ENSURE IAS

Current Affairs Total (CAT)

November 2023

INDEX

A. POLITY & GOVERNANCE

1. J&K |ARTICLE-370|ARTICLE-35A 1
2. SIMULTANEOUS ELECTIONS AT ALL 3 TIERS (CENTRE, STATE AND LOCAL BODIES) 2
3. IS SECTION 6A OF THE CITIZENSHIP ACT, 1955, CONSTITUTIONAL? 3
4. CCPA'S GUIDELINES AGAINST DARK PATTERNS OF INTERNET 5
5. BSF JURISDICTION VS STATE POLICE JURISDICTION 6
6. NCRB'S CRIME IN INDIA 2022 REPORT 6
7. ELECTORAL FUNDING IN INDIA 8
8. SOLUTION TO FILM PIRACY 9
9. SPECIAL AND LOCAL LAWS 9
10. AAINA DASHBOARD: A CATALYST FOR URBAN EXCELLENCE IN INDIA 10
11. BIHAR'S PUSH FOR SPECIAL CATEGORY STATUS 10
12. CONTROVERSIAL DUAL ROLE OF GOVERNOR 12
13. ECI'S ENCORE SYSTEM RESHAPES INDIAN ELECTIONS 13
14. OPERATION NANHE FARISTEY 13
15. RIGHT TO INFORMATION 14

B. INTERNATIONAL RELATIONS

1. INDIA - AUSTRALIA 2+2 TALKS 16
2. INDIA - UK RELATION 17
3. ASEAN DEFENCE MINISTERS' MEETING PLUS 17
4. INDIA BHUTAN AGREEMENT TO EXPAND CONNECTIVITY & TRADE 18
5. INDIA - USA 2+2 MINISTERIAL TALKS 19
6. IPEF: INDO-PACIFIC ECONOMIC FRAMEWORK FOR PROSPERITY 20
7. LASHKAR-E-TAIBA A TERROR ORGANISATION : ISRAEL 21
8. VOICE OF GLOBAL SOUTH SUMMIT 22
9. NDIA-EU SEMICONDUCTOR AGREEMENT 23
10. INDO-PACIFIC REGIONAL DIALOGUE -2023 23

C. SECURITY

1. DISTURBANCE IN MYANMAR 24
2. FATF REPORT ON TERROR CROWDFUNDING 25
3. GLOBAL NUCLEAR REGULATION 26
4. J&K POLICE: 1ST IN INDIA TO USE GPS TRACKER ANKLETS 27
5. UNLF SIGNED PEACE AGREEMENT 28
6. NATIONAL SECURITY STRATEGY 29
7. INDIGENOUS DEVELOPMENT OF LR-SAMDEFENSE SYSTEM 30
8. SPACE WARFARE 31
9. STATE SPONSORED ATTACK 33
10. MILITARY EXERCISES IN NEWS 34

D. ECONOMY

1. DRAFT NATIONAL PHARMACY COMMISSION BILL, 2023 35
2. LEAP AHEAD INITIATIVE 36
3. EXCHANGE RATE MANAGEMENT IN INDIA 36
4. INDIA'S LEADERSHIP IN GLOBAL DIGITAL INFRASTRCTURE 37
5. ONLINE GAMING INDUSTRY SIGNS A CODE OF CONDUCT 39
6. DIGITAL ADVERTISEMENT POLICY 2023 40
7. INDIA APPROVES GRAIN STORAGE PLAN IN COOPERATIVE SECTOR 41
8. CCI BECOMES MEMBER OF ICN 42
9. INDIA WILL CHAIR I.S.O 42
10. INVESTOR RISK REDUCTION ACCESS PLATFORM 42
11. KRISHI 24/7: AI-POWERED PLATFORM 43
12. PM GATI SHAKTI INITIATIVE 43
13. UN CONVENTION ON INTERNATIONAL TAX COOPERATION 44
14. GLOBAL DEBT 45
15. CREDIT INFORMATION COMPANIES 46

E. SCIENCE & TECHNOLOGY

1. GLOBAL POSITIONING SYSTEM 47
2. NITROGEN-9 47
3. ULTRA-PROCESSED FOODS: HIDDEN COSTS OF UNHEALTHY DIETS 48
4. WI-FI 7 TECHNOLOGY 49
5. WHO'S WORLD MALARIA REPORT 2023 50
6. AI IN AGRICULTURE AND HEALTHCARE 51
7. CCRAS LAUNCHED AGNI 53
8. EJECTA HALO: MOON DUST RINGS AROUND LANDINGS 54
9. EUCLID SPACE TELESCOPE 54
10. CAR-T CELL THERAPY 54
11. PRIVATE 5G: A NETWORK BUILT FOR BUSINESS 56
12. WASP-107B: A "FLUFFY" EXOPLANET WITH SAND RAIN 56
13. WHITE HYDROGEN: A PROMISING CLEAN ENERGY FRONTIER 57
14. WHO'S GONE INITIATIVE TARGETS RIVER BLINDNESS 57
15. DIVERSE EPIGENETIC EPIDEMIOLOGY PARTNERSHIP 58
16. DEEPFAKES 58
17. GLOBAL TB REPORT 2023 60
18. 25 YEARS OF INTERNATIONAL SPACE STATION 61
19. DAYAPAR WIND PROJECT AND WIND ENERGY IN INDIA 62
20. WORLD'S FIRST CHIKUNGUNYA VACCINE: IXCHIQ 62

F. GEOGRAPHY & ENVIRONMENT

1. NATIONAL EFFICIENT COOKING PROGRAMME 63
2. THE GLOBAL CLIMATE 2011-2020: WMO 64
3. ADAPTATION GAP REPORT 2023 64
4. AIR POLLUTION, STUBBLE BURNING AND CLOUD SEEDING 65
5. CLIMATE EQUALITY: A PLANET FOR THE 99% 67
6. GREEN BUILDINGS 68
7. HIMALAYAS' VULNERABILITY TO LANDSLIDES 70
8. STATE OF CLIMATE SERVICES REPORT 2023 70
9. UNITED NATIONS FORUM ON FORESTS 71
10. 3 Basins Summit 73
11. CLIMATE CHANGE AND CHILDREN 75
12. MANDATORY BIOGAS BLENDING 76
13. METHANOL DIESEL 15 77
14. UNCCD Data Dashboard 78
15. WORLD'S LARGEST SOLAR FACILITIES 79

G. SOCIAL & CULTURE

1. JAL DIWALI: WOMEN FOR WATER, WATER FOR WOMEN CAMPAIGN 80
2. REGULATIONS OF FOREIGN HIGHER EDUCATIONAL INSTITUTIONS 80
3. SANT MEERA BAI 81
4. SHARDA TEMPLE 82
5. SURROGACY IN INDIA 82
6. TRANSGENDER IN ARMED FORCES 85
7. TRANSGENDER IN SPORTS 85
8. UNESCO CREATIVE CITIES NETWORK 86
9. JANJATIYA GAURAV DIWAS MISSION 87
10. RECRIMINALISING ADULTERY 88

H. ETHICS

1. ETHICS IN SPORTS 90
2. ETHICS OF WAR 91
3. KNOWLEDGE WITHOUT CHARACTER 93

I. ESSAY

1. HISTORY IS A SERIES OF VICTORIES WON BY THE SCIENTIFIC MAN OVER THE ROMANTIC MAN 95

J. SCHEME

1. MISSION KARMAYOGI 100
2. 'SHREYAS' SCHEME 100

A. POLITY & GOVERNANCE

1. J&K |Article-370|Article-35A

1. **1947-** After Independence, India gave **3 options to** all **princely states-1)** They can Join India **2)** They can join Pakistan **3)** They can remain Independent.
2. All 550 around Princely states had joined India but 3 (J&K, Junagarh &Hyderabad) did not join immediately.
3. In J&K, majority population was Muslim butit was being ruled by Hindu king Maharaja Hari Singh and king wanted to remain Independent.Sheikh Abdula wanted J&K to join India because he was secular and friend of Jawahar Lal Nehru.
4. During this phase, Pakistan wanted to acquire J&K forcibly and attacked J&K. Now Hari Singh wanted India's support for J&K so he met Jawahar Lal NehruandSardar Vallabhbhai Patel**.**
5. India helped J&K and this was called **1st India-Pakistan war**.
6. Government of India (GOI) went to United Nations (UN) about the interference of Pakistan in J&K. And UN recommended that people of J&K themselves will decide through plebiscite (Voting) where they want to go. UN gave them Only 2 options (unlike earlier 3 option) either join India or Pakistan.
7. GOI later released that it was mistake of GOI to approach UN for its integral part of J&K.
8. Negotiations between GOI and J&K started that on which conditions &concession, J&K will join India as leaders of J&K wanted special status, special provision, own constituent assembly, own flag, own constitution for J&K.
9. Article-370 was added in original Indian constitution to provide special status to J&K. Some special provision for J&K under Article -370 were as follows: -
   - **i.** For J&K, only **Article-1 and Article- 370** of Indian constitution will be applicable. No other article of Indian Constitution will be applicable to J&K so that J&K can retain its power.
   - **ii.** For other states, Indian parliament can make law on all 97 subjectsof Union list but for J&K Indian parliament can make law on only 3 subject of Union list (External, communication, defence).
   - **iii.** If Other provision of Indian constitution to be applied to J&K, it can be done only by **Presidential Order (P.O)**and President can issue such P.Oonly with the consent of Government of J&K.
   - **iv.** Article-370 can be changed or deleted only by President Order and only with the consent of constituent assembly of J&K. It means when constituent assembly of J&K will not exist after making constitution for J&k after in 1956, then after that **A-370** can't be changed.

Presidential Order 1954

1. It added Article- 35A (In Indian Constitution Only for J&K)

(a) Article- 35A gives power toState legislative Assembly of J&K todefine who can become PermanentResident (PR) of J&K. Only PR of J&K can have government job/land etc in J&K. It means other people (other than PR of J&K) in J&K could not have land or government job or other benefits in J&K because of discriminatory article 35A.So, thiswasagainst freedom of occupation and other freedoms underAritcle-19.

(b) **In 1956** Constitution of J&K was passed andConstituent Assembly of J&K was dissolved after that It means now Article-370 can't be replaced because it cannot be replaced without the consent of constituent assembly of J&K.

(c) **P.O 1954** was modified by central government multiple times to gradually make other provision of Indian Constitution applicable to J&K.

- Prime Minister of J&Kbecame Chief Ministerof J&K.
- Sadar-e-riasat of J&K became governor of J&K.

- **2015-** In J&K, coalition government with Bhartiya Janta Party (BJP)came to power.
- **2019** –BJP withdrew support and no party could prove majority that's why president rule was imposed. Governor wasSatyapalmalik.Parliament took power of Legislative Assembly of J&K.

- **P.O 2019-** Now functions of Government of J&K were taken by Governor of J&K. P.O with consent of Governor was easilyissued and all provision without exception were made applicable to J&K.
  (a) Without any exception means, now 35A which was an exception could not continue.So, it was also automatically gone.
  (b) Now How 370 can be changed without Constituent assembly of J&K.For this,Article – 367 was used to understand the wider meaning of constituent assembly and legislative assembly if they don't exist.
- **Article-367** is used for proper Interpretation of Constitution. According to the interpretation under article 367, when there is no Constituent assembly,then legislative assembly may be considered as the constituent assembly and when there is no legislative assembly,parliament may take function of Legislative assembly. So,according to this interpretation, when there was no legislative assembly in 2019, PO 2019 was issued with consent of Parliament (instead of legislative assembly).
- **In 2019** State of J&K was bifurcated into two Union Territories of J&K and Ladakh.
  (a) Now More Control of Centre was established on J&K.
  (b) Article 370 and Article 35A has been revoked.
  (c) India- Pakistan relations worsened after it. Pakistancalled its high commissioner back and tried to raise this concern at International Platform many times, but nothing happened.
  (d) Indian diplomat were tortured in Pakistan. So, India reduced its number of diplomats in Pakistan.
- **India-Pakistan 2023-**Issue is not very hot because
  (1) Both countriesare busy in election
  (2) Pakistan is struggling in Economic problems.
- **December-2023** Supreme court upheld abrogation of Article-370 in 2019. Supreme court said that Pakistan has no locus standi in local affairs of J&K. Election in J&K must be by 30th September 2024 and J&K can be again converted back from Union territory to complete state to have more autonomycan be given.

2. SIMULTANEOUS ELECTIONS AT ALL 3 TIERS (CENTRE, STATE AND LOCAL BODIES)

1. In September 2023, Union Government set up **6-member panel** to check feasibility of simultaneous elections.
2. First 4 general elections were **synchronized with State Assembly elections.**
3. Presently, **Centre, state and Local bodies** elections are not conducted simultaneously.

Benefits of Simultaneous election

1. **Resource** will be saved as they will be used only once in 5 years.
2. **Administration staff will have to come for election duty only once in 5 years so they will better focus on their work.**
3. **Model Code of Conduct** will be imposed only once in 5 years so there will be continuity of policies.
4. **Voter turnout may increase as election will happen only once in 5 years.**
5. **Similar type of party will win at all 3 tiers so there will be smooth relation between Centre-State-local bodies.**

For Simultaneous Elections, following **articles** must be **amended:**	
Article-83(2)	The tenure of Lok Sabha is 5 years and the expiration of 5 years is considered as dissolution. Also, this tenure can be extended by Parliament for 1 year at a time during National Emergency.
Article-172(1)	The tenure of State legislative Assembly (SLA) is 5 years and the expiration of 5 years is considered as dissolution. Also, this tenure can be extended by Parliament for 1 year at a time during National Emergency.
Article-85(2)	President can dissolve Lok Sabhabefore 5 years.
Article-174(2)	Governor can dissolve SLA before 5 years.

Challenges in Simultaneous Election

1. For Synchronizing elections, Constitutional Amendments will have to be done.
2. Simultaneous Elections may not be liked by some states which have different agenda from Centre.

3. Local governance is state subject. Different state laws have different provisions for local election.
   - So, Simultaneous Election will require changes in those state laws.
4. For Simultaneous Election, more infrastructure will be required like more **EVMs** (electronic voting machines) and more **VVPAT** (Voter Verifiable Paper Audit Trail Machines) would be required.
5. Still by-election and State legislative Councils (SLC) election can't be held simultaneously. Because in SLC election, MLA and Local elected candidates are required.
6. Simultaneous Elections may ignore regional issues and small regional parties.

Law commission report on Simultaneous Election, 2018

Problem in Election	Solution proposed by Law Commission
1. Election Cycle is long (5 years).	1. Election cycle can be reduced (holding elections twice in five years).
2. Every year some or other elections keep happening.	2. If Simultaneous Elections are not feasible at least all elections can be conducted in 1 calendar year.
3. Sometimes afterNo-Confidence Motion, no party is able to prove majority. It leads to further election.	3. There should be Constructive Vote of No-Confidence Motion. In this, ruling party can be ousted only if other party is able to form the government. Now no need for fresh election.
4. If no party secures majority and is not able to form government, again election may be required.	4. Opportunity should be given to largest or alliance to prove majority. This way election can be avoided.
5. In Anti-defection law, presiding officer takes huge time to decide disqualification as there is no time limit for him to decide.	5. Presiding officer should decide disqualification within 6 months.

3. Is Section 6A of the Citizenship Act, 1955, Constitutional?

Context

Recently, a Constitution Bench led by the Chief Justice of India (CJI) has been hearing several petitions challenging the constitutionality of Section 6A of the Citizenship Act of 1955.

Timeline of the Issue

1950s	Illegal immigrants were coming from Bangladesh to India. People who entered India illegally from Bangladesh affected the economic opportunities available to the local indigenous people and influenced political control.
1970s	People from India were protesting against this illegal migration. However, the responses of people from different states varied: • **West Bengal**: West Bengal has a large border with Bangladesh, so there was a large-scale influx of migrants. However, there was not much concern in West Bengal due to the language and cultural similarities like the Bengali Language. • **Assam**: Indigenous people saw demographic changes as a threat to their culture, so they were protesting.
1971	The **Bangladesh Liberation War** happened in 1971. It led to the creation of **Bangladesh as an independent country**, separate from Pakistan.
1972	The Prime Minister of Bangladesh announced that Bangladesh Nationals who went to India after 1971 would be accepted back. India also stated that Bangladeshi people who arrived before 1971 wouldn't be returned to Bangladesh because no one should be left stateless.

1975	Due to continuous illegal migration, Agitation started in Assam. This was called the **Assam Movement.** **The Assam Movement**, which happened from **1979 to 1985**, was a protest in Assam. People demanded the government to **detect, disenfranchise, and deport illegal migrants.** Groups like the **All Assam Students Union and All Assam Gana Sangram Parishad** led it. The movement ended in 1985 with an agreement called the **Assam Accord.**
1985	**Assam Accord** was signed after six years of Agitation to stop illegal migration. It was a tripartite accord signed by: ● Union Government**2**. Assam Government**3.**Leader of the Assam movement.

Section 6A of the Citizenship Act of 1955

1. Section 6A was enacted as part of the Citizenship (Amendment) Act of 1985, following the Assam Accord.

PIO under the Citizenship Act 1955:

- A person shall be deemed to be a Person of Indian origin if he, or either of his parents, was born in **undivided India** or in such other territory which became part of India after the 15th day of August 1947.

It contains the following provisions exclusively for the Assam state:

a. **Persons of India Origin (PIO)** who came from Bangladesh to Assam **before 1st January 1966** were deemed to be citizens of India.
b. PIOs who came to Assam **between 1 January 1966 and 24 March 1971** will be detected as foreigners. But they will be given the opportunity to register themselves. If they register, then they will given all rights and obligations as Indian Citizens except Voting rights for 10 years. After 10 years, they will deemed citizens.
c. People who came after 24th March 1971 will be detected and deported out of India.

Opponent of the Section 6A

1. The Indigenous people of Assam oppose Section 6A.
2. They argue that the cut-off date to decide citizenship for inclusion in the National Register of Citizens (NRC) should be 1951, not 1971. Section 6A gives the cut-off date of 1971 exclusively to Assam; for the rest of the country, the cut-off date is 1948. Thus, according to the opponents, Section 6A is discriminatory, arbitrary, and illegal.
3. Section 6A allowed people who illegally migrated from Bangladesh till 1971 to get Citizenship. The provision applies only to Assam. Section 6A is against Article 14 of the constitution, i.e., Equality before Law as selective application only to Assam raises concerns about equal treatment and fairness compared to other states facing similar migration issues.

- **After a series of pleas by the Opponents, A two-judge bench in 2012 framed 13 questions on section 6A** for deliberation by a larger bench of 5 judges, such as:
  1. Whether Articles 10 and 11 permit enactment of section 6A to prescribe a cut-off date different from Article 6.
  2. Whether Section 6A violates Articles 325 and 326. Etc.

Supporters of the Section 6A

1. Supporters argue that the demographic changes haven't impacted Assam's culture; for instance, the Assamese language remains prevalent. These changes have actually enriched the culture of Assam.
2. Migrants cannot be termed as external aggressors.
3. Under Section 6A, only Persons of Indian Origin (PIO) are given the privilege to get citizenship till 1971, as they have ancestral roots in India.
4. Supporters argue that Article 7 opens the door for migration. Article 7 deals with the conditions under which specific individuals who were residents in India at its commencement (i.e., when the Constitution came into effect) but are not citizens of India can continue to reside in the country.
5. The definition of Culture under Article 29 is notoriously vague:
6. The Term "Tribe" should be used in place of indigenous people.

Supreme Court constitutional bench has directed the union government to provide the following information:

1. Number of illegal migrants in the North-East states, especially Assam.

2. How much border fencing has been done to prevent illegal migration?
3. How long will it take to complete border fencing?
4. Why has only Assam been classified differently to legalize migration after 1950? Why was this underclassification(classification only for the Assam state) done?
5. West Bengal has a larger border with Bangladesh and has more illegal migrants. Then why has only Assam been singled out?

Union Government Justification of the Section 6A

1. The government argues that Section 6A has served its purpose and is no longer relevant. They claim that aside from the children of those who arrived in India before 1971, no one else would benefit from it. Therefore, debating its constitutionality at this point is considered a futile exercise.
2. Provisions specific to Assam were brought because there was opposition to illegal migration due to cultural dissimilarities. In West Bengal, people didn't oppose it due to cultural similarities.
3. Underclassification cannot be grounds to declare section 6A unconstitutional as the court has held geographical classification based on historical reasons in many instances.

4. CCPA'S GUIDELINES AGAINST DARK PATTERNS OF INTERNET

1. Sometimes some companies cheat/mislead consumers about quality, safety or price. To protect consumer's right, Consumer Protection Act (CPA), 2019 was passed.
2. Under the act, Central Consumer Protection Authority (CCPA) was established to enforce Consumers right.
3. If Consumer rights are violated, CCPA can listen to complaint, then investigate, prosecution, order recall of unsafe goods, discontinuation of misleading advertisements, impose penalties.
4. Recently it has been found that some website/ applications/E-commerce use some deceptive/dark patterns to mislead/ cheat customers. So CCPA notified guidelines for prevention & regulation of Dark Patterns of Internet.
    i. These guidelines prohibit the use of Dark patterns.
    ii. These guidelines also urge companies to use ethical and consumer-centric approaches.
    iii. These guidelines extend to all platforms.

13 types of Dark Patterns by Online platforms

Dark Patterns	Description
1. Subscription Trap	Making cancellation complex, hiding options, or forcing payment details for free subscriptions.
2. False Urgency	Creating a false sense of urgency or scarcity to induce immediate purchases.
3. Interface Interference	Manipulating the user interface to misdirect users from intended actions.
4. Basket Sneaking	Inclusion of additional items at checkout without user consent, resulting in higher payments.
5. Trick Question	Deliberate use of confusing language to misguide users.
6. Confirm Shaming	Using fear or shame to nudge users into specific actions for commercial gains.
7. Forced Action	Compelling users to take actions requiring additional purchases or sharing personal information.
8. Saas Billing	Generating recurring payments in a SaaS (software as a service) model.
9. Rogue Malwares	Using ransomware or scareware to mislead users into paying for fake malware removal tools.
10. Bait and Switch	Deceptively serving an alternate outcome than advertised based on user actions
11. Drip Pricing	Concealing prices upfront, revealing them post-confirmation, or preventing service use unless additional items are purchased.
12. Disguised Advertisement	Posing advertisements as other content to trick users into clicking
13. Nagging	Persistent interactions disrupting and annoying users for commercial gains.

5. BSF JURISDICTION VS STATE POLICE JURISDICTION

1. Public order & safety is primary responsibility of a **State that's why public order & police have been given in State list.**
2. But if there is a serious threat, then **Article-355** gives permission to Centre to deploy its forces to protect state.
   - The BSF **does not have the powers to prosecute crime suspects.**
3. The BSF was raised in **1965**, after the **India-Pakistan war**.
4. It is one of the 7 CAPF (Central Armed Police Forces) of the Union of India under the administrative control of the Ministry of Home Affairs (MHA).

State	BSF Jurisdiction in States from boundary	
	From 2014-2021	From 2021 (till now)
1. Rajasthan	50 km	50 km
2. Punjab, Assam, West Bengal,	15 km	50 km
3. Gujarat	80 km	50 km
4. Manipur, Tripura	No limit	No limit

   - **Other CAPF are**: Assam Rifles (AR), Indo-Tibetan Border Police (ITBP), Central Industrial Security Force (CISF), Central Reserve Police Force (CRPF), National Security Guards (NSG) and Sashastra Seema Bal (SSB).
5. BSF is deployed on border of Indo-Pakistan, Indo-Bangladesh, Line of Control (LoC).

Conclusion

1. States want to retain their independence. So, they want complete control of local state police. If BSF jurisdiction limit in State increase (15 km to 50 km), it causes problems to State.
2. So, 3 states found it wrong that BSF control in their State increased from 15-50 km, So Punjab moved to Supreme court in 2021.

Way Forward

1. **Consent of State is Desirable:** Before the Centre Government deploys its armed forces, it is desirable that the State Government should be consulted, wherever feasible.
2. **State Becoming Self-Reliant**: Each State Government may work out, in consultation with the Union Government, short term and long-term arrangements for strengthening its Armed Police.
3. **Regional Arrangement**: A group of neighbouring States may, by consensus, have a standing arrangement for the use of the Armed Police of one another in case of need.

6. NCRB'S CRIME IN INDIA 2022 REPORT

Crimes	2021	2022	Rate of Increase	Additional Information
Cyber Crimes	52K	65K	Increased by 24%	Highest no. of cases in 2022 include: 1. Cyber fraud: 64.8% 2. Extortion: 5.5% 3. Sexual Exploitation: 5.2%
Suicide Rate	1.6 Lakh	1.7 Lakh	Increased by 4.2%	**Statewise:** ● Maharashtra (Highest) > Tamil Nadu > Madhya Pradesh **Major causes include:** ● Family and Marriage Related Problems, Bankruptcy and Unemployment
Crimes against SCs	50K	57K	Increased by 13.1%	**Statewise:** ● Uttar Pradesh (Highest) > Rajasthan > Madhya Pradesh

Crimes against STs	8K	10K	Increased by 14.3%	**Statewise:** ● Madhya Pradesh (Highest) > Rajasthan
Crimes against Women	4 Lakh	4.4 Lakh	Increased by 4.1%	Dominant category of cases include: ● Cruelty by Husband or His Relatives ● Kidnapping & Abduction of Women
Crime against Children	1.4 Lakh	1.6 Lakh	Increased by 8.7%	Dominant category of cases registered under the Protection of Children from Sexual Offences Act (POCSO) include: 1. Kidnapping: 45.7% 2. Abduction: 39.7%
Crimes against State (under UAPA)	5K	5.6K	Increased by 25%	UAPA is Unlawful Activities (Prevention) Act, 1967
Animal Attacks on Humans	1.2K	1.5K	Increased by 19%	**Statewise:** ● Maharashtra (Highest) > Uttar Pradesh > Odisha
Crimes against Foreigners	150	192	Increased by 28%	-
Economic Crimes	-	-	Overall Increased	Highest no. of cases in 2022 include: 1. Forgery, cheating, fraud (FCF): 1.7 Lakh 2. Criminal breach of trust: 21K 3. Counterfeiting: 670
Chargesheeting Rate			Overall Increased	When FIR is filed, investigation begins and after the completion of investigation, the chargesheet is filed by authorities in the court to formally accuse someone Statewise: ● Kerala (Highest) > Puducherry > West Bengal

	2021	**2022**	**Rate of Decrease**	**Additional Information**
Cognizable Crimes under IPC and Special & Local Laws	60.7 Lakh	58 Lakh	Decreased by 4.5%	-
Crime Rate (Per Lakh Population)	445	422	Decreased by 5.2%	-
Crimes against State (Sedition Cases)	-	-	Overall Decreased	Reason attributed: ● Supreme Court's decision in May 2022 to keep sedition cases on hold

Safest Cities in India:

- Kolkata (Safest) > Pune > Hyderabad

National Crime Records Bureau

- **Establishment**: 1986
- **Objective**: Act as Database of crime records & finger print records

Four divisions of NCRB	NCRB Publications
1. Crime and Criminal Tracking Network and Systems (CCTNS) 2. Crime Statistics 3. Finger Prints 4. Training	1. Crimes in India 2. Accidental Deaths and Suicides 3. Prison Statistics 4. Reports on Missing Women and children in India

7. ELECTORAL FUNDING IN INDIA

Context

1. **Supreme Court directed ECI to submit data on electoral bonds** received by parties till September 2023.

Background:

1. **2019**: SC asked ECI for data on electoral bonds in response to ADR petition against the scheme.
2. **Only 25 parties opened bank accounts to receive electoral bonds (SBI data).**
3. **69%** of income for national parties between 2004-05 and 2014-15 **from "unknown sources" (**Association for Democratic Reforms data**)**

Electoral Bonds (EBs)

1. **Interest-free** bearer instruments **purchased from SBI** for donating to political parties.
2. **Introduced in 2018,** available in **denominations of Rs 1,000 to Rs 1 crore.**
3. Bought through KYC-compliant accounts, **no purchase limit**.
4. **Available for 10 days** in January, April, July, and October.

Benefits:

1. **Promotes transparency:** Donations through formal channels.
2. **Confidentiality for donors:Identity not revealed**, reducing potential pressure.
3. **Digital transactions:** Minimizes cash handling.

Problem	Solution
1. In elections, huge money is spent and big private companies give donations to their favourite party to get benefits if they win after the election.	1. There should not be private funding for elections. There should be **state funding** of elections. Various committees like the Indrajeet Gupta committee **(1998)** recommended state funding.
2. In some countries like Nepal, Germany, France, USA and Japan, information of all donors is made available to bring transparency in election funding.	2. In India also, information of all donors should be made available for public scrutiny under RTI.
3. As per the election rule, Political Party does not have to disclose all donations below 20k.	3. Political Parties should declare all donations of all amounts in all modes of payments in their annual audit report for income tax.
4. There is no regular audit of financial documents of political parties.	4. There should be a regular annual audit by a body approved by CAG and ECI.
5. Tax exemption has been given to all parties.	5. Tax exemption should be given only to those political parties which contest elections and win seats at center and state.

- **Overall:** Concerns about electoral funding remain, including lack of transparency, uneven playing field, and potential for corruption. Implementing proposed solutions could improve transparency, accountability, and fairness in Indian elections.

8. SOLUTION TO FILM PIRACY

Context

1. Indian government takes major steps to address rampant film piracy.
2. Ministry of Information and Broadcasting (MIB) establishes a complaint system under the Cinematograph (Amendment) Act 2023.

Mechanism to Curb Piracy:

Problem	Need	Solution	Benefits
1. Film piracy costing industry Rs. 20,000 crores annually	1. Lack of effective mechanism to directly tackle piracy	1. Cinematograph (Amendment) Act, 2023 empowers MIB and CBFC to block/take down pirated content	1. Reduced piracy, financial gains for industry, increased investment, creative boost
2. Proliferation of internet making pirated content easily accessible	2. Inefficient legal action against piracy	2. Nodal officers handle complaints and issue takedown orders to intermediaries	2. Streamlined takedown process, faster response to piracy
3. Long-standing demand from film industry for stricter measures	3. Ineffective existing laws for addressing digital piracy	3. Stricter penalties for piracy, including imprisonment and fines	3. Deterrence against piracy, protection of intellectual property

9. SPECIAL AND LOCAL LAWS

Context

1. **Recent amendments to the Indian Penal Code (IPC) and Code of Criminal Procedure (CrPC) have brought renewed focus to the importance of Special and Local Laws (SLLs).**
2. These laws, encompassing roughly 40% of registered offence, cater to specific issues or regions within India, impacting both criminal and civil spheres.

Some examples of special and local laws

1. Personal Laws
2. Tribal Laws
3. State Laws
4. Local Municipal Laws
5. Criminal Tribes Act

Understanding the SLL Landscape:

1. **Special Laws:** Address specific concerns nationwide, such as the Unlawful Activities (Prevention) Act (UAPA) for combating terrorism and the Protection of Children from Sexual Offences Act (POCSO Act) for child safety.
2. **Local Laws:** Tailored to regional needs, like the Maharashtra Control of Organized Crime Act tackling organized crime in Maharashtra or the Andhra Pradesh Forest Act managing forest resources in that state.

Special Local Laws (SLLs): Challenges and Solutions

Challenges	Solutions
1. Ambiguity and Overreach: The criminalization of non-criminal actions due to vague definitions.	1. Clarification and Distinction: Define key terms clearly and establish boundaries.
2. Erosion of Due Process: Excessive police powers compromise the fairness of legal proceedings.	2. Integration and Harmonization: Incorporate SLLs into the IPC or develop a comprehensive SLL code.
3. Fragmentation of Legal System: Inconsistencies and deviations create a complex landscape.	3. Due Process Safeguards: Enhance training for legal professionals on SLLs.

- Reforming SLLs is essential for maintaining the integrity, clarity, and effectiveness of the Indian legal system. By Addressing Emerging Concerns: Regularly update SLLs for new forms of crime and technology and implementing the proposed solutions, SLLs can effectively serve their intended purpose while upholding justice and individual rights.

10. AAINA DASHBOARD: A CATALYST FOR URBAN EXCELLENCE IN INDIA

1. A new era of urban governance has emerged in India with the launch of the **Ministry of Housing and Urban Affairs (MoHUA)'s 'AAINA Dashboard for Cities' portal.**
2. This initiative aims to transform the way cities are managed and measured, fostering healthy competition, inspiring improvement, and facilitating c learning among **Urban Local Bodies** (ULBs).

Need for AAINA:

Prior to AAINA, accessing crucial data on ULBs was a fragmented and complicated process. **Scattered across various platforms and often unreliable, this information hindered effective planning, policy formulation, and performance evaluation.** AAINA addresses this critical gap by creating a centralized, publicly accessible storage of key performance metrics (KPMs) across five thematic areas:

1. **Political & Administrative:** Governance efficiency, transparency, and citizen engagement.
2. **Finance:** Financial health, resource mobilization, and expenditure patterns.
3. **Planning:** Urban planning, land use management, and mobility.
4. **Citizen Centric Governance:** Public service delivery, grievance redressal, and citizen satisfaction.
5. **Delivery of Basic Services:** Water supply, sanitation, waste management, and urban infrastructure.

Features and Benefits:

AAINA offers a plethora of advantages for ULBs, citizens, and policymakers alike:

1. **Transparency and Accountability:** ULBs can voluntarily submit their audited accounts and self-reported Key Performance Metrics, fostering transparency and accountability in urban governance.
2. **Healthy Competition:** By comparing their performance with peer cities, **ULBs are driven to improve and adopt best practices, leading to a healthy competitive environment.**
3. **Peer Learning and Knowledge Sharing:** ULBs can identify successful strategies implemented by other cities and adapt them to their context, accelerating progress and innovation.
4. **Data-Driven Policymaking:** Policymakers gain access to a rich repository of data, enabling them to formulate informed policies and allocate resources effectively.
5. **Citizen Empowerment:** Public access to the portal empowers citizens to hold their ULBs accountable and track progress on critical issues.

Way Forward:

AAINA's success depends on the active participation of ULBs. **MoHUA, in collaboration with the Digital India Corporation**, is committed to providing technical support and handholding to ULBs in the data submission process. With widespread adoption and regular data updates, AAINA has the potential to revolutionize urban governance in India, transforming cities into vibrant, efficient, and sustainable spaces for all.

11. BIHAR'S PUSH FOR SPECIAL CATEGORY STATUS

Why is SCS in the News?

Bihar recently captured headlines with its **cabinet passed a resolution requesting the Centre to grant Special Category Status (SCS) to the state**. This move arise from Bihar's struggle with persistent challenges like:

1. **Poverty and economic backwardness:** Bihar consistently ranks among the poorest states in India, struggling with limited resources and low per capita income.
2. **Natural resource scarcity:** Unlike states enriched with rich mineral deposits or fertile land, Bihar faces limitations in exploiting natural resources for economic growth.
3. **Regional disparities:** The northern parts of Bihar are suffering from floods. while severe droughts ruin the southern regions, further hindering balanced development.
4. **Industrial decline:** The bifurcation of the state led to industries shifting to Jharkhand, leaving Bihar with limited employment and investment opportunities.
    - Bihar's demand for SCS isn't unique. States like **Odisha and Andhra Pradesh have also been demanding SCS**.

Understanding Special Category Status (SCS): A Helping Hand for Disadvantaged States

Introduced **in 1969 based on recommendations of the 5th Finance Commission**, SCS aimed to assist states

facing geographical or socio-economic disadvantages. These states received preferential treatment in the form of:

1. **Increased central assistance:** Earlier, The Gadgil-Mukherjee formula, allocating about 30% of central assistance to Special Category States in India, was modified by the 14th and 15th Finance Commissions, raising states' tax share to 42%, and later adjusting it to 41%.
2. **Favorable funding ratios:** Centre-state funding for centrally sponsored schemes in the SCS states was 90:10, which was much more advantageous than the 60:40 or 80:20 split in the general category.
3. **Special development boards and reservation benefits:** SCS states had dedicated boards to focus on their development needs, and their residents enjoyed reservation advantages in local government jobs and educational institutions.

Benefits of SCS: A Catalyst for Development

Supporters of the SCS argue that it provides much-needed incentives to disadvantaged states:

Financial assistance:

1. The higher central assistance under the earlier SCS system (30% of total grants) provided crucial resources for infrastructure development, social welfare programs, and economic revival.
2. The 90:10 funding ratio for centrally sponsored schemes significantly reduced the financial burden on SCS states, allowing them to invest more in critical sectors.
3. The carryover of unspent funds from one financial year to the next ensured continuity in developmental projects without facing budgetary constraints.

1. Currently, 11 states enjoy SCS status:**Assam, Nagaland, Himachal Pradesh, Manipur, Meghalaya, Sikkim, Tripura, Arunachal Pradesh, Mizoram, Uttarakhand, and Telangana.**
2. It's important to note that the Constitution doesn't directly categorize states as SCS, but various provisions under Articles 371, 371-A to 371-H, and 371-J offer special provisions to certain states based on their unique circumstances.
3. But after the dissolution of the planning commission and the formation of NITI Aayog, the 14th Finance Commission effectively removed the concept of special category status after its recommendations were accepted in 2015.

Economic incentives:

1. Tax and duty concessions offered to SCS states attracted investments and boosted industrial growth.
2. **Debt-swapping and debt-relief schemes** helped manage state finances and freed up resources for development initiatives.

A real-life example: Consider Himachal Pradesh, an SCS state that leveraged its status to attract tourism and establish itself as a leading apple producer. This demonstrates how SCS can act as a springboard for sustainable economic growth

CHALLENGES	SOLUTION
1. **Lack of Consensus on Criteria:** Unclear and debatable criteria lead to inconsistencies and accusations of unfairness.	1. **Redefine Criteria and Objectivity:** Implement transparent, quantifiable metrics based on poverty, literacy, health infrastructure, and geography.
2. **Inter-State Disparities:** SCS benefits widen gaps and fuel resentment among non-SCS states.	2. **Adopting Equitable Allocation Mechanisms:** Explore tiered support based on individual state needs, regardless of SCS status.
3. **Fiscal Burden on the Centre:** Preferential treatment strains the central budget and diverts resources.	3. **Reduce Dependency on Central Aid:** Promote local resource mobilization, private investments, and economic diversification in SCS states.
4. **Potential for Misuse:** Debt-relief and special benefits might encourage fiscal indiscipline in some states.	4. **Promote Fiscal Responsibility:** Implement stricter financial management, transparent budgeting, and performance-based allocations.
5. **Limited Effectiveness:** Current system fails to fully address disparities and promote sustainable development.	5. **Encouraging Cooperative Federalism:** Facilitate knowledge sharing and best practices between SCS and non-SCS states.

To enhance cooperative federalism and address challenges, **steps should be taken to encourage inter-state collaboration and knowledge sharing**. This can be achieved through the regular exchange of best practices and lessons, particularly to advance development in states with Special Category Status (SCS)

12. CONTROVERSIAL DUAL ROLE OF GOVERNOR

Context

1. **The Supreme Court (SC) recently ruled that Governors are not empowered to keep a Bill pending indefinitely without any action whatsoever.**
2. The court also stated that governors are entrusted with constitutional powers but cannot use them to stop the normal process of lawmaking by state legislatures.

Supreme Court Ruling

1. In a landmark judgment, the SC has put an end to the ambiguity surrounding Governors' power to indefinitely withhold assent to bills passed by state legislatures. This emphatic ruling aims to prevent Governors from abusing their constitutional duties and obstructing the legislative process.

Punjab Government Clashes with Governor over Money Bills and Special Session: Supreme Court to Decide

1. Punjab government proposing money bills for a special session.
2. Governor objecting to the session and withholding approval.
3. As a result, the Session was adjourned just hours after it began in October
4. Punjab government challenging the Governor's decision in Supreme Court.
    - **Issue:** Several states, including Punjab, Kerala, Telangana, and Tamil Nadu, have witnessed legislative stalemates due to Governors delaying assent to crucial bills. These delays, often politically motivated, hinder policy development, impact stakeholders, and create opportunity costs for the states.

Wider Implications of Indefinite Delays:

1. **Stalled Policy Development:** Pending bills can stall progress in vital areas like economic reform, social justice, and infrastructure development, impacting overall state progress.
2. **Stakeholder Impact:** Uncertainty caused by delays negatively affects businesses, investors, and the public, disrupting strategic planning and economic stability.
3. **Opportunity Costs:** Delays lead to missed opportunities for addressing societal challenges and leveraging growth potential.
4. **Judicial Burden:** Legal complexities arising from stalled legislation can overburden the judiciary.

Governor's Legislative Authority and Limitations:

1. **Constitutional Framework:Articles 163 and 200 of the Indian Constitution define the Governor's role in the legislative process**, including the options to assent, withhold, return, or reserve bills for presidential consideration.
2. **Constitutional Interpretation:** The Supreme Court has emphasized the phrase "as soon as possible" in Article 200, implying a constitutional obligation for Governors to act expeditiously on bills.

Supreme Court's Interpretation of Governor's Role:

1. **Adherence to Council of Ministers' Advice:** The Court reiterated that Governors must act on the advice of the Council of Ministers, upholding the democratic principle of executive authority under the guidance of elected representatives.

Recommendations for Improved Governance:

1. **Sarkaria Commission (1983):** Suggested clear limitations on Governor's discretionary power and prompt presidential action on reserved bills.
2. **Punchhi Commission (2007):** Advocated for a six-month time limit for Governors to decide on bills and proposed constitutional reforms regarding Governor appointments and removals.

Proposals for Future:

1. **Time-Bound Decisions:** Establishing a fixed timeframe for Governors to decide on bills would ensure prompt action.
2. **Enhanced Centre-State Coordination:** Constitutional amendments involving Chief Ministers in Governor appointments could strengthen relationships.
3. **Empowering State Legislatures:** Exploring the idea of state legislatures impeaching Governors could promote accountability.
4. **Civic Engagement:** Public participation and activism are crucial for upholding constitutional norms and transparency in governance.

13. ECI'S ENCORE SYSTEM RESHAPES INDIAN ELECTIONS

1. ENCORE(Enabling Communications on Real-time Environment) is a made-in-India software suite developed **by the ECI (**Election Commission of India) **to enhance efficiency, transparency, and accountability in India's election process.**
2. It encompasses various applications and online portals covering the entire election lifecycle, from candidate management and nomination filing to vote counting and election logistics.

Key Components and Features:

1. **Candidate Nomination & Affidavit Management:**
   a. Streamlined online nomination filing and affidavit verification.
   b. Dedicated candidate portal for form completion, security deposit, and Returning Officer interaction.
   c. Simplified process with online form filling and printing for offline submission.
2. **ENCORE Counting Application:**
   a. End-to-end solution for digitizing and tabulating votes in real-time.
   b. Round-wise data collection and generation of statutory reports for comprehensive and transparent vote counting.
3. **ENCORE Scrutiny Application:**
   a. Online scrutiny of candidate nominations with status updates (Accepted, Rejected, Withdrawn).
   b. Assistance in assigning election symbols to ensure clear identification for voters.
4. **Candidate Affidavit Portal:**
   a. Public access to candidate financial information for increased transparency and voter awareness.
5. **ENCORE Nodal App:**
   a. Streamlined process for obtaining 'no objection' certificates from relevant departments like fire, education, police, and environment for rallies, roadshows, and meetings.
   b. Ensures all necessary approvals before election-related activities, promoting compliance and orderly election conduct.

Challenge	Traditional Process	ENCORE Solution
Inefficient Nomination Management	Paper-based filing, prone to errors & delays	Online portal, streamlined workflows
Time-consuming Vote Counting	Manual counting, slow & error-prone	End-to-end digitization, real-time data
Lack of Nomination Scrutiny Transparency	Limited public access, potential for fraud	Online scrutiny application, public visibility
Limited Voter Information about Candidates	No central financial info repository	Candidate Affidavit Portal, public access
Non-compliance with Regulations (Rallies, etc.)	Manual clearance process, delays & inconsistencies	ENCORE Nodal App, online approvals
Data Security & Integrity Concerns	Vulnerable paper records, manual handling	Robust cybersecurity measures, audit trails
Digital Divide & Technology Access	Unequal internet access, exclusion of certain groups	Offline alternatives, digital literacy programs
Human Error & Misuse Potential	Lack of standardization, training gaps	Standardized procedures, comprehensive training

14. OPERATION NANHE FARISTEY

Context

1. The Railway Protection Force (RPF) played a pivotal role in reuniting more than 601 children with their families which were separated for various reasons under the mission "Nanhe Farishtey".

Protecting Passengers, Children, and Property

Key Achievements:

1. **Child Rescue:**
   a. **Operation Nanhe Faristey:** Rescued 895 children in need of care and reunited them with their families.

2. **Anti-Trafficking:**
   a. **Operation AAHT:** Rescued 29 individuals from traffickers and arrested 14 traffickers.
3. **Passenger Safety:**
   a. **Operation Jeevan Raksha:** Saved the lives of 265 passengers at risk of being run over by trains.
   b. **Meri Saheli:** 231 teams ensured the safety of 421,198 female passengers.
3. **Combating Crime:**
   a. **Operation Uplabdh:** Arrested 405 touts and seized future tickets worth Rs. 36.43 lakhs.
   b. **Operation Narcos:** Arrested 70 individuals and seized narcotics worth Rs. 2.65 crores.
4. **Passenger Assistance:**
   a. **Operation Yatri Suraksha:** Resolved over 28,000 passenger complaints through Rail Madad Portal and helpline 139.

Overall:

1. The RPF demonstrated its commitment to protecting passengers, children, and railway property in September.
2. Operations Nanhe Faristey, AAHT, and Jeevan Raksha showcase their dedication to vulnerable groups.
3. Crackdowns on touts and drug trafficking highlight their proactive approach to combatting crime.
4. Efficient response to passenger complaints through Rail Madad and helpline 139 demonstrates their commitment to passenger well-being.

15. RIGHT TO INFORMATION

Context

1. The Supreme Court recently directed the Centre and State governments to fill critical vacancies in the Central Information Commission (CIC) and State Information Commissions (SICs).
2. **Concerns about unfilled vacancies compromising the effectiveness of the Right to Information Act 2005 prompted this decision.**

CIC and SICs

Feature	Central Information Commission (CIC)	State Information Commission (SIC)
1- Role and Importance	1. Oversee and enforce transparency and accountability in the Central Government. Highest appellate body under RTI for grievances against central government offices. 2. A statutory body established under the RTI Act 2005. 3. Headed by the Chief Information Commissioner.	1. Oversee and enforce transparency and accountability in the state government. Highest appellate bodies under RTI at the state level. 2. Established under the RTI Act by state governments. 3. Headed by the State Chief Information Commissioner.
2- Composition	CIC consists of a Chief Information Commissioner and not more than ten Information Commissioners.	SIC consists of a State Chief Information Commissioner and not more than ten State Information Commissioners.
3- Jurisdiction	Holds jurisdiction over all central government authorities like ministries, public sector companies, etc.	Hold jurisdiction over state government authorities like state government departments, public sector companies under states, etc.
4- Appointment	Appointed by the President on the recommendation of a committee consisting of the Prime Minister as Chairperson, the Leader of Opposition in the Lok Sabha and a Union Cabinet Minister nominated by the Prime Minister.	Appointed by the Governor on the recommendation of committee consisting a of Chief Minister as Chairperson, the Leader of Opposition in the Legislative Assembly, and a State Cabinet Minister nominated by the Chief Minister.

Vacancies and Their Impact

1. **Status of vacancies:** Several vacancies exist in both CIC and SICs across the country, leading to a shortage of personnel to handle RTI appeals and complaints.
2. **Consequences:**

a. **Large backlog of pending cases:** Limited personnel result in backlogged cases, causing long delays in disposal and weakening the RTI framework.

b. **Reduced access to information:** Delays or unsatisfactory responses discourage citizens from using the RTI Act, hindering its effectiveness.

3. **Stats from recent performance review:** A study by Satark Nagrik Sangathan revealed approximately 3.14 lakh appeals and complaints were pending as of June 2022, highlighting the severity of the backlog issue.

Supreme Court's Directions

1. Acknowledging the detrimental impact of vacancies, the Supreme Court recently directed the Centre and State governments to fill up all vacant positions in CIC and SICs within a specified timeframe.
2. The Court emphasized that unfilled vacancies render the RTI Act "a dead letter" and impede citizens' right to information.

Problems	Impact	Solutions
1. **Critical Vacancies in CIC and SICs:** Insufficient staff to handle RTI appeals and complaints	1. Large backlog of pending cases, delays in disposal, weakened RTI framework, reduced access to information	1. Prioritize filling vacant positions in CIC and SICs within a specified timeframe.
2. **Lack of Transparency and Accountability :** Insufficient proactive disclosure of information, potential for information concealment by public authorities	2. Reduced access to information, weakened public trust in governance, hindered citizen participation	2. **Proactive disclosure**: Public authorities should proactively publish relevant information without waiting for RTI requests. - **Training**: Train government officials on RTI provisions and importance of transparency. - **Whistleblower protection**: Strengthen legal framework to protect individuals who disclose information in the public interest.
3. **Reduced Awareness and Utilization of RTI Act:** Limited knowledge about the Act, particularly in rural areas	3. Reduced access to information, citizens unable to exercise their right, weakened accountability of public authorities	3. **Awareness campaigns**: Conduct targeted campaigns to educate citizens about their RTI rights, especially in rural areas. - **Community outreach**: Partner with NGOs and civil society organizations to spread awareness.
4. **Ineffective Implementation by Public Information Officers (PIOs):** Misinterpretation of Act provisions, delays in response, discouragement of RTI requests	4. Reduced access to information, frustration and apathy among citizens, weakened effectiveness of the Act.	4. **Training**: Train PIOs on RTI procedures and responsibilities. - **Accountability**: Enforce penalties for non-compliance with RTI provisions. - **Grievance redressal mechanisms**: Improve channels for complaint against PIOs.

By addressing these concerns and implementing the suggested measures, we can strengthen the Right to Information Act and ensure its effectiveness in promoting transparency and accountability in the Indian governance system.

B. International Relations

1. INDIA - AUSTRALIA 2+2 TALKS

Context

In November, 2023 the **2nd India-Australia 2+2 Ministerial Dialogue** was held in New Delhi, India, where **Foreign Affairs Ministers** and **Defense Ministers** of both countries attended the Meeting.

Key outcomes of the Ministerial Dialogues

1. Implementing Arrangements discussion

a. To conclude implementing arrangements on **hydrography cooperation** and cooperation for **air-to-air refueling.**

Background of 2+2 Dialogue

1. The **2+2 meetings signify** the participation of two high-level representatives, Ministers holding Foreign and
2. Defense portfolios, from each of the two countries.
3. **As per the agreement**, Foreign and Defence Ministers meeting in a '2+2' format is to discuss strategic issues at least every two years.
4. **2+2 Dialogue with the India and Allies**
   - **India has 2+2 dialogues with five key strategic partners:** the US, Australia, Japan, Russia and the UK.
   - Besides Russia & UK, the other three countries are also India's partners in the **Quad.**

2. Niche Training Areas:

a. There's a shared vision to **cooperate in niche training areas** like Artificial Intelligence (AI), Anti-Submarine Warfare, anti-drone warfare, and the cyber domain.

3. Defense Industry Collaboration:

a. Recognized the potential of **deepening cooperation in the defense industry** including shipbuilding, ship repair and maintenance, as well as aircraft maintenance, repair, and overhaul.

4. Research in Underwater Technologies:

a. Cooperation for joint research in underwater technologies, and collaboration between defense start-ups of both the countries, including solving challenges jointly.

5. Reaffirmed Bilateral Defense Relations:

a. To strengthen bilateral defense relations and expressed satisfaction over increasing military-to-military cooperation, joint exercises, exchanges, and institutional dialogues.

Strategic Divergence between the India and Australia

1. Adani Coal Mine Controversy:

a. Adani coal mine project in Australia, with some activists protesting against it, which created a strain in the relationship between the two countries.

2. Visa Issues for the Indian Students:

a. There have been concerns over visa restrictions for Indian students and professionals seeking to work in Australia.

3. Violence with Indian Diaspora:

a. Attacks on Indian Diaspora and temples in the recent past by Khalistan supporters have been an issue of strain.

b. Australia, with 3% of population Indian, is "Mini India", and together both can ensure the "multipolar world, multipolar ocean".

Strategic Convergence between the India and Australia

1. Cultural and Economic alignment

a. Both the countries have pluralistic societies and market-based economies.

2. Multiple level co-operations

a. Both are members of the Quad, Commonwealth, Indian Ocean Rim Association (IORA), ASEAN Regional Forum, Asia Pacific Partnership on Climate and Clean Development, and have participated in the East Asia Summits.

b. Australia is an important player in Asia Pacific Economic Cooperation (APEC) and supports India's membership of the organization.

3. Human and Skill Exchange

a. A Letter of Intent on Migration and Mobility Partnership Arrangement to foster the exchange of skills.

4. **Economic Cooperation**
   a. Economic Cooperation Trade Agreement (ECTA)
   i. First free trade agreement signed by India with a developed country in a decade which entered into force in December 2022.

2. INDIA - UK RELATION

Context

Recently, the inaugural India-UK 2+2 Foreign and Defence Dialogue was held in New Delhi.

India UK Relation

1. **Strategic convergence:**
   a. **Assertive China** in the Indo-Pacific is a concern for the interest of both the countries.
   b. In 2021, both nations concluded a Comprehensive Strategic Partnership, outlining **India- U.K 2030 Roadmap.**
2. **Trade and investment Relations:**
   a. India, the 2nd largest source of FDI for the UK.
   b. **Under Enhanced Trade Partnership (ETP)** both aim to double bilateral trade by 2030.
   c. **India-UK Infrastructure Finance Bridge** was announced to leverage expertise and investment in support of India's National Infrastructure Pipeline (**NIP**).
3. **Defence**:
   a. Joint exercises include **Ajeya Warrior** (Army), **Konkan exercises** (navy), **Cobra Warrior** (multi-national air exercise) etc.
4. **Climate and Environment**:
   a. **India-UK Green Growth Equity Fund** is mobilizing institutional investments in renewable energy, electric mobility etc. in India.
   b. Also, **both cooperate at** International Solar Alliance (**ISA**), Coalition for Disaster Resilient Infrastructure (**CDRI**).
5. **People to people exchange**:
   a. The Indian **diaspora forms 3.1% of the total population of the UK.**
   b. Both have signed a **Migration and Mobility Partnership (MMP)** agreement to facilitate easy movement of working professionals between the two countries.

Challenges in the India - UK Relations

1. Historically, the **UK's lenient stance on terrorism** sponsored by Pakistan has hindered the progress of bilateral relations.
2. Even though the UK recognised China as a threat, particularly in the South China Sea, it has been making **efforts to make China the anchor of post-Brexit economic policy.**
3. **Complex visa and immigration policies**, especially concerning Indian students and businesspeople have been a bone of contention.
4. **India** focused on self-sufficiency and the public sector **while** the **UK** became a dynamic market economy, which restrained wider economic cooperation.

Way Forward for Converging Relations

Problem	Solution
1. Economic Barriers	• Early FTA finalization for the earliest promotion of free-flowing goods andservices between both nations.
2. Lack of defense cooperation	• Intensify efforts for **government-to-government procurement** to facilitate the export of UK military technology.
3. Immigration and Diaspora issues	• **People-to-People Ties:** Promote programs like the ○ **Generation UK-India initiative,** facilitating short-term study andwork placements to young people from the UK in India forgreater people-to-people understanding. ○ **India-UK Young Professionals Scheme,** allowing graduates aged 18 to 30 to live, study, travel, and work for up to two years in either country.

3. ASEAN DEFENCE MINISTERS' MEETING PLUS

Context

On 16th November, 2023, The Defence Minister of India (Shri Rajnath Singh) has participated in the 10th ASEAN Defence Ministers' Meeting - Plus (ADMM-Plus) in Jakarta, Indonesia.

Key Highlights of the Indian Address in ADMM-Plus Meeting

What is ADMM-Plus?

1. The **ADMM-Plus is a platform for ASEAN**to **strengthen security and defense cooperation** for peace, stability, and development in the region.
2. **10 member Countries: -**Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.
3. **8 Dialogue Partners** Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and the United States, collectively referred to as the "**Plus Countries**"
4. It **is the highest defense consultative and cooperative mechanism** in ASEAN.
5. **Focus areas of ADMM Plus**
   a. Maritime security (MS)
   b. Counter-terrorism (CT)
   c. Humanitarian Assistance and Disaster Management (HADR)
   d. Peacekeeping operations (PKO)
   e. Military medicine (MM)
   f. Humanitarian mine action (HMA) and
   g. Cyber security (CS)

1. **ASEAN Centrality:**
   India affirmed the ASEAN centrality and appreciated its role **in promoting dialogue & consensus in the region.**
2. **Commitment to International Laws:**
   a. India reiterated its commitment to **freedom of navigation, overflight and unimpeded lawful commerce** in the international waters in accordance with international laws, including United Nations Convention on the Law of the Sea (**UNCLOS**) 1982.
3. **Regional Security Initiatives:**
   a. India **advocated for consultative and development-oriented security initiatives**.
   b. Committed towards nurturing practical, forward-looking and result oriented cooperation within ADMM-Plus **for enhancing Maritime Security in the region.**
4. **Dialogue and Diplomacy:**
   a. India emphasized, moving **away from an "us versus them" mindset**, asserting that **this is not an era of war.**
5. **Collaborative Initiatives:**
   a. India appreciated ASEAN Member States' participation in joint initiatives like
      i. Initiative for **Women in UN Peacekeeping Operations**, Initiative for Marine Plastic Pollution Response, ASEAN-India Maritime Exercise, and Expert Working Group (**EWG**) on Humanitarian Assistance & Disaster Relief (**HADR**).
6. **India proposed to co-chair the EWG on Counter-Terrorism**, a concern endorsed by ADMM-Plus due to terrorism's serious threat in the ASEAN region.
   a. **In the present cycle** from 2021-2024, **India is co-chairing EWG on HADR along with Indonesia.**

India's role in Maritime security:

1. It ensures freedom of navigation, unimpeded lawful commerce etc.
2. India emphasizes on dialogue and diplomacy (for peace and stability) as this is not an era of war.
3. **Securing Sea-lanes and choke points (such as Malacca strait)**through regular surveillance.
4. It includes exercises [Singapore India Maritime Bilateral Exercise (**SIMBEX**)] and defense cooperation (Signed a deal to export BrahMos missiles to Philippines) etc.

4. INDIA BHUTAN AGREEMENT TO EXPAND CONNECTIVITY & TRADE

Why in the news?

Recently, during Bhutan's King visit, both countries agreed to discuss new routes of Regional Connectivity, and upgrade border and immigration posts, in order to enhance trade and Partnership.

Key highlights of Visit

1. **Regional Connectivity:**
   a. Both acknowledged the final location survey for the proposed **cross-border rail link connectingKokrajhar in Assam to Gelephu in Bhutan.**
   b. Agreed to establishing a **rail link of approximately 18 km** between S**amtse (Bhutan) and Banarhat** in the tea gardens area of **West Bengal.**
2. **Trade and Connectivity:**
   a. Decided to designate Haldibari (West Bengal) to Chilahati (Bangladesh) rail route as an additional trade route for Bhutan's trade with Bangladesh.

i. Aiming to enhance trade opportunities and ease the movement of goods between Bhutan and Bangladesh through Indian territory.

3. **Support for Bhutanese SEZ Project:**
   a. By upgradation of an existing land customs station at Dadgiri (Assam) to a modernised **"Integrated Check Post" (ICP)** along with **"development of facilities on the Bhutanese side at Gelephu"**, indicating India's support to the Bhutanese SEZ project.
4. **Development Assistance:**
   a. India has committed to continue its support for Bhutan's socio-economic development.
5. **Lauds India's Support for Global South:**
   a. Bhutan commended India's dedication to integrating the interests and priorities of Global South countries in G20 deliberations.
6. **India-Bhutan Energy Partnership:**
   a. Progress on the construction of the **1020 MW Punatsangchhu-II hydropower project**.
   b. India assured essential technical and financial support for projects in these areas.
7. **Recalling Operation All Clear:**
   a. Bhutan King recalled 'Operation All Clear',a military operation, conducted by the Royal Bhutan Army in 2003 against Assam separatist insurgent groups in the southern regions of Bhutan.
8. **Other Announcements**
   a. Both the leaders decided to
      i. Safeguard the ecological diversity of the region,
      ii. Allocate additional MBBS seats for Bhutanese students in medical colleges in Assam,
      iii. Double the outlay under Ambassador's scholarship for Bhutanese students pursuing higher education in India.

5. INDIA - USA 2+2 MINISTERIAL TALKS

Context

In November, 2023 the **5th India-USA** Ministerial Dialogue concluded successfully in New Delhi.

Key outcomes of the Ministerial Dialogues

1. **Defense Deals:**
   a. Aimed to collaboratively **co-develop and co-produce defense systems**.
   b. India and the U.S. are currently negotiating deals for the purchase of **MQ-9B unmanned aerial vehicles** and the licensed manufacturer of **General Electric's F-414 jet engine** in India.
      i. These defense deals support India's goal of enhancing its capabilities.
   c. The Ministers looked forward to the finalization of a **Security of Supply Arrangement (SOSA)**.
      i. This will integrate the defense industrial ecosystems of both countries.
1. **Maritime security and Membership in Combined Maritime Forces:**
   a. Both nations **shared a focus on maritime security in the Indo-Pacific region**, acknowledging the importance of safeguarding vital sea lanes and promoting stability.
   b. India decided to become a **full member of the Combined Maritime Forces,** a multilateralconstruct headquartered in Bahrain.
      i. This move signifies India's commitment to regional maritime security.
2. **Space and Semiconductor Collaboration:**
   a. Reviewed U.S.-India Initiative on Critical and Emerging Technology (**iCET**).
      i. **iCET** aims to strengthen and broaden the strategic technological partnership between the companies, and academic institutions.
3. **Israel-Hamas War:**
   a. **India reiterated its stancefor a two-state solution** (Two countries officially demarcated and Internationally Recognised) on the Israel-Hamas Conflict.
   b. India also pitched for**Humanitarian assistance**, emphasizing adherence to international humanitarian law and the condemnation of casualties of civilians.

Strategic Divergence between the India and USA

1. **India's Engagement with US Adversaries:**
   a. India has **criticized the US decision** to block Iranian and Venezuelan **oil from the open market.**
   b. India has actively worked to bring Iran into the **SCO (Shanghai Cooperation Organization)**
2. **US' Criticism of India's Democracy:**
   a. Various **US organizations and foundations come out with the reports questioning** the present state of democratic discourse, press and religious freedom and condition of the minorities in India.

3. **Economic Tensions:**
   a. The **Self-reliant India campaign (Atma Nirbhar Bharat Campaign)** has increased the perception in the US that India is increasingly becoming a protectionist closed market economy.
4. **Technological exchange issues**
   a. USA keeps on questioning India's continuous lack of adequate Intellectual Property (IP) rights protection and enforcement, according to the **USTRs Annual Special 301 Report.**

Strategic Convergence between the India and USA

1. **Strong alignment in the political and international values**
   a. The U.S.-India strategic partnership is rooted in the **commitment to democracy**.
   b. Both have shared interests in promoting global security, stability, and economic prosperity through the pillars of trade, investment, and connectivity.
2. **Economic Relations:**
   a. The U.S. has emerged as **India's biggest trading partner in 2022-23**.
   b. The **bilateral trade between India and the U.S. has increased** by 7.65%.
      i. Exports to the U.S. rose by 2.81% in 2022-23, while imports grew by about 16%.
3. **International Cooperations:**
   a. India and the U.S. cooperate closely at **multilateral organizations**, including the
      i. United Nations, G-20, Association of Southeast Asian Nations (ASEAN) Regional Forum, International Monetary Fund, World Bank (WB), and World Trade Organization (WTO).
   b. Together with Australia and Japan, the United States and India convene as the **Quad** to promote a free and open Indo-Pacific and provide tangible benefits to the region.
   c. India is also partnering with the U.S on the **Indo-Pacific Economic Framework for Prosperity (IPEF).**
   d. In 2021, the **United States joined** the International Solar Alliance (ISA) headquartered in India.
4. **Defense agreement between both the countries:**
   a. India has now **signed all four foundational agreements with the US**
      i. The Logistics Exchange Memorandum of Agreement (**LEMOA**) in 2016
      ii. The Communications Compatibility and Security Agreement (**COMCASA**) in 2018, and
      iii. The Basic Exchange and Cooperation Agreement for Geo-Spatial cooperation (**BECA**) in 2020.
      iv. Extension to General Security of Military Information Agreement (**GSOMIA**), the Industrial Security Annex (**ISA**), was signed in 2019.
5. **Diaspora**
   a. Indian-Americans are the **second-largest immigrant community** in the USA (4 million-plus), and they are considered as one of the most influential groups in the United States in all domains, economic, political and social.

6. IPEF: INDO-PACIFIC ECONOMIC FRAMEWORK FOR PROSPERITY

Context

Recently, the 3rd IPEF (Indo-Pacific Economic Framework) Ministerial meeting was held in San Francisco, USA.

Key outcomes of the Meetings

1. During the meeting, negotiations under the IPEF Pillar-III (Clean Economy), Pillar IV (Fair Economy)) were concluded.
2. **IPEF Agreement Relating to Supply Chain Resilience negotiated under Pillar II,** is also signed by the members.

About IPEF

In May, 2022 IPEF was **jointly launched by the USA** and **other partner countries** of the **Indo-Pacific region**, at Tokyo.

Member countries: - Australia, Brunei, Fiji, India, Indonesia, Japan, South Korea, Malaysia, New Zealand, Philippines,Singapore, Thailand, United States, and Vietnam.

- Together these countries represent 40% of world GDP, and 28% of global goods and services trade.

Aims tostrengthen economic partnership among participating countries to enhance resilience,sustainability, inclusiveness, economic growth, fairness, and competitiveness in the Indo-Pacificregion.

1. **4 Pillars of IPEF**

I. **Trade:**Aims to promote economic growth, peace, and prosperity in the region.
   - **India**: Not Joined, only observer status

II. **Supply-chain resilience:**Aims to **enhance worker roles** through **upskilling** and **reskilling** initiatives.
   - **India**: Joined

III. **Clean Economy:** Aims to advance cooperation on **clean energy and climate-friendly technologies.**
   - **India**: Joined

IV. **Fair Economy:** Focuses on implementing effective **anti-corruption, anti-money laundering and tax measures.**
   - **India**: Joined

3. Agreement ensures establishment of the
   a. **IPEF Supply Chain Council:** For overseeing collaboration on supply chain issues across the Indo-Pacific.
   b. **IPEF Supply Chain Crisis Response Network:** To help prepare for and respond to future supply chain disruptions.
   c. **IPEF Labour Rights Advisory Board**: To identify labor rights concerns across IPEF supply chains and develop recommendations

Significance of IPEF for India

1. **Beneficial for Indian exports:**
   a. Nearly 50% of India's trade is centered in the Indo-Pacific Region, and the Indian Ocean carries 90% of India's trade and its energy sources.
2. **Countering China's hegemony:**
   a. The absence of China as a member of the group gives it a unique geopolitical character.
   b. All the members of the group have common concerns regarding China's expansionist aspirations.
3. **Collaboration for energy projects:**
   a. Short-term economic advantages for India by fostering collaboration in clean energy investment and technology development.
4. **India's leadership in Indo-Pacific:**
   a. India's decision to join the IPEF is a robust indication of its dedication to advancing Indo-Pacific objectives and regional collaboration following its withdrawal from the RCEP.
5. **Supply-chain resilience:**
   a. India can gain by expanding supply chains beyond China and also keeping itself resilient from situations like the Covid pandemic.

Problem	Solutions
1. Credibility	Develop IPEF into a credible alternative that provides tangible benefits for economic activity and investment in the region.
2.Decoupling China	Offer incentives to countries already signatories to regional FTAs (CPTPP and RCEP) to make joining IPEF more appealing.
3. Binding Commitments	Ensure that negotiated rules are binding and consider concerns from all stakeholders.
4. Taxations	Developing the common and equitable taxation process for the countries.

7. LASHKAR-E-TAIBA A TERROR ORGANISATION : ISRAEL

Context

Israel has listed Lashkar-e-Taiba (LeT) as a terror organization to symbolize the marking of the 15th year of commemoration of the 26/11 Mumbai attacks.

Background

1. Israel's move comes at a time when it has asked India to proscribe Hamas as a terrorist outfit.
2. The listing has been done by Israel on its own, without any request from India.
3. Designation is done based on specific criteria and can attract a range of curbs

a. Including the freezing of assets and the takeover of the properties of the designated organization.

India's stand on Hamas

1. India designates **a group as a terrorist organization** under the **Unlawful Activities (Prevention) Act (UAPA).**
2. The UAPA was **amended in 2019** to include the provision of **designating an individual as a terrorist.**
3. As of February 2023, there were a total of 44 designated terrorist organizations.
   - **a.** The **last major international organization banned by India was ISIS in 2015.**
4. So far, **India has not declared Hamas** as a terrorist organization.
   - **a.** US, UK, European Union, Canada, Australia, Japan are among the countries and groupings that have designated Hamas as a terror outfit.

Challenges for India in Declaring Hamas as a Terrorist Organisation?

1. **Balancing act in West Asia**
   - a. India has to be **mindful of interests and sensitivities on the other sides**
     - i. Arab world, Iran and many in the Global South.
2. **Significant Muslim population in India**
   - a. **Support for Palestinians is consistent across Muslim populations**, including in India, home to the third- largest Muslim population in the world.
3. **Very localized requirements to ban an organization**
   - a. UAPA has **very localized requirements** for groups to be added to its terrorism listing.
     - i. This includes having activities such as operations, finances, and recruitment within Indian territories where Indian laws are applicable.

8. VOICE OF GLOBAL SOUTH SUMMIT

Context

Recently, Leaders from the Global South countries gathered at the **second virtual 'Voice of the Global South Summit' (VOGSS)** organized by India, under the theme: **'Global South: Together for Everyone's Growth, Everyone's Trust**'.

Key Highlights of Second VOGSS

1. Key Outcomes:

- a. **Global South Center of Excellence 'DAKSHIN'**
  - i. Aimed at fostering collaboration among developing nations by serving as a knowledge repository and think tank.

What is the Global South?

1. The Global South, often **misconceived as a purely geographical concept**, encompassesdiverse countries, drawing upon geopolitical, historical, and developmental factors.
   - **a. Not solely defined by location**, it broadly **represents nations facing developmental challenges.**
2. Many countries included in the Global South are in the northern hemisphere, such as India, China and all of those in the northern half of Africa.
   - a. Whereas, **Australia and New Zealand**, both in the southern hemisphere, **are not in the Global South.**
3. The concept of the Global South can be traced to the **Brandt report** of 1980, as a **visual depiction of the north-south divide based upon per-capita GDP.**

2. Thematic Discussions:

- a. Ministerial sessions discussed a wide array of topics, including Sustainable Development Goals, Energy transition, Climate finance, Digital transformation, Women-led development, Counter-terrorism, and Global institution reforms.

3. 5 'Cs' for Global South:

- a. India also called for 5 'Cs' (Consultation, Cooperation, Communication, Creativity and Capacity building)for the Global South.

4. Call for Restraint Amid Israel-Hamas Conflict:

- a. India raised deep concern regarding the plight of civilians affected by the Israel-Hamas conflict.
  - i. Emphasized the urgent need for all involved parties to **exercise restraint**, **prioritize the safety** of innocent civilians, and **work towards de-escalation.**

Why do we need South South Cooperation?

1. To address the disproportionate impact of global challenges such as climate change.
   - a. Keeping in mind the principle of Common but Differentiated Responsibilities (CBDR)
2. To improve representation and reforms in global forums such as the UN Security Council, ensuring equal and equity of voices.

3. To achieve food and energy security among all the countries.
4. To fulfill sustainable development goals by 2030.

India's Initiatives for South-South Cooperation:

1. **Institutional initiatives** such as the
   a. International Solar Alliance, Global Biofuel Alliance, Coalition for Disaster Resilient Infrastructure, etc.
2. **MAHARISHI** for global food security.
3. **Inducting African Union** in G20 Grouping, providing a platform to raise their voices.
4. **G20 Digital Public Infrastructure Framework**, for the effective and efficient service delivery.
5. **Proposal for weather and climate monitoring satellite** for Global South.

9. INDIA-EU SEMICONDUCTOR AGREEMENT

Context

Recently, India and the European Union (EU) signed a Memorandum of Understanding (MoU) on semiconductors to help build a **"robust supply chain"** and support innovation.

Key highlights of the Agreement

1. The MoU was signed at the **second India-EU Trade and Technology Council (TTC)** meeting (virtually) for **deepening cooperation on the semiconductor's ecosystem**.
2. **Agreement Requires:**
   a. India and the EU to
      i. **Share semiconductor ecosystem experiences**, best practices, and information, **Establish research, development, and innovation collaborations** between universities, research organizations, and enterprises.

EU-India Trade and Technology Council (TTC)

1. The EU and India have set up the TTC as a **coordination platform** to address key trade, trusted technology, and security challenges.
2. **Role of TTC** is to deepen strategic engagement in trade and technology between both partners.
3. India is the second country after the US with which the EU has a TTC mechanism.

Potential Benefits of the India-EU Semiconductor Agreement:

1. **Strategic Commodity**:
   a. Semiconductors are at the **center of the digital economy** and Its contribution to innovation, productivity, and economic growth is extensive.
2. **Supply Chain Diversification**:
   a. In the post-COVID period, **diversifying away from China-dominant supply chains** has gained momentum due to geo-strategic and geo-political concerns.
3. **Strategic and Commercial Alignment**:
   a. The agreement will help India align more with the EU and the U.S. on the semiconductor industry's future.

India-EU Semiconductor agreement will help India in ensuring success of the PLI Scheme for Semiconductor.

10. INDO-PACIFIC REGIONAL DIALOGUE -2023

Context

Recently, the three-day long Indo-Pacific Regional Dialogue 2023 (IPRD-2023) concluded today in New Delhi.

What is IPRD?

1. It is an apex level international **annual conference of the Indian Navy.**
   a. **In 2018**, the initial conception of an IPRD was made.
   b. With the exception of 2020, when it had to be postponed owing to the Covid-19, the event has beenhosted annually since its initial year in 2018.
2. **The National Maritime Foundation (NMF)** is the Navy's knowledge partner and chief organizerof the event.
3. **Theme for 2023**: - "Geopolitical Impacts upon Indo-Pacific Maritime Trade and Connectivity"

Objective

1. The IPRD **reviews the current geopolitics in the Indo-Pacific region** and identifies opportunities, dangers within the Indo-Pacific region and foster exchange of solution-oriented dialogue amongst key stakeholders.

C. SECURITY

1. DISTURBANCE IN MYANMAR

Context

Recently, around 1,500 people sought refuge in Mizoram's Champhai district after a gunfight between the Myanmar Army and pro-democracy militias.

Background of the Civil War in Myanmar:

1. **Military Coup (February 2021):** A military coup uprooted the democratically elected government led by Aung San Suu Kyi.
2. **Ongoing Civil Unrest:** Conflict between the Myanmar Army (Tatmadaw) and pro-democracy militias, specifically 'The Brotherhood Alliance.'
3. **Brotherhood Alliance:** Comprises three ethnic armed groups: MNDAA, TNLA, and AA.
4. **Operation 1027:** Coordinated attack on regime forces by three ethnic armed groups.
5. **Displacement:** Around 2 Lakh people have been displaced according to the UN reports.

Current Situation

1. Resistance forces captured towns near the India-Myanmar border.
2. Coordination among rebel groups challenges military control.
3. Alleged surrender of Myanmar army and police members.
4. Possible support for **Shan State** resistance from China.

Impact on India's Internal Security

1. **Illegal Influx and Refugees:**	Potential for unrest and concerns about infiltration of extremists, narcotics, and weapons.
2. **Political Instability:**	Poor law and order facilitate criminal activities like drug trafficking and arms smuggling.
3. **Cross-Border Terrorism:**	Persistent challenges due to instability in neighbouring countries.
4. **Internal Conflicts Escalation:**	Influx of refugees may heighten ethnic conflicts.

India's Stand and Engagement for Peace

1.Advocacy for Dialogue:	India advocates for halting of hostilities and dialogue in Myanmar.
2.Security Cooperation:	India maintains security cooperation with the junta [Myanmar Government] to address insurgencies.
3.Joint Military Exercise:	Conduct more exercises like Sampriti [India-Bangladesh military exercise] with neighbouring countries.
4.Support for Democracy:	Spread strong proponent of democracy.
5.Humanitarian Aid:	Rapid and effective deployment of disaster response capacities.
6.Citizenship Amendment Act (2019):	Provideforgiveness and fast track to citizenship for certain refugees.

What needs to be done?

Strengthen Border Security	1. Use advanced technology (drones, sensors). 2. Increase personnel training. 3. Improve infrastructure (barriers, checkpoints).
Checking Illegal Migration	1. Implement strict documentation and verification. 2. Create a database for demographic changes.
Utilize Diplomatic Engagements	1. Build strong bilateral ties. 2. Promote joint economic initiatives for stability.

Strengthening Intelligence Efforts	1. Develop integrated intelligence-sharing. 2. Invest in advanced intelligence technologies.
Legal Framework and Repatriation	1. Strengthen immigration and border laws. 2. Establish clear repatriation guidelines.

2. FATF REPORT ON TERROR CROWDFUNDING

Context

As per the 'Crowdfunding for Terrorism Financing' report by **Financial Action Task Force** (FATF), an extremist group; **Popular Front of India** (PFI) which is being investigated in India has gathered funds using organized networks.

Key Points from FATF Report

1. The report states that PFI's accounts involved both **domestic** and **foreign** transactions, posing challenges for investigators.
2. Funds raised were **utilized** for purchasing arms, training violent extremists, and other nefarious activities.
3. A portion of crowdfunding proceeds was **invested** in businesses and real estate projects to sustain terrorism-related activities.
4. Fundraising **methods** included offline and online approaches, such as distributing **QR** codes and account details for donors to contribute money.

Difference between Crowdfunding and Money laundering

Crowdfunding for Terror Activities	Money Laundering for Terror Activities
1. Involves collecting small amounts of money from numerous individuals to fund terrorist activities.	1. Involves disguising the origins of illicit funds to make them appear legal.
2. Utilizes online platforms to gather funds anonymously.	2. Utilizes complex financial transactions, layers, and shell companies.
3. Often involves exploiting sympathizers or unsuspecting donors.	3. Often employs legitimate businesses as conduits for illegal funds.
4. Difficult to trace due to the decentralized nature of contributions.	4. Aims to integrate illicit funds into the legitimate financial system, making detection challenging.

Emerging Challenges and Probable Solutions to deal with Terror Funding

Challenges	Solutions
Cryptocurrency Exploitation: Terror groups use digital currencies, making tracking and regulation challenging.	**Regulation of Cryptocurrencies:** Implementing and enforcing regulations on digital currencies to curb their misuse in terror financing.
Informal Banking Channels:illegal funds flow through informal channels, evading traditional tracking methods.	**Financial Intelligence Units:** Strengthening national Financial Intelligence Units (FIUs) to detect and prevent illegaltransactions.
Cross-Border Transactions: Transnational transactions complicate tracking and tracing terror financing.	**Global Cooperation:** Enhanced international collaboration to share intelligence and combat cross-border funding.
Charity Abuse: Some charitable organizations unknowingly or intentionally fund terrorism.	**Charity Oversight:** Improved scrutiny of charitable organizations to prevent inadvertent or intentional funding of terrorism.
Money Laundering: Terrorists employ money laundering tactics to legitimize illicit funds.	**Legal Frameworks:** Establishing and enforcing robust legal frameworks globally and within nations to prosecute those involved in terror financing.

Steps already Taken:

1. **National Investigation Agency (NIA)** investigates and prosecutes cases related to terrorism and its funding.
2. **KYC Norms:** Strengthening Know Your Customer (KYC) norms to enhance transparency in financial transactions.
3. **Banking Regulations:** Stringent regulations on banks and financial institutions to prevent the flow of illicit funds.
4. **Bilateral Cooperation:** Engaging in bilateral partnerships to combat cross-border terror financing.

3. GLOBAL NUCLEAR REGULATION

Context

Recently, **Russian** government has approved a law to **revoke** the support for the **ComprehensiveTest Ban Treaty (CTBT).**

Current situation

1. The bill passage is **similar** to the U.S., which signed but didn't fully accept the **CTBT**.
2. World is worriedthat Russia might restart nuclear tests to stop the West from aiding Ukraine.
3. This incident shows how global nuclear rules work and if they're effective.

Rules that countries follow when using nuclear energy around the world

Comprehensive Test Ban Treaty (CTBT)	a) It says that **no country can do a nuclear weapons test or any other nuclear explosion** anywhere in the world. The agreement, made in 1996, needs approval from 44 particular countries to start working officially. b) So far, 8 of these countries, including China, **India**, Pakistan, North Korea, Israel, Iran, Egypt, and the United States, have **notgiven** their **approval**.
Non-Proliferation Treaty (NPT), 1968	a) To stop more countries from getting nuclear weapons by focusing on three things**: i)**preventing their spread, **ii**) getting rid of them, and **iii)**using nuclear energy for peaceful purposes. b) **India**, South Sudan, Israel, and Pakistan **neveragreed** to the Treaty, and **NorthKorealeft** it in **2003**.
Treaty on the Prohibition of Nuclear Weapons (TPNW)	a) It's **first** rule that is **binding** and all countries agreed to, saying they won't use or make nuclear weapons.**91** countries signed it and 68 officially approved it. But **Indiadidn't** join it.
Concept of Nuclear-Weapon-Free Zones (NWFZ)	a) The goal is to **stop** more countries from getting nuclear weapons and to get rid of the ones that already exist. b) **Presently there are five such treaties**: **Treaty of Rarotonga** (for south pacific), **Treaty of Tlatelolco** (For Latin America and the Caribbean), **Treaty of Semipalatinsk** (for Central Asia),**Treaty of Bangkok** (for southeast Asia) and **Treaty of Pelindaba** (for Africa),
Nuclear supplier groups, 1974	a) In 1974, after India's nuclear test called **Operation Smiling Buddha**, a group was created with **48** members. b) The goal is to **stop** the selling of nuclear materials for business or peaceful reasons that could be used to create nuclear weapons. c) **Indiawants to join** this group, called the NSG, to boost its nuclear power and get the materials it needs.
Missile Technology Control Regime (MTCR)	a) It aims to **reduce** the chances of more countries getting dangerous weapons by managing exports of goods and technology that might help in delivering these weapons. There are **35** countries in it, and **India is one of them**.
Fissile Material Cut-off Treaty (FMCT)	a) It's a **plan** between countries to stop making the **2** main parts of nuclear weapons, which are highly enriched **uranium** (HEU) and **plutonium**

Outer Space Treaty (OST)	a) It says no to putting nuclear weapons in space. **India** is part of the OST.

The Constraints and Solutionsfor effectiveness of Regulatory Measures

Limitations	Solutions
1.Verification Concerns: Worries about illegal trading of nuclear materials and potential nuclear terrorism due to shortcomings in the verification process. The **International Atomic Energy Agency (IAEA)** lacks sufficient access, budget, personnel, and technology to effectively monitor nuclear proliferation.	**1.Enhanced Verification Measures:** Strengthening verification tools and resources for organizations like the IAEA to better monitor nuclear activities globally.
2.Advancements in Nuclear Technology: Swift progress in nuclear technology, such as new reactor designs, makes it challenging for regulators to keep up with evolving risks.	**2.Technology Safeguards:** Implementing measures to control and regulate advanced nuclear technologies, ensuring their peaceful use and preventing misuse for military purposes.
3.Noncompliance Instances: For instance, Iran is accused of running a secret nuclear weapons program, violating its commitments under the Nuclear Non-Proliferation Treaty (NPT).	**3.Enforcement Mechanisms:** Establishing robust enforcement mechanisms to address noncompliance and impose consequences on states violating nuclear regulations.
4.Limited Focus on Disarmament: Treaties like the NPT don't set a clear deadline for achieving nuclear disarmament.	**4.Clear Disarmament Commitments:** Specifying concrete timelines and commitments for nuclear-armed states to achieve disarmament under international treaties.
5.Dual Nature of Technology: Countries may initially pursue peaceful nuclear programs but later divert them for military purposes, exploiting the dual-use nature of the technology.	**5.Building Trust:** Promoting diplomatic efforts to build trust among nations, fostering an environment conducive to transparent communication and cooperation in nuclear matters.
6.Lack of Commitment: Nuclear-armed states show reluctance to commit to disarmament due to the strategic importance of these weapons.	**6.International Collaboration:**Fostering increased cooperation between nations to establish and uphold effective global nuclear agreements and standards.

4. J&K POLICE: 1st IN INDIA TO USE GPS TRACKER ANKLETS

Context

Recently, Jammu and Kashmir Police used**GPS tracker anklets** to monitor individuals accused of terrorism released on bail, marking the **first instance** in India.

Key Points

Implementation:	The initiative follows the release of Ghulam Mohammad Bhat, a UAPA (Unlawful Activities Prevention Act) accused, after a special NIA court's decision
	The court ordered the placement of a GPS tracker anklet on Bhat to closely monitor his movements.
GPS Tracker Overview:	A GPS tracker is a compact wearable device similar to GPS collars used for animal monitoring.
	It constantly provides the wearer's precise location, enabling real-time monitoring by law enforcement and security agencies.

Significance and Concern involved:

Significance:	Criticism:
The use of GPS trackers can facilitate easier bail under the stringent UAPA, boosting police confidence in not opposing bail applications.	**Legal Concerns**:Some experts highlight the absence of specific legal provisions allowing the use of GPS tracker anklets.
Global Trend: GPS trackers are now a common bail condition globally (US, UK, Malaysia).	**Privacy Issues**:Critics argue that tracking individuals with GPS technology infringes upon their fundamental right to privacy.
India's First: Recently introduced in India, with Bhat's case being the pioneering instance.	**Ethical Considerations**:The absence of a framework for informed consent and procedures to address unethical and illegal practices in surveillance raises concerns.

Legal position on the use of GPS enabled monitoring devices:

India:	GPS anklets legally authorized for use in the case of Bhat.
	Concerns raised by human rights activists due to the lack of specific legal provisions.
Other Countries United States, United Kingdom, Malaysia:	GPS trackers are a prerequisite for bail.
	In the UK, electronic monitoring falls under the Terrorism Prevention and Investigation Measures Act.
	In Malaysia, the lawful frameworks for electronic monitoring is established through amendments to existing legislation, including : • Security Offences Act, 2012 • Prevention of Crime Act, 1959 • Criminal Procedure Code. • Dangerous Drugs (Special Prevention Measures) Act

5. UNLF SIGNED PEACE AGREEMENT

Context

Recently, a peace deal has been made with the **Meitei separatist group,** the United National Liberation Front (**UNLF**), in **Manipur**.

What is UNLF?

a. Formed in November 1964, UNLF is the oldest valley-based insurgent group.
b. Arambam Samarendra Singh, its leader, initiated the group's demand for secession from India.
c. Banned under UAPA, it has a significant history of insurgency.

About The Peace Deal

1. This marks the **first** time a **valley-based insurgent group (VBIG)** from Manipur based in the valleys has made a peace deal with the central government.
2. Until now, such groups haven't engaged in any peace talks or agreements with the Centre.

Evolution of Manipur Insurgency

1. **Overview**	a. Ongoing armed conflict in Manipur involves India and separatist rebel groups, part of a broader insurgency in Northeast India with national liberation and ethnic conflict elements.
2. **Historical Context of Manipur:**	a. After the 1891 Anglo-Manipur War, Britain conquered Manipur, making it a British protectorate. b. In October 1949, Manipur joined India and became a separate state in 1972.

3. **Rise of Insurgency:**	a. Manipur's integration into India sparked insurgent groups demanding an independent state within Manipur's borders, rejecting the merger with India as involuntary. b. Insurgency emerged in the late 1960s and 1970s; no insurgency issue existed during Manipur's initial merger into India.

Reasons For Insurgency in Manipur and Probable Solutions

Reasons for Insurgency in Manipur	Probable Solutions
1. Historical Grievances: • British conquest and post-merger issues led to historical grievances, fueling the demand for an independent state within Manipur's borders.	**1. Dialogue and Negotiation:** • Initiate meaningful dialogue between the government and insurgent groups to address historical grievances and find peaceful resolutions to long-standing issues.
2. Ethnic and Cultural Identity: • Insurgency stems from concerns about preserving Manipur's unique ethnic and cultural identity within the larger Indian state.	**2. Cultural Preservation Initiatives:** • Promote initiatives to preserve and celebrate Manipur's ethnic and cultural identity within the framework of a united and diverse India.
3. Political Marginalization: • Perceived political marginalization post-merger fueled dissatisfaction, fostering the demand for an independent state.	**3. Inclusive Governance:** • Implement policies that ensure fair representation and participation of Manipur's diverse communities in governance, addressing concerns of political marginalization.
4. Economic Disparities: • Economic disparities, coupled with uneven development, contribute to discontent and support for insurgent movements seeking socio-economic equality.	**4. Socio-Economic Development:** • Focus on comprehensive socio-economic development in Manipur to alleviate economic disparities, providing opportunities for growth and reducing support for insurgency.

6. NATIONAL SECURITY STRATEGY

Context

Recently, India has initiated the implementation of a National Security Strategy **(NSS)**.

What is National Security Strategy?

1.Definition	NSS is a comprehensive plan outlining a country's approach to safeguarding its citizens, resources, and interests from external and internal threats.
2.Scope	It encompasses military, economic, diplomatic, and intelligence measures, ensuring a coordinated and proactive response to evolving security challenges.
3.Risk Assessment	NSS involves a thorough analysis of potential threats, vulnerabilities, and opportunities, guiding policies and resource allocation to mitigate risks effectively.

National Security Council

- The National Security Council of India was established in **1998** to **advise** the **PrimeMinister** on matters related to national security and strategic policies. Its **objective** is to formulate policies that ensure the nation's security. The council, **chaired** by the Prime Minister, comprises key Cabinet members, service chiefs, and intelligence officials.

Countries with well-established NSS

1. In advanced nations with well-established military and security frameworks, the implementation of a NSS is commonplace and subject to periodic updates.
2. Noteworthy, the publication of national security strategies by the **UnitedStates**, the **UnitedKingdom**, and **Russia**.
3. **China**, with its governance structure interlinked, has

formulated the Comprehensive National Security as a pivotal part of its strategic framework.

4. Similarly, **Pakistan** has recently unveiled the **National Security Policy 2022-2026.**

Challenges	Solution
1.Dynamic Threat Landscape: Adapting to rapidly evolving threats poses a challenge, demanding continuous assessment and adjustment of national security strategies.	**1.Strengthen Intelligence to counter threat**: Enhance intelligence capabilities to detect threats, assess risks, and inform strategic decisions crucial for national security.
2.Cybersecurity Vulnerabilities: Persistent cyber threats require constant innovation to safeguard critical infrastructure and sensitive information.	**2.Invest in Technology**: Prioritize research and development, integrating cutting-edge technologies to fortify cyber defence, surveillance capabilities, and military readiness.
3. Resource Allocation: Balancing finite resources while addressing multifaceted security challenges demands strategic prioritization and efficient allocation to ensure comprehensive protection.	**3. Optimum Resource utilisation:** Increase public understanding and support by transparently communicating the strategy, promoting civic engagement, and allocate finances in budget.

Conclusion

A robust NSS is imperative for India, ensuring comprehensive defense, strategic foresight, and agility to counter evolving threats and safeguard national interests effectively.

7. INDIGENOUS DEVELOPMENT OF LR-SAM DEFENSE SYSTEM

Context

The Ministry of Defence has granted **Acceptance of Necessity (AoN**) for the indigenous development of the **Long-Range Surface-to-Air Missiles (LR-SAM)** defense system.

Acceptance of Necessity (AoN):

- **I**t is a formal procedure in defense procurement where the government acknowledges the necessity of acquiring specific equipment or services, marking the initiation of procurement processes.

Significance of LR-SAM Defense System:

1. **Enhanced Security:** The LR-SAM system bolsters India's defense capabilities by detecting and neutralizing a wide range of threats, safeguarding its airspace against evolving challenges.
2. **Strategic Independence:**Will reduce reliance on foreign suppliers, ensuring self-sufficiency in critical security infrastructure.
3. **Versatility in Threat Response:** With the ability to engage diverse threats, including stealth fighters, aircraft, drones, and cruise missiles, the LR-SAM system provides comprehensive protection for India's airspace.

About Project Kusha:

1. The initiative falls under the **Defense Research and Development Organization (DRDO)** and targets operational readiness by **2028-29**.
2. India **currently** relies on **Russia'sS-400** air defense systems to protect its airspace.
3. The system's goal is to identify and neutralize diverse threats, such as stealth fighters, aircraft, drones, and cruise missiles within a **350 km range**.
4. The **LR-SAM** system will consist of **three** layers of **surface-to-air missiles**, each tailored for engaging targets at various distances.

LR-SAM Defense Systems around the world

USA	1. **THAAD (Terminal High Altitude Area Defense) - USA:** Advanced missile defense system designed to intercept and destroy short, medium, and intermediate-range ballistic missiles. 2. **Patriot Advanced Capability (PAC-3) - USA:** Part of the Patriot missile system, designed to counter tactical ballistic missiles, cruise missiles, and advanced aircraft.

Israel	**Barak 8 :** Long-range surface-to-air missile system designed to defend against airborne threats, including aircraft, helicopters, and drones.
Russia	**S-400 Triumf :** Versatile air defense system with the capability to intercept a wide range of aerial threats at various altitudes and ranges.
Italy/France	**Aster 30 -**European air defense missile system capable of intercepting and destroying a variety of targets, including ballistic missiles and aircraft.
China	**HQ-9/FD-2000:** Chinese long-range air defense system with anti-ballistic missile capabilities, providing defense against various airborne threats.

8. SPACE WARFARE

Context

1. **China** has supposedly created the **world's first-ever 'near-space command,'** armed with strong hypersonic weapons.

Near Space

- It's the part of the Earth's atmosphere, about 20 to 100 kilometers above the Earth's surface.

This new command will act as **China's 5th force**, apart from the 4 presentforces - Army, Navy, Air Force and Rocket Force.

Details about the Near Space Command (NSC)

Advanced Hypersonic Missiles	Aim to target crucial military assets of enemies.
Unmatched Speed	Hypersonic missiles travel at least five times the speed of sound (**Mach 5**), making them incredibly fast objects.
Near-Space Operation	These missiles operate in the near-space region due to the thin atmosphere, allowing them to maintain hypersonic speeds over long distances.
High-altitude Surveillance Tools	Spy balloons, solar-powered drones, and supporting equipment are utilized for global high-altitude surveillance.
Space as the 4th Dimension of Warfare	This development underscores the recognition of space as a crucial dimension in modern warfare.

What is Space Warfare?

1. It involves military activities conducted in outer space, including satellite operations, anti-satellite measures, and potential weapon deployment beyond Earth's atmosphere.
2. Started in **1962** when the **US** tested a nuclear weapon in space. This event led to the **creation** of the **Outer Space Treaty in 1967**.

Types of Space Weapons

Anti-Satellite (ASAT) Weapons	Designed to disable or destroy enemy satellites and disrupting communication, navigation.
Directed Energy Weapons	Use lasers or microwaves to disable or destroy satellites, providing a precise and rapid means of space-based attack.
Kinetic Energy Weapons	Involve physically impacting satellites with high-speed projectiles, causing damage or destruction upon collision.
Electronic Warfare Systems	Disrupt enemy satellite communication and control systems through the use of jamming, spoofing, or other electronic interference methods.
Space Mines:	Deployed to create barriers or hazards in orbit, hindering the movement of satellites and spacecraft.
Orbital Bombers:	spacecraft designed to carry and deploy explosive devices in Earth's orbit, posing a direct threat to satellites and space assets.

Concerns regarding Space warfare and Probable way out

Concerns	Solution
1. **International Relations Strain:** Space warfare raises concerns about violating treaties, straining diplomatic relations, and complicating international cooperation in space exploration and technology.	1. **International Agreements:** Develop and reinforce treaties to prevent weaponization and ensure space remains peaceful.
2. **Satellite Vulnerability:** Destruction or disruption of satellites can impair communication, navigation, and surveillance, impacting both military and civilian operations.	2. **Arms Control Measures:** Implement controls on space weapon development, limiting the potential for an arms race.
3. **Escalation Risks:** Unchecked conflict in space can escalate, leading to broader military engagements on Earth and exacerbating international tensions.	3. **Diplomacy and Dialogue:** Promote international dialogue to address security concerns and foster cooperation in space exploration.
4. **Global Economic Impact:** Damage to critical space assets can have cascading effects on economies worldwide, affecting sectors reliant on satellite technologies.	4. **Global Governance:** Establish a robust international framework for space governance and conflict resolution to prevent escalation.
5. **Orbital Debris:** Space warfare may generate debris, posing threats to functional satellites and spacecraft, increasing the risk of collisions.	5. **Space Debris Management:** Address space debris concerns to reduce accidental damage and minimize the risk of intentional space conflicts.

Steps Taken Globally and Nationally

Global Frameworks to maintain space peace	India's Space Capability Development:
1. **Outer Space Treaty (1967):**Established principles for peaceful space exploration, prohibiting the placement of weapons of mass destruction and military activities on celestial bodies.	1. **Defence Space Agency (DSA):**Established in 2019, the DSA, supported by the Defence Space Research Organization, manages India's space warfare and satellite intelligence assets.
2. **Arms Control Agreements:**Treaties like the Anti-Ballistic Missile Treaty and Strategic Arms Reduction Treaty contribute to limiting space weaponization.	2. **Defence Space Research Organization (DSRO):**Created to adapt civilian space technology for military use, enhancing India's capabilities in defense-related space activities.
3. **United Nations Committee on the Peaceful Uses of Outer Space (COPUOS):** Coordinates international efforts to ensure the peaceful use of outer space, promoting collaboration and preventing conflicts.	3. **Mission Shakti (2019):**Successfully demonstrated India's ability to intercept and destroy a satellite in outer space, showcasing indigenous technology for national security.
4. **Code of Conduct for Outer Space Activities:** Drafted by the European Union.	4. **IndSpaceEx (2019):**India's inaugural simulated space warfare exercise assessed necessary space and counter-space capabilities essential for safeguarding national security interests.
5. **Preventing an Arms Race in Outer Space (PAROS):**UN resolutions aim to prevent the weaponization of space, emphasizing peaceful uses of outer space for the benefit of all nations.	5. **Mission DefSpace:**Launched to achieve self-reliance (Atmanirbhar) in defense technologies.

9. STATE SPONSORED ATTACK

Context

Recently, Apple has issued alerts to certain Opposition Members of Parliament, warning them of potential targeting by state-sponsored attackers on their iPhones.

About Attack

1. The alerts suggest that these individuals may be targeted due to their identity or activitiesand advise protective measures such as activating the **'Lockdown Mode'** feature.
2. These attacks are often short-lived, aiming to evade detection and exploit vulnerabilities unknown to the public.

Difference Between State Actors and Non-State Actors

State Actors	Non-State Actors
1. refer to the states or governments of countries.	1. groups or individuals with the potential to influence state actors.
2. Primarily comprise states or sovereign nations.	2. Include **IGOs** (International Governmental Organizations), **NGOs** (Non-Governmental Organizations), Transnational Actors, Violent Political Groups, Criminal Groups **(TOC)**, and Influential Individuals.
3. **Interest:** Have state-related interests reflected in domestic and foreign policies.	3. **Interest:** Exhibit varied self-motivated interests.

India faces security challenges from external state actors and non-state actors

Challenges from External State Actors	Challenges from Non-State Actors
• **Pakistan**: accused of supporting militant groups, leading to terrorist attacks and infiltration.	• **Destroying Unity**: Some groups aim to damage India's unity by manipulating the population for political gains.
• **China**: Tensions arise from a disputed border in the Himalayan region, causing occasional conflicts. China's assertive behaviour poses a security challenge for India.	• **Multinational Corporations** (MNCs): They may pose threats to national security, especially in data security and cyberspace, and influence local laws. This led to the recent blocking of certain Chinese apps in India.
• **Proxy Warfare**: Both Pakistan and China use non-state actors and proxy groups to further their interests in India, contributing to internal security concerns.	• **Terrorist Organizations**: Groups like LeT, JeM, and Hizbul Mujahideen operate in India, linked to external state actors, causing instability and security threats.

Measures to Combat State and Non state actor Challenges in India:

1. **Enhanced Intelligence Sharing:**Strengthening domestic and international intelligence cooperation to effectively monitor and counter both state and non-state actors' activities.
2. **Robust Cybersecurity Measures:**Implementing advanced cybersecurity protocols to safeguard critical infrastructure, networks, and data from cyber threats posed by both state and non-state actors.
3. **Strategic Alliances:**Forming and strengthening strategic alliances with like-minded nations to collectively address security challenges posed by state-sponsored terrorism and non-state actors.
4. **Counter-terrorism Legislation:**Enacting and enforcing comprehensive counter-terrorism laws to address both state and non-state-sponsored threats.
5. **International Cooperation:**Collaborating with international organizations and participating in global efforts to combat terrorism, fostering a united front against both state and non-state actors.

10. MILITARY EXERCISES IN NEWS

Exercises	Countries Involved with India	Notable Facts
KAZIND-2023	Kazakhstan	Took place in **Otar** province of Kazakhstan from 30th October to 11th November, 2023.
Mitra Sakti-2023	Sri Lanka	Mitra Shakti-IX took place in November 2023 (16th Nov – 29th Nov) in Aundh, **Pune**.
Exercise Vajra Prahar	USA	14th Edition of "VAJRA PRAHAR 2023" commenced at the Joint Training Node, **Umroi**
Bold Kurukshetra	Singapore	13th edition of the 'Bold Kurukshetra' between the Indian Army and the Singapore Army was held at **Jodhpur** Military Station.
Ekuverin	Maldives	The 12th edition of joint military exercise "Ex Ekuverin" held at Chaubatia, **Uttarakhand** earlier this year

Significance of Military Exercises for India:

1. **Enhanced Military Cooperation:** Bilateral exercises strengthen military ties, fostering collaboration, and interoperability with partner nations, enhancing India's overall defense capabilities.
2. **Strategic Alliances:** These exercises build trust and strategic alliances, bolstering India's regional and global standing while promoting shared security interests.
3. **Operational Preparedness:** Regular joint drills improve the readiness and responsiveness of the Indian military, ensuring better preparedness for diverse security challenges.
4. **Diplomatic Relations:** Military exercises serve as diplomatic tools, promoting goodwill and understanding, contributing to stable diplomatic relations between India and its partner countries.

ENSURE IAS

D. ECONOMY

1. DRAFT NATIONAL PHARMACY COMMISSION BILL, 2023

Context

Recently, the Ministry of Health and Family Welfare (MoH&FW) in India sought public comments on the Draft National Pharmacy Commission Bill, 2023.

Objective

To replace the existing Pharmacy Act, 1948, and the Pharmacy Council of India (PCI) with a new body called the National Pharmacy Commission.

- **Purpose of the Pharmacy Act, 1948**: Currently regulates the practice and profession of pharmacy in India.

Goals of the New Legislation:

1. **Promote National Health Goals:** Aims to align with and enhance national health objectives.
2. **Quality Pharmaceutical Education:** Improve access to quality and affordable pharmaceutical education.
3. **Availability of Pharmacy Professionals:** Increase the availability of high-quality pharmacy professionals in the healthcare system.
4. **Grievance Redressal Mechanism:** Establish an effective mechanism for addressing grievances related to pharmacy services.
5. **Equitable Healthcare Access:** Promote equitable healthcare by making pharmacy services accessible to all citizens.
6. **Transparent Assessment:** Ensure transparent assessment of pharmacy institutions.
7. **Pharmacy Register Maintenance:** Facilitate the maintenance of a comprehensive pharmacy register for India.
8. **Encourage Research and Ethics:** Encourage pharmacy professionals to engage in the latest pharmacy research, contribute to it, and uphold high ethical standards in the profession.

Compare the key features of the Pharmacy Act of 1948 and the National Pharmacy Commission Bill, 2023.

Feature	Pharmacy Act of 1948	National Pharmacy Commission Bill, 2023
1- Objective	Regulate pharmacy education and practice	Improve access to affordable pharmacy education, ensure qualified professionals, maintain high ethical standards
2- Governing Body	Pharmacy Council of India (PCI)	National Pharmacy Commission (replaces PCI)
3- Admission Mechanism	Not explicitly detailed	Uniform mechanism for admission into pharmacy institutions at various levels
4- Competence Evaluation	Not explicitly detailed	Mechanism for evaluating competence of pharmacy professionals (potentially through final year undergraduate exams)
5- Regulatory Boards	Not specified	Three boards: Pharmacy Education Board, Pharmacy Assessment and Rating Board, and Pharmacy Ethics and Registration Board
6- Approval Process for New Institutions	Not specified	Stringent approval process; no new institution or course without permission from Pharmacy Assessment and Rating Board

7- State Chapters	Not specified	State governments to constitute State Pharmacy Chapters within one year
8- Overall Focus	Regulating pharmacy education and practice	Coordinated development of pharmacy education, maintain service standards, integrate technology and innovation

2. LEAP AHEAD INITIATIVE

Context

In the bid to support and accelerate the success of tech startups across India, Ministry of Electronics & Information Technology **(MeitY)** launched the **LEAP AHEAD initiative**.

1. **Scope:** It is a PAN (Presence Across Nation)-India initiative.
2. **Objective:** The initiative aims to select tech startups for high-quality mentorship, securing investments, and establishing global connections.
3. **Target Group:** Designed for Tech Startups that are in the Early Traction and Growth stages.
4. **Collaboration:** A collaboration between the Software Technology Parks of India (STPI), The Indus Entrepreneurs (TiE), and a group of investors.

This comprehensive approach by LEAP AHEAD makes it a pivotal initiative for the Indian tech startup ecosystem, offering much-needed support and resources to emerging businesses in the technology sector.

Feature Benefit

1- Market Entry and Growth	Assists in market entry, rapid growth, and diversification into new areas, crucial for scaling effectively.
2- Mentorship and Co-Investment	Provides guidance, market access, and co-investment opportunities beyond just funding.
3- Nationwide Reach and Impact	Events held in multiple cities, fostering ecosystems and supporting startups across regions.
4- Promotion of Innovation and Networking	Platforms for discussing innovation, product orientation, and investment; valuable networking with peers, investors, and leaders.
5- Resource Sharing and Collaboration	Comprehensive reports offer insights and success stories, enhancing knowledge and strategies.
6- Support from Key Industry Figures	Credibility and effectiveness boosted by involvement of industry experts and leaders.
7- Fostering a Product-Oriented Nation	Encourages startups to focus on creating market-ready, innovative products.
8- Economic Growth and Job Creation	Contributes to economic growth and job creation, strengthening India's tech position globally.

3. EXCHANGE RATE MANAGEMENT IN INDIA

Context

1. The Indian rupee's value against major trading currencies has reached a near 2 year high, influenced by central bank intervention and high domestic inflation.

Currency Valuation

1. **Definition**: Determining the worth of one currency in terms of another.
2. **Influencing Factors**: Interest rates, inflation, capital flow, money supply.
3. **Common Method**: Using exchange rates (e.g., USD to INR exchange rate).

Exchange Rate Determination Methods

1. **Fixed Exchange Rates**: Pegged (The term pegging refers to the practice of attaching or tying a currency's exchange rate to another country's currency.) to another currency, currency basket, or commodity like gold. Central banks actively maintain the rate.
2. **Flexible Exchange Rates**: Determined by market forces (demand and supply). Central bank does not directly intervene.
3. **Managed Exchange Rates**: Primarily market driven but with occasional central bank intervention to stabilize or influence rates.

Global Initiatives for Debt Crisis in Developing Countries

1. **IMF's Role**: Addressing financing needs to prevent or resolve debt crises.
2. **Global Sovereign Debt Roundtable (GSDR):** Launched by IMF, World Bank, and India during G-20 presidency to discuss sovereign debt restructuring.
3. **UNCTAD's DMFAS Programme:** Enhancing government's debt management capability.
4. **Heavily Indebted Poor Countries (HIPC) Initiative:** IMF and World Bank initiative to manage debt burdens in poor countries.

Exchange Rate Determination in India

1. Since 1993, methods have evolved to reflect market dynamics, **currently using NEER and REER evaluations. (Prelims)**

Effects of Exchange Rate on Key Economic Variables

1. **Inflation**: Currency valuation impacts the cost of imported goods.
2. **Interest Rates**: Central banks adjust rates in response to currency strength.
3. **Economic Growth**: Strong currency might reduce export driven growth.
4. **Trade**: Trade balances are influenced by currency strength.
5. **Capital Flow**: Currency strength can attract foreign investment.
6. **Business Decisions**: Exchange rate volatility affects business planning.

Challenges in Managing Exchange Rates

1. **Geopolitical Events**: Can cause unpredictable rate movements.
2. **Speculation and Manipulation:** Affects forex market stability.
3. **Government Intervention:** May impact market perceptions.
4. **Impossible Trinity:** Balancing independent monetary policy, fixed exchange rate, and free capital flow.

Solutions

1. **International Policy Coordination**: Through bodies like the Bank of International Settlements.
2. **Maintaining Foreign Exchange Buffers**: To manage market volatility.
3. **Advocacy Against Currency Manipulation**: Addressing manipulation concerns at international forums.

4. INDIA'S LEADERSHIP IN GLOBAL DIGITAL INFRASTRCTURE

Context

- In November 2023, the Prime Minister unveiled two India-led initiatives during the **Virtual G20 Leaders' Summit**: the **Global Digital Public Infrastructure Repository (GDPIR)** and a **Social Impact Fund (SIF)**.

Global Digital Public Infrastructure Repository (GDPIR)	Social Impact Fund (SIF)
1. **Developed by:** Ministry of Electronics & Information Technology. 2. **Aim:** Bridging the knowledge gap in designing, constructing, deploying, and governing DPIs globally. 3. **Constituents:** • Showcases information in standardized format from countries and organizations with developed DPIs at scale. • Includes maturity scales, source codes, and governance frameworks. • Currently features 54 DPIs from 16 countries.	1. **Aim:** Government-led, multistakeholder initiative to **fast-track DPI implementation** in the global south. 2. **Platform:** Offers a platform for relevant stakeholders to contribute, accelerating the achievement of Sustainable Development Goals (SDGs) in Low- and Middle-Income Countries (LMICs) through DPIs. 3. **Funding:** India pledges an initial commitment of **25 million USD** to SIF. • Provides financial support for technical and non-technical assistance in developing DPI systems.

Digital Public Infrastructure (DPI)

- **Definition:** A set of shared digital systems, secure, interoperable, built on open standards, delivering equitable access to public/private services at societal scale.

Digital Public Infrastructure	
Digital	• Enables remote, paperless, presence-less service delivery. • Reduces costs and increases access. • Functions as digital railroads.
Public	• Governed for public interest. • Orchestrated by the government. • Facilitates public governance and accountability to people.
Infrastructure	• Enabler for national scale innovation, serving as building blocks for large-scale development of digital solutions. • Ecosystem-led implementation, whether led by the private sector, public-private collaboration, or solely by the public sector. • Ecosystem-level impact, leveraging its influence in both public and private domains.

Key Pillars of DPI

1. Open, interoperable, extensible, and scalable technology.
2. Robust governance framework with transparent legal framework, data protection, grievance redressal, and intellectual property protection.
3. Resilient (flexible) local ecosystems, eliminating barriers, ensuring community participation and sustainability.

Foundational Elements of DPI

1. A strong DPI includes three foundational systems—**identity, payments,** and **data exchange**.
2. India's DPI architecture, known as **India Stack**, includes **Aadhaar (identity)**, **UPI** and **Aadhar enabled Payment System** (payments), and **Digilocker** and **Account Aggregator** (data exchange).

Significance of DPI for Global South Countries

1. **Inclusion:** DPI addresses issues in existing systems, reducing delays, leakages, and targeting errors, ensuring inclusion, especially for marginalized communities.
2. **Resilience:** During public emergencies like COVID-19 and natural disasters, DPI facilitates uninterrupted, remote service delivery at a national scale.
3. **Sovereignty:** DPI, being open and interoperable, provides countries autonomy and flexibility in designing and implementing digital systems, overcoming centralized decision-making and legacy software constraints.
4. **Innovation:** The DPI approach fosters collaboration among governments, the private sector, and civil society, encouraging innovation in the digital ecosystem and fair market competition.
5. **Socio-economic Outcomes:** DPI encourages entrepreneurship, enhances competition, improves quality of life, and boosts business opportunities.
   - For example, India's DPI has transformed its economy, supporting equitable growth.

India's Role in Promoting DPI Globally

1. **Identity System:** IIIT in Bengaluru launched **MOSIP**, aiding countries in **setting up Aadhaar-like systems**; over 10 countries have initiated MOSIP projects.
2. **Payment Linkages:** India signed agreements with nations like **Singapore**, **Malaysia**, **UAE**, and **France** to extend the reach of its UPI payment system.
3. **G20 Consensus:** Under India's presidency, G20 leaders agreed to promote and adopt the DPI framework.
4. **Alternative Model:** India's DPIs offer an **alternative to the "big tech" approach**, emphasizing public ownership and control of critical infrastructure.
5. **One Future Alliance (OFA):** India proposed OFA to build capacity, provide technical assistance, and funding support for implementing DPI in Low- and Middle-Income Countries.
6. **Open-Source Infrastructure:** India's commitment to open-source technology **prevents privatization, fostering innovation** for flexible global adoption.

Conclusion

1. DPI systems aren't a cure-all and, if poorly designed, may pose risks to data privacy and user protection.
2. With foresight, well-designed DPIs can boost economic activity and improve community well-being.
3. In the coming decade, efficient DPI implementation in untapped sectors could shape a nation's growth.

Important key terms
1. **Global South -** The term "Global South" refers to countries that are economically and socially less developed in comparison to the more developed "Global North." These nations typically experience higher levels of poverty, income inequality, and challenging living conditions compared to the Global North.
2. **Sustainable Development Goals (SDGs) -**SDGs are a collection of 17 objectives that were adopted by the United Nations in 2015. The SDGs are also known as the Global Goals.
3. **Low- and Middle-Income Countries (LMICs) -**Low and middle-income countries (LMICs) are countries with a range of environments and resources. The term is often used interchangeably with "developing country".
4. **Account Aggregator -** An Account Aggregator (AA) is a regulated entity that helps individuals securely access and share financial information. AAs enable users to access their financial data from multiple sources, such as bank accounts, investments, and credit card transactions.

5. ONLINE GAMING INDUSTRY SIGNS A CODE OF CONDUCT

Context

- The online gaming industry has signed a voluntary 'Code of Ethics for Online Gaming Industries' at the Indian Gaming Convention (IGC) for self-regulation.

Why regulation is needed for Online Gaming Industry?

1. **Violence and Inappropriate Content:** Unregulated gaming can expose young minds to violent or inappropriate content. Such content perpetrates violence, rape, suicides, etc. as it was observed in case of Blue Whale Game.
2. **Addiction:** Addiction to the online gaming leads to health issues such increased stress & anxiety, disturbed sleep pattern and issues with eyes.
3. **Pornographic Content and Misleading Ads:** Some games might contain pornographic content or misleading advertisements that could negatively impact younger audiences.
4. **Gambling and Financial Risks:** Unregulated gaming may promote gambling-like behavior, leading to financial loss for individuals, especially when games include elements resembling gambling. Also, money laundering (making illegal money appear legal) has been seen as an emerging threat from Online Gaming.

Types of Online Games:

(a) **Game of Skill:** Games in which the outcome depends on the player's expertise, practice and experience and not merely on chance. For example - rummy and fantasy sports games like Dream 11.

(b) **Game of Luck/Chance:** Games in which the outcome is decided by randomized events and where you don't have much control over what happens. It's mostly luck that decides if you win or lose. It is treated similarly to betting, gambling and horse racing.

5. **Jurisdictional Issues:** Online gaming is a state subject. However, state governments (unlike the Centre), lack the necessary blocking authority to issue blocking orders for offshore betting sites (sites located physically outside India). There is also concern that legislation passed in one state may not be relevant in another, resulting in inconsistencies across the country.
6. **Taxation Concerns**: Same Tax bracket for both Gambling and Online Gaming by many State Governments creates contradiction in the moral stand of Government.
7. **Lack of Grievance Redressal: Mechanism:** Right now, if players have a problem with a game, there might not be a way to solve it.
8. **Technological Risk:** The risk of cyber-attacks, financial fraud highlights the need of regulating this industry.

Online Gaming Market in India:

1. **Growth:** Online gaming industry is growing exponentially in India with addition of New Paying Users - 40% in 2020 and 50% in 2021 (which represents Indian Gaming Market as the fastest growing in the world).

2. **Active Users:** The present number of active engaged users is around 50 Crore.
3. **Current Value of the Industry:** Estimated to be worth $ 2.6 Bn.
4. **Projected Growth:** Estimated to be worth $ 5 Bn by 2025.
5. **Employment:** Employed around 100,000 people in 2022.
6. **FDI:** Attracted ₹15,000 crore in FDI till FY2022.

Regulation by GST Council:

1. In July 2023, the GST council recently imposed a **GST of 28%** on online gaming, horse racing and casinos.
2. It covers both games based on **both skill and chance.**
3. **Offshore companies** are mandated to **register** themselves with the GST authorities & pay taxes to offer their services to Indian gamers.
4. The move is expected to increase the industry's **revenue from Rs 2000 Crore to Rs 20,000 Crore**.
5. The act might **deter** the development of gaming **addiction** among youngsters.
6. However, this might severely **impact the $2.5 billion of Foreign Direct Investment** (FDI) already invested and potentially jeopardise any further FDI in the industry.

Attempts of regulating Online Gaming Industry:	
1) 2021	The Ministry of Electronics and Information Technology (MeitY) proposed **draft rules** to regulate the industry.
2) 2022	An **interministerial taskforce** was set up which prepared a final report of recommendation with regard to the regulation
3) 2023	The MeitY proposed an **amendment** to bring online gaming under the ambit of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

Rules specified by MeitY:

1. **Obligatory for Intermediaries:**
   - Every platform must avoid harmful online games and unapproved advertisements. They should not spread fake information about the Indian government checked by fact-checkers.
   - The online Intermediaries includes social media sites like Facebook, YouTube, Twitter and service providers Airtel, Jio, Vodafone Idea. They act as a platform for Online Games.
2. **Self-Regulation Groups:**
   - Gaming platforms have to sign up with a Self-Regulatory Body (SRB) that decides whether a game is permissible or not. Platforms must ensure their games do not include betting. They also need to follow laws, rules and safety measures, like parental controls.

Self-Regulation by Industries:

1. Recently, the online gaming industry has signed a voluntary 'Code of Ethics for Online Gaming Industries'.
2. The code asks online gaming companies to:
   - Undertake a know-your-customer (KYC) as per applicable laws.
   - Specify on website how winners are chosen and the platform fee charged.
   - Ensure that deposits for online gaming services are utilized only for playing games on the platform.

Conclusion:

To realize India's Techade vision and build a $1 trillion digital economy, ensuring transparency and accountability in the rapidly expanding online gaming market is crucial.

6. DIGITAL ADVERTISEMENT POLICY 2023

1. Approval and Implementation:

(a) Approved by the **Ministry of Information and Broadcasting.**

(b) **Central Bureau of Communication (CBC)** to utilize digital media for promotinggovernment schemes and policies.

Central Bureau of Communication

1. **About**: Acts as an advisory body to the Government on media strategy
2. **Ministry**: Ministry of Information and Broadcasting.
3. **Genesis**: Set up in 2017 by integration of the erstwhile Directorate of Advertising and Visual Publicity (DAVP), Directorate of Field Publicity (DFP), and Song & Drama Division (S&DD).
4. **Mandate**: To advance the Government's image as the prime facilitator of people's empowerment by positioning messages through Print Media, Audio-Visual, Outdoor, and Digital Media.

2. Objectives:

(a) Enhance social media outreach of various Government of India Ministries and Departments.

(b) Establish a policy framework for Ministries and CBC to engage with social media platforms.

3. Key Features:

(a) CBC will empanel agencies in OTT and Video on Demand spaces.

(b) Empanelment of Digital Audio platforms for leveraging podcast and digital audio listeners.

(c) Introduction of competitive bidding for rate discovery to ensure transparency and efficiency.

(d) Empowerment of CBC to onboard new and innovative communication platforms in the digital space.

4. Benefits:

(a) Effective and targeted delivery of citizen-centric messages.

(b) Cost efficiencies in public-oriented campaigns.

(c) Utilization of India's vast internet and telecom subscriber base (880 million internet subscribers and 1172 million telecom subscribers as of March 2023).

(d) Technology-enabled messaging options, including mobile applications.

- **Overall:** This policy aims to modernize and effectively utilize digital platforms for government communication and public service campaigns.

7. INDIA APPROVES GRAIN STORAGE PLAN IN COOPERATIVE SECTOR

1. 1 lakh Crore in coming 5 years to be spent.
2. In the absence of proper storage, farmers had to sell immediately as poor storage capacity results into distress sell.

Present Capacity	**1450 lakh tonne**
Addition	700 lakh tonne
Total	**2150 lakh tonne**

3. In every block **2000 tonne capacity**godown will be constructed.
4. Comprehensive Agri Infrastructure (warehouses, custom hiring centers, processing units, Fair Price Shops, etc) will be constructed at PACS (Primary Agricultural Credit Societies) levels.

Who will Implement?	Who will oversee Implementation?
1. National Cooperative Development Corporation (NCDC)	**1.** Inter-Ministerial Committee (IMC)
2. National Bank for Agriculture and Rural Development (NABARD)	**2.** National Level Coordination Committee (NLCC)
3. Food Corporation of India (FCI).	**3.** State District Cooperative Development Committees (SCDC)
	4. District Cooperative Development Committees (DCDC)

5. It will converge many existing agriculture schemes like [Agriculture Infrastructure Fund (AIF), Agricultural Marketing Infrastructure Scheme (AMI), Sub Mission on Agricultural Mechanization (SMAM), Pradhan Mantri Formalization of Micro Food Processing Enterprises Scheme (PMFME), and Mission for Integrated Development of Horticulture (MIDH)] to avoid overlapping, duplication and confusion.

Benefits to farmer

1. He does not have to sell immediately.
2. He does not have to make distress sale.
3. He can sell at his preferred time.
4. He can sell entire crop to PACs at MSP
5. He can preserve quality by storing
6. Post harvest loss will be minimal.
7. Various agricultural inputs will be available at village itself, so dependency on distant procurement system will be reduced.
8. Farmers can diversify their business.

Over all Benefit

1. National food security will be strengthened.
2. Food supply chain will be more robust.
3. Import burden will be less.
4. Export earnings will be increase

8. CCI BECOMES MEMBER OF ICN

Context

1. The Competition Commission of India (CCI) has **become a member of the ICN (**International Competition Network)**steering Group for the first time.**
2. This marks a significant development in **India's role in shaping global competition policy**.
3. **CCI's membership will last for two years**, offering a valuable opportunity to contribute to and influence international best practices.

About the ICN:

1. **The ICN is a global network of 140 competition authorities** dedicated to promoting and sharing knowledge on competition law and policy.
2. It serves as a platform for informal dialogue and collaboration, facilitating the exchange of information and expertise among member agencies.
3. The ICN's **core mission is to advocate for the adoption of high-quality standards and procedures in competition enforcement worldwide.**

Significance of CCI's Membership:

1. As a member of the Steering Group, CCI will have a voice in shaping the ICN's agenda and activities.
2. This access will enable CCI to learn from leading global competition authorities and leverage their experiences to enhance its own practices.
3. Furthermore, CCI's membership opens doors for India to play a more active role in influencing international competition policy discussions and decision-making.

Overall:

- CCI's inclusion in the ICN Steering Group is a positive step forward for Indian competition law and policy. This engagement will likely lead to knowledge sharing, improved competition enforcement within India, and a stronger voice for India on the global competition stage.

9. INDIA WILL CHAIR I.S.O

Context

1. India will chair the ISO (International Sugar Organisation) in 2024, the apex body for sugar with around 90 member countries.
2. Established in 1968, ISO works to improve conditions in the global sugar market.

Indian Sugar Production

1. **Two main regions**: **tropical** (Maharashtra, Andhra Pradesh, etc.) **and sub-tropical** (Uttar Pradesh, etc.)
2. **India is the**:

a. 2nd largest sugar producer globally.
b. 3rd largest ethanol producer globally.
c. Largest consumer and market leader in the Eastern Hemisphere.

Ethanol Blending and Green Energy

1. Ethanol blending percentage increased **from 5% to 12% in 2019-2023**, reducing fossil fuel dependence and meeting **COP 26 targets**.

Farmer Welfare and Industry Sustainability

1. **India pays the highest cane price to farmers** yet remains profitable and self-sufficient.
2. Cane dues cleared: 98% of 2022-23 dues paid, 99.9% of previous seasons cleared.

Consumer Protection:

1. Stable domestic sugar retail prices despite a 40% global price hike in 2023.

Overall:

- India plays a major role in the global sugar market and sets an example by balancing farmer welfare, industry sustainability, and consumer protection. These notes highlight India's achievements in sugar production, ethanol blending, and responsible market management.

10. INVESTOR RISK REDUCTION ACCESS PLATFORM

Context

1. The Securities and Exchange Board of India (SEBI) **has launched the IRRA platform at the Bombay Stock Exchange (BSE).**
2. This platform **aims to mitigate risks faced by investors in case of technical glitches** at their trading member's primary and disaster recovery sites.

Target Users and Coverage

1. IRRA is available to trading members who offer internet-based and wireless security trading for their investors.
2. It **covers both equity and non-equity instruments** traded on participating stock exchanges.

Benefits for Investors

1. **Increased trading continuity:** Even if their primary trading member faces technical issues, investors can continue trade execution through the IRRA platform.
2. **Enhanced security:** The platform provides an additional layer of protection against disruptions and ensures uninterrupted access to markets.
3. **Improved confidence:** Knowing about the IRRA backup option can instill greater confidence and stability for investors.

Overall

- The IRRA platform represents a significant step towards strengthening investor safeguards and ensuring market stability in India. It provides investors with peace of mind and contributes to a more robust and reliable trading environment.

11. KRISHI 24/7: AI-POWERED PLATFORM

Context

1. Krishi 24/7 is an **AI-powered platform** (first of its kind) **designed for automated agricultural news monitoring and analysis.**
2. It was developed by the **Department of Agriculture and Farmers Welfare (DA&FW)** in collaboration with Wadhwani Institute for Artificial Intelligence (**Wadhwani AI) and supported by Google.org.**

Functionalities:

1. Krishi 24/7 scans news articles across various languages and translates them into English, offering consolidated access to information.
2. It identifies and **manages relevant news articles related to agriculture, facilitating efficient information discovery.**

Benefits:

1. **Supports timely decision-making for DA&FW by providing**:
   a. Relevant news identification
   b. Timely alerts on critical issues
   c. Prompt action opportunities
2. **Ultimately aims to:**
   a. Protect farmers' interests
   b. Promote sustainable agricultural growth
   c. Improve overall decision-making within the DA&FW

Overall:

- Krishi 24/7 represents a significant advancement in agricultural information management and analysis. Its automated capabilities can empower the DA&FW to make informed decisions, ultimately benefiting farmers and contributing to sustainable agricultural growth.

12. PM GATI SHAKTI INITIATIVE

Context

1. The initiative **completed two years in October 2023**
2. PM Gati Shakti National Master Plan (PMGS-NMP) **aims to provide multimodal connectivity infrastructure to various economic zones in India.**
3. **Focuses** on strategic planning, innovative financing, technology integration, and faster project execution.
4. **Covers seven engines of the National Infrastructure Pipeline (NIP):** roads, railways, airports, ports, mass transport, waterways, and logistics infrastructure.

Objectives

1. **Integrate economic zones** like textile clusters, pharmaceutical hubs, defense corridors, etc.
2. **Create a unified portal for 16 ministries** involved in infrastructure development.
3. Enhance global competitiveness of Indian products through efficient logistics.

Six Pillars of PM Gati Shakti Initiative

1- Comprehensive:
- Integrating all existing or planned initiatives of various Ministries

2- Prioritization:
- Enabling prioritization of projects through cross-sectoral interactions

3- Optimisation:
- Assist different ministries in planning for modification or expansion after identification of critical gaps

4- Synchronization:
- By ensuring coordination of work between departments to reduce delays and clashes

5- Analytical:
- Providing the entire data in one place with GIS based spatial planning and analytical tool

6- Dynamic:
- Identify the vital interventions for enhancing and updating the master plan of departments

Impact:

1. **Cost savings**: Reduced logistics costs and improved supply chains.
2. **Faster project execution**: Streamlined processes and reduced pre-alignment finalization time.
3. **Increased information availability**: Data on upcoming projects, business hubs, and industrial areas.
4. **Multi-modal logistics**: Seamless connectivity through various modes of transport (Bharat Mala, Sagar Mala, etc.).
5. **Improved last-mile connectivity**: Access to road, rail, power, fiber optic cable, gas pipelines, etc.
6. **Integrated public transport**: Indian Railways, Metro, RRTS, bus systems, etc.

Challenge	Solution
1. **Structural:** Land acquisition, environmental clearances, resettlement/compensation	**Better land-use planning:** Utilize GIS (Geographic Information System) and remote sensing for land reclamation. Focus on upgrading existing infrastructure before building new.
2. **Financial:** Private sector reluctance, state government funding constraints	Innovative financing methods: Public-private partnerships, infrastructure bonds, green bonds. Prioritize projects with high economic return on investment.
3. **Coordination:** Multiple authorities, unclear accountability, potential disputes	Establish a unified project management authority. Streamline approval processes and clarify responsibility for different stages.
4. **Environmental impact:** Balancing infrastructure development with eco-friendly practices	Conduct thorough environmental impact assessments. Adopt sustainable construction practices and invest in renewable energy.
5. **Technological:** Lack of skilled workforce, inadequate data & analytics infrastructure	**Skill development programs:** Training in project management, engineering, and infrastructure technology. Encourage internships and on-the-job training. **Harness digital technologies:** AI, big data, blockchain for efficient planning and execution.
6. **Social:** Potential displacement and livelihood challenges for affected communities	**Community impact assessment:** Identify and mitigate social impacts proactively. **Develop resettlement and compensation plans based on consultations with affected communities.**

- **Overall,** PM Gati Shakti has the potential to revolutionize India's infrastructure landscape. Addressing the challenges and implementing the proposed solutions are crucial for its success.

13. UN CONVENTION ON INTERNATIONAL TAX COOPERATION

Context

1. India voted in favor of the UNGA resolution to establish a UN "Convention on International Tax Cooperation."
2. This signifies India's commitment to a more just and inclusive global tax system.

Resolution Details:

1. **Introduced by Nigeria** under the title "**Promotion of Inclusive and Effective International Tax Cooperation at the United Nations**."
2. Mandates forming an intergovernmental committee to develop a comprehensive UN Tax Convention.
3. Aims to finalize the UN Tax Convention by June 2025.

Objectives and Significance

1. Addresses critical issues like tax avoidance, illicit finance, and fair taxation of the digital economy.
2. Aims to prevent the current annual loss of over $480 billion in tax revenue due to tax abuse.

3. Challenges the OECD's dominance in tax policy, opening it up to wider participation.
4. Promotes tax sovereignty and collaboration for a fairer, sustainable, and modern international tax system.

Key Advantages

1. Greater representation and voice for developing countries in shaping global tax rules.
2. Potential for more equitable and effective tax strategies compared to current system.
3. Promotes transparency and collaboration among nations to combat tax evasion and illicit financial flows.

Overall

- India's support for the UN Tax Convention highlights its commitment to addressing global tax challenges and advocating for a fairer international tax system. This initiative has the potential to significantly impact global tax regulations and improve revenue collection, benefiting developing countries like India.

14. GLOBAL DEBT

Context

- Sri Lanka's unsustainable debt and severe balance of payments crisis highlight the broader issue of increasing debt in developing countries.

About Global Debt

1. **Global debt** encompasses borrowings by governments, private businesses, and individuals worldwide.
2. **Governments borrow** to cover various expenditures not met by taxes and revenues. This may include paying interest on past borrowings.**Private entities** primarily borrow for making investments.

Key Facts

- **30%** of global public debt is held by developing countries, with **70%** attributed to China, India, and Brazil.
- In 2021, developing countries had a total public debt to GDP ratio of **60%**, marking a significant increase from 35%.
- **59** developing countries face a debt-to-GDP ratio exceeding **60%**, indicating high debt levels.

Growing Debt Trends

1. Developing nations often accumulate debt for large-scale infrastructure projects, promoting economic growth.
2. A recent United Nations report reveals that **global public debt surged to an all-time high** of $92 trillion in 2022 from $17 trillion in 2000.

Reasons Behind Growing Debt

1. **Higher Costs:** Developing countries face significantly **higher interest rates** than developed ones.
2. **Resource Allocation:** Half of these nations allocate over 1.5% of GDP and 6.9% of government revenues to interest payments.
3. **Shift to Private Creditors:** Increasing reliance on **market-driven borrowingsfrom private creditors**, diverging from traditional reliance on multilateral institutions.
4. **Debt Restructuring Challenges:** External creditors avoid restructuring debt for countries in crisis.
5. **Internal Factors:** Poor debt management, inefficient tax policies, and legal weaknesses contribute to the problem.

Concerns Raised Due to High Debt Burden

1. **Debt Sustainability:** High debt burdens **force countries to borrow from** more expensive sources, exacerbating vulnerabilities and complicating debt crisis resolution.
   - **Example:** Sri Lanka losing international financial market access in 2022 due to unsustainable public debt.
2. **Impact on Developmental Spending:** Countries spending more on interest than health or education affects developmental priorities for 3.3 billion people.
3. **Hindrance to Sustainable Development:** Over 70% of public climate finance is in the form of debt, limiting spending on climate initiatives in debt-ridden countries.
4. **Political and Social Turmoil:** Economic struggles blamed on governments lead to political instability.
5. **Global Financial Stability:** High debt levels in developing countries contribute to global financial instability.

Way Forward

1. **Inclusive Financial Governance:**Enhance the genuine involvement of **developing countries** in internationalfinancial governance.
   - Implement reforms, such as updating IMF quota formulas, to reflect the evolving global scenario.

2. **Ensuring Liquidity in Crisis:**Provide increased liquidity during crises through **IMF and MDBs** to **discourage unsustainable high-interest financing** by developing nations.
3. **Transparent Debt Reporting:**Mandate comprehensive and transparent reporting of public debts by all countries.
    - Greater transparency **helps prevent the accumulation of significant "hidden" liabilities**, which may later transform into explicit government debt.

What is Debt Sustainability?

- A country's public debt is considered sustainable if the government can meet all current and future payment obligations without requiring extraordinary financial assistance or defaulting.

4. **Prudent Debt Management:**Encourage low-income countries to adopt cautious approaches in acquiring new debt.
    - **Focus** on attracting **foreign direct investment** and boosting tax revenues instead of heavily relying on loans.
    - Lenders should assess the impact of new loans on the borrower's debt position before extending fresh credit.
5. **Promoting Debt Restructuring Collaboration:**Foster collaboration among official creditors to prepare for debt restructuring cases, especially those involving non-traditional lenders.
6. **Fulfilling Climate Finance Commitments:**Provide credit for **climate mitigation** to address one of the leading causes of high public debt.

Global Initiatives to Tackle Debt Crisis

1. **IMF's Role:** Assisting countries with substantial financing needs to prevent or manage debt crises, promoting economic and financial stability.
2. **Global Sovereign Debt Roundtable (GSDR):** Launched to bring key stakeholders together, fostering consensus on debt-restructuring challenges.
3. **Debt Management and Financial Analysis System (DMFAS) Programme of UNCTAD:** Aims to strengthen a government's capacity for effective and sustainable debt management.
4. **Heavily Indebted Poor Countries (HIPC) Initiative:** Initiated in 1996 by the IMF and World Bank to prevent poor countries from facing unmanageable debt burdens.

Conclusion

1. **Balanced Approach:** Maintaining a balanced approach to global debt management is crucial for economic stability and sustainable growth.
2. **Key Measures:** Monitoring debt levels, implementing prudent fiscal and monetary policies, and strengthening international financial systems are vital steps in mitigating risks associated with growing global debt.
3. **Long-Term Prosperity:** Striking the right balance between debt accumulation and economic growth remains essential for long-term economic prosperity.

15. CREDIT INFORMATION COMPANIES

Context:

RBI has directed CICs (Credit Information Companies) to introduce a compensation framework for delay in updation orrectification of credit information of borrower.

- CICs must now offer compensation to borrowers if their credit information update or correction takes longer than 30 days to resolve.

1. **Role of CICs:**
    a. Maintain detailed credit information about borrowers (individuals and businesses).
    b. This information includes loans, credit cards, and other financial commitments.
    c. Banks and other lenders use CICs credit reports to assess borrowers' creditworthiness before approving loans.
2. **Data Sources:**
    a. CICs gather information from various sources, including banks, credit card companies, and non-bank financial institutions.
3. **Regulation:**
    a. All CICs operating in India are licensed and regulated by the RBI.

E. SCIENCE

1. GLOBAL POSITIONING SYSTEM

What is the Global Positioning System?

The GPS has three main segments,

1. **Space Segment:** This segment consists of **24 satellites in six orbits** toensure global coverage. The segment facilitates signal receivers (in hand held and other devices) to access signals from at least **four** satellites simultaneously for accurate positioning.
   - All **six** orbits are positioned at **an altitude of 20,200 km** above the Earth, and **each orbit has four satellites at all times.** Each satellite completes two orbits in a single day.
2. **Control Segment:** The Control segment is the second component of GPS, which is further divided into following sub-components.
   - **Monitor Station:The monitor station checks the exact latitude, Position, Speed, and overall health of the orbiting satellites. A station can track up to 11 satellites at a time. This "check-up" is performed twice a day, By each station.**
   - **Ground Antennas**:The ground Antennas monitor and track the satellites from horizon to horizon.
3. **User Segment:** This segment includes the **Receiver sets** that can range from simple hand-held devices that provide only basic positioning information to complex multichannel units that perform a variety of functions.
   - Most GPS receivers consist of **three basic components** viz. antenna, receiver-processor unit and control/ display unit.
   - This segment encompasses diverse sectors from agriculture to military operations, with an estimated 6.5 billion **GNSS (Global Navigation Satellite System)** devices worldwide in 2021 underscoring its pervasive influence.

Functioning of Global Positioning System

1. GPS operates through satellite-transmitted **radio signals** at specific frequencies (50 bits/second), received and triangulated by GPS receivers, enabling precise location determination in three dimensions of space and time.
2. Satellites maintain precise time for GPS by using atomic clocks. These clocks are critical because even tiny timing differences **could lead to substantial location errors**.

Other Global navigation satellite system (GNSS)

1. Several countries, including Australia, China, the EU, India, Japan, South Korea, Russia, and the U.K., operate their own Global Navigation Satellite Systems (GNSS) alongside GPS.
   - Globally, Russia's GLONASS, the EU's Galileo, and China's BeiDou systems are among the top technologies.

Global navigation satellite system (GNSS)

- A satellite navigation system with global coverage may be termed a global navigation satellite system or GNSS. The United States' **NAVSTAR** Global Positioning System (GPS) is the most used GNSS as of now.

2. India launched its Regional Navigation Satellite System in 2006, later renamed Navigation with Indian Constellation (**NavIC**), consisting of total **seven** satellites (3 in geostationary and 4 in geosynchronous orbits)
3. India operates the GPS-Aided Geo Augmented Navigation (**GAGAN**) system, developed by ISRO and the Airports Authority of India.

2. NITROGEN-9

1. Researchers have recently discovered nitrogen-9 nuclei which contains 7 protons and 2 neutrons.

What it is?

1. An unusual isotope of nitrogen, resulting in a high proton-to-neutron ratio.
2. **Exists for an extremely short time (one billionth of a nanosecond).**

3. Not typically thought to be possible based on current understanding of nuclear stability.

Significance

1. Challenges traditional nuclear theory and quantum mechanics concepts about isotope stability.
2. Could lead to advancements in our understanding of subatomic forces and behaviour.
3. Opens up new avenues for research on exotic nuclei and their properties.

Comparison with other nitrogen isotopes

1. Nitrogen typically has multiple isotopes, with nitrogen-14 being the most common and stable.
2. Isotopes differ in the number of neutrons but have the same number of protons (defining the element).
3. Nitrogen-9 is highly unstable compared to other isotopes due to its imbalanced proton-neutron ratio.

Overall

- Nitrogen-9 presents a fascinating anomaly in the world of nuclear physics. Its discovery pushes the boundaries of our current knowledge and has the potential to revolutionize our understanding of atomic nuclei and their behaviour.

3. ULTRA-PROCESSED FOODS: HIDDEN COSTS OF UNHEALTHY DIETS

Context

1. The Food and Agriculture Organization (FAO) has released the 2023 edition of **The State of Food and Agriculture (SOFA).**
2. The report highlights the hidden costs of unhealthy diets, particularly those high in ultra-processed foods (UPFs).

What are Ultra-Processed Foods (UPFs)?

UPFs are industrial formulations made mostly from substances extracted from foods, rather than whole foods themselves. They typically contain:

1. **High amounts of:**
   a. Sugars, including added sugars and sweeteners.
   b. Fats, especially unhealthy fats like saturated and hydrogenated fats.
   c. Starches, often refined grains.
2. **Low amounts of:**
   a. Fiber, vitamins, minerals, and other essential nutrients.
3. **Additives:** These include preservatives, flavorings, colorings, and emulsifiers to improve taste, texture, and shelf life.
4. **Examples of UPFs:**
   a. Soft drinks, sugary cereals, packaged cookies, candies, ice cream
   b. Pre-packaged meals, frozen pizzas, instant noodles
   c. Processed meats like sausages, ham, hot dogs
   d. Flavored yogurt, cheese crackers, chips, savory snacks

Key Points:

1. The 2023 SOFA report estimates a **hidden cost of over $7 trillion annually** due to unhealthy diets.
2. India's UPF sector grew at a 13.37% annually from 2011 to 2021.
3. High UPF consumption and low physical activity increase risks of obesity, diabetes, and cardiovascular diseases.

Challenge	Solution
1- Lack of Standard Definition: No clear criteria for UPFs or HFSS foods.	**Define UPFs Clearly:** FSSAI, with stakeholders, should establish a transparent definition for UPFs and subcategories.
2- Missing Tax Model: No nutrition-based taxes to incentivize healthier choices.	**Nutrition-Linked Taxes:** Tax foods exceeding recommended sugar, salt, and fat levels, encouraging healthier options with lower taxes.
3- Data Limitations: Lack of detailed data on UPF subcategories hinders policy decisions.	**Improve Data Collection:** Gather comprehensive data on UPF subcategories to inform effective policy implementation.
3- Limited Incentives: No subsidies for healthy food production or consumption.	**Fiscal Incentives:** Provide subsidies for healthy food production and consumption, promoting a healthier food system.

4- Implementation Delays: Proposed FSSAI regulations (e.g., labelling, advertising) are not yet enforced.	**Efficient Implementation:** Enforce existing and new FSSAI regulations like Front-of-Pack Labelling and advertising restrictions.
5- Global Best Practices: Limited adaptation of successful international strategies.	**Adapt Global Lessons:** Implement relevant policies from countries like Mexico's "junk food tax", adapting them to local contexts.
6- Ineffective Labeling: Current labeling practices might not be clear or easily understood.	**Effective Labeling:** Enforce clear and transparent labeling regulations (e.g., Draft FSSAI Notification) with consumer-friendly information.
7- Irresponsible Advertising: Lack of restrictions on marketing of unhealthy foods.	**Responsible Advertising:** Develop and implement a framework to restrict marketing or advertising of unhealthy foods through proper channels.

- **Overall,** curbing UPF consumption requires a multi-pronged approach encompassing clear definitions, appropriate taxation, fiscal incentives, effective labelling, and responsible advertising.

4. WI-FI 7 TECHNOLOGY

Context

In October 2023 U.S. based company **Qualcomm** suggested that **India should adopt the newest Wi-Fi 7 technology.**

About Wi-Fi 7

1. Wi-Fi, or Wireless Fidelity, is a wireless technology that enables devices to connect to the internet and communicate with each other.
   - The device utilizes radio waves to offer high-speed wireless internet and network connections.
   - The transmission of Wi-Fi signals requires three mediums: a base station, a router, and accessing devices (Eg. Laptop).
2. Wi-Fi 7 is set to launch as the next-generation Wi-Fi standard, based on IEEE 802.11be, which is known for its extremely high throughput (EHT).
   - The Institute of Electrical and Electronics Engineers (IEEE) is the largest technical professional organization globally dedicated to advancing technology for the benefit of humanity.

Key Features of Wi-Fi 7

1. **Lower Latency:**This facilitates faster cloud-based operations such as file transfers and gaming.
2. **Multi-Link Operation (MLO):**The system combines multiple channels on different frequencies to enhance network performance.
3. **Speed and Capacity:**Wi-Fi 7 can theoretically support a bandwidth of up to 330 Gigabits per second per access point, four times faster than Wi-Fi 6.
4. **Backward Compatibility:**The device connects to devices in 2.4GHz, 5GHz, and 6GHz bands without the need for new hardware.
   - The solution will not be limited to a single frequency but will utilize a mix of available spectrum frequencies.

Benefits of Wi-Fi 7

1. **Augmenting User Experiences:**Wi-Fi 7 is capable of enabling the streaming of high-resolution content, including 8K videos.
   - The technology could also improve performance in cloud gaming, AR/VR, and other data-intensive activities.
2. **Medicinal Field:**Tele-diagnostics and tele-surgery are two innovative medical technologies that allow for remote healthcare services.
3. **Addressing emerging technologies demands:**Wi-Fi 7 has the potential to accommodate the increasing number of Internet of Things (IoT) devices, including smart home devices, wearables, and industrial IoT applications.
4. **Promising Developments in India:** The enterprise sector is undergoing digital transformation, with fixed wireless connectivity, smartphone technology, and the potential of Artificial Intelligence, particularly Edge AI, playing a significant role.
5. **Alignment with India's Tech Adoption**: Wi-Fi 7 facilitates India's swift adoption of cloud-based and wireless applications, promoting the government's digital initiatives for security and privacy.

Wi-Fi Generations					
	Wi-Fi 4	**Wi-Fi 5**	**Wi-Fi 6**	**Wi-Fi 6E**	**Wi-Fi 7 (expected)**
Launch date	2007	2013	2019	2021	2024
IEEE standard	802.11n	802.11 ac	802.11ax		802.11 be
Max data rate	1.2 Gbps	3.5 Gbps	9.6 Gbps		45 Gbps
Bands	2.4 GHz and 5 Ghz	5 GHz	2.4 GHz and 5 Ghz	6 GHz	1-75.25 GHz (including 2.4 GHz, 5 GHz, 6 GHz bands)

5. WHO'S WORLD MALARIA REPORT 2023

Malaria

1. It is mosquito borne blood disease caused by **Plasmodium Parasites (PP).**
2. 5 types of PP cause malaria but 2 species **(P. falciparum and P. vivax)** pose the greatest threat.
3. Malaria is mostly found in the tropical and subtropical areas and spread by the bite of an infected female Anopheles mosquito.
4. Parasites travel to the liver, mature, and then infect RBC (Red Blood Cells).
5. **Symptoms** – fever, chills, headache and tiredness.
6. It is both preventable through vaccine and curable through medicine.

India's initiative for Malaria		
1. NMCP (National Malaria Control Programme)**-1953**	**2. National Framework for Malaria Elimination 2016-2030**	**3. High Burden to High Impact (HBHI) Initiative 2019**
It works around 3 key activities: **a.** IRS (Insecticidal Residual Spray) **b.** Monitoring and surveillance of cases **c.** Treatment	As per WHO's aim, it also aims to eliminate malaria in India by 2030.	It started in 4 states (West Bengal, Jharkhand, Chhattisgarh, and Madhya Pradesh) to reduce Malaria through IND (Insecticidal Net Distribution).

Global initiative for Malaria

1. **WHO's GMP (Global Malaria Programme)**- It sets the target of reducing global malaria incidence & mortality rates by at least 90% by 2030.
2. **Bill and Melinda Gates Foundation**- Malaria elimination initiative through diverse strategies (mosquito reduction, and technology development, treatment accessibility).
3. **WHO's E-2025 initiative** in 2021 to stop malaria transmission in 25 countries by 2025.

Malaria Vaccine

1. Report found that cases reduced in Africa after use of WHO-recommended malaria vaccine**, RTS, S / AS01**
2. In October 2023, WHO recommended a 2nd safe and effective malaria vaccine, **R21/Matrix-M.**
3. Availability of both malaria vaccines will increase.

Report Highlights & recommendation

1. Global cases increased by 250 million, surpassing pre-pandemic levels.
2. 29 tropical countries accounted for 95% cases.
3. **4 African countries**, Nigeria (27%), the Democratic Republic of the Congo (12%), Uganda (5%), and Mozambique (4%), **accounted for 50% of all malaria cases globally**.
4. **India 66%** and Indonesia 28% accounted for cases in the WHO South-East Asia Region.
5. Incidence rate should be reduced.
6. Mortality rates should be reduced by 90% by 2030.

Major Causes of Malaria	
Causes	**Solution**
1. Covid-19 disruptions	1. Protective measures
2. Climate Change enhances sensitivity of Pathogen/ Vector. It leads to spread of malaria fast.	2. Sustainable & resilient response to climate change.
3. Unseasonal rainfall leads to increased mosquitos' population	3. Spray mosquito repellent throughout cities
4. Increased funding gaps (Gap between required and allotted amount).	4. Provide sufficient/required amount.
5. Less expenditure on research and development (R&D)	5. Increase funding in R&D
6. Lack of vaccine availability	6. Increase availability of vaccine across rural as well as urban areas
7. Less bed nets usage	7. More uses of bed nets
8. Less Indoor spraying	8. More Indoor spraying
9. Poor Political commitment	9. Strengthened political commitment
10. Random Strategy	10. Data driven strategy

6. AI IN AGRICULTURE AND HEALTHCARE

AI In Agriculture

Importance

1. AI is seen as a crucial **solution to tackle food insecurity** and meet the needs of a growing population.

Application Areas:

1. **Intelligent Crop Planning:** AI models guide planting decisions, credit access, irrigation, and sowing schedules, leading to precision agriculture and improved harvest quality.
2. **Smart Farming:** AI frameworks assist in:
   a. **Nutrition management:** Optimizing fertilizer and resource use.
   b. **One Health:** Monitoring animal and plant health for holistic well-being.
   c. **Farm mechanization:** Automating tasks and improving efficiency.
   d. **Soil analysis:** Predicting nutrient deficiencies and optimizing soil management.
   e. **Pest and weather prediction:** Enabling proactive pest control and risk mitigation.
3. **Farm-gate-to-fork:** AI improves efficiency across the entire supply chain, including market intelligence, traceability, logistics optimization, financial technology integration, and demand-driven production.
4. **Data-driven agriculture:** AI analysis can enhance productivity and help create a national market.

Challenge	Solution
1. **Infrastructure development:** Rural areas lack necessary infrastructure like reliable internet connectivity and power supply for AI adoption.	1. **Government investment:** Allocate funding for rural infrastructure development, including internet connectivity, digital literacy programs, and smart grid technologies. 2. **Public-private partnerships:** Encourage partnerships between government, private companies, and NGOs to invest in rural infrastructure development.
2. **Access to technology in remote areas:** Remote locations might struggle with accessing and utilizing AI tools due to limited resources and knowledge.	1. **Localized AI solutions:** Develop AI solutionsspecifically tailored to the needs and resources of remote areas, focusing on offline capabilities and low-cost hardware.

	2. **Mobile technology integration:** Leverage mobile technology and cloud computing to make AI tools accessible even in areas with limited internet connectivity.
3. **Farmer education and awareness:** Many farmers lack the knowledge and skills to understand and utilize AI effectively.	1. **Training and extension programs:** Develop training programs and extension services to educate farmers about AI benefits, functionalities, and limitations. 2. **Farmer-centric AI development:** Engage farmers in the AI development process to ensure their needs and concerns are addressed. 3. **Community-based learning:** Encourage peer-to-peer learning and knowledge sharing among farmers through local groups and networks.
4. **Data ownership and privacy:** Concerns exist regarding data ownership and potential misuse of agricultural data collected through AI systems.	1. **Data governance frameworks:** Establish clear and transparent data governance frameworks that address data ownership, privacy, and security concerns. 2. **Blockchain technology:** Explore the use of blockchain technology to ensure secure and transparent data management in agriculture. 3. **Data anonymization and aggregation:** Implement data anonymization and aggregation techniques to protect individual farmer privacy.
5. **High initial investment costs:** Implementing AI solutions can be expensive for small and medium-sized farms.	1. **Financial incentives and subsidies:** Provide financial incentives, subsidies, and grants to encourage farmers to adopt AI technologies. 2. **Microfinance and loan programs:** Develop microfinance and loan programs specifically tailored to support AI adoption in agriculture. 3. **Subscription models and pay-per-use services:** Offer subscription models and pay-per-use services to make AI tools more accessible and affordable for smaller farms.

Overall, AI has the potential to revolutionize agriculture by boosting productivity, promoting sustainable practices, and ensuring food security. However, addressing infrastructure limitations, accessibility issues, and farmer education is essential for successful implementation**.**

AI In Healthcare

Importance

1. AI is revolutionizing healthcare by **improving diagnosis, treatment, and monitoring**, leading to better research and patient outcomes.
2. Tools like AI-powered clinical decision support can provide accurate and personalized recommendations.

Application Areas:

1. **Patient Care:** CDS (Clinical decision support) tools assist doctors in diagnosis and treatment decisions (e.g., Apollo's Clinical Intelligence Engine).
2. **Clinical Research:** AI helps in patient recruitment, trial design, and **early disease detection**.
3. **Supply Chain Resilience:** Predictive models track supply levels and prevent shortages.
4. **Workforce Optimization:** AI automation **reduces workload and improves efficiency.**

Challenge	Solution
1. **Data access and collection limitations:**Limited access to diverse patient data hinders AI training and development.	1. **Data sharing collaborations:** Establish secure mechanisms for data sharing between hospitals, research institutions, and government agencies.
2. **Privacy concerns and data misuse:**Potential for misuse of sensitive patient data raises ethical and legal concerns.	1. **Strict data governance:** Implement strong data privacy regulations and enforce data security measures. 2. **Transparency and accountability, Patient education and empowerment:** Educate patients about their data rights and empower them to control their data sharing.
3. **Regulatory ambiguity:** Lack of clear regulatory frameworks for AI in healthcare creates uncertainty and delays adoption.	1. **Risk-based regulatory approaches:** Develop flexible and adaptable regulations that balance innovation with safety and ethical considerations.
4. **Lack of clinician confidence and trust:** Some healthcare professionals lack trust in AI tools and are hesitant to integrate them into their workflow.	1. **Education and training:** Provide training for healthcare professionals on AI capabilities and limitations to build trust and understanding. 2. **Human-AI collaboration:** Design AI tools that complement and support clinicians, rather than replace them.
5. **Accessibility and affordability:** AI technology may be too expensive or inaccessible for low-resource settings.	1. **Public-private partnerships:** Develop partnerships between governments, technology companies, and healthcare providers to subsidize AI implementations in low-resource settings. 2. **Targeted funding and resource allocation:** Allocate funding and resources specifically for the development and deployment of AI solutions in low-resource settings.

Overall, AI has the potential to transform healthcare and improve outcomes for everyone, but addressing data privacy, access, and regulatory issues is crucial for safe and responsible implementation.

7. CCRAS LAUNCHED AGNI

1. Central Council for Research in Ayurveda Sciences (CCRAS) launched Ayurveda Gyan Naipunya Initiative (AGNI).
   - **CCRAS is** the apex research organization for Ayurveda.
2. **Its Goal is to** mainstream pragmatic Ayurveda practices through scientific validation and evidence-based appraisal.
3. **Ayurveda is part of AYUSH**, which also **includes Yoga, Naturopathy, Unani, Siddha, and Sowa Rigpa.**
4. AGNI **aims to bridge the gap between traditional and scientific knowledge in Ayurveda.**

Key Features:

1. **Platform for Practitioners:** Ayurvedic practitioners can report innovative practices and experiences in various disease conditions.
2. **Documentation and Publication:** CCRAS will document and publish these practices for educational and academic purposes.
3. **Collaboration with NCISM:** CCRAS will collaborate with the National Commission for Indian System of Medicine (NCISM) for further validation.

Benefits:

1. **Evidence-based Appraisal:** Rigorous scientific validation will enhance global acceptance of Ayurveda.
2. **Soft Power Tool:** Dissemination of innovative practices can strengthen India's soft power.
3. **Improved Disease Management:** Sharing of effective practices can benefit disease management strategies.

Overall:

AGNI is a significant step towards mainstreaming Ayurveda and leveraging its potential for global healthcare. By promoting scientific validation and sharing knowledge, AGNI can contribute to the advancement of this traditional medicine system.

8. EJECTA HALO: MOON DUST RINGS AROUND LANDINGS

1. **Ejecta halo, a bright patch of dust that forms around a spacecraft landing on the Moon**.
2. Caused by the spacecraft's thrusters and landing impact ejecting lunar surface material.

Vikram Lander and its Ejecta Halo:

1. **Chandrayaan-3's** Vikram lander created a noticeable ejecta halo during its soft landing.
2. Estimated 2.06 tonnes of **lunar dust** were displaced over 108.4 square meters around the landing site.

Significance:

1. Observed around most lunar landings, **including Apollo missions and Chandrayaan-2**.
2. Helps scientists understand the Moon's surface composition and properties.
3. Provides insights into the landing dynamics and impact of spacecraft on the lunar environment.

Additional Notes:

1. Ejecta halo's brightness and size depend on the spacecraft's size, landing force, and local lunar surface conditions.
2. **Studying ejecta halos can inform future lunar missions and optimize landing strategies.**

Ejecta halos are temporary dust rings surrounding lunar landing sites, offering valuable information about the Moon and landing processes.

9. EUCLID SPACE TELESCOPE

1. Released recently, showcasing diverse celestial objects like galaxy clusters, nearby galaxies, a nebula, and a globular cluster.
2. Offer new insights into the universe's structure and evolution.

Mission

1. **Launched by ESA in July 2023** to **investigate dark matter and dark energy**, the universe's mysterious components.
2. **Aims** to create the largest-ever 3D map of the universe, observing galaxies up to 10 billion light-years away.
3. Will survey over a third of the sky, mapping the universe's structure across space and time.
4. Scheduled for six years with potential extension.

Universe's Composition

1. **Only 5%** visible matter, with 25% dark matter and 70% dark energy.
2. Dark matter invisible and mysterious, doesn't interact with light or electromagnetism, making it hard to detect.
3. Dark energy unknown force accelerating the universe's expansion.

Significance

1. First images provide a glimpse into Euclid's capabilities and potential for groundbreaking discoveries.
2. Unlocking the mysteries of dark matter and dark energy could revolutionize our understanding of the universe and its origins.

10. CAR-T CELL THERAPY

1. India has taken a significant leap forward in the fight against cancer with the approval of its first indigenous CAR-T cell therapy, NexCAR19. This innovative treatment holds immense promise for patients with B-cell lymphomas and leukemia who haven't responded to traditional therapies.

What is NexCAR19?

NexCAR19 is a type of CAR-T cell therapy, a form of immunotherapy that harnesses the power of the immune system to attack cancer cells. It works by:

1. **Identifying the target:** NexCAR19 focuses on B-cells, which carry the CD19 protein like a flag.
2. **Engineering T-cells:** Immune system's T-cells are extracted from the patient and modified in a lab to express special receptors that recognize the CD19 flag.
3. **Infusing the warriors:** The reprogrammed T-cells, now equipped with CARs, are infused back into the patient, where they seek out and destroy cancer cells with precision.

Feature	T-cell	B-cell
1. Main Function	Fight infection directly	Produce antibodies

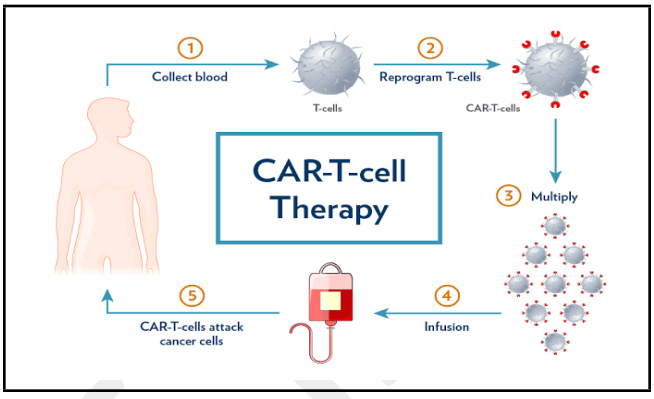
2. Target	Infected cells, cancer cells	Specific invading pathogens (bacteria, viruses, etc.)
3. Defense Type	Cellular immunity	Humoral immunity
4. Weaponry	Directly attack and kill target cells	Release antibodies that bind and disable pathogens.

1. T-cells have different types (helper, killer, cytotoxic, etc.) with specialized roles.
2. B-cells can also become memory cells to remember past infections for faster future responses.

Why is this a breakthrough?

NexCAR19 offers several advantages:

1. **Targeted therapy:** Unlike conventional treatments that harm healthy cells, NexCAR19 precisely targets cancer cells, minimizing side effects.
2. **Potent weapon:** CAR-T cells can multiply within the body, creating a powerful army to fight cancer.
3. **New hope for relapsed patients:** NexCAR19 offers a potential cure for patients who haven't responded to other treatments.



Aspect	CAR-T Therapy	Chemotherapy
1- Target	Specific cancer cells with markers (e.g., CD19)	All rapidly dividing cells (cancer and healthy)
2- Action	Engineered T-cells attack and destroy cancer cells	Toxic chemicals kill both cancer and healthy cells
3- Side effects	Potentially severe, but often temporary (e.g., cytokine release syndrome)	Common, including fatigue, hair loss, nausea
4- Effectiveness	Highly targeted, can offer cure for some cancers	Less precise, may not cure, high chance of relapse

A step towards a brighter future:

The development of NexCAR19 marks a significant milestone for India's medical research and paves the way for more affordable and accessible cancer treatments. It's a testament to the dedication of scientists and researchers who are constantly pushing the boundaries of medical innovation.

While further research and clinical trials are needed, NexCAR19 ignites hope for a future where cancer can be effectively treated, giving patients a chance to live longer, healthier lives.

Challenge	Potential Solution
1- High Cost: - Manufacturing and treatment are expensive. - Limited insurance coverage restricts accessibility.	**Reduce manufacturing cost:** Develop simpler and faster production processes. - **Increase affordability:** Implement government subsidies, insurance coverage expansion, and outcome-based pricing models.
2- Limited Efficacy: - Not effective against all cancers, especially solid tumors. - Tumor cells may escape CAR-T attack.	**Identify new targets:** Research new tumor antigens beyond CD19 (e.g., BCMA, EGFR). - **Combat resistance:** Combine CAR-T with other therapies (e.g., checkpoint inhibitors, bispecific T-cell engagers) and improve tumor infiltration.

3- Safety Concerns: - Cytokine release syndrome (CRS) can be severe. - Risk of graft-versus-host disease (GVHD). - Long-term safety effects are unknown.	**Manage CRS:** Develop better treatment strategies (e.g., corticosteroids, cytokine antagonists, T-cell depletion). - **Reduce GVHD risk:** Improve patient selection and pre-conditioning regimes. - **Monitor safety:** Conduct long-term follow-up studies.
4- Accessibility: - Limited availability at specialized centers. - Lack of awareness among patients and healthcare providers.	**Expand treatment capacity:** Train more healthcare professionals and establish new treatment centers. - **Raise awareness:** Educate patients and healthcare providers about CAR-T therapy. - **Develop decentralized models:** Improve access in underserved areas.

11. PRIVATE 5G: A NETWORK BUILT FOR BUSINESS

1. **India's Position:Ranked 16th globally in private 5G** adoption by businesses, according to the Global mobile Suppliers Association (GSA).
2. **Private 5G**is a dedicated network for a specific organization, separate from public networks.
   a. **Closed user group**, not connected to external networks.
   b. Uses **3GPP-based spectrum** to create a secure, local area network.
   c. Enables dedicated bandwidth for **high-frequency, low-wavelength airwaves**.
3. **Benefits for Businesses:**
   a. **Improved speeds:** Faster software flashing for vehicles.
   b. **Full control:** Manage operations and data within the network.
   c. **Enhanced security:** Data remains segregated and processed locally.
   d. **Controlled latency:** Near real-time communication for critical tasks.
   e. **Customization:** Optimize network for specific needs and devices.
4. **TRAI Recommendations for Private 5G:**
   a. **Independent Private Network:** Telecom service providers (TSPs) set up the network using their spectrum.
   b. **Direct Spectrum Acquisition:** Enterprises obtain spectrum directly from the government and build their own private network.

Overall: Private 5G offers businesses improved control, security, and performance, making it a valuable tool for various industries, including manufacturing, healthcare, and transportation.

Additional points:

1. Private 5G is still in its early stages of adoption, but it has the potential to revolutionize how businesses operate.
2. The TRAI recommendations provide a framework for facilitating private 5G deployment in India.
3. Businesses considering private 5G should carefully assess their needs and requirements to determine the best approach.

12. WASP-107B: A "FLUFFY" EXOPLANET WITH SAND RAIN

1. **Discovery:NASA's James Webb Space Telescope** found **WASP-107b, a Jupiter-sized exoplanet** with a Neptune-like mass, 200 light-years away.
2. **Unique Features:**
   a. **Low density:** Makes it one of the least dense planets known, earning the nickname "Fluffy Planet."
   b. **Sand rain:** Its water cycle resembles Earth's but rains sand instead of water.
   c. **Atmosphere:** Contains water vapor, sulfur dioxide, and silicate sand clouds.
3. **Significance:** Helps understand:
   a. **Planetary evolution:** How weather cycles impact planetary geography.
   b. **Atmospheric influence:** How atmospheres affect weather patterns.

James Webb Space Telescope:

1. **Collaboration:** Built by NASA, ESA, and CSA, launched in December 2021.
2. **Location:** Sun-Earth L2 Lagrange point, 1.5 million km beyond Earth's orbit.
3. **Key achievements:**
   a. Detected water and methane on exoplanet WASP-80b.
   b. Captured stunning images of supernovae and exoplanets.
   c. Future focus: Hycean planets, potentially habitable worlds with hydrogen oceans.

Additional Notes:

1. **WASP-107b is also called "Candy Floss"** due to its low density and faint blue hue.
2. The James Webb Space Telescope is expected to revolutionize our understanding of the universe and potential for life beyond Earth.

13. WHITE HYDROGEN: A PROMISING CLEAN ENERGY FRONTIER

Context

1. Scientists discover vast white hydrogen deposit in northeastern France, a potential game-changer for clean energy.

Naturally occurring within Earth's crust, white hydrogen (also called "natural," "gold," or "geologic") has emerged as a potential game-changer in the clean energy race. Formed through water-rock reactions at high temperatures and pressures, this abundant and untapped resource offers unique advantages:

1. **Cost-effectiveness:** Estimated at $1 per kilogram, white hydrogen significantly undercuts green hydrogen's $6 price tag, making it a more affordable clean energy option.
2. **Global reach:** Deposits identified worldwide, from the US and Europe to Russia and Australia, indicate widespread potential for utilization.
3. **Clean-burning properties:** With negligible carbon emissions, white hydrogen presents a sustainable alternative to fossil fuels in sectors like aviation, shipping, and steel production, which are notoriously difficult to decarbonize.

However, challenges remain:

1. **Extraction concerns:** Current reliance on fracking raises environmental concerns, necessitating development of sustainable extraction methods.
2. **Research gap:** More research is needed to fully understand the long-term economic viability and environmental impact of white hydrogen at scale.

Despite these hurdles, the recent discovery of a large reservoir in France and ongoing exploration efforts globally highlight the growing excitement surrounding white hydrogen. Its potential to address the climate crisis by providing a readily available, cost-effective, and clean-burning energy source is undeniable. Continued research and development, alongside responsible extraction practices, hold the key to unlocking the full potential of this promising clean energy frontier.

14. WHO'S GONE INITIATIVE TARGETS RIVER BLINDNESS

Context

1. **Global Onchocerciasis Network for Elimination (GONE):** Launched by WHO to accelerate progress against onchocerciasis ("river blindness").
2. **First GONE meeting held in Senegal:** Focuses on achieving WHO's 2030 NTD roadmap targets.

Onchocerciasis: River blindness

1. Caused by **Parasitic worm** disease **transmitted by blackfly bites (Africa - 99% cases).**
2. Second leading cause of infectious blindness.
3. **Symptoms**: itching, rashes, skin discoloration, vision impairment, blindness.
4. Colombia, Ecuador, Guatemala, and Mexico have eliminated transmission.

NTDs:

1. 20 diverse conditions prevalent in tropics, affecting over 100 crore people.
2. **Caused by various pathogens (viruses, bacteria, parasites, etc.).**
3. **Examples**: dengue, chikungunya, rabies, leishmaniasis, leprosy, lymphatic filariasis.
4. **India successfully eliminated guinea worm, trachoma, and yaws.**

Overall:

- GONE aims to empower countries in rapidly eliminating onchocerciasis, contributing to broader NTD control and improved health outcomes in resource-limited settings. **India's success with other NTDs demonstrates the feasibility of regional elimination with dedicated efforts.**

Additional points

1. **WHO's 2030 NTD roadmap aims to eliminate at least one NTD in 100 countries**, control five NTDs, and significantly reduce morbidity due to seven NTDs.
2. Continued surveillance, vector control, and community engagement are key to achieving NTD elimination targets.

15. DIVERSE EPIGENETIC EPIDEMIOLOGY PARTNERSHIP

Context:

CSIR-CCMB collaborating with global research groups on DEEP(Diverse Epigenetic Epidemiology Partnership) project.

What is Epigenetic Epidemiology?

1. **Epigenetics:** How experiences and environment influence gene expression without altering DNA sequence.
2. **Epidemiology:** Studying patterns and factors related to health and disease in populations.
3. **Epigenetic Epidemiology:** Studying how epigenetic changes affect disease occurrence and distribution.
4. **Common modification**: DNA methylation (adding methyl groups to DNA) - high levels can silence genes.

About DEEP Project:

1. 5-year project led by University of Bristol & CSIR-CCMB.
2. **Rationale:** Existing health research lacks data from diverse populations, hindering understanding of disease variations.
3. **Aim:** Generate genomic datasets from under represented populations in Africa, Asia, North & South America.
4. **Method:** Analyze DNA methylation & health data to identify causes & mechanisms of health outcomes.

Challenge	Solution
1- Data Privacy & Security	- **Collaboration & Data Sharing:** Standardized protocols for data collection and sharing, ensuring transparency and security.
2- Ethical Considerations	- **Ethical Guidelines:** Robust governance structures with participant consent and data privacy at the core.
3- Data Storage & Management	- **Advanced Storage & Computing Resources:** Invest in infrastructure and tools to handle the vast amount of data.
4- Dynamic Nature of Genome	- **Understanding Genome Evolution:** Research on mutation rates, selection pressures, and adaptation to improve data accuracy.
5- Clinical & Genomic Data Integration	- **Data Integration Tools & Strategies:** Develop methods to connect genomic data with clinical information seamlessly.
6- Public Perception & Education	- **Public Education Programs:** Increase public understanding of genomics and its implications through outreach and awareness campaigns.
7- Community Engagement	- **Community Collaborations:** Engage local communities to address concerns, build trust, and ensure culturally sensitive research practices.

Significance for India:

1. CCMB hopes to understand genetics behind NCDs (e.g., diabetes, chronic pancreatitis) in diverse populations.
2. Improve understanding of these common diseases in India and South Asia.

16. DEEPFAKES

Context

In October 2023, The Centre has issued an advisory to social media intermediaries to detect misinformation and deepfakes.

About Deepfakes

1. Deepfakes are videos or images edited using an algorithm to replace a person in the original image with someone else, enhancing its authenticity.
    - Deepfakes utilize deep learning, an artificial intelligence technique, to create images of unrealized events.
    - Deep learning is a machine learning subset that utilizes artificial neural networks inspired by the human brain to learn from large datasets.

Key Advisories

1. **Quick action**: The IT Rules 2021 mandate that such cases are promptly addressed within the specified timeframes.
2. **Caution for users:** The statement is not to host such information or content, specifically Deepfakes.
3. **Time period**: The content should be removed within 36 hours of reporting it.
4. **Expeditious action**: The IT Rules for 2021 have been followed to ensure compliance and prevent access to the content or information.
5. **Identify deepfakes**: The task requires through investigation and reasonable efforts to detect misinformation and deep fakes.

2. Deepfake imagery refers to the manipulation of personal information, such as a face, body, sound, speech, or environment, to create an impersonation.

Working of Deepfake

1. Deepfakes utilizes advanced technologies such as deep learning, AI, and photoshopping to create realistic images of events.
    - GANs (Generative Adversarial Networks), a class of Machine Learning, are utilized to create videos.
2. Deepfakes employ Generative Adversarial Networks (GANs), which consist of generators and discriminators.
    - Generators utilize the initial data set to generate new images.
    - The discriminator assesses the content for realism and performs further refinement.

Opportunities with Deepfake technology

1. **E-commerce**: Retailers can enable customers to virtually try on clothing using their likenesses.
2. **Communication**: Speech synthesis and facial manipulation can create the illusion of authentically speaking another language.
3. **Research and Simulation**: This tool can enhance professional training by providing practical scenarios, like medical training.
4. **Entertainment:**The utilization of voices and similarity can be employed to achieve the desired creative outcomes.

3. Deepfakes utilize a variational auto-encoder, a deep-learning computer network typically used for facial recognition.
    - Auto-encoders detect facial features, suppressing visual noise and non-face elements, enabling a versatile "face swap" model using shared features of the person or image.

Challenges

1. **Misinformation and Disinformation**: Deepfakes are a method used to create fake videos of politicians or public figures, potentially leading to misinformation and manipulation of public opinion.
2. **Privacy Concerns**: Deepfakes can cause privacy violations and reputational damage by damaging content featuring individuals without their consent.
    - **Deepfakes are a violation of an individual's right to privacy, as they involve the breach of personal data.**
3. **Lack of Regulation**: The primary issue is the absence of a precise legal definition of deepfake technology and the activities that constitute deepfake-related offenses in India.
    - Prosecution of individuals or organizations involved in malicious or fraudulent activities using deepfakes becomes challenging.
4. **Challenges in Detection**: The ongoing challenge of developing effective tools to detect deepfakes is influenced by the evolving technology used to create them.
5. **Gender inequity:**Women make up about 90% of victims of crimes such as revenge porn, non-consensual porn, and harassment.
    - Deepfake is adding to the list of online platforms that are shrinking the online space for women.

6. **Erosion of trust:**Deepfakes are increasingly posing a threat to the credibility of media content, making it increasingly challenging for individuals to rely on their perceptions and experiences.
7. **Ethical challenges**: The ethical dilemma of balancing the protection of free speech and artistic expression with the need to combat the negative impacts of deepfakes.

Way ahead

1. **Invest in Research and Development**:The allocation of resources will be used to support ongoing research into deep fake technologies, detection methods, and countermeasures.
2. **International Cooperation**:The goal is to establish universally accepted standards and protocols for combating the use of deepfakes across borders.
3. **Responsibility and Accountability of social media platforms**:The objective is to establish a uniform standardization that is universally accepted and applicable across all channels.
   - **For Eg.**YouTube has implemented measures requiring creators to disclose if their content is created using AI tools.
4. **Promote Responsible AI Development**:The promotion of ethical practices in AI development, particularly the responsible use of deep learning technologies, is crucial.
   - **Asilomar AI Principles** can act as a Guide to ensuring safe and beneficial AI development.
5. **Strengthening legal framework:**The need for the establishment and updating of laws and regulations pertaining to the creation, distribution, and malicious use of deepfake and its associated content is urgent.

Regulatory measures

1. **Global measures against Deepfakes:**
   - **Bletchley Declaration:Over 25 major countries, including India, the US, China, Japan, and the UK, have called for a comprehensive approach to mitigate the potential risks of AI.**
   - **Digital Services Act of EU**:The law mandates social media platforms to adhere to labeling obligations, enhancing transparency and enabling users to verify the authenticity of media content.
   - **Google announced tools:**Watermarking to identify synthetically generated content.
2. **Legal provisions in India:**
   - **Section 66E of the IT Act of 2000**:The act of capturing, publishing, or transmitting a person's images in mass media is considered a violation of their privacy.
   - **Section 66D of the IT Act of 2000**:The law allows for the prosecution of individuals who use communication devices or computer resources maliciously, cheat, or impersonate others.
   - **Indian Copyright Act of 1957:The legislation establishes penalties for copyright infringement.**

17. GLOBAL TB REPORT 2023

Released by World Health Organisation(WHO).

Global context:

1. **Rising burden:** 7.5 million new TB (Tuberculosis) cases in 2022, highest ever recorded.
2. **India's share:** 27% of global TB cases, highest burden globally.
3. **Slow progress:** Global TB incidence only down 8.7% since 2015, far from the 50% reduction target by 2025.
4. **Drug-resistant TB:** Only 40% of patients received treatment in 2022.

About tuberculosis:

1. Infectious disease **caused by Mycobacterium tuberculosis**, usually affecting lungs.
2. Spread through air via coughs, sneezes, and spits of infected individuals.
3. Most infections are latent (no symptoms), but can develop into active TB.
4. **Prevention**: Screening, early detection, treatment, and BCG vaccination.

India's situation:

1. **2.8 million TB cases in 2022, 12% case fatality rate.**
2. 1.1 lakh MDR-TB cases, a public health crisis.
3. **Positive progress:**
   a. Highest ever case notification in 2022 (over 24.22 lakh).

b. **Treatment coverage improved to 80%.**
c. TB incidence reduced by 16% since 2015, double the global rate.
d. TB mortality reduced by 18% since 2015.

4. **Key initiatives:**
   a. Specialized case finding drives.
   b. Molecular diagnostics at block levels.
   c. **Decentralized screening** through Ayushman Bharat Health & Wellness Centres.
   d. Private sector engagement.
   e. **PM TB** Mukt Bharat Abhiyan.
   f. Nikshay Poshan Yojana.
   g. Family Caregiver Model and Differentiated Care.

Recommendations for progress:

1. **TB preventive treatment:** for high-risk groups like HIV patients and household contacts.
2. Address TB-HIV co-epidemics.
3. Increase access to early and accurate diagnosis.
4. Boost research and innovation.
5. Progress towards universal health coverage and address social determinants of TB.
6. Augment TB financing globally.

- Overall, while India has made significant progress in TB control, sustained efforts and global collaboration are crucial to achieve the sEnd TB Strategy goals.

18. 25 YEARS OF INTERNATIONAL SPACE STATION

Context

The International Space Station (ISS) turned 25 years old in November 2023.

When was the ISS launched?

- The ISS was launched and assembled in multiple stages over several years. The first module, Zarya, was launched on November 20, 1998. Subsequent modules and components were added over time.

Why Is the Space Station Important?

1. **Scientific Research:** Conducts experiments in microgravity, advancing knowledge in physics, biology, astronomy, and materials science.
2. **Technological Innovation:** Drives the development of advanced technologies with applications both in space and on Earth.
3. **Human Spaceflight Experience:** Provides a platform for long-duration human spaceflight, studying the effects of space on the human body.
4. **Space Exploration Testbed:** Serves as a testbed for technologies and systems crucial for future deep space exploration missions.
5. **Diplomatic and Peaceful Cooperation:** Demonstrates successful international partnerships in space, promoting diplomacy and peaceful collaboration.
6. **Global Perspective:** Allows for Earth observation and monitoring, contributing to our understanding of climate, natural disasters, and environmental changes.

About ISS	
Orbit	The ISS is a large spacecraft that orbits Earth at an average altitude of approximately 420 km (about 261 miles).
International Collaboration	**NASA** (United States) **ROSCOSMOS** (Russia) **ESA** (European Space Agency) **JAXA** (Japan Aerospace Exploration Agency), **CSA** (Canadian Space Agency).
Modules and Structure	The station consists of multiple interconnected modules, including laboratories, living quarters, and external components for scientific experiments.
Orbital Research Laboratory	The ISS is often referred to as a microgravity and space environment research laboratory, providing a unique platform for studying the effects of long-term space habitation on the human body and conducting experiments that would be impossible on Earth.

What scientific discoveries on the ISS have benefited life on Earth?

1. **Water Purification Technology:** Water recycling systems on the ISS, developed for astronauts,

have inspired advancements in water purification technology for remote or disaster-stricken areas on Earth.

Future of International Space Station
1. The onset of **Russia's invasion of Ukraine** in early 2022 introduced uncertainty regarding the future operation of the ISS. 2. Both the European Space Agency and national entities withdrew from collaborative efforts with Russia. Subsequently, Russia declared its intention to exit the ISS and develop its own space station. 3. Additionally, various established and emerging spacefaring nations, including Japan, China, India, and the United Arab Emirates, aspire to establish an independent presence in space.

2. **Muscle Atrophy Studies:** Research on muscle atrophy in microgravity has led to better understanding and potential treatments for muscle-wasting conditions on Earth.
3. **Medical Imaging Technology:** Space-based imaging technologies developed for Earth observation have applications in medical imaging, aiding in the diagnosis and treatment of various conditions.
4. **Vaccine Development:** Experiments on the ISS have helped improve the understanding of how microgravity affects bacteria. This knowledge has contributed to advancements in vaccine development and antibiotic resistance research.
5. **Materials Science and Manufacturing:** Microgravity experiments have led to improvements in materials science and manufacturing processes, producing stronger and more durable materials for use on Earth.
6. **Earth and Environmental Monitoring:** Earth observation instruments on the ISS contribute to monitoring and understanding climate change, weather patterns, and natural disasters on Earth.

19. DAYAPAR WIND PROJECT AND WIND ENERGY IN INDIA

Dayapar Wind Project:

1. NTPC Renewable Energy Limited's first commercially operational wind project.
2. **Located in Dayapar**, Kachchh, Gujarat, with a capacity of 50 MW.
3. Significant as the first project in India declared commercial under the new Indian Electricity Grid Code and General Network Access Regime.

Wind Energy in India:

1. **Two main types**: onshore and offshore wind farms.
2. Major source of clean energy, accounting for 34.06% of total renewable energy capacity.
3. **Government targets:** 500 GW renewable energy by 2030, with 140 GW from wind.
4. **India ranks fourth globally in installed wind capacity** (39.25 GW), reaching 28% of the 140 GW target.
5. **Rajasthan leads in wind energy adoption, while Tamil Nadu is the largest producer.**

20. WORLD'S FIRST CHIKUNGUNYA VACCINE: IXCHIQ

1. **Ixchiq** (containing a weakened live virus) offers hope for preventing this mosquito-borne viral disease prevalent in **Africa, Southeast Asia, and parts of the Americas.**

Chikungunya Disease:

1. Transmitted by **Aedes mosquitoes**.
2. Common symptoms: fever, joint pain (arthralgia), and rash.
3. **First identified in 1952**, but now geographically widespread.
4. Can be transmitted from mother to fetus and potentially fatal to newborns.
5. Currently, no specific treatment exists, only supportive care.
6. Included in India's National Vector Borne Diseases Control Programme.

Significance of the Vaccine:

1. **Ixchiq** provides the first potential tool for large-scale prevention of chikungunya.
2. Could significantly reduce disease burden and improve health outcomes in affected regions.
3. Future research may focus on vaccine access, affordability, and effectiveness in different populations.

F. GEOGRAPHY & ENVIRONMENT

1. NATIONAL EFFICIENT COOKING PROGRAMME

Context

In October 2023, Energy Efficiency Services Limited (EESL) has launched the National Efficient Cooking Programme (NECP) and Energy Efficient Fans Programme (EEFP).

National Efficient Cooking Programme (NECP)

1. **About:** The Scheme is a subset of the Clean Cooking Scheme under **Ministry of Power.**
2. **Objective:** The goal is to revolutionize Indian cooking practices.
3. **Target:** The plan is to install 20 lakh induction-based cook stoves across India.
4. **Focus:** The Ministry of Power is promoting the use of non-solar/electricity-based induction cook stoves in line with their **Go-electric initiative.**
   - The Go Electric Campaign aims to raise awareness about the benefits of electric cooking and the e-mobility ecosystem through Information, Communication, and Education (ICE) activities.

Energy Efficient Fans Programme

- **Objective**: The text emphasizes the significance and urgency of energy-efficient fans.
- **Goals**: The goal is to distribute 1 crore energy-efficient fans, which can significantly decrease nearly 20% of the total residential electricity consumption.

5. **Similar Schemes:**
   - **Pradhan Mantri Ujjwala Yojana (PMUY):** The goal is to provide them with clean cooking fuel through LPG.
   - **National Biogas and Manure Management Programme (NBMMP):** The aim is to establish family-type household biogas plants to meet the cooking energy requirements of rural and semi-urban areas.
   - **Unnat Chulha Abhiyan programme (2014):** The promotion of improved biomass cookstoves in the country aims to reduce fuel wood consumption with higher efficiency and low emissions.

Relevance of initiative

1. **Benefits of e-cooking**: This text presents a cost-effective and secure alternative to traditional gas and electric stoves, offering portability, convenience, and safety.
2. **Fulfilling rising demand for induction stoves:** In 2021-22, over 10 million units of modular kitchens were sold due to rising LPG costs and the versatility of induction cooking.
3. **Carbon footprint reduction**: The initiatives aim to enhance energy efficiency in Indian households and contribute to carbon mitigation goals.
4. **Economic savings**: The method provides a cost advantage of 25-30% compared to traditional cooking methods.
5. **Other benefits:** The study suggests that there is no significant difference in the cooking methods of food cooked on flame versus induction cookers, thereby reducing dependence on imported energy sources.

Energy Efficiency Services Limited (EESL)

- **Underlying Ministry:** Ministry of Power
- **Origin**: Founded in 2009 as a Joint Venture of 4 public-sector undertakings
- **Objective**: To enable ecosystems for responsible energy adoption with innovations and market creation approaches.
- **Flagship Programs:**
  - **Unnat Jyoti by Affordable LEDs for All (UJALA)** scheme distributed LED bulbs across India.
  - **Street Lighting National Programme.**
  - **Smart Meter National Programme.**
  - **Buildings Energy Efficiency Programme**

2. THE GLOBAL CLIMATE 2011-2020: WMO

World Meteorological Organisation (WMO) has published a report on Global Climate trend showing fast climate change and its impact on planet.

Key Highlights of the Report

1. **Global Temperature rise**
   a) Global mean temperature increased by **1.1 ± 0.12 °C** above the 1850 level.
   b) Decade 2011-2020 is warmest for both land and ocean.
   c) 2016 and 2020 were warmest year due to El Nino or other reasons.
2. **Greenhouse Gas (GHG) Emissions increased**
   a) In atmosphere GHG increased, especially CO2 (413.2 ppm in 2020), mainly due to fossil fuel and land-use changes.
3. **Oceanic warming**
   a) Ocean warming rates increased significantly (with 90% of accumulated heat stored in ocean).
   b) Upper oceanic layer warming rate doubled so it affected marine ecosystem of upper layer.
   c) Ocean acidification due to CO_2 absorption affected shell and skeleton marine organisms.
   d) Marine Heatwaves increased in frequency and intensity.
   e) Global mean sea level rising rate increased to 4.5mm/yr.
4. **Glacier and Ice Sheet Loss**
   a) Glacier globally reduced by about 1 meter/year affected water supply.
   b) Greenland and Antarctic ice sheets lost 38% more ice as compared to previous decade.
   c) Arctic sea ice continued its decline during the summer melt season.
5. **Ozone Hole improved**
   a) Due to International action under the Montreal Protocol Antarctic ozone hole diminished.
   b) These Efforts led to reduced **chlorine** entering the stratosphere from ozone-depleting substances.
6. **Impact on Sustainable Development Goals (SDGs)**
   a) SDGs were set in 2015 and world was trying to achieve them but extreme weather events stopped the progress towards SDGs, impacted food security & economic development.
   b) Though early warnings sign reduced number of deaths but extreme events increased economic loss.

Climate Goal and Development Goal together

They are not per-se against each other rather they can be complimentary:

a) Through Collaboration and Cooperation with other countries
b) Collective responsibilities
c) Science-policy-society interaction
d) Institutional capacity-building
e) Policy coherence among different sector

WMO originated from International Meteorological Organization (IMO)

1. IMO was established in 1873
2. **WMO** was established in 1950
   a) WMO - specialized agency of the United Nations for meteorology (weather and climate)
   b) Headquarters: Geneva, Switzerland
   c) Total Members: 192 (including India)

3. ADAPTATION GAP REPORT 2023

Context

1. The report by UNEP **highlights the urgency and inadequacy of global adaptation efforts to climate change.**

Key findings

1. **Massive funding gap:** Adaptation needs in developing countries are significantly higher than current financial support. The gap is estimated at US$194-366 billion annually, representing 10-18 times more than current public flows.
2. **Incomplete plan:** The action plan for loss and damage **focuses only on economic losses**, neglecting non-economic ones like cultural heritage and indigenous knowledge.
3. **Unequal funding: Gender-responsive adaptation finance remains minimal**, with only 2% of gender-tagged international funding actually supporting gender equality goals.

Recommendations

1. **Double adaptation finance:** Developed countries should double their climate finance for adaptation by 2025 compared to 2019 levels.
2. **Improve budget allocation:** Tag and track adaptation expenses in national budgets to ensure efficient allocation.
3. **Mobilize private investments:** Utilize methods like resilience bonds and insurance to encourage private sector involvement.
4. **Leverage remittances:** Channel remittances, which can be a significant GDP contributor, towards adaptation projects.
5. **Support SMEs:** Finance Small and Medium Enterprises offering adaptation-related products and services.
6. **Align with Paris Agreement:** Implement article 2.1(c) of the Paris Agreement, ensuring all financial flows contribute to low-carbon and climate-resilient development.

Overall, the report calls for significant scaling-up of international cooperation and a shift towards more diverse and accessible financing mechanisms to bridge the adaptation gap and ensure adequate responses to climate change impacts.

4. AIR POLLUTION, STUBBLE BURNING AND CLOUD SEEDING

Context

1. Delhi, Mumbai, and Kolkata ranked among the **world's top 10 most polluted cities**, as reported by IQAir.

Causes	Impacts	Measures	Solutions
1- **Burning of Fossil Fuels:** Incomplete combustion of coal, oil, and gasoline	1- Health risks like respiratory infections, heart disease, and lung cancer, Environmental degradation affecting ecosystems, soil, and water	1- **Vehicular Emission Control:** Transition from BSIV to BSVI norms, use of cleaner fuels, and promotion of electric vehicles	1- Optimizing the power sector for reduced emissions
2- **Industrial Emission:** Emission of particulate matter, NO2, SO2, and CO	2- leads to serious health issues like respiratory infections and lung cancer, accelerates climate change, harms ecosystems, reduces agricultural productivity.	2- **Implementing a National Emissions Trading System**	2- Industrial Emissions Management: Restrictions on certain fuels and improvements in technology
3- **Open Burning of Garbage Waste:** Releases black carbon	3- Same as mentioned above	3- **Dust and Waste Burning Control:** Implementation of Extended Producer Responsibility for waste management	3- Composting, Waste segregation, Incineration with pollution controls, Landfill gas capture, Waste-to-energy conversion.
4- **Agricultural Practices:** Stubble burning, use of fertilizers, and livestock farming contributing to ammonia and methane emissions	4- Climate change acceleration due to black carbon and methane, reduced agricultural productivity due to ozone and particulate matter, Environmental degradation affecting ecosystems, soil, and water	4- **Mulching, Precision farming, Biofertilizers**	4- Crop residue mulching, Composting, Bioenergy production, Incorporation into soil

5- **Geographic Variations:** Changes in weather patterns, dust storms, and natural pollution sources	5- Climate change acceleration due to black carbon and methane, Environmental degradation affecting ecosystems, soil, and water	5- **Ambient Air Quality Monitoring:** Using the SAFAR system for air quality forecasting and research	5- Climate adaptation strategies, Natural disaster preparedness, Public health advisories, Sustainable urban planning, Renewable energy investment

Stubble Burning

1. The Supreme Court directed Punjab, Haryana, Uttar Pradesh, Rajasthan, and Delhi to stop stubble burning.
2. Stubble burning involves setting fire to the straw stubble left after harvesting grains like paddy and wheat. It's common in areas using combined harvesting methods.

Reasons for Stubble Burning	Description
1- Time Constraints	Limited time between consecutive cropping cycles.
2- Increased Mechanization	Mechanical harvesters leave longer stubble.
3- Labour Shortage	High costs and infeasibility of manual stubble removal.
4- Lack of Market for Crop Residue	Low economic value and high processing costs.
5- Tradition and Conventional Practices	Longstanding practice in some agricultural communities.
6- Pest and Disease Management	Burning perceived as a way to eliminate pests and diseases.
7- Resource Limitations	Limited access to alternative residue management equipment.
Impact of Stubble Burning	
1- Pollution	Emission of toxic pollutants like CO, methane, carcinogens, and VOCs.
2- Soil Fertility	Reduced fertility and destruction of essential microbes.
3- Heat Penetration	Increased soil erosion and loss of moisture.
4- Biodiversity Impact	Destruction of habitats for various wildlife.
Regulatory Measures and Policies	
1- National Policy for Management of Crop Residue (NPMCR) 2014	Adoption of technical measures, training, and suitable laws.
2- Directions by National Green Tribunal (NGT) 2015	Mechanism for crop residue collection and utilization, punitive actions for defaulters, and provision of necessary equipment.
3- Commission on Air Quality Management (CAQM)	Action plan with insitu and exsitu crop residue management strategies.
4- Crop Diversification Programme (CDP)	Encourages alternative crops to paddy in Haryana, Punjab, and Western Uttar Pradesh.

Solutions	
1. New Seed Varieties	1. Development of high yielding, short duration varieties like Pusa2090.
2. Innovative Farm Technologies	2. Use of agricultural machines like Happy Seeder, Rotavator, Baler, and subsidies for them.

3. Biogas Plants	**3.** Utilizing crop waste in bio methanation technology.
4. Pusabiodecomposer	**4.** Accelerating crop residue decomposition into manure.
5. Educating and Empowering Farmers	**5.** Raising awareness about sustainable alternatives.
6. Sustainable Alternatives	**6.** Practices like mulching, zero till farming, and residue incorporation.

Cloud Seeding

1. Researchers are considering cloud seeding as a potential solution to tackle air pollution in Delhi.
2. Cloud seeding is a weather modification technique used to enhance precipitation by dispersing substances into the air that saturate the clouds.

Process:

1. Suitable clouds are identified for seeding.
2. Seeding agents like silver iodide, potassium iodide, sodium chloride, or dry ice are released into the clouds.
3. These agents help form larger water droplets, leading to increased rainfall.

Conditions Required:

1. Suitable cloud types and temperatures.
2. Minimum 50% cloud coverage in the target area.
3. Wind speeds below a certain level.
4. Relative humidity above 75%.

Methods of Cloud Seeding:

1. Hygroscopic Cloud Seeding: Involves dispersing salts in lower cloud portions.
2. Electrical Charges: Using infrared or other charges to help water droplets merge and form precipitation.

Applications:

1. Agriculture: Inducing rainfall in drought-stricken areas.
2. Power Generation: Enhancing rainfall in catchment areas to increase hydroelectric production.
3. Water Pollution Control: Maintaining river flows and diluting industrial wastewater.
4. Fog Dispersal and Cyclone Modification: Used for weather modification and snowpack increase.
5. Forest Fire Control: Inducing rainfall in wildfire prone areas.

Research and Experimental Studies:

1. Conducted to understand atmospheric processes and the impacts of weather modification.

Issues with Artificial Rains:

1. Side-effects: Potential harm to plants, animals, people, and the environment.
2. Abnormal Weather Patterns: Possible interference with local climatic patterns.
3. High Costs: Significant financial and logistical investment required.
4. Ethical and Legal Challenges: Concerns about water rights, environmental impact, and human intervention in natural processes.

Conclusion:

1. Collaborative efforts are needed between scientists, policymakers, and the public to establish guidelines and frameworks for responsible cloud seeding implementation. Dedicated research is essential to assess long-term ecosystem, weather, and health impacts.

5. CLIMATE EQUALITY: A PLANET FOR THE 99%

Context

1. **The report "Climate Equality: A Planet for the 99%" by Oxfam highlights crucial aspects of climate change and inequality.**
2. Climate Breakdown and Extreme Inequality: The report focuses on these as the primary challenges for humanity.

Key Findings:

1. In 2019, the wealthiest 1% contributed to 16% of global carbon emissions, equal to the emissions of the poorest 66%.
2. Since the 1990s, this 1% has used double the carbon budget compared to the poorest half of the global population.
3. By 2030, the emissions of this 1% are projected to be 22 times more than the safe limit for avoiding a 1.5°C increase in global warming.
4. The 2019 emissions from the wealthiest 1% are linked to approximately 1.3 million deaths due to heat.

Policy Recommendations:

1. **Promote Radical Equality**: Governments should enforce policies to significantly reduce the wealth gap (refers to the gap in earnings between two groups such as the 1% and the 99%)
2. **Transition Away from Fossil Fuels**: Introduce new taxes on corporations and billionaires to reduce emissions and support this transition.
3. **New Goals for a New Era:** Focus on human and planetary wellbeing instead of endless profit, extraction, and consumption.

Definitions:

1. **Climate Inequality:** Refers to the disproportionate impact of climate change on certain communities due to factors like historical inequities, socioeconomic disparities, and environmental injustices.
2. **Climate Equality:** Aims for equitable distribution of climate protection benefits and addresses the unequal burdens of climate change.

Problem Area	Potential Solutions
1- Emissions Gap	**Progressive carbon taxes:** Discourage high polluting activities among affluent individuals and industries.
2- Fossil Fuel Dependence	**Green incentives and subsidies:** Encourage research and development of renewable energy, incentivize adoption of clean technologies.
3- Vulnerable Communities	**Climate resilient infrastructure:** Invest in early warning systems, flood defences, droughtresistant crops in vulnerable areas.
4- Global Cooperation	**Climate finance mechanisms:** Develop fair and effective systems for wealthy nations to support climate action in developing countries.
5- Systemic Inequality	**Wealth redistribution policies:** Implement progressive taxation, invest in social safety nets and education for disadvantaged communities.
6- Shifting Values	**Civic engagement and education:** Promote awareness of climate justice issues, empower communities to participate in decision-making.

6. GREEN BUILDINGS

Context

Recently, the **Indian Green Building Congress** was held in Chennai by the Indian Green Building Council (IGBC).

What are Green Buildings?

1. **Environmentally friendly construction materials**, processes, operation, and maintenance.
2. **Driven by reducing energy costs** and waste management to address global warming and environmental issues.
3. **Examples** of innovative solutions: **Cool Roofs, Geothermal Heating,** Smart Grid refrigerators, vegetated rooftops.

Feature	Green Building	Energy-Efficient Building	Net-Zero Carbon Building
1- Focus	Environmentally friendly	Minimizing energy use	Zero operational carbon emissions
2- Scope	Water, materials, waste, indoor quality	Energy consumption & efficiency	On-site renewables, offsets
3- Regulations	Green rating systems (optional)	Energy efficiency standards (optional)	Net-zero standards or offsets
4- Carbon Emissions	Reduced, not zero	Reduced, not zero	Zero operational, may address embodied
5- Cost	Higher initially, long-term savings	potential energy cost savings	Highest initially

Advantages of Green Buildings:

1. Emission reduction: Building and construction sectors contribute 38% of GHG emissions and 35% of energy consumption.
   a. **LEED-certified buildings consume 25% less energy** than traditional ones.
2. **Economic benefits: Lower operation and maintenance costs**, improved occupant productivity, and optimized economic performance.
3. Social benefits: **Enhanced occupant comfort and health through clean air and water,** reduced exposure to toxins.

Steps taken for Green Building Promotion:

1. **Energy Conservation Building Code (ECBC):** Minimum energy standards for new commercial buildings.
2. **Eco-Niwas Samhita 2018:** ECBC for residential buildings.
3. **Green Rating for Integrated Habitat Assessment (GRIHA):** Five-star rating system for green buildings.
4. **Leadership in Energy & Environmental Design (LEED):** Internationally recognized certification system.
5. **Star Rating of Commercial Buildings:** Assessing energy usage on a 1-5 scale.
6. **Faster clearances:** MoEFCC offers fast-track environmental clearance for IGBC pre-certified projects.

Challenge	Solution
1- High initial construction cost	- **Economic incentives:** Tax breaks, green bonds, lower interest rate loans for developers.
2- Construction issues:	- **Policy measures:** Fast track clearances, mandatory green building standards, retrofitting existing buildings.
3- Governance issues:	- **Training and capacity building:** Develop training modules for stakeholders (government, agencies, architects).
4- Limited awareness:	- **Awareness campaigns:** Create awareness at school, college, and university levels.

Additional points:

1. India recently outperformed USA and China in LEED net zero certifications.
2. Building and construction sector has a significant impact on the environment and requires major changes for a sustainable future.

7. HIMALAYAS' VULNERABILITY TO LANDSLIDES

Context

1. **Silkyara-Barkot** Tunnel Collapse
2. **Location**: Uttarakhand's Uttarkashi, in the Himalayas.
3. **Reason for Collapse**: Landslide.
4. **Project Details**: The tunnel connects **Yamunotri and Dharasu** part of CharDham all-weather road project.
5. **Geological Concern**: Built in an area with limestone and other soft rocks prone to collapse.
6. **Coverage**: Connects Uttarakhand's major shrines — Badrinath, Kedarnath, Gangotri, and Yamunotri.

Causes for Landslides in the Himalayas:

Cause	Solution	Details
1- Geological Instability	**1-** Land-Use Planning: Identify high-risk zones and avoid construction, implement zoning regulations and building codes. Research and Monitoring: Conduct surveys, deploy sensors, and monitor vulnerable slopes.	**1-** Focus on slope stabilization techniques and early warning systems in prone areas.
2- Seismic Activity	**2-** Early Warning Systems: Develop earthquake monitoring networks and landslide forecasting models, establish communication systems.	**2-** Prepare communities for evacuation and emergency response.
3- Heavy Rainfall and Melting Glaciers	**3-** Afforestation and Reforestation: Plant native trees and vegetation, implement afforestation programs. Engineering Solutions: Build retaining walls, drainage channels, and diversion systems, use geotextiles and rock netting.	**3-** Prioritize areas threatened by increased water flow and erosion.
4- Deforestation	**4-** Policy and Regulation: Implement strict deforestation bans, enforce environmental regulations, promote sustainable forest management. Afforestation and Community Incentives: Develop alternative livelihoods, provide incentives for tree planting programs.	**4-** Focus on restoring natural ecosystems and engaging communities in sustainable practices.
5- Human Activities	5- Improved Land Use Planning: Prohibit infrastructure construction in high-risk zones, regulate mining and quarrying. Sustainable Practices: Promote sustainable agriculture, educate communities about landslide risks and land management.	5- Integrate development with slope stability considerations and community awareness.

8. STATE OF CLIMATE SERVICES REPORT 2023

Context

1. This Year's **Report Focuses on The Impact of Climate Change on Health**, Highlighting Challenges and Opportunities.

Key Highlights:

1. **Climate Change Threat:** Progress In Health, Especially in Vulnerable Communities, Is at Risk Due to Climate Change.
2. **Air Pollution Funding Gap:** Despite Air Pollution Being a Major Health Risk, **Climate Finance for Its Mitigation Is Very Limited.**

3. **Underutilized Climate Information:** While Available, Climate Data Utilization for Health Prevention and Preparedness Needs Improvement.
4. **Climate Services for Health:** These Services, Crucial for Better Health Decisions, Face **Challenges Like Research Gaps**, Limited Local Observations, And Insufficient Capacity.

Recommendations:

1. **Tailored Climate Information:** Develop Solutions to Support the Health Sector with Specific Climate Data and Services.
2. **In-Country Capacity Building:** Improve Local Knowledge Through Training and Infrastructure Development.
3. **Collaboration Mandates:** Enforce Policies for Health and Meteorological Agencies to Work Together.
4. **Awareness Raising:** Increase Understanding of The Importance of Climate Information for Health Initiatives.

Overall, The Report Emphasizes the Need for Stronger Collaboration and Improved Utilization of Climate Data to Build Health Resilience in The Face of a Changing Climate.

9. UNITED NATIONS FORUM ON FORESTS

Context- In Dehradun, Uttarakhand, India hosted a Country-Led Initiative (CLI) event as a part of the United Nations Forum on Forests (UNFF) in November 2023.

More about the news

1. By resolution of the Economic and Social Council of the United Nations (ECOSOC), the United Nations Forum on Forests (UNFF) was founded in year 2000.
2. UNFF encourages the sustainable development, conservation, and management of all kinds of forests.
3. India has the honor of being one of the founding members of UNFF.
4. The main objective of the Country-Led Initiative (CLI) is to support UNFF's discussion on the application of Sustainable Forest Management and the UN Strategic Plan for Forests (UNSPF).
5. Additionally, it aims to make it easier for UNFF member states to exchange best practices for implementing SFM and the UNSPF.

Forest Certification

1. It is a market mechanism which helps to identify "sustainably produced" goods for consumers and encourages the sustainable use and management of forests.
2. It is a voluntary process where a public or commercial certification organization sets standards that an independent third party (the "certifier") compares the quality of forest management and production against those standards.
3. It is a useful instrument for stopping deforestation and forest degradation, as well as a way to ensure **Sustainable Forest Management (SFM).**
4. **Types:** There are two types of forest certification:

- **Certification of Forest Management**, which evaluates if forests are being managed in accordance with a given set of standards.
- **The Chain of Custody Certification (CoC certification)** attests to the identification of certified material and its separation from non-certified or uncontrolled items.

5. Since 2010, the total area of forests under certification has grown by 35%, or 120 million hectares.

Benefits of certified sustainable forests

Environmental aspects	Social aspects
1. Existing local biodiversity is maintained and enhanced	1. Consultation are carried out with the population bordering the forest
2. Ecologically important forest areas are protected	2. Properties and land tenure rights are respected

3. No use of hazardous chemicals or genetically modified organisms(GMOs)	3. Respect for the health and well-being of forest communoities is guaranteed.
4. Climate positive practices, such as reduction og GHG emissions, are applied.	4. Human and workers rights compliant with ILO recommendations are respected

Sustainable Forest Management (SFM)

1. **Definition-** As per the FAO; the management and utilization of forests and their lands in a manner and at a pace that:
   - Maintain their vitality, productivity, potential for regeneration, and biodiversity
   - Maintain the ability to perform relevant ecological, economic, and social roles at the local, national, and international levels, both today and in the future
   - doesn't harm other ecosystems.
2. **Constituent-** It implies various levels of human involvement, from measures to protect and maintain the environment to administrative, legal, technical, economic, and social ones aimed at safeguarding and maintaining ecosystems in forests.
3. **Outcome**-Ecosystem services including carbon sequestration, biodiversity preservation, and water resource protection are all provided by sustainably managed forests.

Need for sustainable forest management

1. **Biodiversity Conservation-** through preserving habitats, safeguarding threatened species, and allowing natural regeneration.
2. **Tackling climate change-** SFM is critical to reducing the effects of climate change, and forests play a critical role in mitigating climate change as carbon sinks.
3. **Community development**- Millions of people in India depend on forests for their survival, particularly the tribal populations. Therefore, protecting forests is essential to the welfare of these communities.
4. **Traditional knowledge-** Forests are a repository of traditional knowledge and medicinal plants.

Measures taken by India for SFM

1. **Legislative measure**- Various laws relating to conservation have been passed in India, including the Wildlife Protection Act of 1972, the Indian Forest Act of 1927, and the Forest Conservation Act (FCA) of 1980**.**
   - For example, the FCA permits the government to designate certain regions as protected or reserved forests, which limits activities that cause environmental degradation.
2. **Joint Forest Management**-In order to manage and preserve forests, JFM involve cooperation between local people and forest authority.
3. **Afforestation and Reforestation Programs**-The initiatives like Compensatory Afforestation Fund Management and Planning Authority (CAMPA), the National Afforestation Program (NAP), the Green Highways Program etc.
4. **Technology adoption**-Utilizing technology to monitor and manage forest resources includes using satellite imaging, remote sensing, and Geographic Information System (GIS) mapping.
5. **Development of standards**-India established a set of eight national criteria and thirty-seven indicators for the sustainable management of its natural forests through the Bhopal-India Process.
6. **Community Forest Right**-Utilizing the skills and knowledge of indigenous people in SFM, the Forest Rights Act, 2006 acknowledges and grants forest rights to communities that live near forests.

Concerns of SFM	Solution
1. Climate Change: • Altered precipitation patterns and increased temperatures affect forest ecosystems. • Forests play a crucial role in carbon sequestration. **2. Biodiversity Loss:** • Destruction of habitats leads to the loss of plant and animal species. • Fragmentation isolates populations and disrupts ecological balance. **3. Land-Use Conflicts:** • Conflicts arise between forestry, agriculture, and urban development. • Competing interests for land use can hinder sustainable forest management. **4. Illegal Activities:** • Poaching, logging, and encroachment are persistent challenges. • Weak law enforcement and corruption contribute to illegal activities. **5. Inadequate Monitoring and Data:** • Limited resources and technology hinder effective monitoring. • Lack of accurate data on forest cover, biodiversity, and ecosystem health. **6. Deforestation**: • Illegal logging and land clearance contribute to deforestation. • High demand for timber and agricultural expansion.	**1. Community Involvement:** • Engage local communities in decision-making and management. • Support community-based forestry initiatives. **2. Policy and Legislation:** • Strengthen and enforce laws against illegal logging and land clearance. • Develop and implement policies promoting sustainable practices. **3. Forest Certification:** • Encourage and recognize sustainable forest management through certification programs (e.g., FSC certification). • Promote responsible and ethical sourcing of forest products. **4. Reforestation and Restoration:** • Implement large-scale reforestation projects to restore degraded areas. • Use native species for ecological restoration to enhance biodiversity. **5. Climate-Smart Practices:** • Integrate climate-smart forestry practices to enhance resilience. • Adapt management strategies to mitigate the impacts of climate change. **6. Technology and Monitoring:** • Invest in satellite technology and remote sensing for effective monitoring. • Implement data-driven management strategies for informed decision-making. **7. International Cooperation:** • Collaborate with neighboring countries and international organizations. • Share knowledge, resources, and best practices for global forest conservation

10. 3 Basins Summit

Context

Recently, The **Brazzaville Summit of the 3 Basins** of **Amazon**, **Congo** & **Borneo-Mekong-Southeast Asia** took place in **Brazzaville** (capital of the Republic of the Congo) ended with a **7 point declaration**.

Key points

1. The summit's **seven-point declaration** aimed to halt and reverse biodiversity loss by 2030.
2. **Participating Countries:** Representatives from Amazon, Congo, and Asia-Pacific regions collaborated.
3. **Commitments Made:** Pledges focused on deforestation reduction, restoration efforts, and sustainable forest management.

4. **Indigenous Involvement:** Indigenous Peoples highlighted as vital partners in forest conservation, emphasizing traditional knowledge.
5. **Challenges Ahead:** Concrete actions and robust leadership required for effective conservation initiatives.
6. **Biodiversity and Livelihoods:** Tropical forests, home to two-thirds of global biodiversity, sustain over one billion livelihoods.

Initiatives by government for Forest Conservation

- Forest Conservation Act, 1980
- National Afforestation Programme
- Environment Protection Act of 1986
- Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, **2006**

About 3 Basins

Factors:	Amazon Basin	Congo Basin	Borneo-Mekong-Southeast Asia Basin
Description	Lungs of Earth	Lungs of Africa	Island of Borneo and Mekong river
Location	South America, spanning across nine countries: Brazil, Peru, Colombia, Venezuela, Ecuador, Bolivia, Guyana, Suriname, and French Guiana.	central Africa, covering parts of multiple countries, including the Democratic Republic of the Congo (DRC), Republic of the Congo, Cameroon, Gabon, Equatorial Guinea, and Central African Republic.	Southeast Asia is a subregion of Asia, consisting of 11 countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar (Burma), the Philippines, Singapore, Thailand, Timor-Leste, and Vietnam.
Size and Diversity	It is the largest rainforest in the world, covering approximately 6.7 million square kilometers.	It is the second-largest tropical rainforest in the world, spanning approximately 1.6 million square kilometers	It is one of the largest rainforest in the 6.7 million square kilometers.
Biodiversity hotspot	The Amazon Rainforest is home to an estimated 10% of the world's known species.	The Congo Rainforest is recognized for its incredible biodiversity, hosting a vast array of plant and animal species, many of which are unique to this region.	Known for its rich biodiversity, region is home to diverse ecosystems, including rainforests and unique species like orangutans and pygmy elephants.
Threats and deforestation	The Amazon faces significant threats, primarily from deforestation driven by agriculture, logging, and infrastructure development.	The Congo Rainforest faces various threats, including deforestation due to logging, agricultural expansion, and infrastructure development.	Faces challenges due to deforestation for palm oil plantations, impacting both the environment and indigenous communities.
Global significance	Crucial for maintaining global biodiversity and climate stability.	Mitigating climate change, maintaining biodiversity, and supporting the livelihoods of local communities.	Southeast Asia is one of the most vulnerable regions to climate change, and faces rising sea levels, heat waves, floods preservation of this region is important for its mitigation

Challenges and Probable solutions for sustainable biodiversity development:

Challenges	Probable Solutions
1.Habitat Destruction and Fragmentation: Clearing large areas of forests for agriculture, logging, or urban development.	**1.Selective Logging and Reforestation** to ensure that forests are managed in a way that preserves their ecological value.
2.Climate Change: Altered climate patterns, temperature increases, and extreme weather events that can impact ecosystems and species distribution.	**2.Community Managed Forests,** where local communities are given the responsibility for protecting and managing their local forests.
3.Pollution: Runoff of pollutants from agriculture, industry, and urban areas into water bodies.	**3.Leveraging Technology for Conservation** such as remote sensing and GIS, to monitor and track forest cover, forest fire and identify areas in need of protection.
4.Overexploitation of Species: Poaching and trafficking of endangered species for various purposes.	**4.Dedicated Forest Corridors** for safe intrastate and interstate passage of wild animals and protecting their habitat from any external influence.
5.Introduction of Non-Native Species: species introduced to new environments can outcompete or prey upon native species, leading to biodiversity loss.	**5.Recognising Forest Based Products** so the community can get better prices for Sal seeds, Mahua flowers, or Tendu leaves, they will protect them from fires as well as any other threats that come along.

11. CLIMATE CHANGE AND CHILDREN

Context

Reports: UNICEF released two reports: "Children Displaced in a Changing Climate" and "The Climate-Changed Child: A Children's Climate Risk Index Supplement."

Key Findings:

1. Lakhs of children displaced by weather events due to climate change.
2. 100 crore children exposed to high or extremely high-water stress.
3. India, Niger, Eritrea, Yemen, and Burkina Faso are most vulnerable to water stress.

Highlights:

1. The report highlights the critical link between climate, displacement, and childhood.
2. Three countries dominate child displacements based on numbers: Philippines, India, and China.
3. Water scarcity and vulnerability are significant concerns for children globally.
4. The report calls for urgent action to protect, prepare, and prioritize children in the face of climate change.

Effects of Climate Change on Children

Effect of Climate Change on Children	Global Solution	Indian Solution
1- Disease (due to lack of water, sanitation, hygiene)	1- Improved water and sanitation infrastructure	1- National sanitation programs, rainwater harvesting initiatives
2- Diet and nutrition (reduced diversity)	2- Diversification of agricultural practices, drought-resistant crops	2- Promoting climate-smart agriculture, local food systems (millet initiative)
3- Education (disruptions, water collection)	3- Climate-resilient school infrastructure, flexible learning programs	3- Mid-day meal programs poshan abhiyan, disaster preparedness training in schools

4- Mental health (heat-related issues, trauma)	4- Mental health support programs, trauma-informed care	4- Mental health awareness campaigns, culturally appropriate support services
5- Gender (increased child marriage in extreme heat)	5- Empowerment programs for girls, addressing gender norms	5- Beti Bachao Beti Padhao campaign, promoting girls' education and economic opportunities

Children's Vulnerability Factors:

1. Physical: Dehydration, heat stress (220 crore) at risk by 2050).
2. Economic and social inequality.
3. Lack of essential services (water, sanitation, health, education).
4. Less focus on children in climate efforts.
5. Spending more time outdoors.
6. Emotional vulnerability - mental health impacts.

The report talks about 3Ps i.e., Protect-Prepare-Prioritize to tackle children's vulnerability towards climate change.

3Ps: Protect, Prepare, Prioritize children:

1. Protect child-critical services.
2. Prepare children for adaptation and resilience.
3. Prioritize displaced children in policies and investments.

12. MANDATORY BIOGAS BLENDING

Context

In a bid to enhance the consumption of biofuels, the government has announced **mandatory** blending of compressed biogas (**CBG**) with piped gas supplied to households and compressed natural gas (**CNG**) for the transpire sector.

What is biogas?	Biogas results from the **anaerobic** breakdown of organic matter by specific bacteria, constituting a blend of methane, hydrogen, and carbon dioxide. Its **production** involves utilising sources like agricultural waste, food waste, animal dung, manure, and sewage.
Applications	Electricity generation, Heating, cooking, Vehicle fuel

Challenges	Solution
1. **Feedstock Availability:** Inconsistent access to organic waste poses a challenge, impacting biogas production and the sustainability of the biogas economy.	1. **Technological Advancements:** Invest in research for advanced biogas technologies, enhancing efficiency and expanding applications for sustainable energy production.
2. **Infrastructure Constraints:** Limited distribution and storage infrastructure hinder the widespread adoption of biogas as an energy source.	2. **Policy Support:** Develop favorable policies to incentivize biogas projects, encouraging investment and promoting widespread adoption for a thriving biogas economy.
3. **Technological Barriers:** Outdated or insufficient technology can impede efficient biogas production and utilization, limiting its economic viability.	3. **Community Engagement:** Educate and engage communities about biogas benefits, fostering awareness and participation for decentralized, community-based biogas initiatives.

4. **Public Awareness:** Lack of awareness about biogas benefits and potential hinders public acceptance, affecting investment and growth in the biogas economy.	4. **Integration with Agriculture:** Promote the integration of biogas production with agriculture, creating a symbiotic relationship that addresses waste management, energy needs, and enhances agricultural practices.

Benefits of Biogas

1. **Environmental Benefits:**	Reduces greenhouse gas emissions, as methane from organic decay is captured and utilised.
2. **Waste Management:**	Provides a solution for the treatment and disposal of organic waste, contributing to sustainable waste management practices.
3. **Community and Rural Development:**	Promotes decentralised energy production, benefiting local communities and agricultural sectors.
4. **Helpful in achieving Sustainable Development Goals (SDG)**	such as zero hunger, good health and wellbeing, gender equality, clean water and sanitation.

Steps taken by government for Renewable energy

1. **National Solar Mission (NSM):** Launched in 2010, aims to promote the development and use of solar energy for power generation.
2. **Wind Energy Development:** India is a significant player in the global wind energy market, with various projects and initiatives promoting wind power.
3. **Hydropower Projects:** Numerous hydropower projects contribute to renewable energy generation.
4. **Bioenergy Initiatives:** Focus on biomass and biofuel for energy production.
5. **Energy Efficiency Programs:** Implementation of energy-efficient practices and technologies to reduce overall energy consumption.

India's renewable energy targets:

(a) Tol increase its non-fossil fuel energy capacity to 500 gigawatt (GW) by 2030
(b) Tol meet 50% of its energy requirements from renewable sources by 2030
(c) The total projected carbon emissions will be reduced by 1 billion tonnes from now through 2030
(d) The carbon intensity of its economy will be brought down to less than 45%
(e) To achieve its target of Net Zero by 2070

13. METHANOL DIESEL 15

Context

Recently, The **Indian Railways**, in partnership with **IOCL**, has effectively tested a **diesel blend with 15% methanol** for high-power locomotive engines, This innovative fuel is named **MD15.**

Generations of biofuels

1st Generation Biofuel	It has High Carbon Content. Made from Edible Items. Eg- Sugar, Corn. Starch etc.
2nd Generation Biofuel	Greenhouse Gas content less than 1st Generation Biofuel Made from leftovers of Food Crops. Eg- Rice Husk, Wood Chips etc.
3rd Generation Biofuel	It is Carbon Neutral in. (CO_2 Emitted = CO_2 Sequestrated) Produced using Microorganisms. Eg. Algae
4th Generation Biofuel	Made from 'Genetically Engineered Crops' They are Carbon Negative.

Methanol 15 is expected to result in an annual savings of approximately Rs 2,280 crore for the railways

Benefits of Methanol economy:

1. Methanol can be produced from various feedstocks, including natural gas, coal, and biomass, contributing to **energy diversification**.
2. Methanol combustion typically **produces lower greenhouse gas** emissions compared to traditional fossil fuels, potentially mitigating climate change impacts.

3. Methanol production can enhance **energy security** by utilising diverse feedstocks and reducing dependence on a single energy source.
4. Biomass-based methanol production can provide **economic opportunities for rural communities**, fostering regional development.
5. Research and development in methanol production technologies contribute to technological advancements, fostering innovation and competitiveness.
6. **Methanol can be used as a transportation fuel,** potentially offering a cleaner alternative and reducing dependence on conventional fuels.

Some Other Initiatives to boost Methanol Economy

1. **The Methanol Economy Programme by NITI Aayog** is a strategic initiative in India with the goal of achieving key objectives related to energy, the environment, and the economy.
2. **Methanol Economy Research Programme (MERP),** emphasises on innovating technologies for methanol production from diverse sources, including high ash coal, carbon dioxide, and biomass.
3. **Methanol Cooking Fuel Programme** seeks to offer households a clean, cost-effective, and pollution-free cooking solution by replacing LPG, kerosene, and wood charcoal with methanol stoves.

Methanol economy: Challenges and Way Forward

Persistent Challenges	Way Forward
1. **Limited infrastructure** for methanol production, storage, and distribution poses a significant hurdle.	1. **Enhance research** to boost methanol production efficiency from diverse raw materials
2. **Overcoming technical barriers** in efficient methanol production from diverse feedstocks is a persistent challenge.	2. **Invest in fuel cell technology** and infrastructure to support widespread adoption.
3. **Handling, storing, and transporting methanol** involves safety risks, necessitating stringent safety measures	3. Collaborate with automakers to develop engines and **fuel injection systems suitable for methanol.**
4. **Convincing industries and consumers** to adopt methanol-based solutions requires overcoming resistance and scepticism.	4. **Invest in a comprehensive distribution network** with secure storage and dispensing facilities.
5. **Ensuring the economic competitiveness** of methanol-based fuels compared to traditional alternatives is a key concern.	5. **Launch educational campaigns** to inform the public about the advantages of methanol-based fuels and appliances

14. UNCCD Data Dashboard

Context

The UN Convention to Combat Desertification (**UNCCD**) recently launched its **first-ever Data Dashboard**, showing that Land Degradation is **increasing** worldwide.

What is Land Degradation?	It's caused by factors like extreme weather and human activities that degrade soil quality. Desertification, a consequence of severe land degradation, accelerates climate change, biodiversity loss, and leads to issues like droughts and wildfires.
What is Land Degradation Neutrality (LDN)?	LDN is about using land wisely to avoid degradation and restoring degraded land. It aims to ensure enough healthy and productive natural resources for present and future generations.

Key Highlights of UNCCD Data on Land Degradation:

1. From **2015 to 2019**, the world lost over **100 million hectares** of productive land annually.
2. Land degradation is worsening globally, with some regions like Eastern and Central Asia, Latin America, and the Caribbean experiencing severe impacts.
3. Some countries, like **Botswana** and the **Dominican Republic**, have made progress in combating land degradation.
4. **India's Statistics:** India's degraded land area increased from **4.42% in 2015** to **9.45% in 2019**.

5. **UNCCD Recommendations:** The UNCCD suggests restoring 1.5 billion hectares of degraded land by 2030 to achieve LDN goals outlined in the UN Sustainable Development Goals.

Efforts to Curb Land Degradation:

1. Global efforts include initiatives like the **Bonn Challenge** and the **Great Green Wall.**
2. India has programs like **Integrated Watershed Management** and **initiatives by ISRO.**

UNCCD:

Established in 1994, UNCCD is an international agreement working on sustainable land management, especially in drylands. It collaborates with other conventions addressing land, climate, and biodiversity.

UNCCD and Sustainable Development:

UNCCD's 2018-2030 Strategic Framework aims to achieve Land Degradation Neutrality, aligning with Goal 15 of the SDGs to protect the planet from degradation and take urgent action on climate change.

Way Forward:

1. The UNCCD's Data Dashboard reveals alarming global land degradation trends, urging action to restore **1.5 billion hectares by 2030**. While some nations show progress, others, like India, face increased degraded land.
2. The UNCCD emphasizes the vital link between combating land degradation and achieving Sustainable Development Goals, highlighting the urgency to implement effective restoration measures on a global scale.

15. WORLD'S LARGEST SOLAR FACILITIES

Context

The recently inaugurated **Noor Abu Dhabi** in the **UAE** is one of the globe's largest operational standalone solar plants with a total capacity of **1.2 GW**.

World's Major solar facilities:

Bhadla Solar Park	**Location:** Rajasthan, India **Capacity:** 2,245 MW (expected upon completion) **Size:** Spread over 14,000 acres **Highlights:** One of the largest solar parks in the world, aiming to significantly contribute to India's renewable energy goals.
Pavagada Solar Park	**Location**: Situated in Pavagada, Tumkur district, Karnataka, India. **Size**: Spanning over 13,000 acres. **Capacity**: A solar powerhouse with a total capacity of 2,050 megawatts (MW). **Highlights**: It is one of the largest solar parks globally, contributing significantly to India's renewable energy goals.
Ramagundam Floating Solar PV Project	**Location:** Situated in Ramagundam, Telangana, India. **Size:** Spans across the water surface of the Ramagundam Thermal Power Station reservoir. **Capacity:** Boasts a significant solar power generation capacity, contributing to the overall energy production of the region. **Highlights:** Utilizing water bodies for solar panels reduces land usage, minimizes evaporation, and enhances energy efficiency, exemplifying sustainable solar power deployment.
Tengger Desert Solar Park	**Location:** Inner Mongolia, China **Capacity:** 1,547 MW **Size:** Covers approximately 1,200 square kilometers **Features:** Largest solar facility globally, situated in the Tengger Desert, utilizes both photovoltaic and concentrated solar power technologies.
Noor Complex Solar Power Plant	**Location:** Ouarzazate, Morocco **Capacity:** 580 MW (Noor III - part of the overall Noor Complex) **Technology:** Uses concentrated solar power (CSP) with parabolic troughs and solar power tower technology. **Significance:** A key part of Morocco's commitment to sustainable energy, addressing the country's energy needs and reducing carbon emission.

G. Social And Culture

1. JAL DIWALI: WOMEN FOR WATER, WATER FOR WOMEN CAMPAIGN

Launch and Background:

1. Jal Diwali, the **"Women for Water, Water for Women Campaign",** was launched **by the Ministry of Housing and Urban Affairs (MoHUA).**
2. It's part of the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and in partnership with the National Urban Livelihood Mission (NULM).

Phase I Participation:

1. In its first phase, the campaign includes participation from all States/UTs, with the exception of Chhattisgarh, Mizoram, Madhya Pradesh, Rajasthan, and Telangana.

Campaign Objectives:

The campaign aims to include women in water governance by:

1. Educating them about water treatment processes through visits to Water Treatment Plants.
2. Providing insights into water quality testing protocols.
3. Ensuring quality water delivery to citizens.
4. Fostering a sense of ownership and belonging among women towards water infrastructure.

Women's Role in Water Governance:

1. Women are often responsible for collecting and managing water for domestic needs, ensuring hygiene, and utilizing traditional knowledge about water resources.

AMRUT and AMRUT 2.0:

1. **AMRUT was launched in 2015** in 500 cities for developing basic infrastructure in various sectors including water supply.
2. AMRUT 2.0, spanning from 2021-22 to 2025-26, **aims for universal water supply** coverage through functional taps in all households.

Deendayal Antyodaya YojanaNational Urban Livelihood Mission (DAYNULM):

1. **A centrally sponsored scheme** launched by **MoHUA** in 2013.
2. Its goal is to reduce poverty and vulnerability of urban poor households by enabling them to access selfemployment and skilled wage employment opportunities.

2. REGULATIONS OF FOREIGN HIGHER EDUCATIONAL INSTITUTIONS

Context

University Grants Commission (UGC) notified the regulations for **Setting up and Operation of Campuses of Foreign Higher Educational Institutions in India, 2023.**

Key provisions

1. **Aim**
   a. Paving the way for foreign universities
      i. To set up and operate their campuses in India with complete autonomy
      ii. Grant degrees and to decide their admission process and fee structure, in alignment with the NEP 2020.
      iii. Provide an international dimension to higher education in India.
2. **Approval:**
   a. FHEIs require UGC's approval before establishment of Indian campuses, offer any programme, and discontinue any course or programme.
      i. Not allowed to offer programmes which are contrary to the standards of higher education in India.
3. **Eligibility:**
   a. FHEIs ranked within top 500 in global rankings either in overall category or in subject- wise

category or possessing outstanding expertise in a particular area, as decided by the UGC from time to time.

b. FHEIs will have to setup the campus within two years from the date of approval from the UGC.

4. **Qualifications:**
   a. Qualifications awarded and quality of education in Indian campuses shall be equivalent to those awarded in their home jurisdiction.
5. **Autonomy:**
   a. Allowed to decide the admission process and criteria, recruit faculty and staff, and decide a transparent and reasonable fee structure.
6. **Fees:**
   a. Full or partial scholarship may be provided to the students and tuition fee concession is required to be given to Indian Students by FHEIs.
7. **Restrictions:**
   a. FHEIs' Operation shall not be contrary to sovereignty and integrity of India, security of State, friendly relations with foreign States, public order, decency, or morality.
   b. For receiving donations from foreign sources, FHEIs require prior permission of the Central Government.
   c. No Online and Open and Distance Learning (ODL) allowed
      i. However, 10% of lectures can be conducted in online mode.
   d. FHEIs can collaborate with the Indian Universities and industries, but sharing of infrastructure won't be allowed.

3. SANT MEERA BAI

Context

Recently, the 525th birth anniversary of Sant Meerabai was celebrated in Mathura, Uttar Pradesh.

About Sant Meera Bai

1. Meerabai **was a great Bhakti saint**, Hindu mystic poet and a **devotee of Lord Krishna.**
2. **Early life**
   a. **Birth:** She was **Princess of Mewar** (by virtue of birth) and her **childhood name was Yashodha**.
   b. **Marriage:** In **1516**, Meera Bai **married Rana Bhoj Raj** the crown prince of **Mewar** who was the **son of the Rana Sanga.**
      i. Rana Sanga is famous for his leadership in the **Battle of Khanwa (1527)**, where he led the Rajput alliance **against Mughal Emperor Babur.**
   c. **Widow Life:** After the **death of Bhoj Raj in 1521**, she left Mewar in search of lord Krishna.
3. **Life as a saint**
   a. She moved to multiple places including **Vrindavan** and **later** years **to Dwarka.**
   b. She **followed Saguna bhakti** and considered Lord Krishna as her husband since her childhood.
   c. She addresses **Lord Krishna as Giridhar Gopal.**
4. **Major works**
   a. Meerabai's **poetry portrays a unique relationship** wherein
      i. She is not only the devoted bride of Krishna, **but** Krishna is ardent in his pursuit of Mira.
   b. One of her **celebrated songs** is "Paayoji maine Ram Ratan dhan paayo (today I got the most precious wealth of
   c. Meerabai's **poems in Braj language**, sung during prayers and expressing emotions to Lord Krishna, make up her
      i. These include Raag Govind, Narsi Ji Ka Mayara, Geet Govind ki Tika, Meera Bai ki Malhar, Raag Vihaag and Garba Geet.
      ii. Some of her **bhajans translated into English** by
         1. Robert Bly and Jane Hirshfield as 'Meerabai: Ecstatic Poems'
   d. **Bhaktmal, a poetry collection** that describes the biography of Meera Bai, was **written by Guru Nabha Dass ji** in 1585 in Braj language.
5. **Social Reforms**
   a. She became a **disciple of Sant Ravidas** (also known as Raidas) who belonged to a caste considered untouchable".
   b. Her songs also openly **challenged** the norms of the **upper castes** and became popular with the masses in **Rajasthan and Gujarat.**

4. SHARDA TEMPLE

Context

For the first time since 1947, the Navratri pujas have been held in the historic newly built Sharda Devi Temple close to the Line of Control (LoC) in Teetwal village in the Kupwara district of Jammu and Kashmir.

About Sharda Temple

1. **Before the Partition** of India and Pakistan, Sharada Temple was **one of the three principal shrines of the region**, along with
   a. The Martand Sun Temple
   b. The Amarnath Temple
2. The temple has a **close resemblance with the Martand temple** in architecture, design and construction style.
3. **Location**:
   a. Located in **Neelum Valley in Pakistan Occupied Kashmir (PoK)** across Teetwal village.
   b. It lies right across the Line of Control in a small village, Shardi or Sardi, where the **river Neelam (Kishanganga)** converges with the Madhumati and Sargun streams.
4. **Cultural Importance**:
   a. **One of the 18 Maha Shakti Peethas** and is considered to be the abode of **Hindu Goddess Saraswati.**
      i. Goddess Sharada is considered by **Kashmiri Pandits as their kuldevi (principal deity).** She is also referred to by many as Kashmira Puravasini (resident of Kashmir).
   b. Regarded as **centers of higher learning of Vedic works, scriptures** and commentaries.
   c. Considered to be **at par with the ancient seats of learning** at Nalanda and Takshila.
   d. **Ramanujacharya,** exponents of the **Sri Vaishnav tradition** is also believed to have visited Sharada Peeth & **written his treatise, Sri Bhasya.**
5. **Educational Importance**
   a. Close to the temple, the ruins of **one of the world's oldest universities** (Sharda University) can be found.
   b. It is believed that **Sharda University had its own script known as Sharada** and it had over 5,000 scholars and the biggest library.
   c. Renowned **scholar Adi Shankaracharya** is said to have **studied at Sharada University**
6. **Foreign Scholar Evidence**
   a. **Al Beruni**, famous scholar and traveler described the temple as a much-venerated site of pilgrimage.
7. Previously, the Pakistani government sanctioned a plan to create a **Sharada Peeth Corridor** facilitating the visit of Hindu pilgrims from India to Sharada Peeth.
   a. **Once operational**, the Sharada Peeth corridor will **become the second religious passage** in territory controlled by Pakistan, **following the Kartarpur corridor,** connecting the two neighboring nations.

5. SURROGACY IN INDIA

Context

The Supreme Court has protected the right of parenthood of a woman, suffering from a rare medical condition (Mayer Rokitansky Kuster Hauser (MRKH) syndrome, leading to absence of uterus and ovaries), by staying the operation of a law which threatened to wreck her hopes to become a mother through surrogacy.

Comparison of Surrogacy Practices in India

Practice of Surrogacy in India Prior to Regulation Act, 2021	Surrogacy Regulation Act, 2021
1- India was a commercial hub for surrogacy due to poor socioeconomic conditions of women.	Allows only altruistic surrogacy; bans commercial surrogacy.

2- Presence of several middlemen and brokers.	Punishable offense.
3- Not formally regulated.	To be observed under registered medical professionals.
4- Lack of provisions for an abandoned child.	Abandonment is a punishable offense (10 years of jail/10 lakh fine).
5- Surrogacy option available to any couple.	Option only if either partner has proven infertility.
6- No regulations regarding prostitution or sale of the child.	Punishable offense (10 years of jail/10 lakh fine).
7- Abortion possible with consent of intended parents.	Abortion only with consent of surrogate mother and per the MTP Act.
8- No specific criteria for intended couple.	Provisions for eligibility: Married couple with 5 years of marriage.
9- No certificate required to opt for surrogacy.	Male 26-55 years old, female 25-50 years old.
10- No requirement of any order to be issued.	No living child (biological, adopted, surrogate), except in cases of mental disability.
11- Anyone could become a surrogate.	Prior certificate to be issued by District Medical Board (DMB).
12- No criteria for becoming a surrogate.	Order to be issued by the Magistrate.

Amendment of 2022:

1. Allows only Traditional surrogacy (child to be Genetically related to both of the intended couple). Bans the gestational surrogacy.

Supreme Court verdict:

1. Allows for gestational surrogacy (child to be genetically related to at least the intended father and not necessarily to the mother).

Comparison of Traditional and Gestational Surrogacy

Traditional Surrogacy	Gestational Surrogacy
1- The father's sperm is used to fertilize the surrogate's egg.	The intended father's sperm and the intended mother's eggs are combined, creating an embryo which is then implanted into a surrogate.
2- Typically costs less than gestational surrogacy.	Typically costs more than traditional surrogacy, which may require careful financial planning.
3- May pose more legal issues since the baby is genetically related to the surrogate.	The baby is genetically related to both parents, making this method a more safe and risk-free option.
4- The surrogate undergoes IUI, Intrauterine Insemination, where the sperm cells are placed in the surrogate's uterus.	IVF, In-Vitro Fertilization is used, where the egg is harvested from the intended mother or donor and fertilized with the father's sperm outside of the womb.

The difference between commercial surrogacy and altruistic surrogacy

1. **Commercial surrogacy**: where the surrogate mother receives a fee.
2. **Altruistic surrogacy**: where the surrogate mother does not receive a fee for her own use; she is only reimbursed for out-of-pocket expenses (food, clothing, medication, lost wages, etc.).

Why regulations on Surrogacy?

India as Surrogacy hub

1. India has emerged as a hub for infertility treatment, attracting people from the world over with its state-of-the-art technology and competitive prices to treat infertility

Socio-economic conditions:

1. Soon enough, due to prevailing socio-economic inequities, underprivileged women found an option to rent their wombs and thereby make money to take care of their expenses
2. This was often practiced to facilitate marriage, enable children to get an education, or to provide for hospitalisation or surgery for someone in the family.

Rising middlemen

Once information of the availability of such wombs got out, the demand also picked up.

1. Unscrupulous middlemen inveigled themselves into the scene and exploitation of these women began.
2. Several instances began to emerge where women, in often desperate straits, started lodging police complaints after they did not receive the promised sum

Other issues

1. In 2008 a Japanese couple began the process with a surrogate mother in Gujarat, but before the child was born, they split with both of them refusing to take the child.
2. In 2012, an Australian couple commissioned a surrogate mother and arbitrarily chose one of the twins that were born.

Criticisms

Too restrictive regulations

1. For instance, it does not allow single women, or men, or gay couples to go in for surrogacy. This Deprives homosexuals and single parents.

Lack of clarity

1. Bill doesn't define "close relatives" as it is hard to regulate commercial surrogacy in this context

Reproductive rights:

Reproductive Rights of women are restricted as State deciding mode of Parenthood.

1. It Restricts basic human right (of Having a Child) and article 14 because of the discriminatory approach on the basis of nationality, mantal status and sexual orientation and Violates freedom of Choice and Declaration of Human Rights 1948.
2. The Act doesn't address issues like Postpartum problems.

Rights of women surrogates:

1. The act is criticised for curtailing the rights of women surrogates under the garb of curbing exploitation.
2. Prohibition of payment can lead to more exploitation of Women.
3. E.g. Several villages in Gujarat are known for commercial surrogacy. As per reports, Anand, known for Amul's dairy factory, has also acquired fame as India's 'surrogacy capital, offering fucrative monetary opportunities for impoverished women.
4. Such practices have now been thrown into a quandary with the passage of this Act

Way Ahead

1. Surrogacy is legal in India. But making it commercial is illegal. It is a humanitarian act and is recognized by law.
2. Surrogacy comes under the reproductive choices of women and it is included as a fundamental right under the purview of Article 21 of the Indian Constitution.
3. If a critical mass builds up, amendments might have to be resorted to in order to resolve the grievances and ensure access for all categories of parents.

4. Rather than penalising surrogacy, the person providing a womb for surrogacy must be secured with a contract, ensuring proper, insurance and medical checks.
5. The issues like middlemen will have to be handled with a stern visage, even as sensitivities of people are factored in.

6. TRANSGENDER IN ARMED FORCES

Context:

1. A joint study by the **Principal Personnel Officers Committee (PPOC)** was tasked to suggest a way forward for the implementation of the Transgender Persons (Protection of Rights) Act 2019 in the defence forces.
2. **The Indian Armed Forces** is aiming at proving possible employment opportunities for transgenders.

Global case studies:

1. In 1974, **the Netherlands** was the first country to allow transgender military personnel.
2. As of January 2021, around 21 countries allow transgender military personnel to serve openly: **Australia, Austria, Belgium, Bolivia, Brazil, Canada, Chile, Czechia, Denmark, Estonia, Finland, France, Germany, Ireland, Israel, the Netherlands, New Zealand, Norway, Spain, Sweden, and the United Kingdom.**[1] **Cuba and Thailand** reportedly allowed transgender service in a limited capacity

About Lesbian, gay, bisexual, and transgender (LGBT)

1. **Data:** Approximately **4.8LAKH** transgender people in India as per Census 2011.
2. **Constitution provisions: Article 15** (prohibition of discrimination on grounds of religion, race, caste, sex or place of birth) of the constitution prohibits **discrimination on the basis of sexual orientation and gender identity.**
3. **Section 377:** In **Navtej Singh Johar v. Union of India** case 2018, the Supreme Court of India (SC) **decriminalised consensual homosexual** intercourse by reading down Section 377 of the IPC.

The Transgender Persons (Protection of Rights) Act 2019:

Features	Benefits to LGBT
Definition	A transgender person as one whose gender does not match the gender assigned at birth.
Prohibition against discrimination	Act prohibits the discrimination, including denial of service or unfair treatment
Certificate of identity for a transgender person	An application to the District Magistrate for a certificate of identity, indicating the gender as 'transgender'.
Offences and penalties	Recognition of offences such as forced or bonded labour, denial of use of public places, removal from household and village, etc.
National Council for Transgender persons (NCT)	Advise the government on the impact of policies, legislation and projects with respect to transgender persons.
Grievances Redressal	Designated Grievance Redressal to resolve the grievances of transgender persons.

7. TRANSGENDER IN SPORTS

Context:

International Cricket Council (ICC) has banned transgender players from international women's cricket.

Rules governing transgender persons:

1. As **per ICC**, cricketer transformed from male to female won't be able to play in women's international cricket, regardless of any surgery or treatment that they may have undergone.
2. **ICC** has barred cricketers who experienced male puberty from international women's games
3. As per World Athletics (WA), Differences in sex development (DSD) athletes need to keep their testosterone levels below 2.5 nmol/L for 24 months to participate in female category

4. **World governing bodies for cycling (UCI) and swimming (FINA**) and World Rugby barred trans women
5. **International Olympic Committee** asked individual federations to determine eligibility criteria for transgender people in sports.

About International Cricket Council (ICC):

Body: The **International Cricket Council** (**ICC**) is the global governing body of cricket.

Establishment: Founded as an Imperial Cricket Conference in 1909 by representatives from Australia, England, and South Africa. Later renamed as the International Cricket Conference in 1965 and adopted its current name in 1987.

Headquaters: ICC is headquartered in Dubai, United Arab Emirates**.**

Problems faced by transgender and Measures:

	Issues	Measures taken
1. Protection	Lack of Legal Protection	Transgender Persons (Protection of Rights) Bill, in 2019
2. Poverty	high rates of unemployment, housing insecurity and marginalisation.	National Portal for Transgender Persons
3. Shelter	Poor residence avenues	Scheme of 'Shelter Home for Transgender Persons' includes shelter facility, food, clothing, recreational facilities, skill development opportunities

Supreme court Cases:

NALSA Case judgement:

1. Article 14 guarantees equality to "any person" which means man, woman, and transgender
2. They have equal rights in employment, health care, education, and civil rights.
3. Transgender individuals have freedom of expression under Article 19
4. They also have a right to live a life of dignity under Article 21.

8. UNESCO CREATIVE CITIES NETWORK

Context

Recently the city of **Kozhikode** in Kerala was added to UNESCO's Creative Cities Network (UCCN) and **Gwalior** from Madhya Pradesh was also among the **55 new cities** to join the network.

Inclusion in the UNESCO Creative Cities Network

City	Characteristics for which it got its place in UNESCO'S list
Gwalior	1. **Gwalior's Musical Heritage:** Gwalior in Madhya Pradesh secured its place in the 'Music' category, highlighting its deep connection to musical traditions. 2. **Guru-Shishya Tradition in Gwalior:** Gwalior, renowned for the Gwalior Gharana and iconic musicians like Baiju Bawra and Tansen, is recognized as a hub for learning Indian classical music in the Guru-Shishya tradition.
Kozhikode	1. **Kozhikode (Kerala)** has distinguished itself in the **'Literature'** category, showcasing its literary accomplishments. 2. Kozhikode boasts the distinction of housing more than 500 libraries, contributing to its rich literary

About UNESCO

1. UNESCO expands as the United Nations Educational, Scientific and Cultural Organization.
2. **Established** on November 16, 1945.
3. **Headquarters:** Paris, France.
4. **Functions:** fostering global peace and security through international cooperation in education, the sciences, and culture.

About UNESCO Creative Cities Network

Initiation	Established by UNESCO in 2004
Purpose	To promote collaboration among various cities for cultural and creative industries development
Categories	Design, Gastronomy, Literature, Media Arts, Film, Music, and Crafts & Folk Art
Member Cities	Over 250 cities from around the world
Activities	Collaborative projects, cultural events, and initiatives
Objectives	Foster innovation, cultural diversity, and sustainable

9. JANJATIYA GAURAV DIWAS *MISSION*

Context:

The Union Cabinet has approved **15th November as Janjatiya Gaurav Divas** to commemorate the brave tribal freedom fighter Bhagwan Birsa Munda.

The Union government launched PM JANMAN (PM-Janjatiya Adivasi Nyaya Maha Abhiyan) on Janjatiya Gaurav Divas (Tribal Pride Day)

PM JANMAN:

1. **When launched:** The mission was launched by Prime Minister Shri Narendra Modi on Janjatiya Gaurav Divas **(15th November 2023)** from Khunti Jharkhand to commemorate the birth anniversary of Bhagwan Birsa Munda.
2. **Aim of the scheme:** The PM JANMAN Mission aims at the development of 75 Particularly Vulnerable Tribal Groups left out by the schemes of various Ministries/ Departments.
3. **Nodal ministry:** The Union Ministry of Tribal Affairs will be nodal Ministry with each 8 sectoral ministries and departments to implement the interventions related to them.
4. **Financial outlay:** This Mission has a financial outlay of around Rs. 24,000 crores.
5. **The PM-JANMAN** (comprising Central Sector and Centrally Sponsored Schemes) to focus on 11 critical interventions through 9 Ministries.

Approaches to Tribal Welfare:

Approaches	
Isolationist	No integration of tribal people with the mainstream
Assimilationist	Advocates for their assimilation into the mainstream society.
Integration	The tribal should develop along the lines of their own genius.

Challenges to tribal development:

1. **Erosion of Identity**: Traditional institutions and laws of tribals come into conflict with modern institutions.
2. **Displacement and Rehabilitation**: Displacement of tribals due to development, disasters, conflict, etc.
3. **Education:** The literacy rate among STs is just 59% which is 73% among the general population. (Census 2011)
4. **Health:** The tribal population suffers a triple burden of disease due to rapid urbanization, and mental illness and addiction.
5. **Debt-Bondage:** Debt-bondage among tribals is a significant problem leading to bonded labour.
6. **Climate Change Impact:** Tribal communities vulnerable to the impacts of climate change.
7. **Marginalization and Discrimination:** Tribal groups encounter social marginalization, restricting access to education, healthcare, and employment opportunities.

About Particularly Vulnerable Tribal Groups (PVTGs)

1. **Special category:** These are centrally recognized special category among the Scheduled Tribes (STs).

2. **Dhebar commission:** First recognized in 1973 as Primitive Tribal Groups (PTGs) based on U N Dhebar Commission (1961) recommendations.
3. **Criteria for identifying PVTGs:**
   - Pre-agricultural level of technology
   - Low level of literacy o Economic backwardness
   - A declining or stagnant population
4. **Number:**There are 75 PVTGs spread over 18 states and the Union Territory of Andaman and Nicobar Islands. Odisha has the highest number (13) of PVTGs in India.

About Birsa Munda:

1. **Early life :** Born on November 15, 1875 he belonged to the Munda tribe in the Chhotanagpur Plateau area.
2. **Munda rebellion:** The movement was led by Birsa munda (Dharti Aba) in the year 1899-1900. He is known to mobilise the tribal community against the British thereby forcing the colonial officials to introduce laws protecting the land rights of the tribals. The movement is called as 'ulgulan' or 'great tumult' aimed at establishing Munda Raj.

Panchsheel Principles for Tribal development

1. People should develop along the lines of their own genius
2. Tribal rights to land and forest should be respected.
3. Tribals should be trained in the work of administration and development.
4. Tribal areas should not be over administered with a multiplicity of schemes
5. Results should not be judged by statistics or the amount of money spent, but by the human character that is evolved.

Recent Initiaves:

Measures Taken	About
Constitutional Measures	1. Article 342 , 2. Article 244, 3. Article 375 , 4. Article 338A
Legislative Measures	1. PESA Act 1996 **2. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006** 3. Scheduled Tribes (Prevention of Atrocities) Act, 1989
Government schemes	1. Pradhan Mantri Janjatiya Vikas Mission (PMJVM) 2. Marketing and Logistics Development for Promoting Tribal Products from the North Eastern Region (PTP-NER) 3. Equity Support to National / State Scheduled Tribes Finance and Development Corporation (NSTFDC / STFDCs) 4. Venture Capital Fund for Scheduled Tribes (VCF-STs)

10. RECRIMINALISING ADULTERY

Context:

The Parliamentary Committee on Home Affairs suggested to recriminalise Adultery in the proposed Bharatiya **Nyaya Sanhita (BNS), 2023**

About adultery:

- **Voluntary**:It is a voluntary sexual intercourse between a married person and someone other than that person's current spouse or partner
- **Section 497A:** Adultery was made illegal by Section 497 IPC, which made it a crime for a man to have sex with the wife of another man.
  - Section 497 violates Articles 14, 15, and 21 of the Constitution
  - A wife could not prosecute her husband or his lover
  - The Second Law Commission (Sir John Romilly) in 1860 criminalized adultery but exempted women from penalty.

Recommendations of the House committee:

- Adultery need to be recriminalised.
- Adultery need to be made gender neutral.
- Safeguard the institution of marriage.

About	Before Joseph Shrine vs Union of India(UOI) case 2018	After Joseph Shrine vs Union Of India(UOI) cs 2018	Recommendations of House committee
Adultery	Criminalised	Decriminalised	Recriminalised
Punishment	Only male (not gender neutral)	Null /void	Gender neutral

Court's rationale in decriminalising Adultery:

1. It was not gender neutral
2. The ability to make choices is a fundamental right under Article21
3. Violative of Article 14 (equality) , Article 15 and Article 21
4. Global decriminalisation of adultery
5. Treating a woman as her husband's property

Need to recriminalise adultery:

1. Safeguards the institution of marriage
2. acts as a deterrent, discouraging individuals from engaging in extramarital affairs
3. addressing breach of marital fidelity

ENSURE IAS

H. ETHICS

1. ETHICS IN SPORTS

Context:

Timed-out judgment: A dispute arose over the request for a timed-out judgment against Sri Lankan batsman Angelo Mathews during the World Cup match between Bangladesh and Sri Lanka. Even though it followed the rules, his actions were criticized for being unsportsmanlike.

Responsibility of different stakeholders in ensuring sports ethics.

Stakeholders	Responsibilities
1. Government	1. Promoting and monitoring code of sports ethics. 2. Inclusion of sports ethics in school curriculum. 3. Encourage research pertaining of complex issues in sports.
2. Sportspersons	1. Setting an example through personal behaviour. 2. Refrain from rewarding practices 3. Awareness generation pertaining physical and psychological changes throughout sporting performance
3. Sports institutions/ organizations	1. Publicize precise rules about what constitutes moral and immoral behaviour. 2. Put in place mechanisms that penalize unethical behaviour and encourage sporting ethics. 3. Promote rule changes that cater to the unique requirements of athletes who are at risk.
4. Sport fans	1. Show their team spirit without using any hurtful or derogatory remarks. 2. Denouncing and rejecting prejudice in all its forms. 3. Adhering to responsible online conduct and honoring athletes' privacy.

Constituents of Sports Ethics:

Constituents	Features
1. Ethical virtues Elements Fairness	**1.** Observe the set norms and rules of the relevant sports. **2.** Referees should not be biased or have a personal stake in the outcome. **3.** Participants in sports should not be subjected to discrimination on the basis of their gender, race, or sexual orientation.
2. Integrity	**1.** To refrain from engaging in or tolerating dishonesty, cheating, or dishonourable behaviour.
3. Responsibility and Accountability	**1.** Take responsibility for their performance, as well as their actions on the field. **2.** Players and coaches be up to date on the rules and regulations governing their sport. **3.** Players and coaches conduct themselves in an honourable way off the field, as well as on it.
4. Sense of Respect	**1.** Show consideration for other players as well as the customs of the sports. **2.** Not to participate in or put up with rude behaviour, such as calling opponents and authorities names. **3.** Respect for officials, teams, and other supporters is a must for all sports fans.

Ethical Issues therein:

Ethical Issues	Illustration
1. The idea - winning is everything	1. Greater emphasis on the outcome of the game than on the way it is played. 2. Paying less attention to the safety and welfare of the competition.
2. Pressure of excessive competition	1. Due to the professionalization of sports, involvement of global viewership, feeling of national pride, increased financial stakes and increased participation etc, the pressure on athletes is increased to conduct themselves unethically to gain a competitive advantage
3. Law-Morality conundrum	1. The interpretation and application of the established rules and regulations within the legal framework of sports sometimes lead to moral ambiguity
4. Bracketed morality	1. This perspective maintains that competition and sports are distinct from everyday life and exist in a space where morality and ethics are irrelevant.

Ways to promote Sports Ethics:

Inculcating Sports Ethics	Illustration
1. Education and awareness	1. By implementing educational programs and emphasizing the importance of sports ethics, fair play and sportsmanship
2. Role modelling	1. Encourage athletes who embody the greatest moral standards to serve as good role models.
3. Code of Conduct	1. Create and implement a clear code of behaviour for officials, spectators, coaches, and athletes.
4. Anti-doping initiatives	1. Put in place strong anti-doping initiatives to guarantee fair competition and safeguard athletes' health.
5. Media responsibility	1. Encouraging ethical and responsible sports journalism that stays away from sensationalism and concentrates on fair reporting.
6. Sponsor Responsibility and accountability	1. Promoting ethically compliant business practices and conscientious sponsorship.

Quote on the topic:

"When you go out on to that field it's going to be war. Sportsmanship is playing to the best of your abilities and then, afterwards, shaking your opponent's hand" - **Bruce Grobbelaar**

2. ETHICS OF WAR

Context

Numerous ethical issues are brought up by the recent hostilities between Israel and Hamas and Russia and Ukraine as well as the ongoing social media articles and pictures depicting the horrors of war

What are the Ethical concerns that arise in war?

Concerns	Illustration
1. **Reduction to Right side vs. wrong side**	**1.** Trying to make sense of violence and conflict frequently boils down to deciding who is right and who is wrong.
2. **Punishment and revenge**	**2.** Retaliation and punishment-based justifications are frequently accepted in war as a moral way to right a mistake.

3. **Degradation of Human beings**	**3.** Treating Humans as tools to achieve the objectives of war
4. **Individual vs. collective identity**	**4.** Recent conflicts such as the Israel-Palestine war reveals that people don't see individuals as they are and see them only in terms of a collective identity

Ethical framework to resolve these concerns:

Just War Theory:

1. **Just war theory given by Augustine of Hippo and Thomas Aquinas**, is an ethical framework that is used to decide whether it is appropriate to go to war.
2. **Christian philosophy:** The just war theory which is a **Christian philosophy attempts** to reconcile three things:
    1. Taking human life is seriously wrong
    2. States have a duty to defend their citizens, and defend justice
    3. Protecting innocent human life and defending important moral values sometimes requires willingness to use force and violence

Elements in the Theory:

Elements in the theory	Conditions required
1. **Jus ad bellum**	This tests decision by applying principles related to just cause, right intention, legitimate authority, proportionality
2. **Jus in bello**	The ethical principles here are related to Discrimination, Proportionality

Purpose of the theory include:

1. Providing a guide to the right way for states to act in potential conflict situations.
2. Providing a useful framework for individuals and political groups to use for their discussions of possible wars.
3. Theory is not intended to justify wars but to prevent them, by showing that going to war except in certain limited circumstances is
4. Motivating states to find other ways of resolving conflicts.

Challenges in the implementation of these ethical ideas:

Challenges	About
1. Involvement of Non-State Actors	Terrorist organisations or insurgent groups, are frequently not subject to the same moral and legal restrictions as state actors, and their activities may regularly transgress just war norms.
2. Ignorance of Distinction principle	Contrary to the concept of discrimination, which calls for a definite separation between combatants and non-combatants, civilians frequently end up as unintentional victims of armed conflicts.
3. Technological Advancements and the principle of proportionality	The employment of cutting-edge military technology, such precision-guided missiles and drones, presents concerns of discrimination and proportionality
4. Limited Global Governance	Treaties, agreements, and international organizations are frequently necessary for the application of just war principles. These mechanisms' efficacy is frequently questioned.

How to resolve these challenges:

Resolution of challenges	Illustration
1. Strengthening International Cooperation and Institutions	Strengthen and enforce international agreements that govern the conduct of war, such as the Geneva Conventions.

2. Advocacy for stricter Arms control and disarmament	Limiting the use of weapons that can cause disproportionate harm to civilians.
3. Peacebuilding and Conflict Resolution	Investing in diplomatic and peacebuilding efforts such as addressing the root causes of conflicts, promoting dialogue, and facilitating negotiations
4. Code of Conduct	On the basis of agreement on war ethics, state armies may be subject to an enforceable code of conduct.
5. Human rights monitoring	Boost the capacity of human rights monitoring systems to record and communicate abuses that occur during armed situations.

Quote in the topic:

"There is nothing that war has ever achieved that we could not better achieve without it. All the art of living lies in a fine mingling of letting go and holding on" - **H. Havelock Ellis**

3. KNOWLEDGE WITHOUT CHARACTER

Context:

"Deadly weapons are being used in the Ukraine-Russia and Israel-Palestine conflict," "The dark web is used for activities like illegal drug trafficking," and numerous more examples show how knowledge without character (moral principles) can be harmful.

Perspective of Mahatma Gandhi:

1. As dangerous as a little knowledge is, even more dangerous is much knowledge without a strong, principled character.
2. **As Martin Luther King**, Jr we live in a world of "guided missiles and misguided men.
3. Character and knowledge are the heart and soul of an individual. Character can be defined as a set of inherited and acquired qualities which defines an individual's identity and personality.
4. **Seven social sins:**
   - **a)** Wealth without work.
   - **b)** Pleasure without conscience.
   - **c)** Knowledge without character.
   - **d)** Commerce without morality.
   - **e)** Science without humanity.
   - **f)** Religion without sacrifice.
   - **g)** Politics without principle.

Stakeholders	Interest
Citizen/ Individuals/ Society	Knowledge should be used for the welfare of the society i.e. 'Sarve jana sukhino bhavantu (Let everyone be happy)'
State/ Governments	Knowledge used with character will lead to prosperity ,peace and stability in the society.
Institutions	Institutions are aimed at promoting intellectual development and reaping human capital.

Ethical Issues /Concerns arising when Knowledge is used without Character

Ethical Issues	Illustration
Unjust Decision-Making	Biased decision-making, where personal prejudices or self-interest influence choices rather than fair assessments.
Promotes Unethical Activities	Rise in social evils such as intolerance, racism, xenophobia, stereotyping, and non-objective
Blurredness between right Means and End	Then a person focuses only on achieving the end (objective) and does not pay much attention towards the means (way).

Lack of Accountability	An authorised/leading person in an organisation or government will not be accountable to the people for their actions
Lack of integrity	Justifying lies, exaggeration and deceit, on the grounds of some high-minded moral imperative constitutes an ethical failure and loss of integrity
Corruption	**Corruption** occurs within the private and public health sectors and may appear as theft, embezzlement, nepotism, bribery up til extortion, or as undue influence.

Need of the hour:

Need	Basis
Intertwining knowledge with character	Focus of the national curriculum, and pedagogical processes should be on the overall personality development of individuals
Developing critical thinking and wisdom	Family members and peer groups have to play a constructive role in it.
Promote Emotional Intelligence	It will help in enhancing self-awareness and empathy.
Transforming self-interest-oriented and narrow mindset	How India is promoting the idea of Vasudhaiva Kutumbakam implying 'the world is one family'.
Developing Right Aptitude	Aptitude in ethics is an individual's innate ability to understand and apply ethical principles and values in their actions and decisions. It is thus the natural inclination to think critically and make moral judgments inclined with ethical standards.

I. Essay

History is a series of victories won by the scientific man over the romantic man

At the turn of the 16th century Vasco Da Gama made his famous voyage finding a new route to India through the Cape of Good Hope. Da Gama's arrival in India brought into being a clash of civilisations. On one hand was the European civilisation, which had been steadily climbing the rungs of scientific progress. On the other hand was our Indic civilisation, which was stagnating by spending its time not planning for the future but simply romanticising its past. As has been the case throughout the chapters of history, the scientific European won over the romantic Indian leading to centuries of colonial rule.

Who is the scientific man and who is the romantic man? Why does the scientific man win over the romantic man? Are there historical exceptions to this rule? What does the future hold for us? These are some of the questions we shall aim to answer during the course of this essay.

Scientific Men and Romantic Men

Scientific men are those who are guided by the philosophy or principles of science. This philosophy was elucidated by Raja Rammohun Roy in the form of three principles - rationalism, humanism and universalism. Thus the scientific man is one who is guided by rational and logical thoughts instead of emotions or feelings. He is also one who believes that human wellbeing on Earth is the highest good and readily ignores superstitions or customs if they go against human wellbeing. Finally, scientific men believe in some universal principles that apply to each member of the human race, irrespective of gender, nationality or religion.

From this analysis, we see that scientific men are not just men doing actual science but all men guided by the philosophy of science. Thus Akshay Kumar Dutt fighting against child marriage by giving medical opinion against it was a scientific man in the social sphere. Similarly Adam Smith's *Wealth of the Nations* talking about a free market economy over the traditional feudal structure made him a scientific man in the economic sphere. Even in contemporary times, the Iranian women protesting against archaic religious laws are guided by principles of humanism and universalism. This makes these women a part of the tag 'scientific men' in the political sphere.

Romantic Men exist in complete opposition to such scientific men. They are guided by emotions and feelings, spirituality and an attachment to their religion or culture. Similar to scientific men, romantic men also exist across various fields. Karpatri Maharaj's opposition to the Hindu Code Bill in post Independent India is an example of romantic opposition to equality in the name of culture. Similarly Mughal emperor Muhammed Shah romanticising past Mughal glory while losing large chunks of his empire in the 18th century is another case in point. Having observed what defines a scientific man and a romantic man, let us now turn our gaze to the triumph of science over romanticism.

Triumph of the Scientific Man

Right from the ascendance of the Mauryan empire (2500 years ago) to the victory of the Allied forces in World War II (75 years ago), history has been witness to the victories of the scientific man. The principal reason for this is the continual development and application of knowledge by the scientific man. The scientific man realises that there are *'better practices to best practices'*. This allows the scientific man to improve existing modes of doing a task, thereby giving them an advantage. An example being the discovery of Iron in the Mauryan Empire. Its discovery and usage for developing better weapons became a crucial factor contributing to the victory of the Mauryan across the Indian subcontinent.

Scientific men not only improve existing things but also develop new tools. Historians like Dan Carlin state that *'technology is the silent factor in military history*. Thus it was not Churchill's motivating speeches or Roosevelt's strategic mind that won them World War II. Rather it

were the radars, aircraft carriers and the Atomic bombs that were the silent factor in their victory. This spirit of reform and innovation is in many ways the secret sauce behind successes of the Scientific men.

Such spirit however is conspicuously absent in the case of the Romantic men. They prefer to lay comfortably in the midst of their memories of past achievements or dreams of a utopian future. The famous traveller Ibn Batuta noted in his book Rehla that Indians were losing their innovative edge in the 14th century AD and were lost reminiscing their glorious past. It is no coincidence that the period of colonialism began some centuries later. Similarly Hitler's romantic notions of Aryan superiority led him to attack the USSR. While the offense had no military logic, Hitler's racist views that Slavic people were less than human led to the attack. This event marked the beginning of the end of the Hitler and his ambitions. The ignorant romantic again lost to the logical scientific man.

The Future of History

It is often said that *'history does not repeat itself but it often rhymes'*. Thus even in contemporary times we see the scientific man emerging victorious in various streams. Take for instance the war in Ukraine. NATO's superior arms are countering Vladmir Putin's romantic ambitions of reviving the Russian historic sphere of influence. Closer home we see developments like abolition of Triple talaq and entry of women into Sabarimala temple. These once again show us a rational and reformative approach triumphing over a status quoist approach. However reality is never black or white but always different shades of grey. Thus the romantic men are also not silently accepting defeat but making comebacks in certain spheres.

The ongoing war in Israel is at its roots tied to the romantic attachment of different people to the same piece of land. This attachment and things done in its pursuit have led to all rationality and humanism going out of the window. Emotions have clearly won over reason. Similarly the rise of xenophobia across the Western countries against immigrants is another such example. Romanticising ideas like 'Make America Great Again' by other-isation of minorities is being accepted by a large number of Americans. This is clear evidence that in some cases, romantic men may well defeat scientific men.

The future of history should no longer be characterised by this battle. Rather it should be guided by complementarity and cooperation between the Scientific man and the Romantic Man. The romantic man can imagine a better future and rouse the passions of all humans to work for such a future. The scientific man can complement this by developing the tools and tactics to make such a future a reality. This is already happening in the field of climate change where the romantics are igniting the dream of a green future and the scientists are working towards technology to make it a reality. This approach of cooperation must be replicated across fields for the benefit of the entire mankind.

Thus history may have been a series of victories of the scientific man over the romantic man. However the future of history need not be the same. The future of history should be one of cooperation rather than conflict. One where the romantic man dreams and the scientific man delivers. This can be achieved remembering that there is no inherent conflict between the scientific and the romantic man. We are as India's G20 motto said 'One family inhabiting One Earth and having One Future'. Pursuing this common future, we must remember the wise words of Rabindranath Tagore - *'history of men and nations are merely chapters in the common history of mankind'*.

J. SCHEME

1. MISSION KARMAYOGI

Karmayogi Bharat celebrated the 1st anniversary of Karmayogi Prarambh, an initiative on the iGOT Karmayogi Platform, an initiative under Mission Karmayogi.

1. **Aim:** It aims to provide all the necessary details related to government policies for newly appointees recruited through Rozgar Melas.
2. **Ministry responsible:** Ministry of Personnel, Public Grievances and Pensions.
3. **Coverage:** The Programme covers all civil servants (including contractual employees) across different ministries, departments, organisations and agencies of the Union Government.

Key approach

1. Aligning the task assignments of civil servants involves **matching their competencies** with the specific demands of their roles.

2. This approach underscores the importance of **on-site learning** to complement off-site educational endeavours.

3. Additionally, it aims to establish a **collaborative learning ecosystem**, encompassing shared infrastructure for learning, materials, institutions, and personnel.

2. 'SHREYAS' SCHEME

1. **SHREYAS** (Scholarships for Higher Education for Young Achievers Scheme) has been proposed to be implemented from 2021-22 to 2025-26.

2. It will place two ongoing Central Sector schemes for Other Backward Classes (OBC) and others namely –

(i) National Fellowship for OBC and

(ii) Dr. Ambedkar Central Sector Scheme of Interest Subsidy on Educational Loans for Overseas Studies for OBCs and Economically Backward Classes (EBCs).

About

1. It is an umbrella scheme under the Ministry of Social Justice and Empowerment (Nodal Ministry).

2. SHREYAS is a programme basket comprising the initiatives of **three Central Ministries**, namely-:

I. Ministry of Education (Formerly Human Resource Development),

II. Ministry of Skill Development & Entrepreneurship (MoSD&E) and

III. Ministry of Labour & Employment (MoLE).

Objective

Empowering OBC & EBC students educationally by awarding them fellowship (financial assistance) for obtaining quality higher education and interest subsidy on educational loan for overseas studies.