

Current Affairs Workbook

February 2025



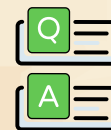
**Mains
Questions**



**Ethics
Case Studies**



**Progress
Tracking Table**



MCQs



Quick facts



True/ False



**Comprehensive
Summary**

Self-Evaluation

Progress Tracking Table

Activity Type	Total Questions	Correct Answers	Attempted	Score/Percentage
MCQ's				
True/False Statements				

Monthly Learning Summary

Top 3 Learnings/insights

-
-
-

Progress Comparison

Previous Month's Score: _____

Current Month's Score: _____

Areas of Improvement: _____

Reflection Section

Strengths: _____

Areas for Improvement: _____

Goals for Next Month: _____



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From the Editor's Desk

Dear Readers,

The February edition of the Workbook continues to provide a structured and analytical framework to help you master current affairs with clarity and depth. By engaging with the Workbook after reviewing the Monthly Current Affairs Summary, you strengthen both your retention and analytical skills—crucial for success in competitive examinations.

This month's Workbook explores a wide spectrum of developments with clarity and focus. In the **Polity and Governance** section, we take a closer look at pressing issues such as the debate around *Freebies vs. Welfarism*, the *Status of Panchayat Devolution* across states, and reforms to combat *Proxy Representation in PRIs*, each offering deep insights into federal dynamics and grassroots democracy.

In **International Relations**, we highlight India's strategic recalibration through topics like *Geo-Economic Fragmentation*, *India's Neighbourhood First Policy* and *India-U.S. Civil Nuclear Cooperation*. These events underscore the shifting contours of India's global role and diplomatic engagements.

The **Economy** section captures vital transitions such as the launch of the *National Critical Mineral Mission*, *new schemes for MSMEs*, and the proposed *Mutual Credit Guarantee Scheme*. These reflect India's evolving priorities in self-reliance, innovation, and sustainable development.

Our structured approach remains consistent throughout the Workbook with dedicated segments on Environment, Security, Science & Technology, and Government Schemes—ensuring holistic preparation.

How the Workbook is Organized?

1. **Summary of the Monthly Magazine:** A concise overview of the month's key developments.
2. **Quick Facts Block:** Essential facts, figures, and statistics for rapid revision.
3. **Activities Block:**



MCQ's : Test your understanding of key topics.



True/False Statements : Verify critical facts.



Mains practice Questions : Develop structured and analytical responses.



Ethics Case Studies : Apply current affairs to ethical dilemmas for better decision-making.



Answers and Explanation : Immediate feedback for self-assessment.

4. **Progress tracking table :** Monitor your learning and identify areas for improvement.

We encourage you to practice consistently, engage with the material actively, and make this Workbook your trusted companion in UPSC preparation. With the right approach and determination, success is within your reach.

Warm regards,
Team Current Affairs,
VisionIAS



"Don't watch the clock; do what it does. Keep going."
– Sam Levenson



POLITY AND GOVERNANCE



1.1. FREEBIES

Why in the News?

Recently, the Supreme Court asked if freebies promote a parasitic lifestyle among the poor and reduce their drive to seek work.

What are Freebies?

RBI's Definition: "Public welfare measures provided free of charge."

- ➔ Given in the form of election promises by political parties.
- ➔ Many experts believe that in the recent times, **welfarism and freebies have become synonyms**.

Welfarism vs. Freebies

Welfarism: Constitutionally rooted sustained efforts like PDS, MGNREGA, etc. **to build human capital**.

Freebies: Short-term handouts (e.g., free power) lack sustainability, distort markets, discourage work, etc.

Multiple Approaches to Welfarism

Charity Approach	Needs Approach	Right Based Approach
➔ Focus: Input, not outcome	➔ Focus: Input & outcome for needs	➔ Focus: Process & outcome for rights
➔ Rich's moral duty to poor	➔ Needs as valid claims	➔ Rights as legal and moral claims
➔ Individuals as victims	➔ Individuals as development objects	➔ Individuals & groups empowered to claim rights
➔ Targets problem manifestation	➔ Targets immediate causes	➔ Targets structural causes & manifestations

Constitutional and Legal Perspectives

- ➔ **Directive Principles of State Policy (DPSP):** Articles 38, 39, 41 highlight the **state's role** in promoting welfare, ensuring livelihood for all, preventing wealth concentration, etc.
- ➔ **Supreme Court Judgments:**
 - ➔ **Subramaniam Balaji Case (2013):** Court upheld state distribution of items like TVs and laptops as aligned with DPSP.
 - ➔ **Ashwini Kumar Upadhyay v Union of India (pending):** Court is reviewing challenges to freebies in election campaigns.
- ➔ **Election Commission:** Urges transparency in electoral promises, asking parties to reveal funding for freebies.

Impacts of Freebies

Positive (Welfarism)	Negative (Freebies)
➔ Basic Needs: food, health, housing, etc.	➔ Financial Burden: Strains budgets, cuts infrastructure spending.
➔ Gender Parity: Boosts enrolment (e.g., meals, bicycles).	➔ Creates dependency, lowers productivity.
➔ Inclusivity: Removes financial barriers for growth.	➔ Harms sustainability, burdens future generations.
➔ Political Participation: Engages voters, enhances democracy.	➔ Used as populist vote-buying tactic.
➔ Tackles under-employment, inter-generational mobility issues.	➔ Weakens manufacturing competitiveness.

Steps to be taken

- ➔ **Policy Reforms:** Fiscal prudence, prevent leakages, expand insurance coverage & build consensus.
- ➔ **Role of Election Commission:** Regulate manifestos for transparency and accountability.
- ➔ **Skill Development:** Empower individuals to reduce freebie dependency.
- ➔ **Voter Awareness**
- ➔ **Intervention:** Form expert committees (comprising NITI Aayog, RBI and Finance Commission) to assess impact.
- ➔ **Global Lessons:**
 - ➔ Sri Lanka's 2019 tax cuts caused revenue loss and collapse.
 - ➔ Venezuela's populist freebies led to economic crisis.

1.2. STATUS OF DEVOLUTION TO PANCHAYATS IN STATES**Why in the news?**

Recently, **Ministry of Panchayati Raj** released a report titled “**Status of Devolution to Panchayats in States – An Indicative Evidence Based Ranking**”.

More in the News

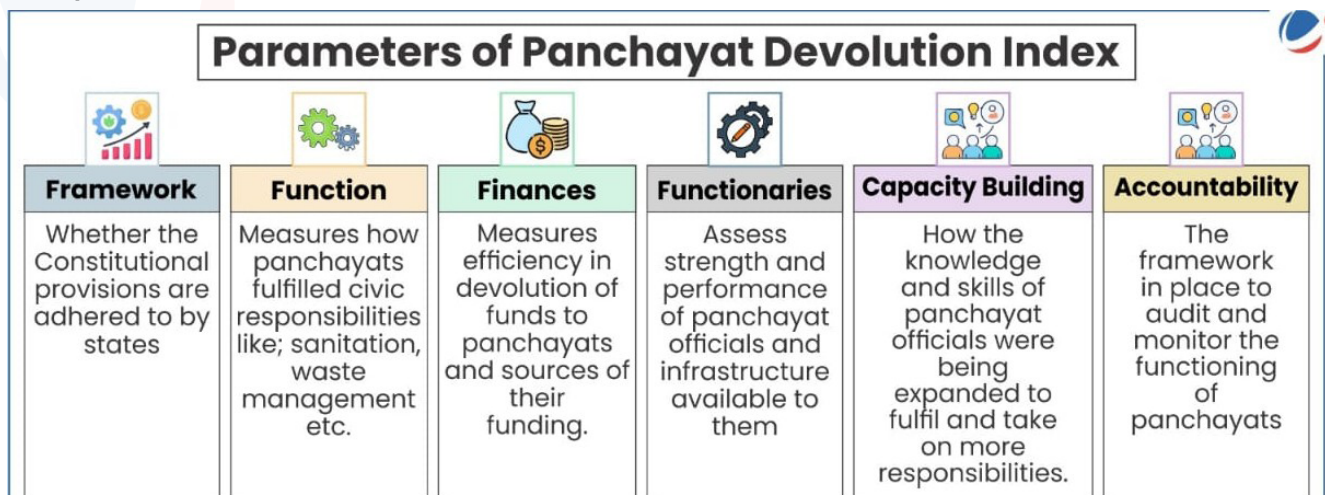
- ➔ Prepared by **Indian Institute of Public Administration (IIPA)**, New Delhi, the report examines Panchayats' ability to fulfill their roles under the 73rd Amendment.

About Devolution of Panchayat

- ➔ Devolution involves **transferring powers, authority, duties, or funds from a higher to a lower jurisdiction**.
- ➔ Local government, including panchayats, is a **state subject** in the Constitution, so **devolution to panchayats is at states' discretion**.

Key Highlights of Report

- ➔ **Panchayat Devolution Index:** Ranks States/UTs on 6 devolution dimensions.





- 'Function' dimension has the lowest national average.
- ➔ **Top 3 States:** Karnataka, Kerala, Tamil Nadu.
- ➔ **Lowest 3 States/UTs:** Dadra & Nagar Haveli and Daman & Diu, Puducherry, Ladakh.
- ➔ **Devolution rose** from 39.9% to 43.9% (2013-14 to 2021-22).
- ➔ **Capacity Enhancement** increased from 44% to 54.6% due to initiatives like **Rashtriya Gram Swaraj Abhiyan** (RGSA).

Importance of Devolution Index

- ➔ **For citizens:** transparency in Panchayat operations and resource use.
- ➔ **For elected representatives:** data for advocacy and reform.
- ➔ **For government officials:** effective decentralization policies.
- ➔ **For policymakers:** assesses local governance health and reform needs.

Significance of Devolution

				
Improve service delivery	Aligns with 73 rd amendment act	Strengthen grassroots democracy	Promote economic growth, self-reliance	Improve PRIs fiscal health

Constitutional Provisions regarding Devolution			
243G	243H	243I	243ZD
State endows Panchayats with powers to function as institutes of self-governments.	State Legislatures can authorize Panchayats to collect taxes, duties, tolls, fees.	State Finance Commission (SFC), every five years, transfers resources to Panchayats.	District Planning Committee consolidates Panchayat, Municipality plans into district development plan.

Challenges regarding Devolution of Panchayat

- ➔ **Framework:** Irregular elections and delays in delimitation. E.g., Delayed elections for over 23,000 local bodies in Madhya Pradesh.
- ➔ **Function:** Limited to traditional roles (like civic duties), presence of **parastatal bodies**, etc.
- ➔ **Finances:** Inadequate resources and reliance on grants (95% of revenue).
- ➔ **Functionaries:** Lack of technical, administrative & support staff, like **one secretary for 17 Gram Panchayats**.
- ➔ **Capacity Building:** Poor infrastructure and training affect Panchayats.
 - E.g., Over 40,000 GPs still lack computers.
- ➔ **Accountability:** Low participation and awareness lead to corruption.
 - E.g., 70% of panchayats in Krishna district (Tamil Nadu) have been misappropriating funds.

Recommendations as per Report

- ➔ **Strengthening State Election Commission:** with powers like setting dates and delimitation; common electoral rolls.
- ➔ **Reserved seats:** E.g., freeze reservations for two/three terms.
- ➔ **Autonomy:** E.g., transfer Eleventh Schedule subjects to them, not parallel bodies.
- ➔ **Funding:** E.g., Form SFCs every 5 years, table reports in legislatures, etc.
- ➔ **Accountability:** strict financial oversight, independent audits, etc.
- ➔ **Manpower:** E.g., Grant Panchayats control over ad hoc staff and experts, allocate resources based on workload and local needs, etc.
- ➔ **Capacity Building:** Train PRI members in Local Public Service Management, covering systems, finance, etc.

1.2.1. PROXY REPRESENTATION IN PRIS

Why in the News?

Panel by Ministry of Panchayati Raj (MoPR) in report, “Transforming Women’s Representation in Panchayati Raj: Ending Proxy Participation,” recommended ways for eliminating proxy participation in Panchayati Raj Institutions (PRIs).

More in the News

- ➔ In **Mundona Rural Development Foundation vs UOI (2023)**, Supreme Court ordered the committee to **study proxy participation in PRIs**.

Women’s Reservation in PRIs

- ➔ **Constitutional Mandated (73rd Amendment, 1992)**: reserving **1/3rd seats for women** in PRIs, later expanded to **nearly 50% by 21 States** (Bihar first).
- ➔ **Current Representation of women**: 46.6%.
- ➔ **Issue of Proxy Representation**: E.g., sarpanch pati.

Importance of Women Participation in PRIs		
Greater Response to Women’s Issues	Better Community Development	Pathway to Higher Political Representation
➔ Twice as likely to address women’s requests (MIT, 2003)	➔ Women-led councils prioritize water, sanitation, schools, etc.	➔ Grassroots leadership aids women’s rise in higher offices
➔ Decentralization boosts maternal healthcare and safe deliveries	➔ NCAER (2010) confirms community development impact	➔ Builds pipeline for Lok Sabha & State Legislatures

Key Reforms Proposed by the Committee

- ➔ **Strict Penalties & Punishments**
- ➔ **Stronger Policies**: Kerala style **gender-exclusive quotas**, **swearing-in ceremonies**, etc.
- ➔ **Technological Solutions**: E.g., VR training and AI-powered legal guidance for women representatives in vernacular languages.
- ➔ **Accountability Mechanisms**: Helplines, watchdog committees, and whistleblower rewards.
 - ➔ **Panchayat Nirnay Portal**: Tracks elected pradhans’ participation in meetings and decisions.

1.3. NEWS IN SHORTS

1.3.1. GOVT TO SET UP DEREGULATION COMMISSION




Prime Minister announced that Government will set up Deregulation Commission **to Reduce State’s role in governance**.

- ➔ PM also highlighted the **Jan Vishwas Bill 2.0** (announced in the 2025-26 Union Budget), to reduce bureaucratic hurdles by easing regulations.
 - ➔ The Bill **aims to decriminalize over 100 outdated laws** to boost **ease of doing business**.

About Deregulation

- ➔ It is **reduction or elimination of government oversight** of an industry.
- ➔ **Global Initiatives**: DoGE (US); Better Regulation Framework (UK); Ministry of Regulation (New Zealand).

Challenges of deregulation

 <p>Market Monopolization: Larger firms may dominate</p>	 <p>Potential for Exploitation: Unethical practices (like price gouging)</p>	 <p>Lack of Transparency: Companies may withhold information, affecting public trust</p>
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Significance of Deregulation in Fueling Economic Activity

- ➔ **Boosts Growth**: For 8% growth India **needs investment to rise from 31% to 35% of GDP**.
 - ➔ E.g., **Japan and China** grew via deregulation.
- ➔ **Enhances Economic Freedom**: Cuts bureaucracy, boosting competition.

- E.g., Jan Vishwas Act 2023 eased 183 provisions in 42 Acts.
- **Reduces MSME Costs:** Due to simpler rules.
 - E.g., Haryana & Tamil Nadu relaxed building regulations.
- **Enhances Competitive Federalism:** E.g., Andhra Pradesh, Karnataka & Haryana eased night shift rules for women.

1.3.2. PRESIDENT'S RULE IN MANIPUR

President of India issued Proclamation imposing President's rule in Manipur (11th for state), placing the state assembly under **suspended animation**.

About President's Rule

- **Constitution:** Under **Article 356**, if the President (on the Governor's report), finds that State government failed to follow Constitutional provisions.
 - Also, **Article 365** permits a "Constitutional Emergency" if a State disobeys Union directions.
- **Duration and Approval:** As per **Article 356 (3)**, it lasts **only two months** unless Parliament (Both Houses) approves it by **simple majority**.
 - If approved, it **extends to six months, (maximum 3 years with Parliamentary approval every 6 months)**.
- **Revocation:** By a subsequent Presidential proclamation.
- **Consequences:**
 - **Governor administers the State on President's behalf**, aided by the Chief Secretary or advisers.
 - President can transfer **State Legislature's powers to Parliament**.
 - **High Court remains unaffected**.

S R Bommai Vs Union of India (1994)

- Supreme Court ruled that **Article 356** proclamations are subject to **judicial review**.
- The President can dissolve a state assembly **only after Parliament approves**, until then it stays suspended.

1.3.3. UNION CABINET APPROVES THE REVISED WAQF (AMENDMENT) BILL, 2024

In revised bill suggestions of **Joint Parliamentary Committee (JPC)** have been incorporated as per reports.

What is 'Waqf'?

- Properties dedicated **solely for religious or charitable use under Islamic law**
- Waqf properties are **given to Allah and managed by a 'mutawalli'**.
- Waqf Boards control 8.7 lakh properties over 9.4 lakh acres in India, the **world's largest waqf holding**.

About Waqf (Amendment) Bill, 2024

- **Objective:** To amend the **Waqf Act, 1995**, to improve regulation of **Waqf properties**.
- **Key Provisions:**
 - **Inclusive:** Muslim women and OBCs in management (Central Waqf Council and State Waqf Boards).
 - ◊ **Central Waqf Council:** Statutory body since 1964, **advises State Waqf Boards** without controlling waqf property.
 - ◊ **State Waqf Board:** Oversees waqf property **maintenance and administration**.
 - **Tribunal Orders** appealable to High Court **within 90 days**.
 - **Others:** Tech-enhanced registration, separate boards for **Aghakhani and Bohra communities**.

Need for Amendment

- "Once a waqf, always a waqf" principle causes disputes.
- No judicial oversight on tribunal decisions.
- Poor survey of waqf properties.

1.3.4. DIGITAL BRAND IDENTITY MANUAL (DBIM)

Ministry of Electronics and Information Technology (MeitY) introduced DBIM to harmonize the government's Digital presence.

About DBIM

- **Simplifies and standardizes** government websites.
- **Aim:** To help diverse citizens easily **access essential services**.
- **Objective:** To improve service delivery and ensure consistent, transparent messaging across ministries.
- **Significance:** Supports "**Minimum Government, Maximum Governance**" with "Uniform Governance."

INTERNATIONAL RELATIONS







2.1. GEO-ECONOMIC FRAGMENTATION

Why in the News?

The Economic Survey 2024-25 highlights a global shift from **economic integration** to **geo-economic fragmentation (GEF)**, signaling the **replacement of globalization**.

About Geo-Economic Fragmentation (GEF): The New Global Reality

- ➔ **GEF:** Policy-driven reversal of global economic integration, driven by strategic concerns.
- ➔ **Examples:**
 - ➔ **Friendshoring:** Supply chains shift to politically aligned nations (e.g., Apple moving iPhone production from China to India).
 - ➔ **Nearshoring:** Outsourcing to nearby countries (e.g., German firms using Polish customer service).

From Globalization to GEF			
 Rise of Globalisation (1980s-2000s) <ul style="list-style-type: none"> ➔ Trade liberalisation & cross-border investments integrated economies, boosted growth and reduced poverty. ➔ E.g., Global trade rose from 39% (1980) to 60% (2012) of world GDP. 	 Peak Globalisation (2000s-2010s) <ul style="list-style-type: none"> ➔ Hyper-globalisation saw unprecedented trade, FDI, etc. 	 Slowbalization (2010s) <ul style="list-style-type: none"> ➔ Rising inequality, geopolitical tensions, and outsourcing backlash fueled discontent with globalisation's uneven benefits. 	 Fall of Globalisation (2020s) <ul style="list-style-type: none"> ➔ Geo-Economic Fragmentation (GEF) intensified via trade wars, tech decoupling, etc

Key Characteristics of GEF

- ➔ **Geopolitical Alignments and Retreat from Multilateralism.**
- ➔ **Economic Blocs and Strategic National Policies.**

Channels of GEF

- ➔ **Trade Restrictions:** Tariffs, non-tariff barriers.
- ➔ **Tech Decoupling:** Reduced collaboration in high-tech sectors (e.g., U.S. CHIPS Act vs. China's Made in China 2025).
- ➔ **Capital Flow Reduction:** Declining FDI in non-aligned economies.

Impacts of GEF

- ➔ **Economic Losses:** Slower global growth; threatens India's \$5T economy goal by FY28.
- ➔ **Investment Shifts:** FDI in India hit a 5-year low in FY24.
- ➔ **Labor Market:** Restricted migration reduces skills flow and remittances.
- ➔ **Decline in Globalization:** Weakens climate cooperation, tech diffusion, and cultural exchange.

Way Forward

- ➔ **Domestic Supply Chains:** Boost self-reliance (e.g., **KABIL** for critical minerals like lithium).
- ➔ **Regional Partnerships:** Leverage **BIMSTEC**, **IPEF** for Indo-Pacific trade.
- ➔ **Tech & Innovation:** Focus on **AI**, **renewables**, and **digital transformation**.







2.2. INDIA'S NEIGHBOURHOOD FIRST POLICY

Why in the news?

India's Neighbourhood First policy has completed a decade.

About India's Neighbourhood First Policy (NFP)

- ➔ **Genesis:** Launched in **2008**, intensified post-2014.
- ➔ **Objective:** Strengthen ties with immediate neighbors, **Afghanistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Pakistan, Sri Lanka**.
- ➔ **Guiding Principles:** **5S Framework** (Samman, Samvad, Shanti, Samridhi, Sanskriti) with a **non-reciprocal, outcome-oriented approach**.

Instability in India's neighbourhood		
	Country	Concerns for India
	Afghanistan: Taliban takeover in 2021 led to collapse of democratic government.	<ul style="list-style-type: none"> ➔ Safety of its investments in Afghanistan ➔ Security implications of a Taliban-ruled state
	Myanmar: Military coup in 2021 has destabilized democracy, sparking widespread protests and violence.	<ul style="list-style-type: none"> ➔ Increased insurgency and refugee flows.
	Sri Lanka: In 2022, Economic crisis triggered political instability and public unrest	<ul style="list-style-type: none"> ➔ Potential refugee influx ➔ Economic spillover effects ➔ Strategic concerns over Chinese influence.
	Maldives: Political turbulence since 2012. ➔ In 2023, a new government, which campaigned on an anti-India platform was elected.	<ul style="list-style-type: none"> ➔ Maintaining influence against Chinese inroads ➔ Protecting Indian Ocean security ➔ Balancing diplomatic ties
	Nepal: Political instability persists due to frequent government changes.	<ul style="list-style-type: none"> ➔ Growing Chinese influence.
	Bangladesh: Political instability since 2024 to resignation of Bangladesh's Prime Minister.	<ul style="list-style-type: none"> ➔ Illegal migration and forced displacement: ➔ Threat to key projects like Akhaura-Agartala rail link

Key Aspects of NFP

- ➔ **Economic & Connectivity Boost:** E.g., **Bangladesh:** Mongla seaport access (2024) cuts costs for NE India.
- ➔ **High-Level Diplomatic Outreach:** E.g., **Nepal:** PM Modi's 2014 visit (first in 17 years).
- ➔ **Development Projects & Aid:** E.g., **Maldives:** Greater Malé Connectivity Project.
- ➔ **Energy Cooperation:** E.g., **Bangladesh-Nepal-India** tripartite power trade.
- ➔ **Countering China's Influence:** E.g., **Maldives:** Financial aid vs. China's debt-trap diplomacy.
- ➔ **Humanitarian Leadership:** E.g., **Vaccine Maitri** (Bhutan, Maldives first recipients).

Importance of India's Neighbourhood (South Asia)

- ➔ **Economic Integration:** South Asia's 5% intraregional trade offers India a leadership role.
- ➔ **Infrastructure:** South Asia helps India counter China economically and strategically.
- ➔ **Cultural Influence:** Shared history boosts people-to-people ties and soft power.
- ➔ **Security:** Stable South Asia ensures India's internal security.

Challenges

- ➔ **Political Instability:** E.g., Myanmar coup, Maldives' pro-China shift.
- ➔ **Perceived "Big Brother" Attitude:** E.g., 2015 Nepal blockade backlash.
- ➔ **Project Delays:** E.g., Malé bridge delays fueled anti-India sentiment.
- ➔ **Unresolved Disputes:** Teesta River (Bangladesh), Kalapani (Nepal).
- ➔ **China's BRI Expansion:** Hambantota Port (Sri Lanka), BRI inroads in Nepal, Bangladesh.

Way Forward

- ➔ **Diplomatic Sensitivity:** Align with neighbors' domestic politics (e.g., Maldives' shifting alliances).
- ➔ **Resolve Irritants:** Fast-track Teesta pact, Kalapani/Kachatheevu solutions.
- ➔ **Efficient Project Delivery:** Avoid delays to retain trust.
- ➔ **Strategic Balancing:** Counter China without forcing binary choices.
- ➔ **Support Democracy:** Stabilize engagement with Bangladesh, Myanmar, and Afghanistan.

2.3. TRIANGULAR PARTNERSHIP

Why in the news?

A recent report by the OECD and the Islamic Development Bank stresses **that triangular partnerships can effectively win influence in a divided and conflicted world.**

Key Actors of Triangular Cooperation

- ➔ **Beneficiary:** Developing country seeking help for a development issue.
- ➔ **Pivotal Partner:** Developing country with expertise, sharing knowledge/resources.
- ➔ **Facilitating Partner:** Developed country/agency funding and supporting collaboration.

Reasons for Resurgence of Triangular Partnerships

- ➔ **Failed Aid Models:** Traditional donor-recipient hierarchies lost credibility.
- ➔ **Rise of Emerging Donors:** India, China, Brazil's **mutual-benefit** approaches gained traction.
- ➔ **Countering China:** G7 engages India (shared democratic values) to balance China's BRI influence.
- ➔ **Geopolitical Instability:** New models needed amid conflicts/economic crises.

Challenges of Triangular Partnerships

- ➔ **Power Imbalance:** Donor agendas may override recipient needs (e.g., focus on **investment-grade** over poorer nations).
- ➔ **Complex Standards:** African nations struggle with **EU sustainability norms**.
- ➔ **Implementation Hurdles:** Disputes over **procurement rules** (e.g., India's **75% local sourcing** clause in LoCs).
- ➔ **Limited Impact:** Project-based approach risks misalignment with long-term development goals.

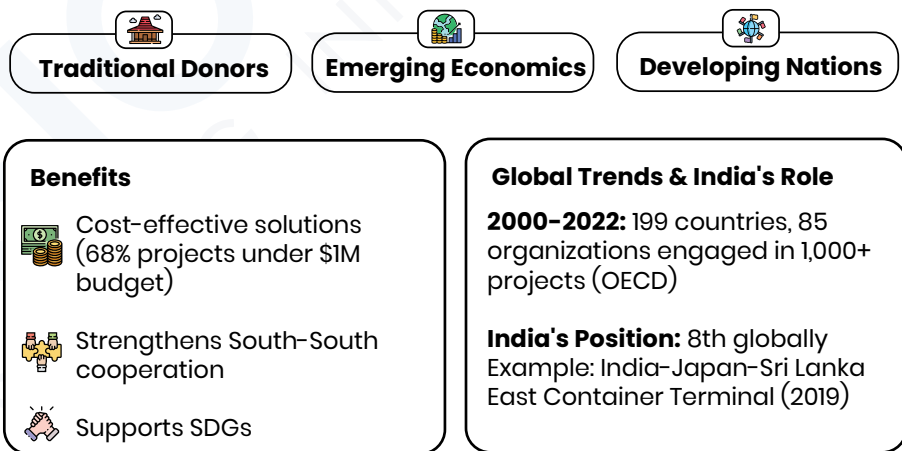
Way Forward

- ➔ **Inclusivity:** Let recipients co-design projects.
- ➔ **Simpler Norms:** Adapt standards to local contexts.
- ➔ **Flexible Policies:** Balance donor mandates with local job creation.
- ➔ **Scale Up:** Align with **Paris Declaration**, integrate into national strategies.

Triangular Partnership/Cooperation

Definition

Collaboration between traditional donors (e.g., US, Japan), emerging economies (e.g., India), and developing nations to share expertise and resources.



2.4. INDIA – U.S.A RELATIONS

Why in the news?

The Indian Prime Minister paid an Official Working Visit to the USA.

Key Outcome of the Visit

Area/Sphere	Arguments in Favor of In
Defense & Security	<ul style="list-style-type: none"> ➔ Proposed Ten-year Framework for the U.S.-India Major Defense Partnership: Signing to boost defense ties. ➔ Autonomous Systems Industry Alliance (ASIA): Scaling industry partnerships in Indo-Pacific. ➔ Other: Co-producing Javelin Missiles and Stryker Vehicles in India.
Technology and Innovation	<ul style="list-style-type: none"> ➔ U.S.-India TRUST Initiative: Drives collaboration in critical tech like defense. ➔ INDUS Innovation: Enhances industry-academia ties in space, energy, etc. ➔ Strategic Mineral Recovery Initiative.
Defense & Security	<ul style="list-style-type: none"> ➔ U.S.-India COMPACT for the 21st Century: to build trust and mutual benefits. ➔ Mission 500: Aims to double bilateral trade to \$500 billion by 2030.

Significance of a Robust India-US Relationship

- ➔ **Advancing Economic Opportunities:** USA as India's top export destination; India joined three IPEF pillars.
- ➔ **Strengthening Global Strategic Influence:** Quad partnership counters China's influence in the Indo-Pacific.
- ➔ **Defense Modernization:** Foundational agreements (GSOMIA, LEMOA, COMCASA, BECA); US recognizes India as Major Defense Partner with STA-1 status.
- ➔ **Emerging Technologies:** Launched iCET (2023).
- ➔ **Space Outreach:** NISAR mission; India joined Artemis Accords for space governance.
- ➔ **Energy Security:** US-designed nuclear reactors in India; US as a major LNG supplier.
- ➔ **Countering Terrorism:** US approved extradition of 26/11 accused Tahawwur Rana to India.
- ➔ **Multilateral Support:** US back India's UNSC permanent seat, NSG, and IEA membership.
- ➔ **Climate & Renewable Energy:** US joined International Solar Alliance, launched RETAP.



Issues Straining India-US Partnership

- ➔ **Trade & Economic Challenges:** India on US 2024 Special 301 Priority Watch List for IPR.
- ➔ **Geopolitical Divergences:** e.g., avoiding militarizing Quad, stance on Russia-Ukraine war.
- ➔ **Visa & Immigration:** Tightened H-1B visa rules, deportation of illegal Indian immigrants.
- ➔ **Human & Religious Rights:** USCIRF concerns over CAA seen as interference in India's affairs.
- ➔ **Sanctions:** US concerns over India's S-400 purchase from Russia under CAATSA.

Ways to Strengthen India-US Partnership

- ➔ **Bilateral Trade Agreement (BTA):** Enhance market access, reduce tariffs, resolve IPR issues.
- ➔ **Defence Framework:** Finalize 2025-2035 defense framework.
- ➔ **H-1B Visa Easing:** Streamline visa processes for Indian professionals.
- ➔ **CAATSA Waiver:** Leverage Indian-American influence for long-term exemptions.
- ➔ **Human & Religious Rights:** US to avoid interference in India's internal matters.
- ➔ **Emerging Tech & AI:** Deepen cooperation, e.g., U.S.-India Roadmap under TRUST Initiative.

2.4.1. INDIA-U.S. CIVIL NUCLEAR AGREEMENT

Why in the News?

The budget's focus on developing **100 GW of nuclear energy by 2047**, alongside amendments to the **Atomic Energy Act** and **Civil Liability for Nuclear Damage Act**, can revitalize the dormant India-U.S. Civil Nuclear Agreement.

More on the News:

- ➔ **U.S. removes 3 Indian nuclear entities** (BARC, IGCAR, IRE) from its Entity List, easing trade restrictions.
- ➔ **Significance:** Facilitates implementation of the U.S.-India 123 Agreement for nuclear cooperation.

About India-U.S. Civil Nuclear Agreement or 123 Agreement:

- ➔ **Background:** 1978 U.S. sanctions post-Pokhran-I; 2005 cooperation pact; 2008 final deal under U.S. Atomic Energy Act.
- ➔ **Key Provisions:**
 - ➔ **IAEA Safeguards:** Civilian reactors under permanent monitoring.
 - ➔ **NSG Waiver:** Allowed nuclear trade despite India's non-NPT status.

Elements of India's Nuclear Liability Act



Non-Retroactivity

Future amendments don't impact existing contracts.



CSC Compatibility

Aligns with Convention on Supplementary Compensation



Insurance Pool

1,500 crore pool covers nuclear liabilities.



Operator Liability

Strict liability solely on nuclear plant operators.



Supplier's Right of Recourse

Operators can claim against suppliers for defects.

Significance of India-U.S. Civil Nuclear Agreement:

- ➔ **Ended India's isolation**, legitimized nuclear status, and boosted energy security (reactor efficiency rose to 80%).
- ➔ **Strategic impact:** Foundation for deeper U.S.-India ties and entry into export control regimes (MTCR, Wassenaar, Australia Group).

Challenges:

- ➔ **Civil Liability Law (CLND 2010):** Supplier liability clauses deterred private investments.
- ➔ **Commercial hurdles:** Westinghouse bankruptcy stalled reactor projects; high costs shifted focus to renewables.

Way forward to operationalize India-U.S. Civil Nuclear Agreement

- ➔ **Amend India's Civil Liability for Nuclear Damage (CLND) Act.**
- ➔ **Establish an Intergovernmental Understanding on Liability.**
- ➔ **Expedite the Implementation of the Insurance Pool.**

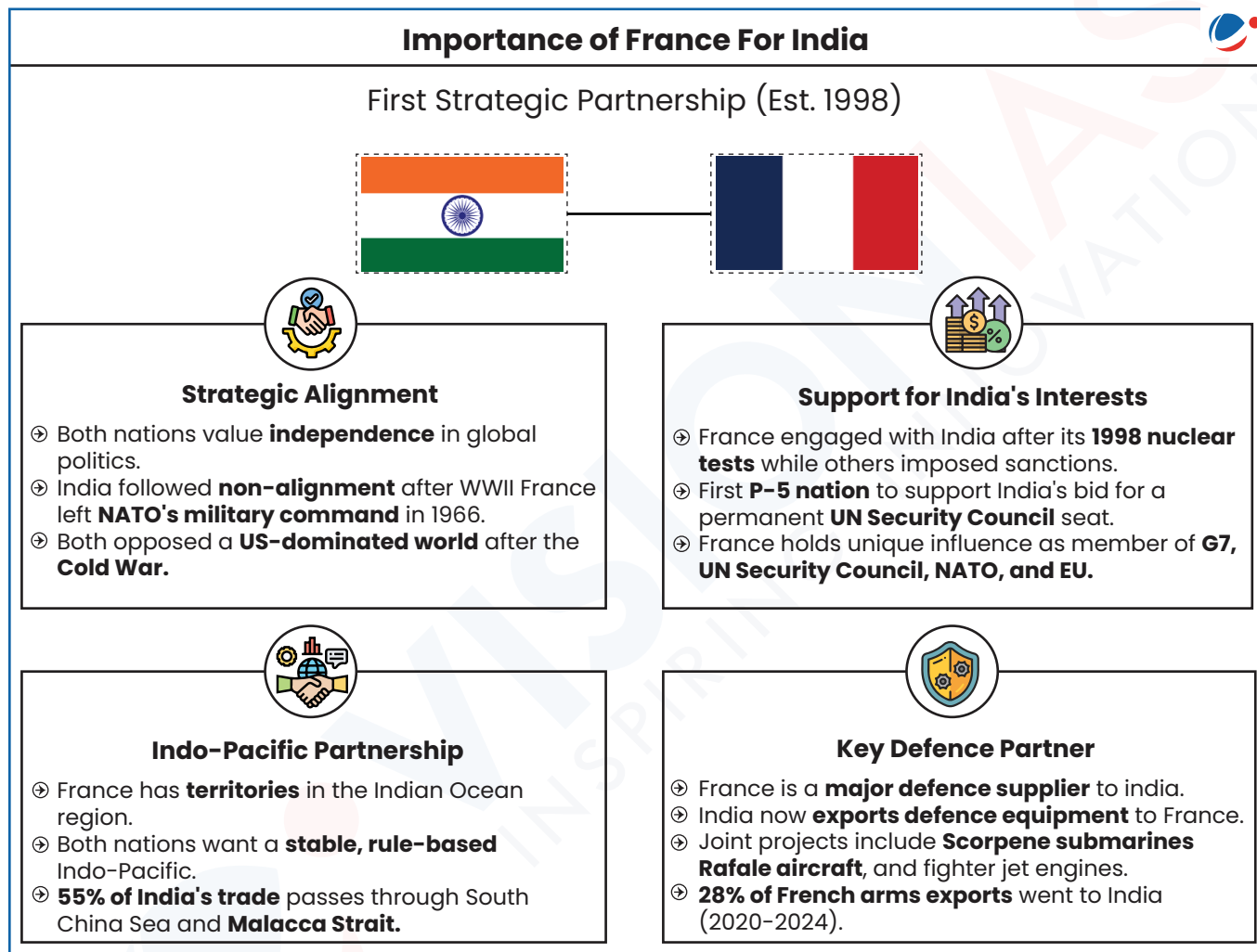
2.5. INDIA-FRANCE RELATIONSHIP

Why in the news?

India and France co-chaired **Artificial Intelligence (AI) Action Summit** held in France.

More on the news

- ➔ **Event:** AI Action Summit, Paris (France + UNESCO)
- ➔ **Goal:** AI benefits for society, economy, environment
- ➔ **Next Host:** India (endorsed by France).



Cooperation Area	Description
Economic	➔ The total trade for FY 2022-23 breached the USD 13 billion .
Defence	➔ Important exercises: SHAKTI (Army Exercise), Exercise GARUDA (Bilateral Air Exercise), etc. ➔ FRIND-X (France-India Defence Startup Excellence) launched. ➔ Horizon 2047: roadmap was launched on the 25th Anniversary of the India-France Strategic Partnership to set the course for the bilateral relationship up to 2047.
Science	➔ India-France Roadmap on AI . ➔ Creation of the Indo-French Life Sciences Sister Innovation Hub . ➔ Unified Payment Interface (UPI) in France and Europe.

Space	<ul style="list-style-type: none"> France is a key supplier of components and equipment for India's space program. Ongoing projects include joint satellite TRISHNA, maritime domain awareness, etc.
Civil Nuclear	<ul style="list-style-type: none"> India and France signed a civil nuclear agreement in 2008. India is also a member of the International Thermonuclear Experimental Reactor (ITER). Both nations are now working on a partnership for Small Modular Reactors (SMR).
Other Areas	<ul style="list-style-type: none"> Climate Change: Both nations actively drive the implementation of the 2015 Paris Climate Agreement and in 2018 Co-launched the International Solar Alliance. Trilateral Cooperation: The India-France-Austral: Promotes a free, open, and rules-based Indo-Pacific.

Key Challenges in India-France relations:

- ➔ **Roadblocks in Nuclear Energy Cooperation:** High costs, delays, and concerns over India's Civil Liability for Nuclear Damage Act (2010).
- ➔ **Divergent Geopolitical Stances:** France supports Ukraine; India remains neutral.
- ➔ **Intellectual Property Rights (IPRs) Concerns:** Weak enforcement in pharma, fashion, and tech discourages French investment.
- ➔ **Trade Barriers and Protectionist Policies:** French resistance to Indian agri-exports.
- ➔ **Stalled India-EU Free Trade Agreement (FTA):** Unresolved BTIA since 2007.
- ➔ **Limited Private Sector and P2P Engagement:** Dominantly G2G-driven.

2.6. NEWS IN SHORTS

2.6.1. INDIA AND QATAR ELEVATE BILATERAL TIES TO STRATEGIC PARTNERSHIP

Elevation was done during state visit to India by Amir of Qatar with a **focus on strengthening cooperation in trade, energy, investments, technology, food security, and people-to-people ties**.

- ➔ Both sides also aimed to double bilateral trade to \$28 billion in five years.



Other Key outcomes of Visit:

- ➔ **Trade:** \$14.1bn trade (2023-24); India among Qatar's top 3 trade partners.
- ➔ **Energy:** Qatar supplies 40% of India's LNG – critical for energy security.
- ➔ **Defense:** Extended 2018 pact; joint naval exercise Za'ir Al Bahr.
- ➔ **Cultural:** 830k+ Indian diaspora; active cultural exchanges since 2012 agreement.

2.6.2. BIMSTEC

Ministry of Youth Affairs and Sports has hosted the **first-ever Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Youth Summit** in Gandhinagar, Gujarat.

About BIMSTEC (Secretariat: Dhaka, Bangladesh)

- ➔ **Genesis:** Established in 1997 with the signing of **Bangkok Declaration**.
- ➔ **Members:** Bangladesh, **India**, Sri Lanka, Thailand, Myanmar, Nepal, Bhutan.
- ➔ **7 focus area:** Trade; Environment and Climate Change; Security; Agriculture and Food Security; People-to-People Contact; Science, Technology, and Innovation; Connectivity.

2.6.3. INTERNATIONAL CRIMINAL COURT

USA President signed an executive order **sanctioning International Criminal Court (ICC)**.

- ➔ The order imposes **financial and visa restrictions** on individuals and their families who assist in ICC investigations of American citizens or allies such as Israel.

International Criminal Court (Headquarter: Hague, Netherlands)

- ➔ **Nature:** World's first permanent international criminal court in 1945.
- ➔ **Legal Basis:** Rome Statute (adopted 1998, entered force 2002) provides advisory opinion.
- ➔ **Jurisdiction:** Genocide, war crimes, crimes against humanity, crime of aggression
- ➔ **Membership:** 125 state parties (excluding US, China, Russia, India, Israel)
- ➔ **Working Languages:** English, French, Arabic, Chinese, Russian, Spanish.

2.6.4. ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)

Three countries (**Mali, Burkina Faso and Niger**) under military rule have officially left **West African regional bloc, ECOWAS**, following diplomatic tensions.

About ECOWAS (Hq: Abuja, Nigeria)

- ➔ **Genesis:** 1975
- ➔ **Aim:** Promote economic cooperation among member states.
 - ➔ Citizens of ECOWAS countries have the **right to live and work in all member states**, along with free circulation of goods.
- ➔ **Members:** 12 (after the current withdrawal)
 - ➔ Benin, Cabo Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Nigeria, Senegal, Sierra Leone, and Togo.

2.6.5. ORGANIZATION OF THE PETROLEUM EXPORTING COUNTRIES (OPEC)

Recently, Brazil approved entry into **OPEC+**.

About OPEC

- ➔ It is a **permanent intergovernmental organization** of 12 oil-exporting developing nations.
 - ➔ **India is not a member.**
- ➔ **Genesis:** It was created at the **Baghdad Conference** in 1960, by **Iran, Iraq, Kuwait, Saudi Arabia and Venezuela**.
- ➔ **HQ:** Vienna (Austria)
- ➔ **OPEC+:** **OPEC signed an agreement** with 10 other oil-producing countries in 2016 to create **OPEC+**.

2.6.6. INTERNATIONAL ORGANIZATION OF AIDS TO MARINE NAVIGATION (IALA)

India is elected to the **Vice Presidency** of IALA in Singapore, strengthening its commitment to maritime safety, navigation, and international cooperation.

About IALA (Hq: Saint-Germain-en-Laye, France)

- ➔ **Establishment:** 1957 as a Non-Governmental Organization (NGO).
- ➔ **Transition to IGO:** In 2024, from a NGO to an Intergovernmental Organization (IGO).
- ➔ **Aim:** Aids to Navigation globally.
- ➔ **Member Categories:** National Member, Associate Member and Industrial Member.

ECONOMICS



3.1. MUTUAL CREDIT GUARANTEE SCHEME FOR MSMEs

Why in the News?

Government approved Mutual Credit Guarantee Scheme announced in Budget to **Strengthen MSMEs**.

Key Features of Mutual Credit Guarantee scheme for MSMEs

- ➔ **Guarantee Coverage:** Offers **60% guarantee coverage** by National Credit Guarantee Trustee Company Limited (NCGTC) (a wholly owned company of Department of Financial Services) to **Member Lending Institutions (MLIs)**.
- ➔ **Eligible Borrower:** MSME with **Udyam Registration**; **Not a Non-Performing Asset**; **Minimum 75% of project cost for equipment/machinery**.
- ➔ **Duration of the Scheme:** **4 years or until Rs 7 lakh crore** in guarantees, whichever is earlier.
- ➔ **Repayment Terms:** **Loans up to ₹50 crore:** Repayment period of up to 8 years, moratorium of up to 2 years on principal; **Loans above ₹50 crore:** Longer repayment schedules & moratorium periods.

Other Key Measures Announced for MSMEs in Union Budget 2025-26

- ➔ A new Fund of **Funds with ₹10,000 crore** will be established to expand support for startups.
- ➔ A scheme for **5 lakh first-time women, Scheduled Caste, and Scheduled Tribe entrepreneurs** will provide term loans up to ₹2 crore over five years.




Significance of MSMEs for India

- ➔ **Contribution to GDP:** MSMEs contribute approximately **30 % of GDP, 36 % to manufacturing output**.
- ➔ **Employment:** India has over 1 crore registered MSMEs, employing nearly **7.5 crore people**.
- ➔ **Foreign Currency:** MSMEs contribute **~45% of India's total exports**.
- ➔ **Reduces Disguised Unemployment** where more people are employed than are required.
- ➔ **Rural Development:** Around **50% of the MSMEs operate in rural areas**, provide 45 % of total employment.

Challenges Faced by MSMEs

- ➔ **Finance issues:** **Informal** nature of MSMEs, credit assessment difficulties etc.
- ➔ **Infrastructure Bottlenecks:** Poor roads, **unreliable power supply**, and **inadequate digital infrastructure**.
- ➔ **Others:** **Delayed Payments**; **Regulatory & Compliance Burden:** Complex taxation, labor laws etc; **Limited Integration of Technology**; **Export issues:** Lack of Environmental, social and governance (ESG) reports

Revised Classification of MSMEs

Rs. in Crore	Investment		Turnover	
	Current	Revised	Current	Revised
 Micro Enterprises	1	2.5	5	10
 Small Enterprises	10	25	50	100
 Medium Enterprises	50	125	250	500

Initiatives Undertaken for MSMEs

- ➔ **Trade Enablement & Marketing (TEAM) Initiative:** Enable and assist MSMEs to **onboard e-commerce platforms** by assisting in catalogue preparation, account management, logistics and packaging.
- ➔ **PM VISHWAKARMA:** Provide end-to-end support to artisans and craftspeople of **18 trades**.
- ➔ **Public Procurement Policy:** **25% of annual procurement by Central Ministries.**

Way Forward

- ➔ **Policy Support:** Including **tax incentives** and infrastructure; **Addressing Credit Gaps; Technological Adoption and Digitalization; Market Access and Expansion; Simplification of Regulatory Framework; Integration with Global Value Chains (GVC); Promoting the formation of MSME clusters.**

3.2. NATIONAL CRITICAL MINERAL MISSION (NCMM)

Why in the news?

The Union Cabinet has approved the launch of the **National Critical Mineral Mission (NCMM)**.

About NCMM (Announced in Budget)

- ➔ **Objective:** Secure critical mineral supply ensuring mineral availability from domestic, foreign sources.
- ➔ **Coverage:** All stages including **mineral exploration, mining, beneficiation, processing, and recovery.**
- ➔ **Key Features:**
 - ➔ It will offer **financial incentives for critical mineral exploration** and promote the **recovery.**
 - ➔ It aims to create a **fast track regulatory approval process** for critical mineral mining projects.
 - ➔ It will encourage **Indian PSUs and private sector companies** to acquire **critical mineral assets abroad.**
 - ➔ It proposes development of **stockpile of critical minerals** within the country.
 - ➔ It includes provisions for **setting up of mineral processing parks.**
 - ➔ **Mining in offshore areas** (Polymetallic nodules contain minerals like Cobalt, REE, etc.)
- ➔ **Governance Framework:** Activities will be coordinated by the **Empowered Committee on Critical Minerals. Ministry of Mines** will be the administrative Ministry.
 - ➔ The Mission will follow a **whole-of-government approach** which means it will work closely with relevant ministries, PSUs, private companies, and research institutions to achieve its objectives.
- ➔ **Components of NCMM:** Increasing Domestic Critical Minerals Production; Acquisition of Critical Mineral Assets Abroad; Recycling of Critical Minerals; Trade and Markets; etc.

About Critical Minerals

- ➔ **Definition:** Critical minerals are minerals which are essential for **economic development** and **national security** of any country lack of which may lead to **supply chain vulnerability** and **disruption.**
- ➔ India has released a list of **30 critical minerals** for India including Bismuth, Cobalt, Copper, Phosphorous, Potash, Rare Earth Elements (REE), Silicon, Tin, Titanium, etc.
- ➔ Currently, India has **heavy reliance on imports of critical minerals.**
- ➔ **Significance of Critical Minerals:** Environment, National security, Economic (Electric vehicles, semiconductor chips)

Roadblocks to India's Critical Mineral Security

- ➔ **Limited Domestic Reserves:** E.g., currently no working mining leases for **cobalt, nickel, lithium etc.**
- ➔ **Challenges in Exploration:** deep-seated, **high-risk investments**, advanced **mining technologies** required.
- ➔ **Supply chain Disruptions:** geographically concentrated affecting global supply: e.g. China controlling **60% of rare earth production, 60% of critical minerals production and 80% of the processing worldwide;** Democratic Republic of Congo supplies **~70% of the world's cobalt.**
- ➔ **Environmental Concerns:** 54% of critical materials lie near indigenous people's land. (IRENA)
- ➔ **Inadequate recycling infrastructure**

Other Initiatives taken for critical Minerals

- ➔ **Policy and Regulatory Framework:** Mines and Minerals (Development and Regulation) Amendment Act, 2023; National Mineral Policy, 2019; Elimination of customs duties
- ➔ **Exploration and Domestic Production:** Geological Survey of India (GSI); Lithium Reserves Discovery (2023) in Reasi, Jammu & Kashmir; Strategic Mineral Reserves Plans

- ➔ **International Collaborations & Trade Agreements:** Khanij Bidesh India Limited (KABIL), 2019: A joint venture company of Ministry of Mines, having engagements with Argentina, Australia etc; **Minerals Security Partnership (MSP):** India joined the US-led initiative.

Way Forward for long-term critical mineral security

- ➔ **Strengthening Domestic Critical Mineral Production:** Increase public and private investment
- ➔ **Developing Domestic Processing Capabilities:** E.g. Special Economic Zones (SEZs)
- ➔ **Need for Robust Global Cooperation**
- ➔ **Develop a Comprehensive Critical Minerals Strategy (CMS):** assessments and recycling facility.
- ➔ **Diversifying import sources** from various countries.
- ➔ **Role of State Government:** Infrastructure Development.

3.2.1. MAJOR AND MINOR MINERALS

Why in the news?

Ministry of Mines has reclassified **Barytes, Felspar, Mica, and Quartz** from **minor minerals** to **major minerals**.

Reason for Reclassification

- ➔ **Association with critical minerals** and their importance in **various high-tech industries**.
- ➔ **Quartz, Felspar, and Mica:** Found in **pegmatite rocks**, which also contain **essential critical minerals** like **Beryl, Lithium, Niobium, Tantalum, Molybdenum, Tin, Titanium, and Tungsten**.
- ➔ Earlier, when leased as **minor minerals**, leaseholders **did not report or extract** the critical minerals present.
- ➔ **Baryte and its Industrial Significance**
 - ➔ Baryte often occurs in **concretions and vein fillings in limestone and dolostone**.
 - ➔ It has extensive **industrial applications** in **oil and gas drilling, electronics, TV screens, rubber, etc.**

Key Benefits of the Reclassification: Enhanced Exploration & Scientific Mining: Support for Energy Transition & Technology: Stronger Industrial Applications: Extended Lease & Better Regulation.

About Major and Minor Minerals

- ➔ A **mineral** is a natural substance of organic or inorganic origin with **definite chemical and physical properties**.
- ➔ **Mines and Minerals (Development and Regulation) (MMDR) Act, 1957**, classify **major minerals and minor minerals**.
 - ➔ **Minor minerals** means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes and **any other mineral which the Central Government may declare**.
 - ➔ **Major minerals** include all minerals other than minor minerals. E.g. Coal, Iron, Zinc, Limestone etc.
- ➔ **Framework for Governance:**
 - ➔ **MMDR Act, 1957** except for petroleum and natural gas.
 - ➔ **Mineral Concession (MC) Rules, 1960:** Regulates permits, licenses, and leases for all minerals **except Atomic and Minor Minerals**.
 - ➔ **Mineral Conservation and Development (MCD) Rules, 1988.**
- ➔ **Role of State Governments in Mineral Regulation:**
 - ➔ **Section 15 of MMDR Act:** Gives **State Governments** the power to **make rules for minor minerals**.
 - ➔ **Section 23C of MMDR Act:** **State Governments** prevent **illegal mining, transportation, and storage**.
 - ➔ **Section 9 (b) of the MMDR Act as amended in 2015:** State Government to establish **District Mineral Foundation Trust** in every district affected by the mining operation.

3.3. PRIME MINISTER DHAN DHAANYA KRISHI YOJANA

Why in the News?

Finance Minister announced launch of the **Prime Minister Dhan-Dhaanya Krishi Yojana (PMDKY)** in Budget 2025.

About Prime Minister Dhan-Dhaanya Krishi Yojana (PMDKY)

- ➔ **Coverage:** **100 districts** based on 3 parameters: low productivity, moderate crop intensity, and below-average credit parameters.
- ➔ **Inspired by ADP:** On line of **Aspirational Districts Programme (ADP)**, which was launched in 2018.
- ➔ **Outlay:** Budget documents do not provide a separate allocation for the scheme.

- ➔ **Implementation Strategy:** Will be executed in partnership with state governments.
- ➔ **Objectives:** Enhancing agricultural productivity; Crop diversification and sustainable agriculture practices; Augmenting post-harvest storage at the panchayat and block level; Irrigation, credit improvement.

Agriculture in India

- ➔ **Backbone of India's economy:** food security, providing employment, and economic development.
- ➔ **Agricultural production and yield:** Despite high level of production, agricultural yield is found to be lower in most crops compared to other countries like China, Brazil & US.
- ➔ **Data:** 18 % agricultures' contribution to India's GVA in FY24. 46.1% of the population engaged in agriculture and allied activities. 1st rank in milk, pulses, and spices production in the world.

Recent Initiatives to Increase Productivity of Agriculture

- ➔ **National Food Security Mission (NFSM):** Launched in 2007-08 to increase the production of rice, wheat, pulses, coarse cereals, and nutri-cereals sustainably.
- ➔ **Pradhan Mantri Krishi Sinchayee Yojana (2015):** Extend irrigation 'Har Khet ko pani' & improving water use efficiency 'More crop per drop'.
- ➔ **PM-KISAN (Pradhan Mantri Kisan Samman Nidhi):** Launched in 2019, Central Sector scheme providing ₹6000 per year in 3 equal installments to farmers as an income support.
- ➔ **Others:** Agriculture Infrastructure Fund (2020-21), Kisan Credit Card Scheme, Pradhan Mantri Fasal Bima Yojana (2016), Nutrient based subsidy policy.

Key Reasons for Low Agricultural Productivity

Small and Fragmented Landholdings



Average farm size in India is only 0.74 hectares in 2021-22 (NABARD).

Dependence on Monsoons



Nearly 51% of India's farmland depends on rainfall rather than irrigation.

Poor Irrigation



Percentage of net un-irrigated area over net area sown is estimated to be about 48.65%.

Low Use of Modern Technology



Limited access to high-yield seeds, fertilizers, and advanced machinery

Soil Degradation & Overuse of Chemicals



Hardly 20% of 12.56 crore small, marginal farmers have access

3.4. MAKHANA

Why in the News?

Makhana Board in Bihar announced in **Budget 2025-26** under 'Agriculture as first engine' for India's development.

More on the News

- ➔ Board will be established to improve **production, processing, value addition, and marketing** of makhana.
- ➔ Provide **handholding, training support to farmers** and ensure reach of benefits of schemes.
- ➔ **Budget Allocation:** Rupee 100 crores.
- ➔ **Organization of Farmer Producer Organizations (FPOs):** streamline operations, collective bargaining power.

About Makhana

- ➔ **Foxnut**, commonly known **Makhana**, is **aquatic flowering crop** with botanical name **Euryale ferox (prickly water lily)**.
- ➔ It is a plant of **tropical and subtropical climate**, considered as **native of South-East Asia and China**.
- ➔ It is also referred to as the '**Black Diamond**' due to its dark outer layer.
- ➔ It is grown in **stagnant perennial water bodies** like ponds, land depressions, oxbow lakes, swamps etc.
- ➔ Makhana is now being recognized as a **superfood**. **Superfood** describes foods that are rich in nutrients, antioxidants, probiotics, fiber and other health-promoting compounds. They tend to contain good fats like mono and polyunsaturated fats. It is a marketing term. Other Superfoods: Jackfruit, Moringa, Tamarind, Turmeric, etc.
- ➔ **Preferred Climatic conditions:** **Temperature:** 20 to 35 degree Celsius; **Relative humidity:** 50% to 90%; **Annual rainfall:** 100 cm to 250 cm; **Soil:** Smooth loamy soil
- ➔ **Major Producing Regions**
 - ➔ **Domestic:** Bihar in India is the **leading state** accounting for **~90% of India's makhana production**. **Other states:** West Bengal, Manipur, Tripura, Assam, Jammu & Kashmir, Odisha, Rajasthan, etc.
 - ➔ **International:** Makhana is also grown in Nepal, Bangladesh, China, Japan, Russia and Korea.
- ➔ **Multifaceted Makhana:** **Nutritional Value**, Rich in protein, vitamins, and minerals; **Economic Impact;** Industrial Use, Starch used in high-quality fabrics; **Health Benefits;** **Environmental Impact**, Supports wetland ecosystems; Other Uses Includes livestock feed and religious practices.
- ➔ **Other initiatives taken to promote Makhana Cultivation:** National Research Centre for Makhana, Darbhanga; One

District One Product (ODOP); GI Tag: In 2022, 'Mithila Makhana' was conferred a GI tag.

Challenges in Makhana Cultivation

- ➔ **Low productivity due to** Traditional farming; **Lack of processing infrastructure; Export barriers; Market inefficiencies; Limited awareness among farmers; Others:** Proper weed management in water bodies, better quality equipment and related accessories, better cold storage facilities etc.

3.5. MISSION FOR COTTON PRODUCTIVITY

Why in the News?

The 'Mission for Cotton Productivity' was announced during Budget 2025-26.

Mission for Cotton Productivity

- ➔ It is a **five-year mission** to facilitate improvements in **productivity and sustainability** of cotton farming, and promote **extra-long staple (ELS) cotton varieties**.
- ➔ **Ministry:** Ministry of Textiles will provide **science & technology support** to cotton growing farmers.
- ➔ Aligned with the Government's integrated **5F (Farm, Fiber, Factory, Fashion, Foreign) vision for the textile sector**, it will **help in increasing incomes of farmers** as well as **ensure a steady supply of quality cotton**.
- ➔ Aid in **reducing import dependence** and enhance **global competitiveness** of India's textile sector, where **80% of capacity** is driven by **MSMEs**.

Need for the Mission:

- ➔ **Stagnant Productivity:** Stagnant cotton productivity.
- ➔ **Rainfed Crop:** Majority cotton area is rainfed, mainly in the Central and Southern States, Approximately **67% of India's cotton** is produced on **rain-fed areas**.
- ➔ **Pests Menace:** Cotton crop is highly prone to pests and diseases. E.g. Pink Bollworm, Whitefly etc.
- ➔ **Unstable Prices:** Wide fluctuation in cotton prices, inadequate market infrastructure and cotton export policy.

Cotton Production, Productivity and Consumption in India

- ➔ **Production:** India ranks **1st in cotton acreage** with around **40% of the world area** under cotton.
 - ➔ **Major Cotton Producing Zones in India:** **Northern Zone** – Punjab, Haryana and Rajasthan; **Central Zone** – Gujarat, Maharashtra and Madhya Pradesh; **Southern Zone** – Telangana, Andhra Pradesh and Karnataka.
- ➔ **India ranks 2nd** in cotton production with estimated production of **23.83% of world cotton production**.
- ➔ **Productivity:** India ranks **39th** in overall cotton **yield** which is **lower** than countries like **USA, China, etc.**
- ➔ **Consumption:** India is the **2nd largest consumer of cotton**

Significance of Cotton in India

- ➔ **Economic Significance:** Known as '**White Gold**'
- ➔ **Contributes to Forex Reserves**
- ➔ **Export Potential:** India **exported** an estimated 30 lakh bales i.e. **6% of world export in 2022-23**.
- ➔ **Livelihood Provider:** **6 million cotton farmers** and **40-50 million** people engaged in related activity, **cotton textiles industry** is the **second largest employer** in the country after agriculture.

Cotton (Scientific name: *Gossypium spp*)

- ➔ Cotton is a **soft, fluffy staple fiber** that grows in a **boll (protective case)** around its seeds.
- ➔ It is a **shrub (semi-xerophyte)** native to **tropical and subtropical** regions around the world.
- ➔ **Four species of cotton** are *G. Arboreum* & *G. Herbaceum* (Asian cotton), *G. Barbadense* (Egyptian cotton) and *G. Hirsutum* (American Upland cotton). India is reportedly the **only country which grows all four species of cotton**. *G. Hirsutum* represents 90% of the hybrid production in India and all current Bt cotton hybrids are this.
- ➔ **Climate & Soil Requirement**
 - ➔ **Temperature:** At **germination** stage, **minimum** temperature required is **15°C** whereas in **vegetative growth** the optimum temperature is **21-27°C**.
 - ◊ It can **tolerate** temperature to the extent of **43°C** but temperature **below 21°C is detrimental**.
 - ◊ It requires **at least 210 frost-free days** and **50 to 100 cm of rainfall** for its growth.
 - ◊ **Warm days of cool nights** with **large diurnal variations** during the period of **fruiting**.
 - ➔ **Soil:** Cotton is grown on a variety of soils like **well drained deep alluvial** soils in the north, **black clayey** soils of varying

depth in central region and **black and mixed black and red soils** in south zone.

- **Crop Season:** April-May in northern India and is delayed as we proceed down south.

Bt Cotton

- **Genetically Modified (GM) cotton**, also known as **Bt cotton**, is developed from the **bacterium Bacillus thuringiensis (Bt)** making it resistant against pests like bollworm.
- It is the **only GM crop** approved in 2002 by the **Genetic Engineering Appraisal Committee (GEAC)** of the Ministry of Environment, Forest and Climate Change for **commercial** cultivation.
- **Bollgard I and II technologies** are famous for developing **Bt Cotton**.
- Recently, **CSIR-National Botanical Research Institute (NBRI)** has developed the **world's First Pink Bollworm-Resistant GM Cotton**.

Other Steps taken for development of cotton sector:

- **Minimum Support Price (MSP)** for Cotton
- **Branding of Indian Cotton:** Brand "KASTURI Cotton India" launched
- **Mobile App "Cott-Ally":** A farmer-friendly app to increase awareness in regional languages.
- **Technological Interventions:** High Density Planting System (HDPS), modernized Ginning etc.

3.6. URBAN CHALLENGE FUND (UCF)

Why in the News?

Budget 2025-26 announced the creation of **Urban Challenge Fund (UCF)**.

What is the Urban Challenge Fund (UCF)?

- UCF of Rs 1 lakh crore aims to encourage states to think innovatively towards attaining sustainable urbanization
 - Fund is to implement: **Cities as Growth Hubs, Creative Redevelopment and Water & Sanitation.**
- **Financing Mechanism:** Fund will finance up to **25% of the cost of bankable projects** with a stipulation that at least **50% of the cost is funded from bonds, bank loans, and PPPs**. Rs. 10,000 crore proposed for 2025-26.

What is the need for the UCF?

- **Cater to rising Urban Population:** Urban population increased from 27.7% in 2001 to 31.1% (Census 2011).
- **Ensure Sustainability:** Cities in India face the risk of looming water crisis, disasters like earthquakes, etc.
- **Support Developmental Projects:** Focus on **integrated development**.
- **Ensure absorption of the available funds; Address Deficit of Human Resources**
- **Address issues with Urban Planning:** Land parcels of high urban densities are sub-optimally utilized.

Urbanisation in India

- **Characteristics of Urbanisation in India**
 - **Poverty Driven:** Driven by economic distress, with both **rural-to-urban and urban-to-urban migration**.
 - **Slow Progress:** due to slow process of reclassification and obsolete definition.
 - **Spatial Variations:** varies **significantly across the States and UTs**.
 - **Paradox of exclusion:** growing influx, proliferation of slums, overburdening public services.

What more can be done to improve the situation of urban areas in India?

- **Re-engineering and Strengthening of Urban Governance Structures:** 2nd Administrative Reform Commission (ARC) suggesting **clear division of roles and responsibilities** among various authorities.
- **City Master Plan:** About 52% of statutory towns in India lack any kind of master plan. (NITI Ayog, 2020)
- **Town Planning Professionals:** An All India Urban Planning Service
- **Integrated Capacity Building Programme;** Reviewing existing legislations; Involvement of Citizens
- **Strengthen the role of Private Sector.**

Measures taken for reforming Urban Areas

India: Swachh Bharat Mission, Smart Cities Mission, National Urban Livelihood Mission (NULM), Pradhan Mantri Awas Yojana (Urban) (PMAY-U), Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

Global: Sustainable Development Goal-11, United Nations Human Settlements Programme (UN-Habitat).

3.7. URBAN COOPERATIVE BANKS

Why in the News?

The RBI has imposed a **six-month moratorium on New India Co-operative Bank Limited**.

Structure of Co-operative Credit Institutions in India

- ➔ **Urban Co-operative Banks**
- ➔ **Rural Co-operative Credit Institutions:**
 - ➔ **Short-Term Structure:** State Cooperative Banks, Central Cooperative Banks, Primary Agricultural Credit Societies.
 - ➔ **Long-Term Structure:** State Cooperative Agriculture and Rural Development Banks, Primary Cooperative Agriculture and Rural Development Banks.

About Urban Cooperative Banks

- ➔ **Urban Cooperative Banks (UCBs)** are a subset of cooperative banks in India that operate primarily in urban and semi-urban areas.
- ➔ Currently, they are registered as cooperative societies **under respective State Cooperative Societies Acts** (for single-state operations) **or Multi-State Cooperative Societies Act, 2002** (operate across multiple states).
- ➔ **Control and Regulation:** UCBs function under a **dual regulatory framework: Banking Regulation Act, 1949 and Registrar of Cooperative Societies (RCS)**.

Significance of UCBs: Financial Inclusion, Local Focus, Priority Sector Lending, Developmental Support.

Challenges Faced by UCBs

- ➔ **Weak Governance and Fraud Risks:** During 2023-24, licenses of 24 UCBs were cancelled.
- ➔ **Competition from Commercial Banks, Fintech:** Share **declined to 2.5%** in March 2024, from **3.8% in 2017**.
- ➔ **High Non-Performing Assets (NPAs):** Gross NPAs of UCBs were 8.8 per cent at the end of March 2024.
- ➔ **Capital Adequacy Shortfalls:** Limited access to capital markets.
- ➔ **Regulatory Non-Compliance; Technological Obsolescence:** lag in adopting digital banking technologies.

Recent measures taken

- ➔ **Banking Regulation Amendment Act, 2020:** The amendment empowered the RBI to supersede boards, restructure managements and formulate resolution plans.
- ➔ **Revised Prompt Corrective Action (PCA) Framework:** In 2024, the RBI extended the PCA framework to UCBs. PCA is a mechanism that allows RBI to intervene early when a bank shows signs of financial distress.
- ➔ **Liquidity Support via Umbrella Organization (UO):** Established **National Urban Co-operative Finance and Development Corporation** as UO for UCBs.
- ➔ **Tiered Regulatory Framework:** RBI introduce 4-tiered regulatory framework for UCBs based on deposit size.

Way forward: Strengthening Governance and Supervision: Mandate professionalization of UCB boards; Consolidation and Mergers; Independent Audits; Technology Adoption; Social Audits

3.8. RESTRUCTURED SKILL INDIA PROGRAMME

Why in the News?

Union Cabinet approves continuation and restructuring of **Skill India Programme (SIP)**.

More on the News

- ➔ It has been extended till **2026** with an outlay of **Rs.8,800 crore**.
- ➔ Restructured by **combining 3 components**, Pradhan Mantri Kaushal Vikas Yojana 4.0 (**PMKVY 4.0**), Pradhan Mantri National Apprenticeship Promotion Scheme (**PM-NAPS**) and Jan Shikshan Sansthan (**JSS**) Scheme.

Skill India Mission

- ➔ Launched in **2015** as Centre Sector Scheme under **Ministry of Skill Development and Entrepreneurship (MSDE)**.
- ➔ **Aim:** To provide a strong **institutional framework** for skill development and impart **training to youth**.
- ➔ **Formal recognition of skills:** All certifications mapped to **National Skills Qualification Framework (NSQF)** and seamlessly integrated with **DigiLocker** and the **National Credit Framework (NCrF)**.
- ➔ Skill Development through:
 - ➔ **Short-term training:** Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and Jan Shikshan Sansthan (JSS)
 - ➔ **Long-term training:** Craftsmen Training Scheme through Industrial Training Institutes (ITIs)

About the Restructured Schemes

PMKVY 4.0

- ➔ Provides **NSQF-aligned demand-driven skill training through Short-Term Training (STT)** and reskilling and upskilling through **Recognition of Prior Learning (RPL)**.
- ➔ **Target beneficiary:** 15-59 years
- ➔ **Future Skills:** 400+ new courses on **emerging technologies** like AI, 5G tech, Green Hydrogen, etc.
- ➔ **Skill Hubs:** Established across premier academic institutions like IITs, NITs, Jawahar Navodaya Vidyalayas etc.
- ➔ **International Mobility Initiatives: Mobility Partnership Agreements (MPAs)**, sectorial skill gap studies and training in domain skills, soft skills etc.
 - ➔ India has signed **MPAs** with 10 countries. E.g. France, Germany, Israel etc.
 - ➔ **30 Skill India International Centers** to be set up to cater to the demand for skilled workers for overseas.
- ➔ **Whole-of-government approach:** E.g. collaboration with PM Vishwakarma, PM Surya Ghar: Muft Bijli Yojana, National Green Hydrogen Mission, NAL JAL Mitra etc.

PM-NAPS

- ➔ Aimed at fostering **apprenticeship training**, ensuring apprentices gain **industry-specific skills** in both **manufacturing and services** through **real-world exposure** in accordance with **Apprenticeship Act, 1961**.
- ➔ **Target Beneficiary:** 14-35 years
- ➔ **Financial incentives** to industries for engaging apprentices. **25% of the stipend**, up to **Rs.1,500** per month per apprentice, will be provided by the **Central Government** through Direct Benefit Transfer (DBT).
- ➔ **Future Skills:** Apprenticeship opportunities in emerging fields such as **AI, Industry 4.0 technologies etc.**
- ➔ **Inclusivity:** Promotes enrolment of apprentices in **small establishments like MSMEs and underserved areas**.

JSS Scheme

- ➔ **Objective: Community-centric** skilling initiative to provide **vocational training** to non-literates, neo-literates as well as school drop-outs in rural regions by identifying relevant skills in that region.
- ➔ **Target Beneficiary:** 15-45 years
- ➔ **Inclusivity:** Focus on women, rural youth, and economically disadvantaged groups. JSS is linked with initiatives like **PM JANMAN**, Understanding of Lifelong Learning for All in Society (**ULLAS**), etc.

Need for Restructuring Skill India Mission

- ➔ **In-silos approach:** Low impact of schemes like PM-NAPS, PMKVY, and JSS
- ➔ **Lack of Industry-academia linkage**
- ➔ **Others: Mismatch** between demand and supply, **limited mobility** between **skill and higher education** programmes and vocational education and very **low coverage of apprenticeship**.

Other Challenges to skilling: Fast-changing job market, Lack of quality skilling, Governance issues: Multiplicity of assessment and certification, Lack of Quality Infrastructure, Gender inequality

Way Forward

- ➔ **Evidence-based interventions:** Improve mapping of skills
 - ➔ E.g. 36 Sector Skill Councils (SSCs), led by industry leaders set up by NSDC to identify the skill need.
- ➔ **Promote experiential learning:** Strengthen **National Council for Vocational Education and Training**.
- ➔ **Private sector participation**
- ➔ **Learning from Global Best Practises:**
 - ➔ **Technical and Vocational Vouchers Program (TVVP), Kenya:** vocational training through vouchers.
 - ➔ **Apprenticeship Levy, United Kingdom:** To incentivise employers to recruit apprentices.

3.9. NEWS IN SHORTS

3.9.1. GROSS DOMESTIC KNOWLEDGE PRODUCT

Ministry of Statistics and Programme Implementation (MoSPI) organised a session on “**Conceptual Framework of Gross Domestic Knowledge Product (GDKP) Measurement**”.

- ➔ **GDKP** captures the contributions of **knowledge-driven sectors, innovation, and intellectual assets to India's economic growth**. It evaluates the impact of knowledge on economic and social life in the country.
- ➔ **MoSPI** will form technical committee to evaluate proposal and provide guidance on measuring knowledge economy.

Need of GDKP

- ➔ **Enhancing Economic Metrics; Supplementing the GDP measure; Sync with global standards adopted by advanced economies; Guiding Policy Innovation for Key Sectors.**
- ➔ **Challenges with Implementing GDKP:** Data collection, Conceptual, economic constraints.

3.9.2. DEPOSIT INSURANCE

Government is considering increasing the bank deposit insurance cover above current limit of ₹ 5 lakh.

About Deposit Insurance and Credit Guarantee Corporation (DICGC)

- ➔ Established on **January 01, 1962** under the DICGC Act, 1961.
- ➔ It is a **wholly owned subsidiary of the Reserve Bank of India**. **Head Office:** Mumbai

About Deposit insurance

- ➔ **Background:** Deposit insurance was introduced in India in **1962** under the **DICGC Act, 1961**.
- ➔ **Coverage:** The insurance **protection extends to ₹ 5 lakh per depositor**. However, if the **deposits are held with more than one bank**, deposit insurance coverage **limit is applied separately to the deposits**.
- ➔ **Covered Banks:** Deposit insurance scheme is **compulsory and no bank can withdraw from it**.
 - ➔ **Exceptions:** Land development banks, Non-Banking Financial Company's (NBFCs) etc.
- ➔ **Insures:** Savings, fixed, current, and recurring deposits are insured. **Exceptions:** Does not provide insurance for deposits by foreign, central, and state governments, and for inter-bank deposits.
- ➔ It insures both the **principal and interest amount** held by a depositor in a bank.
- ➔ Through amendment in **2021, Section 18A amendment to the DICGC Act** allowed depositors to receive time-bound (within 90 days) interim

payments up to the insured amount when the RBI imposes restrictions on banks.

- ➔ Deposit insurance **premium is borne entirely by the insured bank**.

3.9.3. NEW HARMONISED SYSTEM CODES FOR GI TAGGED RICE

India reportedly introduces New Harmonised System (HS) Codes for GI Tagged Rice.

- ➔ Amendment to **Customs Tariff Act (1975)** introduced to provide **HS code for GI-recognised rice varieties**.
- ➔ It will make it possible for **exports of GI-tagged rice without special notification** from the Ministry of Finance.

About HS

- ➔ **Definition:** HS is a **global product classification system developed by the World Customs Organization (WCO)**.
- ➔ **Classification Structure:** HS assigns specific **six-digit codes for varying classifications and commodities**.
 - ➔ **Countries are allowed to add longer codes** to the first six digits for further classification.
- ➔ **Governance and Updates:** HS is governed by “**The International Convention on the Harmonized Commodity Description and Coding System**”.
 - ➔ **HS Committee**, made up of member countries, oversees the HS classification system and also updates **HS every 5 – 6 years**.
 - ➔ **Widespread adoption:** Classifies approximately **98% of international trade**, Encompasses over **5,000 commodity groups**, Implemented by **more than 200 countries**
- ➔ **Benefits of HS:** **Common coding method;** Reduces **international trade costs;** supports economic research.
- ➔ **About World Customs Organization (WCO):** Independent intergovernmental body whose mission is to enhance effectiveness and efficiency of Customs administrations. **186 members including India**.

3.9.4. 'AI FOR ENTREPRENEURSHIP' MICRO-LEARNING MODULE

Ministry of Skill Development and Entrepreneurship launched ‘**AI for Entrepreneurship**’ micro-learning module.

‘AI for Entrepreneurship’ Micro-learning Module

- ➔ Launched in collaboration with **National Skill Development Corporation (NSDC)** and **Intel India**

- ➔ **Purpose:** To simplify AI concepts and encourage entrepreneurial thinking among young innovators.
- ➔ **Target:** To empower 1 lakh youth by 2025 by equipping them with essential skills to thrive.

3.9.5. E-SHRAM MICROSITES & OCCUPATIONAL SHORTAGE INDEX (OSI)

Union Minister for Labour & Employment launched the **State and Union Territory Microsites** under the **e-Shram** initiative and the **Occupational Shortage Index (OSI)**.

About e-Shram Microsites

- ➔ **State-specific digital platforms** seamlessly integrated with the **National e-Shram database**.

About OSI

- ➔ **Purpose:** Identify **workforce demand-supply gaps** using ILO methodology and PLFS data.
- ➔ **Key Functions:** Track job shortage in high-demand sectors, Support workforce planning, skill development etc.

3.9.6. TIME USE SURVEY (TUS)

Recently, **National Statistics Office (NSO)** released the **2nd Time Use Survey (TUS)** for the year 2024.

About Time Use Survey (TUS)

- ➔ **Purpose:** It provides a framework for measuring **time dispositions** by population on different activities.
- ➔ **Objective:** To measure the participation of men and women in paid and unpaid activities.
- ➔ **Key findings**
 - ➔ Increase in women participation in employment related activities (**paid activities**).
 - ➔ Increased **acknowledgement of caregiving activities** regardless of gender within Indian families.
 - ➔ Time spent in **Culture, leisure, mass-media** and sports practices **has increased in both genders**.

3.9.7. FDI LIMIT HIKED IN INSURANCE SECTOR

Finance Minister announced proposal to **raise FDI limit in Insurance sector from 74% to 100%**.

- ➔ This enhanced limit will be available for those companies which **invest entire premium in India**.
- ➔ To enhance FDI limit, government will have to bring **amendments to Insurance Act 1938, Life Insurance Corporation Act 1956, and Insurance Regulatory and Development Authority Act, 1999**.

Significance of 100% FDI in insurance sector

- ➔ **Higher Investment:** More foreign capital for growth and expansion.
- ➔ **Enhanced Competition:** Better products, improved services, and competitive pricing.
- ➔ **Technological Advancements:** Adoption of advanced tech and innovative products.
- ➔ **Improved Penetration:** More people to achieve the target of 'Insurance for All' by 2047.

Status of India's Insurance sector (Economic Survey 2024-25)

- ➔ **Total insurance premium** grew 7.7% in FY24, reaching Rs.11.2 lakh crore.
- ➔ **Insurance penetration** declined from 4% in FY23 to 3.7% in FY24.
- ➔ **Insurance Density** rose from USD 92 in FY23 to **USD 95** in FY24.
 - ➔ **Insurance penetration** is measured as percentage of **insurance premium to GDP** whereas **insurance density** is calculated as **ratio of premium to population** (per capita premium).

Challenges Faced by Insurance Sector in India

- ➔ Absence of top companies, Economic Constraints like affordability, Cultural Preferences.

3.9.8. ENHANCED CERTIFICATE OF ORIGIN (eCOO) 2.0 SYSTEM

The **Directorate General of Foreign Trade (DGFT)** has launched the **eCoO 2.0 System**.

About eCoO 2.0

- ➔ It is a **significant upgrade** to simplify the **certification process** for exporters and enhance trade efficiency.
- ➔ Offers several **user-friendly features**, such as **multi-user access** under single Importer Exporter Code.
- ➔ Supports **Aadhaar-based e-signing** alongside **digital signature tokens**, providing greater flexibility.

About Certificate of Origin:

- ➔ Document used in **international trade** to certify that goods being exported **originated in a specific country**.

3.9.9. TONNAGE TAX SCHEME

The **Budget 2025-26** has expanded the **tonnage tax scheme**.

Tonnage Tax Scheme

- ➔ The Scheme was previously available to **sea going ships**.
- ➔ Now it is available to **inland vessels** registered under **Indian Vessels Act, 2021** to promote water transport.

- Inland Vessels **Act, 2021** aims to promote safe, economical inland water transport, ensure legal uniformity and vessel procedures.
- ➔ **Ministry:** Ministry of Shipping (now part of the Ministry of Ports, Shipping, and Waterways).
- ➔ **Genesis:** Introduced in 2004 under the Indian Finance Act, 2004.
- ➔ **Significance:** Encourage more cargo movement; further investment.

3.9.10. RBI CUT REPO RATE

Monetary Policy Committee (MPC) of RBI has cut repo rate by 25 bps to 6.25%.

- ➔ MPC has cut policy repo rate under the **liquidity adjustment facility (LAF)** nearly after a five-year gap.

About Monetary Policy Committee (MPC):

- ➔ Constituted by Central Government as per RBI Act, 1934. Consists of six members, Three Members from RBI and Three are appointed by the Central Government; determines the Policy Rate required to achieve the inflation target (i.e. 4 percent within a band of +/- 2 percent).

Other important decisions

- ➔ To continue a 'neutral' monetary policy stance, RBI maintains flexibility in adjusting policy rates based on prevailing economic conditions. GDP growth for FY '26 projected at 6.7%.
- ➔ Food inflation pressures are likely to see significant "softening", Core inflation expected to rise but remain moderate.

Rationale for MPC decisions: Inflation has declined and growth is expected to recover, Excessive volatility in global financial markets and continued uncertainties about global trade policies, adverse weather events.

About Liquidity Adjustment Facility (LAF)

- ➔ It is a monetary policy tool used by central banks to manage liquidity in the banking system. It includes repo and reverse repo rates.

3.9.11. REGULATION OF PAYMENT SYSTEMS IN INDIA

Reserve Bank of India (RBI) released 'Payment System Report, December 2024'.

- ➔ It is a bi-annual report which analyses the trends in payment transactions carried out using different payment systems in the last 5 calendar years (CY) up to CY-2024.

Key findings:

- ➔ **Digital payment transactions:** Since 2013 increased 94 times in volume and more than 3.5 times in value in CY-2024.
- ➔ **Unified Payment Interface (UPI):** Volume of UPI transactions reflects a CAGR of 74.03 %, value of the

transactions represented a CAGR of 68.14% in last 5 years.

- ➔ **Credit cards & Debit cards:** Number of credit cards has more than doubled in five years whereas debit cards have remained relatively stable in last 5 years.
- ➔ **Global trends:** India joined Project Nexus, facilitating multilateral linkage of fast payment systems (FPS) of four ASEAN Nations (Malaysia, Philippines, Singapore and Thailand) and India.
- ➔ **Project Nexus,** conceptualized by Bank for International Settlements (BIS), enables instant cross-border retail payments by interlinking domestic FPSs.

3.9.12. DIGITAL PAYMENTS INDEX (DPI)

Recently, RBI published the Reserve Bank of India-Digital Payments Index (RBI-DPI).

About RBI-DPI

- ➔ Objective: capture extent of digitisation of payments systems & measure adoption of online transactions
- ➔ **Released frequency:** Semi-annual (March & September).
- ➔ **Base Period:** March 2018.

Parameters involved: Payment Enablers; Payment Infrastructure (demand-side factors); Payment Infrastructure (supply-side factors); Payment Performance and Consumer Centricity.

3.9.13. MARKET INFRASTRUCTURE INSTITUTIONS (MIIs)

SEBI issues guidelines for evaluation of performance of statutory committees of market infrastructure institutions (MIIs).

- ➔ Under the guidelines, MIIs are required to appoint an independent external agency to evaluate their performance and functioning of their statutory committees. This needs to be done once every three years.

About Market Infrastructure Institutions (MIIs)

- ➔ These are organizations that provide the infrastructure for trading securities & are regulated by SEBI.
- ➔ It includes stock exchanges, depositories, and clearing corporations.
- ➔ **Purpose:** Enabling trading, securing investor holding, transaction settlement etc.

3.9.14. ALGORITHMIC TRADING

SEBI proposed Retail Algo Trading Framework.

- ➔ Algo trading automates buy/sell orders using preset conditions for precise execution.

- ➔ Erstwhile, only **institutional investors** were allowed to use it **via Direct Market Access (DMA)**.

Key highlights of Regulatory Framework

- ➔ **Categorization of Algorithms**
 - ➔ **White-box:** Logic is disclosed and replicable i.e. Execution Algos
 - ➔ **Black-box:** Algos where the logic is not known to the user and is not replicable
- ➔ **Trading Limits for Retail Traders:** Retail traders must follow exchange-set limits (yet to be decided).
- ➔ **Registration of Algo Providers:** Algo providers are not regulated by SEBI, but must **register with exchanges and partner with a broker** to sell algos.

3.9.15. POTASH

Government will explore Potash Mining in Punjab's **Fazilka and Sri Muktsar Sahib Districts**.

- ➔ **Geological Survey of India (GSI)** surveys have also identified potash reserves in Rajasthan.

About Potash

- ➔ **Definition:** Potash is an impure combination of potassium carbonate & potassium (K) salts.
- ➔ **Principal ore:** Sylvinit.
- ➔ **Uses of Potash: Agriculture:** Over 90% of potash is utilized as fertilizer.
 - ➔ **Purification of water:** Potash alum removes hardness of water & has anti-bacterial properties.
 - ➔ **Other industrial Uses:** Manufacturing of Glass ceramics, Soaps and detergents, Explosives etc.
- ➔ **Common Types of Potash Fertilizers:** Sulphate of Potash (SOP) & Muriate of Potash (MOP).
- ➔ **Potash Derived from Molasses (PDM):** It is 100% indigenous fertilizer under the **Nutrient Based Subsidy (NBS)** scheme.
- ➔ **Potash classified as Critical Mineral:** Under "Mines & Minerals (Development and Regulation) Amendment (MMDR) Act, 2023".

Economic Status of Potash in India

- ➔ **Deposits:** Rajasthan (89%), Madhya Pradesh (5%) and Uttar Pradesh (4%).
- ➔ **Import:** India meets 100% of its Potash requirement through imports (Indian Mineral yearbook 2022).

3.9.16. ELECTRONICS MANUFACTURING

After China, India has become the **World's 2nd largest mobile manufacturing country** and is followed by Vietnam.

- ➔ Presently, **99.2%** of all mobile phones sold in India are **made in India**.
- ➔ Mobile phones constitute 43% of India's total electronics production.

Electronic manufacturing sector status

- ➔ **Total valuation:** India's electronics sector has experienced rapid growth, reaching USD 155 billion in FY23.
- ➔ **Production:** Production nearly doubled from USD 48 billion in FY17 to USD 101 billion in FY23.
- ➔ **Exports:** Electronics has become the country's fifth largest export commodity, but India **represents less than 1% of global share**.

3.9.17. UNION BUDGET 2025: DEVELOPING 50 TOP TOURIST DESTINATIONS IN 'CHALLENGE MODE'

These destinations will be developed in partnership with states to elevate **tourism infrastructure, improve ease of travel, and strengthen connectivity to key sites**.

- ➔ States will be required to provide **land for critical infrastructure**, which will be classified under the **Infrastructure Harmonized Master List (HML)**.

Key Focus of Budget

- ➔ **Employment-Led Growth:** Skill development, MUDRA loans for homestays, improved travel and connectivity.
- ➔ **Spiritual Tourism:** Focus on pilgrimage and heritage tourism, especially Buddhist sites.
- ➔ **Medical Tourism:** Promote "Heal in India" initiative to boost India's global healthcare position.
- ➔ **Gyan Bharatam Mission:** Documentation and conservation of India's manuscript heritage.

Contribution of Tourism Sector:

- ➔ Accounted for **5% of GDP in FY23**. The sector also created **7.6 crore jobs during the same period**.
- ➔ India received **1.8 per cent of world tourism receipts**.
- ➔ **Challenges:** Infrastructure Gaps, Safety Concerns, Environmental Impact, Tourism Seasonality.

Measures taken by government

- ➔ **Infrastructure Development:** Swadesh Darshan 2.0, PRASHAD Scheme, RCS-UDAN for regional connectivity.
- ➔ **Policy & Legal:** National Tourism Policy, E-Visa for multiple categories.
- ➔ **Thematic Tourism:** Promoting wellness, culinary, rural, and eco-tourism.
- ➔ **NIDHI (National Integrated Database of Hospitality Industry)**.

3.9.18. RUTAGE SMART VILLAGE CENTER (RSVC)

Rural Technology Action Group (RuTAGE) Smart Village Center (RSVC) launched in Mandaura, Haryana.

- ➔ RSVC was **developed under aegis of Office of Principal Scientific Adviser (PSA)**.

- ➔ It aims to **integrate cutting-edge technologies with rural needs**, enhancing quality of life and empowering communities.
- ➔ PSA conceptualized RuTAGE in 2003-04.

Key Features of RSVC Model

- ➔ **Physical Presence:** Offers long-term tech support at Panchayat level.
- ➔ **Market Access:** Emphasizes collaboration with platforms like ONDC, Amazon, and Market Mirchi.
- ➔ **Scalability:** Plans to expand with 20 new centers and empower women entrepreneurs.

3.9.19. GLOBAL CAPABILITY CENTERS

Madhya Pradesh has become the first state in country to bring a dedicated **Global Capability Centre (GCC)** policy.

About GCCs

- ➔ GCCs are designed to leverage global talent pools and technological advancements to enhance organizational capabilities and drive business transformation.
- ➔ India's GCC are emerging as **strategic hubs** reshaping the **Indian corporate landscape**.
- ➔ **Present Scenario:** Number of GCCs in India has grown from ~1430 (FY 2019) to >1700 (FY 2024) in FY24.
 - ➔ As of FY24, GCCs in India employ nearly 1.9 million professionals.

3.9.20. SWARAIL APPLICATION

Ministry of Railways has introduced 'SwaRail' SuperApp one-stop solution to streamline various railway services.

About SwaRail

- ➔ Offers services like **Reserved Ticket Bookings, Unreserved Ticket & Platform Ticket Bookings**, etc.
- ➔ Developed by **Centre for Railway Information Systems (CRIS)**.



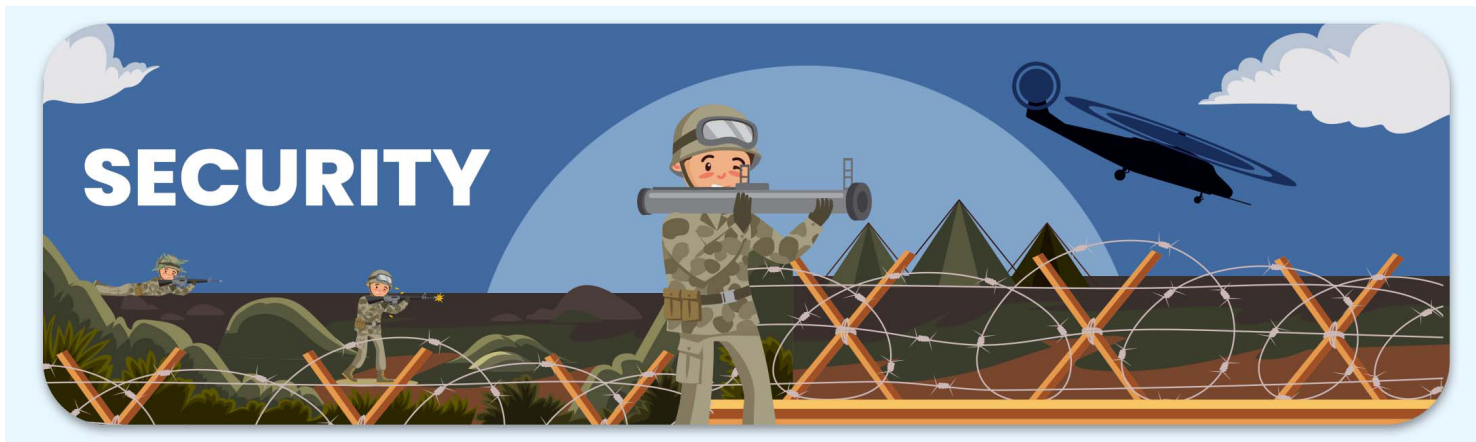
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4.1. REGIONALISM

Why in the News?

Vice-President raised concerns about the forces that are trying to create a clash between nationalism and regionalism.

Forms of Regionalism in India



Secessionism

It refers to the desire to **withdraw from the union**, often supported by militant or fundamentalist movements. Ex. Secessionist groups have been active in Jammu & Kashmir, Manipur etc.



Separatism

It advocates for the interests of a particular group within a larger set such as a state, based on language, religion, ethnicity, or other factors. Ex. **Bodoland movement** in Assam, **Gorkhaland movement** in West Bengal and **Khalistan movement** in Punjab



Demand for Autonomy

Regional parties and Union Territories like NCT of Delhi are demanding more autonomy and full statehood status.



Supra-State Regionalism

It arises from **shared interests among people** resting in **multiple states**, with ethnic regionalism on the north-eastern part of India serving as an example.



Inter-State and Intra-State Regionalism

Inter-state regionalism creates divisions among two or more states whereas intra-specific state or **region within a state seeking autonomy**.

Regionalism:

- ➔ **Shared Identity:** Reflects common ethnic/linguistic/economic ties in a geographic area (e.g., Dravidian movement in Tamil Nadu).
- ➔ **Evolution in India:**
 - ➔ Post-independence linguistic state demands (Potti Sriramalu's 1952 fast)
 - ➔ Recent state formations (Jharkhand/Chhattisgarh/Uttarakhand 2000).

Factors behind Regionalism:

- ➔ **Linguistic/Cultural Identity:** e.g., Marathi Manos concept in Maharashtra.
- ➔ **Ethnocentrism:** Native vs "outsider" binaries.
- ➔ **Tribal Identity:** Jharkhand's tribal heritage.
- ➔ **Uneven Development:** e.g., GNLF in Darjeeling vs South Bengal.
- ➔ **Administrative Neglect:** Telangana's water/budget grievances.

Impact of Regionalism:

- ➔ **Positive:** Strengthens federalism/state autonomy, Amplifies marginalized voices, Preserves cultural diversity, Channels grievances democratically.
- ➔ **Negative:** Threatens national unity (secession risks), "Sons of Soil" discrimination (migrant attacks), Political fragmentation, Regional-over-national prioritization.

Way Forward:

- ➔ **National Unity:** Ek Bharat Shreshtha Bharat cultural exchanges.
- ➔ **Cultural Integration:** Interstate interaction programs.
- ➔ **Cooperative Federalism:** Balance state empowerment with national cohesion.
- ➔ **Inclusive Development:** Targeted infrastructure/jobs in backward regions.
- ➔ **Autonomy Respect:** Limited central interference in state matters.

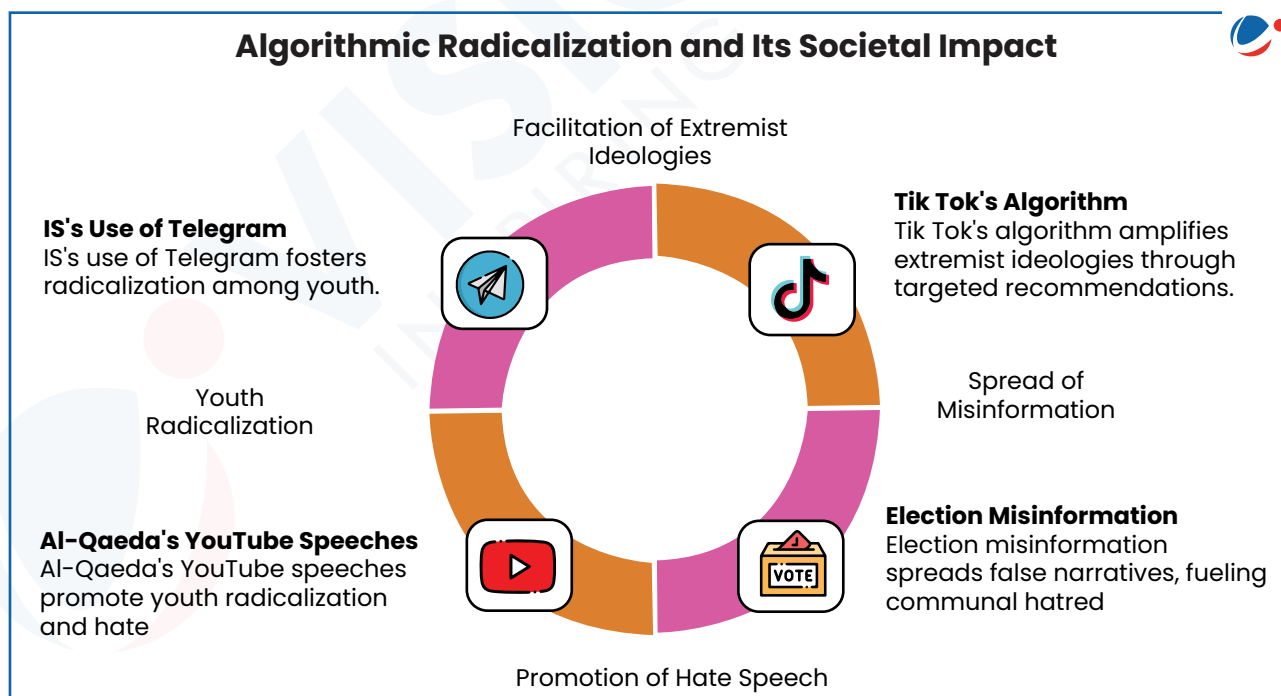
4.2. ALGORITHMIC AMPLIFICATION AND RADICALISATION

Why in the News?

Recently, experts have raised concerns regarding **social media algorithms having the potential to amplify and spread extremism.**

Understanding Social Media Algorithmic Amplification:

- ➔ **Social media algorithms:** Computerized rules analyzing user behavior to rank content (likes, comments, shares).
- ➔ **Algorithmic Radicalisation:** Algorithms push users toward extremist content.
 - ➔ **Impact:** Deepens societal divisions, spreads disinformation, etc.
 - ➔ **Mechanism:** Promotes confirmation bias and group polarization.
 - ➔ **Outcome:** Traps users in ideological filter bubbles through selective content curation.



Challenges in curbing Algorithmic Radicalization:

- ➔ **Complex mechanisms involved:** Social media algorithms operate as 'black boxes'.
- ➔ **Modulated content:** Extremist groups use coded language/symbols (e.g., IS/al-Qaeda's satire) to bypass detection.
- ➔ **Moderation vs. Rights:** Hard to balance removal of harmful content with free expression rights.
- ➔ **Failure in accounting local context:** Global algorithms miss region-specific socio-political nuances, worsening radicalization.
- ➔ **Lack of international regulation:** Countries prioritize national over global interests.

Steps taken to curb Algorithmic Radicalisation

Global steps

- European Union's (EU's) Digital Services Act 2023.
- Artificial Intelligence (AI)-driven moderation: E.g., YouTube's machine-learning model, 2023.
- Christchurch Call: To eliminate terrorist and violent extremist content online.

Indian steps

- Ministry of Electronics and Information Technology's several initiatives.
- IT Rules 2021: Removing flagged content within 36 hours.

Way forward:

- **Algorithmic Audits:** Mandate regular audits (e.g., EU's Digital Services Act 2023).
- **Accountability measures:** Define clear rules. (e.g., Germany's NetzDG law with 24-hour removal mandates).
- **Custom-made content moderation:** (e.g., France's dialect-specific detection systems).
- **Public awareness:** (e.g., UK Online Safety Bill's media literacy initiatives).

4.3. HYBRID WARFARE

Why in the News?

Recently, Union Defence Minister **underlined the dangers of hybrid warfare** to India.

More on the news:

- Highlighted blurred lines between border/internal security, with threats to critical infrastructure.
- **Noted evolving frontline concepts:** terrorism, cyber-attacks, human trafficking transcends borders.

About Hybrid Warfare:

- **Definition:** Combines conventional/unconventional tactics (kinetic/non-kinetic) for strategic gains without full-scale war.
- **Examples:** China's "three warfares," Russia-Ukraine cyber/disinformation, Israel-Palestine psyops, Lebanon pager blasts.

Reasons for emergence:

- **Strategic advantage:** Achieves objectives without war (e.g., Russia's "little green men").
- **Cost-effective:** Sanctions/cyberattacks avoid direct conflict (e.g., U.S. vs. Iran).
- **Tech advancement:** Enables cyber/disinformation campaigns (e.g., Russian attacks on Ukraine).
- **Non-state actors:** Proxy warfare (e.g., Iran-Houthis in Yemen).
- **Global interconnectivity:** Exploits cyberspace/economics (e.g., Russian 2016 U.S. election interference).

Hybrid warfare threats to India:

- **Hostile neighbors:** Pakistan's proxy terror, China's gray-zone tactics.
- **Internal insurgencies:** Naxalism, NE ethnic conflicts.
- **Critical infrastructure:** Cyberattacks (Kudankulam 2019, Mumbai grid 2020).
- **Economic warfare:** Chinese import dependencies (APIs, electronics).

Key characteristics of Hybrid Warfare



Obscurity

Makes it difficult to identify the threshold of war.



Ambiguity

Complicates attribution and response to attacks by the target country.



Multi-domain Operations

Engages multiple domains (land, air, sea, cyber, space etc.), making it difficult to defend.



Non-state Actors

Involves proxy organizations and non-state entities.



Psychological Operations

Manipulates morale and public opinion through propaganda, media influence etc.

India's preparedness:

- ➔ **Defense modernization:** DURGA-II Project, 'Make in India'.
- ➔ **Structural reforms:** CDS, DAIPA, DAIC, Defence Cyber Agency (2021).
- ➔ **International partnerships:** GSOMIA (USA), Quad collaboration.
- ➔ **Parliamentary reviews:** Standing Committee on Defence (2024) assessing cyber/anti-drone tech.

Way forward:

- ➔ **Capacity building:** Cyber retaliation/offensive capabilities, tech-resilient personnel.
- ➔ **Adaptive strategies:** Dedicated hybrid warfare division.
- ➔ **Proactive approach:** Smart power (diplomatic/economic/informational tools).
- ➔ **'Whole of government' plan:** NSCS-led, CCS-approved grand strategy.

4.4. NUCLEAR DISARMAMENT

Why in the News?

UN Secretary-General António Guterres warned at the "UN Conference on Disarmament" in Geneva that the risk of nuclear war is rising and urged governments to push for total disarmament.

Factors behind Rising Risk of Nuclear War:

- ➔ **Geopolitical Risks:** Russia suspended New START/CTBT during Ukraine war.
- ➔ **Doomsday Clock Alert:** Moved closer to midnight (Jan 2025).
- ➔ **Expanding Arsenals:** 12,000+ warheads; China may reach 1,500 by 2035.
- ➔ **Modernization Risks:** Hypersonic missiles reduce decision time.
- ➔ **False Alarms:** 1983 Soviet incident nearly triggered war.
- ➔ **AI Weaponization:** Automated nuclear decisions raise risks.
- ➔ **Space Militarization:** U.S. Space Force, India's ASAT test (2019).

What is Nuclear Disarmament?

- ➔ Elimination/reduction of nuclear weapons via unilateral or multilateral action.

Key Obstacles to Disarmament:

- ➔ **Commitment Gap:** States modernize while pledging cuts (e.g., Russia's NPT support vs. ICBM development).
- ➔ **Treaty Loopholes:** NPT's vague clauses enable evasion.
- ➔ **Withdrawals:** North Korea left NPT, conducted tests.
- ➔ **Bilateral Failures:** INF Treaty collapsed over violations.
- ➔ **Non-NPT States:** India, Israel, Pakistan outside framework.
- ➔ **Military Imbalance:** U.S. (916B) vs. Russia (916B) vs. Russia (109B) spending fuels nuclear reliance.
- ➔ **Other Issues:** Prestige symbolism (UN), No missile regulation treaty, NATO's deterrence doctrine, MAD theory persistence.

Global Nuclear Weapons Treaties/Other Initiatives



Treaty on the Non-Proliferation of Nuclear Weapons (NPT) (1970)

Prevents the spread of nuclear weapons and promotes disarmament



Comprehensive Nuclear-Test-Ban Treaty (CTBT) (1996)

Prohibits nuclear explosion tests but awaits ratification by key countries



Treaty on the Prohibition of Nuclear Weapons (TPNW) (2021)

Legally binds countries to refrain from nuclear weapons activities



Conference on Disarmament (CD) (1978)

Serves as a forum for negotiating arms control agreements



United Nations Office for Disarmament Affairs

Aims for general and complete disarmament globally



International Atomic Energy Agency

Ensures the safe and peaceful use of nuclear technology



Pact for the Future (2024)

Reaffirms the goal of total nuclear disarmament

India's stance on Nuclear Disarmament

- India is committed to **the goal of global, non-discriminatory and verifiable nuclear disarmament.**
- **Key Actions:**
 - ➔ **1954:** First country to call for a ban on nuclear testing worldwide.
 - ➔ **1978:** Proposed an international convention to prohibit the use or threat of nuclear weapons.
 - ➔ **1982:** Called for a nuclear freeze, urging a halt to fissile material production for nuclear weapons.
 - ➔ **1998:** Voluntarily adopted measures to prevent nuclear proliferation despite conducting nuclear tests.
 - ◊ Policy of a '**no - first - use**'.
 - ➔ **1999:** Draft Nuclear Doctrine.
- **India's Stands on Global Nuclear Treaties:**
 - ➔ **NPT:** Opposes due to its discriminatory nature.
 - ➔ **CTBT:** Did not sign it because it failed to address nuclear disarmament, non-proliferation.
 - ➔ **TPNW:** Does not support this treaty since it lacks new legal standards for disarmament.
- **Multilateral Approach**
 - ➔ India advocates **gradual disarmament** through **universal agreements.**
 - ➔ India supports negotiating a **Nuclear Weapons Convention.**

Way forward:

- **Transitional Approach:** A phased strategy balancing deterrence and disarmament. It covers.
 - ➔ **Bilateral Arms Reduction:** The U.S. and Russia, holding the largest nuclear stockpiles.
- **Treaty-based limits on strategic missile defences.**
- Strengthened international norms against both nuclear and conventional aggression.
- **Need for Global Cooperation:** continue **International Physicians for the Prevention of Nuclear War (IPPNW)** nuclear disarmament efforts.
- **UN's Role in Disarmament.**

4.5. NEWS IN SHORTS

4.5.1. NAVAL ANTI-SHIP MISSILE-SHORT RANGE (NASM-SR)

DRDO and Indian Navy successfully flight-tested the **first-of-its-kind Naval Anti-Ship missile (NASM-SR)** from Integrated Test Range (ITR), Chandipur.

Key Features of NASM-SR

- **Indigenous Imaging Infra-Red (IIR) Seeker:** It facilitates high-precision strikes.
- **Man-in-Loop Control:** Allows real-time targeting adjustments.
- **Propulsion System:** It uses a **solid propulsion system.**

4.5.2. MILITARY EXERCISES

Exercise	Description
Dharma Guardian	<ul style="list-style-type: none"> ➤ An annual event held alternately in India and Japan. ➤ Aim: Enhance interoperability for joint urban warfare and counter-terrorism under UN mandate.
Exercise Komodo	<ul style="list-style-type: none"> ➤ Multilateral naval exercise Komodo began in Bali, Indonesia. ➤ Focuses on maritime interoperability and regional security. ➤ Started in 2014, it's a non-combat exercise by Indonesian Navy.
Exercise Ekuverin	<ul style="list-style-type: none"> ➤ The 13th edition of joint exercise 'Ekuverin' started in Maldives with the Indian Army and Maldives National Defence Force. ➤ A bilateral annual exercise held alternately in India and Maldives. ➤ Ekuverin means 'Friends' in Dhivehi. ➤ Aim: Enhance interoperability in counter-insurgency and disaster relief.
'Cyclone 2025'	<ul style="list-style-type: none"> ➤ Participants: India & Egypt ➤ Objective: Boost defence cooperation and share desert warfare skills.

4.6. ERRATA

- ➔ In the **January 2025 Monthly Current Affairs Magazine**, under **Article 4.3. Coastal Security Scheme**, due to a typographical error in the infographic titled 'Significance of Coastal security in India', it has been incorrectly mentioned that India is world's 7th largest fishing nation.
- ➔ The correct information is- India is the world's **2nd largest fish producing country**.



Vision Publication

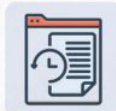
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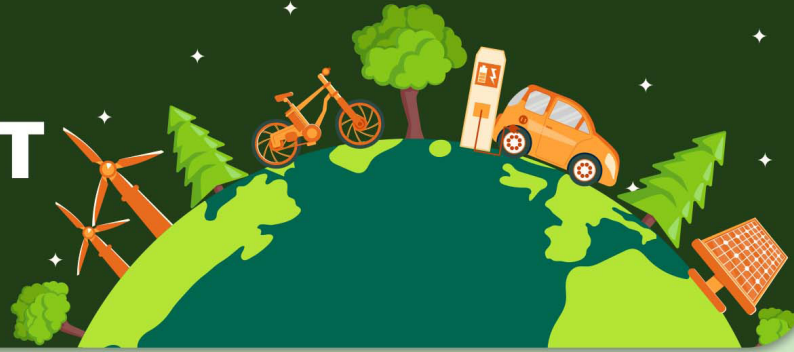


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ENVIRONMENT



5.1. SOLAR ENERGY IN INDIA

Why in the News?

India has achieved a historic milestone **by surpassing 100 GW of installed solar power capacity, with 100.33 GW installed as of January 2025**, and an additional 84.10 GW under implementation.

More on the news

- ➔ India has also witnessed growth in **hybrid and round-the-clock (RTC) renewable energy projects**, with 64.67 GW under implementation and tendered, bringing the total of 296.59GW.
- ➔ The National Institute of Solar Energy estimates **India's solar potential at 748 GW**.

Growth of India's solar sector

- ➔ **Capacity Increase:** 3450% from 2.82GW (2014) to 100 GW (2025)
- ➔ **Solar:** 47% of total RE capacity
- ➔ **Solar Installations in 2024**
 - ➔ **Utility scale:** 18.5 GW (approx. 2.8x increase from 2023)
 - ➔ **Rooftop Installation:** 4.59 GW (53% increase from 2023)
- ➔ **Solar module production capacity:** from 2GW (2014) to 60 GW (2024) (Target: 100 GW by 2030)
- ➔ **Top Performing States:** Rajasthan, Gujarat, Tamil Nadu, Maharashtra, Madhya Pradesh

Types of Solar Photovoltaic System

- ➔ **Grid-tied (on-grid system):** Connected to the utility grid, Enables feeding Excess, power back into the grid thus eliminate the need for energy storage.
- ➔ **Grid-tied with battery backup:** It integrates solar panels, a grid connection, and a battery storage unit, it can provide battery backup during abnormal grid conditions and improve power quality.
- ➔ **Off-grid system:** These systems use solar panels to convert sunlight into Direct Current, which is stored in batteries, used in areas that lack access to a consistent energy supply from the power grid.

Significance of Solar energy in India

- ➔ **Supports India's climate targets under the Paris Agreement:** cutting emissions intensity by 45% and achieving 50% non-fossil fuel capacity by 2030.
- ➔ **Helps fulfill future energy needs:** India's energy use is 3 times the global average.
- ➔ **Enables rural electrification:** Solar energy can support off-grid power generation.

Factors behind growth of Solar Energy in India

- ➔ **Geographical advantage with abundant solar radiation:** ~300 sunny days per year and an average of 4-7 kWh/m²/day.
- ➔ **Government schemes:** Like PM-KUSUM and PM Surya Ghar.
- ➔ **Financial support:** 100% foreign direct investment allowed, **Interstate transmission system (ISTS) fees are waived for solar and wind energy sales.**
- ➔ **Initiatives for indigenous manufacturing:** Eg. Production Linked Incentive (PLI) Scheme.
- ➔ **Consumer awareness:** Bureau of Energy Efficiency (BEE) launched **Standards and Labeling (S&L) programs.**
- ➔ **Boost RE consumption:** Renewable Purchase Obligation (RPO).

- ➔ Building infrastructure: Eg. Green Energy Corridor Scheme.
- ➔ International cooperation through Solar Alliance.

Issues constricting in further advancement of solar energy in India

- ➔ Land acquisition challenges: often conflicting with food security and environmental interests.
- ➔ Infrastructure and grid integration constraints: pose challenges to scalability.
- ➔ Environmental concerns in mineral extraction: leave large scars in the landscape.
- ➔ Domestic manufacturing limitations: Lack of R&D, modern development facilities etc.
- ➔ Policy and regulatory hurdles: Delays in approvals and land clearances.
- ➔ Other issues: High initial Investment; waste problem as solar panels etc.

Way forward

- ➔ Modernize grid infrastructure: smart grid technology investment.
- ➔ Increase land-use efficiency: promote agrivoltaics and development of floating solar panels.
- ➔ Simplify policies: Harmonizing state and central policies.
- ➔ Promote technological innovations: Advancements in solar panel efficiency, energy storage etc.
- ➔ Develop a circular economy approach for solar technologies: Establish a robust recycling ecosystem.
- ➔ Boost domestic manufacturing: Eg. "Make in India" can help boost the solar production further.

5.2. SOIL HEALTH CARD SCHEME

Why in the News?

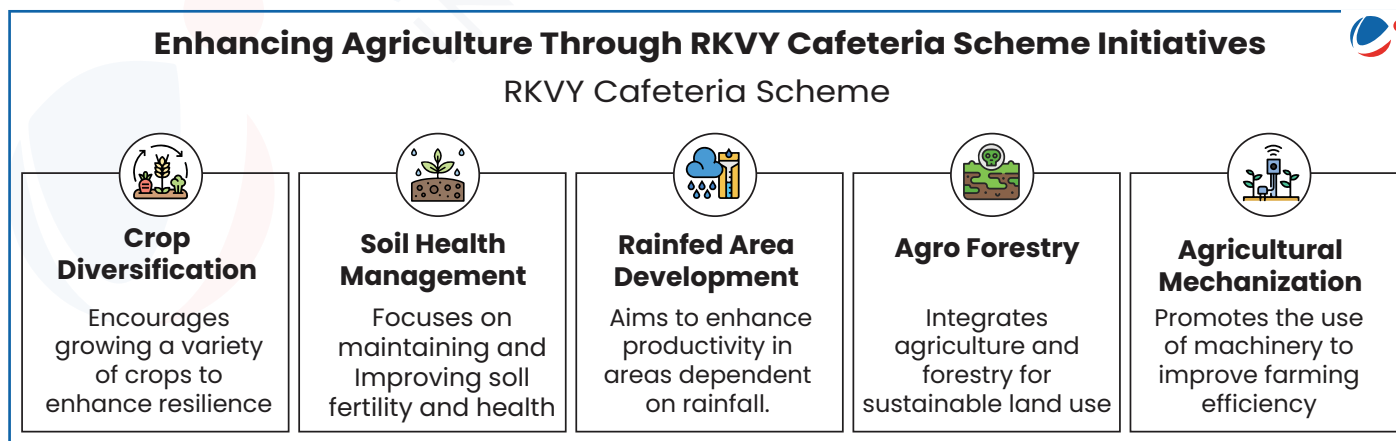
The Soil Health Card Scheme (SHSC), launched in 2015, completed 10 years of implementation.

More on the News

- ➔ The scheme was introduced to assist state governments in issuing soil health cards, which has been integrated with PM-Rashtriya Krishi Vikas Yojana (RKVY) Cafeteria scheme Since 2022-23.
 - ➔ Launched in 2007-08, it is a flagship scheme of the Department of Agriculture & Farmers' Welfare to incentivize comprehensive agriculture development plans for more inclusive and integrated development of agriculture.

About the SHCS

- ➔ **Ministry:** Union Ministry of Agriculture and Farmers Welfare
- ➔ **Objectives:**
 - ➔ Issue soil health cards every three years.
 - ➔ Develop soil test-based nutrient management.
 - ➔ Identify soil types and improvement methods.



- ➔ **Features of Scheme:**
 - ➔ Soil Health Cards provide information on nutrient status
 - ➔ Village-level Soil Testing Labs established.
 - ➔ Soil Health Card Portal created in multiple languages.
 - ➔ Implementation done by Department of Agriculture of respective State /UTs.
 - ➔ Technological advancements including GIS integration and mobile app.

Parameters of SHC

- ➔ **Macro-nutrients:** Nitrogen, Phosphorous, Potassium, Sulphur.
- ➔ **Micro-nutrients:** Zinc, Iron, Copper, Manganese, Boron.
- ➔ **Others:** pH, Electrical conductivity, Organic carbon.

Benefits of SHCS

- ➔ **Free affordable soil testing:** Cost Effective Access, Wide availability.
- ➔ **Timely and accurate results:** Quick results, Precise analysis.
- ➔ **Optimized Fertilizer Use:** Cost Reduction, Prevents Over/Under Application.
- ➔ **Customized Nutrient Recommendations:** Personalized Plans, Data driven decision.

Key Achievements of the Scheme

- ➔ **24.74 crore Soil Health Cards** generated (as of February 2025).
- ➔ Increased coverage from **16 lakh to 53 lakh cards (2021–2025)**.
- ➔ **Soil and Land Use Survey of India generated 1,987** village-level soil fertility maps for 21 States
- ➔ **8,272 Soil Testing Labs** set up.
- ➔ **₹1,706.18 crore** released to States/UTs.

Constraints with the Scheme

- ➔ **Quality and accuracy issues** in sample collection.
- ➔ Farmers' **difficulty in understanding recommendations**.
- ➔ **Lack of** physical and micro-biological indicators.
- ➔ **Inadequate testing infrastructure**.
- ➔ **Others:** Inadequate testing Infrastructure, lack of availability of recommended fertilisers and bio-fertilisers etc.

Way Forward

- ➔ **Improve sample collection** and testing practices.
- ➔ Provide **specialized training**.
- ➔ **Modernize** soil testing labs.
- ➔ **Create specialized bodies** for soil management.
- ➔ **Enhance coordination between agricultural officers and farmers**, development of Soil Health Index; reduction in subsidy for NPK to rationalize fertilizer usage, etc.

5.3 STUBBLE BURNING

Why in the news?

A parliamentary standing committee recommended **introducing a minimum support price (MSP) for paddy residue**.

More on the news

- ➔ The recommendations were made by the **Committee on Subordinate Legislation** which examined the **Commission for Air Quality Management (CAQM) in National Capital Region and Adjoining Areas** (Imposition, Collection and Utilization of Environmental Compensation for Stubble Burning) Rules, 2023.
- ➔ The rules were notified under the **CAQM Act, 2021**

About Stubble Burning

- ➔ Stubble burning is the practice of **setting fire to crop residues after harvesting**, primarily in Punjab, Haryana, and Uttar Pradesh.
- ➔ Farmers do this as it is **cheaper and helps with weed and pest management**.

Effects of Stubble Burning

- ➔ **Environmental Degradation:** Releases harmful pollutants like carbon dioxide, **methane, carbon monoxide, Nitrogen Oxide, Particulate matter**.
- ➔ **Reduces Soil Fertility:** Heat from burning residues elevates soil temperature up to 42°C.
 - ➔ Harms microorganisms
 - ➔ Leads to loss of essential nutrients
- ➔ **Human health:** May lead to **lung diseases** such as asthma, COPD, bronchitis, and lung cancer.

Challenges in controlling stubble burning

- ➔ **Technical and infrastructure Issues:** Inadequate harvesting technology, limited storage infrastructure, short window etc.
- ➔ **Regulatory Challenges:** Ambiguous definitions, unclear procedures etc.
- ➔ **Financial Barriers:** Insufficient subsidies and utilization frameworks etc.
- ➔ **Socioeconomic Concerns:** Lack of awareness and alternative farming practices etc.

Steps taken by government to reduce stubble burning

- ➔ **CAQM Framework:** In-situ and Ex-situ Crop Residue Management, Prohibition of stubble residue burning
- ➔ **Financial Support:** Assistance through Sub-Mission on Agriculture Mechanization
- ➔ **Promotion of Alternatives:** Bio Enzyme-PUSA, Happy Seeder machine etc.
- ➔ **State-level Initiatives:** Eg. Uttar Pradesh: "Parali Ke Badle Govansh Khaad, Punjab: Mobile apps like i-Khet (for facilitating farmers to have access to the agriculture machinery

Way Forward: Recommendations made by Parliamentary standing committee

- ➔ Establish a price system similar to MSP for stubble.
- ➔ Develop technical and infrastructure support.
- ➔ Improve regulatory mechanisms.
- ➔ Incentivize alternative agricultural practices.
- ➔ Create a unified national policy for bioenergy generation.



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5.4 NEWS IN SHORTS

5.4.1 WETLAND ACCREDITED CITIES

Indore and Udaipur have become the first two Indian cities to be **recognized on the global list of wetland cities under the Ramsar Convention**.

- **Indore:** Sirpur Lake recognized for water bird congregation and being developed as a bird sanctuary.
- **Udaipur:** Surrounded by five major wetlands – Pichola, Fateh Sagar, Rang Sagar, Swaroop Sagar, and Doodh Talai.

About Wetland City Accreditation (WCA)

- **Voluntary accreditation system** for cities with significant natural or human-made wetlands
- **Approved in Uruguay during COP12 of Ramsar Convention (2015)**
- **Accreditation is valid for 6 years** and requires renewal based on six specific criteria

Significance of WCA

- **Promotes conservation and sustainable use** of urban and peri-urban wetlands
- Supports **socio-economic benefits for local populations**
- Helps implement the **Amrit Dharohar initiative of MoEF&CC**

6 Criteria for WCA Enlistment

- **Criterion 1:** Contains Ramsar Sites providing ecosystem services within city jurisdiction
- **Criterion 2:** Adopts measures for wetland conservation and ecosystem services protection
- **Criterion 3:** Implemented wetland restoration and/or management measures
- **Criterion 4:** Integrates wetland planning into urban land-use decisions
- **Criterion 5:** Promotes public awareness and local participation in wetland decisions
- **Criterion 6:** Establishes local committee for wetland management and Ramsar accreditation

5.4.2 FOUR MORE WETLANDS INCLUDED UNDER THE RAMSAR CONVENTION

Increased wetlands tally from 85 to 89, making India **highest in Asia and third globally**, New wetlands added from Tamil Nadu, Sikkim, and Jharkhand.

- **Tamil Nadu leads with 20 Ramsar sites**, Sikkim and Jharkhand added their first Ramsar sites

Ramsar Convention on Wetlands

- Intergovernmental treaty adopted in Ramsar, Iran in 1971 (effective from 1975).

- **Objective:** Provide framework for national and international wetland conservation.
- World Wetlands Day **celebrated on 2nd February**.

New Ramsar Sites

Sakkarakottai Bird Sanctuary (Tamil Nadu)

- **Location:** Near Gulf of Mannar, on the Central Asian Flyway.
- **Historical Significance:** Sakkarakottai Tank was dug in 1321 A.D. through Kudimaramattu (community participation).
- Hosts species like **Painted Stork, Black-headed Ibis, etc.**

Therthangal Bird Sanctuary (T.N.)

- **Location:** Near Gulf of Mannar, on the Central Asian Flyway.
- Home to species like **Painted Stork, Black-headed Ibis, Spot-billed Pelican etc.**
- Notable for the **Babul (Acacia nilotica)** trees.

Khecheopalri Wetland (Sikkim)

- Also Known as Wishing Lake, believed to fulfill wishes; **locally called Sho Dzo Sho ("Oh Lady, Sit Here")**.
- Originally Kha-Chot-Palri, meaning "Heaven of Padmasambhava".
- Cirque-type wetland, **considered sacred by both Buddhists and Hindus**.

Udhwa Lake (Jharkhand)

- Named **after Saint Uddhava from Mahabharata, a friend of Lord Krishna**.
- Declared as Wildlife Sanctuary and **Important Bird Area (IBA)**.
- Sanctuary has two water bodies i.e. **Patauran and Berhale**.
- Home to bird species like **House Swifts, Fishing Eagles, and Brahminy Kite**.

5.4.3 INLAND MANGROVE OF GUNERI

Gujarat has notified "**Inland Mangrove of Guneri**" as its **first Biodiversity Heritage Site**, notified in accordance with the Biodiversity Act, 2002.

About Inland Mangrove of Guneri

- Located 45km from **Arabian Sea** and 4km from **Kori Creek**.
- Represents a **rare inland ecosystem** unlike conventional mangrove sites.
- **One of only eight** such ecosystems worldwide.
- Hosts around **20 migratory and 25 resident avifaunal species**.

5.4.4 UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME (UN-HABITAT)

C40 Cities & UN-Habitat have announced an **Urban Planning Accelerator** to cut city emissions by 25% by 2050

About UN Habitat

- ➔ Established in 1978
- ➔ **Mission:** Promote socially and environmentally sustainable urban development.
- ➔ Focuses on ensuring **adequate shelter and sustainable city planning**.

About C40

- ➔ Global network of nearly **100 mayors addressing climate crisis**
- ➔ **Six Indian cities are members:** Bengaluru, Chennai, Delhi NCT, Jaipur, Kolkata, and Mumbai

5.4.5 AGRI-NBSAPS

UN Biodiversity Conference (CBD COP 16.2) in Rome builds on COP16 momentum in Colombia where FAO launched Agri-NBSAPS with **Colombian government and Convention on Biological Diversity (CBD)**.

About Agri-NBSAPS

- ➔ Assists governments in integrating **agrifood systems into National Biodiversity Strategies and Action Plans**
- ➔ Covers **all stages of food production** from farm to fork
- ➔ Provides framework under **Kunming-Montreal Global Biodiversity Framework** to halt biodiversity loss by 2030
- ➔ Provides a collective mechanism to **help governments build capacity, identify and implement strategic levers**.

Why should AFS be Integrated into NBSAPS?

- ➔ **Meeting KM-GBF Goals:** Over half of KM-GBF targets related to agriculture.
- ➔ **Cutting Emissions:** Agri-food systems produce nearly 1/3 of global greenhouse gases.
- ➔ **Protecting Food Security:** Biodiversity crucial for food security, supporting pollination and soil fertility.
 - ➔ Biodiversity decline threatens **3 billion lives and 75% of food crops dependent on pollinators**

Key Reforms Needed in Agrifood Systems to Protect Biodiversity

- ➔ **Shift to Plant-Based Diets:** Reduce animal agriculture's outsized impact.
- ➔ **Protect More Natural Land:** Preserve and restore whole ecosystems.
- ➔ **Adopt Nature-Friendly Farming:** Replace monocultures with polycultures.

5.4.6 CHAMPIONS OF ANIMAL PROTECTION

Animal Welfare Board of India (AWBI) will honour **Champions of Animal Protection** under Two major award categories: Prani Mitra and Jeev Daya Award.

- ➔ Initiative aims to recognize outstanding contributions to animal welfare

About AWBI

- ➔ Established in 1962 under **Prevention of Cruelty to Animal Act, 1960**
- ➔ Statutory advisory body on **Animal Welfare Laws**
- ➔ Founded under **Rukmini Devi Arundale's leadership**
- ➔ Comprises 28 Members, including 6 Members of Parliament

5.4.7 F11 BACTERIA

A study discovered F11 bacteria (*Labrys portucalensis*), Capable of degrading at least 3 types of **per- and polyfluoroalkyl substances (PFAS)**

About F11 Bacteria

- ➔ Aerobic bacteria from **Xanthobacteraceae family**
- ➔ Potential for **bioaugmentation in wastewater treatment**
 - ➔ Bioaugmentation involves adding microorganisms to biodegrade pollutant molecules.

About PFAS

- ➔ Toxic chemicals **resistant to grease, oil, water, and heat**
- ➔ Known as **'forever chemicals'** due to their nearly indestructible nature
- ➔ Used in **nonstick cookware, food packaging, waterproof and firefighting clothing**

5.4.8 SHALLOW-DEPTH EARTHQUAKE

Earthquake Measuring 4.0 in richter scale shakes Delhi-National Capital Region (NCR).

- ➔ It was Intra-plate event caused by **"in-situ material heterogeneity"**
- ➔ Epicentre located within **Delhi**
- ➔ Shallow depth of 5 km led to increased tremor intensity

Earthquakes Due to In-Situ Material Heterogeneity

- ➔ Refers to **seismic activity from variability** in Earth's crust properties.
- ➔ Variations in **physical properties** create stress concentration.
- ➔ Increases **likelihood of earthquakes** in fault zones.
- ➔ Delhi located in seismic zone IV (second highest in country)

Why is Delhi Earthquake Prone?

- ➔ **Indian-Eurasian Plate Collision:** Delhi is near the Indian-Eurasian Plate collision zone, with the Indian Plate moving northward at 5 cm/year, creating stress along fault lines.
- ➔ **Fault Systems:** Delhi-Haridwar Ridge is an extension of the Indian Plate
 - ➔ **Aravalli Fault System:** is a deep-seated geological structure both contributing to intra-plate tremors.
- ➔ **Indo-Gangetic Plain:** Delhi-NCR sits on soft alluvial soil, amplifying seismic waves

About Shallow Earthquake

- ➔ An earthquake is a **sudden, rapid shaking of the ground** caused by the shifting of rocks deep underneath the earth's surface.
- ➔ Occurs at **0 to 70 km depth** within Earth's crust
- ➔ Compared to **intermediate (70-300 km) and deep (300-700 km) earthquakes**
- ➔ Tends to cause **more damage due to proximity to surface**

5.4.9 SHIFT IN EARTH'S MAGNETIC NORTH

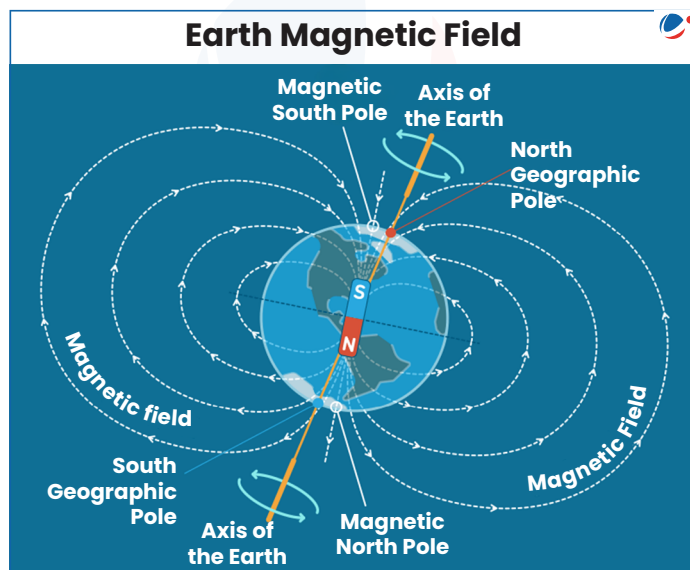
Earth's **Magnetic North Pole** is shifting toward Siberia, according to updated **World Magnetic Model (WMM)**.

About WMM

- ➔ **Standard model** of Earth's core and crustal magnetic field
- ➔ Updated **every five years**
- ➔ Produced by **US National Geospatial-Intelligence Agency and UK Defence Geographic Centre**

Shift in Earth's Magnetic North Pole

- ➔ Magnetic North differs from **Geographic North**
- ➔ **First discovered in 1831** by James Clark Ross
 - ➔ Movement from Canada to Siberia has **accelerated, then slowed in recent years.**



- ➔ **Magnetic declination** – the angle between magnetic North and Geographic North – at a given location also changes over time.
- ➔ **Positions of Magnetic North and South Poles change gradually.**
 - ➔ **Paleomagnetic records:** Earth's magnetic poles have reversed 183 times in the last 83 million years.
 - ➔ **Potential Implications:** Errors in navigation systems, impact on migratory species

5.4.10 DRAFT RULES FOR 'ONE NATION, ONE TIME'

The Department of Consumer Affairs has notified the **Draft Legal Metrology (Indian Standard Time) Rules, 2025**, to standardize and mandate Indian Standard Time (IST) across all sectors in India.

About Draft Legal Metrology (Indian Standard Time) Rules, 2025

- ➔ IST becomes the mandatory time reference.
- ➔ No entity can use time **other than IST for official/ commercial purposes, unless permitted by law.**
- ➔ **Government offices must adopt** time synchronization protocols like.
- ➔ Cybersecurity measures and alternative **references are prescribed for resilience.**
- ➔ **Authorized deviations (e.g., GMT) are allowed** for astronomy, navigation etc.

Longitude and Time

- ➔ **Longitude of a place** is its angular distance east or west of Prime Meridian which passes through Greenwich, England.
- ➔ **Earth completes one full rotation (360°) on its axis in 24 hours**, which means it rotates 15° per hour or 1° in 4 minutes.
- ➔ **Standard Meridian:** Countries use a longitude divisible by 7° 30' for their time zone to align time differences with GMT in whole or half-hour multiples.

Significance of New Draft Rules

- ➔ Enhances national security.
- ➔ Ensures reliable services.
- ➔ Promotes accurate financial transactions.

About IST

- ➔ IST is based on the **82°30'E meridian at Mirzapur, maintained by CSIR-NPL.**
- ➔ It is **5 hours 30 minutes ahead of GMT (now UTC).**
- ➔ Assam's tea gardens use an informal '**Chaibagan**' time, one hour ahead of IST, introduced by British tea companies for productivity.

5.4.11 STRATOVOLCANO

Massive methane **plumes were recently emitted from Mount Fentale, a stratovolcano in Ethiopia** that last erupted in 1820.

About Stratovolcano

- ➔ A stratovolcano is a **steep-sided volcano formed by layers of lava and ash**, known for explosive eruptions. Examples include Mount Fuji (Japan) and Mount Vesuvius (Italy).

About Methane Plumes

- ➔ Methane plumes involve **large methane releases from super-emitter** sites like gas drilling.
- ➔ Methane is a **potent greenhouse gas**, with 80 times the warming potential of carbon dioxide over 20 years.

5.4.12 MOUNT DUKONO

Recently, **a volcano erupted at Mount Dukono in Indonesia.**

About Mount Dukono

- ➔ It is one of Indonesia's 127 active volcanoes, standing at 1,087 metres above sea level, **located on Halmahera Island**

Other major volcanoes erupted recently in Indonesia

- ➔ **Mount Merapi:** Near Yogyakarta.
- ➔ **Mount Ruang:** A stratovolcano in the Sulawesi Islands.
- ➔ **Mount Lewotobi Laki-Laki:** On Flores Island.

5.4.13 CASPIAN SEA

Environmental activists have highlighted the **Caspian Sea's rapidly declining water levels, with a loss of nearly 31,000 square km since 2005.**

About Caspian Sea

- ➔ It is the **world's largest enclosed water body**, bordered by **Kazakhstan, Azerbaijan, Russia, Turkmenistan, and Iran**, with Kazakhstan having the **longest coastline.**
- ➔ Its oil reserves are **estimated at 48 billion barrels.**

Reasons for declining water level: The decline is attributed to the climate crisis, excessive agricultural water use, and pollution from nuclear waste, industry, and poor urban planning.



SOCIAL ISSUES



6.1. MIDDLE-INCOME CLASS

Why in the news?

The new income tax structure raises the tax-free income limit to **₹12 lakh**, offering relief to India's middle-income class.






More on the News

- ➔ The **nil tax slabs** rises from **₹7 lakh** to **₹12 lakh**, along with a **₹75,000 standard deduction**.
- ➔ This relief aims to **boost disposable income, encourage spending, and fuel economic growth**.

About Middle Income Class (MIC)

- ➔ **Definition**
 - ➔ **No fixed definition** but is identified by groups like the **OECD** (earnings of \$10-\$100/day) and **People Research on India's Consumer Economy (PRICE)**, household income of ₹5-30 lakh annually at 2020-21 prices.
 - ➔ They are **economically stable socio-cultural groups** with **low risk of poverty**.
- ➔ **Variations within MIC**
 - ➔ **Lower Middle Class:** Spends on **healthcare, education, and basic assets** like vehicles.
 - ➔ **Upper Middle Class:** Also invests in **luxury items** like computers and air conditioners.

Major Characteristics of Middle Class

 <p>Population Growth: Swift rise of India's middle class.</p>	 <p>Discretionary Income: Emphasizes the extra funds available for spending.</p>	 <p>Economic Impact: Boosts market demand for consumer durables.</p>	 <p>Financial Security: Possess stable income or assets to shield against economic downturns.</p>	 <p>Human Development: Demonstrates access to education and opportunities for social mobility.</p>
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Growth of Indian Middle-Income Class

- ➔ **Pre-Independence:** A small, educated, upper-caste elite shaped by colonial policies.
- ➔ **Post-Liberalization:** 1990s **LPG reforms spurred MIC growth** through jobs in IT and services, especially in cities.
- ➔ **Future Outlook:** PRICE predicts the **MIC will rise from 31% in 2021 to 38% by 2031 and 60% by 2047**.

Impact of the Changing Middle Class

Economy

- ➔ **Consumption Growth:** Rising MIC incomes will drive **\$2.7 trillion in spending by 2030-31 (PRICE)**, focusing on apparel, personal care, etc.
- ➔ **New Markets:** The urban MIC **attracts local and global firms**, fostering startups and services.
- ➔ **Inclusive Growth:** A thriving MIC supports education, health, and anti-corruption efforts.

City Infrastructure

- ➔ **Tier II Cities:** Growing MIC wealth **boosts demand** in smaller cities.

- ➔ **Growth Centres: Aspirational spending** spurs entertainment hubs like malls and cafes.
- ➔ **Housing: Gated communities**, once elite, now spread to Tier II cities.

Social

- ➔ **Socio-Economic Gains:** A larger MIC improves institutions and outcomes.
- ➔ **Values:** Wealth fosters democratic ideals, free speech, and environmental concern.

Challenges for the Middle-Income Class

- ➔ **Inflation:** Costly privatized healthcare and education strain budgets.
- ➔ **Unemployment:** Job instability threatens financial security.
- ➔ **Wage Stagnation:** Salaries lag behind economic growth.
- ➔ **Automation:** Tech displaces MIC jobs in IT, banking, and manufacturing.
- ➔ **Taxation:** High taxes and low benefits burden the MIC.
- ➔ **Debt:** Loans and credit card use rise, with **household debt at 38% of GDP in FY23**.
- ➔ **Social Barriers:** Patriarchy hinders women's career progress.

Reasons for Neglect

- ➔ **Self-Sufficiency Myth:** The MIC is seen as independent despite pressures.
- ➔ **Diversity:** Varied groups (**e.g., gig workers, public employees**) complicate targeted policies.
- ➔ **Low Political Voice:** Weak organization and voting reduce influence.
- ➔ **Policy Gaps:** Rural and business interests overshadow MIC needs.

Conclusion

Empowering the MIC demands **tax relief, housing solutions, and robust job policies**. A **stakeholder-driven plan** is key to addressing vulnerabilities, ensuring financial stability, and sustaining their economic and social contributions.

6.2. THREE-LANGUAGE FORMULA

Why in the News?

Opposition to the National Education Policy (NEP) 2020's three-language formula has emerged in some states.

About NEP and Three Language Formula

- ➔ **NEP 2020:** Mandates three languages (**at least two being Indian**), offering flexibility **unlike the 1968 policy's** Hindi, English, and regional language requirement.
- ➔ **Regional Flexibility:** Allows states and students to select languages, fostering multilingualism and respecting diversity.

Evolution of Three Language Formula Policy

- ➔ **Article 351:** Obliges the Union to promote Hindi.
- ➔ **Kothari Commission (1964-66):** Introduced the three-language formula, adopted in the 1968 NEP.
- ➔ **NEP 1968:** Promoted regional languages at all educational levels.
- ➔ **1992 Programme of Action:** Advocated mother tongue at pre-school.
- ➔ **Right to Education Act, 2009:** Prioritized mother tongue as the medium of instruction.
- ➔ **NEP 2020:** Recommends mother tongue or local language as the medium until at least Grade 5, ideally Grade 8.

Advantages of Three Language Formula (As per UNESCO's 'Languages Matter: Global Guidance on Multilingual Education' Report):

- ➔ **Access and Inclusion:** for diverse learners, boosts parental involvement, and includes marginalized groups.
- ➔ **Learning Outcomes:** Supports socio-emotional growth and academic success through enhanced cognition.
- ➔ **Sustainable Development:** Preserves cultures, boosts economies (**e.g., 10% of Switzerland's GDP**), promotes harmony, and protects environmental knowledge.
- ➔ **National Integration:** Enables cross-regional communication and strengthens unity in diversity.

Arguments Against Three-Language Formula

- ➔ **Politicisation:** Language sensitivity could fuel **regionalism**, threatening national unity via the 'sons of the soil' sentiment.
- ➔ **Language Choice:** Adults learn languages as needed, making mandatory policies redundant.
- ➔ **Primary Education Struggles:** Adding a third language may **burden students and systems**, especially monolingual children.
- ➔ **Teacher Shortage:** Lack of qualified teachers diverts resources from critical needs.
- ➔ **Diverse States' Challenges:** States like Nagaland face implementation hurdles.
- ➔ **Execution Issues:** E.g., Haryana struggled with Tamil.
- ➔ **Technology:** AI tools like Google Gemini reduce the need for multilingual skills.

Steps taken to promote multilingualism in Indian Education System	
ASMITA (Augmenting Study Materials in Indian Languages through Translation and Academic Writing) Initiative	To produce 22,000 books in 22 scheduled languages over five years.
Bahubhasha Shabdkosh	To create a multilingual dictionary repository.
Real-time Translation Architecture	By National Education Technology Forum (NETF) and Bharatiya Bhasha Samiti to develop technology for real-time translation in Indian languages.
Bharatiya Bhasha Pustak Scheme	Digital textbooks and study materials in multiple Indian languages
Bhashini	An AI-led language translation system enabling people to speak in their own language while communicating with speakers of other Indian languages.

Way Forward for Effective Implementation

- ➔ **Prioritize Quality:** Focus on teaching and outcomes over language addition.
- ➔ **Cooperative Federalism:** Promote Centre-State collaboration for smooth NEP 2020 rollout.
- ➔ **Align with UNESCO Guidance:** Use data-driven policies, develop materials, train teachers, and engage communities.

6.3. QUALITY HIGHER EDUCATION IN INDIA

Why in the News?

NITI Aayog released a policy report named 'Expanding Quality Higher Education through States and State Public Universities'.

- ➔ **State Public Universities (SPUs)** are established by Provincial or State Acts and funded by State Governments.

Role of SPUs in Quality Higher Education

- ➔ 81% of total student enrolment in 495 SPUs and their over 46,000 affiliated institutions.
- ➔ NEP 2020 aims to double enrolment in HEIs from 4.33 crores to 9 crores.
 - ➔ 7 crore of the 9 crore students will study in SPUs.
- ➔ 76.3% increase in enrolment of Scheduled Caste students from 2011 to 2022.
- ➔ Gender parity in SPU enrolment: 51.79% male, 48.21% female nationally.
- ➔ 38 SPUs appeared in the top 100 institutions (university category).
- ➔ 106.8% increase in enrolment of Scheduled Tribes students.

Scenario of Higher Education in India AISHE Report 2021-2022

- ➔ **Access & Enrolment**
 - ➔ **Institutions:** 1,168 universities, 45,473 colleges, and 12,002 stand-alone institutions exist nationwide.
 - ➔ **Student Enrolment:** Over 4 crore students enrolled, ranking India second globally after China.
 - ➔ **Gross Enrolment Ratio (GER):** Rose from 0.4 (1950-51) to 28.4 (2021-22), with NEP 2020 targeting 50% by 2035.
 - ➔ **Gender Parity Index (GPI):** Improved from 0.87 (2011-12) to 1.01 (2021-22), up by 16%.
- ➔ **Quality & Research**
 - ➔ **Pupil-Teacher Ratio (PTR):** Stable at 23:1 over the past five years.

- **Research:** India's global research share increased from 3.5% (2017) to 5.2% (2024), though higher education accounts for only 10% of total research.
- **Funding:** Centre and State expenditure (as % of GDP)–
 - **University & Higher Education:** 0.62%; **Technical Education:** 0.95%; **Tertiary Education:** 1.57%

Key Challenges to Quality Higher Education in India

- **Inefficient Accreditation System:** Less than 39% of universities are accredited despite 35 years of NAAC, due to high costs.
- **Financing Gap:** Per capita government spending on tertiary education is US\$30, far below Brazil (2.6x higher) and the USA (35x higher).
- **Suboptimal Research**
 - **Low R&D spending** (0.7% of GDP) by government and HEIs hampers innovation.
 - **Researchers lack incentives** (funding, recognition, commercialization), leading to fewer quality PhDs and faculty shortages.
- **Policy & Governance Issues**
 - **Multidisciplinary Education Gaps:** Weak framework for MERUs and policies on tech, AI, and data privacy.
 - **University Tax Burden:** Taxes on revenue and commercial utility rates strain finances.
 - **Limited Autonomy:** Restrictions on fee and curriculum decisions stifle innovation.
- **Regional Disparities (AISHE 2021–2022):**
 - **University Density:** High in Sikkim (10.3), low in Bihar (0.2).
 - **GER (Gross Enrolment Ratio):** High in Tamil Nadu (47), low in Bihar.
 - **GPI (Gender Parity Index):** Kerala leads (1.44), Odisha lags (0.88).
 - **PTR (pupil Teacher Ratio):** Tamil Nadu excels (14), Bihar struggles (64).

Way Forward for Quality Higher Education

- **Funding and Financing:** Meet NEP budget goals, leverage PPPs (e.g., Telangana's TASK).
- **Improving Governance:** Shift to a facilitator model, grant autonomy in curriculum and hiring.
- **Improving Infrastructure:** Expand projects like Odisha's OHEPEE (850 colleges).
- **Improving Pedagogy:** Evaluate teaching and review curricula regularly.
- **Digitalization:** Create digital learning hubs (e.g., Kerala's 'Let's Go Digital').
- **Improving Research Quality:**
 - **Policy Framework:** Align with ANRF.
 - **Capacity Building:** Train faculty (e.g., Maharashtra's Faculty Development Academy).
 - **Internationalization:** Attract foreign universities (e.g., GIFT City).
 - **Industry Collaboration:** Set up IRCs and incubation centers using industry platforms.

Key Initiatives for Quality Higher Education

- **Budget 2025–26:** 10,000 PMRF scholars selected; 6,500 new IIT seats; Bharatiya Bhasha textbook scheme.
- **Assessment and Ranking:**
 - **National Assessment and Accreditation Council (NAAC):** Assesses HEIs since 1994 using seven criteria.
 - **National Institutional Ranking Framework (NIRF):** Ranks HEIs since 2015.
- **Infrastructure Development:**
 - **Higher Education Financing Agency (HEFA):** Funds capital assets in top institutions.
 - **National Digital Education Architecture (NDEAR):** Digital infrastructure launched in 2021.
 - **Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USHA):** Supports state universities and colleges.
- **R&D:**
 - **Anusandhan National Research Foundation (ANRF):** Boosts research nationwide.
 - **Scheme for Promotion of Academic and Research Collaboration (SPARC):** Promotes global research partnerships.
 - **One Nation One Subscription (ONOS) Scheme:** Enhances access to scholarly research.
 - **Partnerships for Accelerated Innovation and Research (PAIR) Programme:** Links top institutions with emerging ones.
- **Employability Facilitation:**
 - **National Credit Framework (NCrF):** Integrates academic and vocational learning.
 - **PM Internship Scheme:** Targets 1 crore internships in five years.

6.4. SWACHH BHARAT MISSION–GRAMEEN (SBM–G)




Why in the News?

The **Standing Committee on Water Resources** released a report evaluating the Swachh Bharat Mission–Grameen's implementation.

About Swachh Bharat Mission–Grameen

- ➔ A **centrally sponsored scheme** launched in 2014 to ensure full sanitation coverage in rural areas.
- ➔ **Objectives:**
 - ➔ **Phase–I (2014–2019):** Achieve **Open Defecation Free (ODF)** status by October 2, 2019, Mahatma Gandhi's 150th birth anniversary, by providing toilets to all rural households.
 - ➔ **Phase–II (2019–2025):** Started in 2020 to ensure **Sampoorn Swachhata**, focusing on universal access to **household toilets and effective waste management**, aiming for **ODF Plus Model villages**.
 - ➔ **ODF Plus Model covers:** ODF Sustainability, Solid Waste Management, Liquid Waste Management, Visual Cleanliness
- ➔ **Key features:**
 - ➔ **Funding:** 60:40 Centre–State ratio; 90:10 for North Eastern States, Himachal Pradesh, Uttarakhand, and Jammu & Kashmir UT; 100% Centre–funded for other UTs.
 - ➔ **₹12,000 incentive:** For building individual household latrines (IHHL) for BPL and specific APL households (SC/ST, disabled, landless laborers, small/marginal farmers, women-headed households).
 - ➔ **Jan Aandolan model:** World's largest mass movement for behavioral change.
 - ➔ **Swachh Survekshan Grammen (SSG):** Annual third-party survey.
 - ➔ **Swachhata Hi Seva (SHS) 2024:** Campaign to boost collective cleanliness efforts.

Types of ODF Plus Villages

 <p>Aspiring ODF Plus Village</p> <ul style="list-style-type: none"> ➔ Maintains ODF status ➔ Features either Solid Waste Management or Liquid Waste Management 	 <p>Rising ODF Plus Village</p> <ul style="list-style-type: none"> ➔ Maintains ODF status ➔ Includes both Solid Waste Management and Liquid Waste Management 	 <p>Model ODF Plus Village</p> <ul style="list-style-type: none"> ➔ Maintains ODF status ➔ Includes both Solid and Liquid Waste Management ➔ Shows visual cleanliness (little litter, minimal stagnant wastewater, no public plastic waste dumps) ➔ Exhibits ODF Plus info and educational messages
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Components of SBM (Grameen)–II

<p>Construction of Infrastructure</p> <ul style="list-style-type: none"> ➔ Individual household latrines (IHHLs) ➔ Community Sanitary Complexes (CSCs) 	<p>Solid and Liquid Waste Management (SLWM)</p> <ul style="list-style-type: none"> ➔ Biodegradable Waste Management (BWM) ➔ GOBARDhan initiative ➔ Plastic Waste Management (PWM) ➔ Greywater Management (GWM) ➔ Faecal Sludge Management (FSM) 	<p>Information, Education and Communication (IEC) and Capacity Building</p> <ul style="list-style-type: none"> ➔ Menstrual Hygiene Management (MHM) ➔ 'Swachhata Samachar' monthly newsletter ➔ 'Swachhagrahis' trained in Community Approaches to Sanitation (CAS) ➔ Swachhata Hi Seva (SHS) campaign ➔ Swachhata Pakhwada
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Progress and Achievements

- ➔ **Phase–I Impact:**
 - ➔ By October 2019, all villages in 36 States/UTs declared ODF.
 - ➔ Rural sanitation rose from 39% (2014) to 100% (2019).
 - ➔ **Health:** Avoided 3 lakh diarrheal deaths in 2019 vs. 2014 (WHO).
 - ➔ **Nutrition/Productivity:** 58% higher child wasting in non-ODF areas (Bill & Melinda Gates Foundation).
 - ➔ **Women's safety:** 93% feel safer with home toilets (UNICEF).
 - ➔ **Savings:** ODF village families saved ₹50,000 yearly on health costs (UNICEF).

➔ Phase-II Achievements:

- ➔ 95% of villages (5,57,468/5,87,529) declared ODF Plus.
- ➔ **SBM-G Dashboard (March 2025):**
 - ◊ **ODF-Plus Model States/UTs:** Sikkim, Lakshadweep.
 - ◊ **ODF-Plus States/UTs:** Ladakh.
 - ◊ Over 5 lakh villages have solid and liquid waste management systems.

Challenges in Implementation (Standing Committee)

- ➔ **Slow progress:** Only 35% SWM, 57% LWM, 56% ODF Plus, 31% IHHL, and 8% CSC targets met in 5 years.
- ➔ **Fund underutilization:** Just 19.61% of FY 2024-25 budget used.
- ➔ **Extra Budgetary Resources (EBR):** 9-17% of funds spent on interest, reducing availability.
- ➔ **Low incentive:** ₹12,000 for IHHL (based on 2014 rates) deemed insufficient.
- ➔ **SSG-2023 issues:** Small sample size, questionable credibility, and methodology flaws.
- ➔ **Regional gaps:** States like Manipur, Meghalaya, Jharkhand, Punjab, and Nagaland lag in SWM.
- ➔ **Other issues:** Limited sanitation vehicles, low PWMU coverage, no new baseline survey.

Recommendations (Standing Committee)

- ➔ Speed up implementation with State/UT coordination to resolve issues.
- ➔ Ensure timely, full budget use and plan fund allocation wisely, avoiding EBR reliance.
- ➔ Revise IHHL incentive based on current inflation.
- ➔ Create a robust monitoring system for ODF Plus functionality.
- ➔ Enhance waste management by increasing sanitation vehicles, plastic waste linkages, and functional PWMUs.

6.5. JAL JEEVAN MISSION

Why in the News?

The Jal Jeevan Mission (JJM) has been extended to 2028 with increased funding as announced in the Union Budget 2025.




About Jal Jeevan Mission (JJM)

- ➔ Launched in 2019 by restructuring the **National Rural Drinking Water Programme (NRDWP)**, targeting tap water for ~16 crore rural households by 2024.
- ➔ **Goal: 'Har Ghar Jal'** – providing **every rural household with Functional Household Tap Connections (FHTC)** delivering 55 litres per capita per day (lpcd) of BIS-standard water regularly at affordable rates.
- ➔ **Nodal Ministry:** Department of Drinking Water and Sanitation, **Ministry of Jal Shakti**.
- ➔ **Funding:** Centrally Sponsored Scheme – 90:10 for Himalayan/NE States, 100% for UTs, 50:50 for others.
- ➔ **Priority Areas:** **Rural households** (drought-prone, poor quality, etc.) and **Public Institutions** (Gram Panchayats, schools, etc.)
- ➔ **Key Features:**
 - ➔ Focus shifted from **habitations to households**.
 - ➔ **Decentralized, community-managed, demand-driven** program with **Gram Panchayats as public utilities**.
 - ➔ At least 5 villagers (preferably women) trained to test water quality using **Field Test Kits**.
 - ➔ **Jal Jeevan Survekshan (2022)** assesses performance of districts and States/UTs.
 - ➔ **Women and weaker sections** lead **Village Water & Sanitation Committees** (min. 50% women).
 - ➔ Technology like JJM-IMIS, IoT solutions, and geo-tagging used.
 - ➔ Promotes **awareness and stakeholder contributions** (cash, kind, or labor).

Progress and Achievements

- ➔ 11 States/UTs achieved 100% rural tap water coverage (e.g., Mizoram, Goa, Gujarat, Punjab).
- ➔ Tap water connections rose from 3.23 crore (17%) in 2019 to 15.44 crore (79.74%) by February 2025, a 75.89% increase.
- ➔ 9,32,440 schools and 9,69,585 Anganwadi centres now have tap water.

Potential Impact of JJM

 <p>Women empowerment Reduce daily time spent fetching water by over 5.5 crore hours, mainly benefiting women. (WHO)</p>	 <p>Health and quality of life Providing safe drinking water to all Indian households could avert ~400,000 diarrheal disease deaths. (WHO)</p>	 <p>Employment Create 59.9 lakh person-years of direct and 2.2 crore person-years of indirect jobs during capital spending phase.</p>
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Challenges in Implementation (Standing Committee Report 2024-25)

- ➔ Only 30.72% of FY 2024-25 funds utilized.
- ➔ **Slow progress** in HGJ status (only 11 States/UTs) due to:
 - ➔ Delays in Multi Village Schemes.
 - ➔ Scarce groundwater in drought/desert areas, contamination, and hilly/forested terrain issues.
 - ➔ Limited financial/technical capacity and delays in clearances.
- ➔ **No comprehensive O&M policy**; only 12 States/UTs have one, facing capacity and coordination issues.
- ➔ Just 2160 Water Quality Testing Labs for ~5.86 lakh villages, many lacking NABL accreditation.
- ➔ **Over-reliance on groundwater** (52%) vs. surface water (48%), neglecting sustainability.

Recommendations (Standing Committee Report 2024-25)

- ➔ Speed up fund utilization with better Centre-State coordination.
- ➔ Support underperforming States proactively.
- ➔ Include local representatives in State Water and Sanitation Mission committees.
- ➔ Assist States/UTs in framing O&M policies.
- ➔ Expand WQTLs, aim for NABL accreditation, and mandate 2% fund allocation for water quality monitoring.
- ➔ Promote water conservation through traditional water body revival, rainwater harvesting, and public education.

6.6. NEWS IN SHORTS

6.6.1. "IMAGINE A WORLD WITH MORE WOMEN IN SCIENCE" CAMPAIGN

UNESCO launched "Imagine A World With More Women In Science" campaign.

- ➔ The campaign marks the **10th anniversary of International Day of Women and Girls in Science** (11th February).

Gender Gap in Science

- ➔ **Global:**
 - ➔ **Low Representation:** Women make up only one-third of the global scientific community

- ➔ **Leadership Gap:** Just 1 in 10 STEM leadership roles are held by women.

➔ India:

- ➔ Women constitute **43% enrolment in STEMM** (Science, Technology, Engineering, Mathematics & Medicine)
- ➔ The number of **women scientists is 18.6%**, R&D projects run by Women are ~25%.

- ➔ **Challenges:** Social & Cultural Norms; Lack of role models, etc.

Parameters	Recommended Actions
Break Down Gender Stereotypes and Prejudices in Science	<ul style="list-style-type: none"> ➔ Featuring more findings and narratives from women scientists, with pictures in educational texts ➔ Guarantee fair representation of women on pertinent boards, committees and panels
Paving Educational Routes for Girls in Science	<ul style="list-style-type: none"> ➔ Eliminate gender prejudice and stereotypes from educational content ➔ Urge companies to launch corporate social responsibility projects backing women and girls in science
Fostering Workplace Settings that Draw in, Keep and Elevate Women Scientists	<ul style="list-style-type: none"> ➔ Address gender-based violence, including sexism and sexual harassment ➔ Advance women into leadership roles

6.5.2. SWAVALAMBINI

The Ministry of Skill Development and Entrepreneurship (MSDE), in collaboration with NITI Aayog, launched Swavalambini.

About Swavalambini

- ➔ A **Women Entrepreneurship Programme**, initially introduced across Higher Education Institutions (HEIs) in Eastern regions, now expanded nationwide.
- ➔ **Implementation:** By **National Institute for Entrepreneurship and Small Business Development (NIESBUD)** in joint partnership with NITI Aayog.
- ➔ **Aim:** To guide young women through a structured entrepreneurial journey with stages including awareness-building, skill development, etc.
- ➔ It also **offers six months of mentorship and handholding support** to assist participants in transforming their ideas into sustainable ventures.

6.6.3. ASER 2024 RELEASED BY NGO PRATHAM FOUNDATION

The Annual Status of Education Report (ASER) is a nationwide rural household survey assessing children's schooling and learning.

- ➔ It evaluates **schooling status for ages 3-16** and **reading/math skills for ages 5-16**.
- ➔ **Conducted yearly** from 2005-2014, then biennially.

Key Findings

- ➔ **Learning Gap Recovery:** Post-pandemic improvements in reading and arithmetic for grades 3 and 5, with all elementary grades (I-VIII) showing gains since 2022, arithmetic at a decade-high.
- ➔ **Digital Literacy (2024, ages 14-16):** Nearly 90% of teens have smartphone access at home.
 - ➔ **Ownership:** 36.2% boys vs. 26.9% girls; **Usage:** 57% for education, 76% for social media.
- ➔ **School Infrastructure:** Slight improvements in Right to Education indicators like **girls' toilets and drinking water**.

6.6.4. WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL (WHO FCTC)

WHO celebrated 20 years of its inaugural global treaty, the WHO FCTC.

About WHO FCTC

- ➔ **Genesis:** Adopted in 2003, enforced in 2005.
- ➔ **Purpose:** Legal framework for tobacco control, including pictorial warnings, smoke-free laws, and higher taxes.
- ➔ **India's Role:** Ratified in 2004, served as South-East Asia's regional coordinator.
- ➔ **Impact:** Covers 5.6 billion people with at least one policy, reducing global smoking rates.

SCIENCE AND TECHNOLOGY



7.1. NUCLEAR ENERGY MISSION

Why in the News?




Union Finance Minister announced a dedicated Nuclear Energy Mission with an allocation of a 20,000 crore in the Union Budget 2025-26.

About the Nuclear Energy Mission

- ➔ **Target:** Achieve **100 GW nuclear capacity by 2047** under the **Viksit Bharat vision**. Current: **8180 MW (Jan 2025)**; Target: **22,480 MW by 2031-32**.
- ➔ **Aim:** R&D and commissioning of at least **5 Small Modular Reactors (SMRs) by 2033**.
- ➔ **Private Sector Participation:** Proposed amendments to the **Atomic Energy Act, 1962** and **Civil Liability for Nuclear Damage Act, 2010** to enable private investment.
 - ➔ **Partnerships with the private sector with the motive of establishing Bharat Small Reactors (BSRs), R&D of BSRs, etc.**
- ➔ **Indigenous Technology Development:** Focus on **220 MW PHWR-based BSRs for captive use**.
- ➔ **Help in energy transition:** Supports **COP26 pledge (CoP Summit in Glasgow in 2021)** of **500 GW non-fossil capacity and 50% energy from renewables by 2030**.

What are Small Modular Reactors (SMRs)?

- ➔ **Definition:** **SMRs are advanced nuclear reactors** with a power capacity of **up to 300 MW(e)** per unit—about one-third of conventional nuclear reactors.
- ➔ **Features :**
 - ➔ **Small:** Physically much **smaller** than traditional reactors.
 - ➔ **Modular:** **Factory-assembled** components, easily **transported and installed** on-site.
 - ➔ **Reactors:** Use **nuclear fission** to generate heat and produce energy.

Types of Reactors		
		
Micro Reactors Range: 1 MW to 20 MW	Small Modular Reactors Range: 20 MW to 300 MW	Full-Size Reactors Range: 300 MW to 1,000+MW
Can fit on a flatbed truck, and are mobile and deployable.	Can be scaled up or down by adding more units.	Can provide reliable, emissions-free baseload power.

Significance of SMR Nuclear Energy

- ➔ **Compact Architecture & Passive Safety:** Less reliance on active systems, pumps, and AC power.
- ➔ **Flexibility in Applications:** Useful for power, heat, and desalination.
- ➔ **Modularity for Factory Fabrication:** Factory-built parts ensure quality, reduce cost/time.
- ➔ **Sub-grade Installation Potential:** Can be placed underground/underwater for hazard protection.
- ➔ **Scalability:** Multiple modules can be added on the same site for capacity expansion.
- ➔ **Portability:** Modules can be relocated or decommissioned in-situ post lifecycle.

India's Major Civil Nuclear Deals

- **Nuclear Suppliers Group (NSG) Waiver (Sep, 2008):** NSG allowed **civil nuclear cooperation** between its members and India.
- **Russia:** Signed **Agreement** for building additional reactors at **Kudankulam Nuclear Power Plant (KKNPP)**.
- **United States: 123 Agreement (2008)** enabled U.S. **nuclear fuel and technology exports** to India.
- **France: 2008 Civil Nuclear Agreement;** ongoing plans for **Jaitapur Nuclear Power Project**.

Key issues with SMRs

- **Private Sector and Profit Orientation:** Safety may be compromised to cut costs.
- **Unreliability of Passive Safety Features:** Passive systems may fail during **extreme events** like earthquakes or floods.
- **Economic Viability:** Higher **cost per kilowatt-hour** compared to large reactors.
- **Radioactive Waste:** SMRs generate **same quantity of highly radioactive isotopes per unit of heat** as large reactors.
- **No Fuel Efficiency than Large Reactors:** Some SMRs use **HALEU fuel** (higher U-235 concentration), needing **complex enrichment** process.

Conclusion

For the successful deployment of SMRs, a **universal regulatory framework** and **robust safety measures** with public engagement are essential. **Government-backed FOAK (First of a kind) demonstrations**, coupled with **techno-economic assessments (TEA)** and early integration of **IAEA safeguards**, will enhance feasibility and compliance.

7.2. DEEP OCEAN MISSION

Why in the News?

MATSYA 6000, a fourth-gen deep-ocean submersible, completed wet testing.

About MATSYA 6000

- Indigenously built **manned submersible** under **Samudrayaan Project** (part of **Deep Ocean Mission**).
 - **Objective of Samudrayaan (2020–2026)** is to develop **self-propelled submersible** to carry **3 humans to 6000 m** depth for **scientific deep-sea exploration**.
- **Developed by:** **National Institute of Ocean Technology (NIOT), Chennai**, under the **Ministry of Earth Sciences (MoES)**.
- **Global Significance:** With its launch, India will become **sixth country** (after **US, Russia, Japan, France, and China**) to have crewed under-sea expedition.







About Deep Ocean Mission

- **Launched:** In 2021 by MoES as a Central Sector Scheme.
- **Purpose:** Develop technologies for deep ocean exploration, support Blue Economy, and address climate change and marine pollution.

Significance of Deep Ocean Mission (DOM)

- **Strategic Importance:** Utilizes India's 7517 km coastline, 1382 islands, and vast **23.7 lakh sq. km Exclusive Economic Zone (EEZ)**, currently underexplored.
 - India has been allotted a site of 75,000 sq. km. in Central Indian Ocean Basin (CIOB) by UN International Sea Bed Authority for the exploitation of polymetallic nodules (PMN).
- **Economic Impact:** Enables **sustainable ocean resource use** for GDP growth, job creation, and livelihood enhancement.
 - Targets **nickel, cobalt, PMN**, and other valuable deep-sea minerals.
 - Just utilizing 10% of the PMN reserve available in the area, country can meet its energy requirements for the next 100 years.
- **Science and Technology:** Empowers direct **deep-sea exploration** via manned submersible for scientific research.

Major Components Deep Ocean Mission

	Deep sea mining & manned submersible
	Ocean climate change advisory services
	Exploration & conservation of deep-sea biodiversity
	Deep ocean survey and exploration
	Energy and freshwater from the ocean
	Advanced marine station for ocean biology

Challenges of Deep Ocean Mission

- ➔ **High Pressure:** At 5000 m depth, pressure is ~500× sea level; needs **durable, pressure-resistant equipment**.
- ➔ **Technical Challenges:**
 - ➔ **Equipment Vulnerability:** Underwater **electronics and instruments** face performance issues.
 - ➔ **Material Extraction:** Requires **high power** to pump resources from ocean floor.
 - ➔ **Communication Limitation:** **Signal loss** due to backscattering, attenuation, and wave interference.
- ➔ **Geopolitical and Strategic Challenge:** **China's presence** in deep-sea zones (e.g., Southwest Indian Ocean) may restrict India's exploration space.

Way Forward

- ➔ **Indigenous Capabilities:** Invest in **ocean vessels** and **acoustic systems** to boost deep-sea self-reliance.
- ➔ **International Cooperation:** Partner with **US, Japan, Australia** for expertise, **tech transfer**, and resource sharing.
- ➔ **Quad Platform:** Leverage **Quad** for coordinated deep-sea research and mining.
- ➔ **Utilizing Indo-Pacific Oceans' Initiative (IPOI):** Focus on **Maritime Ecology, Resources, Capacity Building, and S&T Cooperation** under Indo-Pacific Oceans' Initiative.

7.3. NON-COMMUNICABLE DISEASES (NCD)

Why in the News?

The Ministry of Health & Family Welfare launched the Intensified Special NCD Screening Drive.

About Screen Drive on NCD

- ➔ Drive will be implemented through **Ayushman Arogya Mandirs (AAMs)** and various healthcare facilities nationwide, under **National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)**.
 - ➔ **Ayushman Arogya Mandirs** are established under **Ayushman Bharat initiative** by upgrading existing Rural and Urban PHCs/Sub Centers.

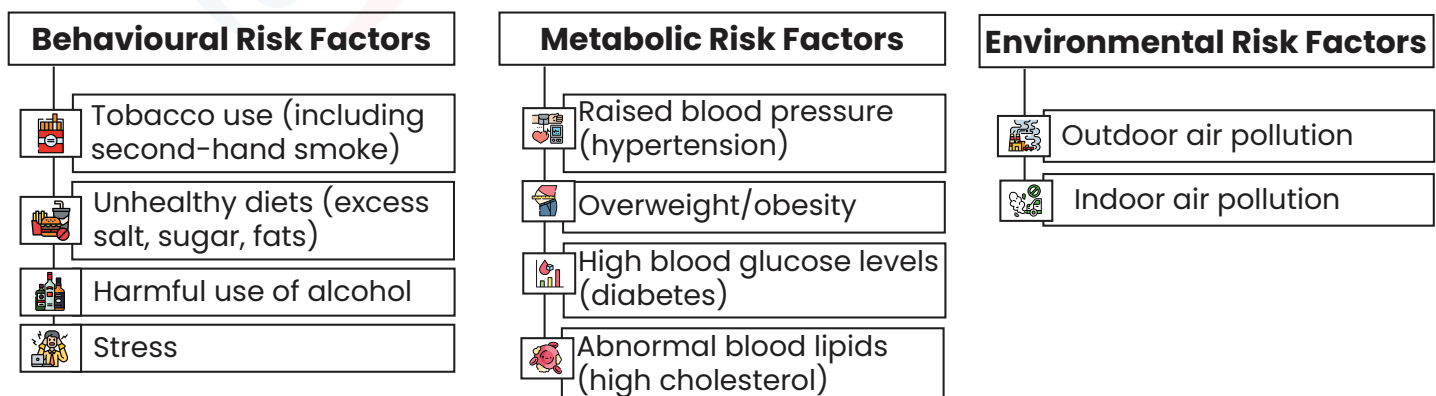
About NP-NCD

- ➔ **Background:** Launched in 2010 (as **National Programme for Prevention and Control of Cancer, Diabetes, Cardio-vascular Diseases and Stroke**) in 100 districts, 21 states under 11th FYP to combat NCDs.
 - ➔ **12th FYP:** Proposed **phased expansion** to all districts.
 - ➔ **2013–14:** Subsumed under **National Health Mission (NHM)**
- ➔ **Objectives of NP-NCD:** **Health Promotion** through **behavior change** with community, civil society, and media involvement, etc.

About Non-Communicable Diseases (NCDs)

- ➔ **Definition:** Chronic diseases not transmissible from person to person.
- ➔ **Main Types:** **Cardiovascular Diseases** (e.g. heart attack, stroke); **Cancers**; **Chronic Respiratory Diseases** (e.g. COPD, asthma) & **Diabetes**
 - ➔ When these are caused by an unhealthy lifestyle, these diseases are also called **lifestyle diseases**.
- ➔ **Nature:** Long-term; caused by **genetic, physiological, environmental, and behavioral factors**.

Risk Factors for Non-Communicable Diseases (NCDs)



Burden of NCDs

- **Global Scenario: Number 1 cause** of death and disability globally; responsible for **74% of all deaths**.
 - **Top 4 NCD killers** (over 80% of premature NCD deaths): **Cardiovascular diseases** followed by **Cancers, Chronic respiratory diseases** and **Diabetes**
- **Indian Scenario:** NCDs Account for 63% of All Deaths in India

Impact of NCDs

- **Childhood Education:** NCDs reduce **1.2–4.2 years** of schooling.
- **Out-of-Pocket Burden:** **Travel cost** is the highest for NCD care in India.
- **Life Expectancy:** Lowest **at age 15** in low-education groups due to NCD deaths (30–69 yrs).
- **Economic Cost:** Projected to exceed **₹280 lakh crore by 2030** (WHO).
- **Poverty Impact:** Increases **household health costs**, hampers **poverty reduction** in low-income countries.
- **Gendered Effect:** Prevalence among women is 62 per 1,000, as compared to 36 per 1,000 men.
- **Other Effects:** Loss of **human capital, unhealthy workforce, revenue decline**.

Initiatives for Controlling NCDs

- **Global Initiatives**
 - **SDG Target 3.4** (Reduce **premature NCD mortality by one-third by 2030**)
 - **WHO Global Action Plan:** Extended from **2013–2020 to 2030** for NCD control.
 - **Global NCD Compact (2020–2030):** WHO-led push to accelerate NCD prevention.
- **India's Initiatives**
 - **AMRIT Scheme:** Provides affordable medicines for cancer, CVDs, etc.
 - **National Mental Health Programme (1982):** Ensures **basic mental healthcare access**.
 - **National Tobacco Control Programme (NTCP) (2007–08):** Aims to reduce **tobacco use and awareness**.
 - **Other:** Fit India Movement (2019), Eat Right India (FSSAI), National Oral Health Programme, **National Programme for healthcare of Elderly (NPHCE)**, etc.

Conclusion

A **comprehensive, multi-sectoral approach** is essential for preventing and controlling NCDs, integrating health, finance, and social policies. Strengthening **primary healthcare**, leveraging **digital health interventions**, and using **fiscal tools** like taxation on tobacco, salt, and sugar can significantly reduce risk factors.

7.4. NEWS IN SHORTS

7.4.1. EU AI ACT BECOMES APPLICABLE

Rules on **AI Literacy and Prohibited Systems** under the **European Union AI Act** became applicable.

About European Union AI Act

- **Genesis:** First-ever **legal framework on AI**, in force since **2024**, full implementation by **2026**.
- **Approach:** **Risk-based regulation** – rules vary by the **risk level** of AI systems.
- **Prohibitions:** Lists **AI prohibited practices** (see image), prioritizing **ethics, safety, and transparency**.

Prohibited AI practices



Biometric Categorisation

Using AI to determine personal attributes from, physical features.



Emotion Recognition

Systems that detect customer emotions during interactions.



Predictive Policing

AI cannot predict criminal behavior based on personal data.



Subliminal Manipulation

AI's influence on behavior without awareness is prohibited



Social Scoring

Employment decisions based on ethnicity or birthplace are unethical.

Impact of the AI Act

- **Global Impacts**
 - **Human-centric focus:** Protects **fundamental rights**, prevents **discrimination**, etc.
 - **Global Benchmark for AI Regulation:** Encourages other nations to adopt **EU-aligned frameworks**.
- **Impact on India**
 - **Risk-based regulation:** India can adopt AI categorisation by **societal impact**.
 - **Global alignment:** Matching **international standards** can boost **global cooperation** and Indian firms' competitiveness.

7.4.2. GENE BANK FOR CROPS GERMPLASM

- **Gene Bank** is a repository of **genetic material** (seeds, pollen, tissues) to prevent **extinction**.

First National Gene Bank


- **Established:** In 1996 by ICAR-NBPGR, New Delhi.
- **Structure:** Includes **12 regional stations** for collection and storage of crop germplasms.
- **Use:** For research, conservation, crop breeding.


7.4.3. CHINA'S EAST CREATES NEW RECORD IN FUSION REACTION


China's Experimental Advanced Superconducting Tokamak (EAST) creates New Record in Fusion Reaction

- **EAST (Artificial Sun)** achieved **1000+ sec steady-state plasma** at **100 million °C**.
- Tokamak uses **magnetic fields** in a **donut shape** to confine plasma for **fusion energy**.

Nuclear Fusion and Fission

 Nuclear fusion is the process by which **two light atomic nuclei combine to form a single heavier one** while releasing massive amounts of energy.

 Nuclear fission **splits a heavy element (with a high atomic mass number) into fragments**, releasing energy.

 Nuclear fusion produces more energy than nuclear fission

Advantages of Nuclear Fusion

- **Abundant & Affordable Fuel:** Uses **deuterium**, **tritium**, **hydrogen**, etc.
- **Environmentally Friendly:** Zero-emission, no greenhouse gases.
- **Safe and Clean:** Produces **helium** and **short-lived tritium**, no **long-term radioactive waste**.

Challenges in Nuclear Fusion

- **Extreme Temperature Requirement:** Needs **100+ million °C**.
- **Plasma Containment:** Plasma is unstable and hard to manage.
- **Magnetic Confinement:** Requires strong fields to **suspend plasma** away from reactor walls.

7.4.4. 100TH LAUNCH OF THE INDIAN SPACE RESEARCH ORGANISATION (ISRO) FROM SRIHARIKOTA

NVS-02 satellite placed in **Geosynchronous Transfer Orbit** using **GSLV-F15** from **Satish Dhawan Space Centre**, Sriharikota.

- **NVS-02** is **Second** in **NVS series**, part of **India's Navigation with Indian Constellation (NavIC)** system.

What is NavIC?

- **About:** **Regional navigation satellite system** by ISRO (erstwhile known as **Indian Regional Navigation Satellite System**).
- **NavIC Network:** **7 satellites** – **3 in geostationary orbit**, **4 in inclined geosynchronous orbit**.
- **NavIC Services:** **Standard Position Service (SPS)** for civilians, **Restricted Service** for strategic users.
- **Coverage Area:** **India and a region upto 1500 km beyond borders**.
- **Accuracy:** **SPS** with **<20m positioning** & **<40 nanoseconds timing accuracy**.
- **Other Navigation System:** **SPS signals interoperable** with **GPS** (of USA), **GLONASS** (Russia), **Galileo** (European Union) & **BeiDou** (China).

7.4.5. FIRST DETAILED MAPPING OF MOON'S SOUTH POLE

First detailed geological mapping of Moon's south pole area made from Chandrayaan-3 Data.

About Chandrayaan-3

- **Objective:** A follow-on mission to Chandrayaan-2 to demonstrate end-to-end capability in safe landing and roving on the lunar surface.
- **Lander and Rover:** **Vikram** and **Pragyan**, respectively
- **First mission** to land in a high-latitude polar region of the moon
- Demonstrated **Safe and Soft Landing**

Key Findings from Chandrayaan-3's Lunar South Pole Exploration

- **Terrain Types:** **Highlands** and **flat plains** identified.
- **Subsurface Magma Ocean:** Confirmed a **molten lava ocean** spanning the entire Moon.
- **Age:** South Polar Region is **3.7 billion years old**, contemporary to Earth's earliest microbial life.

- **Common Origin with Earth:** Geochemical similarities suggest the Moon and Earth arose from the same **molten material** after a **massive collision** ~4.5 billion years ago.

Significance of Lunar Craters

- Moon's craters have been preserved for billions of years due to no atmospheric erosion.
- Reveal **early solar system history** and help date planetary **geological features**.
- Serve as **time capsules**, preserving records of ancient **space-rock impacts**.

7.4.6. NASA LAUNCHES SATELLITE TO DETECT WATER ON THE MOON

A **SpaceX Falcon 9 rocket** launched NASA's **Lunar Trailblazer orbiter** as a secondary payload.

- The primary payload was **Intuitive Machines' lunar lander mission (IM-2)**.
- **IM-2's objective** is to **drill beneath the surface** of the Moon to find **water**.

About Lunar Trailblazer Mission

- **Objective:** Orbit at ~100 km and collect **high-resolution images** to determine the **form, distribution, and abundance** of water and the **lunar water cycle**.
- **Significance:** Guide future **human missions** to find and extract **water resources**.

Importance of Lunar Water

- **Drinking supply:** Convert into drinkable water.
- **Oxygen:** Process into breathable oxygen.
- **Rocket fuel:** Produce **hydrogen fuel**.
- **Space exploration:** Enables missions beyond the Moon, including **Mars**.

7.4.7. RED COLOR OF MARS

A study published in **Nature Communications** challenges the long-held belief about Mars' red color.

Findings of the New Study about Red Color of Mars (The Red Planet)

- **Previous studies:** Mars' red color attributed to **anhydrous hematite** formed through recent weathering.
- **New findings:** **Ferrihydrite ($\text{Fe}_5\text{O}_8\text{H} \cdot n\text{H}_2\text{O}$)** is identified as the main iron oxide in Martian dust.
 - It formed during a **cold, wet period** under oxidative conditions on early Mars.
 - Suggests **aqueous alteration** on Mars before it became the dry desert seen today.

7.4.8. LOWER-SODIUM SALT SUBSTITUTES (LSSS)

WHO's **Department of Nutrition and Food Safety (NFS)** introduced a new guideline on lower-sodium salt substitutes.

About the LSSS

- **Composition:** Less sodium than regular salt; often contains **potassium chloride** to mimic regular salt flavor.
- **Advantages:**
 - **Sodium limit:** Helps reduce sodium intake to **<2 g/day**.
 - **Health benefits:** Lowers **blood pressure** and **CVD risk**.
- **Concerns:**
 - **Potassium risk:** May cause **hyperkalaemia** in people with **kidney problems**.

7.4.9. SHATAVARI

Ministry of **AYUSH** has launched the "**Shatavari – For Better Health**" campaign to promote awareness of Shatavari's health benefits.

About Shatavari (*Asparagus racemosus*)

- **Meaning:** Curer of a hundred diseases
- **Description:** Medicinal **woody climber**, grows 1–2 m in height.
- **Uses:** **Dried roots and leaves** are key ingredients in **Ayurvedic medicine**.
- **Habitat:** Found in **tropical climates** at **low altitudes**, thrives in shaded areas.
- **Distribution:** Native to **Asia, Australia, and Africa**.
- **Health Benefits:**
 - Enhances **female reproductive health** and **hormonal balance**.
 - Aids in **ulcer healing**, boosts **vitality and longevity**, strengthens immunity, and supports the treatment of **nervous disorders**.

7.4.10. BHARAT TECH TRIUMPH PROGRAM

This Program has been launched to support digital and online gaming in India.

About Bharat Tech Triumph Program

- **Launched by:** **Interactive Entertainment and Innovation Council (IEIC)**, with the **Ministry of Information and Broadcasting (MIB)**.
- **Objective:** To **identify and showcase India's gaming talent** on the international stage.
- **Significance:** Offers **Indian innovators a global platform** to demonstrate expertise and boost India's role in the international gaming industry.

CULTURE



8.1 GYAN BHARATAM MISSION

Why in the News?

Union Budget 2025-26 announced the Gyan Bharatam Mission for the survey, documentation, and conservation of India's manuscript heritage.

What are Manuscripts?

- ➔ A manuscript is a **handwritten composition on paper, bark, palm leaf, etc.**, dating back at **least 75 years with significant scientific, historical or aesthetic value**
- ➔ **Lithographs** (A techniques involving drawing on a stone and then transferring the image to paper) and printed volumes are **not manuscripts**.
- ➔ **Themes can include** history, religion, literature, astrology, and agricultural practices.
- ➔ India possesses an estimated **10 million manuscripts in 80 ancient scripts**, with **~75% in Sanskrit and 25% in regional languages**

About Gyan Bharatam Mission

- ➔ **Key components** include conservation of manuscript heritage and **creation of a National Digital Repository accessible globally**
- ➔ **Nodal Ministry:** Union Ministry of Culture

Other Initiatives for Manuscript Conservation

- ➔ **National Manuscripts Mission (NMM):** Launched In 2003, by the Ministry of Tourism and Culture to locate and preserve manuscripts.
- ➔ **National Library of India, Kolkata:** It has about 3600 rare and historically important manuscripts.
- ➔ **Asiatic Society of Bengal:** Founded on Jan. 15, 1784, by Sir William Jones, undertakes digitization of ancient manuscripts.
- ➔ **National Archives of India:** National Archives of India (NAI) is a repository of the non-current records of Government of India and possesses private papers of prominent personalities of India.
- ➔ **Indira Gandhi National Centre for the Arts:** It acts as a main resource Centre for the Indian art and culture

Important manuscripts in India	Author
Natyashastra	Bharata Muni
Mahabharata	Vyasa
Mahabhashya	Patanjali
Prayoga-Ratnamala Vyakarana	Purushottama Vidyavagish
Arthashastra	Chanakya
Aryabhatiya	Aryabhata
Brahmasphutasiddhanta	Brahmagupta
Sushruta Samhita	Sushruta
Ashtadhyayi	Panini
Rajatarangini	Kalhana
Gitagovinda	Jayadeva

Significance of the Mission

- ➔ **Fulfills Article 51A(f)** to preserve India's rich cultural heritage
- ➔ **Locates unknown manuscript reserves** and creates digital catalogues

- ➔ Creates a resource pool of scholars in manuscript studies
- ➔ Ensures accessibility to rare texts and facilitates collaborative research

Challenges in the Manuscript Conservation

- ➔ Environmental factors, especially India's diverse climate
- ➔ Lack of awareness and cultural neglect: Traditional knowledge stored in manuscripts is often undervalued
- ➔ Infrastructure deficiencies: Lack of adequately trained professionals and storage of manuscripts
- ➔ Linguistic and script diversity: It makes transcription and preservation difficult.

Way Forward

- ➔ Digital preservation techniques
- ➔ Use of 3D printing technology
- ➔ Use of Artificial intelligence (inpainting algorithms)

8.2 NEWS IN SHORTS

8.2.1 VIJAY DURG (FORT WILLIAM)

Fort William in Kolkata, recently renamed as Vijay Durg.

About Vijay Durg

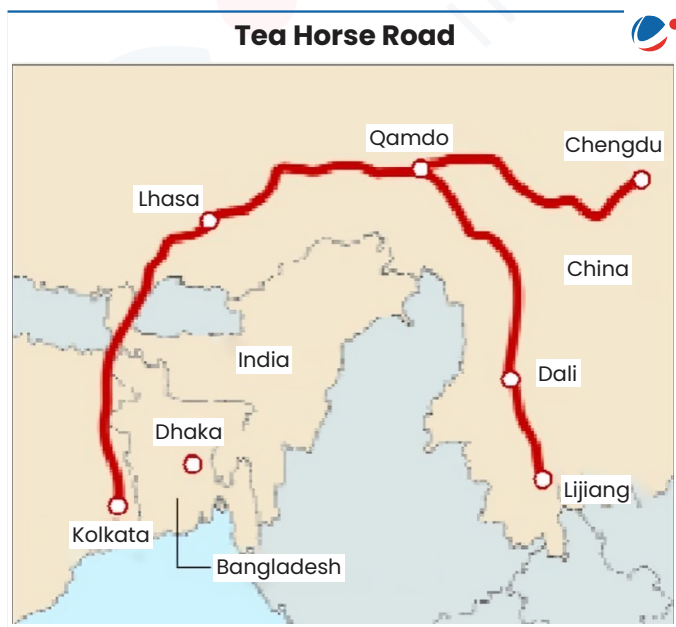
- ➔ Named after King William III of England
- ➔ Recently renamed as "Vijay Durg," paying homage to the oldest fort on Maharashtra's Sindhudurg coast
- ➔ Located on the banks of the river Hoogly
- ➔ Site of the Black Hole Tragedy (June 20, 1756) when Nawab Siraj-ud-Daula imprisoned British captives.

8.2.2 TEA HORSE ROAD (THR)

China's Ambassador to India recently posted on X about historic Tea Horse Road.

About THR

- ➔ Connected India to China through Tibet (less famous than the Silk Road)



- ➔ Network of branching paths from southwest China to Indian subcontinent
- ➔ Transportation via trains of horses (ponies and mules) and human porters
- ➔ Main pathways through cities like Dali and Lijiang (Yunnan province), to Lhasa (Tibet), before branching into India, Nepal, and Bangladesh
- ➔ Origin: Tang dynasty in China (618-907 CE)
- ➔ Served as a crucial commercial pathway for centuries

8.2.3 TANTRIC BUDDHISM

- ➔ A 1.4m Buddha head and stupas (1,500+ years old) found in Ratnagiri, Odisha, confirm its role as a Tantric Buddhism hub
- ➔ Buddhism has three main schools: Theravāda (orthodox), Mahāyāna (includes Zen & Pure Land), and Vajrayāna (includes Tibetan Buddhism)
- ➔ Guru Padmasambhava (Guru Rinpoche/Second Buddha) was instrumental in establishing Vajrayana Buddhism in Tibet around 8th century CE

Evolution Of Tantric Buddhism

- ➔ Tantric Buddhism shifted from abstract philosophy to sadhana (practical methods) for enlightenment
 - ➔ Vajrayāna/Tantric Buddhism focuses on esoteric healing and social transformation; prevalent in Bhutan, Mongolia, Nepal and Tibet
 - ➔ Mahayana Buddhism introduced mantras & rituals, leading to Mantrayana (early Tantra) & Paramita-yana branches

8.2.4 PADMA AWARDS

Ministry of Home Affairs has announced Padma Awards 2025 on Republic day.

About Padma Awards

- ➔ Instituted in 1954, these are one of the highest civilian Awards of the country.

- ➔ Conferred by President at Rashtrapati Bhawan in three categories:
 - ➔ Padma Vibhushan: For exceptional and distinguished service.
 - ➔ Padma Bhushan: For distinguished service of high order.
 - ➔ Padma Shri: For distinguished service in any field.
- ➔ Awards are given in various disciplines, including art, social work, public affairs, science, medicine, literature, sports, and civil service.
- ➔ Except for brief interruptions in 1978, 1979 and between 1993 and 1997 the names of recipients are announced annually on Republic Day eve.
- ➔ Padma award is purely an honorary recognition with no monetary benefits or travel concessions attached.

8.2.5 SAHITYA ACADEMY AWARD

Recently, Chaman Arora was awarded Sahitya Akademi Award 2024 in Dogri (Spoken in parts of Jammu and Kashmir, Himachal Pradesh and Punjab) for his book "Ik Hor Ashwthama".

About Sahitya Academy Awards

- ➔ Genesis: Launched in 1954 by the Sahitya Academy, an autonomous body under the Union Ministry of Culture.

➔ First Awards were presented in 1955.


- ➔ Recognizes outstanding literary works of exceptional merit published in major Indian languages.
- ➔ Covers 22 Constitutional Schedule VIII Languages, along with English and Rajasthani
- ➔ Award consists of a copper-plaque in a decorative casket and a cash prize of ₹1,00,000.

8.2.6 BHARATIYA BHASHA PUSTAK SCHEME

Finance Minister has introduced Bharatiya Bhasha Pustak Scheme in Union Budget 2025-26.

About Bharatiya Bhasha Pustak Scheme

- ➔ Aim: To provide digital books in Indian languages for educational institutions, enhancing students' subject comprehension.
- ➔ Aligned with National Education Policy, 2020, focusing on digital textbooks and learning materials across schools and universities.
- ➔ Complements ASMITA (Augmenting Study Materials in Indian Languages through Translation and Academic Writing) initiative, which aims to develop 22,000 books in 22 Indian languages over five years.



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29 APR, 2 PM

GTB Nagar Metro (Mukherjee Nagar): 17 APR, 6 PM | 30 APR, 8 AM

हिन्दी माध्यम DELHI: 10 अप्रैल, 8 AM | 22 अप्रैल, 11 AM

AHMEDABAD: 4 JAN

BENGALURU: 1 APR

BHOPAL: 25 MAR

CHANDIGARH: 18 JUN

HYDERABAD: 2 APR

JAIPUR: 5 APR

JODHPUR: 15 APR

LUCKNOW: 9 APR

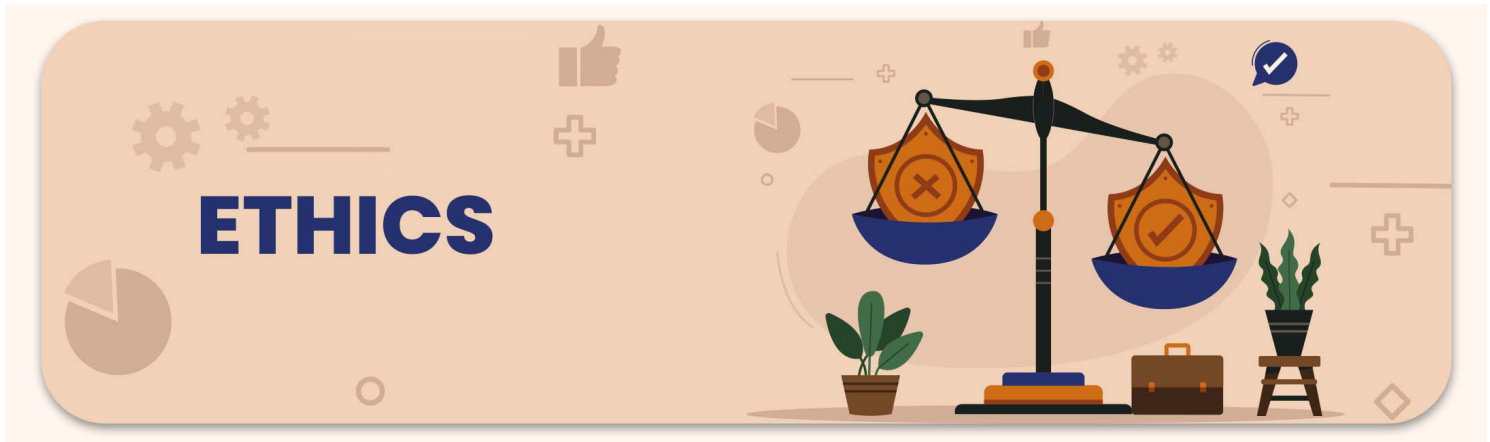
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9.1 OBSCENITY ON DIGITAL PLATFORMS

Introduction

The Supreme Court urged regulatory measures for vulgar online content while balancing free speech during a case about obscene remarks on YouTube. The Ministry of Information and Broadcasting warned OTT platforms against prohibited content and directed them to follow age-based classification per IT Rules, 2021.

About Obscenity

→ 'Obscene' describes things that are disgusting to senses or sexually offensive, aiming to incite lust.

Key Stakeholders for Content Streaming on Digital Platforms

- **Content Creators & Artists:** Maintain creative freedom, generate income
- **Digital Platform:** Ensure legal compliance, protect users without excessive censorship
- **Government & Regulatory Bodies:** Define laws balancing free speech with public morality
- **Society at large:** Access desired content with minimal restriction, protect children

Need for Regulating Obscenity on Digital Platforms

- **Preserving Social and Cultural Values:** Unchecked obscene content weakens moral character
- **Protecting Human Dignity:** Content reducing people to objects violates dignity principles
- **Avoiding Normalization of Obscenity:** Mill's Harm Principle suggests expression shouldn't harm society
- **Ethical Responsibility of Platforms:** Utilitarian view that platforms should balance free speech with societal well-being
- **Upholding Constitutional Morality:** Article 19(2) allows reasonable restrictions on freedom of speech

Ethical Issues in Regulating Obscene Digital Content

- **Vagueness and Subjectivity:** Decency and morality vary across time and regions
- **Censorship vs. Reasonable Restrictions:** Over-regulation could stifle creativity
- **Evolving Social Norms:** Obscenity changes over time (e.g., ancient temple sculptures vs. modern standards)
- **Power Dynamics:** Questions about who decides acceptable content
- **Agency and Paternalism:** Tension between protection and respecting user autonomy
- **Regulating Obscene vs. Artistic Freedom:** Balance between censorship and creative expression

Conflict between Ethics and Law of Banning Content with Obscenity

The conflict between legal restrictions on obscenity and evolving ethical standards presents a complex challenge in Indian jurisprudence.

Legal Framework Without Clear Definition

- The Bharatiya Nyaya Sanhita (BNS) and IT Act 2000 (Section 67) prohibit obscene content
- IT Rules 2021 require age-based ratings for explicit content
- Additional regulations exist in the Cinematograph Act, Cable TV Act, and Indecent Representation of Women Act
- Obscenity lacks explicit definition in criminal law or Constitution, causing subjective interpretation

Evolving Judicial Interpretation

- Judicial understanding shifted from the Hicklin test (1964) to community standards test (2014)
- Defining community standards remains challenging due to their evolving nature
- Justice Patel stated that profane language alone doesn't constitute obscenity
- Multiple FIRs for the same offense can harass the accused and undermine fair defense rights

Way ahead

- Define clear, consistent obscenity guidelines considering India's cultural diversity
- Introduce a Broadcasting Bill to regulate OTT content, digital news, and emerging technologies
- Promote self-regulation and ethical storytelling reflecting societal values
- Implement digital literacy programs for youth education

Conclusion

Obscenity varies across cultures and time, requiring legal clarity, self-regulation, public awareness, and global cooperation. Digital platforms must balance creative freedom with social responsibility through ethical values.

9.2 SURVEILLANCE CAPITALISM

Introduction

Digital information has grown from 1% in 1986 to 98% by 2013, making personal data the "new gold." This transformation has created Surveillance Capitalism, where human experiences are harvested for profit by tech giants, raising ethical, social, and regulatory concerns.

What is Surveillance Capitalism?

- **Definition:** An economic system where corporations collect, analyze, and monetize personal data to predict and influence behavior for profit
- **Mechanism:** Operates through data extraction from platforms, predictive analytics using AI, and influence techniques to shape choices

Traditional Capitalism vs. Surveillance Capitalism

Feature	Traditional Capitalism	Surveillance Capitalism
Resource base	Labor and natural resources	Personal data
Value creation	Mass production of goods	Behavioral modification
Profit model	Selling products	Monetizing data via ads
Example	Steel mills, automobile factories	GoogleAds, Amazon recommendations

Categories of surveillance Capitalism

- **Corporate Surveillance:** Companies collect vast amount of user data for targeted advertising.
- **State-Corporate Nexus:** Governments collaborate with private firms under the pretext of security and intelligence.

Ethical Implications of Surveillance Capitalism

- ➔ **Manipulation:** Algorithms exploit cognitive biases to shape decisions
- ➔ **Privacy Erosion:** Data often collected without proper consent
- ➔ **Commodification of Personal Data:** Sensitive data bought and sold like commodities
- ➔ **Unfair Commercial Practices:** Lack of transparency about data usage
- ➔ **Democratic Violations:** State and corporate surveillance weakens citizen autonomy
- ➔ **Mental Health Risks:** Engagement-maximizing content causes stress and polarization

Challenges in controlling the Surveillance Capitalism

- ➔ **Regulation:** Existing laws fail to dismantle core practice of commodifying data
- ➔ **Technology:** Rapid evolution of AI and IoT outpaces regulatory frameworks
- ➔ **Corporate-State Collusion:** Alignment of interests complicates accountability

Efforts to regulate Surveillance Capitalism

- ➔ **Global:**
 - ➔ **EU's General Data Protection Regulation GDPR (2018):** Enforces data consent and imposes fines
 - ➔ **California Consumer Privacy Act (2020):** Grants residents rights over personal data
- ➔ **India:**
 - ➔ **K.S. Puttaswamy Case (2017):** Supreme Court declared privacy a fundamental right
 - ➔ **Digital Personal Data Protection Act (2023):** Requires consent and allows data access/erasure

Way Forward

- ➔ **Stronger Regulatory Frameworks:** Enact adaptive laws with clear accountability
- ➔ **User Empowerment:** Promote data literacy and transparent consent
- ➔ **Antitrust Measures:** Break up tech monopolies to reduce unchecked power
- ➔ **Global Cooperation:** Harmonize international standards to prevent exploitation
- ➔ **Ethical Technology Design:** Encourage privacy-by-design to reduce surveillance incentives

9.3 RAGGING IN INDIA

Introduction

Kerala High Court has directed the state government to create a working group to draft rules for anti-ragging law enforcement amid rising incidents.

What is Ragging?

Ragging is systematic and sustained physical, mental and sexual abuse of freshers or junior students at educational institutions by senior students and sometimes outsiders in campus and hostel.

Consequences of Ragging on various stakeholders

On Victims (Junior Students)	On Family
<ul style="list-style-type: none"> ➔ Low Self-Esteem and Confidence due to degrading nature ➔ Post-Traumatic Stress Disorder including flashbacks and anxiety ➔ Decline in Academic Performance leading to loss of focus 	<ul style="list-style-type: none"> ➔ Emotional and Psychological Distress causing helplessness ➔ Financial Burden for counselling or treatment ➔ Loss of Trust in Institutions
On Institutions	On Perpetrators
<ul style="list-style-type: none"> ➔ Loss of Reputation affecting funding and enrollment ➔ Undermines Ethical Values within educational institutions ➔ Administrative Challenges including lawsuits and scrutiny 	<ul style="list-style-type: none"> ➔ Career Setbacks affecting future employment ➔ Erodes moral authority among peers ➔ Moral and Ethical Degradation

Challenges in Eradication

- **Deep-Rooted Cultural & Traditional** Acceptance as a rite of passage
- **Lack of Awareness** about anti-ragging helplines
- **Fear of Retaliation** preventing reporting
- **Lack of Strict Enforcement** allowing perpetrators impunity
- **Role of Institutions** downplaying enforcement to protect reputation

Anti-Ragging Legal Frameworks in India

- **Raghavan Committee Recommendations (2007)**
 - Accreditation should factor incidents of ragging
 - Set up Anti-Ragging Cells, Committees and Squads
 - Establish 'Mentoring Cell' involving senior students
 - Launch effective advertisement campaigns
 - Include awareness against ragging in education curriculum
- **Accreditation:** National Assessment and Accreditation Council bodies should factor incident of ragging while accrediting institutions.
- Set up **Anti-Ragging Cells, Anti-Ragging Committee and an Anti-Ragging Squad.**
- **Setting up of 'Mentoring Cell'** in each institution to oversee and involve senior students as Mentors for the 'fresher'.
- **Advertisement:** Launch effective advertisement campaigns at the national and regional level regarding '**zero tolerance**' towards ragging.
- **National Council of Educational Research and Training (NCERT) and State Council of Educational Research and Training (SCERT)** should devise Human Rights education of which awareness against ragging should be a compulsory part.

UGC Regulations on Curbing Ragging (2009)

- **Ragging is a criminal offense** with mandatory regulations
- **Joint sensitization programmes** required during admission
- Burden of Proof lies on perpetrator, not victim
- Police, local administration and institutions must ensure vigilance

Steps to be taken

- Implement **Peer Support systems**
- **Prioritize Safety of students** over institutional reputation
- **Follow 2009 Supreme Court Directives** including displaying contact details, informing parents, installing CCTV, and conducting surprise inspections.

GOVERNMENT SCHEMES



10.1. Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)

Why in the News?

Government approves continuation of the integrated PM-AASHA Scheme till **2025-26** during the 15th Finance Commission cycle.

About PM-AASHA Scheme (2018)

- ➔ **Objective:** To provide **price assurance for pulses, oilseeds, and copra**, ensure **financial stability**, reduce **post-harvest distress selling**, and promote **crop diversification**.
- ➔ **Ministry:** Ministry of Agriculture & Farmers Welfare
- ➔ **Type:** Central Sector Scheme
- ➔ **Fund Allocated:** ₹35,000 crore during **15th Finance Commission Cycle**

Components of PM-AASHA	
Price Support Scheme (PSS)	Notified Pulses, Oilseeds, and Copra procured at MSP from pre-registered farmers by Central Nodal Agencies (CNAs) through State agencies.
Price Stabilization Fund (PSF)	Provides working capital and covers incidental expenses for procurement/distribution of agri-horticultural commodities (e.g., Tomato, Bharat Dals, Bharat Atta, Bharat Rice).
Price Deficiency Payment Scheme (PDPS)	Direct payment of the difference between MSP and selling/modal price by the Centre for oilseeds, up to 15% of MSP value .
Market Intervention Scheme (MIS)	Aims to bridge price gaps and counter price volatility in perishable agri/horticulture commodities (e.g., Tomato, Onion, Potato) not covered under MSP.

QUICK FACTS



Freebies	Constitutional Provisions → DPSPs: Articles 38,39,41 Supreme Court judgements → Subramaniam Balaji Case (2013) → Ashwini Kumar Upadhyay v Union of India (ongoing)
Status of Devolution to Panchayats in States	Constitutional Provisions → Articles 243G, 243H, 243I, 243ZD Top 3 States in devolution: Karnataka, Kerala, and Tamil Nadu Lowest 3 states/UTs: Dadra & Nagar Haveli and Daman & Diu, Puducherry, and Ladakh
Geo-Economic Fragmentation	→ GEF: Policy-driven reversal of global economic integration, driven by strategic concerns. → Examples: → Friendshoring: Supply chains shift to politically aligned nations (e.g., Apple moving iPhone production from China to India). → Nearshoring: Outsourcing to nearby countries (e.g., German firms using Polish customer service).
India's Neighbourhood First Policy	→ Genesis: Launched in 2008, intensified post-2014. → Objective: Strengthen ties with immediate neighbors, Afghanistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Pakistan, Sri Lanka. → Guiding Principles: 5S Framework (Samman, Samvad, Shanti, Samridhi, Sanskriti) with a non-reciprocal, outcome-oriented approach.
Triangular Partnership	→ Definition: Collaboration between traditional donors (e.g., US, Japan), emerging economies (e.g., India), and developing nations to share expertise/resources. → Benefits: Cost-effective, flexible solutions (68% projects under \$1M budget) and Strengthens South-South cooperation , supports SDGs.
India - U.S.A Relations	→ Proposed Ten-year Framework for the U.S.-India Major Defense Partnership: Signing to boost defense ties. → Autonomous Systems Industry Alliance (ASIA): Scaling industry partnerships in Indo-Pacific. → Other: Co-producing Javelin Missiles and Stryker Vehicles in India.
India-U.S. Civil Nuclear Agreement	→ Background: 1978 U.S. sanctions post-Pokhran-I; 2005 cooperation pact; 2008 final deal under U.S. Atomic Energy Act. → Key Provisions: → IAEA Safeguards: Civilian reactors under permanent monitoring. → NSG Waiver: Allowed nuclear trade despite India's non-NPT status.

India-France Relationship	<ul style="list-style-type: none"> ➔ Important exercises: SHAKTI (Army Exercise), Exercise GARUDA (Bilateral Air Exercise), etc. ➔ FRIND-X (France-India Defence Startup Excellence) launched. ➔ Horizon 2047: roadmap was launched on the 25th Anniversary of the India-France Strategic Partnership to set the course for the bilateral relationship up to 2047.
Major And Minor Minerals	<ul style="list-style-type: none"> ➔ Mines and Minerals (Development and Regulation) (MMDR) Act, 1957, classify major minerals and minor minerals. ➔ Minor minerals means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes and any other mineral which the Central Government may declare. ➔ Major minerals include all minerals other than minor minerals. E.g. Coal, Iron, Zinc, Limestone etc.
Urban Challenge Fund (UCF)	<ul style="list-style-type: none"> ➔ UCF of Rs 1 lakh crore aims to encourage states to think innovatively towards attaining sustainable urbanization ➔ Fund is to implement: Cities as Growth Hubs, Creative Redevelopment and Water & Sanitation.
Urban Cooperative Banks	<ul style="list-style-type: none"> ➔ Urban Cooperative Banks (UCBs) are a subset of cooperative banks in India that operate primarily in urban and semi-urban areas. ➔ Currently, they are registered as cooperative societies under respective State Cooperative Societies Acts (for single-state operations) or Multi-State Cooperative Societies Act, 2002 (operate across multiple states). ➔ Control and Regulation: UCBs function under a dual regulatory framework: Banking Regulation Act, 1949 and Registrar of Cooperative Societies (RCS).
Restructured Skill India Programme	<ul style="list-style-type: none"> ➔ Restructured by combining 3 components, Pradhan Mantri Kaushal Vikas Yojana 4.0 (PMKVY 4.0), Pradhan Mantri National Apprenticeship Promotion Scheme (PM-NAPS) and Jan Shikshan Sansthan (JSS) Scheme.
Gross Domestic Knowledge Product	<ul style="list-style-type: none"> ➔ GDKP captures the contributions of knowledge-driven sectors, innovation, and intellectual assets to India's economic growth.
'AI For Entrepreneurship' Micro-Learning Module	<ul style="list-style-type: none"> ➔ Launched in collaboration with National Skill Development Corporation (NSDC) and Intel India ➔ Purpose: To simplify AI concepts and encourage entrepreneurial thinking among young innovators.
E-Shram Microsites & Occupational Shortage Index (Osi)	<p>E-Shram Microsites</p> <ul style="list-style-type: none"> ➔ State-specific digital platforms seamlessly integrated with the National e-Shram database. <p>Osi</p> <ul style="list-style-type: none"> ➔ Purpose: Identify workforce demand-supply gaps using ILO methodology and PLFS data.
Digital Payments Index (Dpi)	<ul style="list-style-type: none"> ➔ Published by RBI. ➔ Objective: To capture extent of digitisation of payments systems & measure adoption of online transactions
Market Infrastructure Institutions (MIIs)	<ul style="list-style-type: none"> ➔ These are organizations that provide the infrastructure for trading securities & are regulated by SEBI.
Algorithmic Trading	<ul style="list-style-type: none"> ➔ Algo trading automates buy/sell orders using preset conditions for precise execution.
Potash	<ul style="list-style-type: none"> ➔ Definition: Potash is an impure combination of potassium carbonate & potassium (K) salts. ➔ Principal ore: Sylvinite. ➔ Uses of Potash: <ul style="list-style-type: none"> ➔ Agriculture: Over 90% of potash is utilized as fertilizer. ➔ Purification of water: Potash alum removes hardness of water & has anti-bacterial properties.
Global Capability Centers	<ul style="list-style-type: none"> ➔ GCCs are designed to leverage global talent pools and technological advancements to enhance organizational capabilities and drive business transformation.

Regionalism	Regionalism <ul style="list-style-type: none"> ➔ Shared Identity: Regionalism reflects a shared sense of identity among people in a specific geographical area. ➔ It often originates among groups in particular areas due to distinct ethnic, linguistic, economic, and cultural consciousness. ➔ First form of regionalism in post-independent India was the demand for the creation of linguistic states, sparked by the hunger strike of Potti Sriramalu, who fasted unto death in 1952.
Algorithmic Amplification and Radicalisation	Global steps to curb Algorithmic Radicalisation <ul style="list-style-type: none"> ➔ European Union's (EU's) Digital Services Act 2023 requires social media apps to disclose how their algorithms work and allows independent researchers to assess their impact on users. ➔ Artificial Intelligence (AI)-driven moderation: E.g., YouTube's machine-learning model, 2023, reduced flagged extremist videos by 30%. ➔ Christchurch Call: To eliminate terrorist and violent extremist content online.
Hybrid Warfare	<ul style="list-style-type: none"> ➔ Definition: Hybrid warfare, also known as asymmetric warfare, is a strategy that combines conventional tactics (kinetic warfare) with unconventional methods (non-kinetic warfare), often employed to achieve political or strategic goals without resorting to full-scale war. ➔ China's three warfare strategy including psychological, political and legal tactics.
Nuclear Disarmament	India's Stands on Global Nuclear Treaties: <ul style="list-style-type: none"> ➔ NPT: Opposes due to its discriminatory nature. ➔ CTBT: Did not sign it because it failed to address nuclear disarmament, non-proliferation. ➔ TPNW: Does not support this treaty since it lacks new legal standards for disarmament.
Naval Anti-Ship Missile-Short Range (NASM-SR)	Key Features of NASM-SR <ul style="list-style-type: none"> ➔ Indigenous Imaging Infra-Red (IIR) Seeker: It facilitates high-precision strikes. ➔ Man-in-Loop Control: Allows real-time targeting adjustments.
Agri-NBSAPs	<ul style="list-style-type: none"> ➔ Assists governments in integrating agrifood systems into National Biodiversity Strategies and Action Plans ➔ Covers all stages of food production from farm to fork ➔ Provides framework under Kunming-Montreal Global Biodiversity Framework to halt biodiversity loss by 2030
Inland Mangrove of Guneri	<ul style="list-style-type: none"> ➔ Located 45km from Arabian Sea and 4km from Kori Creek ➔ Represents a rare inland ecosystem unlike conventional mangrove sites ➔ One of only eight such ecosystems worldwide ➔ Hosts around 20 migratory and 25 resident avifaunal species
UN Habitat	<ul style="list-style-type: none"> ➔ Established in 1978 ➔ Mission: Promote socially and environmentally sustainable urban development ➔ Focuses on ensuring adequate shelter and sustainable city planning
Polyfluoroalkyl substances (PFAS)	<ul style="list-style-type: none"> ➔ Toxic chemicals resistant to grease, oil, water, and heat ➔ Known as 'forever chemicals' due to their nearly indestructible nature ➔ Used in nonstick cookware, food packaging, waterproof and firefighting clothing.
Growth of India's solar sector	<ul style="list-style-type: none"> ➔ Capacity Increase: 3450% from 2.82GW (2014) to 100 GW (2025) ➔ Solar: 47% of total RE capacity ➔ Solar Installations in 2024 <ul style="list-style-type: none"> ➔ Utility scale: 18.5 GW (approx. 2.8x increase from 2023) ➔ Rooftop Installation: 4.59 GW (53% increase from 2023) ➔ Solar module production capacity: from 2GW (2014) to 60 GW (2024) (Target: 100 GW by 2030) ➔ Top Performing States: Rajasthan, Gujrat, Tamil Nadu, Maharashtra, Madhya Pradesh

Middle-Income Class	<ul style="list-style-type: none"> ➔ India's middle class: To grow from 31% in 2021 to 38% by 2031 and further to 60% by 2047 (PRICE). ➔ India's household debt: 38% of GDP (FY23)
Three-Language Formula	<ul style="list-style-type: none"> ➔ Constitutional Provisions: Article 351 (Promotion of Hindi) ➔ Statutory Provisions: Right to Education Act, 2009 ➔ Committees/Commissions: Kothari Commission (1964-66), ➔ Policies: National Education Policy (NEP), 1968; National Education Policy (NEP), 2020 ➔ Steps taken for multilingualism in India: ASMITA, BHASINI, Bahubhasha ShabdKosh, etc.
Quality Higher Education in India	<ul style="list-style-type: none"> ➔ Gross Enrolment Ratio (GER): From 0.4 (1950-51) to 28.4 (2021-22) ➔ Gender Parity Index (GPI): From 0.87 (2011-12) to 1.01 (2021-22) ➔ India's global research share: From 3.5% (2017) to 5.2% (2024) ➔ Key Initiatives: NAAC, NIRF, ANRF, etc.
Swachh Bharat Mission-Grameen (SBM-G)	<ul style="list-style-type: none"> ➔ ODF Plus Villages: 95% ➔ Rural sanitation: From 39% (2014) to 100% (2019)
Jal Jeevan Mission	<ul style="list-style-type: none"> ➔ 100% rural tap water coverage: 11 States/UTs ➔ Tap water connections: From 3.23 crore (17%) in 2019 to 15.44 crore (79.74%) by February 2025
Nuclear Energy Mission	<ul style="list-style-type: none"> ➔ Launch: Announced in Union Budget 2025-26 with ₹20,000 crore allocation to expand nuclear power. ➔ Target: 100 GW nuclear capacity by 2047 under Viksit Bharat; ➔ SMR Deployment: R&D and commissioning of 5 Small Modular Reactors (SMRs) by 2033.
Deep Ocean Mission	<ul style="list-style-type: none"> ➔ Launched: In 2021 as a Central Sector Scheme by the Ministry of Earth Sciences (MoES). ➔ Purpose: Develop deep-ocean technologies, support the Blue Economy, and address climate change and marine pollution. ➔ Budget: ₹4077 crore over 5 years (2021-2026); Phase-I (2021-2024): ₹2823.4 crore.
Non-Communicable Diseases (NCDs)	<ul style="list-style-type: none"> ➔ Definition: Chronic, non-infectious diseases like CVDs, cancers, diabetes, and COPD linked to genetics, lifestyle, and environment. ➔ Main Types: Cardiovascular Diseases (e.g. heart attack, stroke); Cancers; Chronic Respiratory Diseases (e.g. COPD, asthma) & Diabetes
China's EAST Fusion Record	<ul style="list-style-type: none"> ➔ Record Achievement: EAST (Artificial Sun) sustained plasma for 1000+ seconds at 100 million °C. ➔ What is EAST: A tokamak reactor that uses magnetic confinement in a donut shape to control plasma for fusion energy. ➔ Fusion Significance: Major step toward clean, high-output nuclear fusion reactors to combat energy crisis and climate change.
NavIC	<ul style="list-style-type: none"> ➔ A regional navigation satellite system (erstwhile known as Indian Regional Navigation Satellite System) launched by ISRO. ➔ NavIC Network: Comprises 7 satellites – 3 geostationary and 4 inclined geosynchronous, ➔ Coverage Area: India and a region up to 1500 km beyond Indian boundary.
Lunar Trailblazer Mission	<ul style="list-style-type: none"> ➔ Trailblazer Goal: Orbit at ~100 km to study form, distribution, and abundance of lunar water. ➔ Significance: Supports future Moon missions by enabling water use for drinking, oxygen, and hydrogen fuel.
Manuscript	<ul style="list-style-type: none"> ➔ A manuscript is a handwritten composition on paper, bark, palm leaf, etc., dating back at least 75 years with significant scientific, historical or aesthetic value.
Vijay Durg	<ul style="list-style-type: none"> ➔ Fort William in Kolkata, recently renamed as Vijay Durg. ➔ Located on the banks of the river Hoogly ➔ Site of the Black Hole Tragedy (June 20, 1756) when Nawab Siraj-ud-Daula imprisoned British captives.

Tantric Buddhism	<ul style="list-style-type: none"> ➔ Tantric Buddhism was a shift from abstract philosophy to sadhana (practical methods) for enlightenment. ➔ Vajrayāna or Tantric Buddhism believes in esoteric healing; deals with social activism and social transformation and is prevalent in Bhutan, Mongolia, Nepal and Tibet.
Sahitya Academy awards	<ul style="list-style-type: none"> ➔ Recognizes outstanding literary works of exceptional merit published in major Indian languages. ➔ Covers 22 Constitutional Schedule VIII Languages, along with English and Rajasthani ➔ Award consists of a copper-plaque in a decorative casket and a cash prize of ₹1,00,000.
Bharatiya Bhasha Pustak Scheme	<ul style="list-style-type: none"> ➔ Aims to provide digital books in Indian languages for educational institutions, enhancing students' subject comprehension. ➔ Complements ASMITA (Augmenting Study Materials in Indian Languages through Translation and Academic Writing) initiative



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ACTIVITIES



12.1. MCQS

- Which initiative tracks elected pradhans' participation in decision-making?
 - Panchayat Nirnay Portal
 - Gram Swaraj Portal
 - e-Panchayat System
 - Digital Panchayat Platform
- Which state was the first to implement 50% reservation for women in PRIs?
 - Rajasthan
 - Bihar
 - Kerala
 - Madhya Pradesh
- Consider the following statements about the Organization of the Petroleum Exporting Countries (OPEC):
 - It was created at the Baghdad Conference in 1960.
 - It is headquartered in Vienna (Austria).
 Which of the above statements is/are true?
 - 1 only
 - 2 only
 - Both 1 and 2
 - None of the above
- Consider the following statements about the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC):
 - It was established in 1969 with the signing of Delhi Declaration.
 - Bangladesh, India, Sri Lanka, Thailand, Myanmar, Nepal, Bhutan are members.
 - BIMSTEC have objective of Promoting rapid economic development, social progress, and ensure peace and stability across Bay of Bengal region.
 - It has two focus areas, Terrorism and military cooperation.
 Which of the above statements is/are true?
 - Only statement 1 is true.
 - Statements 2 and 3 are true.
 - Statements 1, 2, and 4 are true.
 - All statements are true.
- Recently USA President signed an executive order sanctioning International Criminal Court (ICC), in this regard which of the following statements is true about ICC?
 - It is the world's first permanent international criminal court.
 - It was founded by Paris Statute in 1949.
 - All UN members are members of ICC.
 - Malaysia became the latest member in 2025
- With reference to the revised classification of Micro, Small, and Medium Enterprises (MSMEs) in India, consider the following statements:
 - The investment limit for a Micro Enterprise has been increased from ₹1 crore to ₹2.5 crore.
 - A Small Enterprise is now classified as having an investment up to ₹50 crore and a turnover up to ₹200 crore.
 - The turnover range for Medium Enterprises has been revised to ₹250 crore – ₹500 crore.
 Which of the statements given above is/are correct?
 - 1 only
 - 1 and 3 only
 - 2 and 3 only
 - 1, 2, and 3
- With reference to the recent reclassification of minerals by the Ministry of Mines, consider the following statements:
 - Barytes, Felspar, Mica, and Quartz have been reclassified from major minerals to minor minerals.
 - The reclassification aims to enhance scientific mining and better regulation of critical minerals.
 - Under the Mines and Minerals (Development and Regulation) Act, 1957, the classification of minor minerals is determined by State Governments.
 Which of the statements given above is/are correct?
 - Only One
 - Only two
 - All three
 - None

8. With reference to the Prime Minister Dhan-Dhaanya Krishi Yojana (PMDKY), consider the following statements:

1. The scheme covers 100 districts selected based on low productivity, moderate crop intensity, and below-average credit parameters.
2. PMDKY follows the model of the Aspirational Districts Programme (ADP), which was launched in 2018.
3. A separate budgetary allocation for the scheme has been specified in the Union Budget 2025.

Which of the statements given above is/are correct?

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

9. Consider the following statements about the Nuclear Disarmament:

1. Russia supports NPT and START but has also developed ICBMs and hypersonic weapons.
2. Three De-facto Nuclear States India, Israel, and Pakistan are not part of the NPT.

Which of the above statements is/are true?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None of the above

10. Recently military exercise 'Dharma Guardian' took place with which country India conduct this exercise?

- a) Japan
- b) Indonesia
- c) Vietnam
- d) New Zealand

11. Consider the following statements about the Caspian Sea:

1. The Caspian Sea is bordered by five countries.
2. Kazakhstan has the longest coastline among these countries.
3. The sea has lost nearly 31,000 square km of water area since 2005.

Which of the above statements are CORRECT?

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

12. Consider the following statements about Indian Standard Time (IST) and the Draft Legal Metrology (Indian Standard Time) Rules, 2025:

1. IST is based on the longitude at Mirzapur, located at 82°30'E meridian.
2. The draft rules mandate that IST becomes the mandatory time reference across all sectors in India.
3. Unauthorized use of time references other than IST is prohibited for all purposes.

How many of the above statements are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

13. Consider the following statements about earthquakes in Delhi-NCR:

1. Delhi is located in seismic zone IV, which is the second highest seismic zone in India.
2. The recent earthquake was caused by "in-situ material heterogeneity" at a shallow depth of 5 km.
3. The Indian Plate moves northward at 5 cm/year, contributing to stress along fault lines.
4. The Indo-Gangetic Plain's soft alluvial soil can amplify seismic waves.

How many of the above statements are correct?

- a) Only one
- b) Only two
- c) Only three
- d) Only four

14. What is India's Gross Enrolment Ratio (GER) target for higher education by 2035 under NEP 2020?

- a) 28.4%
- b) 35%
- c) 50%
- d) 60%

15. The Swavalambini program, aimed at women entrepreneurs, is implemented by which organization in partnership with NITI Aayog?

- a) National Skill Development Corporation (NSDC)
- b) National Institute for Entrepreneurship and Small Business Development (NIESBUD)
- c) Ministry of Women and Child Development
- d) Confederation of Indian Industry (CII)

16. Which of the following countries signed the 123 Agreement with India in 2008, enabling nuclear fuel and technology exports?

- a) France
- b) United States
- c) Russia
- d) Canada

17. Which of the following ministries is the nodal ministry for India's Deep Ocean Mission?

- a) Ministry of Science and Technology
- b) Ministry of Environment, Forest and Climate Change
- c) Ministry of Earth Sciences
- d) Ministry of Jal Shakti

18. With reference to the Indian Regional Navigation Satellite System (IRNSS), consider the following statements:

1. IRNSS has three satellites in geostationary and four satellites in geosynchronous orbits.
2. IRNSS covers the entire India and about 5500 sq. km beyond its borders.
3. India will have its own satellite navigation system with full global coverage by the middle of 2025.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) None

19. Consider the following statements about the Gyan Bharatam Mission:

- It aims to document manuscripts that are less than 50 years old
- It is launched by the Ministry of Education
- India is estimated to have 10 million manuscripts in 80 ancient scripts
- The mission does not include creating a digital repository

20. Which of the following statements about Tantric Buddhism is INCORRECT?

- It is also known as Vajrayāna Buddhism
- It focuses on esoteric healing and social transformation
- It originated during the Gupta Empire
- It is prevalent in Bhutan, Mongolia, Nepal, and Tibet

12.2. True/False Statements

- The Election Commission has the legal authority to ban freebies in election manifestos. (T/F)
- Devolution to Panchayats is a State subject under the Indian Constitution. (T/F)
- The 73rd Amendment originally mandated 50% reservation for women in PRIs. (T/F)
- In 2024, International Organization of Aids to Marine Navigation (IALA) transitioned from a NGO to an Intergovernmental Organization (IGO). (T/F)
- Three countries (Mali, Burkina Faso and Niger) under military rule have officially left West African regional bloc, ECOWAS, following diplomatic tensions. (T/F)
- Qatar is India's largest LNG supplier, providing over 40% of imports. (T/F)
- Makhana is a plant of tropical and subtropical climate, and considered as native of South-East Asia and China. (T/F)
- Harmonised System for GI Tagged Rice is a global product classification system developed by the World Customs Organization. (T/F)
- Comprehensive Nuclear-Test-Ban Treaty (CTBT) (1996) prohibits nuclear explosion tests and ratified by all UN member countries. (T/F)
- DRDO flight-tested the first-of-its-kind Naval Anti-Ship missile (NASM-SR) which uses Indigenous Imaging Infra-Red (IIR) Seeker. (T/F)
- Gorkha Nationalist Liberation Forum (GNLF) emerged in Darjeeling due to the feeling of regions under development compared to South Bengal. (T/F)
- Indore and Udaipur have become the first two Indian cities to be recognized on the global list of wetland cities under the Ramsar Convention. (T/F)
- Solar Energy consists of 65% of total Renewable energy capacity. (T/F)
- The Three-Language Formula under NEP 2020 mandates that Hindi, English, and a regional language must be taught in all states. (T/F)
- The Jal Jeevan Mission aims to provide 55 litres per capita per day of BIS-standard water to every rural household by 2028. (T/F)
- The objective of Samudrayaan is to develop a self-propelled submersible capable of carrying three humans to a depth of 6000 meters for scientific deep-sea exploration. (T/F)
- Nuclear fusion generates energy with zero greenhouse gas emissions, making it environmentally friendly. (T/F)
- Non-Communicable Diseases (NCDs) are acute diseases that typically resolve without medical intervention. (T/F)
- Aim of the Bharatiya Bhasha Pustak Scheme is to provide digital books in Indian languages for educational institutions. (T/F)
- Tea Horse Road has its origin in Tang dynasty in China. (T/F)

12.3. Mains Practice Questions

- Evaluate the impact of freebies in Indian politics on fiscal health and voter behavior. Suggest measures to balance welfare needs with sustainable governance. (150 words, 10 marks)
- Discuss the key challenges in devolving finances and functionalities to Panchayats. Suggest policy measures to enhance their fiscal and administrative autonomy. (150 words, 10 marks)
- What is Geo-Economic Fragmentation (GEF) and how does it affect India's economy? (150 words, 10 marks)
- Discuss the key principles of India's Neighborhood First Policy and evaluate its impact on regional cooperation. (150 words, 10 marks)
- Discuss the significance of the 'Mission for Cotton Productivity' in enhancing India's cotton sector. What are the key challenges faced by cotton farmers, and suggest measures to improve cotton productivity and sustainability? (150 words, 10 marks)
- What are the historical roots of regionalism in India? Discuss the role of colonial policies in shaping regional disparities? (150 words, 10 marks)
- What are the major challenges in tackling hybrid warfare in India? Discuss the role of institutional coordination and intelligence-sharing in mitigating hybrid threats. (150 words, 10 marks)
- Jal Jeevan Mission's extension to 2028 reflects delays in achieving 'Har Ghar Jal'. What are the main obstacles, and how can technology aid its success? (150 words, 10 marks)
- Despite high STEMM (Science, Technology, Engineering, Mathematics, and Medicine) enrolment, why women remain underrepresented in Indian science? Suggest way ahead. (150 words, 10 marks)

10. Highlight the growing burden of Non-Communicable Diseases (NCDs) in India. How are recent government initiatives addressing the health and economic challenges posed by NCDs? (150 words, 10 marks)
11. Examine the role of Constitutional mandates (73rd Amendment) in promoting women's leadership in PRIs. Why does proxy representation persist despite these provisions? (250 words, 15 marks)
12. Examine India's role in Triangular Cooperation and its impact on strengthening diplomatic and economic ties with other countries. (250 words, 15 marks)
13. Discuss the significance of the Mutual Credit Guarantee Scheme for MSMEs and analyze the challenges that MSMEs continue to face despite such initiatives. Suggest measures to enhance the effectiveness of government interventions. (250 words, 15 marks)
14. The launch of the National Critical Mineral Mission (NCMM) marks a significant step in ensuring India's mineral security. Discuss the importance of critical minerals for India and analyze the challenges in securing their supply. Suggest measures to strengthen India's critical mineral strategy. (250 words, 15 marks)
15. Analyze the potential and challenges of solar energy in India's energy transition, discussing both the strategic opportunities and critical constraints in achieving the country's renewable energy goals. (250 words, 15 marks)
16. Critically evaluate the Soil Health Card Scheme, examining its achievements, challenges, and potential for transforming agricultural practices in India. Propose a comprehensive strategy to enhance the scheme's effectiveness and impact on farmer welfare. (250 words, 15 marks)
17. "Analyze the multifaceted challenges of stubble burning in India and critically evaluate the existing policy frameworks. Propose an integrated approach that balances environmental concerns, agricultural sustainability, and farmers' economic interests." (250 words, 15 marks)
18. Discuss the key objectives and strategic significance of India's Nuclear Energy Mission announced in Budget 2025–26. In this context, examine the role of Small Modular Reactors (SMRs) in achieving India's energy transition goals. (250 words, 15 marks)
19. Highlight the significance of deep-sea exploration in the context of India's maritime interests. How does the Deep Ocean Mission align with India's sustainable development and geopolitical strategy in the Indo-Pacific region? (250 words, 15 marks)
20. The Union Budget 2025–26 announced the Gyan Bharatam Mission for preserving India's manuscript heritage. Discuss the significance of manuscript conservation in India, the challenges it faces, and how modern technological interventions can address these challenges. (250 words, 15 marks)

12.4. Ethics Case Studies

1. With the rise of obscenity and profanity on digital platforms, the Supreme Court has directed the Solicitor General to propose measures to curb "filthy language" and "vulgarity" in online content, emphasizing the need to balance freedom of speech with societal moral standards.

In this context, answer the following questions:

- i. What one society/country finds offensive and obscene may be part of daily discourse for another. What ethical issues arise from the increased use of obscenity on digital platforms?
 - ii. How can the government ensure that freedom of speech is protected while maintaining public decency? What guidelines should be proposed to limit obscene content without stifling creativity and artistic expression?
 - iii. What role should digital media platforms play in regulating content, and how can they balance their responsibility to society with the protection of free speech?
2. "A prestigious engineering college in a state recently witnessed a disturbing incident of ragging. A first-year student, Rahul, was subjected to severe physical and psychological harassment by a group of senior students. This included verbal abuse, forced physical exercises, and humiliating acts, leading to significant emotional distress and a decline in Rahul's academic performance. Despite the college having an anti-ragging committee and clear guidelines against ragging, the incident occurred, and initial attempts to address the issue were met with resistance from some faculty members who downplayed the severity of the situation, fearing damage to the college's reputation. Rahul's parents, deeply concerned about their son's well-being, have approached the college administration and threatened to escalate the matter to the media and legal authorities. As the newly appointed head of the college's anti-ragging committee, you are tasked with handling this situation. You are aware of the Supreme Court guidelines, Raghavan Committee recommendations, and UGC regulations concerning ragging. However, you also recognize the deep-rooted cultural acceptance of ragging in some quarters and the challenges in ensuring strict enforcement.

Questions:

- i. Identify the ethical dilemmas involved in this case. Discuss the responsibilities and obligations of the institution, faculty members, senior students, and the victim in addressing the issue of ragging.
- ii. What steps would you take to address the immediate situation concerning Rahul, ensuring his safety and well-being? Discuss the measures you would implement to prevent future incidents of ragging, focusing on fostering a culture of inclusion and respect within the college.

ANSWERS AND EXPLANATION



13.1. MCQs Answer and Explanation

1. Answer: A

Explanation:

- ➔ The **Panchayat Nirnay Portal** tracks the participation of elected **pradhans** (village heads) in decision-making processes within panchayats. It aims to enhance transparency and accountability by monitoring their involvement in local governance.

2. Answer: B

Explanation:

- ➔ Bihar became the first state in India to implement a **50% reservation for women in Panchayati Raj Institutions (PRIs)**, promoting gender equality in local governance and decision-making.

3. Answer: C

Explanation:

- ➔ **Statement 1 is correct:** OPEC was created at the Baghdad Conference in 1960.
- ➔ **Statement 2 is correct:** OPEC is headquartered in Vienna (Austria).

4. Answer: B

Explanation:

- ➔ **Statement 1 is incorrect:** It was established in 1997 with the signing of **Bangkok Declaration**.
- ➔ Statement 2 is correct: Bangladesh, India, Sri Lanka, Thailand, Myanmar, Nepal, and Bhutan are members of BIMSTEC.
- ➔ **Statement 3 is correct:** BIMSTEC have objective of Promoting rapid economic development, social progress, and ensure peace and stability across Bay of Bengal region.
- ➔ **Statement 4 is incorrect:** It has **7 focus area:** Trade; Environment and Climate Change; Security; Agriculture and Food Security; People-to-People Contact; Science, Technology, and Innovation; Connectivity.

5. Answer: A

Explanation:

- ➔ **Statement 1 is correct:** It is the world's first permanent international criminal court.
- ➔ **Statement 2 is incorrect:** It was founded by **Rome Statute** (adopted in 1998 entered into force in 2002).
- ➔ **Statement 3 is incorrect:** 125 countries are members. India, Israel, the US, Russia and China are not parties

to the Rome Statute.

- ➔ **Statement 4 is incorrect:** Ukraine became the 125th member. Malaysia is not a member.

6. Answer: B

Explanation:

- ➔ **Statement 1 is correct:** The investment limit for Micro Enterprises has been revised from ₹1 crore to ₹2.5 crore.
- ➔ **Statement 2 is incorrect:** A Small Enterprise is now classified as having an investment of ₹10 crore – ₹25 crore and a turnover of ₹50 crore – ₹100 crore. The given figures (₹50 crore investment, ₹200 crore turnover) are incorrect.
- ➔ **Statement 3 is correct:** Medium Enterprises are now classified as having an investment of ₹50 crore – ₹125 crore and turnover of ₹250 crore – ₹500 crore.

7. Answer: B

Explanation:

- ➔ **Statement 1 is incorrect:** Barytes, Felspar, Mica, and Quartz have been reclassified from minor minerals to major minerals, not the other way around.
- ➔ **Statement 2 is correct:** The reclassification aims to enhance exploration, scientific mining, and better regulation of associated critical minerals.
- ➔ **Statement 3 is incorrect:** The **Central Government**, not State Governments, determines the classification of **minor minerals** under the **MMDR Act, 1957**. However, **State Governments regulate mining leases of minor minerals** under Section 15 of the Act.

8. Answer: A

Explanation:

- ➔ **Statement 1 is correct:** The scheme targets **100 districts** based on **low agricultural productivity, moderate crop intensity, and below-average credit parameters**.
- ➔ **Statement 2 is correct:** PMDKY is inspired by the **Aspirational Districts Programme (ADP)**, which was launched in 2018 to improve socio-economic indicators in underdeveloped districts.
- ➔ **Statement 3 is incorrect:** **No separate budgetary allocation** has been specified for the scheme in the **Union Budget 2025**.

9. Answer: C

Explanation:

- ➔ **Statement 1 is correct:** Russia supports NPT and START but has also developed ICBMs and hypersonic weapons.
- ➔ **Statement 2 is correct:** Three De-facto Nuclear States India, Israel, and Pakistan are not part of the NPT.

10. Answer: A

Explanation:

- ➔ Military exercise 'Dharma Guardian' is between India and Japan.

11. Answer: D

Explanation:

- ➔ The Caspian Sea is bordered by Kazakhstan, Azerbaijan, Russia, Turkmenistan, and Iran. Kazakhstan indeed has the longest coastline. Environmental activists have reported a water level decline of nearly 31,000 square km since 2005, attributed to climate crisis, agricultural water use, and pollution.

12. Answer: B

Explanation:

- ➔ **Statement 1 is correct:** IST is based on the 82°30'E meridian at Mirzapur, maintained by CSIR-NPL.
- ➔ **Statement 2 is correct:** The draft rules propose to make IST the mandatory time reference across sectors.
- ➔ **Statement 3 is incorrect:** The rules allow authorized deviations for specific purposes like astronomy and navigation, so it's not a complete prohibition.

13. Answer: D

Explanation:

- ➔ **Statement 1 is correct:** Delhi is indeed in seismic zone IV, the second highest in the country.
- ➔ **Statement 2 is correct:** The earthquake was attributed to in-situ material heterogeneity and occurred at a shallow 5 km depth.
- ➔ **Statement 3 is correct:** The Indian Plate moves northward at 5 cm/year, creating stress along fault lines.
- ➔ **Statement 4 is correct:** Soft alluvial soil in the Indo-Gangetic Plain can indeed amplify seismic waves.

14. Answer: C

Explanation:

- ➔ **The National Education Policy (NEP) 2020** sets an ambitious target to increase India's Gross Enrolment Ratio (GER) in higher education to **50% by 2035**, as highlighted in the AISHE Report 2021-2022 section. The **current GER is 28.4% (2021-22), up from 0.4% in 1950-51**, reflecting significant progress but still far from the 2035 goal.

15. Answer: B

Explanation:

- ➔ Swavalambini, a women's entrepreneurship program launched by the **Ministry of Skill Development and Entrepreneurship with NITI Aayog**, is specifically implemented by NIESBUD.

16. Answer: B

India's Civil Nuclear Deals

- ➔ **NSG Waiver (Sep, 2008):** NSG adopted a policy decision allowing **civil nuclear cooperation between its members and India.**

- ➔ **Russia: 2008 Inter-Governmental Agreement** for building additional reactors at Kudankulam **Nuclear Power Plant (KKNPP).**

- ➔ **United States: 123 Agreement (2008)** enabled U.S. **nuclear fuel and technology exports** to India.

- ➔ **France: 2008 Civil Nuclear Agreement;** ongoing plans for **Jaitapur Nuclear Power Project.**

17. Answer: C

About Deep Ocean Mission

- ➔ **Launched:** In 2021 by **Ministry of Earth Sciences (MoES)** as a Central Sector Scheme.

- ➔ **Purpose:** Develop technologies for deep ocean exploration, support Blue Economy, and address climate change and marine pollution.

- ➔ **Alignment with Global Goals:** Aligned with **SDG-14 (Life Below Water)**; supports **UN Decade of Ocean Science (2021-2030).**

- ➔ **Budget and Timeline:** ₹4077 crore over 5 years (2021-2026); Phase-I (2021-2024) allocated ₹2823.4 crore.

18. Answer: A

Explanation:

- ➔ **Statement 1 is correct:** The IRNSS, now known as NavIC, is described as a regional navigation satellite system developed by ISRO. According to the provided content, the NavIC network consists of **7 satellites – 3 in geostationary orbit and 4 in inclined geosynchronous orbit.** This directly supports the accuracy of Statement 1.

- ➔ **Statement 2 is incorrect:** The coverage area mentioned for NavIC is **India and up to 1500 km beyond its borders**, not 5500 sq. km as claimed in the statement. Therefore, Statement 2 does not align with the official description.

- ➔ **Statement 3 is incorrect:** NavIC is a **regional** navigation system. There are no plans for **global coverage by the middle of 2023.** Hence, this statement is also incorrect.

19. Answer: C

Explanation:

- ➔ According to the document, India possesses an estimated 10 million manuscripts in 80 ancient scripts, with ~75% in Sanskrit and 25% in regional languages. The mission is launched by the Ministry of Culture and includes creating a National Digital Repository.

20. Answer: C

Explanation:

- ➔ Tantric Buddhism (Vajrayāna) is prevalent in Bhutan, Mongolia, Nepal, and Tibet. The document does not mention its origin as the Gupta Empire, and it emphasizes its focus on practical methods (sadhana) for enlightenment.

13.2. True/False Answers

Answers

1. F	2. T	3. F	4. F	5. T	6. T
7. T	8. T	9. F	10. T	11. T	12. T
13. F	14. F	15. T	16. T	17. T	18. F
19. T	20. T				

13.3. Approach to the Mains Practice Questions

1. Approach

Introduction: Introduce the rising trend of freebies in Indian elections as a tool to sway voters, raising concerns about fiscal stability.

Main Body: Discuss how freebies strain budgets and influence voter choices, then propose regulations like expenditure caps and targeted welfare instead.

Conclusion: Argue that while freebies address immediate needs, sustainable governance requires a shift to long-term development policies.

2. Approach

Introduction: Introduce Panchayats as vital governance units facing devolution issues despite the 73rd Amendment.

Main Body: Highlight challenges like inadequate funds and staff, then propose solutions like taxation powers and training.

Conclusion: Stress that empowering Panchayats financially and administratively is key to grassroots democracy.

3. Approach

Introduction: Briefly mention the Geo-Economic Fragmentation with some example.

Body: Define the Geo-Economic Fragmentation and its effects on India's economy.

Conclusion: Mention balanced approach which will benefit India through Geo-Economic Fragmentation.

4. Approach

Introduction: Write what you understand by the term India's Neighborhood First Policy and its background.

Body: Elaborate key principles of India's Neighborhood First Policy and its impact on the regional cooperation around India.

Conclusion: Give suggestion to counter Chinese influence by the same policy.

5. Approach:

Introduction: Introduce India's cotton sector and its economic importance. Mention the launch of the 'Mission for Cotton Productivity'.

Body: Mention the Significance of the Mission for Cotton Productivity and Challenges Faced by Cotton Farmers. Discuss the measures to Improve Cotton Productivity and Sustainability.

Conclusion: Briefly highlight the Mission and steps taken by the government.

6. Approach

Introduction: Briefly discuss regionalism in the Indian context.

Body: Write historical roots of regionalism in India and role of colonial policies in shaping regional disparities.

Conclusion: Mention steps and constitutional provisions to bring regional integration.

7. Approach

Introduction: Write what is hybrid warfare and its evolution.

Body: Discuss major challenges in tackling hybrid warfare

in India and highlight the role of institutional coordination and intelligence-sharing in mitigating hybrid threats.

Conclusion: Mention other global initiatives and innovative approaches in the end.

8. Approach

Introduction: Mention JJM's goal and its delay to 2028, hinting at implementation issues.

Main Body: List key obstacles (funding, groundwater reliance, technical delays) and suggest tech solutions (IoT, AI).

Conclusion: Stress technology's role in overcoming hurdles for water security by 2028.

9. Approach

Introduction: Note the contrast between 43% STEMM enrolment and 18.6% women scientists.

Main Body: Highlight barriers (patriarchy, workplace issues) and propose solutions (mentorship, policy reforms).

Conclusion: Call for systemic changes to boost women's role in science and innovation.

10. Approach

Introduction: Define Non-Communicable Diseases (NCDs) as chronic, non-infectious conditions linked to genetic, lifestyle, and environmental factors, emerging as a major public health challenge in India.

Body:

➔ **Burden & Impact:** Cause 74% of global deaths; rising in India with high costs, reduced education, loss of life expectancy, and economic burden projected at ₹280 lakh crore by 2030.

➔ **Government Initiatives:** Intensified NCD Screening Drive for 100% screening above age 30; implementation via Ayushman Arogya Mandirs under NP-NCD for health promotion, early diagnosis, and continuum of care.

Conclusion: Addressing NCDs requires integrated screening, awareness, and primary care to reduce long-term socio-economic and health impacts across vulnerable groups.

11. Approach

Introduction: Present the 73rd Amendment as a step toward women's leadership in PRIs, noting implementation gaps.

Main Body: Explain how it boosts participation but falters due to proxy representation from cultural and educational barriers.

Conclusion: Conclude that while the amendment opens doors, overcoming social hurdles is essential for real power.

12. Approach

Introduction: Write what are Triangular Cooperation and its evolution.

Body: Mention the role of India in Triangular Cooperation and its impact on strengthening diplomatic and economic ties with other countries.

Conclusion: Mention the importance of Triangular Cooperation in diplomacy.

13. Approach:

Introduction: Start with a brief about what are MSMEs.

Body: Add about Mutual Credit Guarantee Scheme for MSMEs. Explain its significance. Discuss the challenges faced by MSMEs. Also discuss initiatives taken by the government.

Conclusion: Briefly highlight the measures and steps to be taken.

14. Approach:

Introduction: Define critical minerals and highlight their significance in India's economic and national security.

Body: Mention the recent launch of the National Critical Mineral Mission (NCMM) as a step toward securing critical mineral supply. Discuss about importance, challenges in securing critical minerals. Discuss the Measures to Strengthen India's Critical Mineral Strategy.

Conclusion: Briefly highlight the NCMM and steps to be taken.

15. Approach

Introduction: Highlighting India's milestone of reaching 100 GW solar capacity Contextualize solar energy's role in India's energy and climate strategy.

Body: Analyze potential and challenges of solar energy with opportunities and constraints.

Conclusion: Suggest a way forward.

16. Approach

Introduction: Start by providing context of the scheme

Body: Examine its achievements, challenges, and potential for transforming agricultural practices.

Conclusion: Suggest a strategy to enhance its effectiveness.

17. Approach

Introduction: Start by providing context of the problem with some facts.

Body: Analyze multidimensional challenges, with the current policy implications.

Conclusion: Propose integrated approach as a way forward.

18. Approach

Introduction: Define the Nuclear Energy Mission as a 2025–26 initiative aimed at expanding nuclear power through indigenous innovation and clean energy goals, including deployment of Small Modular Reactors (SMRs).

Body:

➔ **Objectives & Significance:** Targets 100 GW by 2047, promotes energy security, supports COP26 goals, and encourages private sector participation via legal reforms.

➔ **Role of SMRs:** Enable modular, safe, and scalable power generation; useful for remote access, coal plant repurposing, and desalination; boost indigenous R&D and faster deployment.

Conclusion: Emphasize SMRs as a game-changer in India's low-carbon transition and the mission's potential to drive clean, secure, and inclusive energy growth.

19. Approach

Introduction: Define the Deep Ocean Mission as a 2021 initiative to explore ocean depths, support Blue Economy, and strengthen India's marine research and strategic maritime capabilities.

Body:

➔ **Objectives & Significance:** Enables resource mapping, marine biodiversity studies, and underwater engineering; utilizes India's EEZ and supports Blue Economy-led growth.

➔ **Strategic & Global Alignment:** Aligns with SDG-14 and UN Ocean Science goals; supports IPOI and Quad cooperation; enhances India's Indo-Pacific maritime presence amid rising regional competition.

Conclusion: Emphasize the mission's role in advancing sustainable ocean development and reinforcing India's leadership in marine science and Indo-Pacific strategy.

20. Approach

Introduction: Provide some context about the mission.

Body: Explain what manuscript is, and need for its conservations.

Conclusion: conclude with mentioning challenges and how technology can intervene to address them.

13.4. Approach to Case Studies

1. Approach

➔ **Intro:** Providing the context about the case study mention the ethical issues that arise for ex. Harm principal, protection of vulnerable groups

➔ **Body:** Explain the free speech vs decency dilemma, and how government can balance them.

➔ **Conclusion:** Mention the role of digital media in regulation of content, for ex. Fixing the responsibility.

2. Approach

➔ **Intro:** Explain the case study details with relevant stakeholders.

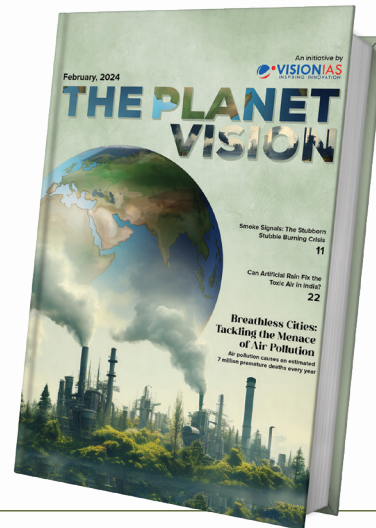
➔ **Body:** Mention the ethical dilemmas and responsibilities of those who are involved for ex. Due process vs swift action. Suggest immediate and long-term approach to Rahul's case.

➔ **Conclusion:** Suggest a way forward mentioning how ragging can be eliminated in future.

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Interactive elements:

- **Snapshot:** Telling a story through capturing images.
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“

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— Albert Einstein



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14. Self-Evaluation



Progress Tracking Table

Activity Type	Total Questions	Correct Answers	Attempted	Score/Percentage
MCQ's				
True/False Statements				



Monthly Learning Summary

Top 3 Learnings/Insights

1.

2.

3.

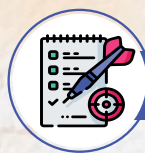


Progress Comparison

Previous Month's Score

Current Month's Score

Areas of Improvement



Reflection Section

Strengths

Areas for Improvement

Goals for Next Month









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Objectives of Vision Publication

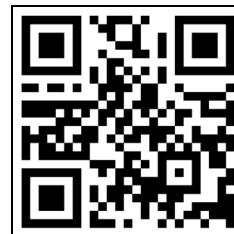
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Aditya Srivastava

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from various programs of **Vision IAS**



Animesh Pradhan



Ruhani



Srishti Dabas



Anmol



Nausheen



Aishwaryam Prajapati

39
Selections

in **TOP 50**

in **CSE 20 22**



Ishita Kishore



Garima Lohia



Uma Harathi N

1
AIR



SHUBHAM KUMAR
CIVIL SERVICES
EXAMINATION 2020



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