



## PRELIMS 2024

Most Authentic Answers With Explanation

(GS Paper-1) SET A

Q.1. Ans. [D]

- 1) **Statement-I:** The atmosphere is primarily heated by terrestrial radiation (long-wave radiation emitted from the Earth's surface after it absorbs solar radiation). Solar radiation (short-wave radiation) does heat the Earth's surface, but the atmosphere is largely transparent to it.
- 2) **Statement-II:** This statement is correct. Greenhouse gases like carbon dioxide are effective at absorbing and re-emitting long-wave (infrared) radiation, which contributes to the greenhouse effect and keeps the Earth warm.

Q. 2. Ans. [A]

- 1) **Statement I:** The troposphere is indeed thicker at the equator than at the poles. This is due to a few factors:
  - **Thermal expansion:** The equator receives more direct sunlight, leading to warmer temperatures. Warmer air expands, increasing the height of the troposphere.
  - **Stronger convection:** Intense solar heating at the equator drives powerful convective currents, which carry heat upwards and further expand the troposphere.
- 2) **Statement II:** This statement accurately explains the mechanism behind the increased thickness of the troposphere at the equator. Strong convection currents transport heat to greater heights, causing the air to expand and the troposphere to thicken.

Q. 3. Ans. [D]

- 1) **Pyroclastic debris:** This is a general term for fragmented rock material ejected during volcanic eruptions. It includes everything from ash to large boulders.
- 2) **Ash and dust:** These are the finest particles of pyroclastic debris.

- 3) **Nitrogen compounds:** Volcanoes release various nitrogen compounds, including nitrogen gas and ammonia.
- 4) **Sulphur compounds:** Sulphur dioxide is a major volcanic gas, and eruptions also release other sulphur compounds like hydrogen sulphide.

All of these are produced in varying quantities depending on the type and intensity of the volcanic eruption.

Q.4. Ans [A]

**Isotherms and Land-Water Heating Differences:**

Isotherms (lines of equal temperature) tend to bend or deviate due to the differential heating of land and water.

- 1) Land heats up and cools down faster than water. In January (winter in the Northern Hemisphere), the land is colder than the ocean. This causes isotherms to bend towards the equator (south) over landmasses and towards the poles (north) over oceans.
- 2) **Warm Ocean Currents:** The Gulf Stream and North Atlantic Drift are warm ocean currents. They bring warmer water from the tropics towards the poles, making the North Atlantic Ocean warmer in winter. This causes isotherms to bend towards the north in this region.
- 3) Option 2 incorrectly states that these warm currents make the North Atlantic colder. In reality, they make it warmer, causing the northward bending of isotherms.

Q. 5. Ans.[C]

- 1) Côte d'Ivoire is the world's largest producer of cocoa, followed closely by Ghana. These two countries are located in West Africa and



together account for a significant portion of the global cocoa supply.

Q. 6. Ans.[B]

7. Ans.[A]

- Statement-I:** Rainfall does cause weathering of rocks. This is due to both physical processes (like erosion) and chemical processes (like reactions with minerals in the rock).
- Statement-II:** Rainwater does contain dissolved carbon dioxide (CO<sub>2</sub>) from the atmosphere. This makes rainwater slightly acidic, which can react with certain minerals in rocks, leading to chemical weathering.
- Statement-III:** Rainwater also contains dissolved oxygen (O<sub>2</sub>) from the atmosphere. This oxygen can react with minerals containing iron, causing oxidation and rusting, another form of chemical weathering.

Therefore, both the presence of carbon dioxide and oxygen in rainwater contribute to the weathering of rocks.

Q. 8. Ans[B]

- Germany and Norway have coastlines on the North Sea.
- Finland is bordered by the Baltic Sea.
- Russia does not border the North Sea.

Q. 9. Ans. [A] Pair One is correctly matched

Explanation

Water	Region	River
Dhuandhar	Malwa	Narmada
Hundru	Chota Nagpur	Narmada
Gersoppa	Western Ghats	Sharawati

Q. 10 Ans.[B] Statement 3 and 4 Correctly matched

Explanation:

Region	Name of the Mountain range	Type of mountain
Europe	Vosges	Fold mountain
Europe	Alps	Fold Mountain
North America	Appalachians	Fold Mountain
South America	Andes	Fold mountain

Q.11. Ans. [A]

- Donyi Polo Airport in Itanagar and Kushinagar International Airport in Kushinagar are both new airports constructed as greenfield projects.

- Vijayawada International Airport was upgraded from an existing domestic airport to an international airport, and therefore, it is not considered a greenfield project.

Q.12. Ans. [A]

- Statement 1 is correct:** Water vapor is the gaseous form of water. As you go higher in altitude, the air gets colder and less dense, which reduces its ability to hold water vapor. This is why the amount of water vapor decreases with increasing altitude.
- Statement 2 is incorrect:** The percentage of water vapor is generally higher in warmer regions like the tropics. This is due to increased evaporation at higher temperatures. The poles, being colder, have less evaporation and therefore a lower percentage of water vapor in the air.

Q.13. Ans. [D]

- Marine West Coast Climate:** This climate is characterized by mild temperatures due to the moderating influence of the ocean. Precipitation is abundant throughout the year, often brought by onshore winds. The given description aligns with these characteristics.

Why the other options are incorrect:

- Equatorial climate:** While this climate has consistent rainfall, the temperatures are much higher and have less variation than described.
- China type climate:** This climate has more distinct seasons with a wider temperature range.
- Humid subtropical climate:** This climate also has a wider temperature range and often experiences a drier season.

Q. 14. Ans. [C]

- Statement 1:** It increases with an increase in wind velocity. This is correct. The Coriolis force is directly proportional to the speed of the object (in this case, wind) that is moving. Higher wind velocity results in a stronger Coriolis force and thus, greater deflection.
- Statement 2:** It is maximum at the poles and is absent at the equator. This is also correct. The Coriolis force arises due to Earth's rotation. It is strongest at the poles, where the Earth's surface is rotating the fastest, and gradually decreases towards the equator, where it becomes zero.

Q.15. Ans [D]



- 1) **June 21st is the summer solstice in the Northern Hemisphere. This means the Earth's tilt is maximized towards the sun, resulting in the longest day of the year in the Northern Hemisphere.**
- 2) **Tropic of Cancer (23.5° N):** On the summer solstice, the sun is directly overhead at noon at the Tropic of Cancer. This leads to the maximum daylight hours at this latitude.
- 3) **Arctic Circle (66.5° N):** All latitudes north of the Arctic Circle experience 24 hours of daylight on the summer solstice. This is known as the midnight sun.
- 4) **Equator (0°):** The equator receives roughly 12 hours of daylight and 12 hours of darkness throughout the year.
- 5) **Tropic of Capricorn (23.5° S):** The Tropic of Capricorn experiences its shortest day on June 21st, as it is the winter solstice in the Southern Hemisphere.

### Q. 16. Ans [B]

The Congo Basin peatlands are the largest tropical peatlands in the world, storing an estimated 26-32 billion tonnes of carbon. This is roughly equivalent to three years of global fossil fuel emissions.

The other options are incorrect:

- 1) **Amazon Basin:** While containing vast areas of rainforest, it is not home to the largest tropical peatlands.
- 2) **Kikori Basin:** Located in Papua New Guinea, it is known for its biodiversity, but not its peatlands.
- 3) **Rio de la Plata Basin:** This is a river basin in South America and does not have extensive peatlands.

### Q. 17. Ans. [D]

- 1) **Statement 1:** PFAS are indeed found widely in drinking water, food, and food packaging materials due to their extensive use in various consumer and industrial products.
- 2) **Statement 2:** PFAS are known as "forever chemicals" because they do not easily break down in the environment, persisting for long periods.
- 3) **Statement 3:** Due to their persistence, PFAS can accumulate in animal bodies over time through a process called bioaccumulation.

Therefore, all three statements are correct.

### Q. 18. Ans. [b] Only three.

- 1) **Flies (Diptera):** Many fly families contain parasitoid species, such as Tachinid flies, which

are important parasitoids of caterpillars and other insects.

- 2) **Wasps (Hymenoptera):** This is the largest group of parasitoids, with many families specializing in parasitizing different hosts, including caterpillars, beetles, and aphids.
- 3) **Beetles (Coleoptera):** While most beetles are not parasitoids, a few families, such as Ripiphoridae, do have parasitoid members.
- 4) **Centipedes (Chilopoda) and Termites (Isoptera)** are not known to have parasitoid species within their ranks.

### Q. 19. Ans. C

All three plants - groundnut, horse-gram, and soybean - belong to the Fabaceae family, also known as the legume or pea family.

### Q. 20. Ans.[C] Statement-I is correct, but Statement-II is incorrect.

- 1) **Statement-I:** The Indian Flying Fox is indeed listed as vermin under the Wildlife (Protection) Act, 1972. This classification allows for their culling under certain circumstances.
- 2) **Statement-II:** Indian Flying Foxes are frugivorous, meaning they primarily feed on fruits. They do not feed on the blood of other animals.

### Q. 21. Ans. C

Cicadas are known for their loud songs and are classified as insects. Froghoppers (or spittlebugs) are small insects that create foamy masses for protection. Pond skaters are insects that can walk on the surface of water due to surface tension. None of these organisms are birds, fish, or reptiles.

### Q. 22. Ans. A

- 1) **Statement-I:** Many chewing gums are indeed considered a source of environmental pollution due to their improper disposal and the fact that their gum base is often made from non-biodegradable materials.
- 2) **Statement-II:** The gum base in many chewing gums is derived from synthetic polymers, which are essentially types of plastic. These plastics do



not readily break down in the environment, leading to pollution.

**Therefore, Statement-II** directly explains why Statement-I is true. The presence of plastic in many chewing gums is a major reason why they contribute to environmental pollution.

**Q. 23. Ans. D (None)**

**Explanation:-**

	Country	Animal Found in its natural habitat
1	Madagascar	Indri
2	North America and in high mountains of central asia	Elk
3	Democratic Republic of Congo	Bonobo

**Q. 24. Ans. [A]**

- Statement 1 is incorrect.** The World Toilet Organization (WTO) is an independent global non-profit organization, not a UN agency. However, it initiated the UN World Toilet Day, which is observed on November 19th.
- Statement 2 is correct.** The WTO has indeed initiated the World Toilet Summit, World Toilet Day, and the World Toilet College. These initiatives aim to raise awareness, drive action, and provide education and training to address the global sanitation crisis.
- Statement 3 is incorrect.** The WTO's primary focus is not on directly granting funds. Instead, it focuses on advocacy, education, and building local marketplace opportunities to drive demand for sanitation solutions and achieve sustainable sanitation for all.

**Q. 25. Ans. [A]**

- Statement 1:** Lions do not have a particular breeding season.

This is correct. Lions can breed throughout the year, although there may be peaks in certain seasons depending on the region.

- Statement 2:** Unlike most other big cats, cheetahs do not roar. This is correct. Cheetahs have a different vocalization pattern that includes purring, chirping, and other sounds, but not a full roar.
- Statement 3:** Unlike male lions, male leopards do not proclaim their territory by scent marking. This is incorrect. Both male lions and male leopards use scent marking (urine, feces, and glandular secretions) to mark their territory and communicate with other individuals.

**Q. 26. Ans. [A]**

**It is a platform for accelerating the transition towards food and water systems that are net-zero (carbon), nature-positive and that aims to increase farmer resilience.**

This initiative, led by the World Economic Forum, aims to reach one-fifth of the world's farmer population to drive transformative change in agriculture. It focuses on:

- Sustainability:** Promoting climate-smart and environmentally friendly farming practices.
- Resilience:** Enhancing farmers' ability to adapt to climate change and other challenges.
- Collaboration:** Bringing together public and private stakeholders to support farmers in the transition.

**Q. 27. Ans. [D]**

**All of the listed items are considered Distributed Energy Resources (DERs).**

- Battery storage:** Stores energy generated from other sources (like solar) and releases it when needed, often at the local level.
- Biomass generators:** Generate electricity from organic matter, typically located near the source of biomass.



- Fuel cells:** Convert fuel (like hydrogen) into electricity, often used for smaller-scale applications.
- Rooftop solar photovoltaic units:** Generate electricity from sunlight and are located at the point of consumption.

DERs are characterized by their smaller scale, location closer to the point of use, and ability to operate independently or in conjunction with the larger electrical grid.

**Q. 28. Ans. A**

**Figs and fig wasps** have a unique, obligate mutualism. The fig wasp is the only insect that can pollinate the fig, and the fig provides the only suitable breeding ground for the wasp. This relationship is an example of coevolution, where two species have evolved together in a way that benefits both.

**The other options are incorrect:**

- Mahua:** Mahua trees are pollinated by various insects, including bees, butterflies, and moths.
- Sandalwood:** Sandalwood trees are primarily pollinated by wind, but insects like bees can also play a role.
- Silk cotton:** Silk cotton trees are pollinated by a variety of insects, including bees, wasps, and butterflies.

**Q. 29. Ans. C**

- Butterflies:** Some species, like the Monarch butterfly, are poisonous due to the toxins they ingest from milkweed plants as caterpillars.
- Fish:** There are numerous poisonous fish species, such as pufferfish and lionfish.
- Frogs:** Many frog species secrete toxins through their skin as a defense mechanism.

**Q. 30. Ans. A**

- Out of the three options, only red sanders is native to India.**
- Cashew:** Originally native to South America, specifically Brazil. It was introduced to India by Portuguese traders in the 16th century.

- Papaya:** Believed to have originated in Central America and southern Mexico. It was also brought to India by traders.
- Red Sanders (Red Sandalwood):** A valuable tree species found in the Eastern Ghats of India. It is endemic to this region, meaning it is naturally found nowhere else.

**Q. 31. Ans. [B]**

- Statement 1 is incorrect:** RTGs are not fission reactors. They use the heat generated from the natural radioactive decay of isotopes (like Plutonium-238) to generate electricity.
- Statement 2 is correct:** RTGs are indeed used to power the onboard systems of spacecraft, especially those venturing far from the Sun where solar power isn't practical.
- Statement 3 is correct:** Plutonium-238, though also produced in reactors, can be a by-product of nuclear weapons production.

**Q. 32. Ans. [D] Statement-I is incorrect, but Statement-II is correct.**

- Statement I (Incorrect):** Giant stars actually live shorter lives than dwarf stars. This is because they burn through their nuclear fuel much faster due to their higher temperatures and pressures.
- Statement II (Correct):** Giant stars do have a much higher rate of nuclear reactions compared to dwarf stars. The immense pressure and temperature in their cores drive fusion at a rapid pace.
- The relationship between the statements:** The higher rate of nuclear reactions in giant stars (Statement II) is the very reason why they burn through their fuel so quickly and have shorter lifespans (contradicting Statement I).

**Q. 33. Ans. [A]**

- Nitric oxide (NO) is a naturally produced gas in the human body. It plays a crucial role as a signaling molecule, particularly in the cardiovascular system. One of its primary functions is to relax and dilate blood vessels, leading to increased blood flow and lower blood pressure.



- 2) Nitrous oxide (N<sub>2</sub>O) is commonly known as laughing gas and is used as an anesthetic. It doesn't have the same vasodilatory effects as nitric oxide.
- 3) Nitrogen dioxide (NO<sub>2</sub>) and Nitrogen pentoxide (N<sub>2</sub>O<sub>5</sub>) are pollutants and do not have a physiological role in the human body in terms of blood vessel dilate.

**Q.34. Ans. C. All three.**

- 1) **Identification of narcotics:** While not the primary method, specialized radar systems can be used to detect anomalies in luggage or on a person's body that might indicate hidden narcotics.
- 2) **Monitoring of precipitation:** Weather radar is a fundamental tool for tracking the formation, movement, and intensity of precipitation.
- 3) **Tracking the migration of animals:** Radar technology is used to monitor the movement of large groups of animals like birds, insects, and bats during migration.

**Q. 35. Ans. [D]**

None of the aircraft listed are considered fifth-generation fighter aircraft.

- 1) **Rafael:** This is a series of aircraft made by Israel, including the Rafale fighter jet (often misspelled as Rafael). The Rafale is a 4.5 generation fighter.
- 2) **MiG-29:** This is a Russian-designed 4th generation fighter jet.
- 3) **Tejas MK-1:** This is a 4.5 generation fighter jet developed by India.
- 4) Fifth-generation fighters are characterized by advanced stealth capabilities, sensor fusion, supercruise, and high maneuverability. Some examples of fifth-generation fighters include the F-22 Raptor, F-35 Lightning II, J-20, and Su-57.

**Q. 36. Ans. D**

- 1) **Controlled drug delivery in patients:** This is the most common and well-known use of hydrogels, as they can be designed to release drugs at specific rates and locations within the body.
- 2) **Mobile air-conditioning systems:** While not as common, hydrogels can be used in air-conditioning systems as a desiccant material to

absorb moisture from the air. This helps improve the efficiency and performance of the system.

- 3) **Preparation of industrial lubricants:** Hydrogels can be used as thickeners and stabilizers in industrial lubricants, improving their viscosity and lubrication properties.

**Q. 37. Ans. [D]**

Fuel cell electric vehicles (FCEVs) powered by hydrogen produce electricity through a chemical reaction between hydrogen and oxygen. The only byproduct of this reaction is water (H<sub>2</sub>O), which is emitted as water vapor.

**The other options are incorrect:**

- Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) is a different chemical compound and not a byproduct of FCEVs.
- Hydronium (H<sub>3</sub>O<sup>+</sup>) is an ion formed in acidic solutions and not relevant to FCEV emissions.
- Oxygen (O<sub>2</sub>) is one of the reactants in the fuel cell, not a product.

**Q. 38. Ans. C**

**Pumped-storage hydropower (PSH) is a technology** used to store excess energy during periods of low demand and release it during periods of high demand. This makes it an excellent solution for long-duration energy storage, especially when coupled with intermittent renewable energy sources like wind and solar.

**Other options:**

**(A) Irrigation of terraced crop fields:** While PSH involves moving water, it's not directly related to irrigation methods.

**(B) Lift irrigation of cereal crops:** Similar to A, PSH is not specifically designed for lift irrigation.

**(D) Rainwater harvesting system:** PSH can be used to store excess energy from renewable sources, but it's not a primary component of rainwater harvesting systems.

**Q. 39. Ans. [D]**



- 1) **Membrane Bioreactors (MBRs)** are a type of **wastewater treatment** technology that combines biological treatment with membrane filtration to remove pollutants.
- 2) This combination allows for a compact footprint and high-quality effluent, making MBRs suitable for various applications, including municipal and industrial wastewater treatment.

**Option: [A] Assisted reproductive technologies:**

These technologies deal with procedures like in vitro fertilization (IVF), where membrane bioreactors are not used.

**Option: [B] Drug delivery nanotechnologies:** These technologies focus on using nanoparticles to deliver drugs to specific locations in the body, and membrane bioreactors are not directly involved in this process.

**Option: [C] Vaccine production technologies:** While membranes may be used in certain stages of vaccine production (e.g., purification), membrane bioreactors specifically are not a primary technology in this field.

Q.40. Ans. [C]

**Collateralized Borrowing and Lending Obligations (CBLOs)** are short-term money market instruments used for borrowing and lending funds. They were introduced in India by the Clearing Corporation of India Ltd. (CCIL) to provide liquidity support to non-bank entities who are restricted from accessing the interbank call money market.

- **Bond market:** Deals with long-term debt instruments (bonds) issued by governments and corporations.
- **Forex market:** Facilitates the exchange of foreign currencies.
- **Stock market:** Where shares of publicly listed companies are traded.

Q.41. Ans.[D]

- **[A] the number of children born per 1000 people in the population in a year:** This describes the crude birth rate.

- **[B] the number of children born to a couple in their lifetime in a given population:** This is a factor in fertility rates but doesn't define it.
- **[C] the birth rate minus death rate:** This describes the rate of natural increase.

The total fertility rate is a key indicator used to understand population dynamics and project future population growth. **A total fertility rate of 2.1** is generally considered the replacement level in developed countries, meaning each generation will replace itself.

Q. 42. Ans. [C] or [D]

Q. 43. Ans. [D]

In India, all of the following can trade in Corporate Bonds and Government Securities:

- **Insurance Companies:** They invest in these securities as part of their asset allocation strategy.
- **Pension Funds:** These funds invest in these securities to generate returns for future pension payouts.
- **Retail Investors:** Individual investors can also buy and sell these securities through various platforms and brokers.

This is a well-established part of the Indian financial market, allowing a wide range of participants to access and trade in these instruments.

Q. 44. Ans. [D]

- **Exchange-Traded Funds (ETFs):** These are investment funds traded on stock exchanges, representing a collection of assets like stocks, bonds, or commodities. They are a type of security and hence a financial instrument.
- **Motor vehicles:** These are physical assets used for transportation and not considered financial instruments.
- **Currency swap:** This is a derivative contract where two parties exchange principal and interest payments in different currencies. It is a financial instrument.



Therefore, only ETFs and currency swaps are considered financial instruments.

**Q. 45. Ans.[B]**

1. **Storage of agricultural produce:** Tertiary sector
2. **Dairy farm:** Primary
3. **Mineral exploration:** Primary - This is also correct. Mineral exploration involves extracting raw materials from the earth.
4. **Weaving cloth:** Secondary - This is correct. Weaving involves the transformation of raw materials (cotton, wool, etc.) into a finished product.

**Q. 46. Ans.[C]**

An estimated 1 billion dry tons of biomass can be collected sustainably each year in the United States, enough to produce 50–60 billion gallons of low-carbon biofuels. These resources include:

- Corn grain
- Oil seeds
- Algae
- Other fats, oils, and greases
- Agricultural residues
- Forestry residues
- Wood mill waste
- Municipal solid waste streams
- Wet wastes (manures, wastewater treatment sludge)
- Dedicated energy crops.

This vast resource contains enough feedstock to meet the projected fuel demand of the U.S. aviation industry, additional volumes of drop-in low carbon fuels for use in other modes of transportation, and produce high-value bioproducts and renewable chemicals.

**Q. 47. Ans [B]**

- **Farmer's plough:** This is a tool used in the production process and is considered fixed capital.
- **Computer:** A computer is a long-lasting asset used in production and is categorized as fixed capital.

- **Yarn used by the weaver:** Yarn is a raw material that is consumed in the production process and is considered working capital.
- **Petrol:** Petrol is a fuel used in the production process and is considered working capital.

**Q. 48. Ans. C**

**1) Metaverse** specifically refers to the concept of a shared, immersive digital space where users interact with each other and virtual objects, often with elements of ownership and persistent economies. This aligns perfectly with the description provided.

**2) Big data** analytics deals with the processing and analysis of large datasets, not the virtual worlds themselves.

**3) Cryptography** focuses on secure communication and data protection, which is relevant to the metaverse but not its defining feature.

**4) Virtual matrix** is a broader term that can encompass various virtual environments but doesn't necessarily imply the specific interoperable and ownership-focused nature of the metaverse.

**Q. 49. Ans. [B]**

**1) Statement 1 is incorrect.** The Reserve Bank of India (RBI) mandates a minimum capital requirement for wholly owned banking subsidiaries (WOS) in India. The initial minimum paid-up voting equity capital for a WOS is ₹5 billion.

**2) Statement 2 is correct.** The RBI requires that at least 50% of the board of directors of a WOS should be Indian nationals residing in India. This is to ensure local representation and understanding of the Indian banking environment.

**Q. 50. Ans. [A]**

**1) Statement 1: This is correct.** The Companies Act, 2013, and the CSR Rules specifically exclude activities that primarily benefit the company or its employees from being considered as CSR activities. This is to ensure that CSR initiatives genuinely benefit society at large.





- 2) **Statement 2: This is incorrect.** The CSR rules mandate that companies meeting specific criteria (net worth, turnover, or net profit) must spend at least 2% of their average net profits of the preceding three years on CSR activities.

### Q. 51. Ans. [D]

- 1) **Statement I:** While a US debt default would have severe economic consequences and likely lead to legal disputes, it does not automatically mean bondholders lose their claim to payment. They would still have a legal right to be repaid, although the timing and amount of repayment could be uncertain.
- 2) **Statement II:** This is correct. US government debt, like most sovereign debt, is not backed by physical assets like gold. Its value is derived from the trust and confidence in the US government's ability to repay its obligations. This trust is based on the government's taxing power and the overall strength of the US economy.

### In summary:

While the US government has never defaulted on its debt, such an event would have significant ramifications. However, bondholders would not automatically lose their right to payment. US government debt is backed by the full faith and credit of the US government, not by physical assets.

### Q. 52. Ans. [C]

- 1) **Statement I:** Syndicated lending involves multiple lenders sharing the financing for a single borrower. This indeed spreads the risk of borrower default as no single lender is responsible for the entire loan amount.
- 2) **Statement II:** Syndicated loans can take various forms, including fixed amounts, revolving credit lines (where the borrower can draw and repay funds up to a limit), and term loans. Therefore, the statement that a syndicated loan cannot be a credit line is incorrect.

### Q. 53. Ans. [D]

- 1) **Statement 1: Correct.** The digital rupee (₹) is indeed a digital version of India's national

currency, issued directly by the RBI. It functions within the framework of the RBI's monetary policy objectives.

- 2) **Statement 2: Correct.** Like physical currency, the ₹ is a liability on the RBI's balance sheet, representing a claim that the holder has against the central bank.
- 3) **Statement 3: Incorrect.** The digital rupee is not inherently insured against inflation. Its value, like that of physical currency, can be eroded by inflation.
- 4) **Statement 4: Correct.** It is freely convertible against commercial bank money and cash.

### Q. 54. Ans. [B]

- 1) **Shakyamuni:** This epithet means "Sage of the Shakyas". The Shakyas were the clan Gautama Buddha was born into.
- 2) **Tathagata:** This is a Pali word often translated as "Thus-gone" or "One who has thus come". It is a term Buddha frequently used to refer to himself.
- 3) **Nayaputta is not an** epithet of Gautama Buddha. It is a term used in Jainism to refer to Mahavira, the last Tirthankara.

### Q. 55. Ans. [B]

- 1) **Inamgaon (Maharashtra):** This site is indeed known for its Chalcolithic remains, featuring evidence of early farming and settlements.
- 2) **Mangadu (Kerala):** Megalithic sites are characterized by large stone structures and burial chambers, which are found in Mangadu.
- 3) **Chandraketugarh (West Bengal):** This site is located in West Bengal, not Odisha. It was an ancient trading port town.
- 4) **Salihundam (Andhra Pradesh):** While Andhra Pradesh does have rock-cut cave shrines, Salihundam is primarily known for its Buddhist stupa.

### Q. 56. Ans. [A]

### Q. 57. Ans [B]

- 1) **Statement 1 is incorrect.** The Ryotwari Settlement, introduced later by Thomas Munro, did not have provisions for exempting peasants from revenue payments in case of bad harvests or



natural calamities. This was a major criticism of the system, as it often led to indebtedness and hardship for peasants during difficult times.

- 2) **Statement 2 is correct.** The Permanent Settlement, introduced by Lord Cornwallis in 1793, established a system where Zamindars had to pay a fixed amount of revenue to the state regardless of the actual revenue collected from the peasants. If a Zamindar failed to make this payment on time, the Zamindari could be auctioned off.

Q.58.Ans.[B]

- 1) **Statement 1 is incorrect:** The Upanishads do contain parables. For example, the Chandogya Upanishad includes the parable of Svetaketu and the honey to explain the nature of reality.
- 2) **Statement 2 is correct:** The Upanishads are considered to be older than the Puranas. The Upanishads are the philosophical core of the Vedas, while the Puranas are later texts that focus on mythology and legends.

Q. 59.Ans.[A]

- 1) **Statement 1 is correct:** India is indeed a member of the International Grains Council (IGC).
- 2) **Statement 2 is incorrect:** Membership in the IGC is not a prerequisite for a country to export or import rice and wheat. The IGC primarily focuses on promoting cooperation and transparency in the global grains trade, not regulating it.

Q. 60. Ans. [C]

Q. 61. Ans.[D]

Q. 62. Ans. [A]

- 1) **Statement 1 is correct.** The Government of India Act, 1935 proposed the establishment of an All-India Federation, which would comprise both the British Indian provinces and the Princely States. However, this federation never came into being due to opposition from the princely states.
- 2) **Statement 2 is incorrect.** The Act kept subjects like Defence and Foreign Affairs under the direct control of the Governor-General, who was appointed by the British Crown. These subjects

were not under the purview of the federal legislature.

Q. 63.Ans [C]

- **Madhyama-vyayoga** is one of the thirteen plays attributed to Bhasa, a renowned Sanskrit playwright.

The other options are incorrect:

- **Kavyalankara** is a work on Sanskrit poetics by Bhamaha.
- **Natyashastra** is a treatise on performing arts attributed to Bharata Muni.
- **Mahabhashya** is a commentary on Pāṇini's Ashtadhyayi written by Patanjali.

Q. 64. Ans [C]

Q. 65. Ans [B]

- 1) Shantiniketan and Sacred Ensembles of the Hoysalas were both added to the UNESCO World Heritage List in 2023.
- 2) Rani-ki-Vav and Mahabodhi Temple Complex at Bodh Gaya were inscribed on the list earlier.

Q. 66. Ans [D]

Q. 67. Ans. [A]

- 1) Japan has the world's oldest population and has been facing a declining birth rate for many years.
- 2) South Korea also has one of the lowest fertility rates in the world and is rapidly aging.
- 3) While Italy also has a low birth rate and aging population, it is not as frequently mentioned in the media as Japan and South Korea. Nigeria and South Africa, on the other hand, have relatively young populations and high birth rates.

Q. 68. Ans. [C]

- 1) **Statement 1 is Correct. Article 109, of the Indian Constitution outlines the special procedure in respect of money bill.**
- 2) **Statement 2 is correct. Article 109(1) states a Money Bill shall not be introduced in the Council of States.** [A Money Bill can only be introduced in



the Lok Sabha (House of the People) and not in the Rajya Sabha (Council of States)].

- Statement 3 is correct.** The Rajya Sabha can only recommend amendments to a Money Bill within 14 days. The Lok Sabha may choose to accept or reject these recommendations.
- Statement 4 is incorrect.** The Lok Sabha is not obligated to accept any amendments suggested by the Rajya Sabha to a Money Bill.

### Q. 69. Ans. [D]

Equivalent Ranks of Commissioned Officers in the Three Defence Services in India

Air Force	Army
Marshal of the Indian Airforce	Field Marshal
Air Chief Marshal	General
Air Marshal	Lieutenant General (Army Commodore / VCOAS)
Air Vice Marshal	Lieutenant General
Air Commodore	Brigadier
Group Captain	Colonel
Wing Commander	Lieutenant Colonel
Squadron Leader	Major
Flight Lieutenant	Captain
Flying Officer	Lieutenant
Flight cadet	-

### Q. 70. Ans. [A]

- The North Eastern Council (NEC), after the 2002 amendment, comprises:**
- Governors of the Constituent States: The eight states in the North Eastern Region are Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura.
- Chief Ministers of the Constituent States: The Chief Ministers of the above eight states.
- Three Members Nominated by the President of India: These are additional members nominated by the President.
- The Home Minister of India is the ex-officio Chairman of the NEC, but not a constituent member** as per the Act. The Minister of Development of North Eastern Region (DoNER) is the ex-officio Vice-Chairman.

### Q.71. Ans.[D]

- Delimitation Commissions have been set up four times in India: 1952, 1963, 1973 and 2002**
- These commissions were established under Delimitation Commission Acts enacted after each census to redraw the boundaries of constituencies based on the changing population.

### Q.72. Ans [A]

- The Constitution (71st Amendment) Act, 1992** added the following languages to the Eighth Schedule of the Indian Constitution: Konkani, Manipuri and Nepali
- Maithili was added later, along with Bodo, Dogri, and Santhali, through the 92nd Amendment Act of 2003.**

### Q. 73. Ans. [B] Pair 1 & 3 are correctly matched

### Q. 74. Ans. [D]

- Statement 1 is Correct:** Powers of Municipalities are given in Part IXA of the Constitution. Part IXA was added by the 74th Amendment Act of 1992.
- Statement 2 is correct:** Emergency provisions are indeed covered in Part XVIII of the Constitution.
- Statement 3 is correct:** Provisions related to the amendment of the Constitution are given in Part XX.

### Q. 75. Ans. [C]

- Inter-State trade and commerce** falls under the **Union List**, giving the central government exclusive power over it.
- Inter-State irrigation** is not specifically mentioned in any list, but it is generally considered to be a matter of **inter-state coordination** and falls under neither list exclusively.
- Corporation tax** is a **Union subject** under the Union List.

The division of powers between the Union and State governments is outlined in the Seventh Schedule of the Indian Constitution, which contains three lists:

- Union List:** Subjects on which the central government has exclusive powers to legislate.



- **State List:** Subjects on which state governments have exclusive powers to legislate.
- **Concurrent List:** Subjects on which both the central and state governments can legislate.

Q. 76. Ans. [D]

Q.77. Ans. [D]

- 1) As the Permanent Chairman of the Chiefs of Staff Committee (**Option 1**)
- 2) The task of Chief of Defence Staff is to better standardize weapons procurement procedures and combine operations of the Army, Air Force and Navy (implying being a Principal Military Advisor)
- 3) There is no mention of exercising military command over the three Service Chiefs (**Option 2 is incorrect**)

Q. 78. Ans. C

- 1) **Operation Sadbhavana** is a long-term initiative by the Indian Army focused on the socio-economic development of people residing in remote and border areas, especially in Jammu and Kashmir and the Northeast. The operation aims to address basic needs, improve infrastructure, and provide educational and healthcare facilities.
- 2) **Operation Sankalp:** An Indian Navy operation focused on maritime security in the Persian Gulf.
- 3) **Operation Maitri:** An Indian Army operation focused on providing humanitarian assistance and disaster relief to Nepal after the 2015 earthquake.  
**Operation Madad:** An Indian Navy operation focused on providing humanitarian assistance and disaster relief during floods in Kerala and other regions.

Q. 79. Ans. [A]

Q.80. Ans. [C]

- 1) Initially it was an ad-hoc Committee. **This is correct.** The Ethics Committee in the Lok Sabha was initially formed as an ad-hoc committee and later became a permanent standing committee.
- 2) Only a Member of the Lok Sabha can make a complaint relating to unethical conduct of a

member of the Lok Sabha. **This is incorrect.** Any person can make a complaint relating to the unethical conduct of a member of the Lok Sabha.

- 3) This Committee cannot take up any matter which is sub-judice. **This is correct.** The Ethics Committee cannot deal with any matter that is currently under judicial consideration (sub-judice).

Q.81. Ans. [C]

- 1) **Statement 1 is incorrect:** The provisions of the Nari Shakti Vandan Adhiniyam (Women's Reservation Bill) will come into effect after the delimitation exercise, which is expected to happen after the 2026 census. Therefore, it's unlikely to be implemented before the 19th Lok Sabha.
- 2) **Statement 2 is correct:** The Act will be in force for 15 years after it is enacted and implemented.
- 3) **Statement 3 is correct:** The Act has provisions for reserving seats for Scheduled Caste women within the quota reserved for Scheduled Castes in both the Lok Sabha and State Assemblies.

Q.82. Ans. [D]

- 1) **Statement 1: Incorrect.** Exercise Mitra Shakti-2023 was a joint military exercise between India and Sri Lanka, not Bangladesh.
- 2) **Statement 2: Correct.** The exercise commenced in Aundh (Pune), India.
- 3) **Statement 3: Correct.** One of the goals of this exercise was to practice joint responses during counter-terrorism operations.
- 4) **Statement 4: Correct.** Both the Indian Air Force and the Sri Lankan Air Force participated in the exercise.

Q.83. Ans. [C]

- 1) **Writ of Prohibition:** This writ is a legal instrument issued by a higher court (Supreme Court or High Court) to a lower court or tribunal to prevent it from exceeding its jurisdiction or acting beyond its legal authority in a particular case.
- 2) **Purpose:** The writ ensures that judicial and quasi-judicial bodies act within their legal boundaries. It's a way to maintain the hierarchy of the court system and prevent unlawful exercise of power.



- 3) **Option [A] a government officer prohibiting him from taking a particular action:** While writs can be issued against government officials, this would usually be a writ of mandamus (to compel action) or certiorari (to quash a decision).
- 4) **Option [B] the Parliament/Legislative Assembly to pass a law on Prohibition:** Writs cannot be issued to legislative bodies. These bodies have the power to make laws within their constitutional mandate.
- 5) **Option [D] the Government prohibiting it from following an unconstitutional policy:** While writs can challenge government actions, this would likely be a writ of quo warranto (to question the legality of an action) or habeas corpus (to secure the release of a person unlawfully detained).

Q.84. Ans. [B]

- 1) **Statement 1 is incorrect:** The President of India, in consultation with the Governor of the State, has the power to declare a community as a Scheduled Tribe (ST) under Article 342 of the Indian Constitution.
- 2) **Statement 2 is correct:** A community declared as a Scheduled Tribe in one state may not be recognized as such in another state. The list of Scheduled Tribes can vary from state to state, depending on the specific communities residing in that region.

Q.85. Ans. [B]

Q.86. Ans [D]

Q.87. Ans.[B] Pair 1 & 2 are correctly matched

Q.88. Ans.[A]

- 1) **Statement-I:** The SUMED (Suez-Mediterranean) pipeline is a crucial alternative route for transporting oil from the Persian Gulf to Europe. It bypasses the Suez Canal, providing a strategic advantage.
- 2) **Statement-II:** The SUMED pipeline is located in Egypt and physically connects the Red Sea (where tankers arrive from the Persian Gulf) to the Mediterranean Sea (from where oil is shipped to Europe).
- 3) **Statement-II** directly explains why the SUMED pipeline is strategic (Statement-I): its location

allows it to provide an alternative and efficient route for transporting oil between the two regions.

89. Ans. [C]

- 1) **Statement 1:** The Red Sea is located in an arid region and receives very little rainfall.
- 2) **Statement 2:** The Red Sea is not fed by any rivers. Its water comes from the Gulf of Aden.

90. Ans. [D]

- 1) The EPA states that the largest sources of sulfur dioxide (SO<sub>2</sub>) emissions come from the burning of fossil fuels, primarily in power plants.
- 2) While the other options listed can contribute to SO<sub>2</sub> emissions, they are not as significant as power plants.

Q.91. Ans.[A]

- 1) **Statement I:** The Sahel region has been facing increasing instability due to factors like poverty, climate change, and the presence of extremist groups. This has led to a deteriorating security situation.
- 2) **Statement II:** In recent years, there have been several military coups in Sahel countries like Mali, Burkina Faso, and Niger. These coups are often triggered by the dissatisfaction with the government's inability to address the security crisis and other challenges.
- 3) The military takeovers (Statement II) are a significant factor contributing to the instability and worsening security situation (Statement I) in the Sahel region.
- 4) **Additional information:**
  - The instability in the Sahel has regional and international consequences, contributing to the displacement of people, the rise of extremism, and challenges in governance and development.
  - The international community is concerned about the situation in the Sahel and has been working on initiatives to promote stability and security in the region.



**Q.92. Ans. [D]**

- 1) Statement-I is incorrect:** India does import apples from the United States. There was a period where a retaliatory tariff impacted imports, but this has been lifted, and imports have resumed.
- 2) Statement-II is correct:** In India, the Food Safety and Standards Act, 2006, prohibits import, manufacture, use or sale of GM food without FSSAI's approval.

**Q.93. Ans [A]**

**Q.94. Ans. Statement 1:** A bill pending in the Lok Sabha lapses on its dissolution. This is correct. When the Lok Sabha (the lower house of the Indian Parliament) is dissolved, any bill that is still under consideration in the Lok Sabha automatically lapses. It would need to be reintroduced in the new Lok Sabha.

**Statement 2:** A bill passed by the Lok Sabha and pending in the Rajya Sabha lapses on the dissolution of the Lok Sabha. This is also correct. Even if a bill has been passed by the Lok Sabha, it must also be passed by the Rajya Sabha (the upper house) to become law. If the Lok Sabha is dissolved before the Rajya Sabha passes the bill, the bill lapses.

**Statement 3:** A bill in regard to which the President of India notified his/her intention to summon the Houses to a joint sitting lapses on the dissolution of the Lok Sabha. This is incorrect. If the President has notified an intention to summon a joint sitting of both houses to resolve a deadlock on a bill, that bill does not lapse even if the Lok Sabha is dissolved. The joint sitting can proceed with the new Lok Sabha once it is formed.

**Q.95. Ans. [c] 2 and 3.**

- 1) Statement 1: Incorrect** - The President of India acts on the advice of the Council of Ministers for all executive decisions, including the prorogation of the Houses of Parliament.
- 2) Statement 2: Correct** - Prorogation usually happens after the House is adjourned sine die (indefinitely), but the President does have the power to prorogue a House while it is still in session.

- 3) Statement 3: Correct** - The President dissolves the Lok Sabha, generally on the advice of the Council of Ministers. However, in exceptional circumstances, the President may exercise discretionary powers.

**Q.96. Ans. [C]**

- 1) Statement-I:** The European Parliament did recently approve the Net-Zero Industry Act as part of the Green Deal Industrial Plan.
- 2)** This act aims to boost the manufacturing of clean technologies within the EU.
- 3) Statement-II:** While the EU aims for climate neutrality by 2050 (not 2040), the Net-Zero Industry Act focuses on increasing the manufacturing capacity of clean technologies within the EU, not solely developing all of its own technology. The act aims to enhance competitiveness and resilience in the production of these technologies.

**Q. 97. Ans. [D]** Statement-I is incorrect, but Statement-II is correct.

- 1) Statement I:** While Venezuela's economy has shown some signs of recovery in recent years (primarily due to increased oil production and eased sanctions), it has not achieved a rapid recovery from its economic crisis. The country still faces significant challenges, including hyperinflation, shortages of basic goods, and widespread poverty. This has led to continued emigration of Venezuelans to other countries.
- 2) Statement II:** This statement is correct. Venezuela does indeed have the world's largest proven oil reserves.



Q. 98. Ans. D

### DIGITAL INDIA LAND RECORDS MODERNISATION PROGRAMME (DILRMP)



Centrally Sponsored Schemes viz. Computerisation of Land Records (CLR) and Strengthening of Revenue Administration and Updating of Land Records (SRA&ULR) were merged into a modified Scheme named Digital India Land Records Modernisation Programme (DILRMP) which

was launched in 2008. It is a Central Sector scheme with 100 per cent funding by the Government of India. It has been extended till 2025–26.

- It seeks to improve the quality and accessibility of land records in the country and move towards **guaranteed titles**.
- **National Informatics Centre (NIC)** is responsible for the installation and maintenance of hardware and software. NIC is also responsible for training to the officials and technical support.
- The major components of the programme are as follows:
  - i. Computerisation of all land records including mutations/transfers.
  - ii. Digitisation of maps and integration of textual and spatial data.
  - iii. Survey/re-survey and updation of all survey and settlement records including creation of original cadastral records wherever necessary.
  - iv. Computerisation of registration and its integration with the land records maintenance system.
  - v. Development of core Geospatial Information System (GIS).
  - vi. Aadhaar linking with land records on a voluntary basis.

Q. 99. Ans. [B]

- 1) **Statement 1 is incorrect:** The **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)** focuses on providing assured, comprehensive, and quality antenatal care to pregnant women on the 9th of every month. It does not include post-delivery health care services.
- 2) **Statement 2 is correct:** The scheme encourages private sector health care providers, including specialists like gynecologists, radiologists, and physicians, to volunteer their services at government health facilities to enhance the quality of care provided under PMSMA.

Q. 100. Ans. [B]

- 1) **Statement 1: Incorrect.** The entry age for the PM-SYM scheme is 18 to 40 years.
- 2) **Statement 2: Correct.** The contribution amount varies depending on the age of enrollment.
- 3) **Statement 3: Correct.** The scheme guarantees a minimum pension of ₹3,000 per month upon reaching the age of 60.
- 4) **Statement 4: Incorrect.** Family pension is applicable only to the spouse of the beneficiary.

**About PM-SYM:**

**Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)** is a pension scheme for unorganized workers in India. It aims to provide social security and old-age protection to workers in the unorganized sector.