are teachers but not politicians?  
 (A) a (B) g (C) e (D) d
31. Find out the letter which represents all the three classes together.  
 (A) f (B) g (C) c (D) b

**Directions for Questions 32-42:**

Below five diagrams marked A, B, C, D and E are given followed by a few questions. Each question consists of three different classes. According to the relationship among these classes they can be filled in any one of the diagrams given below. You are to find out the diagram that best fits each question.



32. Vehicles, Bus, Fiat.  
 33. Smokers, Non Smokers, Doctors.  
 34. Mammals, Dolphins, Pigeons.  
 35. Children, Lions, Students.  
 36. Mango, Fish, Eatables.  
 37. Dogs, Pets, Birds.  
 38. Doctors, Engineers, Professionals.  
 39. Pants, Curtains, Towels.  
 40. Physics, Sound, Salt.  
 41. T.V., Refrigerator, Camera.  
 42. Teachers, Politicians, Books.

**Directions for Questions 43-47:**

Read the following passage carefully and answer the following questions.

Samir starts from a point 'X' and drives 2 km towards north. He then turns to his left and drives

3 km and then another turn to his left he drives 2 km and finishes at point 'Y'. From this point Ajay starts driving to his north upto 2 km, then takes his right turn and drives another 3 km; he then again turns to his right hand and drives 2 km and reaches a point.

43. What is the end point of Ajay?  
 (A) X (B) North of X (C) Y (D) North of Y
44. How far is the end point of Ajay from the point he starts, if he travels in a straight line without any turns?  
 (A) 7 km (B) 3 km (C) 5 km (D) Cannot be said
45. When Ajay takes his second turn he should be driving towards —  
 (A) West (B) East (C) Northeast (D) South
46. After the first turn, in which direction Samir was driving?  
 (A) South (B) East (C) West (D) North west
47. While finishing Ajay will be driving towards?  
 (A) South (B) North (C) West (D) East

**Directions for Questions 48-53:**

P, Q, R, S and T are five persons a teacher, an advocate, a scientist, a doctor and an artist (not necessarily in that order). They are attending a party. They sit for dinner hosted by the scientist with three more guests on a rectangular table in the following way. The position of the seats are numbered I to VIII starting from host clockwise.

- (i) The host sits at the head of the table on the western side.
- (ii) 'S' faces the host and 'R' sits next to host.
- (iii) One of the guests sits in between 'T' and the artist.
- (iv) 'P' the teacher sits in the middle of the table on the northern side and is flanked by the guests.
- (v) Doctor sits next to 'S'.

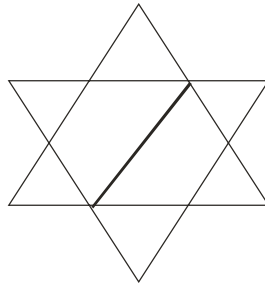
Based on the above information the following questions are given. Read the information carefully and answer the following questions :

48. Who is the Advocate?  
 (A) R (B) Q (C) S (D) T
49. Who is the Artist?  
 (A) T (B) Q (C) S (D) R
50. Who is the host?  
 (A) R (B) Q (C) S (D) T
51. The seat occupied by the doctor is  
 (A) VI (B) IV (C) V (D) VIII
52. Which seats are occupied by the guests?  
 (A) III, V and VIII (B) II, V and VII (C) II, IV and VII (D) III, VI and VIII
53. Odd numbered seats are occupied by  
 (A) P, S, T and guest (B) T, R, P and guest  
 (C) Guest, guest, guest and, R (D) Q, P, S and guest.
54. If HKTG means FIRE, then YCVGT means?  
 (A) Verify (B) Water (C) Wafer (D) Waved
55. If WRONV means CHILD, then TONU means  
 (A) File (B) Tilt (C) Milk (D) Jilt

**Directions for Questions 56-61:**

Each question below consists of two statements followed by two conclusions I and II. You are to decide whether

- (A) Only conclusion I follows from the statements.  
 (B) Only conclusion II follows from the statements.  
 (C) Both I and II follows.  
 (D) Either I or II follows.  
 (E) Neither I nor II follows.
56. *Statements:* (A) It is easier to learn painting.  
 (B) One has to work hard to become a good artist.  
*Conclusions:* I. Painting can be learnt by anyone.  
 II. Everyone cannot become a good artist.
57. *Statements:* (A) A little stress in the work increases efficiency.  
 (B) Working under stress all the time lowers morale.  
*Conclusions:* I. Stress is good for increasing output.  
 II. Stress should not continue for long period.
58. *Statements:* (A) Some filmstars are very intelligent.  
 (B) Rani is a filmstar.  
*Conclusions:* I. Rani is very intelligent.  
 II. Rani is of average intelligence.
59. *Statements:* (A) 80% students passed the examination.  
 (B) 20% of the students passed in the 1st division.  
*Conclusions:* I. Not many students passed in the 1st division.  
 II. Every student passed the examination.
60. *Statements:* (A) A sick person is liable to suffer from anxiety.  
 (B) Treatment of sickness is necessary for normal health.  
*Conclusions:* I. One should exercise daily to remain healthy.  
 II. A sick mind may result from a sick body.
61. *Statements:* (A) Mohan is taller than Rahim.  
 (B) Bikash is as tall as Ratan.  
*Conclusions:* I. Rahim is taller than Bikash.  
 II. Rahim is shorter than Mohan by 6 inches.
62. How many triangles are there in the figure :



- (A) 6                      (B) 8                      (C) 10                      (D) 12

**Directions for Questions 63-66:**

Each question below is based on the following information six different models of cars e.g. U, V, W, X, Y and Z are contending for the consumer Associations, cheap and fuel efficient award in the following ways :

- I. U is cheaper than Z and more fuel efficient than X.  
 II. V is more costly than Y and less fuel efficient than Z.  
 III. W is cheaper than U and less fuel efficient than Z.  
 IV. X is more costly than Z and more fuel efficient than V.  
 V. Y is more costly than X and more fuel efficient than V.  
 VI. Z is cheaper than Y and less fuel efficient than U.
63. Which of the model is more costly and less fuel efficient than X?  
 (A) V (B) Y (C) W (D) Z
64. Which of the following is both cheaper and less fuel efficient than Z?  
 (A) V (B) W (C) X (D) U
65. Which of the following is the most fuel efficient?  
 (A) W (B) V (C) X (D) U
66. Which of the model is cheaper than X and more fuel efficient than Z?  
 (A) Y (B) V (C) U (D) W
67. X is taller than Y. Y weighs less than Z. Z is younger than K who is taller than X. Z and X are of the same height. Who is tallest among these four?  
 (A) Z (B) K (C) X (D) Y
68. In a garden to the east of mango trees are jackfruit trees and coconut trees. Some guava trees are on the east of jackfruits but on the west of coconut trees. Which fruits are on the extreme west?  
 (A) Mangoes (B) Guavas (C) Jackfruits (D) Coconuts
69. X and Y are two brothers, Z is the sister of M but mother of X. What is M to Y?  
 (A) Brother (B) Daughter (C) Father (D) Uncle (Maternal).
70. Jatin the son of Debi is the brother of Pranab. Debi is the wife of Rathin. What is Rathin to Pranab?  
 (A) Brother (B) Father (C) Son (D) Uncle

**Directions for Questions 71-80:**

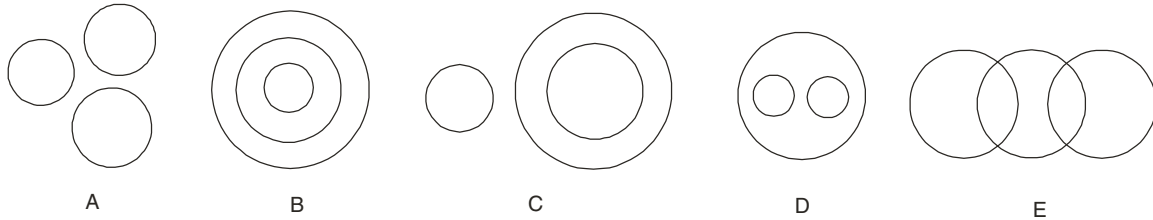
In each question below some statement (s) followed by a conclusion are given. You are to mark (A) if the conclusion is valid, (B) if it is invalid, (C) if it is irrelevant, (D) if it is probably valid or (E) if it is probably invalid.

71. Loksabha is a wise body. Sudip is a member of Loksabha.  
*Conclusion:* Sudip is a wise person.
72. If wishes are foods, beggars would eat.  
*Conclusion:* But they don't.
73. Gandhi and Nehru are great leaders. Nabin condemns Gandhi and Patel.  
*Conclusion:* Nabin condemns great leaders.
74. Only a few students of this class are present.  
*Conclusion:* Bikash is present.
75. Out of 50 students of this class, 49 secured first division marks.  
*Conclusion:* Bipin secured first division marks.
76. Either Shyamal is a fool or a knave.  
*Conclusion:* Shyamal is healthy.
77. If I had worked hard, I should have passed. I have not worked hard.  
*Conclusion:* I should not pass.
78. None of the passengers of this ill fated bus has been rescued.  
 Suresh was a passenger of this bus.  
*Conclusion:* Suresh is dead.

79. To err is human. To be human is to be good.  
*Conclusion:* To err is to be good.
80. Nearly all the invitees attended the function.  
 Dilip was also an invitee.  
*Conclusion:* Dilip was absent.
81. K is the brother of L who is the wife of M. M is the son of N who is the wife of O. What is O to K?  
 (A) Son-in-law (B) Brother-in-law (C) Father-in-law (D) Mother-in-law
82. Middle man Rabin has fifth place among the people standing in line. How many people are there in the line?  
 (A) 9 (B) 5 (C) 11 (D) None of these

**Directions for Questions 83-90:**

Five figures e.g. A, B, C, D and E are given below followed by the questions. Each question below can be fitted in any one of these figures. Choose the figure that can be best fitted for each question.



83. Men, Women, Illiteracy.  
 84. Snake, Toad, Scorpion.  
 85. News, Newspaper, Magazines.  
 86. Mothers, Housewives, Service holders.  
 87. Sparrows, Birds, Monkeys.  
 88. Apple, Banana, Fruits.  
 89. Kolkata, Moscow, Bagdad.  
 90. Red, Green, Primary Colour.

**Directions for Questions 91-93:**

Each questions below consists of some statements followed by four conclusions marked A, B, C and D. You have to choose the best conclusion from these.

91. *Statements:* Some students are intelligent. They belong to the rich families.  
*Conclusions:* (A) All intelligent students belong to the rich families.  
 (B) Only those students who belong to the rich families are intelligent.  
 (C) All students except those belonging to the rich families are not intelligent.  
 (D) Some of the intelligent students may belong to the rich families.
92. *Statements:* Rahim is older than Shyam who is younger than Madhuri who is older than Rahim but younger than Nita? Who is the youngest?  
 (A) Rahim (B) Shyam (C) Nita (D) Madhuri
93. *Statements:* There are 50 students in a class. One of the students has leucoderma. No one else in the class has such disease.  
*Conclusions:* (A) No one in the class has got leucoderma.  
 (B) Only one boy has been suffering from leucoderma.  
 (C) Only one student in the class has been suffering from leucoderma.  
 (D) No one in the class except one boy has got leucoderma.

**Directions for Questions 94-100:**

Each question below is followed by two statements numbered I and II. You are to decide whether the data given in the statements are sufficient to answer the question in the following ways :

- (A) If statement-I alone is sufficient.
- (B) If statement-II alone is sufficient.
- (C) If both statements I and II together are required to answer the question.
- (D) If neither statement I nor II is sufficient and additional data are required.

94. Who is older-Shyamal or Arup?  
 I. Arup's father married before Shyamal was born.  
 II. Shyamal's mother married earlier than Arup's father.
95. Does Barun weigh more than 70 kgs?  
 I. If Barun loses 10 kgs. he will be less than 80 kgs.  
 II. If Barun loses 20 kgs. he will be less than 70 kgs.
96. Bimal has gone bankrupt. How much will his creditor receive?  
 I. Bimal's total loss is Rs. 2,00,000.  
 II. Bimal has to pay interest @ 15 paisa per rupee for the debts of Rs. 40,000.
97. How much time will it take two pipes to empty a tank which is half full?  
 I. Pipe A can empty it in 5 minutes.  
 II. Pipe B can empty it in 8 minutes.
98. What is the sum of heights of Prabir and Vijay?  
 I. Prabir is 10 cm taller than Bimal.  
 II. Bimal is 8 cm shorter than Vijay.
99. What is the value of x?  
 I.  $2x - y = 30$ .  
 II.  $x + y = 10$ .
100. What is the value of  $a - b$ ?  
 I.  $\frac{a}{b} = 2$   
 II.  $b - a = 5$

**Answer Key:**

- |         |         |         |           |         |         |         |         |
|---------|---------|---------|-----------|---------|---------|---------|---------|
| 1. (B)  | 2. (D)  | 3. (C)  | 4. (A)    | 5. (B)  | 6. (C)  | 7. (A)  | 8. (E)  |
| 9. (D)  | 10. (B) | 11. (C) | 12. (A)   | 13. (E) | 14. (D) | 15. (B) | 16. (C) |
| 17. (D) | 18. (B) | 19. (A) | 20. (C)   | 21. (D) | 22. (A) | 23. (B) | 24. (C) |
| 25. (D) | 26. (A) | 27. (C) | 28. (B)   | 29. (A) | 30. (D) | 31. (C) | 32. (E) |
| 33. (D) | 34. (B) | 35. (C) | 36. (E)   | 37. (D) | 38. (E) | 39. (A) | 40. (B) |
| 41. (A) | 42. (C) | 43. (A) | 44. (B)   | 45. (D) | 46. (C) | 47. (A) | 48. (C) |
| 49. (D) | 50. (B) | 51. (A) | 52. (C)   | 53. (D) | 54. (B) | 55. (A) | 56. (C) |
| 57. (B) | 58. (D) | 59. (A) | 60. (B)   | 61. (E) | 62. (C) | 63. (B) | 64. (A) |
| 65. (D) | 66. (C) | 67. (B) | 68. (A)   | 69. (D) | 70. (B) | 71. (B) | 72. (A) |
| 73. (B) | 74. (E) | 75. (D) | 76. (C)   | 77. (B) | 78. (A) | 79. (B) | 80. (E) |
| 81. (C) | 82. (A) | 83. (D) | 84. (A)   | 85. (D) | 86. (E) | 87. (C) | 88. (B) |
| 89. (A) | 90. (C) | 91. (D) | 92. (B)   | 93. (C) | 94. (D) | 95. (A) | 96. (B) |
| 97. (C) | 98. (D) | 99. (C) | 100. (B). |         |         |         |         |



### PRACTICE TEST PAPER 3

#### Directions for Questions 1-8:

In each question below there are three words in capitals of which first two are related in some way. Find out the word from the alternatives (marked A, B, C and D) which has got similar relationship with the third word in capitals.

1. AEROPLANE : HANGAR :: BOAT : ?  
(A) Dock (B) Port  
(C) River (D) Harbour
2. COW : BULL :: MARE : ?  
(A) Horse (B) Colt  
(C) Stallion (D) Filly
3. PAINTER : BRUSH :: FARMER : ?  
(A) Land (B) Hoe  
(C) Farm (D) Seed
4. CAR : CHASSIS :: SHIP : ?  
(A) Keel (B) Daydock  
(C) Frame (D) Hull
5. OINTMENT : BURN :: SYMPATHY : ?  
(A) Sorrow (B) Tears  
(C) Injury (D) Accident
6. JANUARY : APRIL :: SUNDAY : ?  
(A) Saturday (B) Tuesday  
(C) Wednesday (D) Monday
7. BUTTER : MILK :: HONEY : ?  
(A) Bee (B) Nectar  
(C) Hive (D) Wax
8. LIBRARY : BOOKS :: ARMOURY : ?  
(A) Bombs (B) Swords  
(C) Bullets (D) Weapons

#### Directions for Questions 9-12:

Each question below consists of a few statements followed by two conclusions marked I and II. You are to decide whether the said conclusions are logically followed from the statements in the following ways :

- (A) if only conclusion I follows. (B) if only conclusion II follows.  
(C) if neither I nor II follows or (D) if both I and II follows.
9. *Statements:* Some children are toys. Some toys are horses.  
*Conclusions:* I. Some horses are children.  
II. Some horses are toys.
  10. *Statements:* Some tables are chairs. No table is a bookshelf.  
*Conclusions:* I. All chairs are bookshelves.  
II. Some chairs are bookshelves.
  11. *Statements:* Educated persons mind their own business. Some women are educated.  
*Conclusions:* I. Some women mind their own business.  
II. All those who mind their own business are educated.
  12. *Statements:* All poets are men. No man is absent.  
*Conclusions:* I. There are no women poets.  
II. All poets are present.

#### Directions for Questions 13-25:

Each question below a related pair of words in capitals followed by four pairs of words, marked as A, B, C and D. Select from these alternative pairs, one that best expresses a relationship similar to that expressed in the capitals.

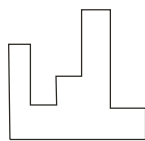
13. THRIFT : EXTRAVAGANCE  
(A) Painting : Music  
(B) Joy : Happiness  
(C) Appreciation : Criticism  
(D) Journalist : Writer
14. PROTEST : RESENTMENT  
(A) Thanks : Gratitude  
(B) Trial : Error  
(C) Salutation : Flag  
(D) Courtesy : Manners

15. LUNATIC : ASYLUM  
 (A) Fire : Furnace  
 (B) Ammunition : Arsenal  
 (C) Clerk : Official  
 (D) Soldier : Battalion
16. SPASMODIC : PERIODIC  
 (A) Daily : Annual  
 (B) Perennial : Seasonal  
 (C) Sundry : Several  
 (D) Regular : Irregular
17. PETROL : SILK  
 (A) Milk : Health  
 (B) Powder : Cream  
 (C) Mercury : Thermometer  
 (D) Toothpaste : Teeth
18. FANS : BLEACHERS  
 (A) Audience : Seats  
 (B) Team : Goalposts  
 (C) Referee : Decision  
 (D) Conductor : Podium
19. AUGER : BORE  
 (A) Awl : Flatten  
 (B) Plane : Smooth  
 (C) Mallet : Pierce  
 (D) Bit : Grind
20. SCURRY : MOVE  
 (A) Chant : Sing  
 (B) Carry : Lift  
 (C) Chatter : Talk  
 (D) Limp : Walk
21. SONNET : SEQUENCE  
 (A) Agenda : Meeting  
 (B) Tune : Arrangement  
 (C) Waltz : Dance  
 (D) Song : Cycle
22. DODGE : ENCOUNTER  
 (A) Skirt : Issue  
 (B) Rig : Wager  
 (C) Mask : Purpose  
 (D) Vest : Interest
23. OBDURATE : FLEXIBILITY  
 (A) Turbid : Roughness  
 (B) Adamant : Submissiveness  
 (C) Accurate : Perception  
 (D) Principled : Fallibility
24. SCUFFLE : CONFUSION  
 (A) Siege : Vulnerability  
 (B) Crusade : Heresy  
 (C) Feud : Acrimony  
 (D) Duel : Brevity
25. TERPSICHOREAN : DANCER  
 (A) Histrionic : Singer  
 (B) Pictorial : Spectator  
 (C) Thespian : Designer  
 (D) Sartorial : Tailor

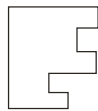
**Directions for Questions 26-30:**

For each question below some figures marked A, B, C, D and E are given, one of which if added to the question figure will form a square. Find out the right figure from the alternatives given.

**Answer figures:**



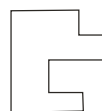
A



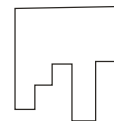
B



C

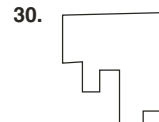
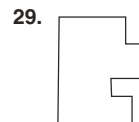
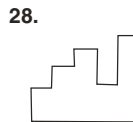
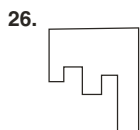


D



E

**Questions:**



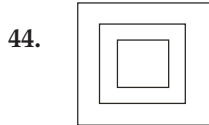
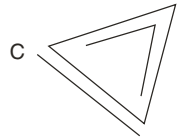
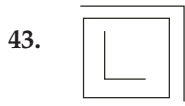
**Directions for Questions 31-45:**

Each question figure below has certain similarities with one of the answer figures given on the right hand side marked A, B, C, D and E. Your task is to choose the right figure that would be the best match for each question.

	Question figures	Answer figures		Question figures	Answer figures
31.		A	37.		B
32.		B	38.		C
33.		C	39.		D
34.		D	40.		E
35.		E	41.		A
36.		A	42.		B

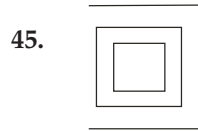
**Question figures**

**Answer figures**



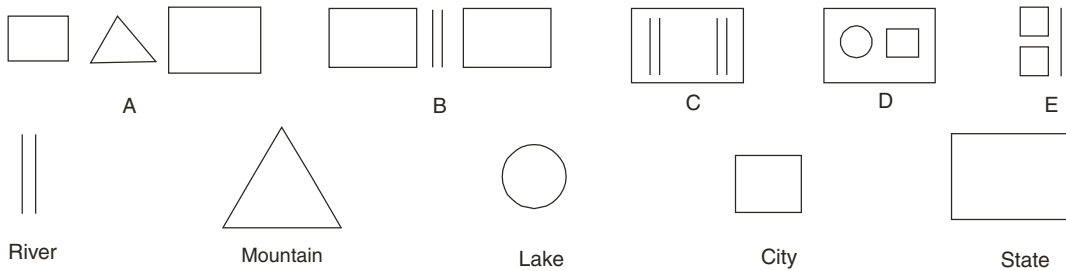
**Question figures**

**Answer figures**



**Directions for Questions 46-52:**

Certain figures marked A, B, C, D and E along with the explanation of the signs used in the figures are given followed by a few questions. Your task is to find out the figure which represents each question.



**Questions:**

- 46. U.P., Ganga, Yamuna
- 47. Mumbai, Everest, W.Bengal
- 48. Kashmir, Mansarovar, Srinagar
- 49. Ravi, Sutlej, Punjab
- 50. Rajasthan, Chambal, M.P.
- 51. Patna, Allahabad, Ganga
- 52. Puri, Chilka, Orissa

**Directions for Questions 53-60:**

Each question below consists of a word whose letters are presented in a disarranged way followed by a set of numbers you are to rearrange the letters so that it would be a meaningful word and choose the correct arrangement from the alternatives given along each question.

- 53. G L U E A E  
1 2 3 4 5 6  
(A) 513642 (B) 245136 (C) 624531 (D) 615432
- 54. R W E P O  
1 2 3 4 5  
(A) 53124 (B) 15234 (C) 45231 (D) 42531
- 55. E N E J J U  
1 2 3 4 5 6  
(A) 415623 (B) 135624 (C) 413625 (D) 246531
- 56. P U O A E Q  
1 2 3 4 5 6  
(A) 623451 (B) 462531 (C) 344265 (D) 314625

57. Q O S U E M

1 2 3 4 5 6

(A) 263415

(B) 326541

(C) 623145

(D) 541326

58. I T A P C N A

1 2 3 4 5 6 7

(A) 7654321

(B) 5342716

(C) 5432716

(D) 5324761

59. C E L A T E R

1 2 3 4 5 6 7

(A) 5724136

(B) 7524163

(C) 5427136

(D) 5742316

60. D Y N I K E

1 2 3 4 5 6

(A) 514326

(B) 562143

(C) 541623

(D) 541362

**Directions for Questions 61-70:**

Each question below is followed by two statements numbered I and II. You are to decide whether the data given in the statements are sufficient to answer the question in the following way :

(A) If statement I alone is sufficient.

(B) If statement II alone is sufficient.

(C) If both statements I and II together are required to answer the question.

(D) If neither statement I nor II is sufficient, some additional data are required.

61. Has the price of silver gone up?

I. The price of gold has gone up.

II. The price of silver has not gone down.

62. Was Arun selected?

I. Those who got more than 60 marks in Mathematics were selected, provided they got not less than 50 marks in English.

II. He got 89 marks in Mathematics and 50 marks in English.

63. If discount was 12% what was the profit percentage?

I. The marked price was double than the cost price.

II. The sale price was Rs. 500.00.

64. Navin passed as many subjects as Robin failed. Did he pass in Physics?

I. Robin failed in Physics.

II. Robin passed in English.

65. Is P divisible by 4?

I.  $P + Q = 46$ 

II. When P is divided by 12 the remainder is 8.

66. Is Amit richer than Mohan?

I. Amit gets a higher salary than Mohan.

II. Amit's wife is employed.

67. Is Kum Kum taller than her friend Piyali?

I. Kum Kum's height is 5ft. 8 inches.

II. Piyali is the shortest among the friends.

68. Is the Philips T.V. is the best in the market?

I. No other T.V. in the market is as good as Philips.

II. Picture of Onida is quite good.

69. Is Swapan younger than Bipin?

I. Swapan is the classmate of Suresh, the younger brother of Bipin.

II. Swapan is younger than Suresh.

70. Is Subir eligible for the job?  
 I. Eligibility for the job is graduate with 60% marks.  
 II. Subir is B.Sc. with 50% marks.

**Directions for Questions 71-73:**

Each question below is based on the following:

A, B, C and D are playing cards each occupying a seat on one side of a rectangular table in the following ways :

- I. B is facing north east.  
 II. C does not have D to his right or A to his left.  
 III. Either B or D has C to his left.
71. Who faced South-East?  
 (A) B (B) C (C) D (D) A
72. Who faced North-West?  
 (A) C (B) D (C) A (D) None of them
73. Who faced south west?  
 (A) D (B) C (C) B (D) None of them
74. Each letter is separated from the preceding letter by two consonants, which of the following series follows the rule?  
 (A) DGJMDO (B) NRTWZ (C) ACFJL (D) ILORU
75. If every set of two letters are interchanged in the word 'Depression' from the beginning which of the following would be the 7th letter from the right?  
 (A) R (B) P (C) S (D) I

**Directions for Questions 76-81:**

Each question below consists of some statements followed by two conclusions marked I and II. You are to decide whether the said conclusions are logically followed from the statements in the following way :

- (A) If only I follows (B) If only II follows  
 (C) If both I and II follow (D) If neither I nor II follows
76. *Statements:* Difficulties in life add spice to life. Problem faced in business often cause stress.  
*Conclusions:* I. One should look for difficulties.  
 II. One should not shirk difficulties.
77. *Statements:* Anyone can learn driving a car. Driving on highways adds risk to life.  
*Conclusions:* I. Driving is adventurous.  
 II. Everyone cannot become a good driver.
78. *Statements:* Some politicians are very corrupt. Subrata is in politics.  
*Conclusions:* I. Subrata may be corrupt.  
 II. Subrata is corrupt.
79. *Statements:* 30% of the population is below poverty line. 70% of the population lives in villages.  
*Conclusions:* I. Majority of the people who are below poverty line live in village.  
 II. Majority of the people are above poverty line.
80. *Statements:* All artists are whimsical. All drug addicts are whimsical. Some crazy people are drug addicts.  
*Conclusions:* I. Some crazy people are artists.  
 II. Some crazy people are whimsical.
81. *Statements:* All teachers are scholars and all scholars are absent minded.  
*Conclusions:* I. All teachers are absent minded.  
 II. All absent minded people are teachers.

82. Four of the following group of letters are alike in some respect so that they may form a group. Choose the one which does not belong to this group.  
 (A) SK (B) DN (C) FZ (D) RS (E) BP
83. Four of the following group of members are alike in some way to form a group. Find out one which does not belong to this group.  
 (A) 13 (B) 23 (C) 63 (D) 43 (E) 53

**Directions for Questions 84-86:**

Each question below consists of a statement followed by three assumptions marked I, II and III. Considering the statement and the assumptions you are to decide which of the assumptions is implicit and choose the correct answer from the following :

- (A) Only I is implicit. (B) Only II is implicit  
 (C) Only III is implicit. (D) All the three assumptions are implicit  
 (E) None is implicit.
84. *Statements:* The manager of a very big book company suggests that books should be introduced on cassettes for the fact that reading habit is on the decline.  
*Assumptions:*  
 I. There are no good modern writers.  
 II. A book on paper can be easily converted into a cassette.  
 III. Listening to cassettes is more interesting than reading.
85. *Statements:* A progressive farmer has donated Rs. One lakh to one of the Agricultural University.  
*Assumptions:*  
 I. The University gets no grant from the UGC.  
 II. The farmer himself is an old student of the Agricultural University.  
 III. The farmer was impressed by the activities of the Agricultural University and wanted its further development.
86. *Statements:* Film directors think that packing the films with seductive songs and dance numbers, some hair raising stunts and crimes would make them successful at the box office, but they are unable to fool the people.  
*Assumptions:*  
 I. At present the general public are quite cautious about the so called formula film and generally avoid such films.  
 II. Today film directors lack original ideas in most of the cases.  
 III. Films with original ideas are appreciated.
87. Umesh is taller than Madan but not as tall as Suresh. Suresh is shorter than Kamal who is not as tall as Subodh. Who is the tallest?  
 (A) Umesh (B) Suresh (C) Madan (D) Subodh
88. In a queue of 13 persons buying tickets from a counter, if every second person from the counter is a female and the person at the beginning and at the end of the queue are also females. How many persons in the queue are male?  
 (A) 7 (B) 6 (C) 5 (D) 8 (E) None of these
89. Which of the following is not common between bus and train?  
 (A) Driver (B) Highway (C) Ticket (D) Station (E) Conductor
90. If the following words are arranged as in a dictionary, which would come in the middle?  
 (A) Decide (B) Deceit (C) Decease (D) Decipher (E) Deceive

**Directions for Questions 91-100:**

Each question below consists of a statement followed by two assumptions, marked I and II. You are

to decide whether the said assumptions implicate the statement or not in the following way:

- (A) Only assumption I implicates                      (B) only assumption II implicates  
 (C) Both I and II implicate                              (D) Neither I nor II implicates
91. *Statement:* The government has increased the price of LPG.  
*Assumptions:* I. The price of LPG was low.  
                       II. People resented this increase.
92. *Statement:* You cannot be employed as you do not have expertise.  
*Assumptions:* I. A person with expertise is needed.  
                       II. You do not have expertise.
93. *Statement:* Only the wearer knows where the shoe pinches.  
*Assumptions:* I. A shoe pinches only to the wearer.  
                       II. Only wearers have a sense of feeling.
94. *Statement:* The patient's condition continues to be critical even after successful surgery.  
*Assumptions:* I. The patient's condition was critical earlier also.  
                       II. There has been surgery.
95. *Statement:* Simple minded people equate the symbol with what it stands for.  
*Assumptions:* I. Simple people are fools.  
                       II. Symbol stands for things.
96. *Statement:* Our country has stood like a solid rock in the face of common danger.  
*Assumptions:* I. There have been danger to our country.  
                       II. Our country has unity.
97. *Statement:* Another major shortage which hampers development is that of foreign exchange.  
*Assumptions:* I. Foreign exchange can facilitate development.  
                       II. There is shortage of foreign exchange.
98. *Statement:* There is no need to open a school here.  
*Assumptions:* I. Children in this area do not study.  
                       II. There are already many schools in this area.
99. *Statement:* Barking dogs seldom bite.  
*Assumptions:* I. Dogs always bark.  
                       II. Some dogs bite.
100. *Statement:* The situation calls for an immediate action.  
*Assumptions:* I. The situation is serious.  
                       II. Immediate action is possible.

**Answer Keys:**

- |         |         |         |          |         |         |         |         |
|---------|---------|---------|----------|---------|---------|---------|---------|
| 1. (A)  | 2. (C)  | 3. (B)  | 4. (D)   | 5. (A)  | 6. (C)  | 7. (B)  | 8. (D)  |
| 9. (B)  | 10. (C) | 11. (A) | 12. (D)  | 13. (C) | 14. (A) | 15. (B) | 16. (C) |
| 17. (D) | 18. (A) | 19. (B) | 20. (C)  | 21. (D) | 22. (A) | 23. (B) | 24. (C) |
| 25. (D) | 26. (D) | 27. (A) | 28. (E)  | 29. (C) | 30. (B) | 31. (E) | 32. (C) |
| 33. (D) | 34. (B) | 35. (A) | 36. (B)  | 37. (D) | 38. (E) | 39. (C) | 40. (A) |
| 41. (D) | 42. (C) | 43. (A) | 44. (E)  | 45. (B) | 46. (C) | 47. (A) | 48. (D) |
| 49. (C) | 50. (B) | 51. (E) | 52. (D)  | 53. (B) | 54. (C) | 55. (A) | 56. (D) |
| 57. (C) | 58. (B) | 59. (A) | 60. (D)  | 61. (D) | 62. (C) | 63. (A) | 64. (D) |
| 65. (B) | 66. (D) | 67. (C) | 68. (A)  | 69. (B) | 70. (C) | 71. (B) | 72. (C) |
| 73. (A) | 74. (D) | 75. (B) | 76. (B)  | 77. (D) | 78. (A) | 79. (C) | 80. (B) |
| 81. (A) | 82. (D) | 83. (C) | 84. (E)  | 85. (C) | 86. (A) | 87. (D) | 88. (C) |
| 89. (B) | 90. (E) | 91. (D) | 92. (A)  | 93. (D) | 94. (C) | 95. (B) | 96. (A) |
| 97. (C) | 98. (D) | 99. (B) | 100. (D) |         |         |         |         |

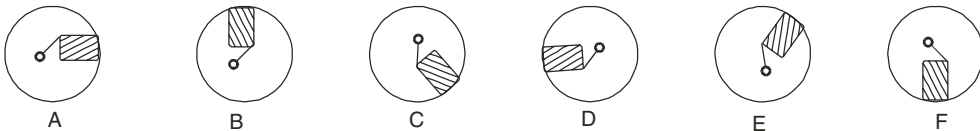


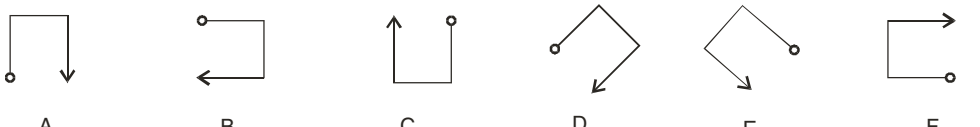
**PRACTICE TEST PAPER-4**

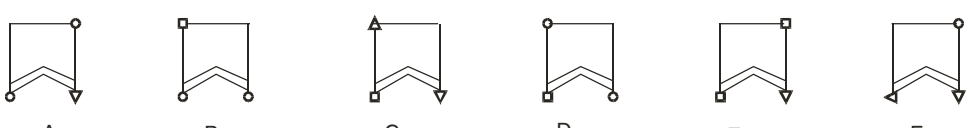
**Directions for Questions 1-31:**

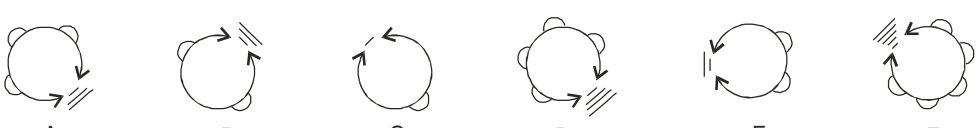
Each question below consists of five or six figures marked A, B, C, D, E and F, out of which *all but one figure are alike in some respect, and one is different*. Look carefully at each figure and *find out the odd one*.

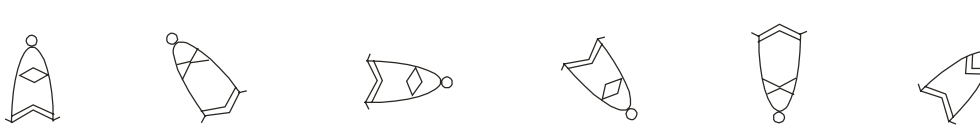
**Questions:**


1.  A B C D E F


2.  A B C D E F


3.  A B C D E F

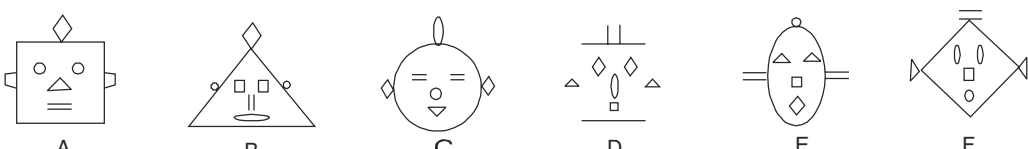
4.  A B C D E F

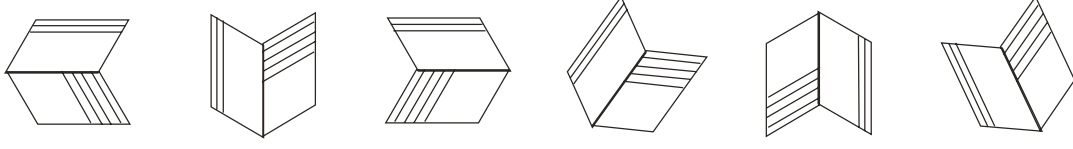
5.  A B C D E F

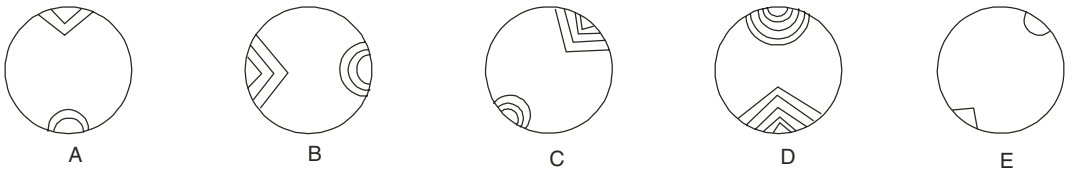
6.  A B C D E F

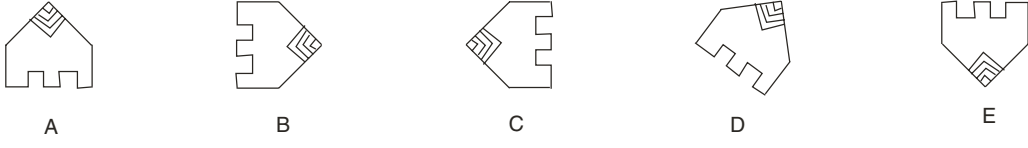
7.  A B C D E F

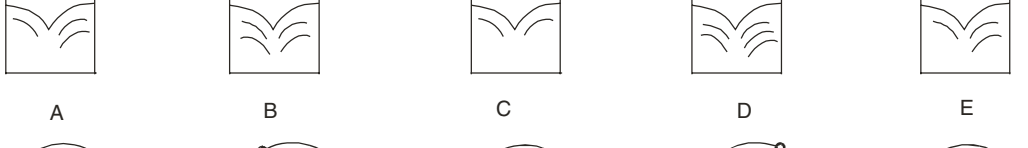
8.  A B C D E F

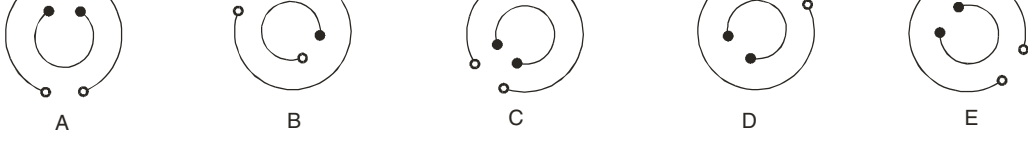
9.  A B C D E F

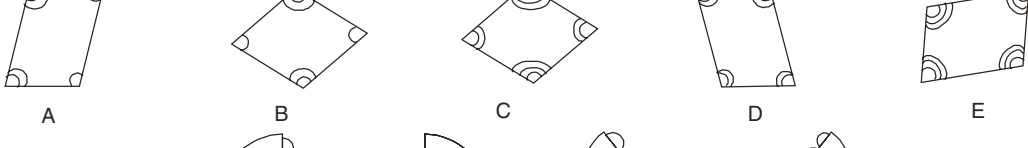
10.  A B C D E F

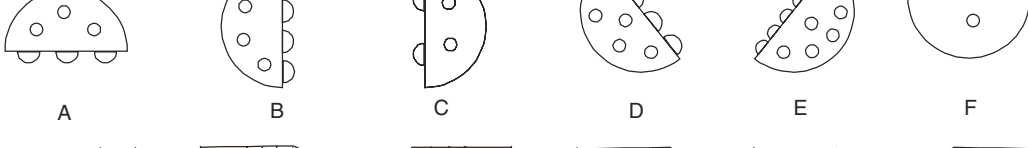
11.  A B C D E

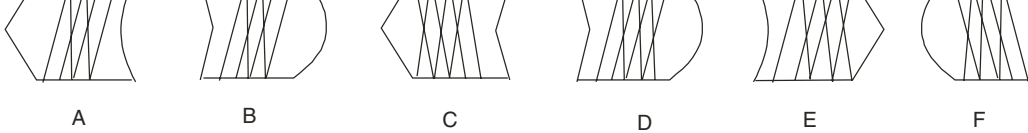
12.  A B C D E

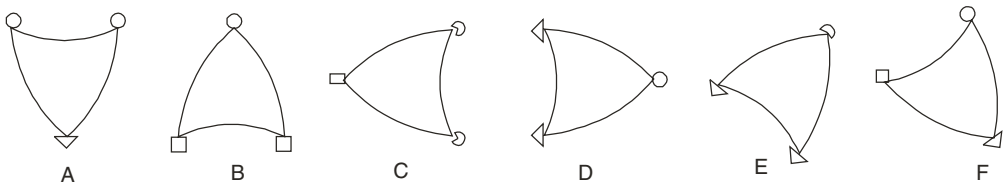
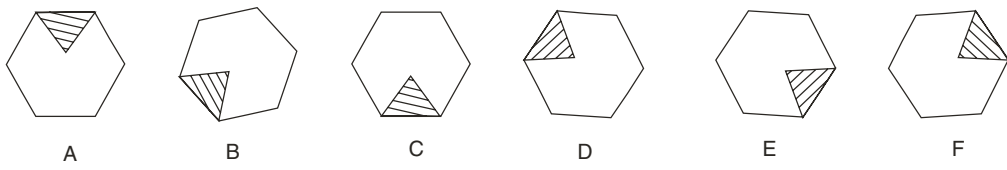
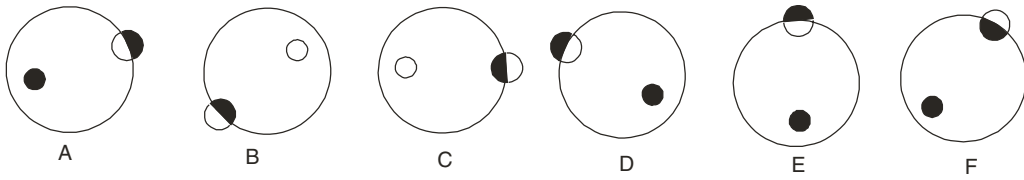
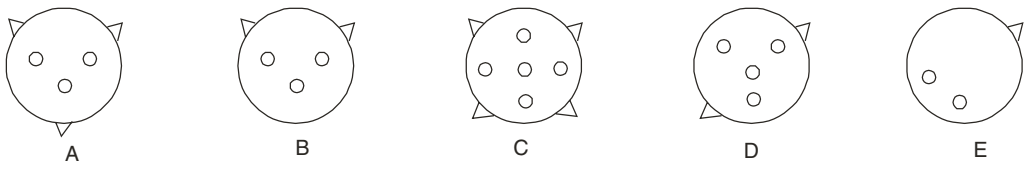
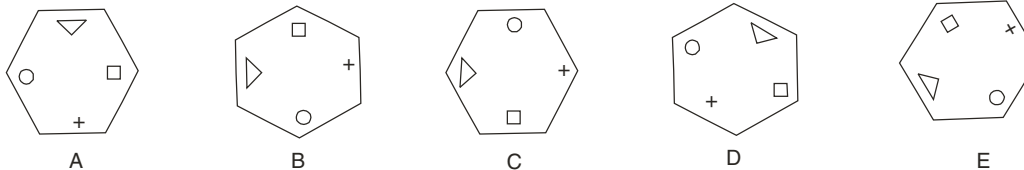
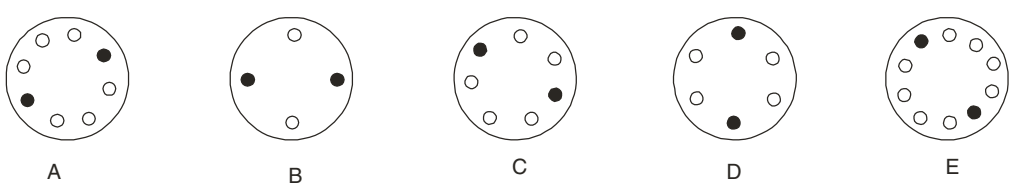
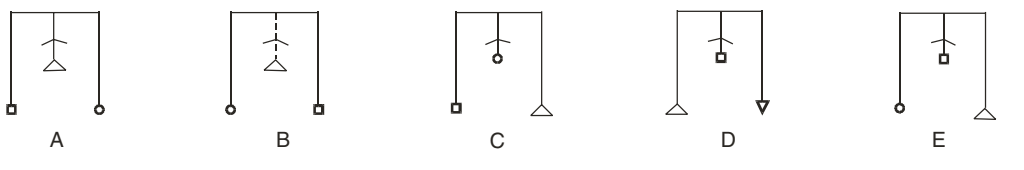
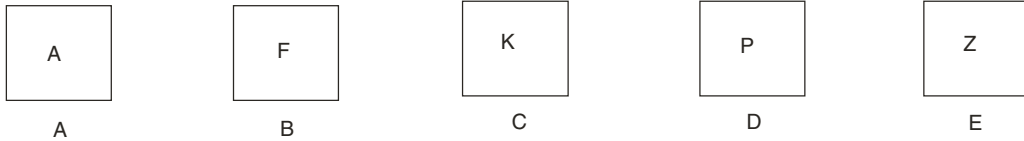
13.  A B C D E


14.  A B C D E

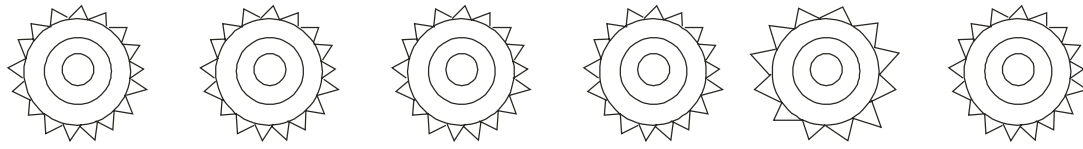
15.  A B C D E

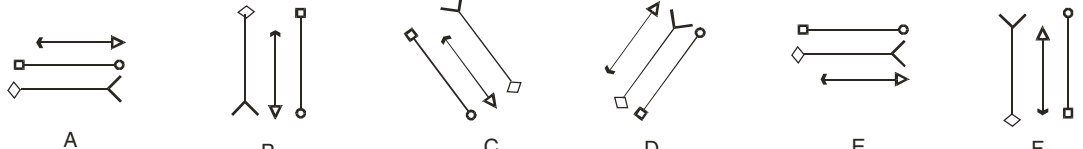
16.  A B C D E F

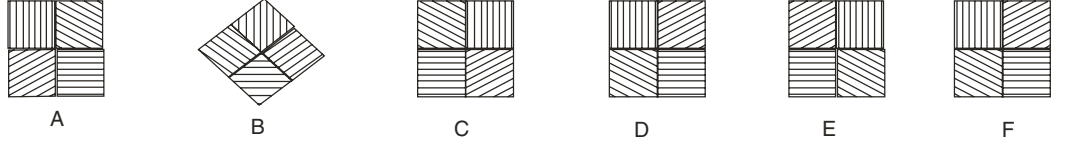
17.  A B C D E F

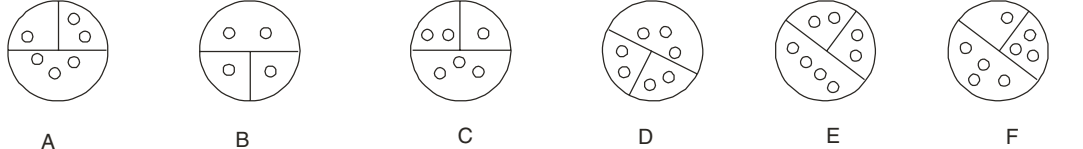
18. 
  
A B C D E F
19. 
  
A B C D E F
20. 
  
A B C D E F
21. 
  
A B C D E
22. 
  
A B C D E
23. 
  
A B C D E
24. 
  
A B C D E
25. 
  
A B C D E

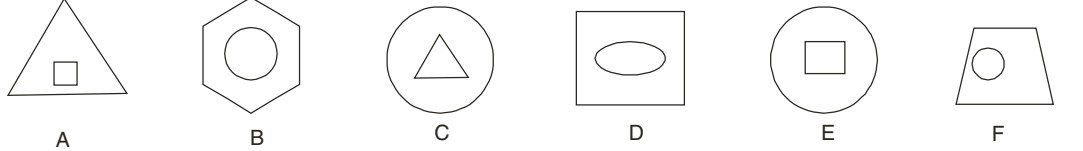
26. 

27. 

28. 

29. 

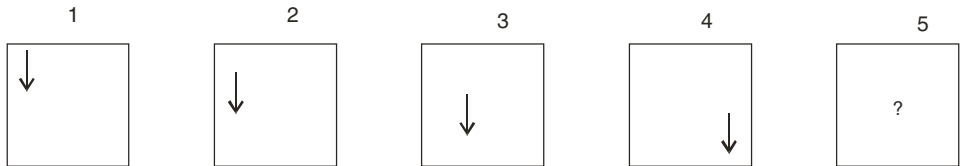
30. 

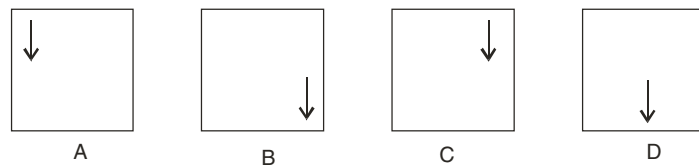
31. 

**Directions for Questions 31(X)-45:**

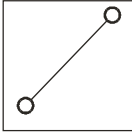
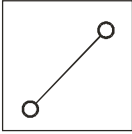
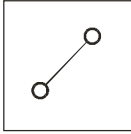
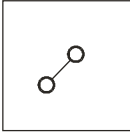

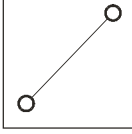
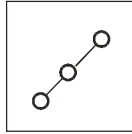
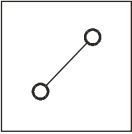
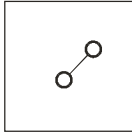
Each question below consists of two sets of figures, e.g., Problem figures marked 1, 2, 3, 4 and 5 and answer figures marked A, B, C and D. Find out from the answer figures which one fits in place of box no. 5 with ? mark in the problem figures.

**Questions:**

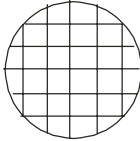
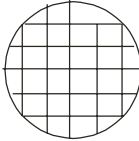
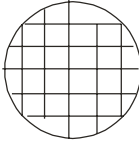
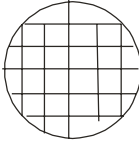
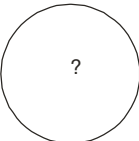
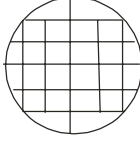
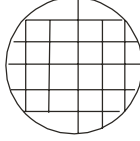
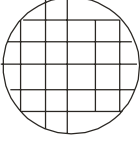
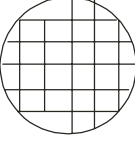
31(X). 



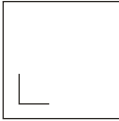
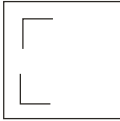
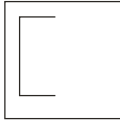
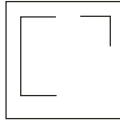
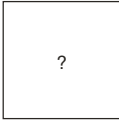
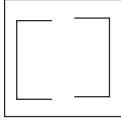
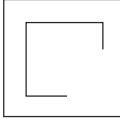
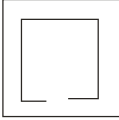
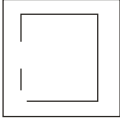
32.

1	2	3	4	5
				
				
	A	B	C	D

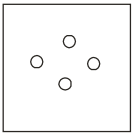
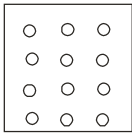
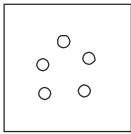
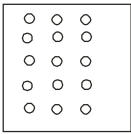

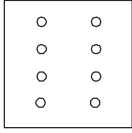
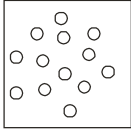
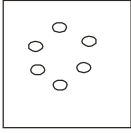
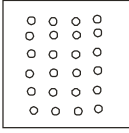
33.

				
				
	A	B	C	D

34.

				
				
	A	B	C	D

35.

				
				
	A	B	C	D

36.

1	2	3	4	5
				?
	A	B	C	D

37.

				?
	A	B	C	D

38.

				?
	A	B	C	D

39.

				?
	A	B	C	D

40. 1 2 3 4 5

A

B

C

D

41.

A

B

C

D

42.

A

B

C

D

43.

A

B

C

D

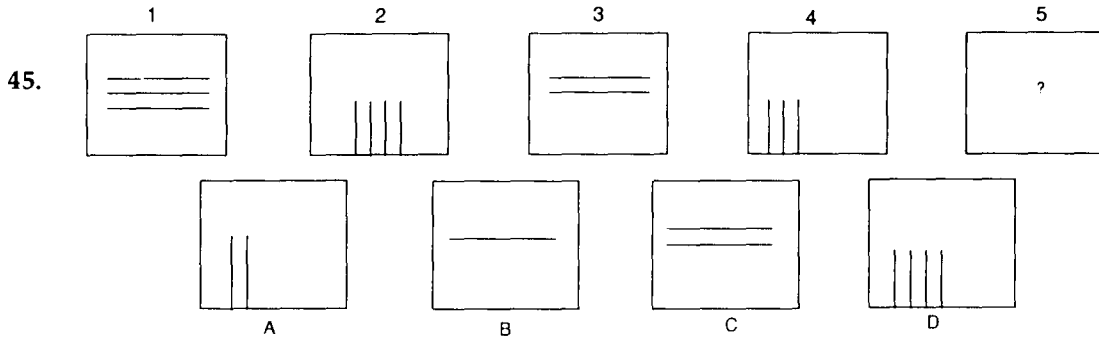
44.

A

B

C

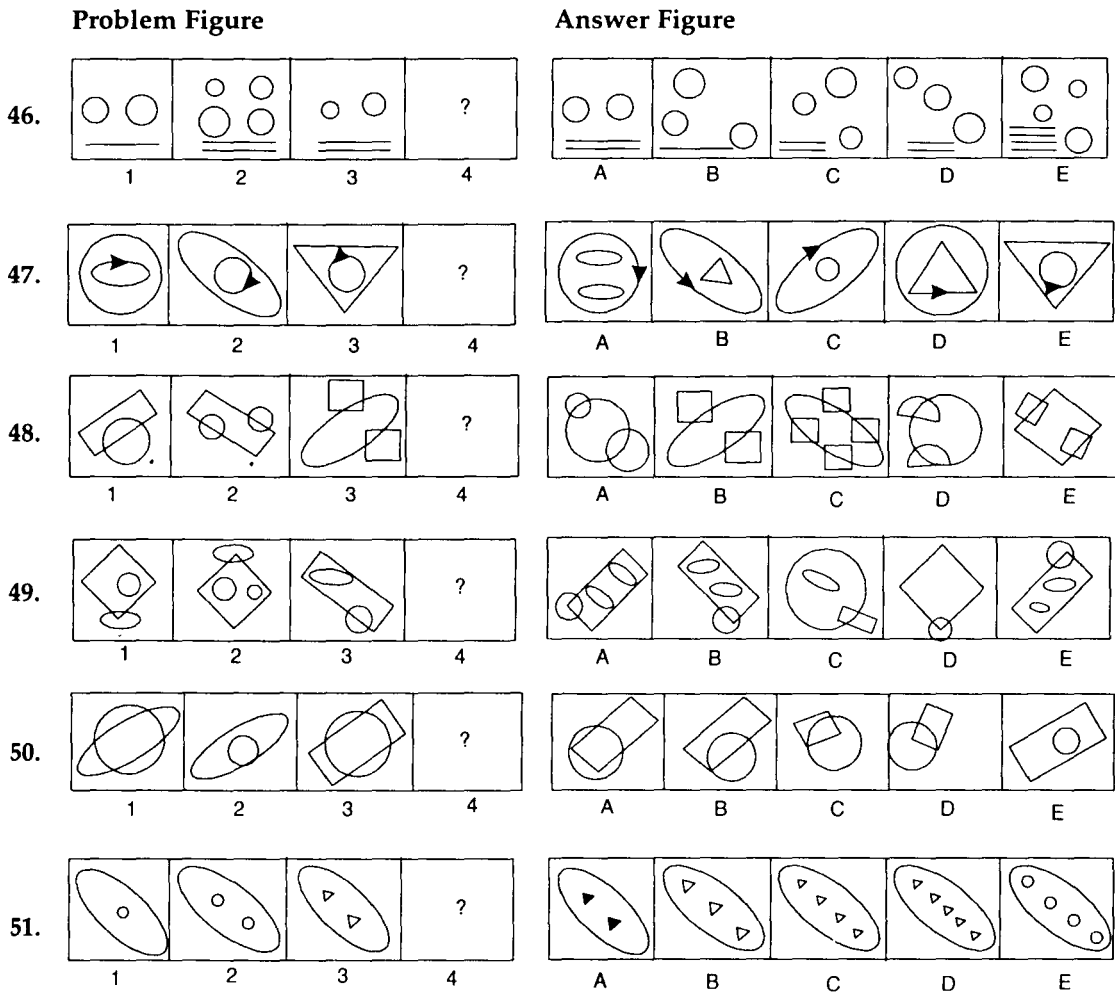
D



**Directions for Questions 46-56:**

Each question below consists of two sets of figures e.g., problem figures numbered 1, 2, 3 and 4 and answer figures are related to each other in some respect, find out from the given answer figures the one which bears almost similar relation with the 3rd figure in the problem.

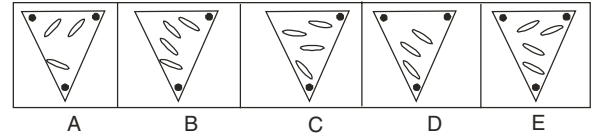
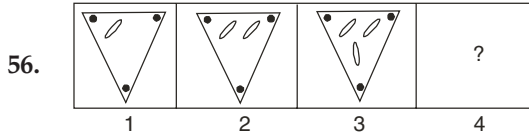
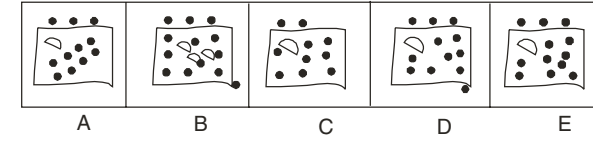
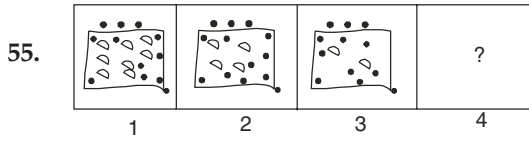
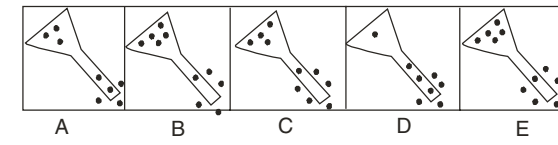
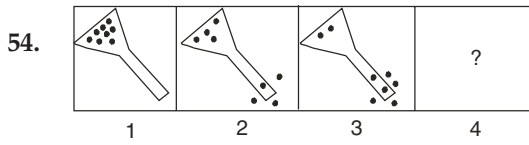
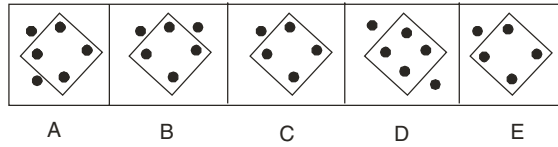
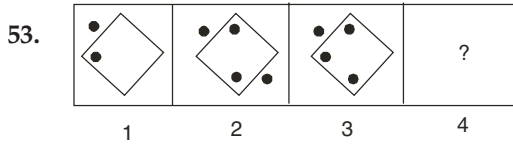
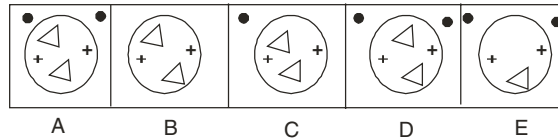
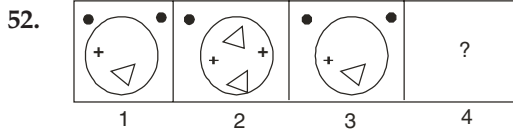
**Questions:**





**Problem Figure**

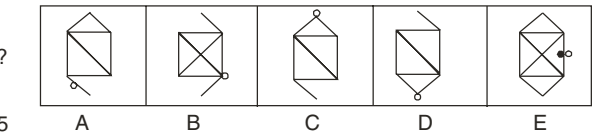
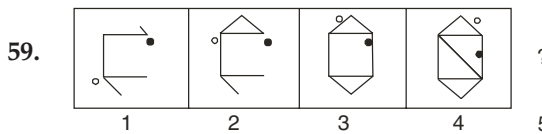
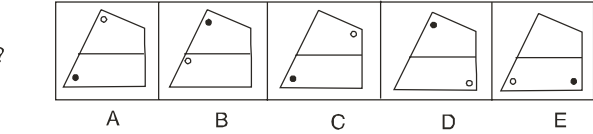
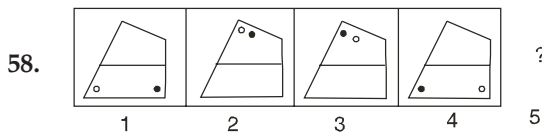
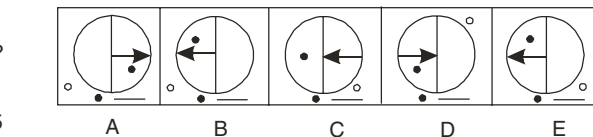
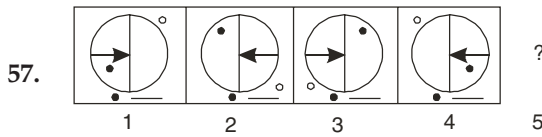
**Answer Figure**

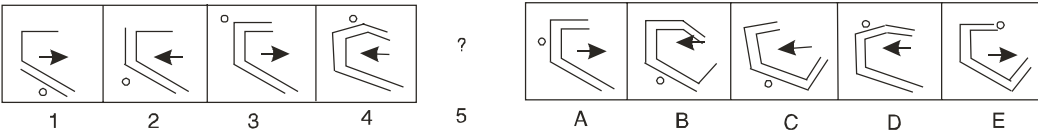


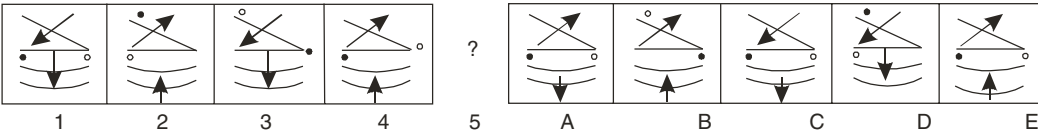
**Directions for Questions 57-61:**

Each question below consists of two sets of figures, e.g. question figures in series marked 1, 2, 3 and 4 and a set of answer figure marked A, B, C, D and E. Find out from the answer figures one, that complete the series in the question of figures, to be placed at the space marked 5.

**Questions:**

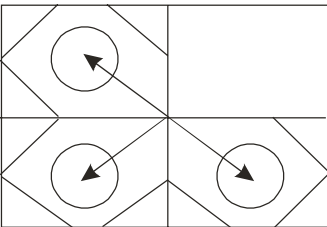
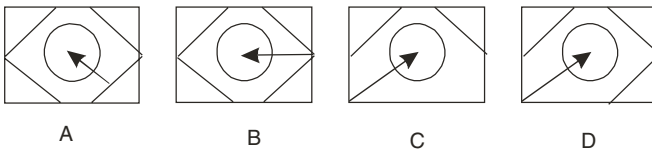


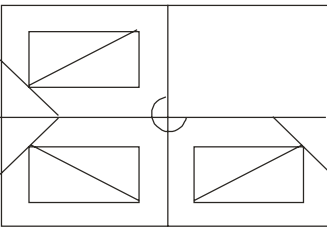
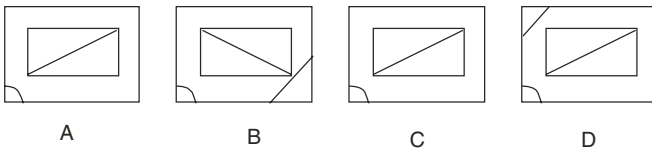
60. 

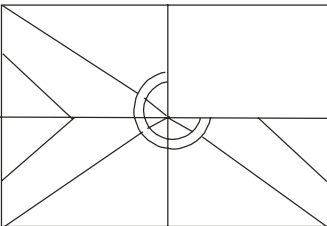
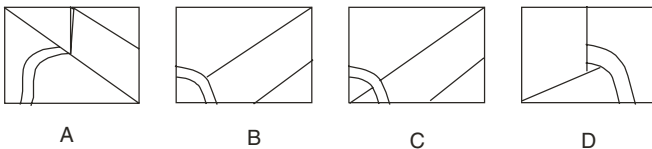
61. 

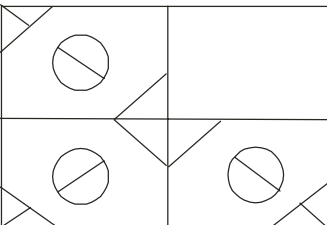
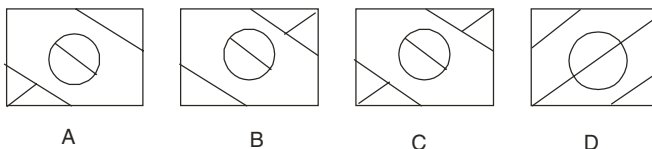
**Directions for Questions 62-70:**

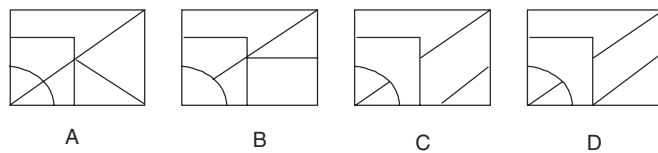
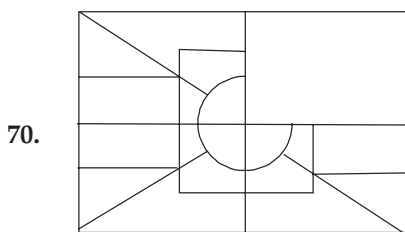
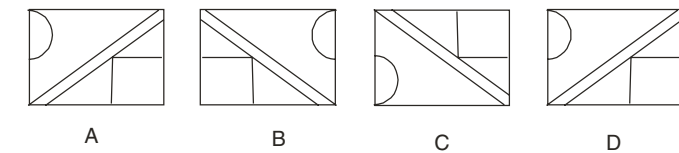
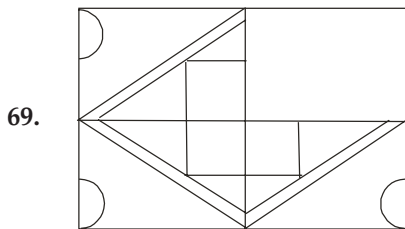
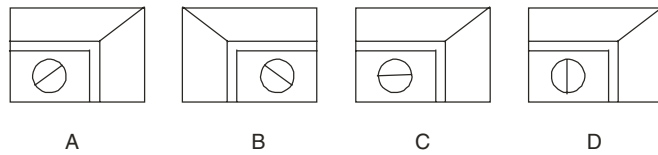
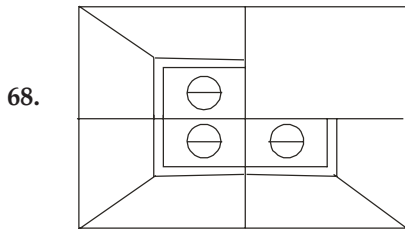
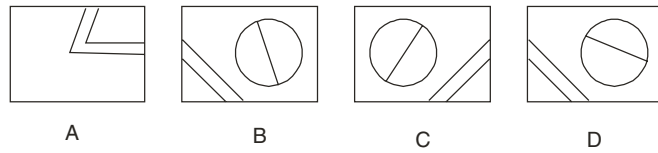
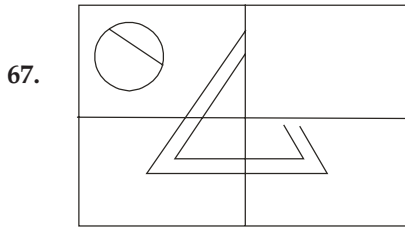
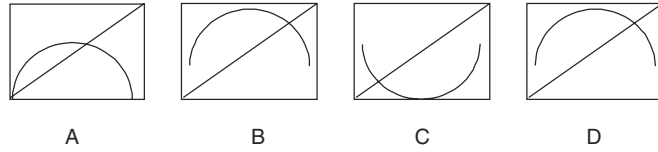
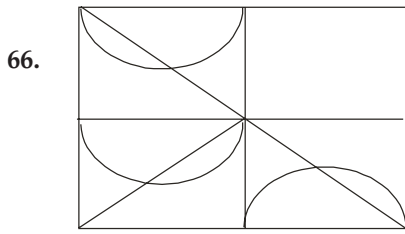
In each question below you will find an Incomplete figure followed by four answer figures marked A, B, C and D. You have to select one diagram from the answer figures that best fits into the blank space of the incomplete figure.

62. **Incomplete Figure**  **Answer Figure** 

63. **Incomplete Figure**  **Answer Figure** 

64. **Incomplete Figure**  **Answer Figure** 

65. **Incomplete Figure**  **Answer Figure** 



**Directions for Questions 71-100:**

Each question below consists of a set of question figures with a blank space containing question (?) mark at the end along with a set of answer figures marked A, B, C, D and E. You have to find out which one of the answer figures would fit in the place of the question mark (?) in the question figures.

**Problem Figures**

**Answer Figures**

71.		?
72.		?
73.		?
74.		?
75.		?
76.		?
77.		?
78.		?
79.		?
80.		?

A	B	C	D	E

81.		?
82.		?
83.		?
84.		?
85.		?


Problem Figures

Answer Figures

86.						?
87.						?
88.						?
89.						?
90.						?
91.						?
92.						?
93.						?
94.						?
95.						?
96.						?
97.						?
98.						?
99.						?
100.						?

A	B	C	D	E



**Answer Keys:**

1. D, 2. E, 3. F, 4. B, 5. F, 6. E, 7. C, 8. B, 9. D, 10. C, 11. C,  
 12. D, 13. E, 14. C, 15. A, 16. D, 17. C, 18. F, 19. C, 20. F, 21. D, 22. C,  
 23. C, 24. D, 25. D, 26. B, 27. E, 28. C, 29. E, 30. D, 31. A, 31 (X). B,  
 32. D, 33. A, 34. B, 35. C, 36. C, 37. B, 38. D, 39. C, 40. C, 41. A, 42. D,  
 43. B, 44. B, 45. B, 46. E, 47. D, 48. C, 49. E, 50. E, 51. C, 52. C, 53. D,  
 54. D, 55. D, 56. E, 57. D, 58. E, 59. E, 60. E, 61. D, 62. D, 63. B, 64. C,  
 65. B, 66. A, 67. D, 68. C, 69. B, 70. B, 71. B, 72. C, 73. A, 74. E, 75. C,  
 76. B, 77. D, 78. C, 79. E, 80. E, 81. E, 82. B, 83. A, 84. C, 85. D, 86. B,  
 87. B, 88. C, 89. B, 90. E, 91. B, 92. D, 93. E, 94. A, 95. C, 96. E, 97. B,  
 98. A, 99. D, 100. C.

**PRACTICE TEST PAPER 5****Directions for Questions 1-10:**

Each question below consists of a pair of words in capitals followed by four pairs of words marked A, B, C and D. Letters in capitals are related to each other in some respect. You are to select from the alternative pairs one that best express a relationship similar to that expressed in the capitals.

**Questions:**

1. APRON : CLOTHING  
 (A) Towel : Rack  
 (B) Dropcloth : Furniture  
 (C) Pillow : Bedding  
 (D) Curtain : Theatre
2. POUT : SULKY  
 (A) Smirk : Witty  
 (B) Blush : Coarse  
 (C) Conceal : Sly  
 (D) Crow : Boastful
3. CONSTELLATION : STAR  
 (A) Archipelago : Island  
 (B) Garden : Flower  
 (C) Sand : Dune  
 (D) Arbor : Bower
4. ZEALOT : FANATICISM  
 (A) Miser : Affluence  
 (B) Athlete : Stamina  
 (C) Ascetic : Self-Denial  
 (D) Renegade : Loyalty
5. SAGE : WISDOM  
 (A) Mentor : Reward  
 (B) Seer : Prophecy  
 (C) Diplomat : Flattery  
 (D) Pilgrim : Diligence
6. STRUT : RAFTER  
 (A) Bracket : Shelf  
 (B) Hammer : Anvil  
 (C) Valve : Pipe  
 (D) Bucket : Well
7. ETYMOLOGY : DERIVATION  
 (A) Ecology : Urbanisation  
 (B) Tautology : Justification  
 (C) Physiology : Health  
 (D) Taxonomy : Classification
8. UMPIRE : GAME  
 (A) Chef : Banquet  
 (B) Auditor : Lecture  
 (C) Moderator : Debate  
 (D) Actor : Drama
9. ATLAS : MAPS  
 (A) Catalogue : Dates  
 (B) Glossary : Words  
 (C) Lexicon : Numbers  
 (D) Thesaurus : Rhymes
10. WADDLE : GOOSE  
 (A) Lumber : Bear  
 (B) Bray : Donkey  
 (C) Roost : Hen  
 (D) Chirp : Sparrow

**Directions for Questions 11-15:**

Study the following paragraph and answer the questions that follows :

**Paragraph:**

In a tribal society there are two marriage groups, Red and Brown. No marriage is allowed within a group. On marriage, males become part of their wife's group, but women remains in their own group. Children belong to same group as their parents. Widowers and divorced males revert to the group of their birth. Marriage to more than one person at the same time and marriage to a direct descendent are forbidden.

**Questions:**

11. A Brown female could have had  
 I. a grandfather born Red. II. a grandmother born Red.  
 III. two grandfathers born Brown.  
 (A) I only (B) III only (C) I & II only (D) II & III only (E) I, II and III.
12. A male born into the Brown group may have  
 (A) a Brown daughter (B) a Brown son  
 (C) a son-in-law born into the Red group (D) an uncle in either group  
 (E) a daughter-in-law into the Red group.
13. Which of the following is not permitted under the rules as stated?  
 (A) A Brown male marrying his father's sister.  
 (B) A Red female marrying her mother's brother.  
 (C) A man born Red, who is now a widower, marrying his brother's widow.  
 (D) A widower marrying his wife's sister.  
 (E) A widow marrying her divorced daughter's ex-husband.
14. If widowers and divorced males retained the group they had upon marrying, which of the following would be permissible?  
 (A) A woman marrying her dead sister's husband.  
 (B) A woman marrying her divorced daughter's ex-husband.  
 (C) A widower marrying his brother's daughter.  
 (D) A divorced male marrying his ex-wife's divorced sister.  
 (E) A woman marrying her mother's brother, who is a widower.
15. Which of the following is prohibited according to the rules stated?  
 (A) A married woman born Red marrying a man born Brown.  
 (B) A Brown woman marrying a Red man.  
 (C) A married man born Red lives with a Brown family.  
 (D) A divorced man born Brown lives with his own group.  
 (E) A widower born Red can marry his divorced mother in law.

**Directions for Questions 16-21:**

Study the contents given below and answer the questions that follows :

The letters P, Q, R, S, T, U and V, not necessarily in that order, stand seven consecutive integers from 1 to 10.

S is 3 less than P.

Q is the middle term.

U is as much less than Q as R is greater than S.

V is greater than U.

**Questions:**

16. The fifth integer is  
 (A) P (B) R (C) T (D) S (E) U

17. P is as much greater than U as which integer is less than V?  
 (A) R (B) Q (C) T (D) U (E) S
18. If  $P = 7$ , the sum of T and V is  
 (A) 10 (B) 12 (C) 8 (D) 16 (E) 14
19.  $A - F = ?$   
 (A) 1 (B) 2 (C) 3 (D) 4 (E) 5
20. An integer B is as much greater Than  $R'$  as R is greater than T. B can be written as  $P + T$ . What is S?  
 (A) 1 (B) 2 (C) 4 (D) 5 (E) 3
21. The greatest possible value of R is how much greater than the smallest possible value of S?  
 (A) 2 (B) 5 (C) 4 (D) 3 (E) 1

**Directions for Questions 22-25:**

Each question below is based on the following conditions. Study the conditions carefully and answer the following questions.

**Conditions:**

- |                                     |                                |
|-------------------------------------|--------------------------------|
| (a) X causes Y or Z, but not both.  | (b) P occurs only if Y occurs. |
| (c) K occurs if Y or Z occurs.      | (d) L occurs only if Z occurs. |
| (e) J occurs only if L or P occurs. | (f) K causes G or H or both.   |
| (g) H occurs if L occurs.           | (h) G occurs if P occurs.      |

**Questions:**

22. If P occurs, which may occur?  
 I. P and G      II. L and H      III. K  
 (A) I only (B) II only (C) III only (D) I and III or II and III, but not both  
 (E) I, II and III
23. If Y occurs, which most occur?  
 (A) P and G (B) K and G (C) K (D) G and H (E) J
24. If J occurs which must have occurred?  
 (A) L (B) Either Y or Z (C) Both L and P  
 (D) G (E) Both Y and Z
25. Which may occur as a result of a cause not mentioned?  
 I. K      II. X      III. P  
 (A) I only (B) II only (C) III only (D) I, II and III (E) I & II only

**Directions for Questions 26-30:**

Below you will find figures of groups of arrows. Each arrow depicts a human posture, the arrow head showing the head. Following questions are based on the figures. Match the right choice of figures with questions.

**Figures:**

- |   |  |
|---|--|
| (A)  | (B)  |
| (C)  | (D)  |
| (E)  |  |



**Questions:**

26. Standing, lying, sitting.
27. Bending, standing on head, Reclining.
28. Sitting, Reclining, Bending.
29. Reclining, Lying, Sitting
30. Sitting, bending, Sitting

**Directions for Questions 31-37:**

Each question below is based on the following paragraph. Study the paragraph carefully and answer the following questions.

**Paragraph:**

John, Loken, Niren, Mira, Paresh, Willy, Chimney, Arun, Bijan, Farid, Ellen and Rita all live in the same six-floor building. There are two apartments per floor, no more than two persons live in any apartment. Some apartments may be empty.

Loken and his roommate live two floors above Arun and his roommate, chimney. John lives alone, three floors below Willy and two floors below Ellen. Mira lives one floor below Arun and chimney. Niren lives three floors above the floor on which Bijan and Farid have single apartments. Rita and Paresh live in single apartments two floors below Mira.

**Questions:**

31. Which of the following lists the persons named in the correct order, going from the bottom floor to the top?
  - (A) Rita, Bijan, Mira, Arun, Loken, Niren
  - (B) Paresh, Bijan, John, Chimney, Niren, Loken
  - (C) Rita, Farid, Niren, Ellen, Loken, Chimney
  - (D) Loken, John, Mira, Arun, Bijan, Rita
32. Which of the following pairs must live on the same floor?
 

I. Niren, Ellen	II. John and Mira	III. Arun, Loken
(A) I only	(B) II only	(C) III only
(D) I and II only (E) II and III only		
33. Loken's roommate, assuming that he or she is any one of the following.
 

(A) Ellen	(B) Mira	(C) Willy	(D) Arun	(E) Paresh
-----------	----------	-----------	----------	------------
34. Rita lives on the
  - (A) first floor, below Bijan or Farid
  - (B) second floor, below John or Arun or chimney
  - (C) third floor, above Mira or Ellen
  - (D) fourth floor, opposite Arun and chimney
  - (E) sixth floor, opposite Loken and his roommate
35. An empty apartment or apartments may be found on the
 

(A) second floor only	(B) fourth floor only
(C) fifth floor only	(D) third or sixth floor, but not both
(E) fourth or sixth floor or both	
36. John arranges to move into an apartment two floors down, whose occupant moves into an apartment one floor up. The occupant of this apartment moves into one three floors up, whose occupant takes John's old apartment. Who is the new occupant of John's old apartment?
 

(A) Bijan or Farid	(B) Niren or Ellen	(C) Paresh
(D) Rita	(E) Mira	

37. If someone from outside comes and wants to stay in that building, his or her roommate could be any one of the following except.  
(A) Willy (B) Niren (C) Mira (D) Farid (E) Ellen
38. In recommending to the board of trustees the tuition fee increase, of a certain educational institution, of Rs. 500.00 per year, the Principal of the institution said : 'There were no student demonstrations over the previous increases of Rs. 300.00 last year and Rs. 200.00 year before last; If the Principal's statement is accurate, which of the following can be validly inferred from the information given?  
I. Most students in previous years felt that the increases were justified because of increased operating cost.  
II. Student apathy was responsible from the failure of students to protest the previous tuition fee increases.  
III. Students are not likely to demonstrate over the new tuition fee increases.  
(A) I only (B) II only (C) III only (D) I, II and III (E) Neither I and II nor III.
39. Some research scientist claims that certain substances contained in some plant roots may provide a cure for cancer. So government must provide sufficient funds to allow a thorough research of this possibility.  
The argument above assumes that  
(A) the government is the only possible source of funds for the research.  
(B) a cure of cancer would be extremely valuable to society.  
(C) substances contained in some plants will probably cure cancer.  
(D) the possibility of finding a cure is sufficient reason for funding research into possible cancer cures.  
(E) The line of research would be the most promising one.
40. Robin is standing to the right of Biren. Shyamal is standing on the opposite side of Biren. Since the opposite of right is wrong. Shyamal must be standing on the wrong side of Biren. Which of the following logical errors has the author of the argument above committed?  
(A) He has used a single term to mean two different things.  
(B) He has confused cause and effect.  
(C) He has assumed to be true what he wants to prove to be true.  
(D) He has provided no factual evidence for his conclusion.  
(E) He has drawn a general conclusion from an insufficient number of examples.

**Directions for Questions 41-46:**

The questions below are based on the following statements. Study the statements carefully and answers the following questions.

**Statements:**

1. An alsatian, a bullterrier, a collie and a doberman win the top four prizes in a dog show. Their owners are Mr. Das, Mr. Bose, Mr. Bajpai and Mr. Rao, not necessarily in that order. Their dogs names are Jack, Kelly, Luci and Don not necessarily in that order.
2. Mr. Bajpai's dog wins neither first nor second prize.
3. The collie wins first prize.
4. Don wins second prize.
5. The alsatian is Jack.
6. Mr. Bose's dog, the doberman, wins fourth prize.
7. Mr. Rao's dog is Kelly.

41. First Prize is won by  
 (A) Mr. Das's dog (B) Mr. Rao's dog (C) Luci (D) Jack
42. Mr. Bajpai's dog is the  
 (A) Collie (B) Bullterrier (C) Kelly (D) Alsatian
43. Which of the following orders is correctly listed the dogs in descending order of their prizes?  
 (A) Kelly, the Alsatian, Mr. Das's dog (B) The bull terrier, Mr. Bajpai's dog, Jack  
 (C) Mr. Das's dog, the alsatian, Luci (D) Don, Mr. Rao's dog, the collie
44. Luci  
 (A) is owned by Mr. Bose (B) is owned by Mr. Das  
 (C) is the bullterrier (D) is the collie
45. On the basis of the statements except no. 2 and 7 which of the following may be deduced?  
 I. Don is the bull terrier.  
 II. The doberman is Kelly or Luci.  
 III. Jack wins the third prize.  
 (A) I and II only (B) I and III only (C) II and III only (D) I, II and III
46. On the basis of the statements except nos. 5 and 6, which of this following may be deduced?  
 I. Mr. Bajpai's dog is Jack or Luci.  
 II. Mr. Das's dog wins first or second prize.  
 III. Kelly is the collie.  
 (A) I only (B) II only (C) I and II only (D) I, II and III

**Directions for Questions 47-50:**

Below you will find seven number series question in order to determine the numerical ability of some students. Each question below is based on these series. Study the series carefully and answer the following questions.

- I. 4, 64, 5, 125, 6, ?  
 II. 6, 37, 7, 50, 8, 65, 9, ?  
 III. 5, 25, 125, 7, 49, 343, 9, 81, ?  
 IV. 9, -7, 18, -18, 31, ?  
 V. 4, 16, 80, 480, 3360, ?  
 VI. 25, 24, 22, 19, 15, 10, ?  
 VII. 100, 81, 64, 49, 36, ?

**Questions:**

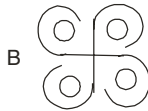
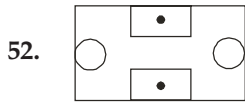
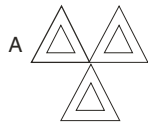
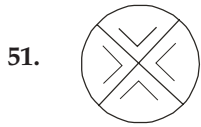
47. In which of the above number series is the third power of a number the determining factor?  
 (A) I and III (B) II and IV (C) III and VI (D) IV and VII
48. In which of the above number series is the use of powers of a number NOT a determining factor?  
 (A) II (B) IV (C) VI (D) V
49. In which of the above number series is the determining factor – the addition and subtraction of squares?  
 (A) II (B) IV (C) VI (D) None
50. In which of the above number series is it necessary to consider a pattern of three elements?  
 (A) I (B) II (C) III (D) V

**Directions for Questions 51-55:**

Questions below consist of a set of question figures in the left hand side and a set of answer figures (marked A, B, C, D and E) on the right hand side. Each question figure has certain similarities with one of the answer figures. Choose the right answer figure that best match each question figure.

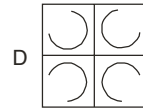
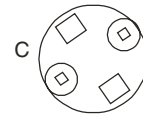
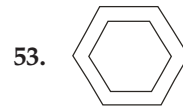
**Question Figures**

**Answer Figures**



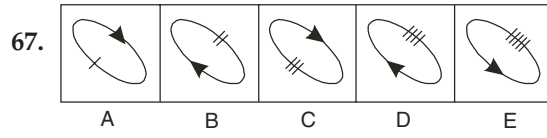
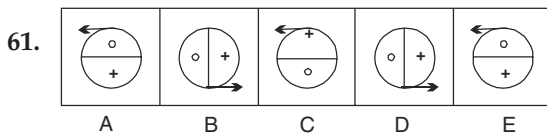
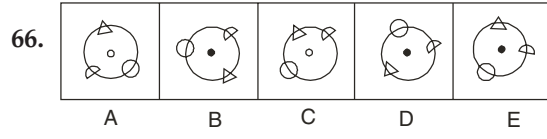
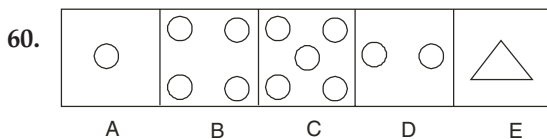
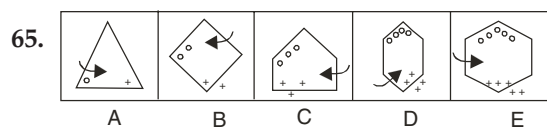
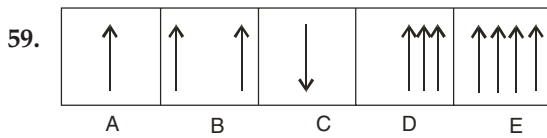
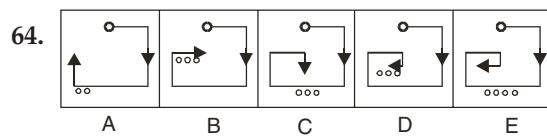
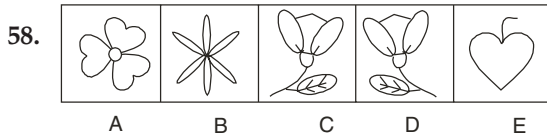
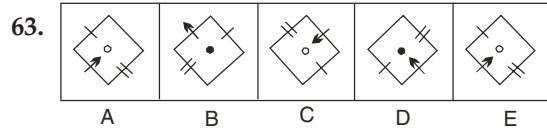
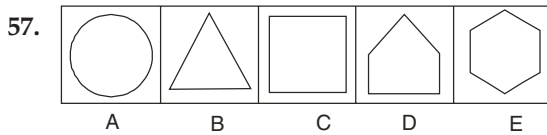
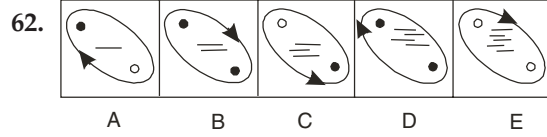
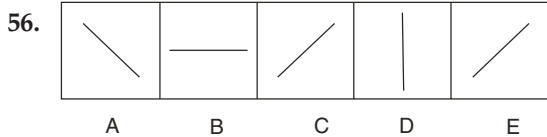
**Question Figures**

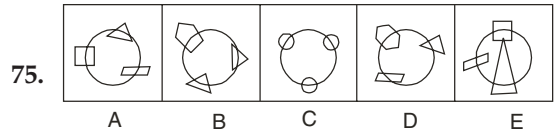
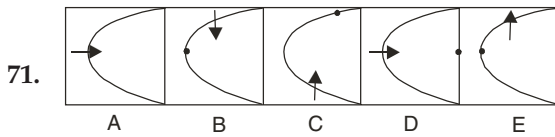
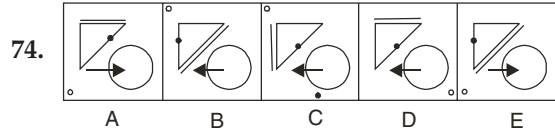
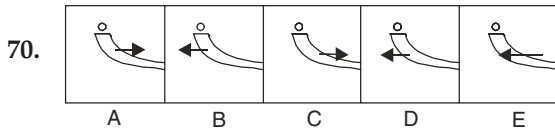
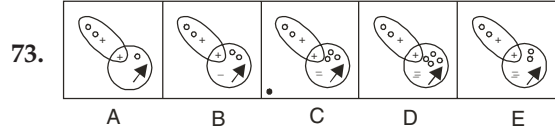
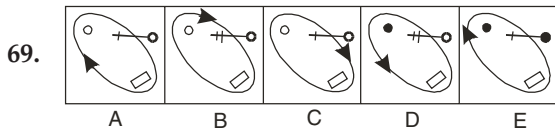
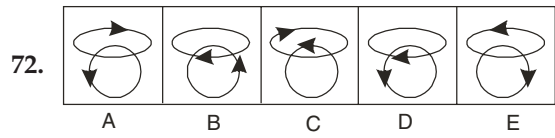
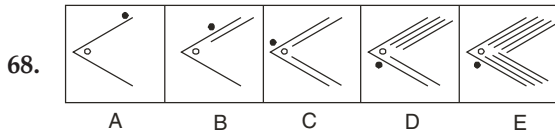
**Answer Figures**



**Directions for Questions 56-75:**

Each question below consists of five figures marked A, B, C, D and E, out of which four figures are similar in some respect and only one figure is different. Find out the different figures.



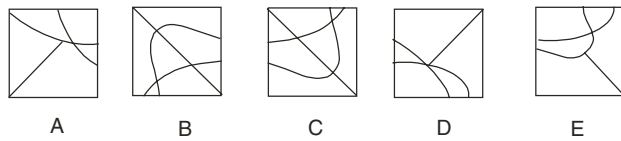
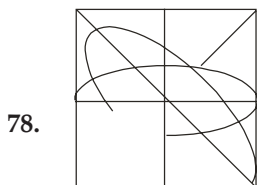
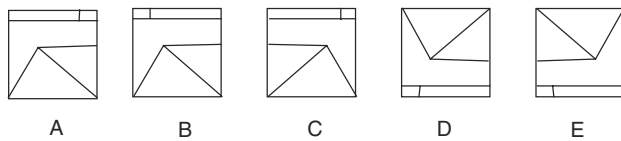
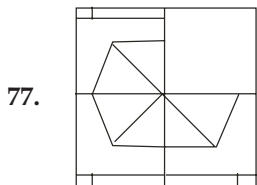
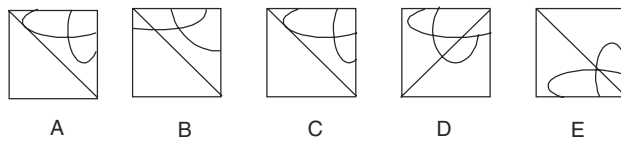
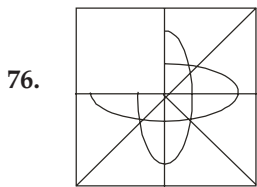


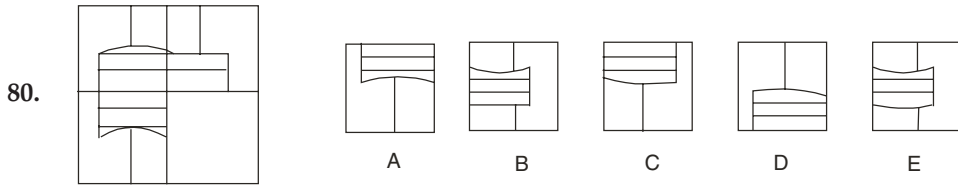
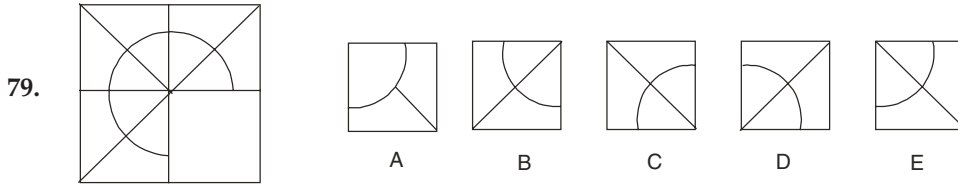
**Directions for Questions 76-80:**

Each question below consists of a problem figure which has a portion incomplete and a set of answer figures marked A, B, C, D and E, one of which fits into the blank space of the problem figures and makes it complete. Choose that figure.

**Problem Figure**

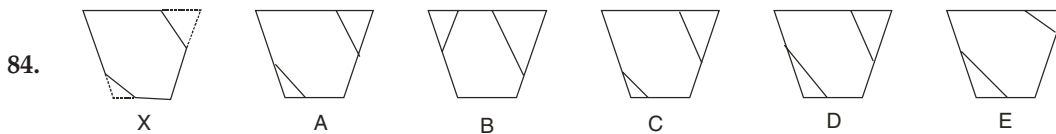
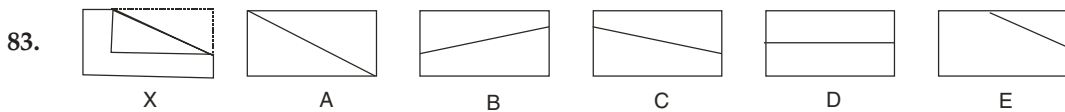
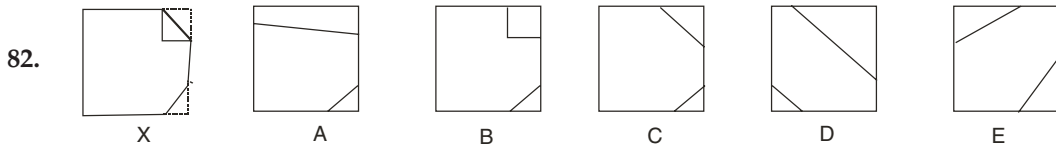
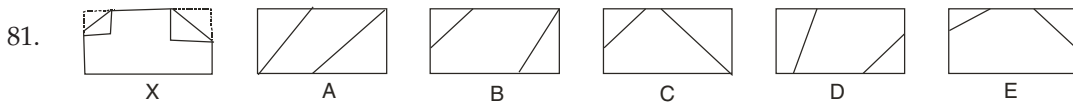
**Answer Figures**





**Directions for Questions 81-84:**

Each question below consists of a problem figure marked 'X' which shows the folded view of a piece of paper, followed by a set of answer figures marked A, B, C, D and E which show the same paper in the unfolded condition with marks of foldings. You are to select the figure which if folded looks like the problem figure.



**Directions for Questions 85-94:**

Each question below consists of a series of question figure marked 1, 2, 3, 4 and 5 of which no. 5 is blank followed by a set of answer figures marked A, B, C, D and E, one of which may fit into the blank space marked 5 to complete the series. Find out the figure that best fits into the blank space so that the series would be completed.

85.

				?
1	2	3	4	5

A	B	C	D	E

90.

				?
1	2	3	4	5

A	B	C	D	E

86.

				?
1	2	3	4	5

A	B	C	D	E

91.

				?
1	2	3	4	5

A	B	C	D	E

87.

				?
1	2	3	4	5

A	B	C	D	E

92.

				?
1	2	3	4	5

A	B	C	D	E

88.

				?
1	2	3	4	5

A	B	C	D	E

93.

				?
1	2	3	4	5

A	B	C	D	E

89.

				?
1	2	3	4	5

A	B	C	D	E

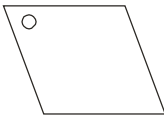
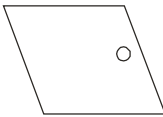
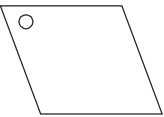
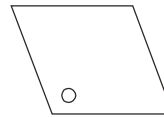
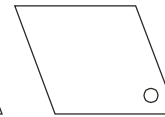
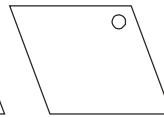
94.

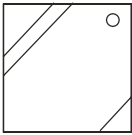
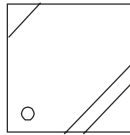
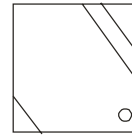
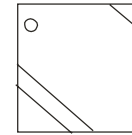
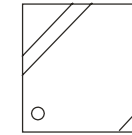
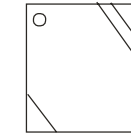
				?
1	2	3	4	5

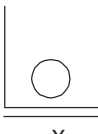
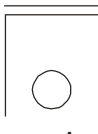
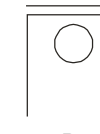



A	B	C	D	E







**Directions for Questions 95-100:**

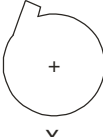

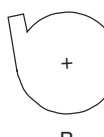

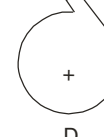

Each question below consists of a problem figure on the left marked 'X', followed by a series of answer figures marked A, B, C, D and E, one of which is the mirror image of the problem figure. Find out the figure which is the exact mirror image of the problem figure marked 'X'.

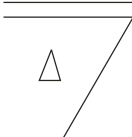
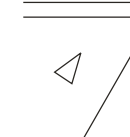
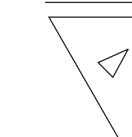
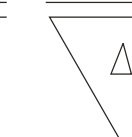
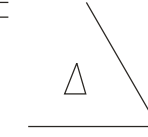
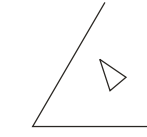
95.  X  A  B  C  D  E

96.  X  A  B  C  D  E

97.  X  A  B  C  D  E

98.  X  A  B  C  D  E

99.  X  A  B  C  D  E

100.  X  A  B  C  D  E

**Answer Keys:**

- |        |        |        |        |        |        |        |        |        |         |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1. B,  | 2. D,  | 3. A,  | 4. C,  | 5. B,  | 6. A,  | 7. D,  | 8. C,  | 9. B,  | 10. A,  |
| 11. C, | 12. D, | 13. B, | 14. E, | 15. A, | 16. B, | 17. E, | 18. A, | 19. D, | 20. D,  |
| 21. B, | 22. D, | 23. C, | 24. B, | 25. E, | 26. D, | 27. B, | 28. E, | 29. A, | 30. C,  |
| 31. B, | 32. D, | 33. C, | 34. A, | 35. E, | 36. B, | 37. D, | 38. E, | 39. D, | 40. A,  |
| 41. B, | 42. D, | 43. C, | 44. A, | 45. D, | 46. C, | 47. A, | 48. D, | 49. B, | 50. C,  |
| 51. D, | 52. C, | 53. E, | 54. B, | 55. A, | 56. E, | 57. A, | 58. E, | 59. C, | 60. E,  |
| 61. D, | 62. C, | 63. D, | 64. D, | 65. E, | 66. B, | 67. E, | 68. C, | 69. D, | 70. E,  |
| 71. E, | 72. E, | 73. E, | 74. C, | 75. C, | 76. E, | 77. C, | 78. A, | 79. E, | 80. C,  |
| 81. E, | 82. C, | 83. E, | 84. C, | 85. B, | 86. A, | 87. B, | 88. C, | 89. C, | 90. B,  |
| 91. C, | 92. B, | 93. C, | 94. E, | 95. E, | 96. E, | 97. C, | 98. C, | 99. D, | 100. C. |