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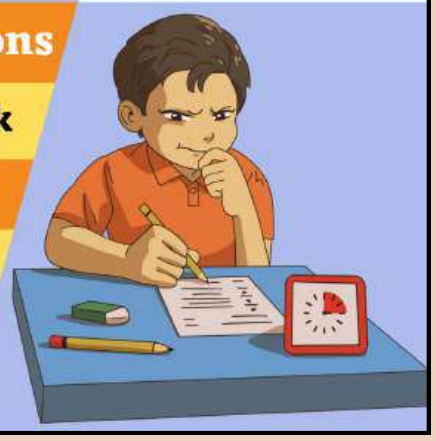

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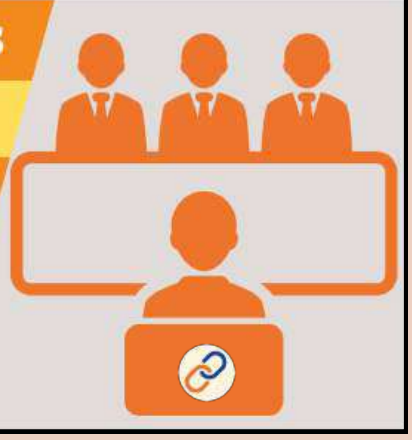

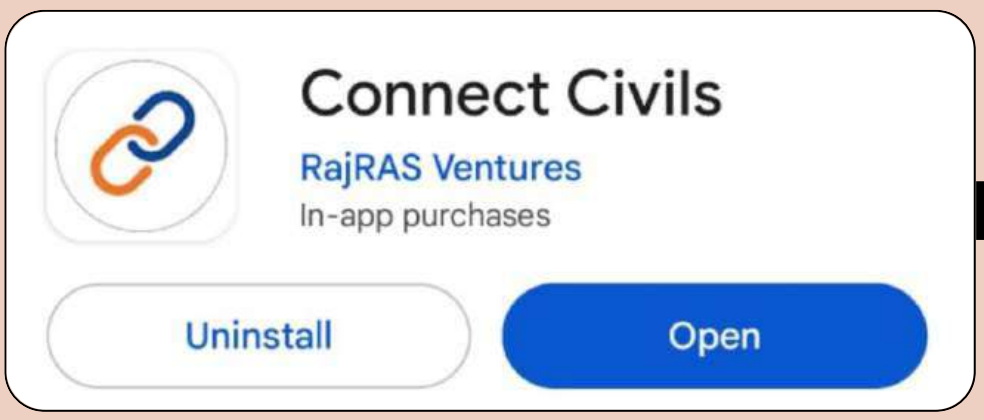

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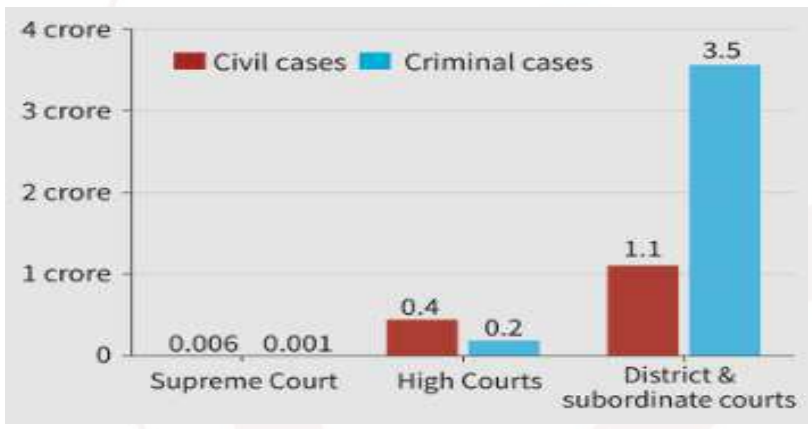
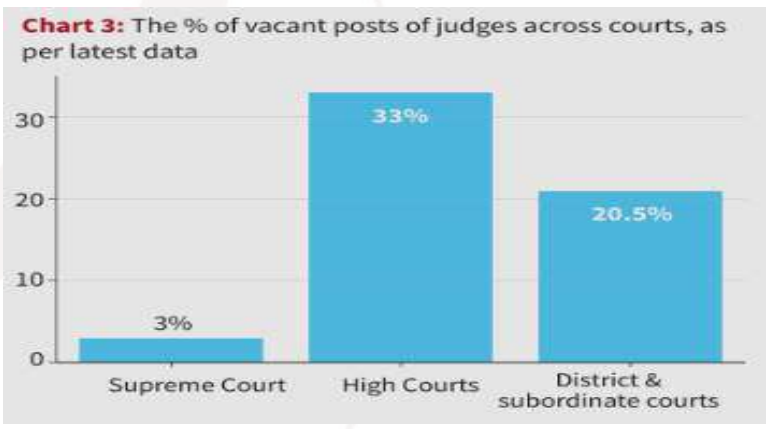
Polity

Topic 1 - Pendency in Indian Courts

Syllabus	Indian Polity | Judiciary
Context	❖ Over **5 crore cases** are **pending** in Indian courts (SC, HCs, and District Courts), leading to significant delays in justice delivery. ❖ The President of India termed the crisis as **"Black Coat Syndrome"**, highlighting **erosion of public trust** due to prolonged judicial delays.
Current Pendency Status	❖ **District Courts** (4.6 Crore) > **High Courts** (63.3 Lakh) > **Supreme Court** (86,700 cases). ❖ **Judges per 10 lakh population:** Only 15 (vs. Law Commission's norm of 50). ❖ **Vacancies:** 5,665 posts vacant (21% of sanctioned strength). ❖ **Disposal Rates:** ➢ **Civil**: Only 38.7% disposed within a year. ➢ **Criminal**: 70.6% disposed within a year.  
Key Reasons for Pendency	❖ **Judge Shortage:** Low judge-to-population ratio (e.g., USA: 107, UK: 51); delays in appointments → due to collegium process and administrative bottlenecks. ❖ **Civil Case Delays:** 20% civil cases exceed 5 years (esp. property, family, contract). ❖ **Lack of Timelines:** No **legal deadlines** for hearings, evidence submission, or judgments. ❖ **Weak Infrastructure:** Inadequate courtrooms, staff, and digital systems. ➢ Only **60% of courts** have full digital infrastructure for case management. ❖ **Low Legal Awareness**: Limited awareness of **legal rights** leads to frivolous litigation and delays in settlements.
Government Initiatives	❖ **e-Courts Project:** ➢ 18,735 courts digitised; 99.4% WAN coverage. ➢ Phase-III (₹7,210 cr): Paperless, unified judicial platform.

	➢ **FASTER (Fast and Secured Transmission of Electronic Records) System**: For swift case transfers and e-delivery of court orders. ❖ **Judicial Infrastructure:** ➢ Court halls increased from 15,818 (2014) to 23,020 (2024). ➢ ₹11,167 crore invested via **Centrally Sponsored Scheme (CSS)** for judicial infrastructure. ❖ **Appointments & Capacity:** ➢ 976 HC judges, 62 SC judges appointed since 2014. ➢ **District judiciary strength**: 25,609 (sanctioned: ~30,000). ❖ **Fast Track & Special Courts:** ➢ **866 Fast Track Courts (FTCs)** and **755 POCSO courts** operational. ➢ 2.53 lakh sensitive cases resolved. ➢ **Gram Nyayalayas**: 450+ established under Gram Nyayalayas Act, 2008, to address rural disputes. ❖ **ADR Mechanisms:** ➢ **Lok Adalats:** 27.5 crore cases disposed (since 2021). ➢ **Mediation Act, 2023**: Institutionalizes mediation as a formal mechanism. ➢ **Arbitration and Conciliation (Amendment) Acts** (2015, 2019): Set timelines for commercial dispute resolution. ❖ **Tele-Law & Legal Aid:** ➢ **Tele-Law**: Provided legal aid to **90 lakh beneficiaries** via virtual consultations. ➢ **Nyaya Bandhu**: **11,000 pro bono lawyers** for free legal services. ➢ **Legal Clubs**: Established in **89 law schools** to promote legal literacy. ➢ **National Legal Services Authority (NALSA)**: Facilitates free legal aid under Legal Services Authorities Act, 1987.
Supreme Court Initiatives	❖ **Integrated Case Management Information System (ICMIS)** ➢ Digitizes case records, enables e-filing, and provides real-time case status updates. ➢ Supports **virtual hearings**, reducing physical court visits. ❖ **National Judicial Data Grid (NJDG)** ➢ Tracks pendency and disposal rates across SC, HCs, and District Courts. ❖ **SUPACE (Supreme Court Portal for Assistance in Court's Efficiency)** ➢ AI-based tool to assist judges in case research, prioritization, and scheduling. ➢ Launched in 2021 to tackle **pendency in complex cases**. ❖ **Special Leave Petition (SLP) Reforms** ➢ SC emphasized reducing **frivolous SLPs** to ease caseload (SLPs constitute ~70% of SC cases).

Way Forward	❖ **Expand Judge Strength:** Fill vacancies, raise judge-population ratio. ❖ **Collegium Reforms:** Ensure transparent, time-bound appointments. ❖ **Digital Justice:** Scale up e-courts, AI-based scheduling, FASTER system. ❖ **Strengthen ADR:** Mandate mediation, build mediator pool. ❖ **Specialised Benches:** Courts for IPR, cyber, tax, environment. ❖ **Improve Access:** Expand legal aid, promote legal literacy, court streaming.
Conclusion	Judicial delays threaten **constitutional governance and public faith**. Structural reforms, digital tools, and alternative mechanisms are crucial to making Indian courts **efficient, accessible, and citizen-friendly**.

Topic 2 - Legal Aid and NALSA	
Syllabus	Indian Polity | Justice
Context	**India Justice Report 2025** revealed low legal aid access - only **15.5 lakh** availed it in 2023–24, though nearly **80%** of Indians are eligible.
What is NALSA (National Legal Services Authority)?	❖ **Established**: In 1995 under the **Legal Services Authorities Act, 1987**. ❖ **Patron-in-Chief**: Chief Justice of India. ❖ **Executive Chairman**: **Second senior most** judge of the Supreme Court of India. ❖ **Objective:** Speedy disposal of cases and reducing the burden on the judiciary. ❖ **Mandate**: Provide **free legal aid** to weaker sections - SC/STs, women, children, poor, disabled, and prisoners.
Powers & Functions of NALSA	❖ Frames policies for legal aid nationwide. ❖ Supervises and funds **SLSAs** (State) and **DLSAs** (District). ❖ Organizes **Lok Adalats**, legal awareness drives, and promotes **Alternative Dispute Resolution (ADR)**. ❖ Ensures legal aid under **Section 12** of the Act.
Key Initiatives by NALSA	❖ **Legal Aid Defence Counsel System (LADCS) (2022)**: Free defence counsel for criminal cases in districts. ❖ **Para-Legal Volunteers (PLVs)**: Trained locals for awareness, outreach, and mediation. ❖ **Permanent Lok Adalats**: Resolve disputes before they go to court. ❖ **Legal Literacy Clubs**: Started in schools/colleges. ❖ **Jail Legal Aid Clinics**: Support for undertrials and inmates. ❖ **Special Schemes**: For transgender persons, disaster-hit populations, and industrial workers.
Challenges Faced	❖ **Low Budget**: <1% of justice budget; funding dropped from ₹207 Cr (2017–18) to ₹169 Cr (2022–23).

	❖ **Fund Underutilisation**: Declined from 75% to 59% due to red tape. ❖ **PLV Decline**: 38% drop (2019–2024); low pay in many states. ❖ **Poor Coverage**: 1 legal aid clinic per 163 villages; spending per person is ₹2–₹16. ❖ **Service Quality**: Viewed as inferior to private lawyers. ❖ **Centralised Fund Control**: Delays at the SLSA level due to required approvals.
Way Forward	❖ **Increase Budget**: Allocate 2–3% of justice spending to legal aid. ❖ **Strengthen PLVs**: Better pay, performance-linked deployment, training. ❖ **Decentralise Decisions**: Empower DLSAs for local fund usage. ❖ **Digital Monitoring**: National dashboard for tracking delivery and outcomes. ❖ **Expand LADC & Lok Adalats**: Scale effective models across underserved areas.
Constitutional Provisions related to Free Legal Aid	❖ **Article 39A**: Free legal aid to the poor and weaker sections of society and ensures justice for all. ❖ **Article 14**: Guarantees equality before the law for all individuals within India's territory. ❖ **Article 22(1)**: Provides protection to individuals arrested or detained, ensuring their right to legal consultation and representation.
India Justice Report 2025	❖ **Released by: Tata Trusts**. ❖ **Focus:** Periodic national assessment **(India's first)** of justice delivery across **4 pillars**: ➢ **Police**, **Prisons**, **Judiciary**, and **Legal Aid & SHRCs**. ❖ Based on **5 parameters**: Human resources, Infrastructure, Budgets, Workload, Diversity. ❖ **State Rankings** ➢ **Large States (>10 million): Karnataka** > Andhra Pradesh > Telangana. ➢ **Small States (<10 million)**: **Sikkim** → 33% women judges in HCs.

Topic 3 - Collusive Litigation	
Syllabus	Polity & Judiciary
Context	The **Supreme Court** has taken **suo motu cognisance** of collusive litigations involving **Bengaluru Development Authority (BDA) officials**.
What is Collusive Litigation?	❖ **Definition:** A lawsuit where parties **cooperate instead of contesting**, to manipulate or achieve a **pre-decided outcome** or challenge a law. ❖ **Nature:** Not genuinely adversarial → undermines the judicial process.
Issues with Collusive Suits	❖ Manipulation of judicial process. ❖ Undermines **adversarial justice system**. ❖ Used to **circumvent legislative process**.

Legal Position in India	❖ **Collusive decrees** can be set aside if a **third party (not part of collusion)** proves fraud/collusion. ❖ **High Courts (Art. 227)** → power to intervene. ❖ **The colluding party** cannot challenge its own decree. ❖ **Burden of proof** → lies on the party alleging collusion. ❖ Courts can **set aside collusive decrees** even without specific prayer, under a **general relief request**.

Topic 4 - Doctrine of Merger	
Syllabus	Polity & Judiciary
Context	The **Supreme Court** stressed that the **Doctrine of Merger** must be applied with awareness of its **limitations** and should not block redressal of genuine concerns.
Key Facts & Details	❖ **Definition:** The Doctrine of Merger is a **common-law judicial principle** stating that when a **superior court** (like High Court or Supreme Court) passes an order on appeal/revision, the **lower court's order merges** into that superior order. ❖ **Logic:** Only **one operative order** can govern the same matter at a time. ❖ **Nature:** Not statutory or constitutional; based on **judicial propriety** and discipline for judicial, quasi-judicial, and administrative bodies. ❖ **Effect:** Lower court's decision **ceases independent existence**; only the higher court's decision remains enforceable.
Applicability	❖ Requires an appeal/revision from a **subordinate authority** to a **superior authority**. ❖ Superior authority's decision may **modify, reverse, or affirm** the lower authority's order.
Purpose	❖ Resolves **conflict** when multiple orders exist on the same issue. ❖ Maintains **judicial decorum** and **hierarchy**.
Limitations	❖ Not **universal**; depends on the **jurisdiction** and **subject-matter** of the challenge. ❖ **Cases involving fraud:** If a lower court order is **fraudulently obtained**, merger does **not** bar fresh appeals - even post Supreme Court affirmation. **(Vishnu Vardhan v. State of Uttar Pradesh 2025)** ❖ Article 142 can **override merger** in cases where public interest or justice demands it. ➢ **Government of NCT of Delhi v. M/s BSK Realtors LLP**: SC used Article 142 to re-open a matter despite merger, citing public interest.

Topic 5 - Linguistic Reorganisation of States in India: Unity through Diversity	
Syllabus	Polity | Constitution
Context	**Tamil Nadu Governor R.N. Ravi** recently called linguistic reorganisation divisive, reviving debate over its role in national unity.
India Before Reorganisation (1947–1950)	❖ India had two types of regions: ➢ **British provinces** (direct rule). ➢ **565 princely states** (indirect rule). ❖ Boundaries were based on **administrative convenience**, not language or culture.
Constitutional Division (1950)	India was divided into 4 parts - ❖ **Part A**: Former governor's provinces (e.g., Madras, Bombay). ❖ **Part B**: Former princely states (e.g., Hyderabad, Rajasthan). ❖ **Part C**: Centrally governed territories (e.g., Delhi, Manipur). ❖ **Part D**: Andaman & Nicobar Islands.
Trigger: Potti Sriramulu's Death (1952)	❖ Demanded a **Telugu-speaking state** via hunger strike. ❖ Died after 58 days, sparking protests. ❖ **Andhra State** formed on **Oct 1, 1953.**
Formation of States Reorganisation Commission (SRC) – 1953	❖ Led by **Justice Fazl Ali.** ❖ Purpose: Reorganise states primarily on **linguistic** but also **administrative** grounds.
States Reorganisation Act – 1956	❖ India reorganised into **14 states + 6 Union Territories.** ❖ Based mostly on **language**, marking a major federal restructuring. ❖ Aimed at **administrative efficiency, inclusion, and unity.** ❖ **Language Was Not the Only Factor** ➢ SRC and Nehru (JVP Committee) stressed: ■ **Language alone is not enough.** ■ Must also consider **national unity, economy, viability.** ➢ Examples: ■ Bombay remained **bilingual.** ■ Punjab was **not divided** immediately.
International Contrast	❖ Western fears: Linguistic reorganisation could lead to **fragmentation.** ❖ India proved otherwise: ➢ **Pluralism prevented secessionism.** ➢ **Pakistan** (Urdu imposition) & **Sri Lanka** (Sinhala-only) faced **civil strife.**

Administrative Reforms Commission (ARC) 2008 Endorsement	❖ Called linguistic reorganisation a **post-independence milestone.** ❖ Helped in **governance, inclusion, and national cohesion.** ❖ Major separatist movements (Nagaland, Punjab, Kashmir) were **ethnic/religious**, not linguistic.
Conclusion	India's linguistic reorganisation promoted **unity through diversity**, not division. It balanced **regional identity** with **national integrity**, strengthening Indian federalism.

Topic 6 - Election Commission vs States: Who Controls Election Officials?

Syllabus	Indian Polity | Election
Context	❖ Clash between **ECI & West Bengal** → ECI ordered action against officials accused of electoral roll tampering. ❖ West Bengal refused suspension, claiming no election was declared, thus the action was beyond ECI's jurisdiction at the time.
Legal Provisions for Removal of Judges	❖ **Article 124(4):** Removal of Supreme Court judges. ❖ **Article 217:** Removal of High Court judges. ❖ Grounds: **"Proved misbehaviour or incapacity."**

Evolution of Powers of Election Commission

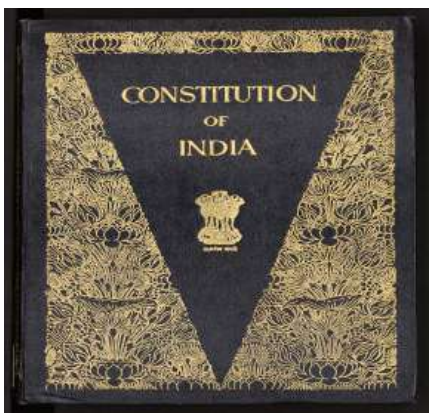
Constitutional Vision (Dr. B. R. Ambedkar)	❖ Ensured **CEC same protection as SC judge** → safeguard independence. ❖ Rejected permanent ECI bureaucracy → costly & unnecessary (election work is periodic). ❖ **Solution**: State officials deputed to ECI during elections → under ECI's authority.
Constitutional Provisions (Article 324)	❖ Empowers ECI with "superintendence, direction, and control" over elections to Parliament, state legislatures, President & VP.
1988 Amendments: Strengthening ECI	❖ **RPA, 1950 (Sec. 13CC):** Electoral officers deemed **on deputation** to ECI. ❖ **RPA, 1951 (Sec. 28A):** Returning/polling officers + police **under ECI control** during polls. ❖ **Validity**: From election notification → till declaration of results.
T. N. Seshan Era (1990–96)	❖ Asserted **officials on election duty answer only to ECI**. ❖ Claimed **power to suspend/transfer officers**. ❖ **1993 Ranipet by-election** → Denial of central forces → Seshan postponed **31 elections**. ❖ The Supreme Court upheld ECI's interim authority (2000).

2000 Settlement: Formal Disciplinary Powers	❖ SC-mediated agreement (under CEC M. S. Gill): ❖ **ECI Powers:** ➢ ECI can **suspend officers** for dereliction of duty. ➢ Can **replace/send back** errant officials with conduct reports. ➢ Can **recommend disciplinary action** → Competent authority (State/Centre) must act within **6 months**. ❖ Ensured **clear accountability chain** between Centre, States, and ECI.
West Bengal Standoff (2025)	❖ The state refused action against 4 officials (roll tampering). ❖ **Options before ECI:** ➢ Summon Chief Secretary (already done). ➢ Involve Centre to enforce settlement. ➢ Approach Supreme Court under RP Acts (last resort).
Conclusion	The tussle shows that while the **ECI has constitutional and legal backing**, practical enforcement still depends on state cooperation. Strengthening **federal consensus and judicial support** remains vital for free and fair elections.

Topic 7 - Machine-Readable Electoral Rolls

Syllabus	Polity & Governance | Elections
Context	Opposition has demanded **machine-readable electoral rolls** from the Election Commission (EC), arguing searchable formats are vital to detect duplicate or fraudulent entries.
Electoral Rolls: Basics	❖ **Definition:** Official list of citizens eligible to vote in a constituency. ❖ **Authority:** Prepared & updated by **ECI** through district officials. ❖ **Dynamic Nature:** Regularly revised → add new voters, remove deceased/shifted, correct errors. ❖ **Access:** Available online as **PDFs** (split constituency-wise).
Machine-Readable Electoral Rolls	❖ **Format:** Text-searchable (Text-PDF/Excel/CSV) vs. image-only PDFs. ❖ **Advantage:** Enables quick search, indexing & large-scale **duplicate detection**. ❖ **OCR (Optical Character Recognition):** Converts image-PDFs into text, but costly (millions of pages).
Why EC Stopped Providing	❖ **Data Privacy Concerns:** Names & addresses may be misused. ❖ **2018 SC Case (Kamal Nath v. EC):** Court refused to compel EC to share text-based rolls. ❖ **EC Internal Order (2018):** States instructed to upload only image-PDFs. ❖ **Security Risks:** Profiling, surveillance, targeted political manipulation. ❖ **Alternative:** Parties can self-convert PDFs via OCR (time & cost heavy).

Topic 8 - The 130th Constitution (Amendment) Bill, 2025	
Syllabus	Polity & Governance | Parliament | Election Reforms
Context	The 130th Constitution (Amendment) Bill, 2025 has been introduced in Lok Sabha and referred to a Joint Parliamentary Committee (JPC).
About the Bill 	❖ Seeks to amend **Articles 75** (Centre), **164** (States), and **239AA** (Delhi) of the Constitution. ❖ Also amends **Government of UTs Act, 1963** & **J&K Reorganisation Act, 2019**. ❖ **Aim** → To address the gap between "arrest" and "conviction" and uphold constitutional morality, public trust, and good governance.
Key Provisions	❖ **Automatic Removal**: If PM/CM/Minister is **arrested & detained for 30+ days** for an offence with punishment **≥ 5 years**, they must vacate office. ❖ **Role of Authorities**: Removal by **President (Centre)**, **Governor (State)**, **LG (UTs)**. ❖ **Prime Minister's Advice Clause**: ➢ The PM/CM must advise President for removal by the 31st day. ➢ If not, Minister **automatically ceases** to hold office next day. ❖ **Reappointment Allowed**: Minister can be reappointed after release. ❖ **Extension**: Applies to **States & UTs** equally.
Justification	❖ Prevents misuse of power by Ministers under serious criminal charges. ❖ Strengthens **constitutional morality, good governance & public trust**. ❖ Keeps executive offices free from **"ray of suspicion."** ❖ **Analogy with Bureaucracy:** Similar to suspension of civil servants upon arrest (politicians currently disqualified only after conviction).
Criticisms & Concerns	❖ **Presumption of Innocence:** Removal based on arrest (not conviction) undermines fundamental legal principle ('innocent until proven guilty'). ❖ **Risk of Misuse:** Fear of **political vendetta** via central agencies (CBI/ED). Examples - Arvind Kejriwal, Hemant Soren etc. ❖ **Federalism & Separation of Powers:** Seen as **weakening states' autonomy**; central overreach. ❖ **Democratic Erosion:** Opposition termed it a step towards **"super-Emergency"**; likened to authoritarian measures.

Topic 9 - Ninth Schedule of Indian Constitution	
Syllabus	Polity | Constitution
Context	❖ The Ninth Schedule was introduced by **First Constitutional Amendment (1951)** on the suggestion of **V.K. Thiruvenkatachari**. ❖ **Purpose** → Protect certain laws (mainly land reform, agrarian reform) from **judicial review** on grounds of violating Fundamental Rights (Part III). ❖ **Over time**: Became central to **legislature–judiciary tussle** between social justice (DPSP) & fundamental rights. 
Historical Background	❖ **Patna HC (1951):** Struck down Bihar's land reforms. ❖ **First Amendment (1951):** ➢ Article 31A: Shield for agrarian reforms. ➢ Article 31B & Ninth Schedule: Immunity for listed laws. ❖ **Initially:** 13 state laws → Now 280+ laws. ❖ **Political intent**: Abolish **zamindari**, promote **Directive Principles (38, 39b, 39c)**.
Judicial Evolution	❖ **Sankari Prasad (1951):** Parliament can amend FRs → upheld Ninth Schedule. ❖ **Golaknath (1967):** Parliament can't amend FRs → Doubts raised. ❖ **Kesavananda (1973):** Basic Structure Doctrine. ❖ **Waman Rao (1981):** Pre-1973 laws safe, post-1973 open to review. ❖ **I.R. Coelho (2007):** Any law in Ninth Schedule **post-1973** open to judicial review if it violates basic structure.
Positive Aspects	❖ **Land Reforms:** Zamindari abolition, 2 crore acres redistributed in UP. ❖ **Social Justice:** Ceiling, tenancy, reservations. ❖ **Policy Certainty:** 50+ land reform acts upheld. ❖ **Directive Principles:** Boost to equity & welfare. ❖ **Flexibility:** Allowed reforms vs rigid property rights. ❖ Remains a site for balancing parliamentary sovereignty, judicial review, and constitutional integrity.
Challenges	❖ **Overuse:** 284+ laws. Laws unrelated to land reforms also included (e.g., reservation acts). ❖ **Rights Erosion:** Undermines **Articles 14, 19, 21**. ❖ **Judiciary vs Legislature:** Creates conflict between **Parliamentary supremacy** and **judicial review**. ❖ **Misuse:** By states to bypass constitutional protections and FRs. ❖ **Uncertainty:** Post-Coelho interpretation still ambiguous.

Way Forward	❖ Restrict use to genuine **land & equity reforms**. ❖ Consistent **judicial tests** under basic structure. ❖ **Legislative restraint** → avoid political misuse. ❖ **Safeguards:** Sunset clauses, periodic review. ❖ Balanced path: **Social justice + Fundamental rights**.
Conclusion	The Ninth Schedule was vital for **agrarian justice** but its overuse risks diluting rights. Its role must stay **limited, cautious, and aligned with the basic structure**, ensuring it protects reforms without undermining liberties.

Topic 10 - Creamy Layer Equivalence in OBC Quota	
Syllabus	Polity | Constitution | Reservation
Context	The Centre is considering **uniform creamy layer rules** for OBC reservations across **central/state institutions, PSUs, universities & aided bodies**, to remove anomalies and ensure fairness.
Background – Creamy Layer Concept 	❖ **Origin – Indra Sawhney Case (1992):** OBC reservation upheld, but **affluent sections excluded**. ❖ **DoPT Circular (1993):** Children of high officials/professionals/property owners ineligible. ❖ **2004:** Extended to non-govt sectors. ❖ **2017:** Income threshold raised to **₹8 lakh**.
Problem – Anomalies in Implementation	❖ **Unequal treatment** of equivalent posts across govt, PSUs, universities, aided bodies. ➢ Eg. University professors' children = eligible; aided-college teachers' children = excluded. ❖ PSU staff treated differently at central vs state level. ❖ Civil service aspirants (2016–24) disqualified after retrospective classification as creamy layer.
Proposed Reform – Ensuring Equivalence	❖ **University Teachers** – Asst. Professor & above = Creamy Layer (Group A entry). ❖ **Autonomous/Statutory Bodies** – Posts aligned with central/state pay scales. ❖ **State PSUs** – Executive-level = Creamy Layer (income exemption ≤ ₹8 lakh). ❖ **Govt-Aided Institutions** – To follow central/state service/pay norms. ❖ **Private Sector** – Only income/wealth test, no post-equivalence.
Significance of the Move	❖ **Fairness & Uniformity** – Same rules across institutions.

	❖ **Correcting Anomalies** – Protects staff of aided institutions from unfair exclusion. ❖ **Social Justice** – Ensures genuine OBC beneficiaries receive benefits. ❖ **Administrative Clarity** – Reduces multiple interpretations. ❖ **Political Sensitivity** – Builds OBC trust in the reservation system.
Challenges Ahead	❖ Resistance from groups losing benefits. ❖ Difficulty in defining equivalence across diverse institutions. ❖ Private sector affluence measurement remains tricky. ❖ Judicial scrutiny & constitutional compliance required. ❖ Outdated income ceiling (₹8 lakh since 2017).
Way Forward	❖ Issue **clear DoPT guidelines** with rational criteria. ❖ **Revise income ceiling** regularly (inflation-linked). ❖ Adopt a data-driven **approach** on OBC socio-economic mobility. ❖ Seek **SC validation** for legal certainty. ❖ Balance → **exclude elites**, protect disadvantaged.

Topic 11 - Mahanadi River	
Syllabus	Polity | Inter-State Relations
Context	Odisha & Chhattisgarh have decided to resolve the **Mahanadi water dispute** amicably, after years of tribunal litigation.
River Water Dispute Resolution in India	❖ **Article 253**: Parliament's power to legislate for international treaties/agreements on shared rivers (e.g., Indus Waters Treaty). ❖ **Article 262**: ➢ **Parliament** may make **law** for adjudication of **inter-state river water** disputes. ➢ **Bars** Supreme Court & High **Courts** from jurisdiction once tribunal mechanism is set. ❖ **Article 263**: Allows **President** to establish an **Inter-State Council** for dispute resolution & coordination.
Process of Resolution (under Inter-State River Water Disputes Act, 1956; amended 2002 & 2019)	❖ **Negotiation Stage** ➢ States first attempt **bilateral/multilateral talks** to resolve issues. ❖ **Reference to Central Govt (Article 262)** ➢ If unresolved, a state can request **Central Government intervention**. ❖ **Disputes Resolution Committee (DRC)** – as per amendments ➢ Constituted by Centre: experts + representatives of disputing states. ➢ Timeline: **1 year + 6 months extension**. ➢ If amicable settlement reached → case closed.

	❖ **Tribunal Formation** ➢ If DRC fails → Centre sets up an **Inter-State River Water Disputes Tribunal** within 1 year. ➢ Composition: Retired SC/HC judge (Chairperson) + judicial & technical experts. ❖ **Tribunal Proceedings** ➢ Examines hydrological, ecological, irrigation & legal aspects. ➢ May use technical assessors. ❖ **Tribunal Award** ➢ Timeline: **3 years (+2 years extension)**. ➢ Binding on states once **published in Official Gazette**. ➢ No appeal to Supreme Court (barred under Article 262). ❖ **Implementation & Enforcement** ➢ The award has **force of law**. ➢ States must comply; Centre can enforce. ➢ Parliament may need to legislate (Article 252) if state powers are affected. **Process for Inter-State River Water Dispute Resolution (Art. 262)** 
Key Reform (2019 Amendment)	❖ **Single Permanent Tribunal** with multiple benches → faster adjudication. ❖ Strict timelines for Disputes Resolution Committee (DRC) & Tribunal.
About the Mahanadi River	❖ **Type:** Major **east-flowing peninsular river**. ❖ **Rank:** Third-largest peninsular river after the Godavari and Krishna (2nd in **water potential)**; largest river of Odisha. ❖ **Length: 860 km**. ❖ **Basin Area: 1.41 lakh sq. km (4.3% of India)**.

	Course & Geography ❖ **Origin:** Sihawa hills, **Dhamtari district (Chhattisgarh)**. ❖ **Flow:** Eastward → cuts Eastern Ghats → enters Odisha near **Cuttack** → forms **delta near Paradip** → drains into **Bay of Bengal (False Point)**. ❖ **States Covered:** Chhattisgarh, Odisha, + small parts of **Jharkhand, Maharashtra, Madhya Pradesh**. ❖ **Cities on Course: Raipur, Sambalpur, Cuttack**. ❖ **Special Feature:** One of the **most active silt-depositing rivers** in India. ❖ **Tributaries:** Seonath, Jonk, Hasdeo, Mand, Ib, Ong, Tel.
Other Important Information Related to the River	**Hirakud Dam** ❖ **Location:** 15 km from **Sambalpur (Odisha)**. ❖ **Type:** World's **longest earthen dam (26 km)**. ❖ **Uses:** Irrigation, Flood Control, Power Generation **Chilika Lake Link** ❖ **Ramsar Wetland of Intl. Importance**. ❖ Receives **61% inland flow** from Mahanadi system (mainly via Daya & Bhargabi distributaries).

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Topic 1 - India–Maldives Relations	
Syllabus	International Relations |Neighbouring Countries
Context	PM **Narendra Modi** visited Maldives – Guest of Honour at **60th Independence Day** celebrations. The visit marked a **reset in ties** after strain post-President **Mohamed Muizzu's** election (Nov 2023).
History	❖ Diplomatic relations established **Nov 1, 1965** (3rd country to do so after UK & Sri Lanka). ❖ First resident mission in India (2004); consulate in Thiruvananthapuram (2005). ❖ Long-standing partnership based on **geography, culture, trade, and security**.
Significance of Maldives for India	❖ **Strategic Location**: Near critical **International Sea Lanes** (Gulf of Aden – Strait of Malacca). ❖ **Trade Security**: 80% of India's trade & energy passes through nearby waters. ❖ **Maritime Security**: Helps monitor chokepoints; anti-piracy & surveillance. ❖ **People-to-People**: Indian professionals in public services; cultural/religious ties. ❖ **Multilateral Support**: Partner in **SAARC, IORA, SASEC, Colombo Security Conclave**; supports India's UNSC bid.
Strategic & Diplomatic Ties	❖ **Defence Cooperation**: ➢ DOSTI (Coast Guard maritime exercise, since 1991). ➢ Ekuverin (Army training exercise). ➢ Colombo Security Conclave participation. ❖ **Humanitarian Aid**: India's help in **1988 coup**, **2004 tsunami**; Maldives' help in **2001 Gujarat earthquake**. ❖ **Infrastructure**: Greater Male Connectivity Project funded by India.
Recent Strains	❖ **India-Out** stance under President Muizzu. ❖ Growing ties with **China** → Indian concerns over influence in the Indian Ocean. ❖ India set up **INS Jatayu** (Minicoy, Lakshadweep) for maritime surveillance.
Recent Initiatives	1. Talks on **Free Trade Agreement**. 2. **₹4,850 crore** LoC from India; reduced Maldives' annual debt repayment by 40% ($51M → $29M). 3. Creation of **India–Maldives Parliamentary Friendship Group**.
Way Forward	❖ Reduce visible military footprint; focus on **capacity building, education, health, green tech**. ❖ Use **SAARC, IORA, Colombo Security Conclave** to align interests.

	❖ Promote **public diplomacy & cultural exchanges** to counter anti-India narratives. ❖ Sign **long-term MoUs**, **FTA**, and foster **Track-2 dialogues**.
Mains Que	Discuss the strategic relevance of the Maldives in India's foreign policy. How have recent political developments in the Maldives posed challenges to India's influence, and what steps can be taken to reinforce bilateral ties?

Topic 2 - India - Philippines Strategic Partnership	
Syllabus	International Relations - South East Asia
Context	During the August 2025 state visit of Philippine President Ferdinand Marcos Jr., India and the Philippines elevated their ties to a **Strategic Partnership**, focusing on defence, maritime security, trade, and digital infrastructure.
Key Highlights of the Strategic Partnership	❖ **Strategic Upgrade**: Ties elevated to **Strategic Partnership** level for deeper political, economic, and defence cooperation. ❖ **Defence & Maritime Cooperation**: ➢ Finalised Terms of Reference (ToR) for Army, Navy, and Air Force engagement. ➢ ToR signed between Coast Guards for joint operations and maritime info exchange. ➢ Indian naval ship joined exercises in the Philippines; hydrography ship deployed. ➢ Support for **freedom of navigation in South China Sea** as per UNCLOS 1982. ❖ **Trade & Economy**: ➢ Launched negotiations for **Preferential Trade Agreement (PTA)**. ➢ Bilateral trade at **$3.5 billion** (2023–24). Indian exports: pharma, rice, engineering goods; imports: semiconductors, ores. ➢ Indian FDI in Philippines: **$5 billion**. ❖ **Connectivity & People-to-People Ties**: ➢ Direct flights to start by end of 2025. ➢ India offered **free e-tourist visa** for Filipino nationals for 1 year. ➢ 9,800 Indian students study in the Philippines. ❖ **Legal & Institutional Cooperation**: ➢ Signed Mutual Legal Assistance Treaty and Treaty on Transfer of Sentenced Persons. ➢ Agreements in space, hydrography, and fintech are being pursued. ❖ **Space & Digital Tech**: ➢ ISRO to assist in **satellite launches, weather & agri monitoring**. ➢ India to support Philippines' **Sovereign Data Cloud** and expand **DPI cooperation**.

	➢ Philippines invited to **IFC–IOR** for regional maritime surveillance.
Evolution of Ties	➢ Diplomatic relations since **1949**; 75th anniversary celebrated in 2024. ➢ Enhanced dialogue mechanisms: JDCC, STS, and Maritime Dialogue. ➢ BrahMos missile delivery in 2024 – first foreign recipient.
Key Challenges	❖ **Low FDI** from Philippines in India. ❖ Delay in operationalising signed MoUs (tourism, space, hydrography). ❖ **China factor** affecting maritime strategic posture. ❖ Lack of direct flights, limited people-to-people exchanges.
Significance	❖ Supports India's **Act East Policy** & Indo-Pacific vision. ❖ Counters China's aggression in the **South China Sea**. ❖ Opens Southeast Asia for **Indian defence exports**. ❖ Expands India's footprint in **space, fintech, digital public infrastructure**. ❖ Builds goodwill via diaspora and education ties.
Way Forward	❖ Finalise PTA to boost trade. ❖ Start co-production of defence systems under **Atmanirbhar Bharat**. ❖ Launch joint space missions for agriculture and disaster relief. ❖ Promote tourism and academic exchanges through new air routes. ❖ Institutionalise **Track 1.5 Dialogues**.
Conclusion	India–Philippines relations have transformed into a **strategic alliance** with strong potential in defence, space, trade, and regional stability. With consistent implementation, this partnership can become a **cornerstone of India's Indo-Pacific policy**.

Topic 3 - Gaza War Stalls IMEC	
Syllabus	International Relations / Infrastructure Diplomacy
Context	India's **National Security Council Secretariat** recently met with officials from the **U.S., UAE, Saudi Arabia, France, Italy, Germany, Israel, Jordan, and the EU** to review the **India-Middle East-Europe Economic Corridor (IMEC)**. The project, announced at the **2023 G20 Summit**, faces major delays due to the **Gaza war**.
About IMEC	❖ **Launch:** Announced at **G20 Summit, New Delhi (2023)**. ❖ **Aim:** Boost connectivity between **Asia, Arabian Gulf, and Europe**. ❖ **Two Segments:** ➢ **India–Gulf Corridor:** India's western ports → UAE → **high-speed freight rail** via Saudi Arabia & Jordan → Haifa (Israel). ➢ **Gulf–Europe Corridor:** Haifa → Greece & Italy by sea → Europe's rail network. ❖ **Benefit:** Cuts **India–Europe shipping time by ~40%** vs Red Sea route. ❖ **Features:** Integration of **electricity grids**, **digital cables**, **clean hydrogen pipelines**, job creation, cost reduction, and emission cuts.
Geopolitical Opening that Enabled IMEC	❖ Came during rare **Middle East stability** in 2023. ❖ **Arab–Israel normalisation** (Saudi Arabia close to joining) boosted feasibility. ❖ **Trade Significance:** ➢ **EU** – India's largest trading partner (**$137.41 billion in FY 2023–24**). ➢ Rising **non-oil trade** with **UAE & Saudi Arabia**. ❖ Planned to address: **tariff issues**, **low financial integration**, **insurance gaps**, **port capacity limits**.
Impact of Gaza War	❖ **Jordan–Israel ties strained** → threatens Middle East–Europe link. ❖ **Saudi–Israel normalisation stalled** due to **Palestinian issue**. ❖ Regional conflict spread to **Lebanon, Yemen, Syria, Iraq**, and rising **Iran tensions**. ❖ **Insurance costs** for regional trade have surged. ❖ Israel still sees IMEC as vital for **Arab economic integration** (excluding Palestine).
Current Prospects	❖ **Eastern Leg (India–Gulf)** still viable due to strong India–UAE–Saudi ties. ❖ **Digital Boost: UPI integration** with Gulf states. ❖ Challenge: **Intra-Gulf rivalries** (Saudi vs Emirati dominance). ❖ The full project depends on **regional stability** and **Palestinian statehood resolution**.
Conclusion	While the **IMEC** remains strategically important, the **Gaza war** has turned manageable issues into fundamental roadblocks. The corridor is now a **"day-after" project**, likely to progress only after peace returns to the Middle East.

Topic 4 - UN Women	
Syllabus	International Organizations | Governance & Social Justice
Context	**UN Women** recently celebrated its **15th anniversary**.
About UN Women	❖ **Established:** July **2010** by the **UN General Assembly** under the **UN reform agenda**. ❖ **Mandate:** Dedicated to **gender equality** & **women's empowerment**. ❖ **Vision:** Making **SDGs** a reality for women & girls; ensuring **equal participation** in all spheres.
Key Roles	❖ Supports **inter-governmental bodies** like the **Commission on the Status of Women (CSW)** in policy & norms formulation. ❖ Assists **Member States** with **technical & financial support**, and forges **partnerships with civil society**. ❖ Leads & coordinates **UN system's work** on gender equality; ensures **accountability** through system-wide progress monitoring.
Commission on the Status of Women (CSW)	❖ **Global policy-making body** under **ECOSOC**, dedicated exclusively to gender equality. ❖ Provides reports on women's rights to the **UNGA**, **ECOSOC**, and **UNSC**.

Economy

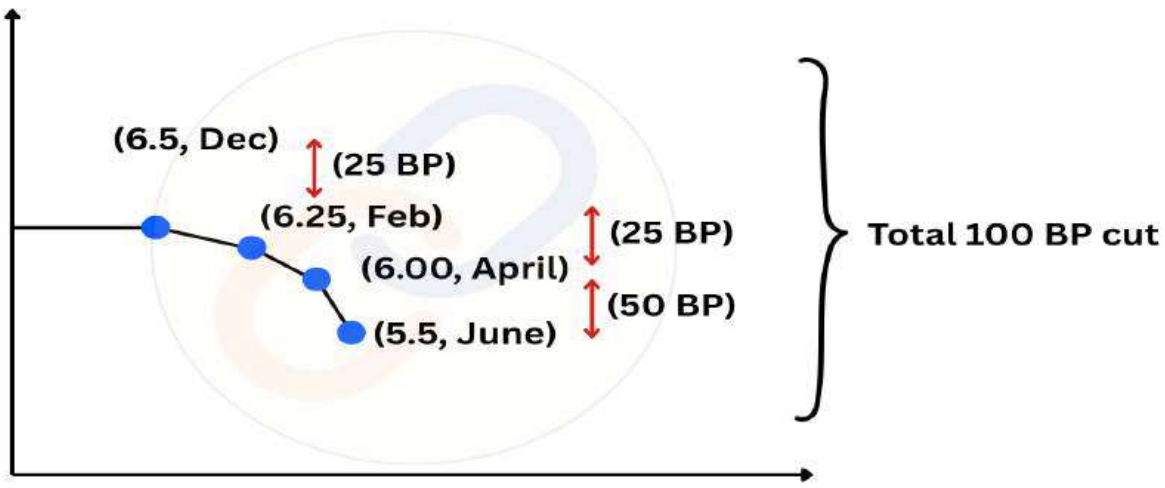
Topic 1 - New GDP Series 2026	
Syllabus	Economy | National Income
Context	**The Ministry of Statistics and Programme Implementation (MoSPI)**, will release a **new GDP series** with **2022–23 as the base year** in February, 2026, alongside revised Index of Industrial Production (IIP) and Consumer Price Index (CPI) series.
Key Objectives	❖ Reflect **structural changes** (e.g., digital economy, post-COVID recovery) ❖ Enhance **accuracy, relevance & transparency** using **digital data sources**
Key Updates to National Indicators	❖ **New GDP Series (Feb 2026)** ➢ **Base Year**: **2022–23** (replacing 2011–12). ➢ To include new data sources: **GST** (Indirect taxes, formal economy), **UPI** (Digital payments), **E-Vahan** (Vehicle registrations), **MCA-21, RBI, CGA** (Administrative data). ➢ **Method**: **Double deflation** for real growth estimation. ➢ **Improved coverage** of both **formal** & **informal sectors** (93% of workforce -informal). ❖ **Revised IIP Series (April 2026)** ➢ **New Base Year: 2022–23** (replacing 2011–12). ➢ **Updates**: ■ New sectors: Waste mgmt., water treatment. ■ Chain-based IIP (under study). ➢ Reflects updated **industrial structure** & **manufacturing trends**. ❖ **Revised CPI Series (FY 2026–27)** ➢ **New Base Year**: 2024 (replacing 2012). ➢ Incorporates online airfare, rail and OTT prices, fuel rates from admin data, and e-commerce prices via web scraping and scanner data.
Advantages of this change	**Implications for Policy & Research -** ❖ Real-time, evidence-based policymaking. ❖ Boosts investor confidence and international data credibility. ❖ Captures **digital & informal economy** dynamics. ❖ Policymaking aligns with **global statistical best practices** (e.g., UN System of National Accounts). **Reserve Bank of India (RBI) & Monetary Authorities** - ❖ Accurate Inflation Measurement. ❖ Better Monetary Policy.

	Businesses & Industry - ❖ Better Market Insights because of chain based IIP. ❖ Investment Planning. **Citizens & Civil Society** - ❖ Transparent Indicators: Citizens get a clearer picture of inflation, consumption, and industrial growth. ❖ Inclusive Economy: Recognition of informal sector ensures that policymaking reflects realities of the majority workforce.

Topic 2 - Paving the Path to 8% Growth	
Syllabus	Indian Economy - Growth & Development
Context	❖ **Vision 2047**: India aims to become a developed economy ❖ Target: **8%+ annual GDP growth** sustained over decades
Global & Domestic Growth Performance	❖ **Global Benchmarks**: China, South Korea, Hong Kong, Singapore achieved 8%+ for 25+ years. ❖ **India's Record** (2001–02 to 2023–24) - ➢ Avg. growth: 6.3% (6.7% excluding COVID years) ➢ The gap between aspiration & reality remains large
Challenges to Sustaining High Growth	❖ **Structural Rigidities** – Need reforms in land, labour, agriculture. ➢ **Land reforms:** EoDB rank improved to 63 (2020), but land acquisition delays add **2–4 years** to infra projects (e.g., Mumbai–Ahmedabad bullet train). ➢ **Labour market:** 2020 labour codes → patchy implementation [Uneven Rollout by states] ; **90% workforce informal** (PLFS 2023). ➢ **Agriculture:** Low productivity (~⅓ of China), monsoon dependence, **86% small & marginal farmers** (Agri Census 2015–16) → limits mechanisation. ❖ **Geopolitical Risks** – ➢ **Supply chain disruptions:** Russia - Ukraine war → edible oil & fertilizer shortages → **7-8% food inflation** (2022–23, RBI). ➢ **Import dependencies: 65% APIs** (Active Pharmaceutical Ingredient) from China (Commerce Min, 2024). ❖ **Federal Constraints** – Key reforms are state-driven; require cooperation. ➢ Reforms in **land, labour, agriculture, power** are state subjects → uneven rollout (fast in Gujarat & UP; slow in Kerala & WB). ➢ GST compensation disputes (2020–22) exposed Centre–State fiscal tensions, slowing reforms.

Opportunities	❖ **Supply Chain Diversification** → Potential manufacturing hub (China + 1 Strategy). ❖ **Demographic Dividend** → Young, large workforce (if skilled) (Median age of ~29.5 years vs. China's ~39.8). ❖ **Resilience through reforms** → Strong post-COVID recovery via reforms & investments.
Confederation of Indian Industry (CII) Five-Point Reform Blueprint	❖ **Federal Consensus Mechanisms** ➢ GST-like Reform Councils for state–centre cooperation. ➢ Empowered groups of secretaries for productivity reforms. ❖ **Public Sector Disinvestment & Asset Monetisation** ➢ Reduce govt stake in 80 listed PSEs to 51% → unlock ₹10.3 lakh crore. ➢ **Disinvestment Fund**: retire debt, fund social/rural infrastructure. ➢ Launch **NMP 2.0** for wider asset monetisation. ❖ **Sovereign Wealth Fund** ➢ Invest overseas in ports, logistics, tech, critical minerals. ➢ Funded via disinvestment proceeds to mitigate geopolitical risks. ❖ **Expand Irrigation Coverage** ➢ Target: 80% gross cropped area by 2030. ➢ Benefits: stable farm output, inflation control, climate resilience. ❖ **Ease of Doing Business (EoDB)** ➢ Fully operationalise **National Single Window System**. ➢ Pass **Jan Vishwas Bill 2.0** → decriminalise business laws. ➢ Implement **4 labour codes**.

Topic 3 - RBI's August 2025 MPC Decision

Syllabus	Indian Economy | Growth, Inflation, Monetary Policy
Context	❖ RBI's MPC kept repo rate **unchanged** at **5.5%** with a **Neutral stance**. ❖ Pause comes after **100 bps cuts in 2025** (Feb - 25bps, Apr - 25bps, Jun - 50bps). 
Inflation Trends	❖ **CPI Inflation** below **4% since Feb 2025** → hit **2.1% in June** (6-year low). ❖ **Drivers**: ➢ Sharp fall in **vegetable & pulse prices** ➢ **Good monsoon** → better crop supply ❖ **FY26 inflation forecast cut to 3.1%** (earlier 3.7%) ❖ Concern: **Core inflation at 4.4%** → demand-side pressure
Growth Outlook	❖ **FY26 growth retained at 6.5%**. ❖ **Drivers**: ➢ Public investment & infra push. ➢ Rural revival via good monsoon + wages. ➢ Services sector strength + manufacturing rebound.
External Risks	❖ **US tariffs (Trump 2.0)** → hits engineering, textiles, IT exports. ❖ **Geopolitical tensions** → supply chain shocks, commodity volatility. ❖ **Fed policy uncertainty** → capital flow & rupee risks.
International Context	❖ **US Fed:** Cautious balancing act. ❖ **ECB (European Central Bank):** Accommodative amid weak growth. ❖ RBI mirrors global **gradualism + data-dependence**.
Way Ahead	❖ Inflation may cross **4% by Q4 FY26**, limiting rate cut space. ❖ Risks: ➢ Base effect reversal [Since inflation is low this year, the year-on-year increase next year may appear higher due to the low base effect, potentially pushing inflation above the 4% target] ➢ Oil price spikes → CAD & inflation stress. ➢ Global slowdown + tariff shocks → growth hit.

Topic 4 - CPI-Based Inflation	
Syllabus	Economy | Inflation, Monetary Policy, Growth
Context	Retail inflation (CPI-based) in India fell to **1.55% in July 2025** (lowest since 2017), driven mainly by food price decline, good monsoon, and base effect.
What is CPI-Based Inflation?	❖ **Definition:** Measures price changes in a basket of goods & services consumed by households. ❖ **Components:** ➢ Food & Beverages – 46% ➢ Fuel & Light – 6.8% ➢ Clothing & Footwear – 6.5% ➢ Housing – 10.1% ➢ Miscellaneous – 28% ❖ **Target:** RBI's Flexible Inflation Targeting (FIT) – 4% +/- 2 (band: 2–6%). (On recommendation of Urjit Patel Committee)
Why Has Inflation Declined?	❖ Base effect of last year's high prices. ❖ Food stability from monsoon + supply chains. ❖ Weak consumer demand → firms unable to hike prices. ❖ Govt. measures: buffer stocks, import duty cuts, export restrictions.
Risks Ahead	❖ **Crude Oil:** Import dependence (85%) + US pressure on Russian oil. ❖ Global trade tensions → input cost rise. ❖ **Climate shocks:** floods/droughts can reverse food gains. ❖ Demand recovery may push up core inflation.
Policy Implications	❖ **Monetary Policy:** RBI may remain accommodative but cautious for 2026. ❖ **Fiscal Policy:** Use low inflation to push reforms + incentivize private investment. ❖ **Structural Reforms:** ➢ Agriculture supply chains. ➢ Boost private sector confidence. ➢ Strengthen manufacturing & competitiveness.
Way Forward	❖ Balance growth with inflation targeting. ❖ Diversify oil sources & boost renewable energy. ❖ Strengthen agri resilience (irrigation, crop diversification). ❖ Push private investment + FDI. ❖ Ensure inclusive growth → real household purchasing power.

Topic 5 - India's Two-Tier GST Reform	
Syllabus	Indian Economy | Taxation & Fiscal Policy
Context	The Centre has proposed a **two-slab GST system (5% & 18%) + 40% sin goods rate**, aiming to simplify taxation. S&P Global Ratings noted this will **boost long-term fiscal revenues** despite short-term concerns. 
Key Features of Proposed Reform	❖ **Current GST**: **4 slabs** (5%, 12%, 18%, 28%). ❖ **Proposed**: **2 slabs** ➢ **5% (Merit)** (for essential/common goods, MSME inputs); ➢ **18% (Standard)** (for most goods & services); ➢ **40%** (for sin/luxury goods). ❖ Expected rollout: **by end of 2025**. ❖ **Objective**: Simplify tax structure, reduce compliance burden, improve ease of doing business, reduce tax disputes and align with global VAT systems. ❖ **Other Reforms:** Corrects **inverted duty structures** to reduce input tax credit accumulation.
Challenges and Concerns	❖ **State Resistance:** States (e.g., Bihar, Gujarat, Karnataka) with high SGST dependency fear revenue losses (₹7,000–9,000 crore annually) → may demand compensation. ❖ **Implementation:** Requires unanimous GST Council approval (Centre: 1/3 vote; states: 2/3 vote); Group of Ministers reviewing proposal. ❖ **Revenue Neutrality:** Balancing lower rates with revenue goals; past GST effective rate dropped from **14.4% (2017) → 11.6% (2019, RBI)**. ❖ **Anti-Profiteering:** No provisions to ensure businesses pass on tax cuts to consumers.
Fiscal Outlook (S&P Global)	❖ Reform **boosts compliance & transparency** → long-term revenue gain. ❖ **Fiscal deficit**: 7.3% (2025–26) → 6.6% (2028–29). ❖ **Debt-to-GDP**: 83% (2024–25) → 78% (2028–29); Centre target: 49–51% by 2030–31. ❖ State losses offset by **higher GDP growth & tax base expansion**; Centre's deficit impact **< 0.1% of GDP**.

Topic 6 - Tackling Money Laundering in India	
Syllabus	Economy | Public Finance | Tax Evasion
Context	Despite over 5,800 PMLA cases since 2015, only 15 convictions have been made. Concerns rise over low prosecution, misuse of PMLA, and FATF compliance.
Money Laundering	❖ **Money laundering** is the **process** of concealing, possessing, acquiring, or using proceeds of crime, projecting them as legitimate property (as defined under **Section 3** of the Prevention of Money Laundering Act, 2002 - **PMLA**).
Money Laundering Process	**Typically involves three stages:** ❖ **Placement** – Introducing illicit funds into the financial system, often through methods like **"smurfing"** (breaking down large sums into smaller ones). ❖ **Layering** – Conducting complex transactions to hide the source. ❖ **Integration** – Reintroducing laundered funds into the economy as seemingly legitimate assets (e.g., real estate, businesses etc).
Impact of Money Laundering	❖ Weakens financial system & national security. ❖ Fuels inflation, black money, trade imbalance. ❖ Linked to **terror financing.**
Legal Framework	❖ **Prevention of Money Laundering Act (PMLA), 2002:** ➢ Enacted to fulfill UN's 1990 Political Declaration. ➢ Core legislation criminalizing money laundering in India. ➢ Allows for asset confiscation derived from criminal activity. ➢ Shifts the **burden of proof onto the accused**. ➢ **Recent Regulatory Developments (PMLA 2023)** ■ Expanded scope of reporting entities (incl. NGOs & digital asset providers) and enhanced customer due diligence obligations. ■ Cryptocurrencies & virtual digital assets under AML (Anti-Money Laundering) norms. ■ Mandatory disclosure of beneficial ownership → to close loopholes exploited by criminals. ❖ **Unlawful Activities Prevention Act (UAPA)** addressing terror financing. ❖ **Foreign Exchange Management Act (FEMA)** managing foreign exchange transactions. ❖ **Income Tax Act** tracking foreign income and assets.
Regulatory & Institutional Frameworks	❖ **Financial Intelligence Unit-India** (FIU-IND) → Collects & shares suspicious transaction reports (STRs) and cash transaction reports (CTRs) with enforcement agencies. ❖ **RBI** → Enforces AML via strict KYC & CDD norms for banks/NBFCs.

	❖ **SEBI** (Securities and Exchange Board of India) → Regulates capital markets to curb illicit flows. ❖ **IRDAI** (Insurance Regulatory and Development Authority of India) → Implements AML in the insurance sector. ❖ **ED** → Investigates major financial crimes & enforces PMLA.
Key Challenges	❖ Misuse and politicization of the law. ❖ **Low conviction rate**: Since 2015: 5,892 cases investigated, only ~15 convictions. ❖ **Fragmented enforcement**: Lack of seamless coordination among ED, FIU (Financial Intelligence Unit), RBI, Customs, and the CBI. ❖ **Judicial delays**: PMLA cases often get delayed due to case complexity and court backlogs. ❖ **Technological limitations**: Difficulty tracking layering via digital transactions, cryptocurrencies, and hawala networks. ❖ **Cross-border evasion**: Difficulties in tracing and repatriating assets held abroad. ❖ Weak oversight fuels arbitrary actions.
Way Forward	❖ Enhance prosecution rates by **improving evidence gathering** and legal processes. ❖ Ensure **non-politicized, impartial enforcement** of money laundering laws. ❖ Strengthen **international cooperation** for cross-border laundering and terror financing cases. ❖ **Improve surveillance** of emerging threats like cybercrime, virtual assets, and trade-based money laundering. (Blockchain tracing) ❖ Establish **special fast-track PMLA courts**; capacity-building for judges and prosecutors.

Topic 7 - India's Agricultural Exports	
Syllabus	Economy | Agriculture | Trade
Context	Despite flat overall merchandise exports, India's agricultural exports are showing resilience and are on track to set new records, even amid tariff risks and global competition.
India's Overall Export Performance (2024-25)	❖ Merchandise exports: **$437.4 billion** (↑0.1% from $437.1 billion in 2023-24). ❖ Govt expects FY exports to surpass last year despite **US tariffs (50%)** on Indian goods from Aug 27, 2025.
Agricultural Export Growth	❖ 2024-25: **$51.9 billion** (↑6.4% from $48.8 billion in 2023-24). ❖ Strong performers: **marine products, non-basmati rice, buffalo meat, coffee, tobacco, fruits & vegetables**.
Risks & Challenges	❖ **US tariffs (50%)** may hit marine exports (US takes 35% share; frozen shrimps & prawns worth $1.9B). ❖ Brazilian coffee surplus (due to US tariffs) could depress global prices.
Agricultural Imports & Trade Balance	❖ **2024-25 surplus**: **$13.4B** (exports $51.9B, imports $38.5B) → down from $27.7B in 2013-14. ❖ Imports concentrated in **vegetable oils, pulses and fresh fruits**. ❖ Record **pulses imports** in 2024-25: **7.3M tonnes ($5.5B)** after El Niño drought. ❖ Rising imports of cotton & natural rubber due to declining domestic output.
Trade Negotiations with US	❖ PM Modi: **No compromise** on farmers, livestock rearers, fisherfolk. ❖ India opposes US demand to open markets for **GM maize, soyabean, ethanol, dairy**.

Topic 8 - S&P Global Upgrades India's Sovereign Credit Rating	
Syllabus	Economy
Context	After 18 years, **S&P Global** upgraded India's long-term sovereign credit rating from **BBB (-)** → **BBB**, citing economic resilience, fiscal discipline, and stable policy outlook.
About S&P Global Ratings	❖ One of the world's top **credit rating agencies** (HQ: New York, USA). ❖ Provides **independent credit risk assessments** for governments & corporates. ❖ **Functions:** Public & private ratings, credit risk reports, enhancing investor confidence.

India's Upgrade Details	❖ **Long-term rating:** BBB(-) → BBB (first upgrade since 2007). ❖ **Short-term rating:** A-3 → A-2.
Criteria for Upgrade	❖ Strong GDP growth & robust macro fundamentals. ❖ Fiscal consolidation & better public spending. ❖ Stable monetary policy anchoring inflation.
Significance	❖ Places India stronger in the investment-grade **category**. ❖ Boosts **global investor confidence** → more FPI inflows. ❖ Lowers **borrowing costs** for the government. & corporates. ❖ Strengthens India's position as a **leading emerging economy**. ❖ Future upgrades possible with better **fiscal deficit & debt-to-GDP ratio**.

Topic 9 - Mining of Critical Minerals

Syllabus	Indian Economy | Natural Resources & Industrial Policy
Context	❖ The Rajya Sabha passed the **Mines and Minerals (Development and Regulation) Amendment Bill, 2025** to boost domestic mining of critical minerals such as lithium, cobalt, nickel, pivotal for clean energy and strategic sectors. ❖ It amends the **Mines and Minerals (Development and Regulation) Act, 1957**.

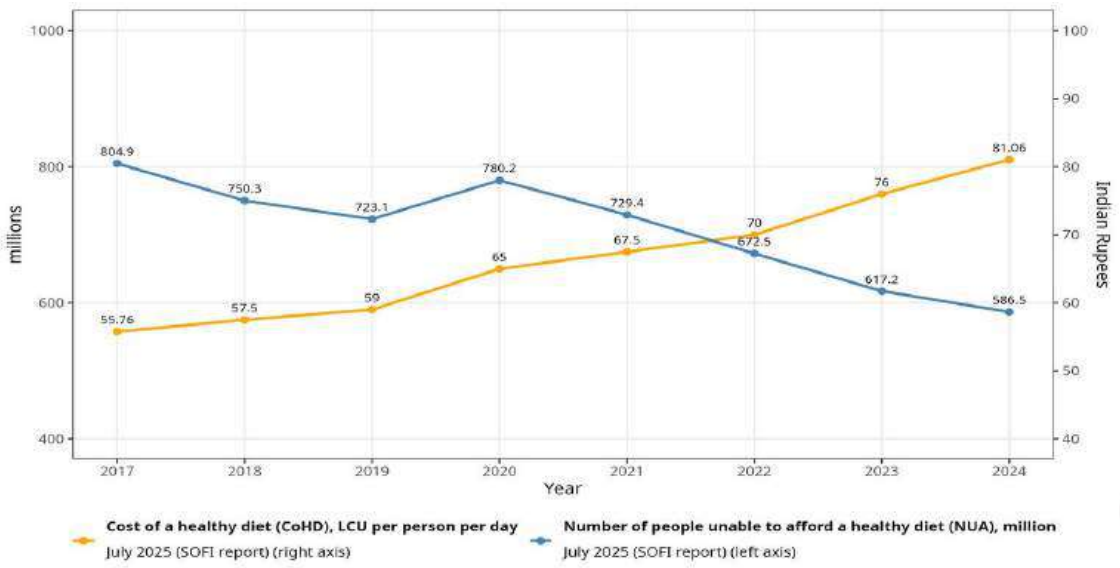
Key Provisions of the Bill

Provision	Details
Inclusion of Minerals in Existing Leases	❖ Lease holders may add new minerals. ➢ **Critical & Strategic minerals** (Lithium, Graphite, Nickel, Cobalt, Gold, Silver) → **no extra royalty/premium**. ➢ **Other minerals** → subject to royalty & auction premium.
National Mineral Exploration & Development Trust (NMEDT)	❖ NMET (National Mineral Exploration Trust) renamed as **NMEDT**. ❖ **Scope expanded**: exploration within India + offshore & abroad. ❖ **Royalty contribution** increased from **2% → 3%**.
Captive Mines: Sale Restriction Removed	❖ Earlier 50% sale cap on surplus minerals removed. ❖ Now: **100% sale permitted** after captive needs are met.
Mineral Exchanges	❖ Union govt. empowered to create **mineral exchanges** for transparent trading.
Lease Area Extension (Deep-Seated Minerals >200m)	❖ One-time extension allowed: ➢ 30% in composite licences. ➢ 10% in mining leases.

Sustainability and Resource Management	❖ Promotes eco-friendly extraction, zero-waste mining, resource efficiency. → Aligned with **National Critical Mineral Mission**.
Boost to Domestic & Strategic Supply Chains	❖ Supports exploration projects, including private and FDI, within India and abroad.

Significance	❖ **Resource Security**: Ensures domestic supply of lithium, cobalt, nickel → reduces import dependence. ❖ **Clean Energy Boost**: Critical for **EVs, solar, energy storage**. ❖ **Strategic Autonomy**: Secures minerals for **defence, aerospace, semiconductors, electronics**. ❖ **Ease of Doing Business**: Removal of extra royalty encourages private investment and FDI. ❖ **Global Positioning** → Enhances India's role in critical minerals supply chains.
Challenges Ahead	❖ **Environmental risks** → Risk to fragile ecosystems, water contamination, displacement of local communities. ❖ **Geopolitical Risks** → Global competition, Chinese dominance in rare earth supply chains. ❖ **Tech capacity gap** → Need for advanced refining/exploration tech. ❖ **Regulatory & Coordination Issues** → Centre–State friction under federal mineral governance.
Background: Mineral Governance in India	❖ **Constitutional Position** → Mines & minerals in **State List**, but Centre regulates via law. ❖ **MMDR Act, 1957 [Mines and Minerals (Development and Regulation)]** → Main law for mineral regulation; amended multiple times. Covers **minor, major,** and now **critical minerals**.
National Critical Mineral Mission (NCMM)	❖ **Launch** → January 2025; **Ministry of Mines**; duration: **2024-25 to 2030-31**. ❖ **Budget** → ₹34,000+ crore (₹16,300 cr Govt. + ₹18,000 cr PSUs/private). ❖ **Focus: 24 critical & strategic minerals** → Lithium, cobalt, nickel, copper, rare earths, etc. → exploration & production (including offshore). ❖ **Objectives** ➢ Reduce **import dependence** on critical minerals. ➢ Secure **supply chain** for clean energy, defence, electronics, EVs. ➢ Cover **entire value chain**: exploration → mining → processing → recycling. ➢ Promote **R&D, skill development, innovation**.
Future Outlook	This Bill can transform India's mining sector into a **pillar of energy transition, Make in India, and self-reliance**. Success, however, will depend on **balancing industrial growth with environmental safeguards and building domestic refining capacity**.

Topic 10 - Path to Ending Global Hunger Runs Through India

Syllabus	Economy | Hunger & Poverty
Context	❖ UN FAO's State of Food Security and Nutrition in the World 2025 report shows global undernourishment at **8.2% (673 million people)**. ❖ India reduced undernourishment by **30 million people** (Currently approx 190 million people are undernourished). 
Hunger – Definition & Types	❖ **Hunger:** Chronic undernourishment due to calorie/nutrient deficit. ❖ **Forms:** ➢ Undernourishment (calorie deficit). ➢ Malnutrition (poor quality diet). ➢ Hidden Hunger (micronutrient deficiency).
Causes of Hunger	❖ **Poverty & Inequality:** 11.28% population still poor (NITI Aayog MPI 2023). ❖ **Low Agri Productivity:** Fragmented land, erratic monsoons, irrigation gaps. ❖ **Post-Harvest Losses:** 13% output wasted; worth ₹92,000 crore annually (ICAR). ❖ **High Food Prices:** Healthy diet unaffordable for 60% (FAO). ❖ **Weak Supply Chains:** Poor cold storage, logistics. ❖ **Climate & Conflicts:** Wars, pandemics, climate shocks reduce food security. ❖ **Health Issues:** 35.5% stunted, 19.3% wasted children (NFHS-5).
Consequences of Hunger	❖ **Human Capital Loss:** Poor learning, reduced productivity. ❖ **Economic Burden:** Costs India **2–3% of GDP** (Global Nutrition Report 2021). ❖ **Health Risks:** TB, diarrhoea, anaemia, blindness, cognitive impairment. ❖ **Social Instability:** Food insecurity → riots, migration, unrest. ❖ **SDG Failure:** Blocks progress on SDG 2 (**Zero Hunger**), SDG 3 (**Good Health and Wellbeing**), SDG 4 (**Quality Education)**, SDG 8 (**Decent Work and Economic Growth**).
India's Role in Combating Hunger	❖ **Food Security:** ➢ NFSA & PMGKAY: Subsidised grains to 800 mn. ➢ ONORC (One Nation One Ration Card): Nationwide portability.

	❖ **Nutrition Schemes:** Promote dietary diversity and tackle micronutrient deficiencies. ➢ PM POSHAN, ICDS, POSHAN Abhiyaan. ➢ Anaemia Mukt Bharat. ❖ **Tech & Digital:** e-NAM, AgriStack, geospatial tools, Bhavishya portal. ❖ **Agri-food Transformation:** Climate-resilient crops, FPOs, women enterprises, cold chain expansion. ❖ **Global Leadership:** FAO hails India as model for Global South in digital PDS & mass food security.
Way Forward	❖ **Nutrition > Calories:** Fortification, subsidies for protein-rich foods. ❖ **Infrastructure:** Expand warehouses, cold chains, farmer cooperatives. ❖ **Affordable Diets:** DBT for fruits, vegetables, pulses, eggs, milk. ❖ **Empower Farmers & Women:** Strengthen FPOs, SHGs, biofortified crops. ❖ **Double Duty Policies:** Address undernutrition + obesity. ❖ **Global Sharing:** Export India's digital PDS & ONORC models.
Conclusion	India's progress in reducing hunger is central to achieving **SDG 2 (Zero Hunger)**. Shifting focus from calories to nutrition, resilience, and agrifood transformation will decide whether the world meets the **2030 hunger elimination goal**.

Topic 11 - India's Green Hydrogen Potential	
Syllabus	Economy | Energy
Context	A **FICCI–EY 2025 report** highlights India's potential to capture **10% of the global green hydrogen market**, if economic & infrastructural challenges are addressed.
About Green Hydrogen	❖ Produced via **electrolysis of water** using renewable energy. ❖ Zero-emission fuel → applications in **steel, fertilisers, mobility, shipping** industry. ❖ Key to reducing **GHG emissions** & meeting **net-zero targets**.
India's Current Efforts	❖ **National Green Hydrogen Mission (2023)** – ₹19,744 cr outlay; target **5 MMT/yr by 2030**. ❖ Needs **125 GW RE capacity**, electrolyser production, water logistics. ❖ **Pilot projects** – ₹208 cr; **37 hydrogen-powered vehicles** + **9 refuelling stations** (next 2 yrs). ❖ **Cost** – Current **$4–4.5/kg** → projected **$3–3.75/kg by 2030**.
Challenges	❖ **High costs** – ~2x grey hydrogen. ❖ Fossil fuel subsidies distort competitiveness. ❖ **Infra gaps** – storage, transport, RE integration.

	❖ **Demand uncertainty** – industries hesitant without offtake guarantees. ❖ **Global competition** – EU, Japan, S. Korea advancing hydrogen import corridors.
Recommendations (FICCI–EY)	❖ **Redirect subsidies** – from fossil fuels → green hydrogen. ❖ **Industry mandate** – hydrogen purchase obligations (steel, fertilisers, shipping). ❖ **Carbon pricing** – tax to boost competitiveness. ❖ **Demand aggregation** – pooled procurement + payment security. ❖ **Export strategy** – target **10 MMT exports** to EU, Japan, S. Korea. ❖ **R&D push** – electrolyser production, startups, private innovation.
Global Context	❖ Market size – $8.78 bn (2024) → $199.22 bn (2034) @ **41.5% CAGR**. ❖ India – $2.81 bn by 2030 @ **56% CAGR (2024–30)**.
Conclusion	India can emerge as a **global green hydrogen hub** by 2030, leveraging **renewables & low-cost power**, but success hinges on **subsidy reforms, demand mandates, infra scale-up, and global tie-ups**, enabling a **10% global market share**.

Topic 12 - Five Years of National Education Policy 2020	
Syllabus	Economy - Social Sector | Education | Governance
Context	The **NEP 2020** completed **5 years** on **29th July 2025**. Despite early implementation in some areas, it still faces hurdles due to **Centre–State disagreements**, slow reforms, and infrastructure gaps.
Key Provisions of NEP 2020	❖ **5+3+3+4 School Structure**: Replaces 10+2, adds preschool years formally into schooling. ❖ **Foundational Literacy & Numeracy**: NIPUN Bharat + PARAKH surveys. ❖ **Mother Tongue in Early Grades**: Up to Grade 5 for cognitive boost. ❖ **Flexible UG Education**: Entry/exit options, Academic Bank of Credits (ABC). ❖ **CUET for UG Admissions**: Single national test to reduce multiple exams. ❖ **Teacher Training Reforms**: National Professionals Standard for Teachers (NPST) + integrated B.Ed for quality enhancement. ❖ **Equity & Inclusion Focus**: Special attention to SC/ST/OBC, minorities, NE states. ❖ **Regulatory Overhaul**: Higher Education Commission of India (HECI) to replace UGC, AICTE (pending). ❖ **Digital & Adult Literacy Push**: Massive Open Online Courses (MOOCs), adult education, tech integration. ❖ **6% of GDP** Target for Education Spending. ❖ **Gross Enrollment Ratio (GER) Goals** ➢ **School Education: 100%** GER by **2030**.

	➢ **Higher Education: 50%** GER by **2035**.
Key Achievements (2020–25)	❖ **Higher Enrolment & Inclusion**: ➢ Total enrolment: 4.46 crore ➢ SC/ST/Muslim/NE students: 36-75% rise ➢ Female PhDs: Doubled to 1.12 lakh ❖ **Early Childhood Education (ECCE)**: ➢ 1.1 crore in Balvatikas. ➢ 4.2 crore completed Vidya Pravesh. ➢ Tools: **Jaadui Pitara**, play-based kits. ❖ **FLN Gains (NIPUN Bharat)**: ➢ Class III reading (ASER 2024): 23.4% (up from 16.3%). ❖ **Credit Flexibility**: ➢ 32 crore ABC IDs, 2,556 institutions onboarded ❖ **Global & CUET Impact**: ➢ CUET reduced coaching load ❖ IIT/IIM campuses abroad (Dubai, Zanzibar).
Key Challenges	❖ **Federal Pushback**: ➢ Tamil Nadu, Kerala resist 3-language rule, PM SHRI over centralisation fears. ❖ **Pending Reforms**: ➢ HECI Bill not passed ➢ Board exam reform incomplete ➢ NCFTE (Teacher Curriculum) not yet released. ❖ **Low ABC (**Academic Bank of Credits) **Usage**: ➢ UG: ~31,000 | PG: ~5,500 ❖ **Digital & Infrastructure Gaps**: ➢ Many rural schools lack staff, tools, and training.
Way Forward	❖ **Centre–State Cooperation**: Local MoUs, context-specific reforms. ❖ **Strengthen ECCE**: Upgrade Anganwadis, scale Vidya Pravesh. ❖ **Enact HECI**: Merge regulators for unified oversight. ❖ **Boost ABC/NCrF Awareness**: University-level outreach. ❖ **Equity & Financing**: Dashboards for caste/gender; blended finance support.
Conclusion	NEP 2020 has made strides in **enrolment, early learning, and flexibility**, but challenges in **implementation, federal alignment, and digital inclusion** must be addressed. Strategic, inclusive, and tech-driven reforms are key to realizing its full potential.

Topic 13 - Framework for Responsible & Ethical AI (FREE-AI)	
Syllabus	Economy
Context	The Reserve Bank of India (RBI) released a report by its committee on the **Framework for Responsible and Ethical Enablement of Artificial Intelligence (FREE-AI)** in the financial sector, aiming to balance **innovation** with **risk mitigation**.
About FREE-AI Committee	❖ **Formation:** Announced in RBI's policy statement (6 Dec 2024). ❖ **Chairperson:** Dr. Pushpak Bhattacharyya. ❖ **Mandate:** Promote responsible AI adoption with **transparency, accountability, fairness** & **customer protection**.
Need for AI in Financial Sector	❖ **Efficiency & Automation** – Faster transactions, fraud detection, loan approvals. ❖ **Data-Driven Decisions** – Better credit scoring, risk assessment, investment strategies. ❖ **Customer Experience** – Chatbots, voice assistants, personalised services. ❖ **Fraud Prevention** – Real-time anomaly detection for cybersecurity. ❖ **Regulatory Compliance** – Automated adherence to RBI/SEBI norms.
RBI's 7 Sutras for AI	❖ **Trust is the Foundation** – Transparency & reliability. ❖ **People First** – Support human decision-making. ❖ **Innovation over Restraint** – Encourage responsible growth. ❖ **Fairness & Equity** – Remove bias, ensure equal access. ❖ **Accountability** – Institutions own AI decisions. ❖ **Understandable by Design** – Explainable models. ❖ **Safety, Resilience, Sustainability** – Secure & adaptable systems.
Key Recommendations	❖ **Shared Infrastructure** – Common data/compute facilities. ❖ **AI Innovation Sandbox** – Controlled experimentation. ❖ **Indigenous AI Models** – Tailored to Indian needs. ❖ **Board-Approved AI Policy** – Governance & operational rules. ❖ **Expanded Product Approval** – AI risk assessments before launch. ❖ **Consumer Protection & Audit** – AI-specific grievance checks. ❖ **Enhanced Cybersecurity & Reporting** – Stronger incident response.
Conclusion	AI can revolutionise India's financial sector through **efficiency, security, and improved customer trust**. However, **ethical safeguards** and **clear accountability** are essential to ensure fairness, transparency, and sustainable adoption.

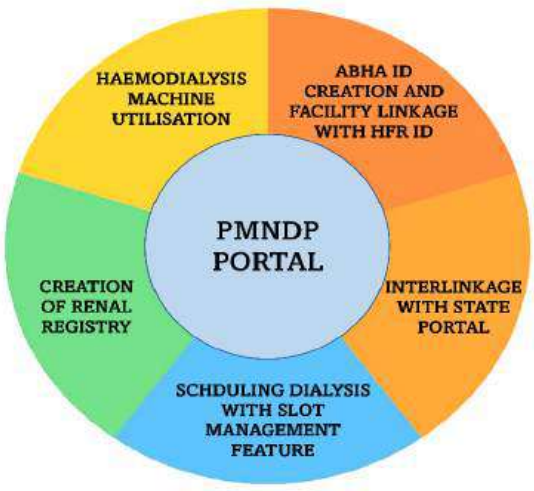
Govt Schemes

Topic 1 - Sanchar Mitra Scheme	
Syllabus	Governance, Digital India, Cybersecurity
Context	The Department of Telecommunications (DoT) has expanded the **Sanchar Mitra Scheme** into a **nationwide outreach programme** to enhance **digital literacy** and **cyber safety** among citizens.
What is the Sanchar Mitra Scheme?	❖ A **volunteer-based digital awareness initiative** by the **Ministry of Communications, Department of Telecommunications (DoT)** that trains university students to act as digital safety ambassadors, promoting responsible telecom usage and cyber hygiene.
Objectives	❖ Promote **digital literacy** and **cyber hygiene**. ❖ Bridge the gap between **citizens and telecom services**. ❖ Empower **youth as Sanchar Mitras** to raise community awareness.
Key Features	1. **Volunteer Engagement:** Students from telecom, electronics, CS, cybersecurity fields. 2. **Specialized Training:** By NCA-T & DoT in 5G, 6G, AI, EMF safety, cybersecurity. 3. **Community Outreach:** Public awareness drives, NGO collaboration, rural focus. 4. **Incentives & Recognition:** Internships, India Mobile Congress invites, global forum exposure. 5. **Pan-India Rollout:** Active in Assam with expansion via IITs, NITs, IIITs.
Significance for India	❖ **Digital Inclusion:** Increases participation in Digital India mission. ❖ **Cybersecurity Awareness:** Tackles rising digital threats & misinformation. ❖ **Youth Empowerment:** Taps into student power for digital transformation.
Conclusion	The **Sanchar Mitra Scheme** strengthens grassroots-level digital empowerment and cyber resilience by training youth as responsible digital citizens—key to a secure and inclusive Digital India.

Topic 2 - Schemes for Women Cooperatives	
Syllabus	**Governance | Economy | Women Empowerment**
Context	NCDC is actively implementing two major schemes - **Swayamshakti Sahakar Yojna** and **Nandini Sahakar** - to empower women-led cooperatives and promote rural entrepreneurship.
Swayamshakti Sahakar Yojna	❖ **Aim**: Affordable credit to **women-led SHGs** and **cooperatives** for livelihood generation. ❖ **Launched by**: National Cooperative Development Corporation (NCDC). ❖ **Key Features**: ➢ Targets **PACS**, **DCCBs**, **StCBs**, and SHG federations. ➢ Supports **collective socio-economic activities** in rural areas. ➢ Promotes **financial inclusion**, self-reliance, and **women empowerment**.
Nandini Sahakar	❖ **Aim**: Comprehensive support to women cooperatives for **business development** and **capacity building**. ❖ **Key Features**: ➢ Excludes **urban housing** but includes all other sectors (agri, dairy, manufacturing, etc.). ➢ Provides **financial aid**, **entrepreneurial training**, and **interest subvention**. ➢ Focuses on **Atmanirbhar Bharat** through women-led cooperative models.

Topic 3 - Grant in Aid to National Cooperative Development Corporation (NCDC) Scheme	
Syllabus	Economy | Cooperatives & Rural Development
Context	The Union Cabinet has approved a new **Central Sector Scheme** to strengthen cooperatives by providing budgetary support to the NCDC for project financing and working capital needs.
Key Points	❖ **Ministry:** Ministry of Cooperation → Central Sector Scheme. ❖ **Duration & Outlay:** ₹2,000 crore for **4 years** (FY 2025-26 to FY 2028-29), (₹500 crore/year). ❖ **Funding Source:** 100% **budgetary support** from the Government of India. ❖ **Market Leverage:** Grant enables NCDC to **raise ₹20,000 crore** from the open market over 4 years. ❖ **Objective:** To provide financial support to cooperatives across India for: ➢ Setting up **new projects** ➢ **Expansion/modernization** of existing plants ➢ Meeting **working capital** requirements.

	❖ **Beneficiaries: ~2.9 crore members** from **13,288 cooperative societies** in sectors like Dairy, Fisheries, Sugar, Textile, Food Processing, Storage, Labour, and Women-led cooperatives.
Implementation Strategy	❖ **Executing Agency:** NCDC – responsible for **disbursement, monitoring, follow-up, and recovery** of loans. ❖ **Loan Route:** Through **state governments** or **directly** as per NCDC guidelines. ❖ **Loan Types:** ➢ Long-term credit for **setup, modernisation, technology upgradation, expansion**. ➢ **Working capital** to run businesses efficiently.

Topic 4 - PM National Dialysis Programme (PMNDP)	
Syllabus	Science | Health
Context	The Govt. of India has expanded the **PM National Dialysis Programme** to cover **all 36 States/UTs and 751 districts**, ensuring nationwide access to free dialysis.
Key Features	❖ **Launch Year:** 2016 ❖ **Nodal Ministry: Ministry of Health & Family Welfare**. ❖ **Aim:** Provide **free dialysis services** for *Below Poverty Line (BPL) patients* with **end-stage kidney failure**. ❖ **Implementation:** Under **National Health Mission (NHM)** in **Public-Private Partnership (PPP) mode**. ❖ **Services Covered:** ➢ Haemodialysis ➢ Peritoneal Dialysis ❖ **PMNDP Portal:** ➢ Integrates all dialysis centres under NHM. ➢ Builds **renal registry**. ➢ Ensures **One State-One Dialysis → One Nation-One Dialysis** portability. ❖ **Funding:** NHM provides **financial support** to States/UTs for setup & operation. 
Significance	❖ **Equitable Access** – Free dialysis across geography. ❖ **Financial Relief** – Reduces out-of-pocket expenses for poor patients. ❖ **Health Infrastructure Boost** – Expansion of district-level kidney care facilities. ❖ **National Integration** – Towards **One Nation-One Dialysis** model.

History

Topic 1 - Piprahwa Relics	
Syllabus	Art & Culture | Religion
Context	The Indian government, through the Ministry of Culture, secured the **repatriation of Piprahwa relics** that surfaced for auction abroad, preventing their sale and restoring them to India.
Key Facts & Details	❖ **Associated with:** Mortal remains of **Lord Buddha**. ❖ **Components:** Bone fragments, **soapstone & crystal caskets**, sandstone coffer, gold ornaments, gemstones. ❖ **Historical Proof: Brahmi inscription** confirms relics were deposited by the **Sakya clan**. ❖ **Discovery:** ➢ Year: **1898** ➢ Excavator: **William Claxton Peppé** ➢ Location: Piprahwa (south of Lumbini, Buddha's birthplace). ❖ **Colonial Transfer:** ➢ Claimed under **Indian Treasure Trove Act, 1878**. ➢ Bone & ash fragments gifted to **King Chulalongkorn of Siam (Thailand)**. ❖ **Custody:** Majority of relics moved to **Indian Museum, Kolkata** in 1899, some remained with Peppé family. ❖ **Legal Status:** Classified as **'AA' antiquities** → cannot be removed or sold under Indian law.

Topic 2 - Mahabodhi Temple

Syllabus	History | Art & Culture
Context	❖ The Supreme Court agreed to review a petition seeking **repeal of Bodh Gaya Temple Act, 1949**. ❖ **Demand**: Replace with a **central law** for better management of Mahabodhi Temple, Bihar.
About Mahabodhi Temple 	❖ Marks the site where **Gautama Buddha attained enlightenment (6th century BCE)** under the Bodhi tree. ❖ **One of Buddhism's Four Sacred Sites**: ➢ Lumbini (Birth) ➢ Sarnath (First Sermon) ➢ Kushinagar (Parinirvana) ➢ **Bodh Gaya (Enlightenment)** ❖ **Location**: Bodh Gaya, Bihar on the banks of the **Niranjana (Phalgu) River**.
History	❖ Originally built by **Emperor Ashoka (3rd century BCE)**. ❖ Current temple: **Gupta Period (5th–6th Century AD)**. ❖ Restored in **19th century** by Myanmar Buddhists & Sir Alexander Cunningham. ❖ Visited by Chinese pilgrims Faxian (5th century) and Hiuen Tsang (7th century). ❖ Declared a **UNESCO World Heritage Site (2002)**.
Architecture & Features	❖ Built primarily of **brick** (one of the oldest brick structures in eastern India). ❖ **Main temple**: 55 m high Central tower (shikhara) with four smaller towers at the corners **(pyramidal spire)** → crowned by a stupa. ❖ Contains **Vajrasana Throne** → believed to be the exact spot of Buddha's meditation. ❖ Surrounded by railings of **Sandstone** & **Granite**.
Administration & Controversy	❖ Governed by the **Bodh Gaya Temple Act, 1949 (BGTA)** under the **Bihar State Government**. ❖ **Management committee**: 4 Hindus + 4 Buddhists; DM (usually Hindu) as Chairperson. ❖ Buddhists demand repeal of BGTA for exclusive control. ❖ Recent protests led by All India Buddhist Forum (AIBF). ❖ **Legal hurdles**: Places of Worship Act, 1991 restricts change in religious character post-1947.

Topic 3 - Kakori Train Action	
Syllabus	Modern History of India | Revolutionary Activities
Context	**100th** Anniversary of Kakori Train Action (**9 Aug 1925** at **Kakori (near Lucknow, UP)**).
The Incident 	❖ **Target**: Number 8 Down Train (Shahjahanpur → Lucknow). ❖ **Aim**: Seize British government funds to finance revolutionary activities ❖ **Leaders**: Ram Prasad Bismil, Ashfaqullah Khan, Chandrashekhar Azad, Rajendra Lahiri, Manmathnath Gupta.
British Reaction	❖ **Kakori Conspiracy Case (1925)** launched. ❖ **Executions**: Bismil, Ashfaqullah Khan, Rajendra Lahiri, Roshan Singh hanged. ❖ Many others were imprisoned.
Significance	❖ Marked shift ➢ in the **freedom struggle** from moderate (non-violent) to **armed revolutionary nationalism.** ➢ **in revolutionary strategy** → from small secret actions to larger, organized operations. ❖ First major armed action by HRA; shook British administration, inspired youth nationwide (E.g. Bhagat Singh). ❖ Symbol of **Hindu-Muslim unity in freedom struggle** (Bismil & Ashfaqulla).
Aftermath	❖ **Setback** to revolutionaries in North India, but not fatal. ❖ **Hindustan Republican Association (HRA)** later reorganised into **HSRA (1928, Delhi)**.
Revolutionary Organisations	❖ **HRA (1924, Kanpur)** ➢ **Leaders**: Ram Prasad Bismil, Ashfaqullah Khan, Sachindranath Sanyal, Jogesh Chandra Chatterjee. ➢ **Aim**: To establish a **Federal Republic of United States of India** (with adult suffrage) through armed revolution. (Manifesto → **Krantikari** - 1925) ❖ **HSRA (1928, Feroz Shah Kotla, Delhi)** ➢ **Leaders**: Bhagat Singh, Sukhdev, Azad, Shiv Verma. ➢ **Aim**: To establish a **Socialist Republic in India**.

Topic 4 - Lokmanya Bal Gangadhar Tilak	
Syllabus	Modern History of India | Personalities
Context	On Tilak's death anniversary (1st Aug 1920), Union Home Minister paid tribute.
Who Was He?	❖ Revolutionary nationalist, scholar, journalist, freedom fighter. ❖ **Titles**: Lokmanya (people's leader), Father of Indian Unrest (British - Valentine Chirol), Maker of Modern India (Gandhi).
Background 	❖ **Born**: 23 July 1856, Ratnagiri, Maharashtra. ❖ **Education**: B.A. & LL.B. from Deccan College, Pune. ❖ **Institutions**: Co-founded **Deccan Education Society (1884)** & **Fergusson College (1885)** to promote modern yet nationalist education.
Contributions to Freedom Struggle	❖ **Political Philosophy:** Declared "Swaraj is my birthright and I shall have it", making self-rule the central goal. ❖ **Cultural Nationalism:** Organised **Ganesh Utsav (1893)** and **Shivaji Jayanti** → to mobilise common people & national unity. ❖ **Journalism: Kesari (Marathi)** and **The Mahratta (English)** → exposed colonial exploitation and spread nationalist awareness. ❖ **Leadership in Extremist Phase:** Advocated boycott, swadeshi, passive resistance; formed the **Lal-Bal-Pal** trio. ❖ **Brokered Lucknow Pact (1916)** → Hindu-Muslim unity in national struggle. Bridged the divide between moderates and extremists ❖ **Home Rule Movement (1916):** With Annie Besant → demand for self-government. ❖ **Intellectual Contribution:** ➢ **Gita Rahasya** → philosophical interpretation of Gita (karma over renunciation). ➢ **Orion** & **Arctic Home in the Vedas** → research on ancient Vedic culture. ❖ **Social reform**: Supported education, women's uplift.
Controversies & Imprisonment	❖ **Sedition Charges**: ➢ 1897: Imprisoned for writings in Kesari after plague commissioner Rand's assassination. ➢ 1908: Jailed in **Mandalay (Burma) for 6 years**. ❖ **Congress Split (Surat, 1907):** Clash with Moderates → divided Congress into **Extremists vs Moderates**. ❖ Conservative on certain reforms (e.g., age of marriage).
Death, Impact & Legacy	❖ **Died**: 1 Aug 1920, Mumbai. ❖ Radicalised the national movement beyond petitions and constitutional methods. ❖ Inspired Gandhi and later leaders; Gandhi called him the "Maker of Modern India."

	❖ His methods sowed seeds of mass mobilisation (Non-Cooperation and Civil Disobedient Movements) and cultural pride that strengthened the freedom movement.

Topic 5 - Mahatma Jyotiba Phule	
Syllabus	Modern History of India | Personalities
Context	PM announced year-long celebrations of **Jyotiba Phule's 200th birth anniversary**.
 **About Jyotiba Phule**	❖ **Full Name**: Jyotirao Govindrao Phule ❖ **Born**: 11 April 1827, Satara (Maharashtra) ❖ **Identity**: Social reformer, thinker, writer, activist. ❖ **Background**: Born in Mali caste (Shudra), overcame caste barriers to gain education. ❖ **Title**: **"Mahatma"** conferred in 1888 by social reformer **V. R. Shinde**.
Key Contributions	❖ **Women's Education** ➢ Opened **India's 1st girls' school (1848, Pune)**. ➢ Educated his wife **Savitribai Phule** – India's 1st female teacher. ❖ **Caste Equality** ➢ Established **'Satyashodhak Samaj' (Truth-Seekers' Society, 1873)** → to fight caste oppression and brahmanical dominance. ➢ Opened his **well to all castes** – symbol of inclusivity. ❖ **Social Evils** ➢ Opposed **child marriage**, supported **widow remarriage**. ➢ Established **shelters for widows & orphans** (Balhatya Pratibandhak Griha). ❖ **Literature & Ideas** ➢ Wrote **Gulamgiri (1873)** – compared caste oppression with slavery in America. ➢ **Shetkaryacha Asud (The Whipcord of the Peasant)** → highlighted farmer's struggles. ➢ Tritiya Ratna (Drama) ❖ Advocated **land rights for cultivators** and dignity of labour.
Legacy	❖ **Inspired**: B.R. Ambedkar & later anti-caste movements. ❖ **Significance**: ➢ Foundation of **social justice & equality** in modern India. ➢ **Universal education** as tool for empowerment.

Topic 6 - Sri Aurobindo Ghose	
Syllabus	Modern History of India | Personalities
Context	PM paid homage on **Aurobindo's birth anniversary (15 Aug 1872 – 5 Dec 1950)**.
About Aurobindo	❖ **Born**: Kolkata, West Bengal. ❖ **Identity**: Nationalist, poet, philosopher, yogi.
Key Contributions 	❖ **Political Contribution**: ➢ Associated with **extremist wing of INC** → Critic of Congress moderates (through writings like **"New Lamps for Old"**). ➢ Advocated **Swaraj, boycott, Swadeshi, national education** (Bengal National College). ❖ **Revolutionary Role**: ➢ Co-founded **Anushilan Samiti** (youth revolutionary group). ➢ Arrested in **Alipore Bomb Case (1908)**. ❖ **Journalism**: Linked with **Jugantar, Bande Mataram, Karmayogi**. ❖ **Spiritual Role**: ➢ Founded **Sri Aurobindo Ashram, Pondicherry (1926)** with Mirra Alfassa ("The Mother"). ➢ Advocated **Integral Yoga** (synthesis of material and spiritual progress) & **spiritual nationalism**. ❖ **Literary Works**: The Life Divine, Savitri, Essays on the Gita, Synthesis of Yoga, Defence of Indian Culture.
Values & Legacy	❖ Propounded **Five Dreams** in 1947: spiritual awakening, unity of India, resurgence of Asia, world unity, and human evolution ❖ **Significance**: Blended **freedom struggle with spiritual philosophy**, shaping India's cultural nationalism.

Science and Technology

Topic 1 - A New Human Blood Group – CRIB	
Syllabus	Science & Technology | Health
Context	❖ In 2025, scientists from **India** and the **UK** identified a new, extremely **rare blood group** called **CRIB** in a 38-year-old woman from Kolar, near Bengaluru, **Karnataka**.
What is the CRIB Blood Group?	❖ **CRIB** stands for **Cromer India Bengaluru → Cromer** (blood group system) and **India-Bengaluru** (the location of discovery). ❖ It is a **new antigen** under the **Cromer (CR) blood group system**. ❖ **Classification**: Not linked to **ABO or Rh** systems; it falls under the **INRA (Indian Rare Antigen)** system.
Uniqueness of CIRB	❖ **Absence** of a high-prevalence **antigen** → causes **panreactivity** → blood was **incompatible** with **all known donor samples** → makes **transfusion nearly impossible**. ❖ Only **one known individual** with CRIB blood type globally → **rarest blood group** ever discovered.
Scientific & Medical Importance	❖ Advances understanding of **rare blood types** and **transfusion medicine**. ❖ Highlights India's role in rare blood group research given its genetic diversity. ❖ Shows the **need for rare blood donor registries** and global cooperation in blood research. ❖ Could impact **maternal-fetal medicine**, **emergency care**, and **organ transplant compatibility**.
Cromer Blood Group System	❖ One of **47 internationally recognized blood group systems**. ❖ A blood group system based on **antigens** associated with **glycoproteins in red blood cell membranes**. ❖ Includes both **common and rare antigens**. ❖ Antibodies against rare antigens may develop due to: **pregnancy, transfusion, or genetic mutations**.

Topic 2 - Darwin Tree of Life (DToL) Project	
Syllabus	Science & Technology | Bio Technology
Context	The first phase of the **Darwin Tree of Life (DToL) Project** is nearing completion, marking a major step in global efforts to decode the genetic blueprint of complex life.
About DToL Project	❖ **Aim:** Sequence genomes of **70,000 eukaryotic species** in Britain & Ireland. ❖ Part of the global **Earth BioGenome Project** to sequence all complex life on Earth. ❖ Uses **advanced DNA sequencing** & **computational tools** to map genetic diversity. ❖ Collaborative effort of **10 biodiversity, genomics & analysis partners**.
Eukaryotes Overview	❖ Found in **protists, plants, animals, fungi**. ❖ Have a **clearly defined nucleus** enclosed by a nuclear membrane. ❖ Contain **organelles** like mitochondria, Golgi apparatus. ❖ **Reproduction:** ➢ **Asexual:** Mitosis ➢ **Sexual:** Meiosis & gamete fusion.

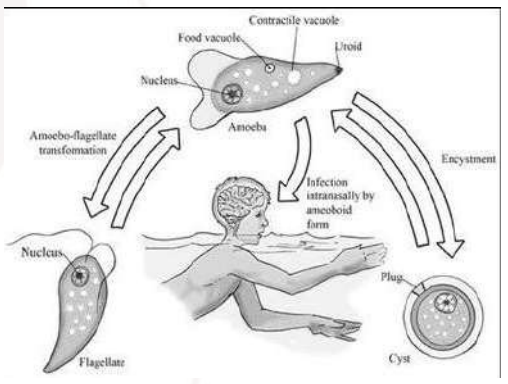
Topic 3 - Bioactive Peptides (BAPs)	
Syllabus	Science | Health & Nutrition
Context	**Institute of Advanced Study in Science and Technology (IASST), Guwahati** study shows that bioactive peptides in fermented foods offer population-specific health benefits → potential for personalised nutrition in India.
About Bioactive Peptides (BAPs)	❖ Short protein fragments (2–20 amino acids) produced during food fermentation (yogurt, idli, miso, kimchi, natto, fermented fish). ❖ Inactive in **precursor proteins** → become active after enzymatic hydrolysis/fermentation. ❖ **Properties:** Antimicrobial, antihypertensive, antioxidant, immune-modulatory.
Aim of Research	❖ Regulate **BP, blood sugar, immunity, inflammation**. ❖ Develop **precision nutrition** for India's genetically & culturally diverse population.
Key Features	❖ **Mechanism:** Work via electrostatic forces, H-bonds, hydrophobic interactions. ❖ **Health Impact:** Affect heart health, metabolism, and immune response. ❖ **Personalised Response:** Varies by **genes (ACE, IL-6), gut microbiota, diet**. ❖ **Research Tools:** Omics-based studies recommended.
Significance	❖ **Public Health:** Can fight hypertension, diabetes, immunity-related disorders.

	❖ **Cultural Value:** Showcases India's traditional fermented foods in **global nutrition science**.

Topic 4 - African Swine Fever (ASF)	
Syllabus	Science |Health
Context	A confirmed outbreak of **African Swine Fever (ASF)** at a pig farm in **Ravas Brahmanan village, Patiala** has prompted swift containment measures by local authorities.
About African Swine Fever (ASF)	❖ **Nature:** Highly **contagious** hemorrhagic **viral disease** affecting **pigs** & **wild boar**. ❖ **Human Impact:** No effect on humans or other animal species. ❖ **Mortality Rate:** Extremely high (**90–100%**), causing major piggery losses. ❖ **Global Spread:** Originated in **sub-Saharan Africa**, now in **Europe, Asia & Africa**. ❖ **India Presence:** First confirmed in **Arunachal Pradesh & Assam** (Feb–Mar 2020).
Transmission	❖ **Direct Contact** between infected pigs. ❖ **Contaminated Feed** (e.g., uncooked meat, sausages). ❖ **Vectors:** Soft ticks. ❖ **Fomites:** Vehicles, clothes, equipment.
Symptoms	❖ High fever, weakness, loss of appetite. ❖ Red skin, inflamed eyes, diarrhea (possibly bloody), vomiting.
Prevention	❖ No effective vaccine. ❖ **Control Measure:** Strict **biosecurity** & **culling** of infected pigs.

Topic 5 - Lyme Disease	
Syllabus	Science | Health & Diseases
Context	Singer **Justin Timberlake** recently revealed he was suffering from **Lyme Disease** during his world tour.
About Lyme Disease	❖ **Cause:** Bacteria Borrelia burgdorferi. ❖ **First identified: 1976, Lyme (Connecticut, USA)**. ❖ **Also called:** Lyme borreliosis. ❖ **Distribution:** North America, Europe & parts of Asia. ❖ **Organs affected:** Skin, joints, heart & nervous system.

Transmission	❖ Spread via **tick bites** (esp. in wooded/grassy areas). ❖ Not spread person-to-person / through food, water, air, or pets. ❖ Mosquitoes, fleas, flies **do not transmit** it.
Symptoms	❖ **Early signs:** Fever, headache, fatigue. ❖ **Distinctive rash:** Erythema migrans (bull's-eye rash). ❖ **Untreated cases:** Severe arthritis, heart & nervous system damage.
Treatment/ Prevention	❖ **Antibiotics** effective if given early. ❖ Some patients may face **lingering symptoms** even post-treatment.

Topic 6 - Brain-Eating Amoeba	
Syllabus	Science | Health
Context	3 new cases of brain-eating amoeba reported in Kerala, including the death of a 9-year-old child → raising public health concerns.
About the Amoeba	❖ A free-living protozoa → **Naegleria fowleri**. ❖ Causes **Primary Amoebic Meningoencephalitis (PAM)** → rare but mostly fatal brain infection. 
Transmission & Habitat	❖ Entry: Through **nose** while swimming/bathing in contaminated freshwater. ❖ Migration: Reaches **brain → destroys tissue**. ❖ Not spread via **drinking water** or **person-to-person**. ❖ Found in: Warm freshwater (lakes, rivers, pools, splash pads), survives up to **46°C**.
Symptoms	❖ **Early:** Headache, fever, nausea, vomiting. ❖ **Later:** Stiff neck, confusion, seizures, hallucinations, coma. ❖ Death within **5–18 days** if untreated.
Treatment/ Prevention	❖ No single proven cure. ❖ Current therapy = **Amphotericin B + Miltefosine + Fluconazole + Azithromycin**. ❖ Global survival rate: ~3%, but **Kerala shows better outcomes** with early detection.

Topic 7 - Why India Needs a National Space Law	
Syllabus	Science & Technology | Space
Context	India, while celebrating **National Space Day (23 Aug)** and advancing missions like **Chandrayaan-3 follow-ups & Gaganyaan**, still lacks a **comprehensive national space law** to regulate private and commercial activities in space.
What is Space Law?	❖ A legal framework for **exploration, safety, liability & commercial use** of outer space. ❖ Balances **international treaty commitments** with **domestic regulation**.
Outer Space Treaty (1967) – Key Principles	❖ **Common Heritage** → No national ownership of space. ❖ **Peaceful Use** → No weaponisation of outer space. ❖ **State Responsibility** → Nations accountable for govt. + private activities. ❖ **Liability Clause** → Nations liable for damages from their space objects. ❖ **International Cooperation** → Encourages scientific exchange & sustainable exploration.
Why India Needs a Space Law	❖ **Legal Clarity** → Stable framework for govt. & private players, reduces red tape. ❖ **Safety & Compliance** → Standards for licensing, debris management and accident probe. ❖ **Boost to Private Sector** → Clear IP, FDI, licensing norms attract capital & startups. ❖ **Insurance & Liability** → Protects startups & India from costly global claims. ❖ **Talent & Innovation** → Secures IP rights, prevents talent drain abroad.
India's Current Approach	❖ **Ratified UN treaties**, but **no umbrella law**. ❖ **Indian Space Policy 2023** → Promotes private participation. ❖ **IN-SPACe Norms** → Authorisation guidelines, but **no statutory power**. ❖ **Catalogue of Standards** → Ensures safety/quality. ❖ **Gap**: Absence of binding legal authority.
Challenges	❖ **Regulatory Fragmentation** → Multiple ministries, delays in clearances. ❖ **Weak IN-SPACe Authority** → Functions via executive order, no legal backing. ❖ **Liability Risks** → India liable under OST, startups face huge insurance costs. ❖ **FDI Uncertainty** → Limited, unclear rules → investors prefer Luxembourg, UAE. ❖ **IP Concerns** → No strong protection → talent & tech may shift abroad.
Way Forward	❖ **Pass Space Activities Law** → Define roles, liability norms, align with OST. ❖ **Empower IN-SPACe** → Full statutory powers, single-window regulator. ❖ **Insurance Models** → Govt-backed reinsurance like France's debris liability cover.

	❖ **Liberalise FDI** → Allow 100% automatic route in satellite services/components. ❖ **Strengthen IP Ecosystem** → Protect patents, foster industry–academia–govt. R&D.
Conclusion	India is shifting from **state-led exploration to private-led commercialisation**, but regulatory gaps threaten growth. A **comprehensive national space law** will ensure compliance, boost investor confidence, and position India as a **global leader in space governance**.

Topic 8 - Human Outer Planet Exploration (HOPE)

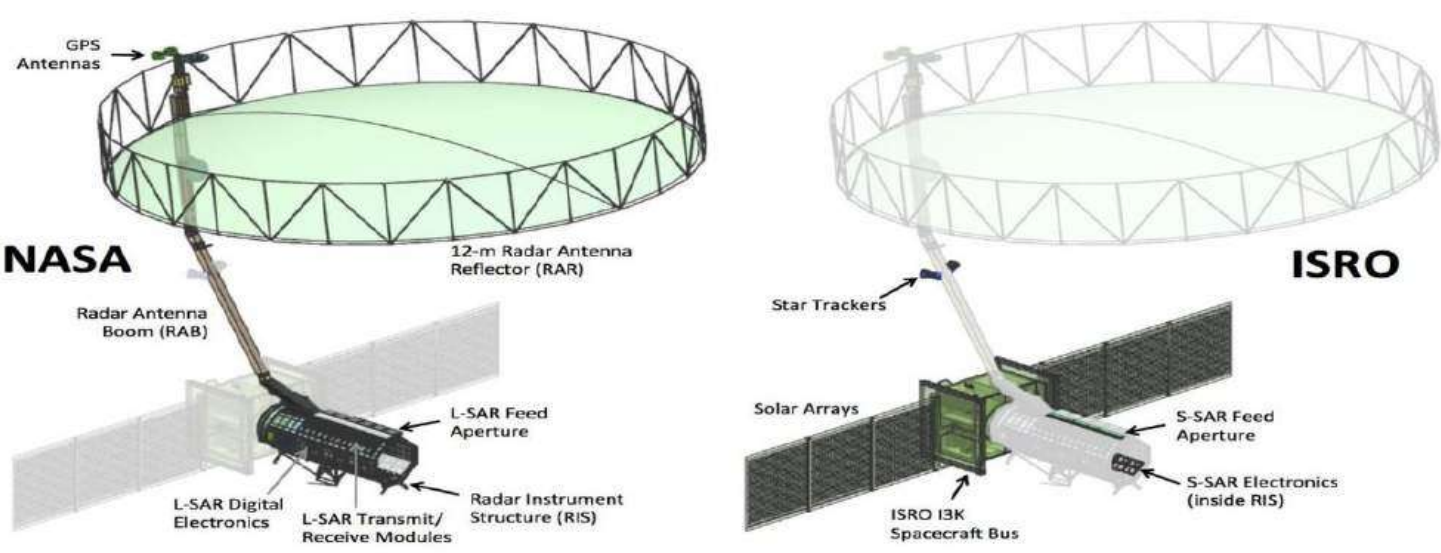
Syllabus	Science & Technology | Space Exploration
Context	Bengaluru-based space tech firm **Protoplanet**, in collaboration with **ISRO**, has set up the **Human Outer Planet Exploration (HOPE)** analogue station in **Ladakh's Tso Kar** region to simulate Moon and Mars-like conditions for research and training.
India's HOPE (Analog Mission – Different from NASA's future-oriented HOPE mission)	❖ **Led by:** Bengaluru startup **Protoplanet** with **ISRO's Human Spaceflight Centre**. ❖ **Location: Tso Kar Valley, Ladakh** → Mars-like terrain & climate (high-altitude cold desert). ❖ **Purpose:** Simulate long-duration **future crewed interplanetary missions** (Mars/Moon). ❖ **Focus Areas:** Testing human factors (psychology, physiology), life support, fresh food production, and EVA operations. ❖ **Significance:** ➢ Helps India prepare for **future crewed exploration & space station goals**. ➢ India's HOPE is a **complementary effort** to global missions, enhancing domestic readiness.
Analogue stations	❖ **Testing grounds** for space tech, crew training, habitability studies, & life detection. ❖ **Global Analogue Stations: 33 worldwide** notable ones: ➢ **BIOS-3** (Russia), **HERA** (USA), **SHEE** (Europe), **MDRS** (USA).

NASA HOPE vs India's HOPE (Analog Mission)

Aspect	NASA HOPE (Outer Planet Exploration)	India's HOPE (Analog Station Mission)
Nature	Futuristic **crewed mission beyond Mars concept** under NASA's RASC (Revolutionary Aerospace Systems Concepts)	**Earth-based simulation mission** by Protoplanet with ISRO support
Target	**Outer Solar System** – Callisto (moon of Jupiter)	Mars/Moon-like environment **on Earth**

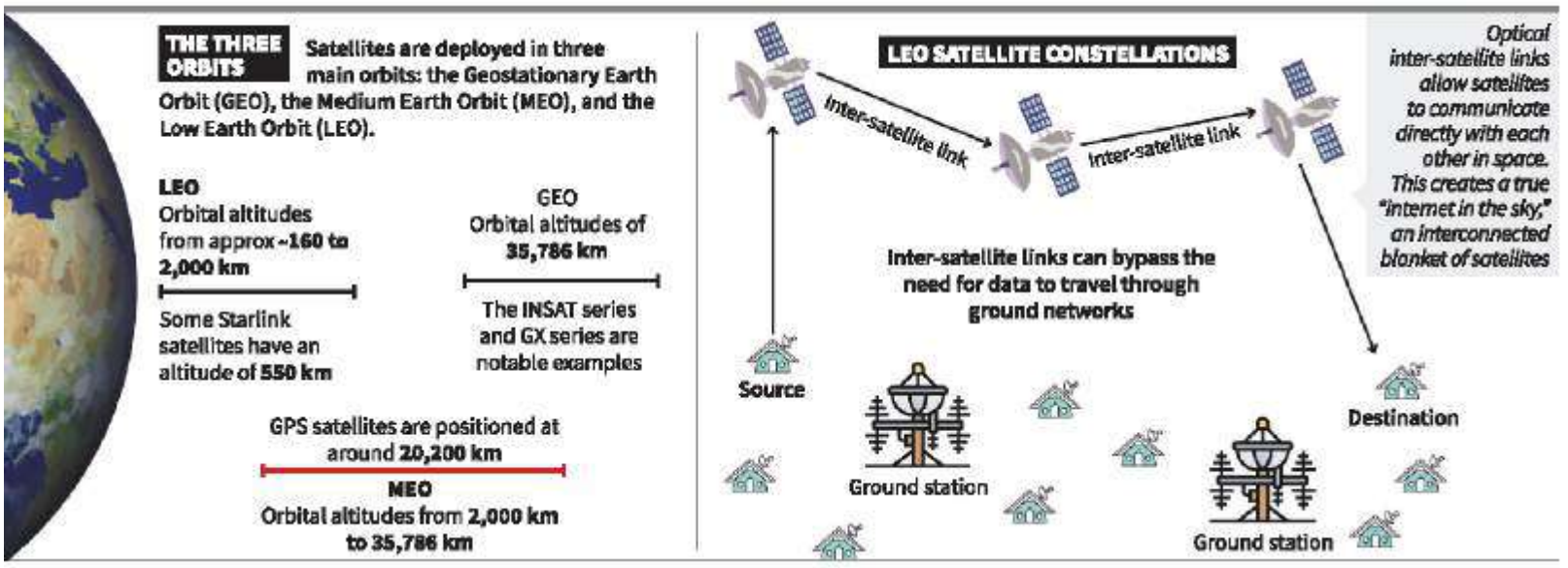
Timeframe	~2045 or later	Ongoing (Tso Kar Valley, Ladakh)
Mission Goals	- Send 6 astronauts, 5-year round trip, 30-day surface stay.	

Topic 9 - NISAR – NASA-ISRO Synthetic Aperture Radar Satellite	
Syllabus	Science & Technology | Space Technology | Satellite
Context	The **NASA-ISRO Synthetic Aperture Radar (NISAR)** satellite was successfully launched on July 30, 2025, by **ISRO** from the Satish Dhawan Space Centre in Sriharikota.
About NISAR – NASA-ISRO Synthetic Aperture Radar Satellite	❖ **Collaboration:** First joint satellite of **India (ISRO)** & **USA (NASA)** → Earth observation satellite. ❖ **Budget:** ₹12,000 crore ❖ **Launch Vehicle:** GSLV Mk-II **(GSLV-F16)** ❖ **Orbit:** Sun-synchronous, 747 km altitude ❖ **Objective:** Monitor **land & ice deformation**, land ecosystems, oceanic regions, **crop patterns**, **natural disasters**, and **climate change** with high precision and global coverage. ❖ **Technical Specifications** ➢ Revisits every location on Earth every **12 days**, enabling early warnings. ➢ **Microwave imaging mission** → acquire fully polarimetric and interferometric data. ➢ **Combines**: ■ **L-band radar (NASA)**: Penetrates forests and soil for subsurface monitoring. ■ **S-band radar (ISRO)**: Tracks surface changes like agriculture, water levels, and biomass. ➢ **Structure**: ■ 12-meter deployable **mesh antenna** ■ 9-meter **boom for scanning.**
What Makes NISAR Unique?	❖ **World's first dual-band radar satellite** for Earth observation. ❖ **All-weather, day-night capability**, even through clouds or vegetation. ❖ **High Resolution**: 3–10 meters resolution with a **240 km swath width**. ❖ **SweepSAR Technology**: Mimics a large antenna using pulse processing for wide coverage and enables **beam steering** without sacrificing resolution.

Applications – Science Meets Society	❖ **Solid Earth Monitoring:** Detects **earthquakes**, landslides, and **ground deformation**. ❖ **Forests & Ecosystems:** Measures **biomass**, forest cover, and biodiversity loss. ❖ **Cryosphere:** Tracks movement and **melting of ice sheets and glaciers**. ❖ **Coastal & Oceanic Changes:** Observes **shoreline erosion**, oil spills, and storm surges. ❖ **Disaster Management:** Generates **damage proxy maps within 5 hours** for Floods, earthquakes, landslides, cyclones etc. ❖ **Agriculture:** Monitors crop health, soil moisture and irrigation → precision farming. ❖ **Infrastructure:** Land subsidence near dams, roads, etc.
Data Access & Distribution	❖ **Open Data Policy**: Data freely available to **public and researchers**. ❖ **Global Data**: Managed via NASA's **Near Earth Network** (Alaska, Chile, Norway). ❖ **Indian Data**: Processed by **National Remote Sensing Centre (NRSC)** via ISRO's ground stations **(Shadnagar, Antarctica)**.
India–U.S. Contributions	❖ **ISRO**: ➢ Built the **spacecraft bus**, S-band radar, telemetry, and launched it via GSLV Mk-II. ➢ Fully integrated and tested in **Bengaluru**, showcasing **India's leadership in space tech**. ❖ **NASA**: ➢ Provided **L-band radar**, antenna, avionics, and data systems.  NISAR observatory, with NASA and ISRO contributions highlighted
Earth Observation Satellites – India & International	**India – ISRO's EOS Series** ❖ **EOS-04** (Feb 2022) ➢ Radar imaging satellite (all-weather) ➢ Applications: **Agriculture**, forestry, soil moisture, flood mapping. ❖ **EOS-06 (Oceansat-3)** (Nov 2022)

	➢ Monitors ocean colour, **sea surface temperature**, wind vectors. ➢ Supports: **Fisheries**, cyclone monitoring. ❖ **EOS-02** (Aug 2022 – SSLV maiden launch) ➢ Intended for **infrared imaging** ➢ Launch unsuccessful (SSLV failure). **Major International Satellites** ❖ **Landsat 9 (NASA + USGS)** (Sep 2021) ❖ **Sentinel Series (ESA – Copernicus Programme) -** India is also a partner. ➢ **Sentinel-6 Michael Freilich** (Nov 2020) – Sea-level tracking via radar altimetry. ➢ **Sentinel-1C & 2C** – Upcoming satellites expanding Earth observation. ❖ **Gaofen Series (China)** (2020–2023) ❖ **GOSAT-2 (Japan – JAXA)** ❖ **KOMPSAT-6 (South Korea)** (2022).

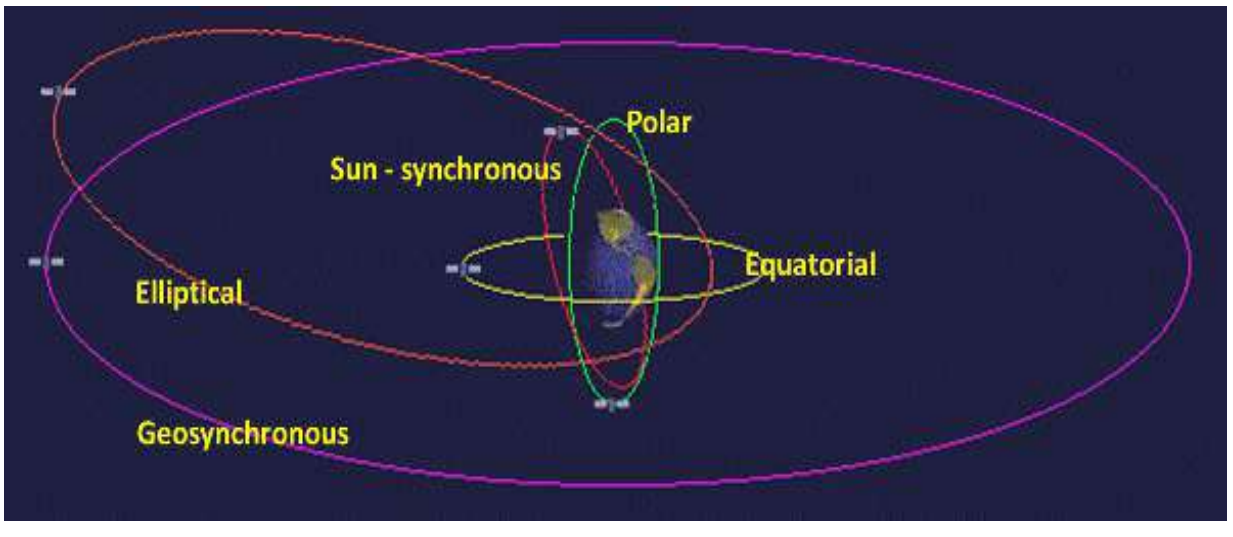
Topic 10 - Satellite Internet	
Syllabus	Science & Technology | Digital Connectivity
Context	**Starlink** (Elon Musk's satellite internet service) is set to enter **India**, boosting **digital access** and **strategic communication** capabilities.
About Satellite Internet	❖ **Definition:** Wireless internet delivered via **satellites in space**, replacing cables/fiber networks. ❖ **Components:** ➢ **Satellites in Orbit** with communication payloads (antennas, transponders, processors) ➢ **Ground Stations (**linking to the internet backbone). ➢ **User Terminals** (fixed/portable).
How It Works	❖ **Space Segment**: Satellites receive & relay signals between users & ground stations. ❖ **Ground Segment**: Antennas + terminals connect households, vehicles, ships. ❖ **Data Flow**: User request → Satellite → Ground Station → Internet Backbone → Return path. ❖ **Seamless Handover**: **LEO satellites** pass connections automatically to the next satellite in sequence to maintain continuous service.



Need for Satellite Internet	❖ **Bridging Digital Divide**: Connects **remote & rural areas**. ❖ **Disaster Resilience**: Restores links after floods, quakes, cyclones. ❖ **On-the-Move Connectivity**: Internet for **ships, aircraft, defence convoys**. ❖ **Strategic Security**: Secure communications in **high-altitude conflict zones**. ❖ **Economic Inclusion**: Boosts **e-governance, e-commerce, telemedicine**.
Key Features	❖ **Global Coverage**: Works in **oceans, deserts, mountains, polar regions**. ❖ **Dual-Use**: Civilian + Military operations. ❖ **Rapid Deployment**: Active within **hours**. ❖ **Resilience**: Independent from local cables/towers. ❖ **Mega-Constellations**: Thousands of satellites → **low latency & redundancy**.

Satellite Orbit Types

Orbit Type	Altitude	Advantages	Limitations	Example
GEO	~35,786 km	Large coverage, stable signal	High latency, no polar reach	Viasat Global Xpress
MEO	2,000–35,786 km	Balanced coverage & latency	Requires many satellites	O3b Network
LEO	<2,000 km	Low latency, cheaper	Small coverage footprint, needs many satellites	Starlink



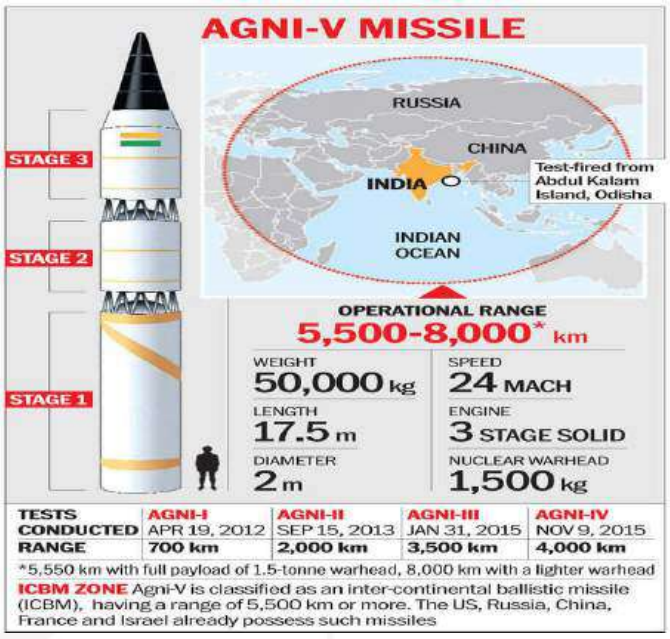
Applications	❖ **Civilian:** Rural broadband, smart farming, environment monitoring.

	❖ **Disaster Management:** Rescue & relief coordination. ❖ **Defence:** Secure comms, drones, intelligence. ❖ **Transport:** Aviation, shipping, autonomous navigation. ❖ **Healthcare:** Telemedicine in remote areas. ❖ **Space Economy:** Boosts trade, tourism, exploration.
Conclusion	Satellite internet is a **strategic enabler** for **security, economy, and digital equity**. India must **adopt & indigenise** this technology to ensure **resilience and autonomy** in the global digital race.

Topic 11 - ICRISAT's AI-based Agromet Advisory Service	
Syllabus	Agriculture | Science & Technology
Context	❖ AI-powered **climate advisory** for farmers → Launched by **ICRISAT** (International Crops Research Institute for the Semi-Arid Tropics) **+ ICAR (2024)**. ❖ Supported under **Government's Monsoon Mission-III**.
Key Features	❖ **AI + ML powered** real-time, **hyper-local weather insights**. ❖ Guidance on **sowing, irrigation, pest & disease management**. ❖ Delivered via **digital platforms (WhatsApp bot)** → farmer-friendly access.
Implementation	❖ **Phase-1:** Pilot in **Maharashtra** through **ICAR's AMFUs (Agro-Meteorological Field Units)**. ❖ Will expand **nationwide**; serves as a model for **South-South cooperation**.
iSAT (Intelligent Systems Advisory Tool)	❖ Developed under **Monsoon Mission II**. ❖ Transforms **climate + agronomic data → personalised advisories**. ❖ Now **upgraded** into a **fully AI-based decision support system**.

Topic 12 - Agni-V Missile Test

Syllabus	Science & Technology | Defence
Context	India successfully test-fired **Agni-V** from Chandipur, Odisha, validating operational & technical parameters under Strategic Forces Command.
What is Agni-V	❖ India's **longest-range Surface-to-Surface ballistic missile** (ICBM-class, officially **intermediate-range**). ❖ Developed by **DRDO** for **nuclear** deterrence. ❖ **Launch:** Road/rail mobile, canisterised.
Specifications	❖ **Range:** 5,000–5,500 km → covers entire Asia + parts of Europe, Africa. ❖ **Payload:** 1.5-tonne nuclear warhead; **MIRV capable** (strike multiple targets with one launch). ❖ **Technology:** ➢ **Solid-fuel, three-stage** propulsion → high readiness. ➢ **Ring Laser Gyro & Micro Inertial Navigation** → high accuracy. ➢ **Composite materials** → lighter, stronger body. ➢ **Canister launch** → faster deployment, longer shelf life.



Comparison with Agni Missile Series

Missile	Range (km)	Stages	Payload (approx.)	Notable Features
Agni-I	700–1,200	Single stage	~1,000 kg	Short-range ballistic missile
Agni-II	2,000–2,500	Two stage	820–2,000 kg	Road/rail mobile, MRBM
Agni-III	3,000–3,500	Two stage	~1,500 kg	Intermediate-range ballistic missile
Agni-IV	3,500–4,000	Two stage	800–1,000 kg	Advanced composites & navigation
Agni-V	5,000–5,500+	Three stage	1,500 kg (4 MIRV warheads)	Most advanced, MIRV capable, canister launch

Topic 13 - Mission Sudarshan Chakra	
Syllabus	Science & Technology | Defence
Context	❖ On India's **79th Independence Day**, PM launched **Mission Sudarshan Chakra**, a multi-layered indigenous defence initiative to secure **strategic, civilian & religious sites**.
What is it?	❖ **National security mission** to build an **advanced multi-layered** integrated air and missile defense **shield**. ❖ **Inspired by:** Mythological Sudarshan Chakra of Lord Krishna. ❖ **Nodal Ministry:** Ministry of Defence. ❖ Mission planned to be fully operational **by 2035**.
Objectives	❖ Neutralise threats from **air, land, sea & cyber domains**. ❖ Ensure **Aatmanirbhar Bharat** in defence tech. ❖ Proactive protection of **infrastructure, cities & sacred places**.
Key Features	❖ **Multi-layered defence** – surveillance, interception & counter-attack. ❖ **Coverage:** Strategic, civilian, & religious sites. ❖ **Tech:** Radar, AI-enabled tracking, cyber defence, physical security. ❖ **Indigenous:** 100% designed & developed in India. ❖ **Vision 2035:** Expansion & modernisation plan.
Significance	❖ **Strategic Deterrence:** India's version of **Iron Dome** (adapted to Indian threats). ❖ **Sovereignty:** Reduces dependence on foreign defence imports. ❖ **Comprehensive Security:** Shields from **conventional, hybrid & cyber warfare**.

Topic 14 - INS Himgiri	
Syllabus	Defence & Security
Context	Recently, **INS Himgiri (Yard 3022)**, the third ship of the **Nilgiri-class (Project 17A) stealth guided-missile frigates**, was delivered to the Indian Navy at **GRSE, Kolkata**, marking a major step in indigenous warship building.
INS Himgiri (Yard 3022) – Key Facts & Features	❖ **Class & Project: Third** ship of the **Nilgiri-class**, **Project 17A stealth guided-missile frigates**. ❖ **Builder:** Garden Reach Shipbuilders & Engineers (GRSE), Kolkata — first P17A ship built at GRSE. ❖ **Propulsion: CODOG system** (Combined Diesel or Gas) → diesel engines + gas turbines → drives **Controllable Pitch Propellers (CPP)**. on each shaft. ❖ **Multi-role capabilities:** anti-air, anti-submarine, and anti-surface warfare. ❖ **Indigenous Content:** 75% (200+ MSMEs involved at GRSE).

Project 17A (Nilgiri-class Stealth Frigates)	❖ **Launched:** 2019 by Indian Navy. ❖ **Aim:** Construct **7 stealth guided-missile frigates** (successors to Project 17 – Shivalik class). ❖ **Ships in Class**: ➢ INS Nilgiri ➢ INS Udaygiri ➢ **INS Himgiri** (**delivered** to the Indian Navy on **July 31, 2025**). ➢ INS Taragiri ➢ INS Dunagiri ➢ INS Vindhyagiri ➢ **INS Mahendragiri** (**launched** by *Sudesh Dhankhar* on **1 Sept 2023**). ❖ **Construction:** ➢ **Mazagon Dock Shipbuilders Ltd (MDL):** 4 ships. ➢ **Garden Reach Shipbuilders & Engineers (GRSE):** 3 ships. ❖ **Stealth Features:** ➢ **Radar-absorbent coatings** & low-observable design → reduces radar cross-section. ➢ **Infrared signature suppression** → harder to detect by enemy sensors. ❖ **Significance:** ➢ Strengthens India's **blue-water navy capabilities**. ➢ Enhances **sea control, anti-air, anti-surface & anti-submarine warfare**. ➢ Major milestone in warship building & defence self-reliance (indigenous content ~75%).

Topic 15 - HQ-16 (CH-SA-16 / LY-80) Missile System

Syllabus	Science & Technology | Defence
Context	The **US military** recently unveiled a **mockup of China's HQ-16 surface-to-air missile system** at the **AirVenture Show, Wisconsin**, sparking global attention.
About HQ-16 	❖ **Type: Medium-range** Surface-to-Air Missile (SAM). ❖ **Developer:** China (Shanghai Academy of Spaceflight Technology – CASC). ❖ **Origin:** Based on Russian **Buk SAM family**. ❖ **Export:** Pakistan (named **LY-80**). (NATO designation: **CH-SA-16**) ❖ **Targets**: Aircraft, cruise missiles, helicopters, UAVs. ❖ **Features** ➢ **Launch:** Vertical Launch System (VLS) → 360° coverage. ➢ **Mobility:** Mounted on **6×6 wheeled chassis**. ❖ **Guidance:** Inertial mid-course + Semi-active radar homing (terminal).**Presence:** First confirmed in **Arunachal Pradesh & Assam** (Feb–Mar 2020).

Environment & Geography

Topic 1 - Sabarmati River : Most Polluted River of India	
Topic	Geography | Environment | Pollution
Context	According to data tabled in the **Lok Sabha**, **13 river stretches in Gujarat** have been officially declared **polluted**, with the **Sabarmati River** emerging as the **most contaminated**.
Key Facts about Sabarmati River	❖ **Type & Flow** – A **monsoon-fed**, **west-flowing** river. ❖ **Origin** – **Aravalli Range**, **Udaipur district** (Rajasthan); called **Wakal** in its early course. ❖ **Course** – Flows **southwest** through Rajasthan & Gujarat; empties into **Gulf of Khambhat** (Arabian Sea). ❖ **Length** – **371 km total** (323 km in Gujarat, 48 km in Rajasthan). ❖ **Basin Area** – **21,674 sq.km**, max length **300 km**, width **150 km**. ❖ **Boundaries** – **Aravalli Hills** (N & NE), **Rann of Kutch** (W), **Gulf of Khambhat** (S). ❖ **Cities on Banks** – **Ahmedabad**, **Gandhinagar**; river bisects Ahmedabad into **east & west**. ❖ **Major Tributaries** – **Wakal, Harnav, Hathmati, Watrak, Madhumati** rivers.

Topic 2 - Global Plastics Treaty	
Syllabus	Environment | Pollution
Context	Plastic pollution has reached crisis levels, with **430+ million tonnes produced annually** (mostly single-use). UNEP initiated a **Global Plastics Treaty**, but the **Geneva talks collapsed (6th round, 2025)** due to sharp divides between nations.
Key Dimensions of Negotiations 	❖ **High-Ambition Coalition (EU, Africa, Pacific Islands, Australia)** ➢ Push for **global cap on virgin plastic production**. ➢ Legally binding targets for reduction. ➢ Regulate hazardous chemicals. ➢ Argument: Waste management alone insufficient; must cut production. ❖ **Like-Minded Bloc (India, Russia, USA, oil-producing states)** ➢ Emphasize **recycling & waste management**. ➢ Prefer **voluntary commitments**. ➢ Argue plastics are **vital for economy, jobs, packaging, health sector**.
Why Talks Collapsed	❖ **Clashing Interests**: Oil states see plastics as post-fossil fuel revenue. ❖ **Scope Divide**: High-ambition = prevention; Like-minded = management.

	❖ **Lack of Trust**: Similar to climate talks - equity vs responsibility issues.
India's Position	❖ **Largest plastic polluter:** ~20% global share. ❖ **Domestic waste:** 3.5 MT/year (CPCB 2022), ~60% mismanaged. ❖ **Single-use ban (2022):** Largely ineffective. ❖ **Stance:** Strict global caps unfair for developing nations → focus on **waste mgmt. + equity**.
The Plastic Crisis	❖ **Scale**: 430+ MT annually; <10% recycled. ❖ **Environment**: 11 MT enters oceans yearly; soil fertility loss, biodiversity damage. ❖ **Health:** Microplastics found in blood, lungs, placenta → cancer, infertility risks. ❖ **Climate:** 3.4% of global GHG emissions; 99% plastics from petrochemicals.
Geopolitical & Economic Angles	❖ Plastics = **$600 bn industry**, future revenue for oil firms. ❖ **North-South divide**: Rich push bans; developing stress equity & jobs. ❖ Mirrors **climate justice debate** at COPs.
Way Forward	❖ **Global** ➢ Hybrid model: mix of **production caps + waste mgmt.** ➢ **Global Plastic Fund** (funded by developed nations & producers). ❖ **National (India)** ➢ Strict enforcement of plastic bans. ➢ Promote alternatives (bio/plant-based packaging). ➢ Recognize **informal recycling sector**. ➢ Awareness campaigns to reduce demand. ❖ **Technology & Society** ➢ Invest in **biodegradable materials & chemical recycling**. ➢ Develop **global safety standards** for plastic design. ➢ Encourage **citizen participation** to curb single-use culture.
Conclusion	The Geneva deadlock shows plastics are not just an **environmental issue**, but also **economic & geopolitical**. Without a balanced treaty that reconciles **environmental urgency with livelihood concerns**, the plastic crisis will intensify, harming ecosystems, climate, and human health.

Topic 3 - Climate Change Crisis	
Syllabus	Environment | Climate Change
Context	Recent **northeastern floods**, **Wayanad landslides**, and **rising sea levels** show India's worsening climate vulnerability. The climate crisis now impacts **national stability**, **economic security**, and **ecological survival**.
India's Climate Vulnerability – Monsoon	❖ **Global warming** destabilises monsoon → heavier & erratic rainfall. ❖ Shifting monsoon trough severely hit **Assam, Manipur, Arunachal Pradesh** → 46+ deaths, 5 lakh affected. ❖ UN report: **$79.5B losses** from climate disasters (1998–2017). ❖ **El Niño** → drought; **La Niña** → floods & cyclones. ❖ **Sea Level Rise** ➢ **7,500+ km coastline** at risk due to climate change. ➢ **Center for Study of Science, Technology and Policy (CSTEP) Report – Submergence Risks**: ■ >10% land loss: Mumbai, Yanam, Thoothukudi. ■ 5–10%: Panaji, Chennai. ■ 1–5%: Kochi, Mangaluru, Visakhapatnam, Puri, Paradip. ➢ **Sundarbans** could lose **80% area by 2100** → biodiversity & livelihood loss. ❖ **Livelihood Impacts** ➢ **Agriculture**: ■ 47% population dependent. ■ Soil salinisation → reduced yields, food insecurity. ➢ **Coastal livelihoods**: ■ Fishing losses, housing damage, health risks. ■ Rural migration due to land loss.
Climate Change – National Security Concern	❖ Globally called a **"threat multiplier"** (US military view). ❖ India ranks **6th on Climate Risk Index (Germanwatch)**; Indian Ocean heating faster → stronger cyclones. ❖ **Budget gap**: ➢ Defence: ₹6.81 lakh crore (13.45% of budget). ➢ Environment Ministry: ₹3,412.82 crore (0.067%).
Steps Needed	❖ Treat environment as **core national & human security**. ❖ Integrate **climate adaptation** into urban planning, agriculture, defence. ❖ Strengthen **NDMA, IMD, local disaster response** with climate-specific capacity.
Conclusion	❖ Move from **reactive relief** to **proactive resilience**. ❖ Treat climate events like Assam floods, Kerala landslides, and coastal submergence as **national emergencies**, not seasonal issues.

Topic 4 - Ethanol Blending – A Cleaner Step with Mileage and Maintenance Trade-offs	
Syllabus	Environment, Energy Security, Biofuels
Context	India has completed the **nationwide rollout of E20 fuel** in **2025**, 5 years ahead of its 2030 target. While it boosts **energy security** and cuts **carbon emissions**, it raises concerns about **fuel efficiency and vehicle maintenance**.
What is Ethanol Blending?	❖ **Ethanol blending** means mixing ethanol (a biofuel) with petrol to reduce fossil fuel use and cut emissions. (**E20 Fuel** = 20% Ethanol + 80% Petrol) ❖ Part of the **Ethanol Blended Petrol (EBP) Programme** (launched in 2003) and supports **National Bio-Energy Programme** goals.. ❖ **Govt Targets** ➢ **E10** achieved nationwide by Dec **2022** (3 years early). ➢ **E20** target advanced to **2025** (originally 2030). ➢ **Goal**: **30%** blending by **2030** to cut crude imports by 10-12%.
Benefits of Ethanol Blending	❖ **Reduces carbon emissions and pollution:** ➢ **Example**: Sugarcane ethanol emits 65% less than petrol, maize-based 50% less. ➢ E20 can cut ~40 million tonnes CO_2/year by 2025. (Ministry of Petroleum, 2023) ❖ **Energy Security:** Cuts **crude oil imports** by ₹50,000+ crore annually → improves India's strategic autonomy. ❖ **Rural Economy Support**: Boosts **farmers' income** through higher demand for sugarcane and other feedstocks → promotes circular bio-economy.
Concerns related to Ethanol Blending	❖ **Mileage & Efficiency** ➢ **Lower Energy Content**: Ethanol has 30% less energy per litre than petrol. ➢ **Mileage Loss**: ■ **Govt**: 1–2% (for E10-calibrated vehicles), 3–6% (others). ■ **Experts**: Real-world loss could be **6–7%**, raising fuel costs. ❖ **Vehicle Maintenance & Corrosion Issues** ➢ Ethanol is **hygroscopic** – absorbs moisture, leading to: Corrosion in metal fuel tanks, lines, and injectors. ■ Damage to rubber/plastic parts (gaskets, hoses, seals). ■ Combustion inefficiencies in non-calibrated engines. ➢ Older vehicles may face **increased wear and maintenance costs**.
Industry Response	❖ Manufacturers (e.g., Hero, TVS): ➢ Advising **engine tuning** or **component replacement** for pre-April 2023 vehicles. ➢ Now launching **E20-compliant models**. ❖ **Toyota India** is developing **flex-fuel hybrid** models to offset mileage losses.

Government Measures	❖ Ministry of Petroleum states that "**concerns about engine damage due to E20 are largely unfounded**". ❖ **Financial incentives and subsidies** are provided to ethanol producers to encourage capacity expansion. ❖ The Bureau of Energy Efficiency **(BEE)** has revised **CAFE norms** to incentivize ethanol-compatible technologies.
Challenges and Future Outlook	❖ **Scaling beyond E20** (e.g., E30 or E40) requires further vehicle technology adaptations, fuel infrastructure upgrades, and regulatory clarity. ❖ Proper **consumer awareness** regarding ethanol blend labels at fuel pumps is needed to avoid misuse. ❖ **Feedstock challenge:** Overdependence on sugarcane is unsustainable; **need diversification** to maize, damaged grains, and second-generation biofuels for sustainable ethanol supply.
Ethanol Biofuel	❖ It is a renewable fuel that can be made from various plant materials (E.g., sugarcane, maize), collectively known as 'biomass'. ❖ **Feedstocks**: Primarily **sugarcane molasses (60%)**, with maize, rice, wheat, and surplus cereals contributing increasingly.

Topic 5 - Biochar in India – Energy & Climate Linkages	
Topic	Energy, Environment, Agriculture
Context	❖ India to launch **carbon credit trading market (2026)**. ❖ **Biochar** emerged as a CO_2 removal tech with agri, construction, and energy applications.
What is Biochar?	❖ **Carbon-rich byproduct** of biomass pyrolysis (burning biomass in low-oxygen conditions). ❖ Derived from **agri-residue / organic municipal waste**. ❖ **Properties**: Porous, stable, long-lasting → acts as **carbon sink** in soil.
India's Biochar Potential	❖ **Resource base**: 600 MT agri-residue + 60 MT municipal waste annually. ❖ **Carbon removal**: 15–26 MT biochar/year → 0.1 Gt CO_2-eq removal. ❖ **Employment**: 5.2 lakh rural jobs via decentralised production. ❖ **Example**: Punjab's stubble → biochar reduces pollution & creates livelihoods.
Multi-Sector Benefits	❖ **Energy & Byproducts** ➢ **Syngas** (20–30 MT) + **bio-oil** (24–40 MT) → 8–13 TWh electricity/year. ➢ Replace 0.4–0.7 MT coal; cut 2% fossil emissions. ➢ Example: Maharashtra pilots using pyrolysis gas for rural micro-grids. ❖ **Agriculture**

	➢ Improves **water retention** & reduces fertiliser use (10–20%). ➢ Boosts yields (10–25%); cuts N_2O emissions by 30–50%. ➢ Example: AP's Natural Farming uses biochar to raise soil carbon. ❖ **Construction** ➢ 2–5% biochar in concrete → stronger, heat resistant (+20%), sequesters 115 kg CO_2/m^3. ➢ Example: IIT-Madras biochar-concrete reduces embodied carbon. ❖ **Wastewater Treatment** ➢ 1 kg biochar treats 200–500 L wastewater. ➢ India: 70 BL/day wastewater, 72% untreated → large demand potential.
Challenges	❖ No **standardised feedstock markets** or pricing. ❖ Weak **carbon accounting & MRV** systems. ❖ Low **R&D & local tech adaptation**. ❖ **Policy silos** across agriculture, waste, energy, climate. ❖ Few **scalable business models** & incentives.
Way Forward	❖ **Policy Integration** – Include biochar in crop residue mgmt, SAPCCs, bio-energy & waste policies. ❖ **Carbon Market Recognition** – Make biochar eligible for credits in Indian Carbon Market. ❖ **R&D Boost** – Zone-wise standards, indigenous pyrolysis tech. ❖ **Awareness & Training** – Farmer outreach, agri-tech platforms, panchayat involvement.

Topic 6 - Matri Van Initiative	
Syllabus	Environment
Context	The **Union Environment Minister** and **Housing & Urban Affairs Minister** launched the **'Matri Van' initiative** under the **Ek Ped Maa Ke Naam programme**, aimed at creating an urban ecological and cultural space in the **Aravalli Hills**.
Key Features	❖ **Urban Forest:** To be developed over **750 acres** in **Aravalli Hill area**. ❖ **Theme-Based Design:** Focused on Mother-Nature inspiration → nurturing generations through green efforts. ❖ **Objective**: To promote biodiversity conservation, carbon sequestration, public health, and urban sustainability in **NCR**. ❖ **Multi-Stakeholder Model:** Involves **CSR partners, RWAs, NGOs, MNCs, schools & govt organizations**. ❖ **Ecological Restoration:** ➢ Removal of invasive **Kabuli Kikar (Prosopis juliflora)**.

	➢ Plantation of **Dhak & Amaltash trees** along Gurugram-Faridabad Road. ➢ Creation of **theme-based plantation groves** to restore local ecology. ❖ **Public Amenities:** ➢ **Nature trails, cycle tracks, yoga spaces, gazebos, parking, public facilities.** ➢ **Waterbodies** for conservation & flood prevention. ➢ **Treated water irrigation & misting systems.**
Significance	❖ **Biodiversity Boost** – Restores native ecology in Aravallis. ❖ **Urban Sustainability** – Addresses climate resilience & green spaces. ❖ **Public Well-being** – Promotes eco-tourism, recreation & health. ❖ **Community Ownership** – Encourages participatory green culture.
'Ek Ped Maa Ke Naam' Campaign	❖ **Launched:** 5th June 2024 (World Environment Day) by PM. ❖ **Objective:** Promote tree plantation in mothers' names → blend **environmental conservation** with **tribute to motherhood**.

Summary Comparison of Green Initiatives

Initiative	Scale & Scope	Focus & Impact
Matri Van Initiative	750 acres in Gurugram (Aravalli Hills)	Urban forest + thematic groves + community engagement
Aravalli Green Wall Project	1,400 km × 5 km across Haryana, **Rajasthan**, Gujarat, Delhi	Large landscape-level ecological restoration, desertification control
Plant4Mother (Agri Ministry)	Campus-level, symbolic (IARI & others)	Tribute to mothers + awareness on environmental conservation
Mission LiFE (2021 - CoP 26)	Nationwide lifestyle campaign	Behavioral change for sustainability (water, energy, waste)
Nagar Van Scheme (2020)	1,000 Nagar Vans + 400 Nagar Vatikas by 2027. (Initially **200** Nagar Vans in 5 years)	Urban forestry for "city lungs" + biodiversity parks + citizen participation (funded via CAMPA)
Global Green Walls / Urban Forests	Africa (Great Green Wall), Singapore, global cities	Climate resilience, biodiversity, pollution control, urban green lungs

Topic 7 - Indo-Burma Ramsar Regional Initiative (IBRRI)	
Syllabus	Environment & Ecology | Wetlands Conservation
Context	At **Ramsar COP15**, a side event showcased the IBRRI's efforts for **wetland conservation & restoration**, alongside the launch of its **Strategic Plan 2025–2030**.
About IBRRI	❖ Regional cooperative initiative for **wetland conservation.** ❖ **Formed by:** Ramsar National Focal Points of **Cambodia, Lao PDR, Myanmar, Thailand, Vietnam** + IUCN Asia Regional Office. (**India is not part of it**) ❖ **Support:** IUCN's **BRIDGE** project (*Building River Dialogue & Governance*). ❖ **Aim:** Coordinate implementation of the **Ramsar Convention on Wetlands' Strategic Plan** for wetland protection. ❖ **Governance Structure** ➢ **Steering Committee** → Ramsar Administrative Authorities of 5 countries. ➢ **Secretariat:** Hosted by **IUCN Asia Regional Office**, Bangkok. ➢ **Stakeholder Committee** → NGOs, scientists, local communities → Provides **technical & strategic guidance**, ensures **inclusive, multi-stakeholder engagement**.
Strategic Plan 2025–2030	❖ **Focus:** Collaborative, **transboundary action** to halt & reverse **wetland loss**. ❖ **Coverage:** All IBRRI member states.
Ramsar COP15	❖ **Dates & Venue:** July 23–31, 2025 | Victoria Falls, Zimbabwe ❖ **Theme:** "Protecting Wetlands for Our Common Future" ❖ **Key Highlights & Outcomes** ➢ **Global Platform:** 172 Contracting Parties + intl. orgs, scientists, civil society, communities. ➢ **5th Strategic Plan (2025–2035):** ■ Halt & reverse global wetland loss. ■ Align with **Kunming-Montreal Global Biodiversity Framework (GBF)** + **SDGs**. ■ Focuses on measurable outcomes, strengthening capacity, and integrating wetlands into climate and biodiversity policies. ➢ **Victoria Falls Declaration:** Emphasizes political commitment, resource mobilization, and investment in wetland conservation. ❖ **Major Resolutions:** ➢ Wetland **restoration policies** for freshwater ecosystems. ➢ Strengthening **migratory bird flyway** conservation. ➢ Establishment of **Global Waterbird Estimates Partnership**. ➢ Protection of **key species** (e.g., river dolphins). ➢ Recognition of **indigenous knowledge & community role** in wetland stewardship.

	❖ **India's Role** ➢ **91 Ramsar sites** (**Asia's largest**, world's **3rd** largest), covering **1.36 million ha**. ➢ Advocated **integration of wetlands in national policies & sustainable lifestyles**. ➢ India's resolution on **sustainable lifestyles for the wise use of wetlands** → adopted at COP15.

Topic 8 - Ashtamudi Lake	
Topic	Environment & Ecology
Context	The **Kerala High Court** has directed the **State Government** and **State Wetland Authority Kerala (SWAK)** to set up an **Ashtamudi Wetland Management Unit** within **2 months** of notification for the lake's conservation.
About Ashtamudi Lake	❖ **Location:** Kollam District, Kerala. ❖ **Type:** Freshwater lake; **second largest** in Kerala after **Vembanad Lake**. ❖ **Area: ~61.4 sq. km** | **Length: ~16 km**. ❖ **Shape & Name Origin:** Palm/Octopus-shaped; *Ashta* = eight, *Mudi* = coned → **8 arms/channels**. ❖ **Fed by: Kallada River**; drains into **Arabian Sea** via **Neendakara estuary**. ❖ **Ramsar Site:** Declared in **2002**. ❖ **Historical Significance:** ➢ Major **14th-century port** linking **Quilon** to international trade. ➢ Described by **Ibn Battuta** as an important trading hub. ❖ **Biodiversity:** ➢ Endangered & endemic species: **Pearl spot fish, mangrove crab, otter, water snake, kingfisher, egret, heron, cormorant**.

Topic 9 - Dardanelles Strait	
Topic	World Geography
Context	The Dardanelles Strait in northwestern Turkey was **temporarily closed** due to wildfires near Çanakkale, leading to evacuations and firefighting operations.
About Dardanelles Strait	❖ **What is it?** ➢ A narrow natural sea channel linking **Aegean Sea ↔ Sea of Marmara**. ➢ Historically called **Hellespont**, crucial for **trade & military strategy** since ancient times. ❖ **Location:** ➢ Northwestern Turkey. ➢ Separates **Gallipoli Peninsula (Europe)** from **Asia Minor (Asia)**. ➢ Lies completely in **Turkey's territorial waters**. ➢ Ports – **Gallipoli, Eceabat, Çanakkale**. 

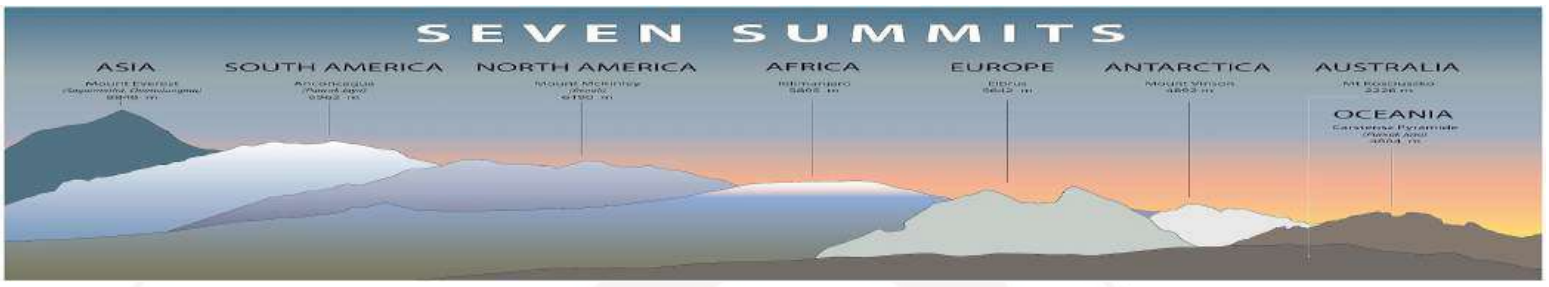
Topic 10 - Bering Strait	
Topic	World Geography
Context (Latest Study)	Mariners in the **Bering Strait** continue to follow **2018 shipping guidelines**, showing a rare form of **US–Russia cooperation** despite tense political ties.
About Bering Strait	❖ **Geography & Location:** ➢ Northernmost part of **Pacific Ocean**, near **Arctic Circle**. ➢ Separates **Asia (Russia)** and **North America (US)**. ➢ Connects **Bering Sea ↔ Chukchi Sea (Arctic Ocean)**.  ❖ **Key Features:** ➢ Narrowest point – **85 km** (between Cape Prince of Wales, Alaska & Cape Dezhnev, Russia). ➢ International boundary runs through the Strait. ➢ Avg. depth – **50 m (shallow waters)**. ➢ **International Date Line** passes between them → Russia & US on **different calendar days**.

Topic 11 - Mississippi River	
Topic	World Geography
Context	A **helicopter crashed** into a barge in the Mississippi River near **East Alton, Illinois**, killing **two people**.
About Mississippi River	❖ Longest river in the **United States**; 2nd longest in **North America**. ❖ Origin – **Lake Itasca (Minnesota)** → flows south → **Gulf of Mexico**. ❖ **Tributaries: Red, Arkansas, Illinois, Missouri, Ohio Rivers**. ❖ **Length & System:** With Missouri River system – **World's 4th longest river system** (after **Nile, Amazon, Yangtze**). ❖ **Basin:** Basin area – **1.26 million sq. miles**, largest in **North America**. 

Topic 12 - Colorado River	
Topic	World Geography
Context	The **Colorado River** is facing a **water crisis** as its flow diminishes, triggering disputes among U.S. states over **future water rights**.
About Colorado River	❖ **Geography & Course:** ➢ Major river of **North America**. ➢ Origin – **Rocky Mountains, Colorado (U.S.)**. ➢ Length – **1,450 miles (2,330 km)** → flows **west & south → Gulf of California (Mexico)**. ➢ Known as the **"Lifeline of the Southwest"** (arid & semiarid basin). ❖ **Key Features:** ➢ **Reservoirs** – Lake Mead, Lake Powell. ➢ Forms **US–Mexico border** (29 km, Arizona). ❖ **Landmarks:** ➢ **Grand Canyon** – carved by the river, UNESCO World Heritage Site. ➢ Flows through **Canyonlands National Park** & **Horseshoe Bend (Arizona)**. 

Topic 13 - Sea of Galilee	
Topic	World Geography
Context	The **Sea of Galilee (Israel)** recently turned **red** due to the bloom of **Botryococcus braunii algae**.
About Sea of Galilee	❖ **Location & Geography:** ➢ Freshwater lake in **northeastern Israel**. ➢ **Lowest freshwater lake** on Earth; **2nd lowest overall** after the Dead Sea. ➢ Lies in the **Jordan Rift Valley**; fed by **Jordan River** + underground springs. ❖ **Names in History:** Sea of Kinneret, Lake of Gennesaret, Sea/Lake of Tiberias, Bahr Tubariya. 

Topic 14 - Sea of Japan (East Sea)	
Topic	World Geography
Context	**China & Russia** recently began **joint naval drills** in the **Sea of Japan**.
About Sea of Japan	❖ **Geography & Location:** ➢ Marginal sea of **western Pacific Ocean**. ➢ Bounded by – **Japan & Sakhalin (east)**, **Russia, North Korea, South Korea (west)**. ➢ Area – **978,000 sq. km**, elliptical (SW ↔ NE). ❖ **Connections:** ➢ **South** – East China Sea (via Tsushima & Korea Straits). ➢ **North** – Okhotsk Sea (via La Perouse & Tatar Straits). ➢ **East** – Inland Sea of Japan (Kanmon Strait), Pacific (Tsugaru Strait). 

Topic 15 - Mount Elbrus	
Topic	World Geography
Context	Arunachal Pradesh Governor hailed **Kabak Yano** for successfully scaling **Mount Elbrus**, the **highest peak in Russia & Europe**.
About Mount Elbrus	❖ A **dormant stratovolcano**, part of the **Seven Summits Challenge**. ❖ Located in the **Caucasus Mountains, SW Russia**, near **Georgia border**. ❖ Lies fully in **Russia**, close to **Georgia & wider Caucasus region**. ❖ Height – **5,642 m (18,510 ft)** above sea level. ❖ Form – **Twin-coned extinct volcano** (~2.5 million years old). 

Topic 16 - Apricot	
Syllabus	Economy & Agriculture
Context	Fresh **Kargil apricots** were introduced in **Saudi Arabia** during India's 79th Independence Day celebrations in Riyadh under **ODOP initiative**.
About Apricot (Prunus armeniaca)	❖ Temperate fruit tree of **Rosaceae family** (related to peach, plum, almond, cherry). ❖ Produces **yellow-orange drupes** with edible kernel inside. ❖ **Rich in:** Vitamin A, iron, natural sugars, antioxidants.
Regions of Cultivation	❖ **Global:** Mediterranean, Central Asia, North America. ❖ **India:** Ladakh (premium quality), Himachal, J&K, Uttarakhand, dry temperate regions. ❖ Ladakh's apricots = famous for **flavor & quality**.
Features	❖ Small spreading trees, self-pollinated white flowers. ❖ Drought-resistant & long-lived (up to 100 years). ❖ Varieties: Wild **Zardalu**, cultivated **Khubani**.

SMA and SBL

Topic 1 - The Jhalawar Tragedy and the Crisis of School Infrastructure	
Syllabus	Management | Development & Management of Education and Human Resources
Context	The collapse of a government school building in Rajasthan's **Jhalawar district**, which killed 7 students and injured several others, has once again exposed the **fragility of India's public-school infrastructure**.
Widespread Infrastructure Crisis in Schools	❖ As per **ASER 2022**: ➢ **22% of schools** in 12 Indian states are in **dilapidated condition**. ❖ Many government schools still **lack basic amenities**: ➢ Separate toilets for girls and boys. ➢ Safe drinking water facilities. ➢ Proper classrooms, libraries, and roofs. ➢ Safe electrical systems and lighting. ❖ These gaps **violate safety norms**, affecting both **student health and learning outcomes**.
Reasons	**Neglect in Policy Implementation** ❖ The **National Education Policy (NEP) 2020** clearly recommends: ➢ Safe, inclusive learning environments. ➢ Regular audits of school infrastructure. ➢ Increased investment in school upkeep. ❖ Yet, implementation is **slow and ineffective**, especially at the district and village levels. **Monsoon Season: A Period of Heightened Risk** ❖ The rainy season makes **dilapidated buildings deadly**: ➢ Crumbling walls, leaking roofs, electrical hazards, and waterlogging. ❖ Lack of pre-monsoon safety inspections reflects **gross negligence** by local authorities.
Safety as a Constitutional and Legal Right	❖ Under the **Right to Education (RTE) Act, 2009**, infrastructure norms are **legally binding**. ❖ Unsafe schools **violate Article 21** (Right to Life) of the Constitution. ❖ Inadequate infrastructure: ➢ Discourages enrollment. ➢ Fuels dropouts. ➢ Deepens urban-rural and rich-poor education divides.

Impact on Enrolment & Public Trust	❖ **Rajasthan** has only **~60% enrolment rate** (ages 6–14) in government schools - lower than national average. ❖ Poor infrastructure leads to: ➢ Parental distrust in public schools. ➢ Higher dropout rates. ➢ Shift to expensive private education. ➢ Inequity in access to quality education.
Government & Judicial Response	❖ Rajasthan High Court took **suo motu cognisance** and asked for accountability. ❖ Central Government ordered a **nationwide audit** of school safety. ❖ **Challenges**: ➢ Will audits be done independently? ➢ Are funds and deadlines fixed for real renovation? ➢ Is compliance being monitored transparently?
Root Causes of the Crisis	❖ **Budgetary Constraints:** ➢ States spend less than the **6% of GDP** recommended by NEP. ➢ No dedicated budget for **repairs or routine maintenance**. ❖ **Administrative Apathy:** ➢ Poor coordination between engineers, education officers, and headmasters. ➢ **No real-time grievance system** for infrastructure issues. ❖ **Lack of Monitoring Capacity:** ➢ Infrastructure inspections are **symbolic or irregular**. ➢ Most **State Education Departments lack technical staff** for structural assessment.
Way Forward	❖ **Comprehensive Safety Audits:** ➢ All schools must undergo **annual building and electrical audits**. ➢ Involve certified third-party engineers or PWDs. ❖ **Dedicated Infrastructure Funds:** ➢ Create **annual repair budgets** separate from development grants. ➢ Focus on **WASH (Water, Sanitation & Hygiene)** and structural safety. ❖ **Community Participation:** ➢ **Empower SMCs (School Management Committees)** to report and monitor safety issues. ➢ Involve **parents and local panchayats** in oversight. ❖ **Strict RTE Norm Enforcement:** ➢ States must be **held accountable** for RTE compliance. ➢ Non-compliant schools should face **penalties or closure** after deadline. ❖ **Technology Integration:** ➢ Launch **mobile apps** for real-time reporting of infrastructure issues. ➢ Use **geo-tagging and digital dashboards** to track repairs and conditions.

	❖ **Disaster Preparedness & Safety Drills:** ➢ **Emergency response training** for teachers and staff. ➢ Regular **fire, earthquake, and evacuation drills** in all schools.

Topic 2 - Higher Education Commission of India (HECI)	
Syllabus	Education
Context	The government will set up the **Higher Education Commission of India (HECI)** to replace **UGC, AICTE, and NCTE** with a unified, tech-driven regulator for higher education.
About HECI	❖ **Vision:** Build a **globally competitive, innovation-driven higher education ecosystem** ensuring **equitable access**, **high-quality learning**, and **industry-academia integration**. ❖ **Objective:** ➢ Unify regulation into **one transparent authority**. ➢ Shift from **input-based** to **outcome-based governance**. ➢ Foster **institutional autonomy** with strong accountability. ➢ Integrate **AI, blockchain, predictive analytics** for quality assurance. ➢ Make India a **global education hub by 2030**.
Structural Framework – 4 Pillars	❖ **National Higher Education Regulatory Council (NHERC)** – Unified approval & AI-powered monitoring. ❖ **National Accreditation Council (NAC)** – **Outcome-based quality assurance** (employability, research, industry links). ❖ **Higher Education Grants Council (HEGC)** – **Performance-linked funding** for research & innovation. ❖ **General Education Council (GEC)** – Curriculum reforms via **National Higher Education Qualification Framework**.
	

Key Tools & Tech	❖ **National Education Intelligence Platform (NEIP):** AI system tracking **500+ data points**/institution/month; early decline detection **18 months ahead**. ❖ **Blockchain Credentials:** Tamper-proof verification of degrees & transcripts. ❖ **Regional Education Excellence Centres (REECs):** 6 hubs for region-specific oversight. ❖ **AI Quality Assurance:** NLP for feedback analysis, computer vision for infra checks.
Challenges	❖ **Digital Divide** in rural institutions. ❖ **Change Management** from compliance to performance culture. ❖ **Resistance** from vested interests. ❖ **Capacity Building** for AI-based governance. ❖ **Over-centralization:** Parliamentary committee flagged **excessive central govt. control** → undermines state autonomy, esp. rural/remote institutions. ❖ **Privatization Risk:** Stricter standards may force rural public institutions to shut, enabling private dominance. ❖ **Exclusion of Key Sectors:** Medical & law colleges remain outside HECI's ambit → regulatory fragmentation.
Expected Outcomes	❖ Better **academic excellence**, **research impact**, **employability**. ❖ **Streamlined governance** via single regulator. ❖ **Innovation boost** through industry collaboration. ❖ **Accreditation Reform:** Streamlined accreditation + stronger monitoring → boosts global competitiveness. ❖ **Curbing Fake Institutions:** Stronger penal powers against unregulated universities.
Conclusion	HECI is a **structural & cultural transformation** in higher education governance. If implemented well, it can **bridge quality gaps**, boost **global recognition**, and strengthen **India's knowledge economy**.

Topic 3 - Algorithms of the Mind	
Syllabus	Ethics & Behaviour
Context	Rising **smartphone & AI overuse among youth** in India is impacting cognitive abilities, mental health, and social connectedness, raising demand for **digital well-being policies**.
What is it?	❖ A **conceptual framework** of how the brain processes information (memory, attention, reasoning, decision-making). ❖ Works like **mental algorithms**, shaped by learning & environment. ❖ Can be **disrupted by smartphones & AI tools**.

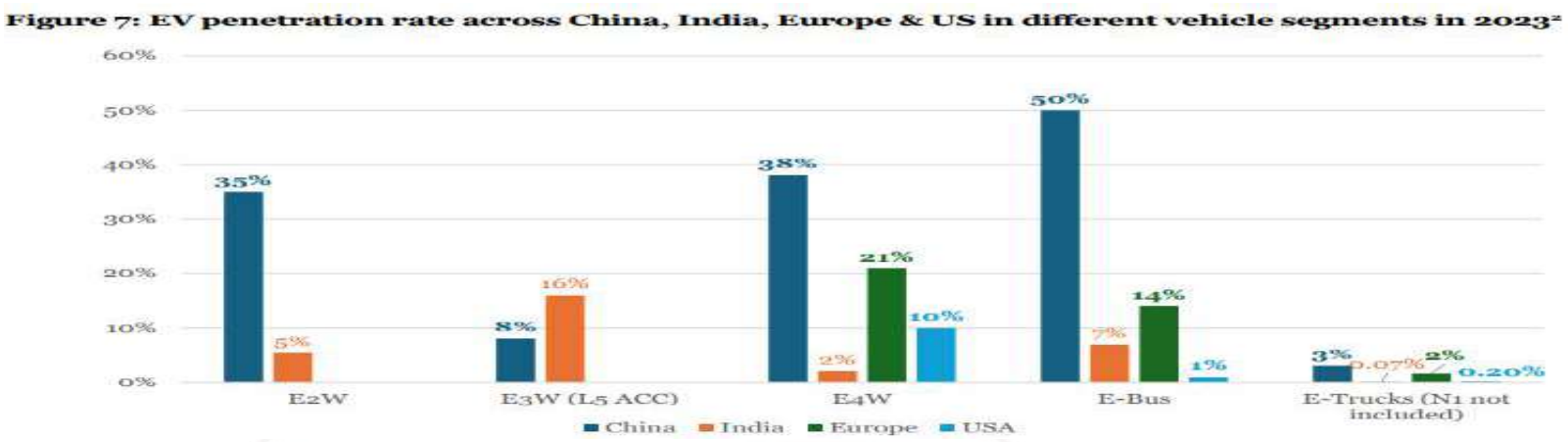
Current Scenario in India	❖ **High Usage** – 90% rural adolescents (14–16 yrs) have smartphones; avg. Indian = 5 hrs/day screen time. ❖ **Children at Risk** – Kids <5 yrs spend 2.2 hrs/day (2x WHO limit). ❖ **Addiction Indicators** – 50% urban parents report children addicted to videos/gaming/social media.
Cognitive Impact	❖ **Brain Drain** – Smartphone presence reduces attention span & memory. ❖ **Academic Decline** – AI dependence weakens reasoning, deep reading. ❖ **Behavioural Shifts** – Impulsiveness, aggression, low self-esteem. ❖ **Cognitive Offloading** – Over-reliance on GenAI → weak problem-solving.
Societal & Ethical Dimensions	❖ **Social Skill Erosion** – Digital links replace face-to-face ties. ❖ **Health Issues** – Sedentary life, sleep disturbance, anxiety. ❖ **Ethical Design** – Apps exploit human psychology for attention. ❖ **Cultural Loss** – Decline in traditional learning/reading habits.
Challenges	❖ **Policy Lag** – No digital well-being policy. ❖ **Parental Gaps** – Limited awareness of addiction signs. ❖ **Education Clash** – EdTech vs entertainment on the same device. ❖ **Inequity** – Urban overexposure vs rural deprivation. ❖ **Tech vs Health** – Growth push without mental safeguards.
Way Forward	❖ **Individual/Family:** Digital hygiene, device-free meals, delayed phone access, healthy role modelling. ❖ **Education:** Device-free school hours, debates, reading clubs, non-AI problem-solving. ❖ **Policy:** National Digital Well-being Mission, regulate addictive app features, awareness drives. ❖ **Community:** Tech-free spaces, offline cultural/sports events, peer support programmes. ❖ **Long-Term:** Make digital well-being part of **public health & demographic dividend strategy**.
Conclusion	India's growth depends not just on **tech adoption** but also on **mental resilience**. Smartphones & AI must be used wisely, with **ethical regulation & cultural safeguards**, to preserve creativity, focus, and emotional strength.

Topic 4 - What True Empowerment of Women Entails	
Syllabus	Indian Society | Role of Women & Women's Organization
Context	A Karnataka domestnic worker's resistance against a powerful politician shows that **true empowerment requires systemic support**, not just applause or tokenism.
What is Women Empowerment?	❖ **Definition**: Enabling women to exercise agency, access equal opportunities, and participate in socio-economic-political spheres. ❖ **True Empowerment**: Goes beyond representation → includes **protection, rehabilitation, and justice for survivors** at the margins.
Causes Behind Weak Empowerment	➢ **Patriarchy** → Silences victims, promotes social boycott. ➢ **Tokenism** → Focus on elite women leaders, ignoring grassroots survivors. ➢ **Economic Insecurity** → Survivors lose jobs, face debts, labelled "troublemakers." ➢ **Weak Legal Aid** → Despite Article 39A & LSA Act, poor funding & delays. ➢ **Social Stigma** → Survivors face isolation, mental stress, re-victimisation.
Consequences of Half-Empowerment	❖ **Justice without Rehabilitation** → Legal victory but no livelihood/mental support. ❖ **Underreporting of Crimes** → Fear of social punishment discourages reporting. ❖ **Power Imbalances** → Perpetrators exploit loopholes & pressure tactics. ❖ **Erosion of Trust** → Empowerment slogans lose credibility.
India's Efforts Against Gender Injustice 	❖ **Legal Framework**: Articles 14(**Right to Equality**), 15(**Prohibition of Discrimination**), 21(**Right to Life and personal Liberty**), 39A(**Free Legal Aid**); POSH Act (2013), DV Act (2005), Criminal Law Amendments, Vishaka & Nirbhaya reforms. ❖ **Schemes**: Beti Bachao Beti Padhao, Nirbhaya Fund, Mission Shakti (Sambal + Samarthya), STEP. ❖ **Limitations**: Focus on prevention & awareness, not survivor rehabilitation; weak convergence across govt–CSR initiatives.
Way Forward: Towards Empowerment	❖ **Survivor Compensation Schemes** → state-funded legal, livelihood & rehab support. ❖ **Dedicated Legal Aid Cells** → specialised survivor litigation centres with experts. ❖ **Employment Pathways** → quotas in govt/PSUs/CSR similar to kin of martyrs. ❖ **Psychological Support** → institutionalised counselling, peer groups. ❖ **Survivor Expertise** → survivors as mentors, police counsellors, ICC members.
Conclusion	Women's empowerment is not about token visibility but **structural justice & sustainable opportunities**. True empowerment means **economic security, psychosocial support, and institutional recognition** for survivors who challenge entrenched power - transforming courage into real change.

Miscellaneous

Topic 1 - Operation Mahadev	
Syllabus	Defence | Counter-Terrorism
Context	Operation Mahadev was a **high-precision joint operation** near **Srinagar**, leading to the **elimination of three top Lashkar-e-Taiba terrorists**, including **Suleiman Shah**, key planner of the **April 22 Pahalgam attack**.
What is Operation Mahadev?	❖ **Type**: Counter-terrorism operation. ❖ **Location**: Harwan area, Srinagar (J&K) ❖ **Agencies Involved**: **Indian Army (Para SF), CRPF & J&K Police** Under strategic command of **Chinar Corps.**
Objectives	❖ To eliminate **Pakistan-backed LeT terrorists** hiding in Kashmir. ❖ Avenge/neutralise those behind: ➢ **Pahalgam attack (April 22)** ➢ **Sonamarg Tunnel attack.**

Topic 2 - India Electric Mobility Index	
Syllabus	Index, Reports | Infrastructure, Energy & Science-Tech
Context	NITI Aayog launched the **India Electric Mobility Index (IEMI)** and its report titled "Unlocking a $200 Billion Opportunity: Electric Vehicles in India", evaluating India's progress in electric mobility.
What is the India Electric Mobility Index (IEMI)?	❖ **Released by: NITI Aayog** (with partners). ❖ First state-level benchmarking tool to assess **EV readiness** across 28 states & 8 UTs. ❖ **Indicators:** 16, under 3 themes: ➢ **Transport Electrification Progress** (EV adoption) ➢ **Charging Infrastructure Readiness** ➢ **EV Research & Innovation** ❖ **Scoring**: Composite index (0–100 scale) ranking states on progress. ❖ **IEMI 2024 Rankings** ➢ **Frontrunners (Score 65–99)**: Delhi, Maharashtra, Chandigarh. ➢ **Performers (Score 50–64)**: Karnataka, Tamil Nadu, Haryana. ➢ **Aspirants (Score 0–49)**: Odisha, Rajasthan, UP, Ladakh, Andhra Pradesh, others.

Key Findings from NITI Aayog's Report	❖ India's **EV penetration rose from 0.23% (2016) to 7.6% (2024).** ❖ India has over 25,000 public charging stations as of December 2024, reflecting significant infrastructure development. ❖ Global EV penetration: from **3.08% to 16.48%** during same period. ❖ Target: **30% EV penetration by 2030** (EV30@30 campaign). 

Topic 3 - Digital Push in Education	
Syllabus	Education | Governance
Context	India is witnessing rapid integration of **AI, VR, and digital tools** in classrooms (even rural anganwadis) and **digitisation in governance** (e.g., SPARSH for defence pensions). While transformative, it raises concerns of **equity, empathy, and pedagogy**.
Background	❖ **NEP 2020:** Push for digital platforms – DIKSHA, SWAYAM, AI tools. ❖ **AI in Early Learning:** VR & smart boards in preschools (<3 yrs). ❖ **E-Governance:** SPARSH for pensions, centralised admission portals. ❖ Concern: Tech-led reforms risk **equity & empathy gaps**.
Opportunities	❖ **Bridging Distance:** Remote students access quality content. ❖ **Transparency:** Digital portals reduce discretion & corruption. ❖ **Future-Readiness:** Prepares learners for digital economy. ❖ **Efficiency:** Faster pensions, admissions, certifications. ❖ **Scalability:** Large reach without proportional costs.
Challenges Emerging	❖ **Digital Divide:** Rural & poor students excluded. ❖ **Pedagogical Disconnect:** Overuse of AI/VR harms cognitive growth. ❖ **Weak Teacher–Student Bond:** Excessive screen reliance erodes empathy. ❖ **Complex Portals:** Veterans & 1st-gen learners struggle with tech. ❖ **Digital Fatigue:** Stress, short attention span, disengagement.

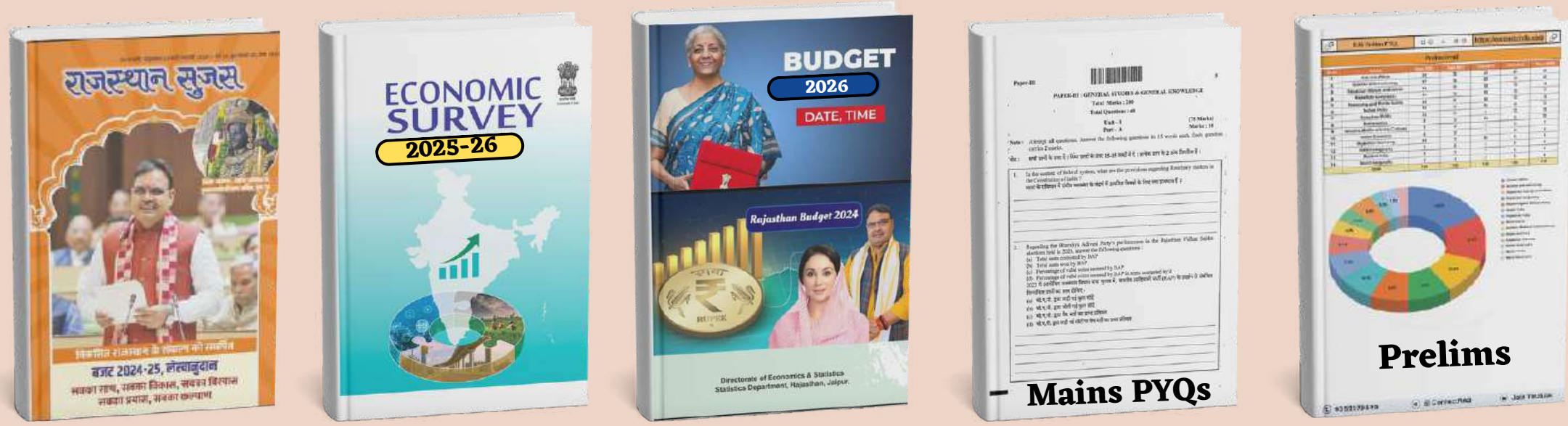
Ethical & Governance Concerns	❖ **Equity in Education:** Avoid deepening socio-economic gaps. ❖ **Teacher Autonomy:** Standardisation vs. creativity in pedagogy. ❖ **Right to Holistic Learning:** Article 21A → cognitive + emotional growth. ❖ **Empathy in Governance:** Tech must include human help systems. ❖ **Data Privacy:** Protect student data, ensure informed consent.
Way Forward	❖ **Hybrid Model:** Blend digital + traditional teaching. ❖ **Infra Boost:** Universal broadband & affordable devices. ❖ **Teacher Training:** Tech-integration with pedagogy. ❖ **Simplified Portals:** Multilingual, offline support. ❖ **Impact Audits:** Regular checks on inclusivity & outcomes.
Conclusion	Digital education is vital, but **access, empathy & inclusion** must guide reforms. A **hybrid, human-centric model** is the key to equitable digital transformation in India.

Your Notes

Study Material

Complete coverage of RBSE/NCERT/IGNOU/NIOS

Smart Strategy - Budget, Eco survey, PYQs analysis



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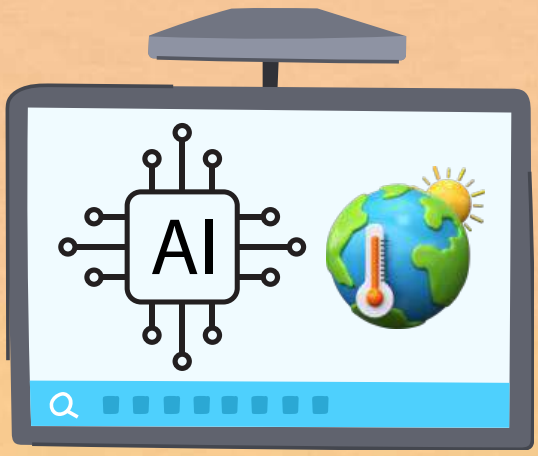
One Stop Solution

Sab kuchh milega yha..Quality ke saath

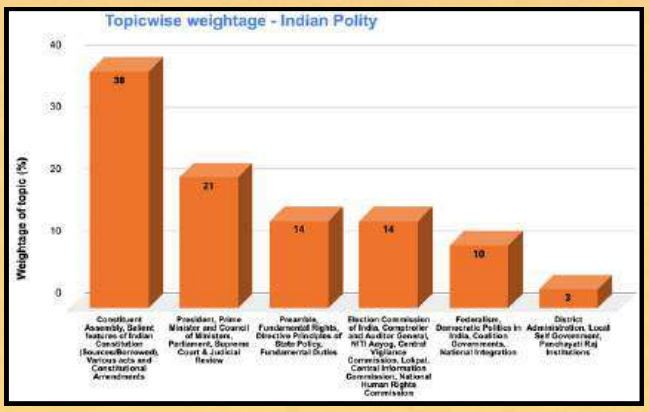
24*7 Library Access

Discussion room



Smart classrooms

Acche Dost/Sangat



Smart strategy

Mentorship

Current affairs

PYQs/Question bank

Value addition

Of Books & Accessories

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