



# INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

## CHITHIRAI FESTIVAL

Lord Kallazhagar's annual ritual in Alagar Temple, Madurai during the Chithirai festival saw thousands of devotees gathering to witness his ceremonial entry into the Vaigai river.

29 APR - 04 MAY 2024

# WEEKLY CURRENT AFFAIRS

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# INSIDE

## GENERAL STUDIES – 2

Topics: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure; Comparison of the Indian constitutional scheme with that of other countries.

1. Supreme Court verdict on EVMs 4

Topics: Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.

2. Evaluation of Street Vendors Act, 2014 6
3. Issues with India’s Food Regulatory System 8

## GENERAL STUDIES – 3

Topics: Science and Technology- developments and their applications and effects in everyday life Achievements of Indians in science & technology; indigenization of technology and developing new technology.

1. Technology Challenges in India 10

Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.

2. India’s Forests in Peril: Delays and Data Gaps 12

## GENERAL STUDIES – 4

1. Guidelines for the Elimination of Corporal Punishment in Schools (GECPP) 14
2. Digital Dilemma: Children’s Digital Screen Time 15

## CONTENT FOR MAINS ENRICHMENT

1. Liberal Democracy 16
2. Ethical Duties of Doctors 17
3. DeepMind’s TacticAI in Football 17
4. PlayTrue Campaign 17
5. 30 years since apartheid ended in South Africa 18

## FACTS FOR PRELIMS

### GS-1

1. Chithirai festival 18
2. Avar nomads of Europe 19
3. Bru Community 19
4. Decreasing Solar Radiation Availability in India 19
5. Baseflow in Rivers 19
6. Impact of GI-certified products 20
7. Raja Ravi Varma 20
8. Kutch Ajrakh GI Tag 20

### GS-2

1. Star campaigners 20
2. Project ISHAN 20
3. Article 31C 21
4. ‘Eggshell Skull’ Rule 21
5. Repolling in an Election 21
6. Article 39(b) of the Constitution 21
7. Hindu Marriage Act 21
8. Election Rights of Prisoners 22
9. Draft new Explosives Bill 22
10. Diplomatic Passports 23

**GS-3**

1. Authorised Economic Operator (AEO) status	23
2. Antihistamines	24
3. Nephrotic Syndrome	24
4. Inheritance Tax	24
5. UN Panel on “Critical Energy Transition Minerals”	24
6. Salmonella contamination in spices	25
7. Biohacking	25
8. Nilgiri Tahr	25
9. New Alert indicators under PMLA	25
10. RBI’s Direction for Electronic Trading Platforms (ETPs)	26
11. IREDA get Navratna Status	27
12. Corporate Governance Charter	27
13. G-sec	27
14. Gati Shakti Cargo Terminals initiative	28
15. K2-18b and Dimethyl Sulphide (DMS)	28
16. India’s High Food Inflation	28
17. Reports/Study in News	29
18. Goldman Environmental Prize	30
19. Ethylene	30
20. Pakistan’s Hangor class submarine	31
21. Front Running	31
22. Balanced Fertilization	31
23. Thrombosis with Thrombocytopenia Syndrome (TTS)	32
24. 46th Antarctic Treaty Consultative Meeting	32
25. SMART system	32

26. Standard Essential Patents (SEPs)	32
27. The University of Tokyo Atacama Observatory (TAO) Project	33
28. Red Colobus Monkeys	33

**MAPPING**
INTERNATIONAL

1. Netherlands	33
2. Second Thomas Shoal Reef	34
3. Indonesia	34

INDIAN

4. Forest Fire in Uttarakhand	35
5. Indian Ocean	35
6. Shaksgam Valley of Pakistan-occupied Kashmir	36

## GENERAL STUDIES – 2

Topics: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure; Comparison of the Indian constitutional scheme with that of other countries.

### 1. SUPREME COURT VERDICT ON EVMS

**Context:**

The recent Supreme Court verdict **confirms the safety of Electronic Voting Machines (EVMs)**, dismissing pleas for a return to paper ballots or 100% verification of votes.

**What did the SC say?**

Aspect	Supreme Court <b>VVPAT</b> Judgement
<b>On Voter and Voting Process</b>	<b>Voting will continue to take place using EVMs</b> , with 100% of the machines attached to a VVPAT unit.
	As per the existing provisions, <b>VVPAT slips of five randomly selected Assembly constituencies</b> or segments would be counted to verify with the count of the EVMs.
<b>On Storage of Symbol Loading Units (SLUs)</b>	<b>EC was directed to seal and store SLUs for 45 days post-results declaration.</b>
	SLUs, memory units used to load election symbols onto VVPAT machines, to be handled like EVMs.
<b>On Candidates' Verification of EVMs</b>	Candidates ranking second or third can request <b>verification of burnt memory semi-controllers in 5% of EVMs</b> per Assembly segment in each Parliamentary constituency.
	The cost of such verification will be borne by the candidates themselves.
<b>On Feasibility of Counting VVPAT Slips using a Machine</b>	EC urged to <b>examine the feasibility of counting VVPAT slips with a machine</b> , possibly using barcodes for faster counting.

**Significance of the Judgement:**

The SC judgement holds significant importance as it introduces **measures to enhance trust in India’s voting system**. Firstly, mandating the storage of Symbol Uploading Units (SULs) ensures the **accuracy of vote counting**. Secondly, the rechecking of EVMs addresses candidates’ legitimate concerns, **fostering transparency**. Ultimately, the judgment reaffirms the **credibility of India’s electoral process**.

**Issues with the SC Judgment:**

1. **Dismissal of Public Opinion:** The SC’s dismissal of public concerns regarding EVM trust without thorough investigation raises doubts about the transparency of the decision-making process.
2. **Lack of Empirical Data:** Failure to inquire about empirical data on voter experiences with VVPAT slips undermines the credibility of the judgment.
3. **Conflict of Interest:** Allowing engineers from EVM manufacturers to verify burnt memory (and no third-party verification) presents a conflict of interest, raising concerns about impartiality.
4. **Ignoring Counting of VVPAT Slips:** Disregarding the importance of counting VVPAT slips undermines transparency and public trust in the electoral process.

**What are EVMs?**

The Electronic Voting Machine (EVM) is a **microcontroller-based device developed by the Election Commission of India (ECI)** in collaboration with the Electronics Corporation of India and Bharat Electronics Limited. It was **first used in the Kerala general election in 1982** and consists of a control unit for polling officers and a balloting unit for casting votes.

**What are VVPATs?**

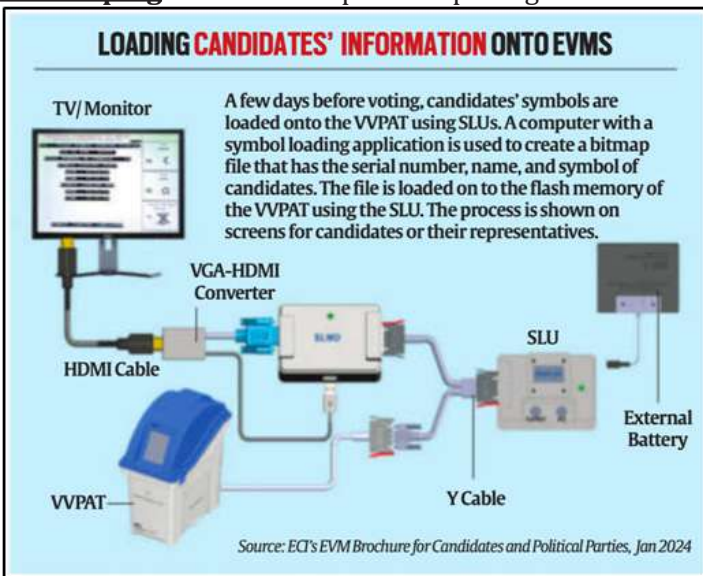
The Voter Verifiable Paper Audit Trail (VVPAT) is a **system attached to the EVM to verify that votes are cast as intended**. It allows voters to see a printed **slip for 7 seconds**, displaying the serial number, name, and symbol of the chosen candidate.

**In the Subramanian Swamy Case (2013)**, the Supreme Court directed the Election Commission to introduce VVPAT in EVMs gradually for the 2014 Lok Sabha elections and instructed the Centre to allocate funds for procurement.

Further, a Supreme Court order in 2019 **mandated VVPAT cross-verification of 5 EVMs** in each assembly segment of a parliamentary constituency.

**What are Symbol Loading Unit (SLU)?**

**It is a small device connected to a laptop or personal computer** to load candidate names, serial numbers, and symbols onto the Voter-Verified Paper Audit Trails (VVPATs) under the supervision of a district election officer. Introduced about a decade ago alongside VVPATs, SLUs play a crucial role in ensuring accurate representation during the voting process. They **are used a few days before polling begins** to load symbols onto VVPATs, and after this process, they **are returned to engineers for safekeeping** until the next phase of polling.



**Advantages of EVM**

Advantages	
1. Cost-effective	Eliminates the need for ballot paper production and printing.
2. Eliminates Booth capturing	Eliminates the possibility of booth capturing, ensuring fairer elections.
3. Administrative ease	Provides convenience for polling officers and speeds up counting.
4. Time efficiency	Reduces election duration and results declaration time.

**Advantages of VVPAT:**

Advantages	
1. Vote verification	Enables voters to verify that their votes are correctly registered.

2. DRE system	Operates under a <b>Direct Recording Election system</b> , enhancing fraud detection.
3. Electoral transparency	Offers greater transparency by allowing manual vote counting in case of disputes.

**Challenges with EVM:**

Challenges	
1. Hacking susceptibility	Vulnerable to manipulation and hacking, compromising results, but not proven yet.
2. Limited transparency	Lack of transparency in design and operation undermines evaluation.
3. Security concerns	Risks of unauthorized access, manipulation, or cyberattacks.

**Challenges with VVPAT:**

Challenges	
1. Small sample size	A limited sample size may not detect faulty EVMs during counting.
2. Technological glitches	Malfunctions due to weather conditions or sensitivity to light.
3. Voter intimidation	Potential for booth-wise profiling and intimidation.
4. Storage concerns	Challenges associated with safe storage and integration with EVMs.

**The way forward and Conclusion:**

Moving forward, several key steps can enhance the reliability and transparency of the EVM-VVPAT-enabled electoral process. Firstly, **addressing the lacunae in VVPAT technology** is crucial, including measures to **use sustainable inks**, and reduce sensitivity to external factors like heat and light. Secondly, **deploying a proper statistical method for counting votes** will ensure accuracy and integrity. Thirdly, **updating the VVPAT protocol** to allow voters to cancel their vote in case of discrepancies can increase reliability. Additionally, **promoting open-source code review** will enable impartial specialists to evaluate technology's accuracy and security. **Implementing Risk-Limiting Audits (RLA)** for cross-checking electronically with VVPAT counts will further enhance integrity. Lastly, **public awareness and education about EVM technology** and security measures are essential to build confidence in the electoral process, rather than reverting to a paper ballot system.

**Insta Links**

- [Credibility of Electronic Voting Machines](#)

**Q. Consider the following statements: (UPSC 2017)**

1. The Election Commission of India is a five-member body.
2. The Union Ministry of Home Affairs decides the election schedule for the conduct of both general elections and bye-elections.
3. Election Commission resolves the disputes relating to splits/mergers of recognised political parties.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 3 only

**Ans: D**

Topics: Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.

## 2. EVALUATION OF STREET VENDORS ACT, 2014

### Context:

The **Street Vendors Act, implemented in 2014**, faces challenges despite being hailed as progressive.

### Who are Street Vendors?

Street vendors are individuals **who sell goods or services in public spaces such as sidewalks**, streets, or markets. They often operate small businesses, selling a variety of items ranging from food and beverages to clothing, accessories, and household goods. In India, approximately 50 lakh street vendors have been identified. Uttar Pradesh leads with over 8 lakh, followed by Madhya Pradesh with over 7 lakh.

### Significance of Street Vendors:

Street vendors (comprising an average of **2.5% of the city population**) play a crucial role in urban India by serving diverse functions, including providing essential daily services like fresh produce and affordable food. They are integral to Indian culture, contributing iconic dishes like Mumbai's vada pav and Chennai's dosai.

### Constitutional Provisions Related to Street Vendors in India:

Constitutional Provision	Description
Right to Trade	<b>Article 19 (1) (g)</b> grants Indian citizens the fundamental right to practice any profession and carry on any occupation, trade, or business.
Equality Before Law	<b>Article 14</b> ensures that the state cannot deny any person equality before the law or equal protection of the laws within India's territory.
Social Justice	The preamble declares India as a <b>sovereign, socialist, secular democratic republic, aiming to secure justice, social, economic</b> , and political.
Directive Principles	<b>Article 38(1)</b> instructs the state to promote the welfare of the people by establishing a social order where justice is prevalent in all aspects.
	<b>Article 38(2)</b> mandates the minimization of inequalities in income, status, facilities, and opportunities.
	<b>Article 39(a)</b> requires the state to create policies ensuring both men and women have the right to adequate means of livelihood.
	<b>Article 41</b> guarantees the right to work within the state's economic capacity.

### About Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014:

It was enacted to address the **challenges faced by street vendors in India by regulating their activities and safeguarding their rights**. This legislation aimed to create a conducive environment for street vendors to carry out their businesses while also protecting their interests.

## Objectives of the Street Vendors Act, 2014:

### 1. Regulation of Street Vending:

- The Act aims to regulate street vending activities by **demarcating vending zones and implementing a participatory process** for the formation of **Town Vending Committees (TVCs)**.
- Town Vending Committees (TVCs) will comprise street vendor representatives **comprising 40% of members, including 33% women**. These committees oversee vendor inclusion and address grievances.
- The Street Vendors Act ensures the inclusion of all existing vendors in vending zones **by issuing vending certificates**

### 2. Protection of Livelihoods:

- The Act intends to protect the livelihoods of street vendors by providing **legal recognition for their occupation and preventing arbitrary evictions**.

### 3. Promotion of Inclusive Urban Development:

- The Act seeks to promote **inclusive urban development** by integrating street vendors into the urban planning process and ensuring their participation in decision-making.

### 4. Ensuring Social Security and Welfare:

- The Act aims to improve the **social security and welfare of street vendors** by providing them with access to credit, social schemes, and protection against harassment.

### 5. Recognition of Rights:

- The Act recognizes the **rights of street vendors to carry out their trade without harassment**, arbitrary confiscation of goods, or extortion.

- The Act also proposes a **Grievance Redressal Committee chaired by a civil judge or judicial magistrate** and mandates periodic surveys by States/ULBs to identify street vendors every five years.

## Evaluating the objectives

### 1. Positive Impact on Regulation:

- The Act has brought about a **more structured approach to street vending by delineating vending zones** and involving vendors in decision-making through TVCs.
  - For Example:** In Pune, the implementation of the Act resulted in the **formation of TVCs**, leading to better organization of street vending activities.

### 2. Safeguarding Livelihoods:

- The Act has provided legal recognition to street vending as a legitimate occupation, preventing arbitrary evictions and secur-

ing the livelihoods of vendors.

- Example:** In Ahmedabad, vendors' livelihoods were protected as the Act prevented their eviction without proper procedures.

## Challenges in Implementation:

Despite the Act's intentions, challenges such as lack of **awareness among vendors, delayed survey and certification**, and resistance from local authorities have hindered effective implementation. **Example:** In some cities, vendors' access to vending certificates has been delayed due to administrative bottlenecks.

- Administrative challenges:** A) Increased harassment and evictions of street vendors. B) Outdated bureaucratic mindset regarding vendors. C) Lack of awareness about the Act among authorities and vendors. D) Limited influence of street vendor representatives and tokenistic representation of women vendors.
- Governance challenges:** A) Weak urban governance mechanisms. B) Lack of integration with the 74th Constitutional Amendment Act. C) Insufficient powers and capacities of ULBs. D) Top-down urban policies ignoring provisions for vendor inclusion.
- Societal challenges:** A) Exclusionary perception of **'world-class cities' marginalizing** vendors. B) City planning and policies view vendors as obstacles to urban growth rather than contributors to the economy.

## Way forward:

Ensure timely implementation, addressing gaps in schemes' accessibility, awareness, and identification. Provide benefits such as maternity allowances, accident relief, and education support. States should prevent harassment of street vendors, safeguarding their right to livelihood. Enhance ULBs' capacity to plan for street vending. Tackle issues like climate change impact, increased vendor numbers, e-commerce competition, and income reduction

## Other Initiatives for Street Vendors:

- SVANidhi Scheme:** Launched to support over 50 lakh urban street vendors, including those from peri-urban/rural areas. It promotes digital transactions with cash-back incentives of up to Rs. 1,200 annually.
- National Association of Street Vendors of India (NASVI):** An organization dedicated to safeguarding the livelihood rights of street vendors nationwide. NASVI unites street vendor organizations to advocate for systemic changes.

## Conclusion

The Street Vendors Act, 2014, has made significant strides in regulating street vending activities and safeguarding

the rights of vendors. Despite challenges in implementation, the Act’s objectives of providing legal recognition, promoting inclusive urban development, and ensuring social security for street vendors mark a positive step towards integrating this informal sector into the urban fabric of India.

**Mains Link:**

Q. How has globalization led to the reduction of employment in the formal sector of the Indian economy? Is increased informalization detrimental to the development of the country? (UPSC 2016)

### 3. ISSUES WITH INDIA’S FOOD REGULATORY SYSTEM

**Context:**

Controversies surrounding food safety in India have put the spotlight on the country’s regulator, [FSSAI](#).

**Recent cases of food issues in India:**

1. **Allegations against Nestle’s baby food products** for unhealthy sugar content.
2. **Concerns over carcinogenic additives** in powdered spices, including MDH and Everest brands.
3. US customs **declined entry to 31% of MDH spice-related shipments** due to **salmonella contamination**.
4. **Indian food exports face scrutiny in international markets** like the EU, indicating global apprehensions regarding the safety and quality of Indian food products.

**India’s response:**

1. **Spices Board announced corrective measures** including mandatory testing of consignments to Singapore and Hong Kong.
2. **Collaborating with exporters** to address issues and propose corrective measures.
3. **Issued guidelines to exporters** on preventing **Ethylene Oxide (ETO) contamination**.
4. **FSSAI directed state regulators** to test major spice brands for ETO presence.
5. **Planning nationwide surveillance** in 2024-25 for various food products.
6. **Nearly one-fourth of samples** tested in the last three years failed regulatory standards.

**Operational Food Safety Regulations in India:**

1. **Regulator:** The Food Safety and Standards Authority of India (FSSAI) is the autonomous body overseeing food safety under the [Food Safety and Standards Act, 2006](#).
2. **Role:** FSSAI regulates the manufacturing, processing, distribution, sale, and import of food to ensure safe consumption.
3. **Key Regulations:**
  - a. **Food Safety and Standards Act, 2006:** Establishes FSSAI and State Food Safety Authorities, aiming for a single reference point for food safety standards.
  - b. **Food Safety and Standards Rules, 2011:** Includes provisions for the Food Safety Appellate Tribunal, Organic Food standards, and regulates Food Advertising.
    - i. **Covers Licensing, Registration, Packaging, Labelling,** Food Product Standards, and Food Additives Regulation.

**Challenges to Food Safety in India:**

Challenges	Examples
1. Rampant Adulteration	Milk is adulterated with diluted water, detergent, fat, and urea.
	Adulteration of spices and edible oils. Synthetic sweeteners in cakes lead to fatalities.
2. Feeding of ‘empty calories’	Packed food products containing high levels of added sugar. Leading to diabetes, cardiovascular diseases, and obesity.
3. Weak Enforcement and Accountability	Many food businesses operate without proper licenses.
4. Corrupt practices by FMCG players	Violation of labelling requirements (e.g., Maggi noodles). Ban due to high levels of lead, and MSG.

<b>5. Limited Public Awareness</b>	Unawareness of food safety practices among the populace.
	Overuse of pesticides and fruit ripening agents.
<b>6. Complex Regulatory Framework</b>	Difficulties for small and medium enterprises to comply.
	Regulatory gaps, inconsistencies in enforcement.
<b>7. Operational Challenges</b>	Lack of standardized recordkeeping, and intentional food fraud.
	Difficulty in tracing ingredients, and assessing risks.
<b>8. Logistical Barriers</b>	10 States/UTs lack notified food testing labs.
	Uneven distribution, and insufficient number of food safety officers.
<b>9. Lack of Transparency</b>	Non-disclosure of testing results to the public.
	Surveys not effectively addressing adulteration practices.
<b>10. Issues with FSSAI</b>	<b>Staff and Infrastructure Shortages:</b> FSSAI faces persistent challenges with staffing and infrastructure, hindering its monitoring and regulatory capabilities.
	<b>Perceived as Paperwork:</b> Many businesses see FSSAI regulations as bureaucratic hurdles rather than opportunities for guidance and inspection.
	<b>Procedural Shortcomings:</b> Instances like the Vital <b>Neutraceuticals case</b> reveal procedural errors in FSSAI's actions, undermining its enforcement credibility.

**FSSAI initiatives:**

Initiative	Description
<a href="#">Eat Right India Movement</a>	Launched to transform the food system for safe, healthy, and sustainable food aligned with the <b>National Health Policy 2017</b> , focusing on preventive and promotive healthcare.
<a href="#">Eat Right Station Certification</a>	Awarded by FSSAI to railway stations meeting food safety benchmarks under the Food Safety and Standards Act, 2006, ensuring safe and wholesome food for passengers.
<b>Food Hygiene Rating Scheme</b>	Developed by FSSAI for certifying food businesses supplying food directly to consumers, on or off-premise, indicating their hygiene standards.
<a href="#">Food Safety Mitra scheme</a>	Aims to create a network of <b>Food Safety Mitras (FSM)</b> to assist Food Business organisations (FBO) with licensing, registration, training, auditing hygiene, and other food safety measures.
<a href="#">State Food Safety Index</a>	Developed by FSSAI to <b>measure states' performance on compliance, human resources, food testing infrastructure, training, and consumer empowerment</b> , providing insights into food safety practices across regions.
<b>World Food Safety Day</b>	To raise awareness about food safety issues and promote actions to ensure safe and nutritious food globally.
<a href="#">Eat Right Mela</a>	Events organized under the <b>Eat Right India Movement</b> to educate people about healthy eating habits, food safety, and nutrition.
<a href="#">RUCO (Repurpose Used Cooking Oil)</a>	Initiative promoting the <b>conversion of used cooking oil into biofuel</b> to prevent its reuse in food, reducing health hazards and environmental pollution.
<a href="#">100 Food Streets</a>	Initiative to ensure <b>food safety standards in street food</b> by training vendors, improving hygiene practices, and monitoring compliance, enhancing consumer confidence in street food.

**Proposed Amendments in Food Safety and Standard Regulations:**

- Elimination of Multiple Certifications:** Aim to abolish BIS and AGMARK certification requirements, mandating only FSSAI certification.
- Facilitation of Ease of Doing Business:** Align with 'One Nation, One Commodity, One Regulator' vision to simplify regulations.
- Expansion of Standards:** Include standards for Mead, Alcoholic RTD beverages, and introduce standards for the 'Haleem' dish.

**Way forward:**

- Strengthen Infrastructure and Resources:** Increase investment in labs, training facilities, and regulatory bodies.

2. **Simplification of Regulations:** Make regulations more accessible and business-friendly.
3. **Strict Enforcement and Accountability:** Ensure rigorous enforcement with penalties for violations.
4. **Enhancement of Public Awareness:** Launch a comprehensive awareness campaign on food safety.
5. **Encouragement of Responsible Agricultural Practices:** Promote sustainable farming to reduce contamination risks.

**Mains Links:**

Q. Elaborate the policy taken by the Government of India to meet the challenges of the food processing sector. (UPSC 2021)

**Prelims Links:**

**Q. Consider the following statements: (UPSC 2018)**

1. The Food Safety and Standards Act, 2006 replaced the Prevention of Food Adulteration Act, 1954.
2. The Food Safety and Standards Authority of India (FSSAI) is under the charge of Director General of Health Services in the Union Ministry of Health and Family Welfare.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Ans: A**

## GENERAL STUDIES - 3

Topics: Science and Technology- developments and their applications and effects in everyday life Achievements of Indians in science & technology; indigenization of technology and developing new technology.

### 1. TECHNOLOGY CHALLENGES IN INDIA

**Context:**

C. Raja Mohan, in this [editorial](#), highlights the urgent need for India’s next government to address technology challenges beyond election manifestos.

**Global Status of Technology:**

- **Over 5 billion people** using the internet worldwide as of April 2024
- Major economies like **China, the United States, and Europe are prioritizing advanced technologies** to shape their future esp in AI, Machine Learning, Quantum Computing, Space sector, Nuclear technologies etc.

**India’s Status of Technology:**

- India’s technology industry is expected to reach **USD 300-350 billion in revenue in 5 years.**
- India has the **second largest telecom industry** with over 1 billion subscribers.
- India is the **second largest manufacturer** of mobile handsets.
- India is the **Third largest startup ecosystem** with over 1 lakh startups and 110 unicorns.
- **India’s AI adoption** outpaces global trends with **70 per cent adoption**, while Japan lags significantly at 24 per cent (as per a recent study)

**Subsectors of India’s Technology drivers:**

Key Sub Sectors	Description
IT and BPO Services	The largest component of India’s service exports, <b>comprising over 60%</b>
E-Commerce	Expected to <b>reach USD 1 trillion by 2030</b> due to factors like a large consumer base and robust infrastructure
FinTech and Digital Finance	Expected to grow to USD 150 billion by 2025.

<b>Edtech</b>	<b>Second largest e-learning market</b> , expected to grow to USD 10 billion by 2025
<b>Cleantech and Renewable Energy</b>	<b>India ranks 4th globally</b> for total renewable power capacity additions
<b>Space Sector</b>	Contributes 2%-3% of the global space economy

**Challenges faced by India’s technology field:**

Challenges	Description
<b>Lack of Emphasis on Technology Policy</b>	Despite its critical importance, technology policy is not prominently featured in India’s policy discourse, hindering the country’s ability to address evolving global technological challenges.
<b>Global Technological Competition</b>	Major economies like <b>China and the US are aggressively competing to dominate advanced technology sectors</b> , intensifying global technological competition and putting pressure on countries to keep pace.
	<b>China’s ambition to master “new productive forces” underscores</b> its aim to surpass the US in advanced science and technology
	The US is striving to regain leadership in advanced technology sectors
	European leaders are advocating for bolstering <b>Europe’s “industrial and technological sovereignty”</b> to compete with global tech giants
<b>Digital Divide</b>	India’s digital divide, especially between <b>urban and rural areas, persists despite efforts like BharatNet</b> , hindering equitable access to Information and Communication Technology (ICT) and exacerbating inequality, particularly in terms of internet and computer access.
<b>Lack of Relevant Skill-ing</b>	While India excels in IT services, <b>there’s a shortage of skilled professionals in emerging areas like AI, cybersecurity, and data science</b> , reflecting the need for educational reforms to bridge the skill gap and meet evolving industry demands.
<b>Lack of Adequate Focus on R&amp;D</b>	India’s <b>relatively low investment in research and development compared</b> to developed nations inhibits innovation and the domestic production of cutting-edge technologies
<b>Cybersecurity Threats</b>	With increasing technology adoption, cybersecurity threats like <b>cyber frauds and deep fakes are escalating</b>
<b>Lack of Comprehensive Regulation on AI</b>	<b>India’s absence of a comprehensive law for regulating AI</b> raises uncertainties for businesses and poses risks in AI adoption, emphasizing the need for clear and legally binding regulations to address

**Government Initiatives:**

- India’s Semiconductor Mission:** Launched in 2021, aims to develop sustainable semiconductor and display ecosystems.
- IndiaAI Mission:** With over Rs 10,300 crore allocation, fosters AI leadership, ethical deployment, and democratizing AI benefits.
- DigiLocker:** A free, secure platform for storing, sharing, and verifying documents online.
- Unified Payment Interface (UPI):** Enables instant money transfer between bank accounts via smartphones.
- Mission on Advanced and High-Impact Research (MAHIR):** Launched in 2023, focuses on accelerating research in the power sector.
- PLI Schemes** (Production Linked Incentive): Introduced for sectors like semiconductors and electronics manufacturing.
- National Supercomputing Mission:** Aims to boost the country’s computing power; jointly steered by DST and MeitY, and implemented by C-DAC and IISc.
- Vigyan Jyoti:** This program from the Department of Science & Technology (DST) encourages girls in high school and up to PhD level to pursue STEM careers.
- GATI:** A program that promotes female education in STEM fields
- CURIE:** A program that promotes female education in STEM fields

**Way forward:**

1. **Emphasis on Tech Policy:** Prioritize reforms integrating technology policies into the national agenda.
2. **Increased R&D Spending:** Significantly boost national spending on research and development.
3. **Private Sector Participation:** Encourage private sector involvement in tech research, development, and production.
4. **Technology Department Overhaul:** Revamp technology departments to align with a tech-driven economy.
5. **Modernize Tech Foundation:** Update tech infrastructure to meet the demands of a tech-driven economy.
6. **Strategic Partnerships:** Forge partnerships with countries like the US and Europe for tech transfer and collaboration.
  - a. **E.g., Quantum Leap Alliances:** Forge alliances for quantum technology research and development.
7. **AI-powered Rural Hubs:** Establish AI kiosks to support rural entrepreneurship.
8. **Moonshot Innovation Labs:** Create high-risk, high-reward research labs for breakthrough technologies.
9. **TechnoSkilling Initiatives:** Foster collaborations to design tech-aligned curricula and promote skill mobility.
10. **Enhanced Cybersecurity:** Implement robust cyber resilience frameworks and promote secure-by-design principles.

**Insta Link:**

- [A renewed focus on emerging technologies](#)
- [Technology and Innovation Report 2023](#)

**Mains Link:**

**Q.** The COVID-19 pandemic has caused unprecedented devastation worldwide. However, technological advancements are being availed readily to win over the crisis. Give an account of how technology was sought to aid the management of the pandemic. (UPSC 2020)

**Prelims Link:**

**Q.** With the present state of development, Artificial Intelligence can effectively do which of the following? (UPSC 2020)

1. Bring down electricity consumption in industrial units
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text-to-Speech Conversion
5. Wireless transmission of electrical energy

Select the correct answer using the code given below:

(A) 1, 2, 3 and 5 only

(B) 1, 3 and 4 only

(C) 2, 4 and 5 only

(D) 1, 2, 3, 4 and 5

**Ans: B**

**Q.** With reference to “Blockchain Technology”, consider the following statements: (UPSC 2020)

1. It is a public ledger that everyone can inspect, but which no single user controls.
2. The structure and design of blockchain is such that all the data in it are about cryptocurrency only.
3. Applications that depend on basic features of blockchain can be developed without anybody’s permission.

Which of the statements given above is/are correct?

(A) 1 only

(B) 1 and 2 only

(C) 2 only

(D) 1 and 3 only

**Ans: D**

Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.

## 2. INDIA'S FORESTS IN PERIL: DELAYS AND DATA GAPS

**Context:**

In compliance with a **Supreme Court order (in Feb 2024)**, the Ministry of Environment, Forests and Climate Change (MoEFCC) uploaded the various **State Expert Committee (SEC) reports** on the **status of unclassified forests**.

- The SC order was in response to a PIL **challenging the constitutionality of the Forest (Conservation) Act Amendment (FCAA) 2023**.

What are Unclassed forests (also called ‘Deemed Forests’)?

Unclassed forests are **areas of land that exhibit forest-like characteristics** but have **not been officially classified or designated** as forests by authorities. Despite lacking formal recognition, these areas often **possess vegetation and ecosystem features** typical of forests. They may be owned by various entities, including government bodies, communities, or private individuals. Varying state definitions of forests result in **estimates of deemed forests ranging from 1% to 28% of India’s official forest area**.

Despite their unclassified status, **these forests were afforded legal protection under the SC order (in Godavarman case, 1996)**. As per this landmark case and the subsequent Forest (Conservation) Act of 1980, **all types**

**of forests, regardless of ownership or notification status, were to be included under forest conservation laws.**

**Why were SECs formed?**

In pursuance of the SC order in the [Godavarman case](#), State Expert Committees were formed to **identify and assess unclassified forests** across the country. However, a **significant delay of 27 years in submitting these reports** left the status of unclassified forests ambiguous.

**Status of SECs Report:**

Despite the SC order, **seven states and UTs, including Goa and Tamil Nadu, did not establish SECs.** Many states relied on existing data or quoted figures from the Forest Survey of India (FSI), raising doubts about accuracy. For instance, **Gujarat’s SEC report conflicts with FSI data,** highlighting inconsistencies. Almost, no states/UTs have provided geographical Indication (GI) for the deemed forest.

**What did FCAA do with respect to ‘Unclassed Forest’?**

The Forest (Conservation) Act Amendment (FCAA) 2023 stipulates those certain types of land, including **those notified as forest under the Indian Forest Act, 1927** or in government records post the [Forest \(Conservation\) Act 1980](#), require Central Government permission for various activities like **dereservation, non-forest use, or leasing to private entities.**

However, the FCAA excludes land recorded as forest before October 25, 1980, and land converted from forest-use to non-forest-use before December 12, 1996, from its purview. This exclusion may contradict the 1996 SC Godavarman judgment on preventing deforestation, **potentially exposing unclassified forests to diversion without protection.**

**Way forward:**

**To resolve the issue of unclassified forests in India, the following steps can be taken:**

1. **SC direction (in its interim order of Feb 2024):**
  - a. **States and UTs must adhere to the definition of forests** outlined in the Godavarman Judgement until comprehensive records on forest land are prepared.
  - b. **The Centre must submit a comprehensive record of land identified as ‘forest’ by expert committees** within two weeks, as per the guidelines of the TN Godavarman judgement.
  - c. **Final approval for the establishment of zoos/safaris** requires permission from the Supreme Court.
2. **Comprehensive Survey:** Conduct a nationwide survey to identify and classify all unclassified for-

ests, utilizing modern technology and satellite imagery for accurate mapping.

3. **Formation of State Expert Committees (SECs):** Ensure that all states and Union Territories form SECs tasked with identifying unclassified forests and preparing detailed reports.
4. **Legal Protection:** Strengthen legal provisions to protect unclassified forests, ensuring that they receive the same level of protection as classified forests under relevant forest conservation laws.
5. **Community Engagement:** Involve local communities and indigenous peoples in the identification and conservation of unclassified forests, recognizing their traditional knowledge and rights.
6. **Public Awareness and Education:** Raise public awareness about the importance of unclassified forests for biodiversity conservation, climate change mitigation, and ecosystem services through education and outreach programs.

**About the Forest Conservation Act of 1980:**

It **regulates deforestation, and forest product transportation, and imposes duties on timber.** It mandates prior Central Government approval for forest land diversion for non-forest purposes. The 1996 Godavarman judgment by the Supreme Court mandates forest protection, introducing deemed forests—areas resembling forests but not officially classified as such.

**Key Provisions of FRA Amendment 2023:**

	Details
<b>About</b>	Forest (Conservation) Amendment Bill, 2023 allows for the diversion of forest land for various projects, including roads, railways, and strategic national security projects, within 100 km of India’s international borders. It amends the <a href="#">Forest (Conservation) Act, 1980</a> .
<b>Objective</b>	To clarify and enhance the Forest (Conservation) Act, 1980
<b>Scope</b>	Applicability to land designated as forest since 1980
<b>Insertion of Preamble</b>	The Act introduces a Preamble acknowledging India’s commitment to Net Zero Emission by 2070, meeting NDC targets by 2030, and expanding forest cover to one-third of the land.
<b>Land under the Purview</b>	The forest law applies to areas under the Forest Act, 1927, and designated after October 25, 1980. Not applicable to forests converted for non-forest use after December 12, 1996

<b>Ex e m p - tions</b>	Land within 100 km of borders for national security
	Forest land along a rail line or a public road maintained by the government
	Land up to 10 hectares, is proposed to be used for constructing security-related infrastructure, afforestation etc.
<b>Leasing of Forest Land</b>	State government requires prior approval of the central government to assign forest land to any entity not owned or controlled by the government
<b>Permitted Activities</b>	Permitted activities have been expanded to include check posts, fencing, bridges, zoos and safaris under the Wild Life (Protection) Act, 1972; eco-tourism facilities; and silvicultural operations (enhancing forest growth), etc.
	Restrictions on de-reservation or non-forest use lifted with central government approval
<b>Implementation</b>	The central government is empowered to issue "directions" to central government authorities, state governments, territories, or recognized entities for proper Act implementation.

**Status of Forests in India:**

**Definition of Forest:** 1996 Godavarman Judgement defines "forest" as any land recorded as such in government records or meeting the dictionary definition, which describes a forest as **"a large area covered with trees and undergrowth"** according to the Oxford Dictionary.

**As per, the India State of Forest Report 2021:**

- India's forest and tree cover constitutes 24.62%** of its geographical area, with forests covering **21.71%** and tree cover **2.91%**.
- Madhya Pradesh has the largest forest cover** by area, followed by Arunachal Pradesh, Chhattisgarh, Odisha, and Maharashtra.
- Mizoram, Arunachal Pradesh, Meghalaya, Manipur, and Nagaland** have the highest forest cover as a percentage of the total geographical area.
- States like Andhra Pradesh, Telangana, Odisha, Karnataka, and Jharkhand** have shown a positive change in forest cover, while others like Arunachal Pradesh, Manipur, Nagaland, Mizoram, and Meghalaya have experienced a decline.
- India ranks third globally for net gain in average annual forest area** between 2010 and 2020, with more than half of the world's forests located in Russia, Brazil, Canada, the United States, and China.

**Insta Links:**

- [Forest Conservation Amendment Act 2023: Impact on Indigenous Communities](#)

**Mains Links:**

Q. "The most significant achievement of modern law in India is the constitutionalization of environmental problems by the Supreme Court." Discuss this statement with the help of relevant case laws. (UPSC 2022)  
 Q. "Policy contradictions among various competing sectors and stakeholders have resulted in inadequate 'protection and prevention of degradation' to the environment." Comment with relevant illustrations. (UPSC 2018)

**Prelims Links:**

**Q. Consider the following statements: (UPSC 2019)**

- As per recent amendment to the Indian Forest Act, 1927, forest dwellers have the right to fell the bamboos grown on forest areas.
- As per the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, bamboo is a minor forest produce.
- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 allows ownership of minor forest produce to forest dwellers.

Which of the statements given above is/are correct?  
 (a) 1 and 2 only  
 (b) 2 and 3 only  
 (c) 3 only  
 (d) 1, 2 and 3

**Ans: B**

**GENERAL STUDIES - 4**

**1. GUIDELINES FOR THE ELIMINATION OF CORPORAL PUNISHMENT IN SCHOOLS (GECp)**

**Context:**

The Tamil Nadu School Education Department has released Guidelines for the [Elimination of Corporal Punishment](#) in Schools (GECp), focusing on safeguarding students' physical and mental well-being. The guidelines, issued jointly by the **Director of School Education and the Director of Elementary Education**, address various forms of harassment, in line with the [Right to Education Act, 2009](#). Measures include **awareness camps, prompt complaint resolution, and the establishment of monitoring committees at each school**. Affirmative actions against corporal punishment and promoting a positive environment are also emphasized. **District-level officers are instructed to ensure schools implement these guidelines effectively.**

### What is Corporal Punishment?

Corporal punishment **refers to the use of physical force against students** as a means of discipline or punishment in educational settings. It can include actions such as hitting, spanking, or other forms of physical punishment inflicted by teachers or school authorities on students.

#### Key legal provisions related to the prohibition of corporal punishment:

1. **Article 39 of the Constitution:** Mandates the State to protect childhood and youth from exploitation, including physical and mental abuse.
2. **Right of Children to Free and Compulsory Education (RTE) Act 2009:** Section 17 of the Act explicitly prohibits physical and mental harassment of children in schools, making it a punishable offence.
3. **NCPCR guidelines:** The National Commission for Protection of Child Rights (NCPCR) provides guidelines for eliminating corporal punishment. This includes promoting positive engagement with children and establishing Corporal Punishment Monitoring Cells in every school to ensure compliance with anti-corporal punishment measures.

#### Ethical Issues with Corporal Punishment:

Ethical Issue	Description
Physical and psychological harm	Corporal punishment can cause physical injuries, anxiety, low self-esteem, and other mental health issues.
Perpetuation of violence	By using violence as a disciplinary measure, corporal punishment may normalize and perpetuate violence in society.
Discrimination and disproportionate impact	Corporal punishment may be applied disproportionately or discriminatorily based on factors such as gender, race, or socioeconomic status.
Ineffectiveness as a disciplinary measure	It may fail to promote positive behavioural changes or moral development, teaching children to fear punishment rather than learn from their mistakes.
Impact on education	Corporal punishment can lead to higher school dropout rates and poor learning outcomes due to the atmosphere of fear and intimidation it creates in classrooms.

#### Thinker’s views on Corporal Punishments:

Thinker	View on Corporal Punishment
Mahatma Gandhi	Opposed corporal punishment, advocated for nonviolent methods of discipline and education.
Rabindranath Tagore	Condemned corporal punishment, believed in <b>nurturing individual creativity and moral development</b> through positive reinforcement.
Maria Montessori	Advocated against corporal punishment, and <b>promoted child-centered education focused on nurturing independence</b> and self-discipline.
Jean-Jacques Rousseau	Opposed corporal punishment, believed in the <b>natural goodness of children</b> and the importance of freedom in education.
John Dewey	Criticized corporal punishment, and emphasized <b>experiential learning and democratic principles in education.</b>

## 2. DIGITAL DILEMMA: CHILDREN’S DIGITAL SCREEN TIME

**Context:** In several studies, it has been found that **screen time among children is more than 2 hours a day**

#### Reasons for the increase in children’s screen time:

1. **Role Modeling:** Children mimic their parents, family, and peers.
2. **Educational and Recreational Needs:** Mobile use surged during the COVID-19 pandemic for learning and entertainment.
3. **Working Parents:** Mobile phones are often given to children for safety and communication.
4. **Accessibility:** The widespread availability of smartphones, tablets, and computers has made screens more accessible than ever.

In today’s digital age, children are increasingly immersed in screens, from smartphones to computers, raising concerns about their health. While screens offer educational and entertainment opportunities, **excessive screen time has health implications:**

1. **Sedentary Lifestyle:** Leads to obesity and cardiovascular issues.
2. **Sleep Disruption:** Blue light affects sleep quality and duration.
3. **Eye Strain:** Causes discomfort and vision problems.
4. **Behavioural Issues:** Linked to attention deficits and impulsivity
5. **Cognitive ability and social skills:** High screen time can hinder the development of important Cognitive, social and emotional skills, such as empathy.
6. **Cyber Bullying and Child Abuse:** Incidents of bullying and abuse are rising. Young girls are more prone to them.

**Recent initiatives in child well-being:**

1. **WHO Guidelines:** It recommends **no screen time for babies under 2 years old**, with limited screen time for those aged 2 to 4. Additionally, implementing parental controls and filters can help block access to unsuitable content and products, ensuring a healthier screen time experience for children.
2. **Manodarpan Initiative:** Launched by the Ministry of Education, it provides psychosocial support to students for mental health and emotional well-being.
3. **CCPWC (Cyber Crime Prevention against Women and Children) Scheme:** An initiative of the Ministry of Home Affairs aimed at preventing cybercrime against women and children, ensuring a safe online environment.

To mitigate risks, strategies include **setting limits, promoting active screen use, creating screen-free zones, leading by example**, and educating families. Balancing screen time with other activities is crucial for children’s holistic development.

**CONTENT FOR MAINS ENRICHMENT**

Why in News?	Usage in answers
<p><b>1. LIBERAL DEMOCRACY</b></p>	<p><b>Context:</b> The recent <b>student protests on US campuses against the war in Gaza</b>, have highlighted a <b>complex crisis involving liberal democracy, universities, and the nature of protest itself</b>.</p> <p>The protests reflect a <b>crisis of liberal democracy</b> due to the political system’s failure to address atrocities in Gaza and its impact on young people’s (primarily students) sense of political agency. Additionally, the <b>crackdown on free speech during these protests</b> signals a <b>deeper crisis of democracy and polarization</b> within the United States.</p> <p><b>What is Liberal Democracy?</b> Liberal democracy is a form of government <b>characterized by the protection of individual rights and freedoms, the rule of law, free and fair elections</b>, and a system of checks and balances. It emphasizes principles such as equality before the law, freedom of speech, press, and assembly, and the separation of powers between different branches of government.</p> <p>The solution to address the crisis of liberal democracy stemming from student protests in universities involves <b>promoting dialogue and understanding between students and university</b> administrations, <b>respecting freedom of speech</b> and expression while ensuring safety and order on campus, and encouraging <b>constructive engagement with issues</b> through channels such as forums, debates, and student-led initiatives.</p>

<p><b>2. ETHICAL DUTIES OF DOCTORS</b></p>	<p><b>Context:</b> The Madras High Court <u>criticized doctors who try to avoid serving in public hospitals</u> after benefiting from subsidized education.</p> <p><b>Some key ethical values of doctors:</b></p> <ol style="list-style-type: none"> <li>1. <b>Compassion:</b> Showing empathy and care towards patients' suffering and needs.</li> <li>2. <b>Integrity:</b> Upholding honesty, truthfulness, and ethical conduct in all interactions.</li> <li>3. <b>Professionalism:</b> Demonstrating dedication, responsibility, and respect for patients, colleagues, and the profession.</li> <li>4. <b>Confidentiality:</b> Safeguarding patients' privacy and maintaining confidentiality of their medical information.</li> <li>5. <b>Autonomy:</b> Respecting patients' right to make informed decisions about their own healthcare.</li> <li>6. <b>Beneficence:</b> Acting in the best interest of patients and promoting their well-being.</li> <li>7. <b>Non-maleficence:</b> Avoiding harm to patients and minimizing risks associated with medical treatment.</li> <li>8. <b>Justice:</b> Ensuring fairness and equity in the distribution of healthcare resources and access to medical care.</li> </ol>
<p><b>3. DEEPMIND'S TACTICAI IN FOOTBALL</b></p>	<p>AI in football, specifically in <u>corner kicks</u>, is gaining traction for its potential to enhance team strategies.</p> <p><b>DeepMind's TacticAI</b> is a notable example, offering insights through predictive and generative AI. Developed in <u>collaboration with Liverpool FC</u>, TacticAI suggests tactics for corner kicks, with human experts preferring its <u>suggestions 90% of the time</u>. By analyzing player setups and predicting outcomes, <u>AI assists coaches in optimizing corner kicks</u>, leveraging graph representations and neural networks.</p> <p><b>Google's DeepMind's TacticAI</b> predicts corner kick outcomes using a "<u>Geometric deep learning approach</u>" (part of machine learning, which focuses on developing algorithms for analyzing data with geometric structures like graphs, point clouds, and meshes)</p> <p>The example can be used as an application of AI in sports.</p>
<p><b>4. PLAYTRUE CAMPAIGN</b></p>	<p><b>Context:</b> The National Anti-Doping Agency (NADA) India recently wrapped <u>up its #PlayTrue Campaign</u>, attracting over 12,133 participants.</p> <p><b>What is the #PlayTrue Campaign?</b> The #PlayTrue Campaign, organized by NADA India, aims to raise awareness about clean sports and anti-doping practices. Through activities like quizzes and awareness sessions, it promotes fair play and integrity in sports, aligning with the World Anti-Doping Agency (WADA) vision.</p> <p><b>Sports ethics</b> essentials include promoting <u>fair play, and integrity, and rejecting doping</u>. It emphasizes the importance of clean competition and upholding anti-doping regulations to ensure a level playing field for all athletes.</p>

## 5. 30 YEARS SINCE APARTHEID ENDED IN SOUTH AFRICA

**Context:** South Africa prepares to commemorate **30 years of freedom amidst ongoing challenges of inequality, poverty**, and a tense upcoming election.

### **What was Apartheid?**

It was a system **of institutionalized racial segregation and discrimination** enforced by the **South African government from 1948 to 1994**. Under apartheid, **non-white South Africans**, particularly black people, were **systematically oppressed and denied basic rights**, including the right to vote and access to education, healthcare, and employment opportunities.

For example, the **apartheid government enforced laws such as the Group Areas Act**, which designated **specific residential areas for different racial groups**, leading to forced removals of non-white communities from their homes to segregated townships.

### **The apartheid regime in South Africa was characterized by numerous ethical issues:**

1. **Racial Discrimination:** Apartheid systematically oppressed non-white South Africans, **denying them basic rights** solely based on their race.
2. **Segregation:** The regime enforced strict segregation laws, which led to the **forced removal of non-white communities** from their homes to designated areas, resulting in the disruption of families and communities.
3. **Violence and Oppression:** The apartheid government employed **violence and repression to maintain control** over the non-white population, including the use of police brutality, torture, and imprisonment of political dissidents.
4. **Inequality:** Apartheid institutionalized economic and social disparities between racial groups, with non-white South Africans facing limited access to education, healthcare, employment, and housing opportunities compared to their white counterparts.
5. **Denial of Political Rights:** Non-white South Africans were denied the right to vote and participate in the democratic process, further marginalizing them politically and reinforcing white minority rule.

## FACTS FOR PRELIMS

### GS-1

## 1. CHITHIRAI FESTIVAL

### **Context:**

Lord Kallazhagar's annual ritual in Alagar Temple, Madurai during the Chithirai festival saw thousands of devotees gathering to witness his ceremonial entry into the **Vaigai river**.

The festival, **merging narratives of Lord Kallazhagar and Goddess Meenakshi's marriage**, holds historical significance and promotes harmony.

### **About Alagar Temple:**

It is **situated at the base of Alagar hills in Madurai, Tamil Nadu**, and is one of Lord Vishnu's 108 abodes, revered as **Kallazhagar**. Enclosed by fortress walls, it boasts six corridors and is mentioned in the **Tamil epic Silappadikaram and Alvars' hymns**. The temple's mandapam pillars showcase Nayaka's art style, adding to its historical and architectural significance.

### **About Vaigai River:**

**It originates in the Western Ghats (Varushanad Hills)** and flows through the Pandya Nadu region of Tamil Nadu. Stretching **258 kilometres, it ultimately joins the Palk Strait** near the Pamban Bridge in Ramanathapuram district.

Vaigai holds historical significance as it flowed through **Madurai, the capital of the ancient Pandya kingdom**, and is mentioned in Sangam literature.



## 2. AVAR NOMADS OF EUROPE

### Context:

Recent **ancient DNA analysis sheds light on the vanished Avar nomads of Europe**, revealing intricate family ties and social dynamics.

They uncovered a **patrilineal society where men maintained lineage continuity, while women fostered social cohesion through marriage** outside their paternal community. Additionally, the study identified **unique social practices such as levirate unions** and highlighted a transition in lineage coinciding with political shifts.

### About Avars:

**They were the nomadic people from eastern central Asia**, who thrived from the **6th to 9th** centuries. Seen as successors to the Huns, they were hired by the Byzantine Empire for military campaigns. A strict patrilineal descent system characterized their society, and they **avoided inbreeding, engaging in limited intermarriage with non-Avar groups**. They were renowned for their way of life and warfare.

## 3. BRU COMMUNITY

### Context:

In a historic moment, **Bru voters in Tripura participated in the Lok Sabha elections for the first time**, having previously voted only in assembly elections. These voters, **resettled from relief camps**, cast their ballots at various polling stations across the state.

### About the Bru community (also known as Reangs):

They **historically inhabited Mizoram, Tripura, and parts of southern Assam**. In Tripura, they are recognized as a **Particularly Vulnerable Tribal Group (PVTG)**. Following ethnic conflicts in 1997, over 30,000 Brus fled Mizoram and sought refuge in Tripura. In 2020, a **quadrilateral agreement** was signed to facilitate their permanent settlement in Tripura, involving the Centre, Tripura and Mizoram governments, and Bru representatives.

## 4. DECREASING SOLAR RADIATION AVAILABILITY IN INDIA

### Context:

Solar radiation available for electricity conversion in India is decreasing, **attributed to increased aerosol load and clouding**.

Scientists from IMD suggest **installing more efficient solar panels** to counter this. Their analysis, based on data from 13 stations from 1985 to 2019, showed a decline in solar photovoltaic (SPV) potential across various locations.

**India's solar energy capacity stands at about 81 GW**, with a potential of 748 GW peak. The country ranks 5th globally in solar power capacity. Initiatives like the PLI Scheme and Solar Park Scheme aim to promote solar power.

## 5. BASEFLOW IN RIVERS

### Context:

A recent study (on **six major river basins: Narmada, Tapi, Mahanadi, Godavari, Krishna, and Cauvery**) delving **into heavy rainfall, baseflow, and river floods in Peninsular India** sheds light on the factors driving flooding in the region.

### What is Baseflow?

Baseflow refers to the **sustained flow of water in a river that originates from groundwater seepage into the river channel**. It represents the portion of river discharge that is sustained between rainfall events and is typically fed by groundwater stored in the saturated zone.

**Co-relation between baseflow and river flood:**

During flood events, when rainfall increases river flow, the presence of high baseflow levels can amplify flood magnitudes. This is because higher baseflow indicates wetter conditions, making the catchment more prone to rapid runoff during heavy rainfall.

**6. IMPACT OF GI-CERTIFIED PRODUCTS**

**Context:**

**NABARD** has initiated a study to evaluate the **impact of Geographical Indication (GI)** products.

- This study aims to **assess the benefits received by artisans and producers due to GI tags.**

In India, GI registration is governed by the **Geographical Indications of Goods (Registration and Protection) Act of 1999.**

Administered by the **Registrar of Geographical Indications (RGI)**, it identifies agricultural, natural, or manufactured goods, providing legal protection for 10 years, renewable.

**7. RAJA RAVI VARMA**

**Context:**

On the occasion of **Raja Ravi Varma's 176th birth anniversary celebrations**, the **first true copy of his painting "Indulekha"** was unveiled at **Kilimanoor Palace, Kerala - where the artist was born.**

- The oil painting portrays **Indulekha holding a letter addressed to her lover, Madhavan, dated 1892, and has been recently restored.**

**About Raja Ravi Varma:**

- Raja Ravi Varma (1848 - 1906)** was an **Indian painter and artist** who is known for his work that combines **European academic art with Indian iconography.**
- His work is **considered one of the best examples of this fusion.** Varma is sometimes called **the first modern Indian artist.**
- Varma's works are known for **combining Hindu mythological subject matter with European realist historicist painting style.**
- Some of his works include **Shakuntala, Woman Holding a Fruit, and Hamsa Damayanti.**

**8. KUTCH AJRAKH GI TAG**

**Context:** The traditional artisans of '**Kutch Ajrakh**' from **Gujarat's vibrant region** of Kutch have been granted the **Geographical Indication (GI) certificate** by the **Office of the Controller General of Patents, Designs, and Trade-marks (CGPDTM).**

**About Kutch Ajrakh:**

It is a **traditional textile craft** of Gujarat, particularly in regions like Sindh, Barmer, and Kutch. It involves meticulous **hand-block printing on treated cotton cloth**, resulting in intricate designs rich in symbolism and history. The name "**Ajrakh**" **derives from 'Azrak,'** meaning indigo, a key dye used in the process. Traditionally, Ajrakh prints **feature blue, red, and white colours** representing the sky, land/fire, and stars, respectively.

Introduced over 400 years ago by Sind Muslims, Ajrakh is commonly worn by nomadic pastoralist and agricultural communities such as the **Rabaris, Maldharis, and Ahirs**, in various forms like turbans, lungis, or stoles.



GS-2

**1. STAR CAMPAIGNERS**

**Context:**

Several **political parties** have released the **list of their star campaigners** for the upcoming **Lok Sabha General Elections.**

- The **Representation of the People Act, 1951**, defines **rules around star campaigners**, who are leaders **of political parties appointed for campaigning.**
- A **recognised political party can appoint a maximum of 40-star campaigners** while a registered **unrecognized political party can appoint up to 20.**
- These **campaigners can incur travel expenses for campaigning** without affecting candidates' expenditure limits.

**2. PROJECT ISHAN**

**Context:**

India has kickstarted the process of **unifying its four air-space regions** under **Project Indian Single Sky Harmonized Air Traffic Management at Nagpur (ISHAN).**

- This initiative is expected to **enhance air traffic management**, benefiting **airlines and passengers by making operations more efficient and**

safer.

- Challenges include **technological implementation, process changes, and retraining of staff.**

Currently, Indian airspace is **divided into 4 FIRs i.e. Mumbai, Kolkata, Delhi, Chennai**, and a sub-FIR in Guwahati, each managed separately.

### 3. ARTICLE 31C

**Context:** The Supreme Court is hearing a **case regarding Chapter VIII-A of the Maharashtra Housing and Area Development Act, 1976.** This chapter allows the government to **acquire dilapidated buildings in Mumbai to distribute resources for the common good, citing Article 39(b).**

- The debate revolves around **whether private property can be considered a 'material resource of the community' under Article 39(b), and if Article 31C still holds validity after the Minerva Mills judgment of 1980.**

**Article 31C** of the Indian Constitution protects laws enacted to **distribute material resources of the community for the common good, as outlined in Article 39(b) and (c).**

These **laws cannot be challenged on the grounds of violating rights under Article 14 (right to equality) or Article 19 (freedom of speech, assembly, etc.).**

### 4. 'EGGSHELL SKULL' RULE

**Context:**

The Supreme Court **rejected the application of the 'eggshell skull' rule** in a medical negligence case, **restoring a compensation of Rs 5 lakhs** awarded by the district consumer forum.

**What is the 'eggshell skull'?**

The "eggshell skull" rule, also known as the **"thin skull rule" in some cases**, is a legal principle applied in **civil litigation.** Essentially, it dictates that a **defendant in a lawsuit is liable for all injuries** caused to the plaintiff, even if the plaintiff's condition makes them more susceptible to harm than an average person.

In this case, **Jyoti Devi suffered prolonged pain due to a needle left in her abdomen after surgery.** While lower courts applied the rule, the SC ruled it inapplicable as Jyoti didn't have pre-existing vulnerabilities. The ruling emphasized prolonged suffering and delayed justice as factors justifying the enhanced compensation.

### 5. REPOLLING IN AN ELECTION

**Context:** The Election Commission of India has **ordered repolling in six booths of the Outer Manipur constituency** due to reported disturbances during the Lok Sabha

election's second phase.

**Provisions under the Representation of the People Act (RPA), 1951, for re-polling:**

Provision	Circumstances for Re-polling
Section 57	Natural calamity, violence, etc.
Section 58(2)	Damage or destruction of voting machines
	Countermanding of the election due to booth capturing
Section 52	Death of a candidate from a recognized political party

### 6. ARTICLE 39(B) OF THE CONSTITUTION

**Context:**

The Supreme Court has reserved its verdict on **whether private properties can be considered 'material resources of the community'** under **Article 39(b) of the Constitution.**

**About the case:**

The case stems from petitions, including **one by the Mumbai-based Property Owners' Association**, challenging provisions in the **Maharashtra Housing and Area Development Authority Act.** The verdict's implications could shape the **balance between individual rights and societal welfare in property ownership and distribution.**

**About Article 39(b):**

**Article 39(b)** directs the **state to distribute material resources** for the common good, while **Article 31C** empowers the state to take over such resources. Additionally, **Article 39(c)** aims to **prevent wealth concentration.**

### 7. HINDU MARRIAGE ACT

**Context:**

The Supreme Court clarified that **mere registration without a proper ceremony** doesn't constitute a valid marriage under the Hindu Marriage Act, **emphasizing marriage's sacredness and practice of 'Samskara'.**

**About the Hindu Marriage Act:**

The **Hindu Marriage Act (HMA) of 1955** regulates Hindu marriages and divorce within the Hindu community and applies to Hindus by birth or conversion, **as well as Buddhists, Jains, and Sikhs.** It sets the **minimum marriageable age at 21 for the groom and 18 for the bride,** prohibits bigamy and polygamy, recognizes customary practices, and considers mental health as a criterion for

void marriage.

The Act allows for **marriage registration**, [permits divorce](#) through mutual consent or judicial separation, and includes provisions for restitution of conjugal rights. Family courts handle legal matters concerning Hindu marriages and divorce, based on territorial jurisdiction.

## 8. ELECTION RIGHTS OF PRISONERS

### Context:

Accused persons in prison can contest polls but are barred from voting. The legal status distinguishes between the right to vote and the right to be elected.

### Why can accused persons in prison contest polls but not vote?

Accused persons in prison can contest polls due to the **legal distinction between the right to vote and the right to be elected**. While they can seek election until convicted, they are barred from voting, as per the Representation of People Act, unless released on bail or acquitted.

### The difference between the Right to Vote and the Right to be Elected

Right to Vote	Right to Be Elected
Statutory right, not fundamental	Statutory right, not fundamental
Can be regulated by Parliament	Can be regulated by Parliament
Citizens exercise the right to choose. However, Those confined in prison cannot vote ( <b>Section 62(5) of the RPA, 1951</b> ), under sentence of <b>imprisonment, transportation</b> , or in lawful police custody.	Citizens exercise the right to stand for election. However, Convicted individuals sentenced to 2 years imprisonment cannot contest elections ( <b>Section 8(3) of the RPA, 1951</b> )
<b>Preventive detainees have the right to vote</b> (Section 62(5) of the RPA, 1951 and Rule 18 of Conduct of Elections Rules 1961)	<b>Even if on bail</b> , convicted persons cannot contest.
Allows citizens to participate in elections	Allows citizens to be candidates in elections
Subject to statutory limitations	Subject to statutory limitations
Can be revoked or restricted by law	Can be revoked or restricted by law
Ensures representation in governance	Enables individuals to represent constituents

## 9. DRAFT NEW EXPLOSIVES BILL

### Context:

The government has proposed a **new Explosives Bill to replace the outdated Explosives Act of 1884**.

The bill is aimed at **regulating the manufacture, possession, use, sale, transport, import**, and export of explosives. It also aims to **increase fines for violations and streamline the licensing process for explosives** such as gunpowder and nitroglycerine.

### Key highlights of the bill include:

1. **Definition of explosives:** The bill defines explosives, including substances used to produce practical or pyrotechnic effects by explosion.
2. **Licensing authority:** The Central Government will prescribe the authority competent to grant, suspend, or revoke licenses. Currently, the **Petroleum and Explosives Safety Organisation (PESO)** oversees these functions.
3. **Punishment for contravention:** Violating the Act may result in imprisonment for up to three years, a fine of Rs 1,00,000, or both.
4. **Power of Central Government:** The Central Government can make rules to carry out the provisions of the Act.


**About the PESO:**

The **Petroleum and Explosives Safety Organization (PESO)** (est. 1898; HQ: Nagpur; under the Ministry of Commerce and Industry), was established during British rule as the **Department of Explosives**. It oversees the administration of various acts including the **Explosives Act, 1884, and the Petroleum (Production) Act, 1934**. PESO regulates the import, export, transport, storage, and usage of petroleum products, explosives, and flammable materials. It operates autonomously under the **Chief Controller of Explosives**. PESO frames rules and regulations for various sectors such as cinematography, gas cylinders, petroleum, and explosives. Its officers are selected through the Union Public Service Commission into the **Indian Petroleum and Explosives Safety Service cadre**.

## 10. DIPLOMATIC PASSPORTS

**Context:**

After sexual abuse allegations surfaced against Janata Dal (Secular) MP Prajwal Revanna, he fled to Germany using a **diplomatic passport**.

Aspect	Details
About	 <p>Diplomatic and Official passports are <b>issued to individuals holding diplomatic status or deputed by the Government of India</b> for official duty abroad. They have <b>maroon covers and are valid for five years or less</b>.</p>
Benefits	<p>Holders enjoy <b>specific privileges and immunities</b>, including <b>exemption from arrest, detention, and certain legal proceedings</b> within the host country.</p>
Issued To	<p>Those with diplomatic status or Government-appointed individuals on official business abroad or Officers working under branches A and B of the Indian Foreign Service (IFS) Relatives and immediate family of IFS and MEA officers or Selected individuals authorized for official government travel.</p>
Grounds of Revocation	<p>Revocation grounds under the <b>Passport Act 1967</b> include wrongful possession, suppression of material information, interests of India's sovereignty and integrity, friendly relations with foreign countries, and more.</p>
Exemption of Visa Requirements	<p>India has <b>operational visa exemption agreements with 34 countries</b> for diplomatic passport holders, including Germany, France, Austria, and Switzerland. Additionally, agreements with 99 other nations allow <b>visa exemption for stays up to 90 days</b></p>

### GS-3

## 1. AUTHORISED ECONOMIC OPERATOR (AEO) STATUS

**Context:**

The Ministry of Finance has **granted Authorised Economic Operator (AEO) status** to the gem and jewellery sector, as part of efforts to promote ease of doing business.

- **Asian Star**, a leading diamond and diamond jewellery manufacturer, became the first in the industry to receive AEO status.

**About the Authorised Economic Operator (AEO) program:**

It operates under the **World Customs Organization (WCO) SAFE Framework**. Its goal is to boost **international supply chain security** and smooth the movement of lawful goods. Aligned with **World Trade Organization trade facilitation agreements**, it allows Indian Customs to strengthen cargo security through collaboration with key stake-

holders in the international supply chain.

**An entity with an AEO status** is considered a **'secure' trader** and a reliable trading partner. Benefits of AEO status include **expedited clearance times**, fewer examinations, and improved security and communication between supply chain partners.

In India, the AEO Programme (a voluntary initiative) was introduced by the **Central Board of Indirect Taxes and Customs (CBIC) in India** in 2011. It aims to simplify customs procedures and expedite clearances for businesses demonstrating high-security standards in the supply chain.

## 2. ANTIHISTAMINES

### Context:

Antihistamines are over-the-counter drugs used to treat short-lived allergic reactions like sneezing or itching.

- They work by **blocking histamine receptors in the body**.

### What is Histamine?

**It is a key mediator of allergy and inflammation**, with roles in autoimmune conditions, gastric acid secretion, and hematopoiesis. It can be released in response to various factors, including allergens and physical injury. Most histamine is stored in **mast cells and basophils**.

Histamine **binds to different receptors (H1, H2, H3, and H4) in different locations, triggering allergic responses**. Antihistamines target these receptors to alleviate allergy symptoms. Ongoing research focuses on specialized drugs targeting H3 and H4 receptors to treat neurological and immunological disorders.

## 3. NEPHROTIC SYNDROME

### Context:

The use of **fairness creams has been linked to nephrotic syndrome**, with high levels of mercury found in the blood and urine of affected individuals. The study, published in *Kidney International*, reports **15 cases of nephropathy traced** to the use of fairness creams.

**Nephrotic Syndrome is a kidney disorder characterized by excessive protein** in the urine due to malfunctioning kidney filters called **glomeruli**. Cosmetic use, specifically the use of fairness creams containing high levels of mercury, has been linked to Nephrotic Syndrome. The **mercury in these creams can be absorbed through the skin** and lead to systemic toxicity, ultimately causing damage to the kidneys and resulting in Nephrotic Syndrome.

## 4. INHERITANCE TAX

### Context:

In India, the debate over **inheritance tax as a tool to address economic inequality** is ongoing.

### What is Inheritance Tax?

It is a **tax levied on the assets inherited by individuals** from a deceased person. The tax rate depends on the value of the inherited property and the heir's relationship to the decedent.

**Unlike estate tax**, which taxes the **total value of a deceased person's estate**, inheritance tax is specifically **levied on inherited property**. While many countries impose inheritance taxes, including the United States (where inheritance tax is imposed on money or property inherited from a deceased person's estate), India currently does not. **Estate duty**, imposed from 1953 with tax rates reaching up to 85%, was **abolished in 1985 due to unpopularity**.

Similarly, **gift tax and wealth tax**, introduced earlier, were abolished in 1998 and 2015 respectively, although gift tax was briefly reinstated in 2004.

Pros of inheritance tax include **potential revenue generation for the government and reducing wealth inequality**, promoting equality of opportunity. However, it also raises concerns about **tax evasion, discouraging hard work, and potential double taxation** of already taxed assets.

## 5. UN PANEL ON "CRITICAL ENERGY TRANSITION MINERALS"

### Context:

The United Nations recently launched a new panel on **"Critical Energy Transition Minerals"** to address the challenges of the **"material-energy nexus"** and promote responsible and fair value chains.

**With 23 countries (including India) and the African Union on board**, along with **14 non-governmental groups**, the panel aims to foster dialogue and prevent **negative resource nationalism**, with both China and the United States as key members.

The Panel further aims to **establish global common principles for critical energy transition minerals**, addressing equity, transparency, sustainability, and human rights throughout the value chain.

### Other initiatives for Critical Minerals:

1. **Global Mineral Security Partnership (MSP)**

- boosts critical mineral supply chains, with India involved
- 2. **Critical Minerals Mapping Initiative** is under-way
- 3. **UN Framework on Just Transitions for Critical Energy Transition Minerals** launching by 2024 end
- 4. **India identifies 30 critical minerals** for self-reliance.
- 5. **India's Partnerships with Australia and Argentina** for lithium and cobalt
- 6. **Khanij Bidesh India Limited (KABIL)** was formed for strategic mineral sourcing abroad.

## 6. SALMONELLA CONTAMINATION IN SPICES

### Context:

Over the past six months, **US customs authorities** have rejected **31% of all spice-related shipments from Maharashtra Di Hatti (MDH)** due to **salmonella contamination concerns**.

### About Salmonella:

- **Salmonella** is a genus of bacteria that **can cause food poisoning in humans**.
- It is one of the **most common causes of foodborne illness worldwide**.
- Salmonella bacteria typically **infect the intestinal tract** and can **cause symptoms such as diarrhoea, abdominal cramps, fever, and vomiting**.
- Contamination usually occurs through the **consumption of contaminated food or water, particularly raw or undercooked poultry, eggs, meat, and dairy products**.
- Proper food handling, cooking, and hygiene practices are essential for preventing salmonella infections.

## 7. BIOHACKING

### Context:

Biohacking is **gaining traction in India**, with enthusiasts experimenting with various techniques like **cryotherapy and IV therapy**.

### What is Biohacking?

Biohacking involves **using scientific knowledge and experimentation to optimize one's body and mind**. It encompasses various practices aimed at improving physical and mental performance, longevity, and overall well-being.

### Examples of biohacking include:

1. **Dietary Modifications:** Following specific diets like ketogenic diet or intermittent fasting to enhance energy levels and metabolic health.

2. **Supplementation:** Taking supplements such as vitamins, minerals, or nootropics to improve cognitive function, mood, or physical performance.
3. **Physical Training:** Engaging in tailored exercise routines, including high-intensity interval training (HIIT) or strength training, to build strength, endurance, and resilience.
4. **Sleep Optimization:** Employing techniques like sleep tracking, creating ideal sleep environments, or using sleep aids to enhance sleep quality and duration.
5. **Mindfulness Practices:** Practicing meditation, deep breathing exercises, or mindfulness techniques to reduce stress, improve focus, and promote mental well-being.
6. **Biometric Monitoring:** Using wearable devices or apps to track metrics such as heart rate variability, sleep patterns, and activity levels to gain insights into overall health and performance.
7. **Biofeedback Devices:** Utilizing devices like neurofeedback or heart rate variability monitors to train the body's physiological responses and improve stress management and emotional regulation.

## 8. NILGIRI TAHR

### Context:

The **Tamil Nadu government** is conducting a **three-day survey to estimate the population of the Nilgiri Tahr**, a species **listed as endangered by the IUCN**

**Project Nilgiri Tahr**

Project Nilgiri Tahr of Tamil Nadu Forest (India's first) aims to restore the fragmented habitat especially Shola grasslands where it thrives, reintroduce the Tahr population in its historic habitat and ensure proper rehabilitation facilities are provided



**About Nilgiri Tahr**

- Only mountain ungulate in Southern India among the 12 species present in India.
- **Population:** Its population has been estimated at 3,122 in the wild (WWF India 2015 estimates)
- It is **endemic** to Western Ghats and locally known as 'Varalaadu'.
- **Threats:** A large part of its population has been wiped out from its historical range of Western Ghats. The existing populations are under severe stress due to **habitat loss and hunting**
- **State animal of Tamil Nadu**
- **IUCN: Endangered**

The shola forest-grassland is the **tropical montane forest found in the upper reaches of India's Western Ghats**. This mosaic ecosystem is native only to the southern Western Ghats and found in the high altitude mountains of **Kerala, Tamil Nadu and Karnataka**.



Ungulates consists of large mammals with hooves.



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## 9. NEW ALERT INDICATORS UNDER PMLA

### Context:

India's financial intelligence unit (FIU) issues **new alert**

**indicators under PMLA for various sectors to combat money laundering** and terrorism financing.

- These guidelines, part of the **anti-money laundering (AML) and counter-terrorism financing regime**, involve collaborations with regulatory bodies.

**The New Indicators are:**

Sector	New Alert Indicators
<b>Capital Markets</b>	Mis-utilization of client funds by stockbrokers
<b>Depositories</b>	Identification of suspicious off-market transfers
<b>Insurance Sector</b>	Alerts for fraud cases experienced by insurance firms analyzed from the AML/CFT perspective
<b>Online Payment Gateways</b>	Speed of transactions leading to AML/CFT risks
<b>VDA or Cryptocurrency Service Providers</b>	Directions to register with FIU to carry out “enhanced due diligence to implementation of travel rule.”
	Travel Rule, extended to crypto companies in 2019 by FATF, requires <b>businesses to collect and share the personal data of participants in a transaction.</b>
<b>Credit Rating Agencies</b>	Timely reporting of STRs to FIU. “STR” stands for “Suspicious Transaction Report.”
	Identification of serious corporate frauds with AML/CFT implications
<b>Debenture Trustees</b>	Periodic reports from issuers of debentures. Taking appropriate action in the interest of debenture holders upon noticing breaches of trust deed or law
<b>Real Estate Agents (DNFBP)</b>	Guidelines for STR reporting under PMLA

**About Financial Intelligence Unit (FIU) India:**

**FIU-IND, established in 2004**, operates as an **independent body** reporting directly to the Economic Intelligence Council led by the Finance Minister. Its functions include receiving, **analyzing, and disseminating information** on suspicious financial transactions. It coordinates efforts with national and international agencies to combat money laundering and terror financing. Additionally, India employs specialized agencies like the **Enforcement Directorate and Central Bureau of Investigation** and participates in international cooperation through memberships in organizations like FATF and the Eurasian Group.

## 10. RBI'S DIRECTION FOR ELECTRONIC TRADING PLATFORMS (ETPS)

**Context:**

The RBI released a **draft Master Direction for Electronic Trading Platforms (ETPs)**, seeking feedback from stakeholders by May 31.

**What are ETPs?**

Electronic Trading Platforms (ETPs) are **electronic systems that facilitate the trading of various financial instruments** such as securities, money market instruments, foreign exchange instruments, derivatives, and more. Unlike recognized stock exchanges, ETPs operate as electronic platforms where buyers and sellers can execute trades electronically.

In India, examples of ETPs include: **NSE NOW** (NSE’s Online Trading System), **BSE Bolt**, Currency ETPs, **MCX** (Multi Commodity Exchange) and **NCDEX** (National Commodity & Derivatives Exchange)

**RBI’s Direction:**

The RBI issued a **Draft Master Direction on Electronic Trading Platforms (ETPs) in 2024**, stipulating those entities must obtain prior authorization or registration from the RBI to operate an ETP. To qualify, an entity must be incorporated in India and **maintain a minimum net worth of Rs 5 crore**

## 11. IREDA GET NAVRATNA STATUS

### Context:

Recently, IREDA (Indian Renewable Energy Development Agency), the financing agency for Renewable projects in India, was conferred with '[Navratna status](#)' by the Department of Public Enterprises (Ministry of Finance)

IREDA is under the administrative control **of the Ministry of New and Renewable Energy**. It was established as a Non-Banking Financial Institution in 1987.

This status **grants greater autonomy and facilitates quicker decision-making**, attracting more investments and skilled talent. As a Navratna PSU, IREDA can operate more efficiently, compete effectively, and achieve sustainable growth.

Criteria for Maharatna Status	Criteria for Navratna Status	Criteria for Miniratna Status
1. Shall have <b>Navratna status</b>	1. Miniratna Category - I or Schedule 'A' CPSEs	Miniratna Category-I status: <ul style="list-style-type: none"> <li>• <b>Made profit</b> in the last 3 years continuously</li> <li>• <b>Pre-tax profit is Rs.30 crores or more</b> in at least 1 of the 3 years</li> <li>• <b>Having Positive net worth status</b></li> </ul>
2. <b>Listed on the Indian stock exchange</b> with prescribed public shareholding	2. 'Excellent' or 'Very Good' rating in 3 of last 5 years	Miniratna Category-II status: <ul style="list-style-type: none"> <li>• <b>Made profit</b> for the last 3 years continuously</li> <li>• <b>Having positive net worth status.</b></li> <li>• <b>Not defaulted</b> in the repayment of loans/interest payment on any loans due to the Government.</li> <li>• <b>Not dependent upon budgetary support</b> or Government guarantees.</li> </ul>
3. <b>Average annual turnover &gt; Rs. 25,000 crore</b> (last 3 years)	3. <b>Composite score of 60 or above</b> in the following 6 performance indicators including Net Profit to Net Worth, Cost of Services, Earning per share, etc.	
4. <b>Average annual net worth &gt; Rs. 15,000 crores</b> (last 3 years)		
5. <b>Average annual net profit after tax &gt; Rs. 5,000 crores</b> (last 3 years)		
6. <b>Significant global presence/international operations</b>		

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## 12. CORPORATE GOVERNANCE CHARTER

### Context:

Recently, CII (Confederation of Indian Industry) introduced a corporate governance charter tailored for startups, featuring a **self-evaluative scorecard** to assess governance progress.

### What is Corporate Governance?

It comprises **dynamic principles and measures guiding an organization's growth**. It emphasizes values like transparency, fairness, and accountability. The charter release responds to the erosion of shareholders' value in Indian startups, prompted by governance failures in notable firms like **BharatPe and GoMechanic**.

### Key Highlights of the Charter:

1. **Objective:** The charter acts as a self-governing code for startups under the Companies Act, 2013.
2. **Benefits:** It aids startups in enhancing value, stability, growth, resilience, competitiveness, and long-term success.

3. **Guidelines:** Tailored for different startup stages: Inception, Progression, Growth, and Going Public, offering clear role definitions.
4. **Online Scorecard:** Enables startups to assess their governance status and track improvements over time.

### Definition of Startups:

<b>According to the Income Tax Act</b>	A startup in India is a private limited company, partnership firm, or limited liability partnership (LLP) that meets the following criteria:
	<b>Incorporation:</b> The startup must be incorporated or registered within the last 10 years
	<b>Turnover:</b> The startup's annual turnover must be less than INR 100 crore in any financial year since incorporation
	<b>Innovation:</b> The startup must work on developing or improving a product, process, or service, or have a scalable business model with the potential to create wealth and employment
<b>As per the earlier Definition of Startup by the Department of Industrial Policy and Promotion (DIPP)</b>	<b>Originality:</b> The startup must not be formed by splitting or reconstructing an existing business
	A startup is an entity incorporated as a <b>private limited company</b> , an enterprise in a partnership or as an LLP (Limited Liability Partnership) in India whose revenue is up to Rs 25 crores

### About CII:

The Confederation of Indian Industry (CII) is a **non-governmental trade association and advocacy group** based in New Delhi, India, established in 1895. It collaborates with business, political, academic, and societal leaders to influence global, regional, and industry agendas. CII operates on a membership basis and has been designated **as the B20 India Secretariat by the Indian government** for leading the B20 India process during India's G20 Presidency in 2023.

## 13. G-SEC

### Context:

The **Reserve Bank of India (RBI)** has announced that the **Foreign Portfolio Investment (FPI) limits for investment in various securities** will remain unchanged for the current fiscal year.

- The limits for FPI investment in **government securities (G-sec)**, state development loans, and corporate bonds will be maintained **at 6%, 2%, and 15% respectively**, of the outstanding stocks of securities.

**About G-sec:**

G-Secs, or Government Securities, are **tradable instruments issued by governments through auctions conducted by the RBI**. They come in two types: short-term, known as **treasury bills**, with maturities of less than one year, and long-term, known as **Government bonds or dated securities**, with maturities of one year or more. The Central Government can issue both treasury bills and government bonds, while **State Governments issue only government bonds**, also known as State Development Loans (SDLs).

## 14. GATI SHAKTI CARGO TERMINALS INITIATIVE

**Context:**

The Railway Ministry plans to expand its **Gati Shakti Cargo Terminals initiative**, aiming to offer an **additional 200 terminals** to corporate entities and freight operators.

This expansion follows the **success of the initial 100 terminals** announced in the Union Budget of 2022-23. With **77 terminals already operational**, the initiative aims to **boost rail-based supply chains**, increase rail freight volumes, and generate additional revenue for the railways.

The **Gati Shakti scheme** (launched in 2021) is a national master plan aimed at coordinating infrastructure projects to **reduce logistics costs**. Key points include integrating planning for infrastructure projects, cutting costs, boosting trade, and improving connectivity.

## 15. K2-18B AND DIMETHYL SULPHIDE (DMS)

**Context:**

The James Webb Space Telescope is gearing up for a **significant mission targeting K2-18b**, a distant planet with potential for extra-terrestrial life.

Scientists are focusing on **detecting dimethyl sulphide (DMS)** in its atmosphere, a gas primarily produced by life on Earth. Preliminary data suggests a **high probability of DMS** presence.

**Why DMS presence is significant?**

The **presence of dimethyl sulphide (DMS)** in the atmo-

sphere of a distant planet, such as K2-18b, could indicate the **possibility of extraterrestrial life**. On Earth, DMS is primarily produced by **marine phytoplankton**, making it a potential biological marker. If detected on another planet, it suggests the presence of organic or biological processes similar to those found on Earth.

**What is K2-18b Exoplanet?**

- Discovered in 2015 during NASA's K2 mission**, located over 120 light-years away from Earth.
- Size: Over 8 times larger than Earth.**
- Possibly a "Hycean" world with a hydrogen-rich atmosphere** and an ocean-covered surface.

**About James Webb Space Telescope:**

- Collaboration between **NASA, ESA, and the Canadian Space Agency**.
- Launched in December 2021.
- Currently positioned at the **Sun-Earth L2 Lagrange point**, around **1.5 million km** from Earth's orbit.
- Largest and most powerful infrared** space telescope.
- Objectives:** To explore cosmic history from the Big Bang to the evolution of galaxies, stars, planets, and our Solar System.

## 16. INDIA'S HIGH FOOD INFLATION

**Context:**

In 2023, while world food prices experienced a significant decline from their 2022 highs, **India saw persistently high food inflation, reaching 9.5% in December 2023**. This contrasts sharply with **global deflation of -10.1%** during the same period.

**Factors contributing to the drop in global food prices include:**

- An abundant supply of key crops:** Bumper harvests in 2023, particularly of wheat, resulted in a surplus in the global market, contrasting with concerns over supply disruptions in 2022.
- Improved supply from Russia and Ukraine:** Despite disruptions, both countries maintained wheat exports, easing supply anxieties.
- Lower demand for vegetable oils:** Increased vegetable oil supplies and reduced use for biofuel production led to an approx. 32% drop in the UN's Vegetable Price Index.
- Slowing demand:** High inflation and economic recession fears reduced consumer demand, particularly in major food-importing regions, decreasing import demand and lowering global prices.

**India's high food inflation amid falling global food prices can be attributed to several factors:**

- Limited transmission of global prices:** While world food prices decreased, India's remained elevated due to limited transmission of international prices to domestic markets, except for edible oils and pulses.
- Export bans and import duties:** The Indian government imposed bans on certain food exports and provided import duty waivers, reducing global market influences on domestic prices.
- Domestic production challenges:** Weather conditions affecting crop yields, particularly for cereals, pulses, and sugar, contributed to supply shortages and higher prices domestically.
- Low stock levels:** Low stock levels for commodities like wheat and sugar exacerbated price pressures.

**Food inflation in India** is primarily calculated using **the Consumer Price Index (CPI) for Food and Beverages**, a key measure tracking price changes of a typical consumer basket. Food carries a weight **of 45.9% in the CPI**, but its contribution to overall inflation has risen from 48% in April 2022 to 67% in November 2023.

Recent data from the government's Household Consumption Survey indicates **a decline in food's share of the consumption basket, dropping below 50%** for rural consumers and 39% for urban consumers.

## 17. REPORTS/STUDY IN NEWS

Reports/Study	Description
<b>Study on Methane concentration</b>	A recent study suggests that <b>methane emissions from fossil fuels have been declining since the 1990s</b> and have remained stable since, <b>while methane produced by microbes</b> has been on the rise. This finding challenges previous assumptions that fossil fuel is the main source of methane in the atmosphere.
	According to recent estimates, the <b>atmospheric concentration of methane today is three times</b> what it was 300 years ago.
	Methane (CH <sub>4</sub> ) accounts for <b>15–35% of the rise in human-induced greenhouse gas emissions</b> . Between 2020 and 2024, methane emissions rose from <b>15 to around 21 parts per billion (ppb)</b> .
	Methane is the <b>second most abundant human-caused greenhouse gas after CO<sub>2</sub></b> but has a stronger warming effect. Its global warming potential over a century is <b>28 times</b> that of CO <sub>2</sub> , and even higher over shorter periods.
<b>ISRO releases Indian Space Situational Assessment Report (ISSAR) for 2023</b>	ISSAR 2023, compiled by <b>ISRO's System for Safe and Sustainable Space Operations Management (IS4OM)</b> , shows a rise in space object population.
	Concerns include an increasing trend in <b>Collision Avoidance Manoeuvres (CAMs)</b> and risks to spacecraft operations and astronauts' lives <b>due to space debris</b> , potentially leading to the <b>Kessler syndrome</b>
	<b>IS4OM</b> , operational since 2022, safeguards ISRO's space assets
	India has taken <b>proactive steps to mitigate risks</b> associated with space operations and safeguard its space assets e.g., <b>Object Proximity Analysis (SOPA)</b> for Satellites; <b>Collision Avoidance Analysis (COLA)</b> (conducted for launch vehicles to ensure safe trajectories); ISRO's Network for space object Tracking and Analysis ( <b>NETRA</b> ) project (enhances space surveillance capabilities); Inter-Agency Debris Coordination Committee ( <b>IADC</b> ) (India collaborating with 13 space agencies to manage space debris collectively)

<p><b>‘Standards for a Net Zero Iron and Steel sector in India’</b></p>	Released by the International Energy Agency
	The policy brief emphasizes standards for low and near-zero emissions steel (including the promotion of Green Steel), covering measurement methodologies and defining emissions thresholds.
	India ranks as the <b>world’s second-largest steel-producing country, contributing 7%</b> of total crude steel production. India’s steel industry presently <b>represents 12% of carbon dioxide emissions</b> , a figure projected to double by 2030, fueled by government infrastructure initiatives.
	Initiatives to standardize the steel sector in India include the <b>Steel Scrap Recycling Policy of 2019</b> , the Perform, Achieve, and Trade (PAT) scheme under the National Mission for Enhanced Energy Efficiency, and the establishment of 14 Task Forces by the Ministry of Steel to support the development of a <b>“Roadmap for Green Steel.”</b> Globally, initiatives such as the <b>Steel Breakthrough</b> launched during COP26 in 2021 and the <b>Steel Standard Principles</b> introduced at COP28 in 2023 focus on defining and establishing measurement methodologies for low and near-zero emissions steel.
	The International Energy Agency is a <b>Paris-based autonomous intergovernmental organisation</b> , established in 1974, that provides policy recommendations, analysis and data on the global energy sector. The 31 member countries and 13 association countries ( <b>including India</b> ) of the IEA represent 75% of global energy demand.
India, which joined the <b>IEA Family as an Association country</b> in 2017, sent a formal request for full membership to IEA ministers in October 2023.	

## 18. GOLDMAN ENVIRONMENTAL PRIZE

**Context:**

Alok Shukla, a forest and **tribal rights activist of Chhattisgarh Bachao Andolan**, has won the **2024 Goldman Environmental Prize** for his campaign saving over 4 lakh acres of forests in **Chhattisgarh’s Hasdeo Aranya region** from 21 planned coal mines.

The Hasdeo Aranya forests, spread across **1.70 lakh hectares in Chhattisgarh**, are vital for biodiversity, home to 25 endangered species, 92 bird species, and 167 rare plants. The **Hasdeo River**, fed by these forests, irrigates 741,000 acres of farmland. Chhattisgarh, with **44% forest coverage**, ranks third in India.

The award, also known as the **Green Nobel**, is given by the **Goldman Environmental Foundation to grassroots environmental leaders** worldwide, with winners receiving USD 200,000.

## 19. ETHYLENE

**Context:**

Two individuals were apprehended in Hyderabad for using an **artificial ripening agent, ethylene, on mangoes**.

- Authorities stated that the **use of such chemicals breaches FSSAI guidelines and poses health risks** including **skin burns, irritation, inflammation, lung irritation, heavy metal poisoning, and neurological issues when consumed**.

<p><b>About Ethylene:</b></p> <ol style="list-style-type: none"> <li>1. Ethylene is a <b>colourless, flammable, and lighter-than-air hydrocarbon gas</b> with a <b>sweet, musky odour and the chemical formula C<sub>2</sub>H<sub>4</sub> or H<sub>2</sub>C=CH<sub>2</sub></b>.</li> <li>2. It is the <b>simplest alkene and the second simplest unsaturated hydrocarbon</b>.</li> <li>3. Ethylene is a <b>plant hormone that regulates growth and senescence</b> and is used in <b>agriculture to ripen fruits and germinate seeds</b>.</li> <li>4. As a <b>fruit matures</b>, it produces <b>ethylene to signal ripening</b>.</li> <li>5. <b>Ethylene is also widely used in the chemical industry</b>, and the world produces more ethylene than any other organic compound.</li> <li>6. <b>Polyethene is produced using ethylene</b>.</li> </ol>
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## 20. PAKISTAN'S HANGOR CLASS SUBMARINE

### Context:

Pakistan has unveiled its inaugural Hangor class submarine, designed as a direct counterpart to India's Kalvari class submarines.

### About Kalvari class submarines:

It was constructed by **Mazagon Dock Shipbuilders Limited under Project-75**, are derived from the **French Scorpene class submarines**. These vessels feature **die-sel-electric propulsion** and serve as attack submarines. India currently operates **six submarines** of this class: **Kalvari, Khanderi, Karanj, Vela, Vagir, and Vagshir**. The Indian Navy is in the process of equipping these submarines with an **indigenous Air Independent Propulsion (AIP)** system, enabling extended submerged operations for non-nuclear submarines.



Type of Warship	Description	Examples
Aircraft Carriers	Large ships capable of carrying and launching aircraft.	INS Vikramaditya, INS Vikrant (under construction)
Destroyers	Versatile warships with anti-air, anti-ship, and anti-submarine capabilities.	INS Kolkata, INS Visakhapatnam, INS Imphal
Frigates	Smaller than destroyers, with multi-role capabilities.	INS Shivalik, INS Nilgiri
Corvettes	Compact warships designed for coastal defense and patrol duties.	INS Kamorta, INS Kiltan
Submarines	Submersible vessels used for stealthy underwater operations.	INS Kalvari, INS Arihant
Patrol Vessels	Smaller craft used for patrolling, search and rescue, and other coastal missions.	INS Saryu, INS Sunayna
Mine Countermeasures Vessels	Designed for mine-clearing operations.	INS Nireekshak, INS Karwar
Landing Platform Docks	Amphibious assault ships for launching troops and equipment ashore.	INS Jalashwa, INS Shardul
Offshore Patrol Vessels	Used for patrolling and surveillance in offshore waters.	INS Vikram, INS Vajra
Research Vessels	Ships dedicated to scientific research and oceanographic studies.	INS Sagardhwani, INS Sindhughosh (research variant)
Training Ships	Used for training purposes and instruction of naval cadets.	INS Tarangini, INS Sudarshini

## 21. FRONT RUNNING

### Context:

SEBI has mandated Asset Management Companies (AMCs) to establish an institutional mechanism to deter potential market abuse, including front-running, following recent instances observed by the market regulator.

### What is Front Running?



Front-running is an **illegal practice** in the stock market where an individual or entity trades based on **advanced information** obtained from a broker or analyst before it is made available to their clients.

### Example

Suppose a **broker** receives a large order to buy shares of Company X from a client. Before placing the order on behalf of the client, the broker may purchase shares of Company X **for their personal account**, knowing that the client's order will drive up the price of the shares. Once the price of the shares rises, the **broker can sell their shares at a profit**.



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### What are AMCs?

Asset Management Companies (AMCs) are financial institutions responsible for managing and investing funds pooled from investors in various financial assets such as stocks, bonds, and other securities. These companies create and manage investment products like mutual funds, exchange-traded funds (ETFs), and pension funds.

### Other Changes approved:

- Amendments to SEBI (Mutual Funds) Regulations, 1996** were approved by the SEBI Board, requiring **AMCs to implement enhanced surveillance systems** and internal controls to identify and prevent misconduct.
- AMCs must also have a **whistleblower mechanism** for transparency. SEBI will outline the framework, while the Association of Mutual Funds in India (AMFI) will specify detailed standards.

## 22. BALANCED FERTILIZATION

### Context:

The next government is expected to **prioritize 'balanced fertilization'**, aiming to discourage excessive use of urea, DAP, and MOP in agriculture.

### What is Balanced Fertilization?

Balanced fertilization involves providing crops with the right proportion of **primary** (nitrogen, phosphorus, potassium), **secondary** (sulphur, calcium, magnesium), and **micronutrients** (iron, zinc, copper, manganese, boron, molybdenum) based on soil type and crop requirements. The goal is to optimize plant growth and yield while minimizing environmental impact and nutrient imbalances.

**The Nutrient-Based Subsidy (NBS) scheme**, launched by the government, aimed to promote balanced fertilization by fixing subsidies for nitrogen, phosphorus, potassium, and sulfur. However, its exclusion of urea led to its

failure, as urea consumption continued to rise steadily despite the scheme's implementation.

Other Steps to promote balanced fertilization include **rationalizing DAP and MOP prices**, potentially bringing urea under the Nutrient-Based Subsidy (NBS) scheme, **restricting fertilizer usage** to specific crops, and marketing fertilizers in granular form to prevent adulteration and ensure slower nutrient release.

## 23. THROMBOSIS WITH THROMBOCYTOPENIA SYNDROME (TTS)

### Context:

**AstraZeneca** has acknowledged that its **COVID-19 vaccine, known as Covishield in India**, can lead to a **rare side effect** called **Thrombosis with Thrombocytopenia Syndrome (TTS)**.

- Despite this rare side effect, **experts assert that the benefits of vaccination, particularly in saving lives during the pandemic**, outweigh the risks.
- The risk period **for TTS is shortly after vaccination**.

### About TTS:

- **Thrombosis with thrombocytopenia syndrome (TTS)**, also known as **vaccine-induced immune thrombotic thrombocytopenia (VITT)**, is a rare condition characterized by the **presence of blood clots (thrombosis) along with a low platelet count (thrombocytopenia)**.
- Thrombosis occurs when **blood clots form**, potentially **obstructing normal blood flow in affected blood vessels**.
- Thrombocytopenia refers to a **deficiency of platelets in the blood**, which are **essential for clot formation and preventing excessive bleeding**.
- TTS is an uncommon but serious syndrome, particularly associated with certain COVID-19 vaccines.

## 24. 46TH ANTARCTIC TREATY CONSULTATIVE MEETING

### Context:

India, **through the Ministry of Earth Sciences (MoES) and the National Centre for Polar and Ocean Research (NCPOR)**, is set to host the **46th Antarctic Treaty Consultative Meeting (ATCM 46) and the 26th Meeting of the Committee for Environmental Protection (CEP 26)**.

- The Antarctic Treaty, signed in 1959, established **Antarctica as a region for peaceful purposes, scientific cooperation, and environmental protection**.
- In **2022, India enacted the Antarctic Act**, reaffirming its commitment to the Treaty.

Key items on the agenda include sustainable **manage-**

**ment of Antarctica, biodiversity prospecting, climate change response, tourism framework development, and conservation of Antarctic biodiversity.**

## 25. SMART SYSTEM

### Context:

The DRDO successfully tested the **SMART (Supersonic Missile-Assisted Release of Torpedo) system**, a missile-assisted torpedo release system designed to bolster the Navy's anti-submarine warfare capabilities.

It can launch **lightweight torpedoes targeting submarines hundreds of kilometres away**, beyond the conventional range.

### About SMART System:

SMART, developed by DRDO, is a **next-generation missile-based lightweight torpedo delivery system** designed to enhance the Indian **Navy's anti-submarine warfare capability**. It features a **canister-based design** with advanced subsystems like a **two-stage solid propulsion system** and an electromechanical actuator system. With a parachute-based release system, SMART extends the reach of lightweight torpedoes beyond conventional ranges.

## 26. STANDARD ESSENTIAL PATENTS (SEPS)

### Context:

The judiciary's involvement in standard essential patents (SEPs) poses challenges for India's telecom manufacturing sector.

### What are Standard Essential Patents (SEPs)?

Standard Essential Patents (SEPs) are **patents that cover technologies adopted as industry standards**, crucial for ensuring interoperability among different products and systems. These patents are essential for implementing a particular standard, and companies that own SEPs commit to licensing them to others on **fair, reasonable, and non-discriminatory (FRAND)** terms.

For example, in the telecom sector, technologies like **CDMA, GSM, and LTE** are industry standards. Any company manufacturing products compliant with these standards must use technologies covered by SEPs. This ensures that devices from different manufacturers can **work together seamlessly**, benefiting consumers and promoting innovation in the industry.

### Issues with SEPs?

The significance of Standard Essential Patents (SEPs) in the telecom sector lies in **ensuring compatibility among**

**different cellular phone brands.** However, private Standard Setting Organisations (SSOs) largely control the standard-setting process, **limiting India's influence.** Consequently, SEP owners can demand high royalties, leading to the **“patent holdup”** problem.

**How judiciary is dealing with it?**

**Despite competition law enforcement** efforts initiated by the Competition Commission of India (CCI) in 2013, legal battles, particularly against Ericsson, have led to prolonged litigation. Meanwhile, the Delhi High Court's judicial activism in patent infringement cases has resulted in **unprecedented “deposit” orders,** burdening manufacturers and raising questions about procedural fairness.

These prolonged legal battles and judicial interventions have **eroded investor confidence and market stability, hindering India's manufacturing dreams.**



**MAPPING**

**27. THE UNIVERSITY OF TOKYO ATACAMA OBSERVATORY (TAO) PROJECT**

**Context:**

The completion ceremony for [the TAO telescope](#) site was held in Santiago, Chile.

[The TAO Project](#) aims to **build a 6.5-meter optical-infrared telescope** at the summit of Cerro Chajnantor in the Atacama Desert. It will be the **world's highest astronomical site,** offering clear observation conditions due to the region's high altitude and arid climate. Equipped with instruments like **SWIMS and MIMIZUKU,** it will facilitate studies on galaxy evolution and planet formation.

**Atacama's high altitude, thin atmosphere, and arid climate** make it ideal for infrared observations.

**28. RED COLOBUS MONKEYS**

**Context:**

Conserving, is crucial for protecting the continent's tropical forests, according to a recent study. **red colobus monkeys, spread across Africa**

**About the Red Colobus monkey:**

**It is a member of the Colobine group,** primarily feeds on leaves and is native to western, central, and eastern Africa, ranging from Senegal to the Zanzibar Archipelago. Found in habitats like humid forests and coastal thickets, they are listed as one of the **world's 25 most endangered primates by the IUCN.** They have distinctive brown and orange coats, lack thumbs, and mainly consume young leaves, flowers, and unripe fruit, with charcoal or clay aiding in digestion.

INTERNATIONAL

**1. NETHERLANDS**

**Context:**

Self-bred corals from the **World Coral Conservatory project** have been added to Europe's largest reef at Burgers' Zoo in the Netherlands, offering hope amid declining coral populations worldwide.

- Also, recently the **26th World Energy Congress, co-hosted by the World Energy Council (WEC),** concluded in Rotterdam, Netherlands.

**About World Coral Conservatory Project:**

It was **initiated in Monaco in 2019** and aims to safeguard a diverse collection of **coral** species by cultivating samples taken from the natural environment. Partnering with public and private aquariums, the project seeks to preserve living colonies of corals and share them for conservation efforts.

**World Energy Council (WEC):**

**The WEC, established in 1923,** is a **UN-accredited non-profit global energy** organization. It aims to facilitate access to clean, affordable, and reliable energy for improved lives and a sustainable planet. With over 3000 member organizations from around 90 countries, it **develops practical solutions and brings together a network of global energy transition** leaders and practitioners.

**About the Netherlands (also known as Holland)**

**It is a country in northwestern Europe.** It borders Germany to the east and Belgium to the south, with a North Sea coastline. Dutch is the official language, with West Frisian in Friesland. The name **“Netherlands”** refers to

its low elevation, with 26% below sea level, reclaimed as polders since the 14th century.



## 2. SECOND THOMAS SHOAL REEF

### Context:

Tensions have escalated at the Second Thomas Shoal, with China blocking manoeuvres and disrupting supply missions. The Philippines has refuted China's claim of reaching an agreement over the South China Sea dispute, labelling it as propaganda.

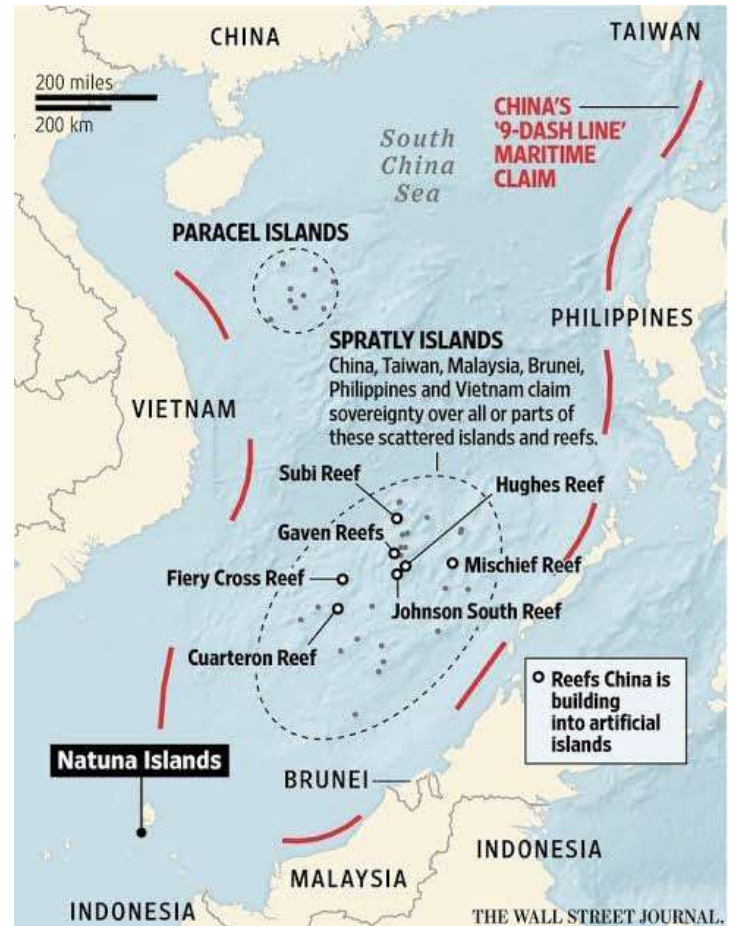
Second Thomas Shoal (located near the Spratly Islands) is a **submerged reef in the South China Sea**. The shoal is **within the Philippines' exclusive economic zone (EEZ)** but is also claimed by China.

### About the South China Sea:

It is a vast area of the western Pacific Ocean, stretching from Singapore and the Strait of Malacca in the southwest to the Strait of Taiwan in the northeast. It is a region of significant geopolitical tension due to various territorial disputes. One major dispute involves the **"nine-dash line" claimed by China**, which encompasses most of the South China Sea and overlaps with the exclusive economic zone claims of several other countries, including **Brunei, Indonesia, Malaysia, the Philippines, Taiwan, and Vietnam**.

Key disputed features include:

1. **Paracel Islands** (controlled by China but also claimed by Taiwan and Vietnam)
2. **Spratly Islands** (claimed by multiple countries including China, Taiwan, Vietnam, the Philippines, and Malaysia)
3. **Scarborough Shoal** (claimed by China, Taiwan, and the Philippines)



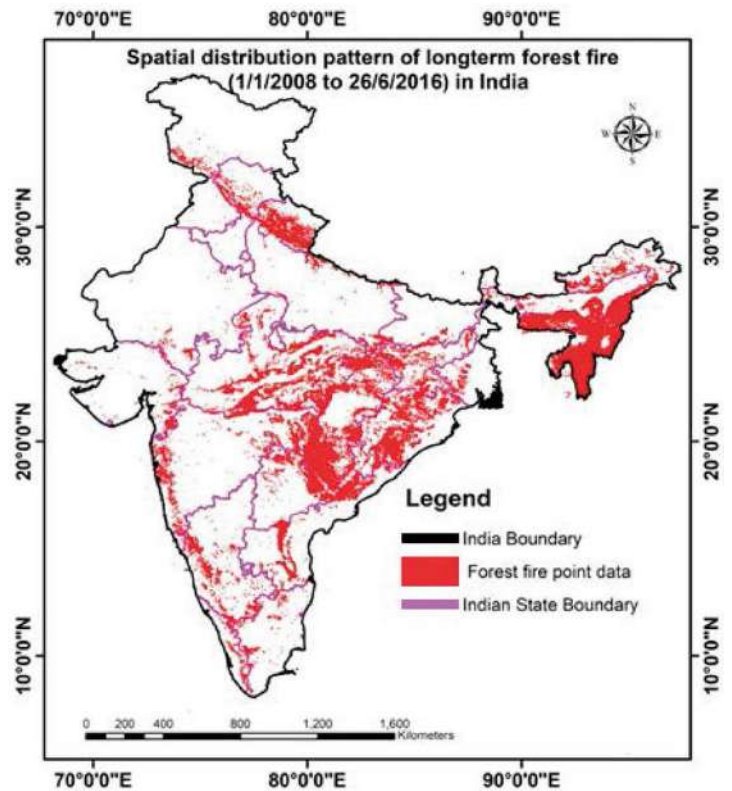
## 3. INDONESIA

### Context:

India and Indonesia **celebrate 75 years of diplomatic ties**, forged by the Treaty of Friendship in 1951.

Both nations were part of the **Bandung Conference in 1955**, leading to the Non-Aligned Movement. They established a **Strategic Partnership in 2005**, later elevating it to a **Comprehensive Strategic Partnership**. Indonesia is a key partner in **India's Act East Policy**. Trade-wise, Indonesia **is India's largest ASEAN trade partner** and a significant source of crude palm oil. Joint military exercises like **Samudra Shakti and IND-INDO CORPAT** enhance security cooperation.

Indonesia is the **world's largest archipelagic state located in Southeast Asia and Oceania**, spanning over 17,000 islands including **Sumatra, Java, Sulawesi, and parts of Borneo and New Guinea**. With a land area of 1,904,569 square kilometres and a population of over 279 million, it's the **14th-largest country** by area and the **fourth-most populous globally**, with Java being the most populous island.



INDIAN

### 4. FOREST FIRE IN UTTARAKHAND

**Context:**

Large Forest fires are raging with forest fires across Uttarakhand. Nearly a hundred hectares of forest have been destroyed, exacerbated by dry conditions from the prevailing heatwave.

In some regions of Uttarakhand, fires were doused with the help of a Bambi bucket, a specialised aerial fire-fighting tool used to pour water in targeted areas.

Uttarakhand faces frequent forest fires due to adverse climate conditions like heatwaves and dry spells, exacerbated by the presence of dry pine needles and human activities like burning forests for fresh grass and carelessly discarding cigarette butts.

More than 36% of India's forest cover is estimated to be prone to frequent forest fires.

To address forest fires, initiatives like the National Action Plan on Forest Fires 2018, State of Forest Report 2021 and the Forest Survey of India's Van Agni Geo-portal have been implemented. The Wildlife (Protection) Act, 1972, prohibits setting fire in wildlife sanctuaries. Preventive measures include the construction of watch towers for early detection, the involvement of local communities, and the creation and maintenance of fire lines.

### 5. INDIAN OCEAN

**Context:**

A recent study by the Indian Institute of Tropical Meteorology (IITM) predicts a significant warming of the Indian Ocean, leading to a tenfold increase in marine heatwaves, from an average of 20 days per year to 220-250 days per year. The Arabian Sea experiences maximum warming.

**Consequences:**

This warming trend, largely attributed to global warming, is expected to have severe consequences, including coral bleaching, seagrass destruction, and loss of kelp forests, adversely impacting the fisheries sector. The study also highlights a substantial increase in the ocean's heat content, which contributes to sea-level rise and affects the Indian Ocean Dipole (IOD), potentially altering monsoon patterns.

**About the Indian Ocean:**

The Indian Ocean is the third-largest ocean in the world, covering an area of over 70 million square kilometers. It is bounded by Africa to the west, Asia to the north, Australia to the east, and the Southern Ocean to the south. The ocean is known for its warm waters and diverse marine life, including coral reefs, whales, dolphins, and various species of fish.



**Oceans on Earth are (larger to smaller):** the Pacific Ocean, Atlantic Ocean, Indian Ocean, Southern Ocean, Arctic Ocean

## 6. SHAKSGAM VALLEY OF PAKISTAN-OCCUPIED KASHMIR

### Context:

India protests Chinese road construction in the **Shaksgam Valley of Pakistan-occupied Kashmir**, claiming it as part of its territory and raising **concerns over territorial integrity**

India has **never accepted the 1963 China-Pakistan Boundary Agreement** and protests against any attempts to alter the situation.

Shaksgam Valley (also called Trans-Karakoram Tract) is an area of **about 5,200 km<sup>2</sup> north of the Karakoram watershed**, administered by China, but claimed by India. While under **Pakistan's control since 1947, Pakistan recognized Chinese sovereignty over it in the 1963 Sino-Pakistan Agreement**. India disputes this claim, asserting it is part of the Kashmir region. The Shaksgam Valley is strategically important due to its **proximity to the Siachen glacier**, a critical area amidst India-China tensions.

