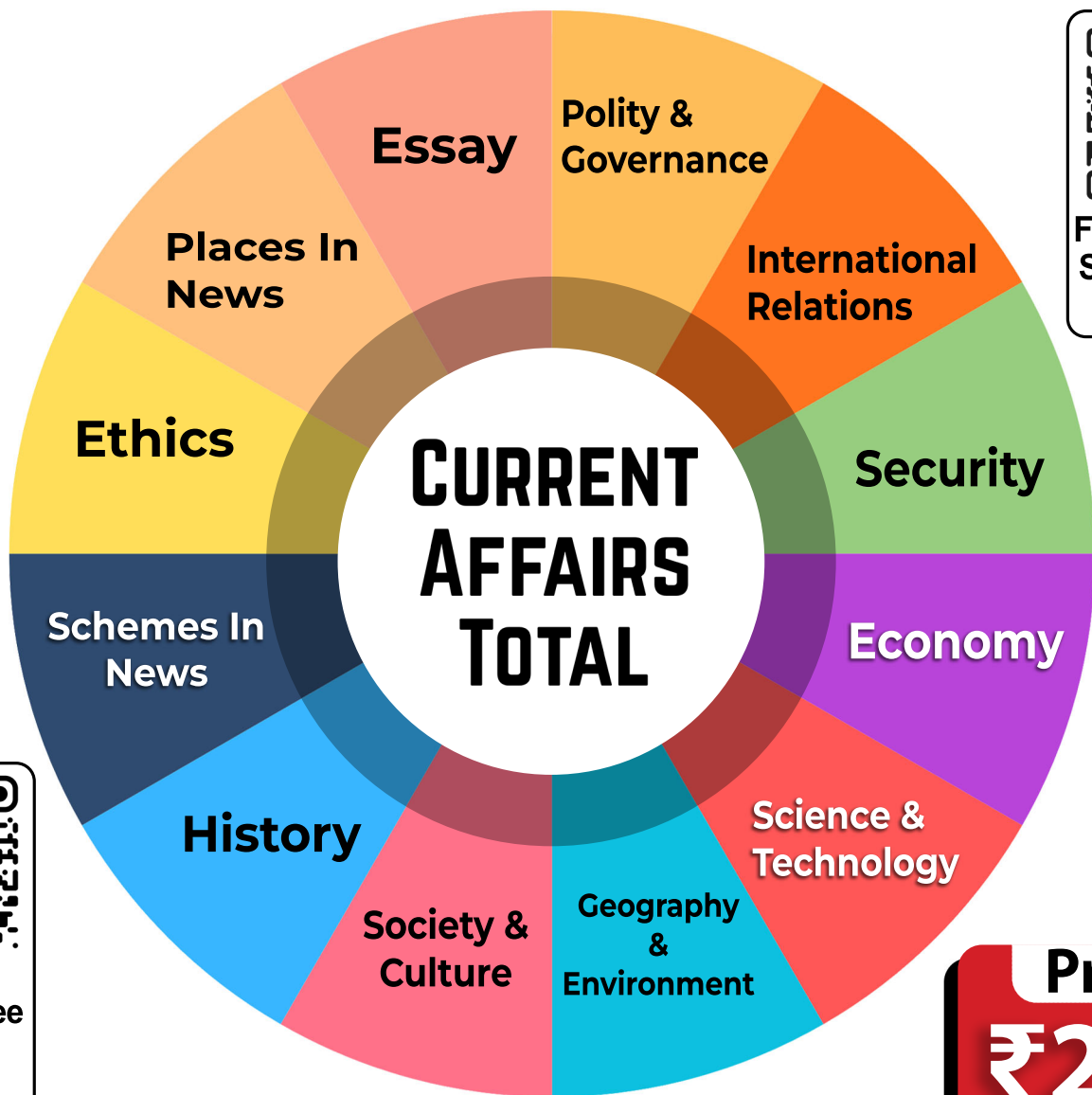




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POLITY & GOVERNANCE

1. Judicial Accountability and the Resignation of Judges

Context

The **Inquiry Committee's report** on allegations against former **Allahabad and Delhi High Court judge Justice Yashwant Varma** is expected to be tabled in Parliament during the **Monsoon Session, 2026**

Genesis of the Issue

The controversy began after **partially burnt currency notes** were reportedly recovered from an outhouse at Justice Yashwant Varma's official residence in **March 2025**.

1. The **Speaker of the Lok Sabha** constituted an **Inquiry Committee** under the **Judges (Inquiry) Act, 1968** to investigate allegations of misbehaviour.
2. Justice Varma resigned on **9th April 2026** before the inquiry was completed.
3. The Committee has completed its inquiry, and its report is scheduled to be laid before Parliament during the **Monsoon Session, 2026**
4. The case has raised important constitutional questions relating to judicial accountability and the resignation of judges.

Constitutional Framework for Judicial Resignation

Power to Resign at Will

The Constitution allows certain **constitutional functionaries** to resign by submitting a written resignation to the prescribed authority. Such resignation becomes effective **without requiring formal acceptance**.

This power is available to **13 constitutional functionaries**, including:

1. President
2. Vice-President
3. Speaker and Deputy Speaker of the Lok Sabha
4. Deputy Chairman of the Rajya Sabha
5. Judges of the Supreme Court
6. Judges of the High Courts
7. Governors

8. Speaker and Deputy Speaker of State Legislative Assemblies
9. Chairman and Deputy Chairman of State Legislative Councils
10. Members of the Public Service Commissions

Purpose

1. Protects the **independence of constitutional offices**, particularly the judiciary.
2. Prevents constitutional functionaries from being compelled to continue in office against their will.

Contrast with Legislators

Unlike judges, the resignation of legislators requires acceptance by the competent authority.

1. **Members of Parliament:** Resignation is subject to acceptance by the **Speaker of the Lok Sabha** or the **Chairman of the Rajya Sabha** under **Article 101(3)(b)**.
2. **Members of State Legislatures:** Resignation is subject to acceptance by the **Speaker** or the **Chairman** under **Article 190(3)(b)**.

Judicial Interpretation

Union of India v. Gopal Chandra Misra (1978)

A **five-judge Constitution Bench** of the Supreme Court held that:

1. The resignation of a **Supreme Court or High Court judge** takes effect **automatically** (*ex proprio vigore*), meaning it operates by its own force.
2. **Acceptance by the President is not required** for the resignation to become effective.

Since **2017**, at least **12 High Court judges** have resigned. Earlier, **Justice Dalveer Bhandari** resigned from the Supreme Court in **2012** after being elected to the **International Court of Justice (ICJ)**.

Key Issues in the Present Case

Administrative Inconsistency

Even after Justice Varma's resignation became effective on **9 April 2026**, his name reportedly continued to appear as a serving judge on:

1. The **Allahabad High Court** website.
2. The **Department of Justice** website.

This reflects an **administrative inconsistency**, as the

resignation had already taken legal effect.

Continuation of Inquiry Proceedings

1. The Inquiry Committee examined allegations relating to Justice Varma's conduct **before his resignation**.
2. Therefore, it can complete its inquiry and submit its report.
3. The report may be laid before Parliament in accordance with the **Judges (Inquiry) Act, 1968**.
4. Publication of the findings serves the larger objective of transparency and public accountability.

Effect of Resignation on Removal Proceedings

1. A judge who has resigned no longer holds judicial office.
2. Therefore, the **removal motion lapses**, as Parliament can remove only a serving judge.
3. Under **Section 6 of the Judges (Inquiry) Act, 1968**, the Inquiry Committee's report is linked to the removal motion. Once the motion lapses, Parliament cannot discuss the report under the existing legal framework.

Accountability Loophole

The present framework reveals a significant gap in judicial accountability.

1. A judge facing removal proceedings may resign before Parliament considers the removal motion.
2. This prevents completion of the constitutional removal process.
3. Parliamentary scrutiny of the Inquiry Committee's findings is also curtailed.
4. As a result, judges accused of serious misconduct may avoid the constitutional process of accountability.
5. The case highlights the need to balance **judicial independence** with **effective accountability** through constitutional reform.

Way Forward

Legal experts have suggested addressing this gap through a **constitutional amendment** while preserving judicial independence.

Suggested measures include:

1. Make the resignation of a judge **subject to acceptance** when removal proceedings are pending.
2. Vest the power to accept such resignation in the **Chief Justice of India (CJI)** instead of the Executive.
3. Allow **Parliament to discuss the Inquiry Committee's report** even if the judge has resigned.
4. Ensure that reforms are introduced through a

constitutional amendment rather than executive or judicial interpretation.

Conclusion

The Justice Yashwant Varma case has exposed a significant gap in India's constitutional framework for judicial accountability. Addressing this gap through carefully designed constitutional reforms can strengthen accountability while preserving the independence and credibility of the judiciary.

2. Public Examination (Prevention of Unfair Means) Amendment Bill, 2026

Context

Parliament has passed the **Public Examination (Prevention of Unfair Means) Amendment Bill, 2026**, strengthening the **Public Examination (Prevention of Unfair Means) Act, 2024**.

Background

1. The **Public Examination (Prevention of Unfair Means) Act, 2024** is India's first dedicated central law to prevent **question paper leaks, organised cheating, and examination fraud**, while safeguarding the **fairness, transparency, and credibility** of public examinations.
2. It applies to examinations conducted by major central recruitment and testing agencies, including:
 - a. **Union Public Service Commission (UPSC)**
 - b. **Staff Selection Commission (SSC)**
 - c. **Railway Recruitment Boards (RRBs)**
 - d. **Institute of Banking Personnel Selection (IBPS)**
 - e. **National Testing Agency (NTA)**, including **NEET**
3. The **NEET-UG 2026 paper leak** exposed shortcomings in the existing legal framework, particularly regarding deterrence, investigation, and timely disposal of cases. This led to the introduction of the **Public Examination (Prevention of Unfair Means) Amendment Bill, 2026**.

Key Features of the Amendment Bill, 2026

1. Stricter Punishments

- a. Punishment for individuals using unfair means has been enhanced from **3–5 years' imprisonment and a fine up to ₹10 lakh** to **5–10 years' imprisonment and a fine up to ₹50 lakh**.
- b. Offences earlier punishable with a **fine up to ₹1**

crore and a four-year ban now attract a **fine up to ₹5 crore** and an **eight-year ban**.

- c. Organised examination fraud now carries a **minimum imprisonment of five years** and a **fine up to ₹5 crore**.
- d. The gravest offences are punishable with a **minimum of seven years' imprisonment** and a **fine up to ₹10 crore**.

2. Statutory Fast-Track Courts

- a. The amendment provides **statutory backing** for **fast-track courts** to try offences under the Act.
- b. Initially, such courts are proposed in the **four High Courts** handling **NEET-related cases**, ensuring faster disposal of cases.

3. Time-bound Investigation and Disposal of Cases

- a. **Investigation** must be completed within **two months**.
- b. **Trial** must be completed within **three months**.
- c. The law seeks to ensure that paper leak cases are concluded within **five months**.

4. Special Task Force (STF)

- a. The Union Government is empowered to establish a **Special Task Force (STF)** to investigate offences under the Act.
- b. The STF will strengthen coordination in cases involving **inter-state paper leak networks** and **organised examination fraud**.

Challenges and Way Forward

Challenges	Way Forward
Time-bound investigation: Completing investigations within the prescribed two-month period may be difficult in complex or inter-state paper leak cases.	Strengthen investigation capacity: Enhance coordination among the Centre, States, investigating agencies, and examination authorities to ensure timely and effective investigations.
Capacity of fast-track courts: Fast-track courts may face delays if adequate judicial infrastructure, manpower, and resources are not available.	Expand judicial infrastructure: Provide sufficient judges, staff, and infrastructure to enable fast-track courts to function efficiently and meet statutory timelines.

Inter-agency coordination: Tackling organised examination fraud requires seamless cooperation between multiple agencies across states.	Strengthen institutional coordination: Establish robust information-sharing mechanisms and coordinated action among enforcement agencies to dismantle organised paper leak
Digital vulnerabilities: Legal reforms alone cannot prevent paper leaks unless weaknesses in examination technology and security systems are addressed.	Enhance examination security: Adopt secure digital technologies, strengthen cybersecurity, conduct regular security audits, and upgrade examination management systems to prevent leaks and malpractice.

Conclusion

The Amendment Bill strengthens India's legal framework against examination fraud. Its success, however, will depend on effective implementation, institutional coordination, and secure examination systems that uphold merit and fairness.

3. Vande Mataram Bill: Proposed Statutory Protection for the National Song

Context

The **Prevention of Insults to National Honour (Amendment) Bill, 2026** is proposed to be introduced in the **Rajya Sabha** during the Monsoon Session of Parliament.

About the Bill

The proposed amendment seeks to strengthen the legal framework for protecting India's national symbols by extending statutory safeguards to the **National Song**.

1. The Bill proposes to amend **Section 3** of the **Prevention of Insults to National Honour Act, 1971**.
2. At present, **Section 3** makes it an offence to:
 - a. Intentionally prevent the singing of the **National Anthem**.
 - b. Cause disturbance to an assembly engaged in singing the anthem.
3. The amendment seeks to extend these provisions to **Vande Mataram**.
4. In **Salman v. State of Kerala (2014)**, the **Kerala High Court** held that intentionally creating noise or obstructing the singing of the National Anthem

could constitute an offence under **Section 3**, thereby justifying police investigation.

5. If enacted, intentionally obstructing or disturbing the singing of the **National Song** would be punishable with **imprisonment of up to three years, a fine, or both**.

Current Legal Framework

1. '**Jana Gana Mana**' is India's **National Anthem**, while '**Vande Mataram**' is recognised as the **National Song**.
2. The **Constitution of India** does not expressly mention the National Song. Its status is based on **historical recognition and long-standing constitutional practice**.
3. The **Ministry of Home Affairs (MHA)** has issued advisory guidelines regarding the singing and playing of **Vande Mataram**.
4. The guidelines:
 - a. Prescribe the **authorised lyrics** composed by **Bankim Chandra Chatterjee**.
 - b. Recommend community singing during **National Flag unfurling, ceremonial functions, and cultural programmes**.
 - c. Advise people to **stand at attention** during the official rendition.
 - d. Encourage schools to begin the day with community singing of the National Song.
5. These guidelines are **advisory** and do not currently prescribe any legal penalty for non-compliance.

Judicial Perspective

Supreme Court on MHA Guidelines

1. The **Supreme Court** dismissed a petition challenging the MHA guidelines as **premature**, observing that the guidelines were advisory in nature and imposed no penal consequences.
2. If the proposed amendment is enacted, the legal position would change by introducing statutory penalties for acts covered under the amended provision.
3. In **Bijoe Emmanuel v. State of Kerala (1986)**, the **Supreme Court** held that individuals cannot be compelled to sing the National Anthem if doing so conflicts with their genuine religious beliefs.
4. The Court ruled that **standing respectfully during the anthem is sufficient to show respect**, and merely remaining silent does not amount to disrespect.
5. The judgment upheld:

a. **Article 19(1)(a)** – Freedom of Speech and Expression.

b. **Article 25(1)** – Freedom of Religion.

6. The decision remains a landmark precedent on balancing respect for national symbols with individual constitutional freedoms.

Conclusion

The proposed amendment seeks to extend statutory protection to **Vande Mataram**, reflecting the State's commitment to safeguarding national symbols. If enacted, its implementation will need to uphold the constitutional balance between **national honour** and **Fundamental Rights**, with its scope ultimately shaped by judicial interpretation.

4. ECINET Form 6: New Declaration Requirement

Context

The **Election Commission of India (ECI)** has introduced a new declaration in the online **ECINET Form 6**, requiring applicants for fresh voter registration to furnish details of their parents' electoral status in the **last Special Intensive Revision (SIR)**. The move has raised concerns over whether the change has been introduced in accordance with the prescribed statutory procedure.

New Declaration Requirement

1. **Form 6**, prescribed under the **Representation of the People Act, 1950** and the **Registration of Electors Rules, 1960**, is the statutory application for enrolment as a new elector.
 - a. **Where either parent was enrolled**, applicants must provide the **Assembly Constituency, Polling Booth (Part)** and **Serial Number** in the electoral roll.
 - b. **Where neither parent was enrolled**, applicants must furnish the parents' names and **Electors Photo Identity Card (EPIC)** numbers, wherever available.
3. The requirement applies in all States and Union Territories where the **SIR** has been completed or is underway, except **Bihar**.

Special Intensive Revision (SIR): Current Status

1. The **Special Intensive Revision (SIR)** is a comprehensive revision of electoral rolls undertaken

- to verify voter eligibility and prepare accurate electoral rolls through fresh verification.
2. Since **June 2025**, the exercise has been completed in **13 States/UTs** and is underway in **19 States/UTs**.
 3. It has not yet been announced for **Himachal Pradesh, Ladakh and Jammu & Kashmir**.
 4. In **Assam**, the exercise has been deferred until completion of the **National Register of Citizens (NRC)**.
 5. Nationwide, the exercise has resulted in the deletion of around **5.58 crore** entries, mainly due to death, migration, duplicate enrolment and prolonged absence.
 6. In **West Bengal**, nearly **27 lakh** electors were removed following adjudication proceedings, with appeals pending before the appellate tribunals.

Legal and Constitutional Issues

1. Constitutional Basis

- a. **Article 326** guarantees every adult citizen ordinarily resident in a constituency the right to be enrolled as an elector, subject only to disqualifications prescribed by law.

2. Statutory Framework

- a. The **Representation of the People Act, 1950** empowers the Central Government to frame rules relating to electoral registration.
- b. Under **Section 28**, amendments to these rules must:
 - i. Be made after consultation with the Election Commission.
 - ii. Be notified in the **Official Gazette**.
 - iii. Be laid before Parliament.

Due Process Concerns

1. As **Form 6** forms part of the **Registration of Electors Rules, 1960**, any modification requires a formal amendment notified by the **Ministry of Law and Justice**.
2. No Gazette notification has been issued incorporating the new declaration.
3. The downloadable version of **Form 6** also does not contain the additional declaration, raising concerns regarding procedural compliance and statutory validity.

Implications

1. First-time voters may face practical difficulties in tracing their parents' electoral details from the last

SIR.

2. The Election Commission has not clarified whether failure to provide these details could affect voter enrolment.
3. The ongoing **SIR** requires documentary verification of voter eligibility, including citizenship-related records, making the declaration requirement more consequential.
4. The implications for applicants whose parents' names have already been deleted from electoral rolls remain uncertain.

Significance

1. Reinforces statutory compliance in electoral reforms.
2. Highlights the need to balance electoral integrity with the constitutional guarantee of **universal adult suffrage**.
3. Promotes transparency, accountability and legal certainty in voter registration.
4. Emphasises accessible and non-discriminatory enrolment of eligible electors.

Conclusion

The new declaration requirement reflects the Election Commission's effort to strengthen the accuracy and integrity of electoral rolls. However, changes affecting voter enrolment must be supported by statutory authority and implemented through due process. Balancing electoral integrity with transparency, legal certainty and inclusive voter registration will be essential to uphold the constitutional promise of **universal adult suffrage**.

5. Doctrine of Per Incuriam: Supreme Court Clarification

Context

The Supreme Court recently clarified the legal principles governing per incuriam judgments, explaining when an earlier judicial ruling can be disregarded for overlooking a binding statutory provision or a precedent of a competent bench.

About Doctrine of Per Incuriam

1. Per incuriam (Latin for "through lack of care") refers to a judgment delivered in ignorance of a relevant statutory provision or an earlier judicial precedent.
2. Such judgements are not regarded as binding precedents, allowing subsequent courts to depart from or correct them.
3. The doctrine is a limited exception to the principle of *stare decisis* ("to stand by what has been decided"),

under which courts ordinarily follow binding precedents.

4. It is a judicially evolved exception to the binding force of the law declared by the Supreme Court under Article 141 of the Constitution and is invoked only in exceptional cases.
5. The doctrine applies only to the ratio decidendi, which constitutes the binding legal principle of a judgement, and not to obiter dicta, which carry only persuasive value.
6. In **State of Assam v. Ripa Sarma**, the Supreme Court held that a judgment delivered in ignorance of an earlier decision of a coordinate or larger bench may be treated as per incuriam.

Recent Supreme Court Observations

1. A judgment may be declared per incuriam if its ratio decidendi is irreconcilable with an earlier decision of a bench of equal or larger strength or if a relevant statutory provision, rule, or regulation was not brought to the Court's notice.
2. The binding force of a judicial precedent depends on the strength of the bench, rather than the number of judges expressing a particular view.
3. A bench of co-equal strength disagreeing with an earlier decision must refer the matter to a larger bench instead of delivering a conflicting ruling, in keeping with the principle of judicial discipline.
4. The Court reaffirmed that decisions of larger benches are binding on subsequent benches of equal or lesser strength.
5. A judgment cannot be treated as *per incuriam* merely because it reaches an incorrect conclusion after considering the relevant precedent or because an alternative interpretation suggests a conflict with an earlier decision.

6. Right to Legal Representation

Context

The Ayodhya (Faizabad) Bar Association recently resolved that its members would not represent persons accused in the alleged embezzlement of Ram Temple donation funds and announced disciplinary action against advocates who chose to appear for them. The incident has once again raised concerns over the constitutional right to legal representation and the legality of such resolutions by bar associations.

Constitutional Framework

1. **Article 22(1)** guarantees every arrested person the right to consult and be defended by a legal practitioner

of their choice.

2. **Article 14** ensures equality before the law and equal protection of laws, requiring fair and non-discriminatory access to justice.
3. The Supreme Court has interpreted **Article 21** to include the **right to a fair trial**, making legal representation an essential safeguard of life and personal liberty.
4. **Article 39A**, a Directive Principle of State Policy, directs the State to provide free legal aid so that access to justice is not denied due to economic or other disabilities.
5. Taken together, these constitutional provisions establish the **right to legal representation** as an indispensable component of a fair criminal justice system.

Bar Council of India (BCI) Rules

1. The **Bar Council of India Rules on Standards of Professional Conduct and Etiquette** require advocates to ordinarily accept briefs in courts or tribunals, subject to professional ethics and reasonable grounds for refusal.
2. The discretion to decline a brief under **special circumstances** is available only to an **individual advocate** and cannot be exercised collectively by a bar association.
3. In **Kuldeep Agarwal v. State of Uttarakhand (2019)**, the Uttarakhand High Court held that bar associations have **no authority to prevent their members** from representing a particular accused.

Key Judicial Pronouncements

1. **A.S. Mohammed Rafi v. State of Tamil Nadu (2010)**
 - a. The Supreme Court held that resolutions restraining advocates from representing particular accused persons are **illegal, unethical, and contrary to the traditions of the legal profession**.
 - b. It affirmed that **every accused person is entitled to legal representation**, irrespective of the nature or gravity of the allegations.
 - c. The Court referred to the legal defence provided to **Indian freedom fighters during colonial rule**, the accused in the assassination cases of **Mahatma Gandhi** and **Indira Gandhi**, and those tried before the **Nuremberg Trials**, emphasising that the right to legal representation is fundamental to the rule of law.

2. J. Jayalithaa v. State of Karnataka (2014)

- a. The Supreme Court reaffirmed that a **fair trial** is the cornerstone of the criminal justice system and protects the interests of the accused, victims, and society alike.

Other Judicial Interventions

1. Similar resolutions have been passed in several high-profile criminal cases, including the **2008 Mumbai terror attacks**, the **2012 Delhi gangrape case**, the **2017 Pradyuman Thakur murder case**, and the **2019 Hyderabad rape-murder case**.
2. Courts have consistently struck down such resolutions, reiterating that **the right to legal counsel is indispensable for upholding the rule of law**.

Significance

1. Upholds the constitutional guarantee of a **fair trial, due process, and equal access to justice**.
2. Preserves the **independence of the legal profession** by preventing collective interference in an advocate's professional duties.
3. Ensures that criminal proceedings are conducted in accordance with the **rule of law**, irrespective of the nature of the allegations or public opinion.
4. Strengthens the credibility and fairness of the criminal justice system by safeguarding the rights of the accused, victims, and society.

Conclusion

The judiciary has consistently held that resolutions preventing advocates from representing accused persons are unconstitutional and inconsistent with professional ethics. The right to legal representation remains an indispensable element of a fair trial and the rule of law, ensuring that the administration of criminal justice is guided by constitutional principles, professional ethics, and the rule of law rather than public sentiment.

7. Right to Protest in India

Context

Police action against the **Cockroach Janta Party (CJP)** and its supporters during a planned march to Parliament has revived the debate on the constitutional scope of the **Right to Protest** in India. The incident has once again highlighted the need to balance citizens' right to express dissent with the State's responsibility to maintain public order and ensure the smooth functioning of public institutions.

Constitutional Framework

The constitutional foundation of the Right to Protest is embedded in the Fundamental Rights guaranteed under **Article 19** of the Constitution.

1. **Article 19(1)(a)** guarantees the **freedom of speech and expression**.
2. **Article 19(1)(b)** guarantees the right to **assemble peaceably and without arms**.
3. **Article 19(2)** permits reasonable restrictions on the freedom of speech and expression on specified constitutional grounds.
4. **Article 19(3)** permits reasonable restrictions on the right to peaceful assembly in the interests of the **sovereignty and integrity of India and public order**.
5. Any restriction on these freedoms must satisfy the constitutional principles of **legality, necessity, reasonableness, and proportionality**.
6. The constitutional validity of such restrictions remains subject to **judicial review**.

Scope of the Right to Protest

The Right to Protest encompasses various lawful forms of collective expression through which citizens communicate their views, influence public policy, and participate in democratic processes.

The scope of the right includes:

1. Public meetings, rallies, marches, and demonstrations.
2. Sit-ins, dharnas, and other peaceful forms of collective expression.
3. Lawful expression of political, social, economic, environmental, and cultural concerns.
4. Collective action by citizens, civil society organisations, trade unions, and other associations.
5. Peaceful assemblies conducted without arms and in accordance with the law.

Reasonable Restrictions

The Constitution permits reasonable restrictions to balance individual freedoms with larger public interests.

Restrictions may be imposed in the interests of:

1. Sovereignty and integrity of India.
2. Security of the State.
3. Public order.
4. Friendly relations with foreign States.
5. Decency or morality.
6. Contempt of court.
7. Defamation.
8. Incitement to an offence.

These restrictions must pursue a legitimate constitutional objective and satisfy the tests of **legality, necessity, reasonableness, and proportionality**.

Regulation of Protests

The exercise of the Right to Protest is regulated to ensure that constitutional freedoms are exercised without disrupting public administration or infringing upon the rights of others.

The common regulatory measures include:

1. Designating notified locations for public demonstrations.
2. Requiring prior permission, where prescribed by law or local regulations.
3. Imposing temporary prohibitory orders under **Section 163 of the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023 (earlier Section 144 of the Code of Criminal Procedure, 1973)** to prevent threats to public order.
4. Regulating the time, place, route, and manner of public assemblies.
5. Ensuring that regulatory measures facilitate lawful protests without imposing arbitrary or blanket prohibitions.

International Perspective

The freedom of peaceful assembly is recognised as a fundamental democratic value under international human rights law. India has consistently supported this principle while emphasising the need to balance civil liberties with public order.

1. During the **47th Session of the United Nations Human Rights Council (UNHRC) in 2021**, India described peaceful assemblies and public marches as a cherished aspect of its democratic tradition.
2. India reaffirmed that **Article 19** guarantees the right to assemble peacefully without arms and to form associations and unions.
3. India emphasised that constitutional democracies must balance the freedom of peaceful assembly with the duty to protect **life, public order, and the rights of all citizens**.
4. India's approach reflects the principle that democratic freedoms and public safety are complementary rather than mutually exclusive.

Judicial Interpretation

The Supreme Court has consistently recognised peaceful protest as a constitutional right while affirming that it is subject to reasonable regulation in the larger public

interest.

1. Himat Lal K. Shah v. Commissioner of Police (1973)

The Supreme Court held that the freedom of peaceful assembly is an essential democratic right. While the State may regulate the use of public spaces, it cannot impose arbitrary restrictions or completely deny citizens the opportunity to hold public meetings.

2. Mazdoor Kisan Shakti Sangathan v. Union of India (2018)

The Court held that protests in sensitive public areas may be reasonably regulated to maintain public order. However, regulatory measures should facilitate the exercise of constitutional freedoms and should not amount to a complete prohibition of peaceful demonstrations.

3. Amit Sahni v. Commissioner of Police (2020)

In the **Shaheen Bagh** case, the Supreme Court ruled that public protests should ordinarily be conducted at designated locations. It held that indefinite occupation of public roads or public spaces, causing prolonged inconvenience to the general public, is inconsistent with the constitutional balance between individual rights and public interest.

Challenges and Way Forward

Challenges	Way Forward
Balancing the Right to Protest with the need to maintain public order and national security .	Ensure that restrictions are imposed only on constitutionally permissible grounds and satisfy the principles of legality, necessity, reasonableness, and proportionality .
Protests may disrupt roads, transport networks, and essential public services , affecting the rights of other citizens.	Establish transparent guidelines for regulating the time, place, and manner of demonstrations while ensuring adequate spaces for peaceful protests.
Large gatherings may lead to violence, vandalism, or damage to public property .	Strengthen professional crowd management, preventive policing, and coordination with protest organisers while safeguarding Fundamental Rights.

Balancing the interests of protesters with those of commuters, residents, businesses, and other stakeholders.	Promote continuous dialogue and mediation between public authorities and organisers to minimise conflicts and encourage peaceful resolution of grievances.
Increasing use of social media may facilitate misinformation and rapid mobilisation, leading to law-and-order challenges.	Strengthen digital literacy, fact-checking mechanisms, and responsible online communication without undermining freedom of expression.
Possibility of arbitrary or disproportionate restrictions on peaceful assemblies.	Ensure effective judicial oversight and periodic review of regulatory measures to prevent misuse of executive powers.
Protecting democratic dissent while ensuring the uninterrupted functioning of legislatures, courts, hospitals, educational institutions, transport systems, and other essential services .	Adopt a rights-based regulatory framework that protects constitutional freedoms while ensuring continuity of essential public services and institutions.

Conclusion

The **Right to Protest** is a cornerstone of India's constitutional democracy, providing citizens with a legitimate means to express dissent, influence public policy, and strengthen democratic accountability. At the same time, the exercise of this right carries corresponding responsibilities and must remain consistent with constitutional values and the rule of law. A balanced legal framework, transparent administration, constructive dialogue, and consistent judicial oversight are essential to safeguard this freedom while preserving public order and protecting the rights of all stakeholders.

8. Trial in Absentia under the Bharatiya Nagarik Suraksha Sanhita (BNSS)

Context

The **Special NIA Court in Jammu** has issued a **non-bailable warrant** against **Hafiz Saeed**, the Pakistan-based chief of the banned terrorist organisation **Lashkar-e-Taiba (LeT)**, in connection with the **Pahalgam terror attack**. As Saeed is unlikely to appear before an Indian court, the **National Investigation Agency (NIA)** is expected to invoke the **trial in absentia** provisions

under **Section 356 of the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023**, bringing renewed attention to this important procedural reform.

Case Background

1. The NIA's supplementary chargesheet names **Hafiz Saeed** in his individual capacity and as the head of LeT and its proxy outfit, **The Resistance Front (TRF)**.
2. He has been charged under the **Bharatiya Nyaya Sanhita (BNS), 2023** and the **Unlawful Activities (Prevention) Act (UAPA), 1967**, for offences including **waging war against India** and **criminal conspiracy**.

Meaning of Trial in Absentia

1. **Trial in absentia** refers to a criminal trial conducted **without the physical presence of the accused**.
2. Under **Section 356 of the BNSS**, a court may proceed with such a trial if:
 - a. the accused has been declared a **proclaimed offender**;
 - b. the accused has **absconded to evade trial**; and
 - c. there is **no immediate prospect of arrest**.
3. After recording reasons in writing, the court may continue with the **inquiry, trial, and pronouncement of judgment** as though the accused were present.

BNSS and CrPC: Key Differences

1. The **Code of Criminal Procedure (CrPC), 1973** did not permit a **complete trial in absentia**.
2. It provided only limited measures to deal with absconding accused:
 - a. **Section 82(4)**: Proclamation and attachment of property.
 - b. **Section 299**: Recording of evidence where there was no immediate prospect of arrest.
 - c. **Section 317**: Dispensing with the accused's personal attendance in specified cases.
3. Since these provisions did not permit a complete trial, many cases remained pending until the accused was apprehended.
4. **Section 356 of the BNSS** addresses this limitation by permitting **complete trials** against proclaimed offenders who deliberately evade the judicial process.

Applicability

1. Trial in absentia applies **only to a proclaimed offender** declared under **Section 84 of the BNSS**.

2. A person may be declared a proclaimed offender if:
 - a. they are accused of an offence punishable with **imprisonment of 10 years or more, life imprisonment, or death**; and
 - b. they fail to appear despite the prescribed legal process.
3. Accordingly, the provision is confined to offences punishable with **10 years' imprisonment or more, life imprisonment, or death**.

Procedural Safeguards

To safeguard the **right to a fair trial**, Section 356 prescribes the following safeguards:

1. Two **consecutive arrest warrants** must be issued at least **30 days apart**.
2. A **public notice** must be published in a local or national newspaper, giving the accused **30 days** to appear.
3. The notice must also be displayed at the accused's **last known residence**, and a **relative or friend** must be informed.
4. The trial can commence **only after 90 days** from the framing of charges.
5. If the accused is not represented by a lawyer, the court must appoint a **State-funded defence counsel**.
6. Statements of prosecution witnesses recorded before the trial may be admitted as evidence. If the accused is later apprehended, the court may permit **cross-examination** in the interest of justice.
7. Witness statements and depositions may be recorded through **audiovisual electronic means** to preserve their authenticity and evidentiary value.

Significance

1. Prevents undue delay caused by absconding offenders.
2. Enables timely adjudication of cases involving **terrorism, organised crime, and other serious offences**.
3. Strengthens the criminal justice system by discouraging deliberate evasion of judicial proceedings.
4. Balances **speedy justice** with the **right to a fair trial** through statutory safeguards.

Conclusion

Section 356 of the BNSS marks a significant reform in India's criminal justice framework by enabling **complete trials against proclaimed offenders** who deliberately evade the legal process. At the same time, it incorporates robust procedural safeguards to protect the accused's right

to a fair trial. By ensuring timely adjudication without compromising due process, the provision strikes a balance between **judicial efficiency, individual rights, and national security**.

9. Criminal Justice System Moves Towards Complete Digitalisation

Context

The **Union Ministry of Home Affairs** has announced that from **1st January 2027**, all investigation and trial-related procedures under the new criminal laws will be recorded digitally through the **Interoperable Criminal Justice System (ICJS)**. The initiative aims to modernise India's criminal justice system by enabling seamless digital coordination among the police, courts, prisons, prosecution, and forensic agencies, thereby improving the efficiency, transparency, and timeliness of justice delivery.

Interoperable Criminal Justice System (ICJS)

The **Interoperable Criminal Justice System (ICJS)** is a national digital platform that connects the **police, courts, prisons, forensic laboratories, and prosecution** on a unified network. It facilitates end-to-end digital processing of criminal cases, covering every stage from **FIR registration and investigation to chargesheet filing, trial, and final disposal**.

The platform is hosted on **MeghRaj**, the Government of India's cloud infrastructure.

ICJS has assumed greater importance following the implementation of the three new criminal laws on **1 July 2024**:

1. **Bharatiya Nyaya Sanhita (BNS), 2023** – replaced the Indian Penal Code (IPC).
2. **Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023** – replaced the Code of Criminal Procedure (CrPC).
3. **Bharatiya Sakshya Adhiniyam (BSA), 2023** – replaced the Indian Evidence Act, 1872.

These legislations encourage digital documentation, wider use of forensic evidence, and better coordination among institutions involved in criminal justice administration.

Implementation Status

The Ministry has stated that the nationwide rollout of ICJS is nearing completion. However, available data indicate that important operational gaps still need to be addressed.

Digital Transmission of FIRs

According to the **National Crime Records Bureau (NCRB)**, only **46% of registered FIRs** have been

transmitted electronically to courts. This highlights that seamless digital integration between investigation and judicial processes is yet to be fully realised.

Progress under the New Criminal Laws

Since the new criminal laws came into force:

1. More than **74.66 lakh FIRs** have been registered under the **Bharatiya Nyaya Sanhita (BNS)**.
2. Around **63,572 Zero FIRs** have been registered under the **Bharatiya Nagarik Suraksha Sanhita (BNSS)**.

A **Zero FIR** enables a complaint to be registered at any police station irrespective of territorial jurisdiction before being transferred to the competent police station. Around **13,000** such cases involved transfers between districts within the same State.

The Ministry has clarified that the police are legally bound to register a Zero FIR. Once transferred, the jurisdictional police station decides whether the case requires further investigation or closure after a preliminary inquiry.

Crime and Criminal Tracking Network & Systems (CCTNS): Digital Backbone of Policing

The **Crime and Criminal Tracking Network & Systems (CCTNS)** supports digital policing across nearly **16,000 police stations** nationwide.

Its major features include:

1. Online registration of FIRs.
2. Services available in **23 Indian languages**.
3. Integration with the **Bhashini** platform to translate Zero FIRs into the language of the receiving State, enabling smoother inter-state coordination.

State-wise Progress

The level of implementation differs across States and Union Territories.

1. **Haryana, Goa, Assam, Punjab, and Chandigarh** have achieved full compliance with all prescribed digitisation parameters.
2. **Twenty-three States and Union Territories**, including **Delhi**, are performing above the national average.
3. Connectivity constraints continue to impede implementation in parts of the North-Eastern region.

Strengthening Forensic Infrastructure

The new criminal laws mandate **forensic examination of crime scenes** for offences punishable with imprisonment of **seven years or more**.

To support this requirement:

1. The number of forensic laboratories increased from

129 (2023) to 154 (2025).

2. **25 new forensic laboratories** have been established.
3. More than **700 mobile forensic units** have been deployed.

This expansion reflects the greater emphasis placed on scientific investigation under the new legal framework.

1. Cases received by forensic laboratories increased from **8.45 lakh (2023) to 11.12 lakh (2025)**.
2. Pending cases declined from **4.65 lakh to 3.91 lakh**, indicating improved disposal despite rising demand.

Key Performance Indicators

Implementation of the new criminal laws has shown steady progress.

1. National implementation score increased from **46.47% (January 2025) to 70.06% (June 2026)**.
2. **60-day chargesheet compliance** improved from **51% to 67%**.
3. **90-day chargesheet compliance** increased from **40% to 61%**.
4. More than **46.5 lakh Sakshya IDs** have been generated for digital evidence management.
5. Around **56.74 lakh e-summons** have been issued electronically.

National Police Database

The national police database contained **37.68 crore police records**, including:

1. **9.9 crore FIRs**
2. **7.64 crore chargesheets**

The database enables authorised agencies to access records across jurisdictions, facilitating **real-time information sharing** and coordinated investigations.

Challenges and Way Forward

Challenges	Way Forward
Limited internet connectivity, particularly in remote and North-Eastern regions	Strengthen digital infrastructure and ensure reliable broadband connectivity across all criminal justice institutions.
Uneven implementation across States and Union Territories	Issue uniform operational guidelines and strengthen Centre-State coordination through regular monitoring and performance evaluation.

Incomplete interoperability among police, courts, prisons, prosecution, and forensic agencies	Adopt common digital standards and ensure seamless integration across all components of the ICJS.
Capacity gaps among police, prosecutors, judicial officers, and forensic personnel	Conduct continuous training and capacity-building programmes to enhance digital skills and institutional preparedness.
Data security and privacy concerns	Strengthen cybersecurity architecture, implement robust data protection safeguards, and undertake periodic security audits.
Rising forensic workload	Expand forensic infrastructure, augment skilled human resources, and deploy advanced forensic technologies to reduce pendency.

Conclusion

The **Interoperable Criminal Justice System (ICJS)** marks a significant step towards transforming India's criminal justice administration through integrated digital governance. By connecting the **police, prosecution, courts, prisons, and forensic services** on a unified platform, it seeks to make criminal investigations and trials faster, more transparent, and evidence-based. Its long-term success will depend on seamless interoperability, robust digital infrastructure, institutional capacity, strong cybersecurity, and uniform implementation across all States and Union Territories, ensuring an efficient and citizen-centric justice delivery system.

10. Civil Registration System (CRS)

Context

India recorded **over 99% of its estimated births and deaths in 2024**, according to the Office of the Registrar General and Census Commissioner. This marks a significant milestone in strengthening the **Civil Registration System (CRS)** and improving the availability of reliable demographic data for evidence-based governance.

About the Civil Registration System (CRS)

1. The **Civil Registration System (CRS)** is India's statutory mechanism for the **continuous and compulsory registration** of **births, deaths, and stillbirths**.
2. It operates under the **Registration of Births and Deaths Act, 1969**, amended in **2023** to strengthen

digital registration and expand the use of birth certificates.

3. The system is administered by the **Office of the Registrar General and Census Commissioner, India**, while **State Governments** are responsible for implementing registration at the field level.
4. Births and deaths are ordinarily required to be registered within **21 days**. Institutional events are reported by designated medical authorities, whereas household events are reported by the head of the family or other prescribed informants.
5. CRS is the principal source of **vital statistics**, enabling the estimation of fertility, mortality, life expectancy, population growth, and the sex ratio at birth.

Registration Coverage in India

1. Registration coverage has improved substantially over the years:
 - a. **2000**: Birth registration – **56%**; Death registration – **48%**
 - b. **2014**: Birth registration – **86.6%**; Death registration – **72.5%**
 - c. **2024**: Birth registration – **99.1%**; Death registration – **99.4%**
2. Death registration, which historically lagged behind birth registration, has shown remarkable improvement in recent years.
3. In **2024**, **18 States/UTs** achieved **100% birth registration**, while **21 States/UTs** achieved **100% death registration**.
4. States such as **Kerala, Goa, Himachal Pradesh, and Arunachal Pradesh** had achieved universal birth registration much earlier.

Significance

1. Generates reliable **vital statistics** for demographic planning and evidence-based policymaking.
2. Supports the assessment and design of **health, social welfare, and development programmes**.
3. Strengthens **disease surveillance and public health planning** by enabling timely analysis of mortality patterns and health emergencies.
4. Facilitates **district- and sub-district-level planning**, improving decentralised governance and resource allocation.
5. Provides **legally recognised proof of identity and civil status**, enabling access to education, social welfare, inheritance, banking, insurance, and other public services.
6. Reduces dependence on periodic sources such as the **Census, Sample Registration System (SRS)**, and

household surveys for annual demographic estimates.

Factors Driving Improved Registration

1. Administrative Reforms

- Digitisation of registration services under the **Registration of Births and Deaths (Amendment) Act, 2023**.
- Greater integration of digital records with public service delivery systems.

2. Expansion of Institutional Services

- Rise in **institutional deliveries** supported by maternal and child health programmes.
- Increased utilisation of hospitals and formal healthcare facilities for death registration.
- Expansion of public health insurance, particularly **PM-JAY**, leading to greater interaction with formal healthcare institutions.

3. Growing Demand for Registration

- Birth certificates have become essential for **school admission, Aadhaar enrolment, voter registration, and access to welfare schemes**.
- Death certificates are increasingly required for **inheritance, pensions, insurance claims, banking, and property transfers**.

Challenges and Way Forward

Challenges	Way Forward
Regional disparities: Registration coverage continues to vary across States and between rural and urban areas.	Strengthen registration infrastructure, administrative capacity, and public awareness in low-performing regions.
Delayed registration: Many births and deaths are not registered within the prescribed 21-day period.	Simplify reporting procedures, improve last-mile service delivery, and promote timely digital registration.
Under-registration of infant deaths: Infant deaths, particularly in rural areas, remain under-reported.	Strengthen rural health systems, improve surveillance, and ensure timely reporting of infant deaths.
Limited medical certification of deaths: Many registered deaths lack Medical Certification of Cause of Death (MCCD) , reducing the usefulness of mortality data for health planning.	Expand MCCD coverage and improve the quality and accuracy of death certification.

Limitations in estimating registration completeness: CRS coverage is assessed using **Sample Registration System (SRS)** estimates, which may themselves undercount births and deaths.

Strengthen data validation through periodic audits and integration with other administrative databases.

Limited demographic coverage: The system does not adequately capture internal migration, reducing its usefulness for dynamic population planning.

Develop a robust mechanism to record internal migration while ensuring secure digital integration and data privacy.

Conclusion

A robust **Civil Registration System** is fundamental to **evidence-based governance**, effective public service delivery, and reliable demographic planning. While India has achieved near-universal registration of births and deaths, sustained efforts to improve **data quality, medical certification of deaths, timely registration, and digital integration** will be essential to fully realise the system's potential.

11. Citizenship Determination: Due Process and Natural Justice

Context

Recently, the Supreme Court set aside **27 Gauhati High Court judgments** that had upheld the **Foreigners Tribunals' (FTs)** declaration of certain individuals as foreigners. The Court held that **citizenship determination must follow a fair, lawful, and reasonable process**, reaffirming that statutory procedures must operate in conformity with constitutional safeguards.

Issue Before the Court

- The appeals challenged **ex parte** declarations of foreigner status passed by the **Foreigners Tribunals**.
- The appellants contended that:
 - Proper notice had not been served.
 - The proceedings violated the **principles of natural justice**.
 - They were denied legal aid or *amicus curiae*.
 - Government-issued documents supporting their claim to Indian citizenship were not adequately considered.
- The **Gauhati High Court** upheld the tribunal orders by relying on **Section 9 of the Foreigners Act, 1946**,

which places the burden of proving citizenship on the individual.

4. The principal issue before the Supreme Court was whether **citizenship could be determined through ex parte proceedings without ensuring procedural fairness and compliance with constitutional safeguards**.

Key Findings of the Supreme Court

1. Due Process in Citizenship Determination

- a. Citizenship has significant **constitutional and human rights implications**, as it directly affects an individual's legal status and fundamental rights.
- b. No person can be deprived of citizenship except through a **fair, lawful, and reasonable process** consistent with **Article 21** of the Constitution.
- c. Citizenship claims must be adjudicated on the basis of **substantive evidence** rather than procedural defaults.

2. Natural Justice in Citizenship Proceedings

- a. The Court reaffirmed that the principle of **audi alteram partem** (right to be heard) is indispensable to citizenship adjudication.
- b. Before confirming an **ex parte** declaration of foreigner status, tribunals must ensure:
 - i. Effective service of notice.
 - ii. A meaningful opportunity to present evidence.
 - iii. Strict adherence to the principles of natural justice.

3. Burden of Proof under the Foreigners Act

- a. While **Section 9 of the Foreigners Act, 1946** places the burden of proving citizenship on the individual, it **does not dispense with the requirement of a fair adjudicatory process**.
- b. Relevant documentary evidence must be objectively assessed and cannot be disregarded solely because of procedural lapses.

Directions Issued by the Supreme Court

The Supreme Court directed the **Foreigners Tribunals** to:

1. Reconsider all **27 cases** after setting aside the Gauhati High Court judgments.
2. Permit the appellants to file written statements.
3. Consider all relevant documentary evidence.
4. Allow examination of witnesses, wherever necessary.
5. Decide the cases afresh after providing a fair opportunity of hearing.

Significance

1. Reinforces **due process** and **natural justice** in citizenship adjudication.
2. Clarifies that **procedural defaults alone cannot justify declaring an individual a foreigner**.
3. Harmonises **Section 9 of the Foreigners Act, 1946** with the constitutional guarantee under **Article 21**.
4. Strengthens procedural safeguards governing proceedings before **Foreigners Tribunals**, particularly in Assam.
5. Sets an important precedent for ensuring **procedural fairness in citizenship adjudication**.

Conclusion

The judgment reinforces that **citizenship determination is not merely a statutory exercise but a constitutional process** that must uphold **fairness, transparency, and accountability**. It strengthens the rule of law by ensuring that statutory powers are exercised in harmony with constitutional guarantees.

12. Autonomous Hill Development Councils (AHDCs) in Ladakh

Context

The Ladakh administration has announced the establishment of an **Autonomous Hill Development Council (AHDC)** in each of the Union Territory's **seven districts**, renewing the debate over the balance between **district-level decentralisation** and a **Union Territory-level representative governance framework**.

Recent Developments

1. Earlier, AHDCs existed only in **Leh** and **Kargil** districts.
2. Following the creation of **Drass, Sham, Nubra, Changthang, and Zaskar** as new districts in **April 2026**, the administration has proposed an AHDC for each district.
3. The proposal is based on the **Ladakh Autonomous Hill Development Council Act**, which permits the establishment of a council in every district.
4. The administration has also proposed a **Union Territory-level representative body** under a customised **Article 371** framework with legislative, executive, financial, and administrative powers, stating that it would complement the district councils.

Need for Decentralisation

1. Ladakh is **India's largest Union Territory by area**,

- covering nearly **60,000 sq km**, but has a sparse population of about **three lakh** spread across difficult mountainous terrain.
2. Large distances, scattered settlements, and limited connectivity make decentralised governance essential for **effective administration, improved public service delivery, and region-specific development planning**.

Key Concerns

1. The **Apex Body, Leh (ABL)** and the **Kargil Democratic Alliance (KDA)** support decentralisation but oppose the creation of additional district councils before finalising the proposed **Article 371** framework.
2. They argue that creating multiple district councils could weaken the authority of the proposed Union Territory-level representative institution.
3. The coexistence of **AHDCs, Panchayati Raj Institutions, the Union Territory administration, and a future Article 371 body** may lead to overlapping responsibilities and weaken institutional accountability.
4. Civil society groups have also expressed concern over inadequate consultation before the announcement.

Political Context

1. The debate reflects broader political concerns that have persisted since Ladakh became a **Union Territory in 2019** without a legislature.
2. Progress on demands for **Sixth Schedule-like safeguards** and a customised **Article 371** framework has remained slow.
3. Relations between local groups and the Centre have been affected by developments such as the **2025 Leh protests**, the detention of activist **Sonam Wangchuk**, and disagreements over the creation of new districts.
4. These developments have contributed to a trust deficit between sections of Ladakh's civil society and the Centre.

Functioning of Existing AHDCs

1. Under the **Ladakh Autonomous Hill Development Council Act, 1997**, AHDCs are responsible for **district planning, implementation of development programmes, budgeting, land management, and collection of certain local taxes**.
2. However, several elected representatives have argued that the councils have become less effective after Ladakh attained Union Territory status, with greater administrative authority shifting to the **Lieutenant Governor's Secretariat**.

3. Many stakeholders therefore believe that strengthening the existing councils should precede the creation of additional councils.

Comparison with Other Autonomous Bodies

1. **Sixth Schedule Autonomous District Councils** in Assam, Meghalaya, Mizoram, and Tripura enjoy **constitutional status** with legislative, administrative, and limited judicial powers.
2. In contrast, **AHDCs** are **statutory bodies** without constitutional safeguards and remain dependent on the **Union Territory administration** for finances and effective implementation, similar to autonomous councils in **Manipur**.

Conclusion

The proposal to establish **Autonomous Hill Development Councils** in all seven districts reflects the need for deeper decentralisation in Ladakh. However, its effectiveness will depend on clearly defining the powers of district councils, strengthening existing institutions, and harmonising them with the proposed **Article 371** framework. A consultative approach involving all stakeholders will be essential to ensure accountable, inclusive, and effective governance in the region.

13. Citizenship Rights: U.S. Supreme Court Reaffirms Birthright Citizenship

Context

The U.S. Supreme Court (SCOTUS), by a **6–3 majority**, struck down **Executive Order (EO) 14160** issued by President Donald Trump, holding that **birthright citizenship** remains protected under the **Fourteenth Amendment**. The ruling has renewed debates on immigration policy, constitutional interpretation, and the limits of executive power.

Constitutional Basis of Citizenship by Birth in the U.S.

1. The **Fourteenth Amendment (1868)** provides that all persons **born or naturalised in the United States and subject to its jurisdiction** are U.S. citizens.
2. The **Immigration and Nationality Act (INA), 1952** gives statutory recognition to citizenship acquired by birth.
3. Exceptions include:
 - a. Children of **foreign diplomats**.
 - b. Children born in territories under **enemy military occupation**.

Supreme Court's Ruling

1. Majority Opinion

- The Court held that **Executive Order 14160** violated the **Citizenship Clause** of the Fourteenth Amendment.
- It interpreted the phrase “**subject to its jurisdiction**” to include all persons born in the U.S. who are governed by its laws, irrespective of their parents' immigration status.
- The judgment reaffirmed the **jus soli (right of the soil)** principle, under which citizenship is determined primarily by place of birth.

2. Dissenting Opinion

- The dissent argued that citizenship requires **permanent allegiance and domicile** in the United States, which temporary visitors and undocumented migrants do not possess.
- It maintained that the Fourteenth Amendment was intended to secure citizenship for **formerly enslaved people**, rather than establish unrestricted citizenship by birth.
- It also expressed concerns over **illegal immigration and birth tourism**.

Evolution of Citizenship by Birth in the U.S.

- The original U.S. Constitution did not define citizenship.
- The **Naturalization Act, 1790** restricted naturalisation to “**free white persons.**”
- The **Dred Scott (1857)** judgment denied citizenship to Black Americans.
- After the Civil War:
 - Thirteenth Amendment (1865):** Abolished slavery.
 - Civil Rights Act, 1866:** Recognised citizenship by birth.
 - Fourteenth Amendment (1868):** Constitutionally guaranteed the principle.

Issues Surrounding Citizenship by Birth

- The issue became a key element of **Donald Trump's immigration agenda** and the **Make America Great Again (MAGA)** movement.
- Critics argue that the policy:
 - Encourages **illegal immigration**.
 - Promotes **birth tourism**, whereby foreign nationals seek citizenship for their children by giving birth in the U.S.

- The Court held that policy considerations cannot override an explicit constitutional provision.

Demographic Trends

- According to available estimates, births to unauthorised immigrant mothers increased from **about 1.2 lakh (3% of total U.S. births)** in 1990 to **nearly 3.8 lakh (9%)** during 2006–07.
- The figure declined to **around 2.5 lakh (6%)** by 2016.
- According to the **Pew Research Center**, the share rose again to **around 9% of U.S. births** in 2023.

Citizenship Framework in India

Constitutional and Legal Provisions

- Citizenship is governed by **Part II (Articles 5–11)** of the Constitution and the **Citizenship Act, 1955**.
- India follows the principle of **single citizenship**.
- Citizenship may be acquired through:**
 - Birth
 - Descent
 - Registration
 - Naturalisation
 - Incorporation of territory

Evolution of Citizenship by Birth

- At the commencement of the Constitution, **Article 5** broadly reflected the **jus soli** principle.
- The **Citizenship Act, 1955** subsequently codified citizenship by birth.
- The scope of the principle was gradually narrowed:
 - 1986 Amendment:** At least one parent must be an Indian citizen.
 - 2003 Amendment:** Citizenship by birth was denied if either parent is an illegal migrant.

Citizenship (Amendment) Act, 2019

The **CAA, 2019** introduced the following changes:

- Reduced the aggregate residence requirement for naturalisation from **11 years to 5 years** (reducing the overall qualifying period from **12 years to 6 years**) for specified communities.
- Fast-tracked citizenship for **Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians** from **Afghanistan, Bangladesh, and Pakistan** who entered India on or before **31 December 2014**.

Comparison of Citizenship Frameworks: India

and the U.S.

Aspect	United States	India
Citizenship Structure	Citizens hold both U.S. citizenship and State citizenship . The U.S. also permits dual nationality with other countries.	Follows single citizenship . Voluntary acquisition of foreign citizenship results in automatic cessation of Indian citizenship under the Citizenship Act, 1955 .
Citizenship by Birth	Broad jus soli principle under the Fourteenth Amendment.	Restricted jus soli model based on the citizenship and immigration status of parents.
Citizenship by Descent	Available to children born abroad to U.S. citizens, subject to statutory requirements.	Available under the Citizenship Act, 1955 , subject to prescribed conditions.
Diaspora Policy	Permits dual nationality.	Offers Overseas Citizenship of India (OCI) , providing lifelong visa-free travel and specified economic and educational benefits, but excluding political rights and ownership of agricultural land.

Constitutional Significance

1. Reaffirms the supremacy of the Constitution over executive action.
2. Reinforces the role of judicial review in protecting constitutional rights.
3. Clarifies the scope of the **Citizenship Clause** and the **jus soli** principle.
4. Highlights the need to balance immigration control with constitutional guarantees.
5. Demonstrates how constitutional interpretation shapes citizenship policy in a changing socio-political context.

Conclusion

The judgment underscores that citizenship is fundamentally a constitutional question rather than a matter of executive discretion. While the United States and India follow different approaches to citizenship by birth, both seek to balance migration management with constitutional values, national interests, and the protection of individual rights. This decision also reaffirms the enduring importance of constitutional interpretation in shaping citizenship laws and safeguarding democratic principles.



INTERNATIONAL RELATIONS

1. India–Australia Relations

Context

The **3rd India–Australia Annual Summit (2026)**, held in Melbourne, marked a significant milestone in deepening the **Comprehensive Strategic Partnership** through agreements spanning defence, trade, critical minerals, clean energy, technology, education, and cultural cooperation. The summit reflects the growing strategic convergence between the two countries amid evolving geopolitical and economic challenges in the Indo-Pacific.

Strategic Significance

India and Australia reaffirmed their commitment to:

1. A **free, open, inclusive, and rules-based Indo-Pacific**.
2. Freedom of navigation and adherence to the **United Nations Convention on the Law of the Sea (UNCLOS)**.
3. Strengthening cooperation under the **Quad** framework.
4. Peaceful resolution of disputes through dialogue and diplomacy.
5. Joint efforts to combat cross-border terrorism.

The summit reinforces India–Australia cooperation in promoting a secure maritime order, resilient supply chains, and a rules-based regional architecture.

Key Outcomes of the Summit

Defence and Maritime Cooperation

1. Adopted a **Joint Declaration on Defence and Security Cooperation** to deepen strategic engagement through:
 - a. Enhanced strategic consultations and military interoperability.
 - b. Expansion of bilateral and multilateral military exercises.
 - c. Collaboration in defence technology, research, and industrial supply chains.
 - d. Stronger defence industrial partnerships.
2. Launched the **India–Australia Defence Innovation Corridor** to promote defence innovation, co-development, and collaboration between industries and start-ups.
3. Adopted a **Maritime Security Roadmap** to strengthen maritime domain awareness, shipbuilding, ship repair, logistics support, and regional maritime security across the Indo-Pacific.

Civil Nuclear Cooperation

1. Operationalised the **2014 India–Australia Civil Nuclear Agreement** through the finalisation of an administrative arrangement.
2. The agreement will:
 - a. Enable Australian uranium exports for India's peaceful nuclear programme.
 - b. Support India's clean energy transition and long-term energy security.
 - c. Provide Australia with a reliable long-term export market for uranium.

Economic and Trade Cooperation

1. Agreed to expedite negotiations on the **Comprehensive Economic Cooperation Agreement (CECA)** and the **Bilateral Investment Treaty (BIT)**.
2. Building on the gains of the **Economic Cooperation and Trade Agreement (ECTA)**, both sides agreed to:
 - a. Reduce non-tariff barriers.
 - b. Improve institutional financing.
 - c. Encourage greater private-sector investment.

Energy and Critical Minerals

1. Expanded cooperation in critical minerals, renewable energy technologies, and energy security.
2. Decided to establish a **Joint Rooftop Solar Training Academy** in Gujarat under the **PM Surya Ghar Yojana** to train women and youth in rooftop solar installation and maintenance.

Technology and Innovation

1. Launched the **Partnership on Cyber, Critical Technologies and Supply Chains (PACTS)** to strengthen cooperation in cybersecurity, semiconductors, critical technologies, and resilient supply chains.
2. Australia, Canada, and India signed the **Australia–Canada–India Technology and Innovation (ACITI)** framework to strengthen collaboration in trusted and resilient technologies.

Education and Skill Development

Expanded cooperation in higher education, vocational training, and skill development through:

1. A Letter of Intent for **Flinders University** to establish a campus in Bengaluru.

2. Approval for **Victoria University** to establish a campus in Gurugram.
3. Establishment of a **National Centre of Excellence for Skilling in Mining** at the National Skill Training Institute, Bhubaneswar.

Cultural Cooperation

1. Australia agreed to repatriate three antiquities from Tamil Nadu:
 - a. Granite **Nandi** sculpture.
 - b. Bronze **Trident with Bhadrakali**.
 - c. Basalt six-headed **Skanda (Karthikeya)** sculpture.
2. India agreed to repatriate the remains of an Australian First Nations ancestor preserved at the Government Museum, Chennai.

India–Australia Bilateral Relations

1. India and Australia share a **Comprehensive Strategic Partnership** and are members of the **Commonwealth of Nations**.
2. Bilateral relations encompass trade, defence, technology, education, migration, sports, and strong people-to-people linkages.
3. Bilateral trade stands at approximately **US\$32.6 billion**, with India recording a trade deficit.
4. Australia is a key supplier of **coal, LNG, uranium, and critical minerals**, while India is an important market for Australian education and a major partner in information technology and pharmaceuticals.
5. Defence cooperation includes the **AUSINDEX** (Navy) and **AUSTRALIND** (Army) exercises.
6. Both countries cooperate through the **Quad, East Asia Summit (EAS), Indian Ocean Rim Association (IORA)**, and other regional forums.
7. Bilateral engagement is further supported by the **Centre for Australia–India Relations**.

Significance for India

1. **Advances India's Indo-Pacific Vision** and complements the **Act East Policy**.
2. Strengthens defence and maritime cooperation in the Indo-Pacific.
3. Diversifies critical mineral and clean energy supply chains, enhancing strategic resilience.
4. Strengthens economic resilience through deeper trade, investment, and technology partnerships.
5. Promotes innovation, skill development, higher education, and clean energy capacity.
6. Enhances India's strategic presence and partnerships across the Indo-Pacific.

Conclusion

The outcomes of the **3rd India–Australia Annual Summit** reaffirm the expanding scope of bilateral cooperation across strategic, economic, technological, and people-centric domains. As trusted Indo-Pacific partners, India and Australia are well positioned to advance regional stability, resilient supply chains, sustainable development, and a **free, open, and rules-based Indo-Pacific**.

2. India–Japan Partnership Deepens Strategic and Economic Cooperation

Context

Japanese Prime Minister **Sanae Takaichi** is on her inaugural visit to India for the **16th India–Japan Annual Summit**. The summit focuses on reviewing progress under the **India–Japan Special Strategic and Global Partnership** while expanding cooperation in trade, investment, technology, defence, and regional security. The visit follows Prime Minister Narendra Modi's visit to Tokyo for the **15th India–Japan Annual Summit** in August 2025.

India–Japan Annual Summit

Instituted in **2006**, the **India–Japan Annual Summit** is the highest bilateral dialogue mechanism under which the Prime Ministers of both countries meet annually on a rotational basis.

The summit provides an opportunity to:

1. Review progress across the bilateral relationship.
2. Expand economic, technological, and strategic engagement.
3. Exchange views on regional and global developments.
4. Promote business, trade, and investment.

Prime Minister Takaichi is accompanied by a high-level business delegation, underscoring the growing economic dimension of bilateral ties.

Economic Relations

Economic ties have expanded steadily over the past decade, making Japan one of India's leading investment and infrastructure partners.

1. Around **1,400 Japanese companies** operate in India, with nearly half engaged in manufacturing.
2. Bilateral trade reached **US\$27.5 billion** during **2025–26**.
3. Japanese investment in India stood at **US\$3.2 billion** between **April and December 2025**.
4. Japan continues to support major infrastructure projects, including the **Mumbai–Ahmedabad High-Speed Rail Corridor**.

5. A recent investment of **US\$1.6 billion** secured a **20% stake in Yes Bank**.

These developments underscore Japan's role as one of India's key partners in infrastructure development and industrial growth.

Strategic Importance

The relationship has emerged as a key pillar of India's Indo-Pacific strategy and regional engagement.

Both countries seek to:

1. Promote a **Free, Open, Inclusive, and Rules-based Indo-Pacific**.
2. Strengthen maritime security and regional stability.
3. Expand defence and security cooperation.
4. Promote a stable, multipolar, and rules-based regional order.

As members of the **Quad**, alongside the **United States** and **Australia**, India and Japan collaborate on maritime security, resilient supply chains, critical and emerging technologies, disaster resilience, and global health.

Regional and Sub-national Engagement

State–Prefecture Cooperation

State–Prefecture engagement has emerged as a unique pillar of bilateral cooperation.

Recent developments include:

1. Visits by the Chief Ministers of **Haryana, Punjab, and Uttar Pradesh** to Japan.
2. Visits by Governors of several Japanese Prefectures to India.
3. Establishment of the **India–Japan Governors' Network** in **February 2026** to promote investment, technology, skill development, and local-level collaboration.

India–Japan Act East Forum

Japan is the only country with which India has established a dedicated institutional mechanism for the development of the **North-Eastern region** through the **India–Japan Act East Forum**.

The Forum promotes collaboration in:

1. Infrastructure
2. Urban development
3. Energy
4. Agriculture
5. Tourism
6. Skill development

The North-East serves as a strategic bridge connecting India's **Act East Policy** with Japan's **Free and Open**

Indo-Pacific Vision, strengthening connectivity between South Asia and Southeast Asia.

Recent initiatives include Japanese delegations visiting **Manipur** and an agreement with **Meghalaya** to provide skill training and employment opportunities to **5,000 youth**.

Evolution of Bilateral Relations

Centuries-old civilisational and cultural ties have evolved into a comprehensive strategic relationship.

Year	Milestone
2000	Global Partnership
2006	Strategic and Global Partnership
2014	Special Strategic and Global Partnership

The two countries will commemorate **75 years of diplomatic relations in 2027**.

Today, bilateral engagement is supported by **more than 70 institutional mechanisms**, facilitating regular consultations across political, economic, strategic, and security domains.

Eight Pillars of the Partnership

The India–Japan partnership is anchored on eight key pillars:

1. Economy
2. Economic Security
3. Mobility
4. Environment
5. Technology and Innovation
6. Healthcare
7. People-to-People Exchanges
8. State–Prefecture Cooperation

Institutional Mechanisms

Major bilateral mechanisms include:

1. 2+2 Foreign and Defence Ministers' Meeting
2. Foreign Ministers' Strategic Dialogue
3. Economic Security Dialogue
4. India–Japan Act East Forum
5. National Security Adviser-level consultations

These mechanisms facilitate regular policy coordination across strategic, economic, and security domains.

Emerging Areas of Cooperation

Economic security and advanced technologies have become important pillars of bilateral engagement.

During the **First India–Japan Economic Security Dialogue (Tokyo, 2024)**, both countries identified five

priority sectors:

1. Semiconductors
2. Critical minerals
3. Pharmaceuticals
4. Clean energy
5. Information and Communication Technology (ICT)

Recent initiatives include:

1. **Memorandum of Cooperation on Mineral Resources (2025)**, followed by the first Joint Working Group meeting in 2026.
2. **Memorandum of Cooperation on Semiconductor Supply Chains (2023)**.
3. **Japan–India AI Cooperation Initiative (2025)** and the inaugural **Strategic AI Dialogue**.

These initiatives aim to build resilient supply chains, strengthen economic security, and promote innovation in critical technologies.

Defence and Security Cooperation

Defence cooperation has steadily expanded through regular military exercises, technology collaboration, and institutional engagement.

Major initiatives include:

1. **Joint Declaration on Security Cooperation (2025)**.
2. Bilateral exercises:
 - a. **JAIMEX** (Naval)
 - b. **Dharma Guardian** (Army)
 - c. **Veer Guardian** (Air Force)
 - d. **Coast Guard Joint Exercise**
3. Participation in multilateral exercises such as **MALABAR** and **MILAN**.
4. Defence technology collaboration, including implementation of the **UNICORN Mast** project.

These initiatives have enhanced interoperability and reinforced mutual strategic trust.

Significance of the Partnership

1. Reinforces India's **Act East Policy** and complements Japan's **Free and Open Indo-Pacific Vision**.
2. Promotes a **free, open, inclusive, and rules-based Indo-Pacific**.
3. Strengthens resilient supply chains through collaboration in semiconductors, critical minerals, clean energy, and other critical technologies.
4. Expands cooperation in artificial intelligence, digital technologies, innovation, and economic security.
5. Deepens maritime security and defence cooperation in the Indo-Pacific.

6. Accelerates infrastructure and socio-economic development in India's North-Eastern region.
7. Diversifies India's economic and strategic partnerships, reducing dependence on concentrated supply chains and markets.
8. Contributes to regional stability through coordinated engagement in bilateral and multilateral forums.

Conclusion

The **India–Japan Special Strategic and Global Partnership** has evolved into one of India's most trusted and comprehensive bilateral relationships, spanning economic growth, technological innovation, connectivity, defence, and regional security. As both countries approach **75 years of diplomatic relations in 2027**, deeper engagement in emerging technologies, resilient supply chains, North-East development, and Indo-Pacific cooperation is expected to further strengthen their shared vision of a **free, open, inclusive, and rules-based Indo-Pacific**, while contributing to long-term peace, stability, and sustainable development.

3. India–New Zealand Relations

Context

The Prime Minister of India's visit to New Zealand—the first by an Indian Prime Minister in four decades—marked a new phase in bilateral relations. During the visit, both countries elevated their ties to a **Strategic Partnership**, adopted a **Roadmap to 2030**, expanded cooperation across key sectors, and reaffirmed their shared commitment to a **free, open and rules-based Indo-Pacific**.

Strategic Partnership

1. India and New Zealand elevated bilateral ties to a **Strategic Partnership** and adopted the **Roadmap to 2030** as a framework for long-term cooperation.
2. The Strategic Partnership is anchored in shared democratic values, the rule of law, economic cooperation, defence and maritime security, and stronger people-to-people exchanges.

Economic Cooperation

1. Both countries agreed to **double bilateral trade to NZ\$7 billion by 2030**.
2. The **India–New Zealand Free Trade Agreement (FTA)** is expected to expand market access, promote investment, strengthen resilient supply chains, and benefit businesses, farmers and youth.
3. New Zealand announced its intention to invest **US\$20 billion** in India over the next 15 years, focusing on infrastructure, technology and emerging sectors.

Defence and Security Cooperation

- Both sides agreed to institutionalise a **Maritime Security Dialogue**, establish a **Joint Working Group (JWG) on Counter-Terrorism**, and strengthen information sharing.
- The two sides also reaffirmed their commitment to:
 - A **free, open, inclusive, stable and prosperous Indo-Pacific**.
 - Freedom of navigation and overflight** in accordance with the **United Nations Convention on the Law of the Sea (UNCLOS), 1982**.
 - Respect for international law** and the **peaceful settlement of disputes**.
- The leaders also highlighted cooperation under **Combined Task Force-150 (CTF-150)** in 2025, with **New Zealand serving as Commander** and **India as Deputy Commander**. CTF-150 is a multinational maritime coalition that combats maritime terrorism, narcotics trafficking and other illicit maritime activities in the Middle East and the Western Indian Ocean.

Sectoral Cooperation

- Agriculture:** Agreements on animal husbandry and dairying, technical collaboration, exchange of best practices, launch of the **Kiwifruit Action Plan**, and establishment of **Centres of Excellence for Kiwifruit** in **Nagaland** and **Uttarakhand**.
- Sports:** Adoption of a **Joint Action Plan on Sport** covering high-performance sports, sports science, sports medicine and athlete development.
- Science:** Enhanced collaboration in Antarctic research and scientific knowledge exchange.
- Supply Chains:** Joint efforts to build transparent, resilient and diversified supply chains.
- Culture:** Recognition of the shared cultural significance of the **Pleiades** star cluster, known as **Matariki** in Māori tradition and **Krittika** in Indian tradition.

Significance

- Strengthens India's strategic engagement in the Indo-Pacific and the Pacific region.
- Expands bilateral trade and investment.
- Enhances maritime security and counter-terrorism cooperation.
- Promotes resilient and diversified supply chains.
- Deepens collaboration in agriculture, science, sports and cultural exchanges.

India–New Zealand Relations: At a Glance

1. Diplomatic Relations

- India and New Zealand established diplomatic relations in **1952**, with their missions subsequently upgraded to **High Commissions**.
- Bilateral relations are founded on shared democratic values, Commonwealth membership and support for a rules-based international order.

2. Major Areas of Cooperation

- Trade and investment
- Defence and maritime security
- Agriculture and food processing
- Science and technology
- Education and skill development
- Sports
- Antarctic research
- Cultural exchanges

3. People-to-People Ties

- The Indian diaspora numbers around **2.5 lakh**, making it New Zealand's **third-largest ethnic community**.
- India is the **second-largest source of international students** in New Zealand, with around **8,000 students** enrolled annually.

4. Key Policy Initiatives

- Opening Doors to India (2011)**
- India–New Zealand 2025: Investing in the Relationship (2020)**

5. Trade Profile

- Annual bilateral trade:** Approximately **NZ\$3.95 billion (US\$2.4 billion)**.
- Major exports:** Pharmaceuticals, mechanical machinery, made-up textile articles, pearls, precious stones and precious metals.
- Major imports:** Wool, iron and steel, fruits and nuts, and aluminium.

Conclusion

The elevation of India–New Zealand relations to a **Strategic Partnership** marks a new chapter in bilateral engagement. Backed by the **Roadmap to 2030**, both countries are well positioned to deepen cooperation across trade, investment, defence, science, agriculture and people-to-people exchanges. As like-minded democracies committed to a **free, open and rules-based Indo-Pacific**, stronger bilateral ties can contribute to regional stability, resilient supply chains, sustainable economic growth, and a more resilient regional architecture.

4. India–UK Comprehensive Economic and Trade Agreement (CETA)

Context

The **India–UK Comprehensive Economic and Trade Agreement (CETA)** and the **Double Contribution Convention (DCC)** came into force on **15th July 2026**. It is India's **first comprehensive free trade agreement with a developed country** and marks a significant milestone in its trade diplomacy, while also serving as an important reference for ongoing negotiations with the **European Union**.

Key Features

1. The agreement comprises **30 chapters**, covering trade in goods and services, investment, digital trade, government procurement, innovation, MSMEs, labour, environment, and gender.
2. It addresses both **tariff and non-tariff barriers**, including **Sanitary and Phytosanitary (SPS) Measures** and **Technical Barriers to Trade (TBT)**, to facilitate smoother market access.
3. The agreement establishes a comprehensive framework for expanding bilateral trade, investment, and economic cooperation.

Market Access Commitments

1. The **United Kingdom** has eliminated tariffs on **99% of Indian exports**, providing near-complete duty-free access to its market.
2. **India** will progressively reduce tariffs on around **90% of tariff lines** through immediate tariff elimination, phased liberalisation, and tariff-rate quotas.
3. The phased liberalisation seeks to expand bilateral trade while safeguarding sensitive domestic sectors.

Economic Benefits for India

1. Duty-free access is expected to improve the competitiveness of **textiles, footwear, gems and jewellery**, and other labour-intensive industries.
2. Better market access and tariff quotas are likely to boost **iron and steel exports**.
3. Indian firms have secured greater access to the UK market in sectors such as **computer services, consultancy, and environmental services**, including the right to establish commercial operations.
4. Indian suppliers have gained access to the **UK Government procurement market**, creating new business opportunities.
5. The agreement's **non-binding labour and environment provisions** reduce the possibility of these standards becoming barriers to Indian exports.

Double Contribution Convention (DCC)

1. The **DCC** exempts eligible Indian professionals and their employers from paying **UK social security contributions for up to five years**, provided they continue contributing to India's social security system.
2. It is expected to benefit around **75,000 Indian professionals** and more than **900 Indian companies** operating in the UK.
3. The arrangement reduces the burden of dual social security contributions, lowers employment costs for Indian businesses, and increases the take-home income of eligible professionals.
4. The exemption applies only to employees deputed to the UK after the agreement came into force.

Economic Benefits for the UK

1. Indian tariff reductions will improve market access for products such as **automobiles, Scotch whisky, chocolates, cosmetics, sports goods, and medical devices**.
2. Tariffs on British automobiles and alcoholic beverages will be reduced in a phased manner under specified quota arrangements.
3. UK firms have secured improved access to India's **accounting, auditing, financial, telecommunications, and environmental services** sectors.
4. The agreement also facilitates the **recognition of professional qualifications** in selected sectors, promoting greater mobility of skilled professionals.

Trade Facilitation Measures

1. For the first time in an Indian free trade agreement, UK exporters are permitted to **self-certify the origin of goods**, replacing the conventional certification process.
2. This measure is expected to simplify customs procedures, reduce transaction costs, and serve as a model for India's future trade agreements with developed economies.

Challenges

1. India did not obtain an exemption from the **United Kingdom's Carbon Border Adjustment Mechanism (CBAM)**, which is scheduled to take effect from **1 January 2027**.
2. The proposed carbon pricing mechanism could increase compliance costs and reduce the competitiveness of India's carbon-intensive exports.

Significance

1. The agreement strengthens India's economic partnership with a major developed economy and diversifies its export markets.

2. It is expected to promote exports, attract investment, improve services trade, and enhance the mobility of skilled professionals.
3. CETA supports India's integration into **global value chains** and reinforces the objectives of **Make in India** and **Atmanirbhar Bharat**.
4. It also provides valuable experience for India's ongoing and future free trade negotiations with advanced economies, particularly the **European Union**.

Conclusion

The **India-UK Comprehensive Economic and Trade Agreement (CETA)** marks a major step in India's evolving trade strategy. By expanding market access, strengthening economic cooperation, and creating new opportunities for businesses and professionals, it deepens bilateral economic ties. Its long-term success, however, will depend on effective implementation, enhanced domestic competitiveness, and India's ability to address emerging trade challenges such as **carbon-related border measures**.

5. India-US Extradition Treaty: Legal Framework and Procedure

Context

The **US Department of Justice (DoJ)** has indicted jailed gangster **Lawrence Bishnoi**, Punjab Police SHO **Gurinderjit Singh Nagra**, and others on charges including racketeering, murder, extortion and transnational organised crime. Any formal extradition request by the United States would be governed by the **India-US Extradition Treaty (1997)** and the **Extradition Act, 1962**.

Legal Framework for Extradition

Meaning of Extradition: Extradition is the legal process through which one State surrenders an accused or convicted person to another State for prosecution or punishment in accordance with a treaty or domestic law.

India-US Extradition Treaty (1997)

1. The **India-US Extradition Treaty (1997)**, read with the **Extradition Act, 1962**, provides the legal framework governing extradition between the two countries.
2. The Treaty is founded on the principle of **dual criminality**, under which an offence is extraditable only if it is punishable with imprisonment exceeding **one year** in both jurisdictions.

Core Principles of the Treaty

1. **Dual Criminality:** The underlying criminal conduct must constitute an offence in both jurisdictions; identical legal provisions are not required.
2. **Political Offence Exception:** Political offences are generally exempt from extradition. However, offences such as murder, terrorism, hostage-taking and drug trafficking are excluded from this protection.
3. **Nationality Not a Bar:** Citizenship alone cannot be a ground for refusing extradition.
4. **Rule of Specialty:** An extradited person may ordinarily be prosecuted only for the offences for which extradition was granted.

Extradition Procedure

Step 1: Executive Processing

1. The extradition request is transmitted by the **US Department of State** to India's **Ministry of External Affairs (MEA)**.
2. The **MEA**, in consultation with the **Ministry of Home Affairs (MHA)** and investigating agencies such as the **CBI**, examines whether the request complies with the Treaty and the **Extradition Act, 1962**.

Step 2: Judicial Examination

1. If the request is found admissible, the competent court examines:
 - a. Whether the Treaty requirements have been fulfilled.
 - b. Whether the available evidence would justify prosecution if the offence had been committed in India.
2. If satisfied, the court certifies the individual as extraditable.

Step 3: Final Executive Decision

1. The Union Government has the final authority to approve, refuse or postpone extradition.
2. It may impose conditions, seek diplomatic assurances or defer surrender wherever permitted by law.
3. The decision is subject to judicial review before the High Courts and the Supreme Court.

Application of the India-US Extradition Treaty

1. The charges against **Lawrence Bishnoi** and **Gurinderjit Singh Nagra**, including murder, criminal conspiracy, extortion, drug trafficking and firearms offences, are recognised under Indian law and therefore broadly satisfy the principle of **dual criminality**.

2. Although the US indictment invokes the **Racketeer Influenced and Corrupt Organizations (RICO) Act**, identical statutory provisions are not required. The determining factor is whether the underlying conduct constitutes an offence in both jurisdictions.

India–US Extradition Record

1. India → United States

- a. More than a dozen fugitives have been extradited since the Treaty entered into force in **1997**.
- b. **First extradition:** *Yogesh Ratilal Shah* (2002) – Bank fraud.
- c. **Latest extradition:** *Ganesh Shenoy* (2025) – Fatal car crash case.

2. United States → India

- a. **Eleven fugitives** were extradited between **2002 and 2018**.
- b. Around **60 Indian extradition requests** reportedly remained pending during the period.

3. Illustrative Cases

- a. **David Coleman Headley:** Extradition was declined due to a plea agreement with US authorities.
- b. **Warren Anderson:** Extradition was refused citing insufficient evidence.

4. Significance

- a. Strengthens India–US cooperation against transnational organised crime.
- b. Reinforces the principle of **dual criminality** as the foundation of extradition law.
- c. Upholds judicial oversight and due process in extradition proceedings.
- d. Balances international legal obligations with domestic sovereignty and criminal justice.
- e. Reflects the growing importance of international legal cooperation in addressing cross-border crimes.

Conclusion

The **India–US Extradition Treaty** provides a robust legal framework for combating transnational crime while safeguarding due process and national sovereignty. The present case demonstrates that extradition is a judicially supervised legal process requiring a careful balance between international cooperation, domestic criminal proceedings and constitutional safeguards. Its effective implementation is essential for strengthening international criminal justice while upholding the rule of law.

6. US–Saudi Civil Nuclear Deal

Context

The **United States** and **Saudi Arabia** have signed a **30-year Civil Nuclear Deal** to expand cooperation in the peaceful use of nuclear energy.

About the Deal

1. The **30-year agreement** enables **US companies** to participate in Saudi Arabia's civilian nuclear energy programme. It is accompanied by a **bilateral safeguards agreement**, although its detailed provisions have not been publicly disclosed.
2. Reports suggest that Saudi Arabia may be permitted to **enrich uranium within its territory**. Enriched uranium is primarily used as fuel for nuclear power plants but can also be further processed into weapons-grade material if adequate safeguards are not maintained.
3. The agreement has been presented by both countries as a framework for peaceful nuclear cooperation, energy security, and long-term strategic collaboration.

Key Provisions

1. Section 123 Agreement

- a. The deal is based on **Section 123 of the US Atomic Energy Act, 1954**, which provides the legal framework for significant civilian nuclear cooperation between the United States and another country.
- b. A **123 Agreement** authorises the transfer of nuclear materials, equipment, and technology exclusively for **peaceful purposes**, subject to compliance with international **nuclear non-proliferation** obligations.
- c. The agreement requires **approval by the US Congress** before it can enter into force.

2. Safeguards and Verification

- a. A separate **bilateral safeguards agreement** accompanies the deal to regulate the peaceful use of transferred nuclear technology and materials.
- b. The effectiveness of the agreement will depend on **International Atomic Energy Agency (IAEA) safeguards**, inspections, and verification mechanisms to ensure that civilian nuclear material is not diverted for military purposes.
- c. However, the detailed safeguards framework has not been made public, raising concerns regarding transparency and oversight.

3. India's 123 Agreement (2008): A Comparison

- a. India concluded a **123 Agreement** with the United

- States in **2008**, ending nearly three decades of restrictions on civilian nuclear cooperation.
- Under the agreement, India placed designated civilian nuclear facilities under **India-specific IAEA safeguards** in exchange for assured nuclear fuel supply.
 - The agreement is regarded as an important benchmark in international civilian nuclear diplomacy.

Key Concerns

1. Risk of Nuclear Proliferation

- Domestic uranium enrichment could increase the possibility of diverting nuclear material for military purposes if safeguards are inadequate.
- The agreement will test the effectiveness of the international **nuclear non-proliferation** framework, particularly the role of IAEA verification.

2. Regional Security Implications

- The deal could alter the strategic balance in **West Asia**, where **Israel** is widely believed to possess nuclear weapons and **Iran's nuclear programme** remains a major security concern.
- It may encourage other countries in the region to pursue similar nuclear capabilities, increasing the risk of a regional arms race.
- The agreement could also influence **Iran's future nuclear policy**, potentially intensifying strategic competition in the region.

3. Departure from Earlier US Policy: Unlike the **2009 US-UAE Civil Nuclear Agreement**, under which the UAE agreed not to undertake domestic uranium enrichment, the Saudi deal is reported to permit indigenous enrichment, indicating a more flexible US approach.

4. Political Approval: Since the agreement requires **ratification by the US Congress**, its implementation remains subject to domestic political approval.

5. Significance

- Strengthens the strategic partnership between the **United States and Saudi Arabia**.
- Supports Saudi Arabia's efforts to diversify its energy mix by expanding **civilian nuclear power** and reducing dependence on oil-based electricity generation.
- Creates commercial opportunities for the US nuclear industry, including companies such as **Westinghouse**.
- Reinforces civilian nuclear cooperation as an important pillar of bilateral strategic relations.

- Supports the objectives of the **Nuclear Non-Proliferation Treaty (NPT)** by promoting the peaceful use of nuclear energy while emphasising safeguards against the spread of nuclear weapons.
- Highlights the continuing challenge of balancing **peaceful nuclear cooperation** with **global nuclear non-proliferation objectives**.

Conclusion

The **US-Saudi Civil Nuclear Deal** reflects the growing importance of civilian nuclear energy in international diplomacy. While it strengthens bilateral cooperation and supports Saudi Arabia's energy diversification, its long-term success will depend on **robust safeguards, transparent implementation, Congressional approval, and continued adherence to global non-proliferation norms**, while maintaining strategic stability in **West Asia**.

7. Guwahati Declaration: Strengthening BRICS Cooperation Against Illicit Drug Trafficking

Context

Recently, the BRICS countries adopted the Guwahati Declaration to enhance collaboration in curbing illicit drug trafficking and other forms of organised transnational crime.

About Guwahati Declaration

- It was adopted at the conclusion of the **BRICS Heads of Anti-Drug Agencies Meeting** held in **Guwahati, Assam**, under **India's BRICS Chairship 2026**, with the theme **Building for Resilience, Innovation, Cooperation and Sustainability**.
- The meeting brought together representatives from **Brazil, China, Ethiopia, India, Indonesia, Iran, Russia, and the United Arab Emirates** to discuss **coordinated strategies for strengthening international cooperation against illicit drug trafficking and related organised crime**.
- The declaration calls for the **timely exchange of information, intelligence, and best practices** in accordance with national laws and international obligations.
- It also encourages the use of **innovative technologies, digital tools, and data-driven approaches** to strengthen **law enforcement and regulatory mechanisms**.
- It advocates **evidence-based, people-centric strategies** to reduce drug demand, promote healthy lifestyles, and protect vulnerable groups, particularly **children and young people**.

Key Facts about BRICS

1. **BRICS** is an **intergovernmental grouping of major emerging economies** that promotes greater **economic and geopolitical cooperation** among its members.
2. The term “**BRIC**” was coined by **Jim O’Neill** in **2001**. The grouping initially comprised **Brazil, Russia, India, and China**, with **South Africa** joining in **2010** to form **BRICS**.
3. The grouping expanded in **2024** with the inclusion of **Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates**, followed by **Indonesia** in **2025**.
4. **BRICS** currently comprises **11 member countries**, accounting for **around 49.5% of the world’s population**, **about 40% of global GDP**, and **nearly 26% of global trade**.
5. In **2025**, **Belarus, Bolivia, Cuba, Kazakhstan, Malaysia, Nigeria, Thailand, Uganda, Uzbekistan, and Vietnam** joined **BRICS** as **partner countries**.

8. BIMSTEC: Regional Cooperation in the Bay of Bengal

Context

Recently, the security chiefs of **BIMSTEC** member countries reaffirmed their commitment to combating terrorism and endorsed common principles for maritime law enforcement.

About BIMSTEC

1. The **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** is a regional organisation that connects **South Asia** and **Southeast Asia** through cooperation among countries around the **Bay of Bengal**.
2. It was established on **6th June 1997** through the **Bangkok Declaration**.
3. **Members:** **Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand**, comprising **five South Asian** and **two Southeast Asian** countries.
4. The organisation evolved from **BIST-EC** in **1997** to **BIMST-EC** in **1998** with the inclusion of Myanmar, and was renamed **BIMSTEC** in **2004** after Nepal and Bhutan joined.
5. It promotes regional integration by strengthening cooperation in **trade, connectivity, technology, security, and sustainable development**.
6. Its institutional framework comprises **Summits** (held biennially), **Ministerial Meetings** (held annually),

and **Senior Officials’ Meetings** (held twice a year).

7. **BIMSTEC** has identified **14 priority sectors**, with each member country leading a specific sector. **India** leads **Transport and Communication, Tourism, Environment and Disaster Management, and Counter Terrorism and Transnational Crime**.
8. The **BIMSTEC Secretariat** is located in **Dhaka, Bangladesh**

9. United Nations Population Fund (UNFPA)

Context

A recent **UNFPA** survey found that although most young Indians want to have children, **economic pressures and gender inequality** are leading many to delay parenthood.

About UNFPA

1. **UNFPA** is the **United Nations** agency that promotes **sexual and reproductive health, gender equality, and population and development**.
2. It was established in **1967** as the **United Nations Fund for Population Activities** and was renamed the **United Nations Population Fund** in **1987**, while retaining the abbreviation **UNFPA**.
3. It provides **technical, financial, and policy assistance** to countries for population and reproductive health programmes.
4. It helps countries conduct **population censuses, demographic surveys, and other statistical activities**, but **does not directly collect primary demographic data**.
5. Its major areas of work are:
 - a. **Sexual and reproductive health**, including family planning, maternal health, and prevention and treatment of **sexually transmitted infections (STIs)**.
 - b. **Population and development** through demographic research and evidence-based policymaking.
 - c. **Gender equality and women’s empowerment**, with emphasis on reducing gender disparities, particularly in education.
6. **UNFPA** is **funded entirely through voluntary contributions** from governments, intergovernmental organizations, foundations, the private sector, and individuals. It **does not receive funding from the UN regular budget**.
7. It functions under the overall policy guidance of the **United Nations General Assembly (UNGA)** and the **United Nations Economic and Social Council**

(ECOSOC).

8. Headquarters: New York, United States**10. East Asia Summit (EAS): ASEAN-Led Platform for Strategic Dialogue and Cooperation in the Indo-Pacific****Context**

At the **21st East Asia Summit (EAS)** held in **Manila**, India's **External Affairs Minister** emphasized that global maritime routes must remain **safe, secure, and free from obstruction**, highlighting India's commitment to a **free, open, inclusive, and rules-based Indo-Pacific**.

About the East Asia Summit (EAS)

The **East Asia Summit (EAS)** is the **Indo-Pacific's premier leaders-led forum** for dialogue and cooperation on **strategic, political, economic, and security issues**. It brings together **ASEAN and its major Dialogue Partners** to address regional and global challenges while reinforcing **ASEAN Centrality** in the evolving regional architecture.

1. **Established: 2005**
2. **First Summit: Kuala Lumpur, Malaysia**
3. **India is a founding member** of the EAS.
4. The Summit is **chaired by ASEAN**, with the **chairmanship rotating annually** among its member states.

Key Features

1. **Membership**
2. The EAS brings together **19 participating countries**, comprising:
 - a. **11 ASEAN member countries:** Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste, and Vietnam.
 - b. **Eight Dialogue Partners:** Australia, China, India, Japan, New Zealand, the Republic of Korea, Russia, and the United States.
3. **Timor-Leste** became the newest participant following its **accession to ASEAN on 26 October 2025**.
4. **Functions**
5. The East Asia Summit serves as a platform to:
6. Promote dialogue on **strategic, political, economic, and security issues** affecting the Indo-Pacific.
7. Strengthen **ASEAN-led regional cooperation** and build mutual trust among participating countries.
8. Facilitate collaboration on **maritime security**,

connectivity, global health, disaster management, and sustainable development.

9. Encourage collective efforts to maintain **regional peace, stability, and prosperity**.

Priority Areas of Cooperation

The EAS focuses on six priority areas:

1. **Environment and Energy**
2. **Education**
3. **Finance**
4. **Global Health Issues and Pandemic Diseases**
5. **Natural Disaster Management**
6. **ASEAN Connectivity**

Institutional Framework

1. The **Leaders' Summit** is held **annually**, usually in **October or November**.
2. The Summit process is supported by **Foreign Ministers' Meetings, Economic Ministers' Meetings, and Senior Officials' Meetings**, which coordinate cooperation, review progress, and prepare the agenda for leaders' discussions.

11. Chabahar Port: Strategic Significance and Recent Developments**Context**

Recent US military strikes in Iran raised concerns after images showing damage to the maritime control tower at Chabahar Port were circulated.

About Chabahar Port

1. **Chabahar Port** is located in **Sistan-Baluchistan Province** on the **southeastern coast of Iran**, along the **Gulf of Oman**.
2. It is **Iran's only port with direct access to the Indian Ocean**, enabling maritime access without passing through the **Strait of Hormuz**.
3. The port comprises two terminals:
 - a. **Shahid Beheshti Terminal**
 - b. **Shahid Kalantari Terminal**
4. The **Shahid Beheshti Terminal** is operated by **India Ports Global Ltd. (IPGL)** under a **10-year renewable agreement** signed with Iran's **Ports and Maritime Organisation (PMO)** in **May 2024**.

Strategic Significance

1. **For India**
 - a. Provides a **direct trade route to Afghanistan and Central Asia**, bypassing Pakistan, which

does not permit overland transit of Indian goods.

- b. Forms a key link in the **International North-South Transport Corridor (INSTC)**, a multimodal transport network connecting **India, Iran, Central Asia, Russia, and Europe**.
 - c. Serves as a strategic counterbalance to **China's Gwadar Port** in Pakistan, located about **140 km** away.
 - d. Strengthens India's connectivity, trade, energy security, and strategic outreach across **West Asia and Eurasia**.
2. **For Iran**
 - a. Serves as Iran's principal gateway to the **Indian Ocean**.
 - b. Promotes economic development in **Sistan-Baluchistan Province**.
 - c. Enhances trade connectivity with **Afghanistan, Central Asia, Russia, and other regional markets**.
 3. **Regional Importance**
 - a. Strengthens connectivity between **South Asia, Central Asia, and Eurasia**.
 - b. Diversifies regional trade routes and reduces dependence on traditional maritime corridors.
 - c. Promotes regional economic integration through the **International North-South Transport Corridor (INSTC)**.

India's Role in Chabahar

1. India initiated its engagement with **Chabahar Port** to establish an alternative trade and connectivity corridor to **Afghanistan and Central Asia**, bypassing Pakistan.
2. In **May 2024**, India and Iran signed a **10-year agreement** for the development and operation of the **Shahid Beheshti Terminal**, replacing the earlier short-term operational arrangements.
3. Following the agreement, India prepaid its committed investment of **US\$120 million** and transferred certain operational responsibilities to local entities to reduce the risk of sanctions-related financial disruptions.
4. India has also extended a **Line of Credit of US\$250 million** for the port's development.
5. Since **2018**, the terminal has:
 - a. Handled **over 450 vessels**.
 - b. Processed **more than 1,34,000 TEUs** (*Twenty-foot Equivalent Units*) of container cargo.
 - c. Managed **over 8.7 million tonnes** of bulk and general cargo.
6. India has supplied port equipment worth approximately **US\$24 million**, while additional equipment is being

procured to further modernise the port.

Challenges

1. **US sanctions on Iran** have created financial, operational, and investment uncertainties for the Chabahar project.
2. Although the United States earlier granted sanctions waivers in view of Chabahar's role in facilitating humanitarian assistance and connectivity with Afghanistan, the **temporary waiver expired on 26 April**, increasing uncertainty over India's future operations.
3. The **Union Budget 2026–27** did not allocate funds for Chabahar after providing **₹400 crore** in the previous financial year, raising concerns over the pace of future development.
4. Any reduction in India's engagement could strengthen **China's strategic influence** through **Gwadar Port** and the **China-Pakistan Economic Corridor (CPEC)**.
5. Continuing geopolitical tensions involving Iran may affect investment, financing, insurance, and commercial operations associated with the project.

Way Forward

1. Continue diplomatic engagement with **Iran**, the **United States**, and other stakeholders to ensure uninterrupted port operations.
2. Develop financial and operational mechanisms that comply with international sanctions while safeguarding India's strategic interests.
3. Accelerate the integration of **Chabahar Port** with the **International North-South Transport Corridor (INSTC)** to enhance regional connectivity and trade.
4. Promote Chabahar as a **regional logistics hub** through closer cooperation with **INSTC member countries, Afghanistan, and Central Asian nations**.
5. Sustain long-term investment in infrastructure and logistics to strengthen India's connectivity with **West Asia and Eurasia**.

Conclusion

Chabahar Port remains a cornerstone of India's connectivity strategy towards **Afghanistan, Central Asia, and Eurasia**. By providing an alternative trade corridor that bypasses Pakistan, it enhances India's strategic autonomy and complements the **International North-South Transport Corridor (INSTC)**. Despite geopolitical challenges and sanctions-related uncertainties, sustained diplomatic engagement, infrastructure development, and regional cooperation will be crucial to realising the port's full strategic and economic potential.



SECURITY

1. INS Mahendragiri and Project 17A Stealth Frigates

Context

Recently, Defence Minister Rajnath Singh commissioned INS Mahendragiri, the sixth indigenous Nilgiri-class (Project 17A) stealth frigate of the Indian Navy, at the Naval Dockyard, Visakhapatnam.

About INS Mahendragiri

1. It is designed by the Warship Design Bureau (WDB) and built by Mazagon Dock Shipbuilders Limited (MDL), Mumbai.
2. It is powered by a Combined Diesel or Gas (CODOG) propulsion system comprising diesel engines, gas turbines, and Controllable Pitch Propellers (CPPs), supported by an Integrated Platform Management System (IPMS).
3. The frigate is equipped with advanced weapons and sensors for anti-air, anti-surface, and anti-submarine warfare.
4. Besides combat operations, it can undertake maritime security, power projection, Humanitarian Assistance and Disaster Relief (HADR), Search and Rescue (SAR), and long-endurance deployments.
5. Project 17A is an indigenous programme to develop a new generation of multi-mission stealth frigates for the Indian Navy.
6. The other frigates under the project are INS Nilgiri, INS Himgiri, INS Udaygiri, INS Taragiri, and INS Vindhyagiri.
7. The class is equipped with advanced systems, including the MF-STAR active phased-array radar, BrahMos supersonic cruise missiles, and Barak-8 long-range surface-to-air missiles.
8. Project 17A integrates stealth technology, modern sensors, and advanced weapon systems to strengthen the Indian Navy's multi-role operational capability.

2. INS Surat: India's Indigenous Visakhapatnam-class Stealth Guided Missile Destroyer

Context

Recently, INS Surat participated in joint naval activities with JS Takanami (DD-110) of the Japan Maritime

Self-Defence Force (JMSDF), reflecting the growing maritime cooperation between India and Japan.

About INS Surat

1. INS Surat is an indigenous stealth guided missile destroyer and the fourth and final ship of the Visakhapatnam-class (Project 15B) destroyers.
2. It was designed by the Indian Navy's Warship Design Bureau (WDB) and built by Mazagon Dock Shipbuilders Limited (MDL), Mumbai, with about 75% indigenous content.
3. The warship was commissioned into the Indian Navy in January 2025.
4. With a displacement of about 7,400 tonnes and a length of 164 metres, it is among the largest destroyers operated by the Indian Navy.
5. It features a stealth design with a reduced radar cross-section, an X-band stealth hull, and an integrated mast for advanced sensor integration.
6. The ship is powered by a Combined Gas and Gas (COGAG) propulsion system comprising four gas turbines, enabling a top speed of about 30 knots and an operational endurance of 8,500 nautical miles.
7. INS Surat is India's first artificial intelligence-enabled warship, employing indigenously developed AI applications to improve operational efficiency.
8. Its armament includes BrahMos supersonic cruise missiles, Barak-8 medium-range surface-to-air missiles, torpedo launchers, a 76 mm Super Rapid Gun Mount (SRGM), and Close-In Weapon Systems (CIWS).
9. The ship has a flight deck and hangar capable of operating two Advanced Light Helicopters (ALH) or one MH-60R multi-role helicopter.
10. Project 15B represents the next generation of indigenous stealth destroyers, enhancing the Indian Navy's capability in air defence, anti-surface, and anti-submarine operations.

3. INS Trikanth: Features and Role in India's Maritime Security

Context

Recently, INS Trikanth played a key role in an anti-piracy operation in the Gulf of Aden, reinforcing India's commitment to safeguarding international maritime trade and securing vital sea routes.

About INS Trikand

1. **INS Trikand** is a frontline **Talwar-class guided missile stealth frigate** of the Indian Navy and serves with the **Western Fleet** under the **Western Naval Command**, headquartered in Mumbai.
2. It is the **third and final ship** of the second batch of **Talwar-class frigates**, built at the **Yantar Shipyard, Kaliningrad (Russia)** and commissioned into the Indian Navy on **29th June 2013**.
3. The warship has a displacement of **4,035 tonnes**, measures about **125 metres** in length, and has a crew of around **180 personnel**, including **18 officers**.
4. Powered by **four gas turbines**, it can attain speeds of **over 30 knots**, enabling rapid deployment during maritime operations.
5. The frigate is equipped with a multi-layered weapon suite comprising **BrahMos supersonic cruise missiles**, **Shtil surface-to-air missiles**, an **A-190 naval gun**, **30-mm close-in weapon systems**, and **anti-submarine torpedoes and rocket launchers**.
6. Its **‘Trebovanie-M’ Combat Management System** integrates the ship’s weapons and sensors, enabling the simultaneous engagement of **air, surface, and underwater threats**.
7. The frigate incorporates advanced **stealth technologies** that reduce its **radar, magnetic, and acoustic signatures**, making it less detectable during operations.
8. It can operate a **Kamov Ka-31 helicopter**, primarily for **airborne early warning and maritime surveillance**.
9. INS Trikand strengthens India’s maritime security by safeguarding **Sea Lines of Communication (SLOCs)**, conducting **anti-piracy operations**, protecting maritime trade, and supporting stability in the **Indian Ocean Region (IOR)**.

4. Bhargavastra: India’s Indigenous Counter-Swarm Drone System

Context

Bhargavastra is **India’s first indigenous micro-missile system**, developed by **Economic Explosives Ltd. (EEL)** to counter **individual drones and coordinated drone swarms**.

Key features of Bhargavastra

1. **Dual-Layer Defence:** Combines **unguided micro-rockets** with a **20-metre lethal radius** and **precision-guided micro-missiles** capable of intercepting targets

up to **2.5 km** away.

2. **Target Detection:** Detects **larger Unmanned Aerial Vehicles (UAVs)** up to **10 km** and **smaller drones** up to **6 km**.
3. **Integrated Surveillance:** Integrates **radar, Electro-Optical/Infrared (EO/IR) sensors**, and **passive Radio Frequency (RF) sensors** through a **Command, Control, Communications, Computers and Intelligence (C4I)** architecture for drone detection and engagement.
4. **All-Terrain Deployment:** Designed to operate across **deserts, high-altitude regions above 5,000 metres**, and other challenging terrains.
5. **Layered Defence:** Combines **hard-kill** measures (micro-rockets and guided micro-missiles) with **soft-kill** techniques such as **electronic jamming** to neutralise **individual drones and coordinated drone swarms**.
6. **Cost-Effective Capability:** Offers a **cost-efficient alternative** to deploying **surface-to-air missiles** against low-cost drones, improving the **cost-exchange ratio** in counter-drone operations.

5. Arrow-3 Missile Defence System: Features and Strategic Significance

Context

Recently, **Germany** announced plans to establish a **second Arrow-3 missile defence site in Bavaria**, alongside the operational battery near **Berlin**, to strengthen its national missile defence network.

About Arrow-3 Missile Defence System

1. **Arrow-3** is a **long-range exo-atmospheric interceptor** designed to destroy **ballistic missiles** before they re-enter the Earth’s atmosphere.
2. It is the latest interceptor of the **Arrow Weapon System (AWS)**, jointly developed by **Israel and the United States**.
3. **AWS** is the world’s first **operational stand-alone national Anti-Tactical Ballistic Missile (ATBM)** defence system.
4. The system consists of a **two-stage solid-propellant interceptor**, supported by an **integrated launcher, advanced radar, and battle management system**.
5. It has an operational range of up to **2,400 km** and can intercept targets at altitudes of around **100 km**.
6. The interceptor is launched from a **21-inch vertical launch canister** and intercepts threats during the **exo-atmospheric phase** of their flight.

7. Travelling at **hypersonic speed (above Mach 5)**, it can rapidly intercept high-speed ballistic missiles.
8. Its **early-warning and fire-control radar** provides long-range surveillance and simultaneously detects and tracks multiple targets.
9. The system uses **hit-to-kill technology**, destroying incoming missiles through **direct kinetic impact** instead of an explosive warhead.
10. After launch, a **high-resolution electro-optical sensor** guides the kill vehicle to the target for precise interception.
11. **Arrow-3** strengthens **multi-layered missile defence** by providing long-range protection against ballistic missile threats

6. Astra Mk 1 Missile: India's Indigenous Beyond Visual Range Air-to-Air Missile

Context

Recently, **India and Indonesia** signed an agreement for the supply of **Astra Mk 1 missiles**, marking a significant step in strengthening bilateral defence cooperation.

About Astra Mk 1 Missiles

1. **Astra Mk 1** is a **Beyond Visual Range Air-to-Air Missile (BVRAAM)** developed by the **Defence Research and Development Organisation (DRDO)**.
2. It is designed to engage hostile aircraft **beyond the pilot's visual range**, significantly enhancing air combat capability.
3. The missile has an operational range of **80–110 km**, can engage targets at altitudes of up to **20 km**, and attains a maximum speed of **Mach 4.5**.
4. It is powered by a **single-pulse smokeless solid-propellant rocket motor**.
5. Its guidance system combines **inertial navigation, mid-course guidance updates, and terminal active radar homing** for accurate target interception.
6. Astra Mk 1 is integrated with the **IAF's Su-30MKI** fighter aircraft and is planned for integration with the **LCA Tejas Mk 1** and **Rafale**. It is also intended for deployment on compatible aircraft operated by the **Indian Navy**.
7. The **Astra Mk 2** variant is being developed with an **extended engagement range of about 200 km**, providing greater stand-off capability.
8. Astra Mk 1 strengthens India's **beyond-visual-range air combat capability** and supports the country's drive towards **self-reliance in defence technology**.

7. SwaYaan Initiative

Context

The **Ministry of Electronics and Information Technology (MeitY)**, in collaboration with the **Drone Federation India (DFI)**, recently launched the **National Innovation Challenge for Drone Research (NIDAR)** under the **SwaYaan Initiative** to promote research, innovation, and indigenous drone technologies.

About SwaYaan Initiative

1. **SwaYaan** is a flagship initiative launched by the **Ministry of Electronics and Information Technology (MeitY)** in **2022** to strengthen India's **Unmanned Aircraft System (UAS)/drone ecosystem**.
2. It supports the Government of India's vision of making **India a global drone hub by 2030** by promoting research, innovation, indigenous technology, and skill development.
3. The initiative promotes **capacity building** among **students, researchers, faculty members, and lifelong learners** through academic programmes, research projects, training, and knowledge-sharing activities.
4. It is implemented through a network of **30 premier academic and research institutions**, including **IITs, IISc, IIITs, NITs, IIITDM, C-DAC, and NIELIT Centres**.
5. Industry bodies and skill councils, including **FICCI, Electronics Sector Skills Council of India (ESSCI), Telecom Sector Skill Council (TSSC), Drone Federation India (DFI), and HAL**, provide mentoring, technical guidance, and industry collaboration.
6. The initiative focuses on five thematic areas:
 - a. **Drone Electronics**
 - b. **Guidance, Navigation and Control (GNC) Algorithms & Simulation**
 - c. **Aeromechanics**
 - d. **Drone Applications**
 - e. **Allied UAS Technologies**
7. The initiative brings together **academia, research institutions, industry, and skill-development agencies** to strengthen **indigenous capabilities** and accelerate the growth of **India's drone ecosystem**.

8. Digital Threat Report 2025–26

Context

Recently, the **Ministry of Electronics and Information Technology (MeitY)**, in collaboration with the **Indian Computer Emergency Response Team (CERT-In)**, **Computer Security Incident Response Team in Finance (CSIRT-Fin)**, and **Strategic Information Services Agreement (SISA)**, released the **second edition of the Digital Threat Report 2025–26** to strengthen cyber resilience in India's **Banking, Financial Services and Insurance (BFSI)** and digital payments ecosystem.

Key Highlights of the Report

1. AI Asymmetry: A Key Cybersecurity Challenge

- a. The report identifies **AI Asymmetry** as a major cybersecurity challenge, with cybercriminals adopting AI faster than organisations and regulators can strengthen their defence mechanisms.
- b. AI-powered tools enable even low-resource threat actors to launch sophisticated cyberattacks rapidly and at scale, increasing risks to the BFSI sector.
- c. **AI Asymmetry** refers to the growing imbalance where cybercriminals use AI to develop and execute cyberattacks faster than organisations can detect, respond to, or regulate them.

2. Rapidly Evolving Cyber Threats

- a. The time between the emergence of a cyber threat and its exploitation has reduced significantly, shrinking from years to months and, in some cases, even weeks.
- b. This significantly reduces the time available to identify vulnerabilities and respond effectively.

3. Evolving Nature of Cyberattacks

- a. Cyber threats have shifted from conventional network intrusions to social engineering, credential theft, supply-chain attacks, cloud exploitation, AI-assisted fraud, and misuse of legitimate user sessions.
- b. These attacks closely resemble legitimate user behaviour, making early detection increasingly difficult.

4. 4-Layer Gap Archetype Framework

- a. The report introduces the **4-Layer Gap Archetype Framework**, which explains that major cyber breaches usually result from multiple interconnected vulnerabilities rather than a single security lapse.
- b. The framework helps organisations identify systemic weaknesses and prioritise cybersecurity investments.

18-Month Cyber Resilience Roadmap

1. The report proposes an **18-month roadmap** focused on:
2. Strengthening foundational security controls.
3. Adopting continuous cyber risk assessment.
4. Improving coordinated incident response.
5. Enhancing cyber threat intelligence sharing.
6. Building resilient cybersecurity architecture.

Major Recommendations

1. Adopt continuous cyber risk assessment instead of periodic security audits.
2. Strengthen real-time cyber threat intelligence sharing.
3. Enhance **Digital Forensics and Incident Response (DFIR)** capabilities.
4. Improve cloud security and supply-chain resilience.
5. Adopt AI-enabled cyber defence systems.
6. Strengthen coordination among regulators, financial institutions, and cybersecurity agencies.

Indian Computer Emergency Response Team (CERT-In)

1. **CERT-In** is the national nodal agency for responding to cybersecurity incidents under the **Ministry of Electronics and Information Technology (MeitY)**.
2. It was designated under the **Information Technology (Amendment) Act, 2008**.
3. Its key functions include:
 - a. Collecting and analysing cyber incident information.
 - b. Issuing cyber threat alerts and advisories.
 - c. Coordinating responses to cybersecurity incidents.
 - d. Publishing guidelines, vulnerability notes, and best practices for improving cybersecurity.

Computer Security Incident Response Team in Finance (CSIRT-Fin)

1. **CSIRT-Fin** is the sectoral cybersecurity incident response agency for India's financial sector.
2. It is responsible for cyber incident prevention and response, cyber resilience monitoring, security quality management, issuing cyber threat advisories, and promoting cybersecurity awareness across the banking, securities, insurance, and pension sectors.

Strategic Information Services Agreement (SISA)

1. **SISA** is an India-founded global cybersecurity

- company specialising in the banking, financial services, and digital payments ecosystem.
- 2. It provides **AI-driven cybersecurity solutions**, including digital forensics, breach intelligence, incident response, and payment security services.
- 3. The company supports financial institutions in **more than 40 countries**.

Conclusion

The report provides a roadmap for strengthening India's cyber resilience through continuous risk assessment, AI-enabled defence, and stronger institutional coordination, helping build a secure and resilient digital financial ecosystem.

9. Machilipatnam (BY 529): Mahe-class Anti-Submarine Warfare Shallow Water Craft

Context

The **Indian Navy** recently launched **Machilipatnam (BY 529)**, the **seventh vessel** of the **Mahe-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC)** programme. The vessel derives its name from **Machilipatnam**, the historic port city in **Krishna district, Andhra Pradesh**. It has been built by **Cochin Shipyard Limited (CSL)** for the **Indian Navy**.

Technical Specifications

1. **Displacement:** Approximately **900 tonnes**.
2. **Maximum Speed:** Up to **25 knots**.
3. **Operational Endurance:** Around **1,800 nautical miles**.
4. **Indigenous Content:** More than **80%**, supporting the **Atmanirbhar Bharat** initiative.

Combat Systems & Operational Roles

1. **Combat Systems**
 - a. **Hull-mounted Sonar:** An indigenous sonar system installed on the ship's hull to detect and track underwater objects, including submarines.
 - b. **Low-frequency Variable Depth Sonar:** An indigenous sonar that can be deployed at different depths to improve submarine detection under varying underwater conditions.
2. **Operational Roles**
 - a. **Underwater Surveillance**
 - b. **Anti-Submarine Warfare (ASW)**
 - c. **Low Intensity Maritime Operations (LIMO)**

d. Mine Warfare

Strategic Significance

1. **Strengthens Coastal Security:** Enhances the Indian Navy's capability to detect and counter submarine threats in shallow coastal waters.
2. **Enhances Maritime Domain Awareness (MDA):** Improves surveillance and monitoring of maritime activities for timely identification and response to maritime threats.
3. **Promotes Defence Indigenisation:** Advances the **Atmanirbhar Bharat** initiative through the integration of **more than 80% indigenous content** and domestically developed technologies.

10. Pinaka Long Range Guided Rocket (LRGR): Features and Significance

Context

Recently, the **Defence Research and Development Organisation (DRDO)** achieved another milestone in indigenous defence technology by successfully flight-testing the **Pinaka Long Range Guided Rocket (LRGR)** at the **Integrated Test Range (ITR), Chandipur**.

About Pinaka Long Range Guided Rocket (LRGR)

1. **Pinaka LRGR** is an **extended-range precision-guided rocket** developed for the **Pinaka Multiple Launch Rocket System (MLRS)** of the Indian Army.
2. It has been developed by the **Armament Research and Development Establishment (ARDE)** in collaboration with the **High Energy Materials Research Laboratory (HEMRL)**, **Research Centre Imarat (RCI)**, and **Defence Research and Development Laboratory (DRDL)** under **DRDO**.
3. It has a **maximum strike range of about 120 km**, significantly extending the operational reach of the Pinaka weapon system.
4. The rocket employs an **advanced guidance system** incorporating **inertial navigation**, **mid-course guidance updates**, and **terminal active radar homing** for high-precision strikes.
5. It can accurately engage **enemy artillery positions**, **command centres**, and **logistics installations**, making it particularly effective in **mountainous and other challenging terrains**.
6. The rocket is **backward compatible**, allowing deployment from existing **Pinaka launchers** without major structural modifications.

7. Due to the integration of additional guidance electronics, each **guided Pinaka launcher** carries **eight rockets**.
8. **Pinaka LRGR** enhances the Indian Army's **long-range precision strike capability** and supports India's **indigenous defence modernisation**.

11. Operation Southern Readiness 26-2

Context

The **Indian Navy** will conduct **Operation Southern Readiness 26-2** which is a **four-day multinational maritime training exercise** at the **Southern Naval Command, Kochi**, in partnership with the **Combined Maritime Forces (CMF)** to strengthen maritime cooperation and improve regional maritime security.

About Operation Southern Readiness 26-2

1. It brings together personnel from **CMF partner nations** to improve coordination, share operational experience, and exchange best practices in maritime security.
2. The programme combines **classroom sessions, simulator-based training, and practical onboard exercises**.
3. Training covers **Maritime Law, Maritime Domain Awareness (MDA), Information Sharing, Counter-Narcotics Operations, Force Protection, Asymmetric Threats, and maritime uncrewed systems**.
4. Participants also receive practical training in **Damage Control and Firefighting, maritime communications, Survival at Sea, and boarding operations** aboard Indian naval ships.
5. The exercise aims to enhance **operational readiness**, strengthen **regional cooperation**, and build the capacity of participating countries to address emerging maritime security challenges.
6. The **Combined Maritime Forces (CMF)** is a multinational maritime partnership comprising **more than 40 member nations**, with the **Indian Navy** playing an active role in its maritime security initiatives in the **Indian Ocean Region (IOR)**.



ECONOMY

1. WTO Trade Policy Review (TPR)

Context

India's seventh Trade Policy Review (TPR) was recently conducted by the World Trade Organization (WTO) in Geneva.

About the Trade Policy Review Mechanism (TPRM)

1. The Trade Policy Review Mechanism (TPRM) is a **WTO transparency mechanism** that periodically reviews the trade policies and practices of member countries.
2. It aims to promote **transparency, predictability, and accountability** in the multilateral trading system.
3. The mechanism is a **peer-review process** and **does not enforce WTO rules or settle trade disputes**.
4. It encourages policy dialogue and helps members better understand each other's trade measures.

India's Economic and Trade Performance

Despite global challenges such as **geopolitical tensions, supply-chain disruptions, and rising protectionism**, India recorded strong economic performance.

Key Highlights

1. Achieved an average annual **GDP growth of nearly 8%** during **2021–2025**.
2. Recorded **exports worth USD 863.1 billion** in **2025–26**, the highest so far.
3. Continued pursuing the vision of **Viksit Bharat @2047** while addressing the development aspirations of nearly **one-fifth of the world's population**.

Major Trade and Economic Reforms

India highlighted several reforms aimed at improving competitiveness and strengthening integration with the global economy.

1. **Aatmanirbhar Bharat:** Promotes domestic manufacturing while integrating India into **Global Value Chains (GVCs)**—international production networks where different stages of manufacturing take place across multiple countries.
2. **Jan Vishwas Initiative:** Simplifies regulations and improves the ease of doing business.
3. Expansion of **Digital Public Infrastructure (DPI)** to support financial inclusion, digital commerce, and

efficient service delivery.

4. Modernisation of **customs, logistics, and quality infrastructure** to facilitate trade.
5. Promotion of **Artificial Intelligence (AI), innovation, and startups**.
6. Greater emphasis on **sustainability, agricultural resilience, and inclusive development**.
7. Expansion of **Regional Trade Agreements (RTAs)**.
8. Continued support to developing countries through **South-South Cooperation** and the **Indian Technical and Economic Cooperation (ITEC) Programme**.
9. Reiterated support for **balanced WTO reforms** that safeguard the interests of developing countries while strengthening the multilateral trading system.

Recognition by WTO Members

WTO Trade Policy Review Body (TPRB)

1. Recognised India as one of the **fastest-growing major economies**.
2. Appreciated India's leadership in **digitally delivered services exports**.
3. Commended reforms in **Digital Public Infrastructure (DPI), financial inclusion, and trade facilitation**.
4. Welcomed India's acceptance of the **WTO Agreement on Fisheries Subsidies** following the deposit of its **Instrument of Acceptance**.
5. Appreciated India's timely and transparent responses during the review process.

Brazil's Observations

1. Highlighted the success of the **Goods and Services Tax (GST)** in creating a unified domestic market.
2. Appreciated India's **digital trade reforms** and expanding export strategy.
3. Recognised the importance of India's recent **Regional Trade Agreements (RTAs)**.
4. Praised the **Duty-Free Tariff Preference (DFTP) Scheme for Least Developed Countries (LDCs)**.
5. Described India's **Digital Public Infrastructure (DPI)** as a model for developing countries.

India's Stand on the WTO Electronic Commerce Agreement

1. India opposed the attempt to operationalise the **66-member Agreement on Electronic Commerce**

(ECA) without the approval of all WTO members.

2. India argues that, under the **Marrakesh Agreement**, adding a new **Annex 4 plurilateral agreement** requires the **consensus of all WTO members**.
3. The proposal failed to secure consensus during the **2025 WTO General Council** meetings.
4. Despite the deadlock, participating members adopted an **interim arrangement** to implement the agreement.
5. India questioned the **legal and institutional validity** of this approach.

Competing Approaches to WTO Reform

1. **Supporting countries** argue that **Joint Statement Initiatives (JSIs)** are necessary to develop new trade rules when consensus among all WTO members is difficult.
2. **India** maintains that allowing a group of members to implement unapproved agreements weakens the WTO's **multilateral and consensus-based framework**.
3. The issue reflects the broader debate between **consensus-based multilateralism** and **plurilateral agreements** in global trade governance.

Conclusion

As global trade evolves, effective WTO reforms will require balancing **consensus, inclusiveness, and flexibility** to ensure a stable and equitable trading system.

2. Universal Pension Scheme under EPFO 3.0 Reforms

Context

The Union Government is developing a **Universal Pension Scheme** under the **EPFO 3.0 reforms** to expand retirement security through a flexible contributory pension system for organised, informal, and gig workers.

Need for the Universal Pension Scheme

India's pension system is fragmented, with different retirement schemes serving different sections of the workforce. While organised sector employees are covered under the **Employees' Provident Fund Organisation (EPFO)** and the **Employees' Pension Scheme (EPS)**, a large proportion of informal and gig workers remains outside the formal pension network.

According to the **Periodic Labour Force Survey (PLFS)**, nearly **90% of India's workforce** is employed in the informal sector. The **Code on Social Security, 2020** expanded the scope of social security by recognising gig and platform workers, highlighting the need for a more inclusive pension system. To address this gap, the Government has initiated **EPFO 3.0 reforms**, with the proposed Universal Pension

Scheme as a key step towards expanding pension coverage and strengthening retirement security.

Proposed Framework

1. The scheme will follow a **defined contribution** model, with each subscriber maintaining an individual pension account and selecting a **Target Retirement Sum (TRS)** based on the desired retirement income and expected retirement age. The required contribution will be determined by factors such as contribution frequency and expected investment returns.
2. On attaining **60 years of age**, subscribers may either convert the accumulated corpus into an **annuity** or opt for a **Systematic Withdrawal Plan (SWP)**.
3. The scheme integrates the long-term savings approach of the **Employees' Provident Fund (EPF)** with a flexible pension payout mechanism.

Salient Features

Target Retirement Sum (TRS)

1. Subscribers can choose and revise their retirement corpus according to their financial goals.
2. The EPFO's digital platform will estimate contribution requirements, monitor corpus growth, provide personalised dashboards, and generate inflation-adjusted retirement projections.

Contribution Framework

The scheme permits contributions from multiple sources, including:

1. Employees and employers.
2. Government co-contributions for eligible low-income workers.
3. Aggregators of gig and platform workers.
4. Corporate Social Responsibility (CSR) funds.
5. NGOs and other authorised contributors.

Retirement Options

Subscribers may choose:

1. Regular annuity payments.
2. A **Systematic Withdrawal Plan (SWP)**.
3. Flexible withdrawal options that allow the remaining corpus to continue generating returns.

Coverage

The scheme seeks to extend pension benefits to:

1. Informal sector workers.
2. Gig and platform workers.
3. Building and construction workers.
4. Existing EPFO subscribers.
5. Employees currently outside the **Employees' Pension Scheme (EPS)**.

A single **Universal Account Number (UAN)** will be linked to multiple employers or digital platforms while maintaining separate contribution records. The Government aims to bring nearly **2.5 crore** gig and construction workers under the social security net over the next five years.

Family Benefit Fund: An actuarially managed **Family Benefit Fund** will provide survivor benefits for spouses, financial assistance for children, and support for orphaned dependents.

Significance

1. Expands pension coverage to informal, gig, and platform workers.
2. Promotes universal and inclusive social security.
3. Encourages long-term retirement savings through a flexible contribution framework.
4. Leverages digital technology for efficient and transparent pension administration.
5. Supports the implementation of the **Code on Social Security, 2020**.
6. Enhances old-age income security and promotes financial inclusion.

Conclusion

The proposed **Universal Pension Scheme** has the potential to strengthen India's social security architecture by expanding pension coverage, encouraging long-term retirement savings, and providing a flexible, technology-driven retirement security framework for workers across all sectors.

3. State Finances and Fiscal Sustainability

Context

Recent White Papers released by the Governments of **Kerala** and **Tamil Nadu** have highlighted rising debt levels, reviving the debate on the fiscal sustainability of States. The reports suggest that growing debt often reflects structural imbalances in India's fiscal federal framework rather than fiscal mismanagement.

Core Issue

States shoulder a major share of developmental expenditure despite having comparatively limited revenue-raising powers. This structural imbalance creates persistent fiscal pressures and increases reliance on borrowings.

Fiscal Challenge

A fundamental challenge in India's fiscal federal system

is the mismatch between **revenue-raising powers** and **expenditure responsibilities**.

While the **Union Government** mobilises a larger share of tax revenue, States bear primary responsibility for delivering public services and implementing development programmes, including:

1. Health
2. Education
3. Agriculture
4. Irrigation
5. Rural and urban development

As expenditure commitments often exceed available resources, States depend on borrowing to finance fiscal deficits.

Structural Causes of Fiscal Stress

State finances remain under pressure because developmental responsibilities have expanded faster than revenue-generating capacity. This structural imbalance results in persistent fiscal deficits, increasing dependence on borrowings to sustain public expenditure and development programmes.

Sources of Revenue

States finance their budgets through two principal sources.

Own Revenue

1. State Goods and Services Tax (SGST)
2. State excise duties and sales tax
3. Stamp duty and registration fees
4. Non-tax revenue

Transfers from the Union Government

1. Share in Central taxes (tax devolution)
2. Grants-in-aid
3. Loans and other transfers

Despite these sources, revenue growth often remains insufficient to meet rising expenditure commitments.

Role of Borrowing in State Finances

States primarily borrow to:

1. Finance fiscal deficits.
2. Fund infrastructure and other capital projects.
3. Bridge temporary revenue shortfalls.
4. Support welfare and development programmes.

Borrowing is a normal instrument of public finance and should be assessed by its purpose, quality, and long-term sustainability rather than by the size of debt alone.

Kerala's Fiscal Position

Kerala illustrates the fiscal pressures faced even by financially stronger States.

1. The State's own tax revenue is nearly **1.5 times** the national per capita average.
2. However, its share in **Union tax devolution** was only **1.92%** during **2023–24**, despite accounting for **2.6%** of India's population.

The resulting fiscal gap is bridged through market borrowings, increasing debt servicing obligations.

Expenditure Pattern

A significant share of State expenditure is committed to recurring liabilities, leaving limited fiscal space for productive investment.

In Kerala:

1. Around **20%** of expenditure is allocated to salaries.
2. **15.3%** is spent on pensions.
3. **16.5%** is used for interest payments.

Consequently, only about **10%** of the budget is available for capital expenditure, limiting infrastructure creation and long-term asset formation.

Investment Dilemma

States face a difficult policy trade-off.

Reducing expenditure on salaries, pensions, or welfare may create fiscal space for investment but could weaken social development gains. Conversely, inadequate investment in infrastructure, higher education, research, innovation, and public transport constrains productivity, employment generation, and long-term economic growth.

In Kerala, this challenge is reflected in the migration of skilled youth seeking better employment opportunities. At the same time, visible private prosperity alongside constrained public finances points to widening economic disparities.

Comparison with China's Fiscal Model

China follows a more decentralised model in which provincial and local governments play a leading role in financing development.

Its model is characterised by:

1. Local Government Bonds (LGBs)
2. Local Government Financing Vehicles (LGFVs)
3. Land-based revenue mobilisation
4. Coordinated fiscal planning with the central government

Chinese local governments borrow at around **2%**, whereas Indian States raise funds through **State Development Loans (SDLs)** at approximately **6.5–7.5%**. The higher borrowing cost increases debt servicing obligations and reduces fiscal space for development-oriented expenditure.

Reassessing State Debt

State debt should not be viewed solely as an indicator of fiscal weakness. Borrowing that finances infrastructure, human capital, and other productive assets can strengthen long-term economic growth.

Since government borrowing is largely financed through domestic savings mobilised by banks and financial institutions, prudent debt can support development without undermining fiscal stability.

The emphasis should therefore be on ensuring that borrowings finance productive assets and remain fiscally sustainable, rather than focusing solely on the size of debt.

Way Forward

1. Strengthen fiscal federalism through a more equitable sharing of financial resources.
2. Ensure predictable and adequate tax devolution and grants from the Union Government.
3. Improve expenditure efficiency while containing non-essential revenue expenditure.
4. Prioritise capital investment in infrastructure, innovation, research, and human capital.
5. Facilitate access to affordable long-term finance for productive investments.
6. Strengthen cooperative Centre–State coordination in fiscal planning.
7. Maintain fiscal discipline while providing States adequate flexibility for development-oriented borrowing.

Conclusion

Sustainable State finances are essential for strengthening India's cooperative federal framework and supporting inclusive development. A fiscal architecture that combines prudent debt management, greater fiscal autonomy, predictable resource transfers, and affordable access to long-term finance will enable States to invest in productive assets while sustaining welfare commitments. Such an approach will strengthen public service delivery, promote balanced regional development, and support India's long-term economic growth.

4. Specified Non-Financial Assets (SNFAs)

Context

The Reserve Bank of India (RBI) has notified a prudential framework for **Specified Non-Financial Assets (SNFAs)** to standardise the acquisition, valuation, accounting, and disposal of immovable properties acquired by banks in settlement of defaulted loans.

About SNFAs

1. **Specified Non-Financial Assets (SNFAs)** are a new asset category introduced under the **Commercial Banks – Resolution of Stressed Assets Directions, 2025 (Third Amendment Directions, 2026)**.
2. They are **immovable properties** transferred to banks in full or partial settlement of **Non-Performing Assets (NPAs)**.
3. These assets are held solely for loan recovery and do not form part of banks' normal business operations.

Examples: Residential buildings, commercial properties, industrial land, warehouses, and other immovable assets transferred against outstanding loan dues.

Need for the Framework

The framework was introduced to address:

1. Non-uniform valuation of acquired properties.
2. Delays in disposal of non-core assets.
3. Inconsistent accounting and disclosure practices.
4. Absence of a uniform policy governing their acquisition and disposal.

It seeks to establish a consistent regulatory approach for managing such assets while improving the recovery of stressed loans.

Key Features

Acquisition

An asset will qualify as an SNFA only if:

1. The borrower's account has been classified as an **NPA**.
2. The property is transferred in full or partial settlement of the outstanding loan.
3. Legal ownership of the property has been transferred to the bank.

Where only part of the outstanding loan is settled through property transfer, the remaining exposure will continue to be treated as a **restructured loan** under the applicable prudential norms.

Valuation

1. An SNFA will be valued using the lower of:
 - a. The net book value of the loan extinguished through the property transfer; or
 - b. The distress sale value assessed independently by at least two external valuers.
2. This ensures realistic valuation and prevents overstatement of asset values.

Board-approved Policy

Every commercial bank must adopt a **Board-approved policy** covering:

1. Eligibility criteria for acquisition.
2. Delegation of approval powers.
3. Recovery measures before acquisition.
4. Limits on SNFA exposure.
5. Disposal strategy and timelines.

The policy should ensure that acquisition of immovable assets remains an exceptional recovery measure.

Disposal

1. Banks must dispose of SNFAs as early as possible and, in any case, within **seven years** from the date of acquisition.
2. Disposal should primarily be through **public auction** in accordance with the **SARFAESI Act, 2002**, ensuring fair price discovery and competitive bidding.
3. SNFAs cannot be sold to:
 - a. The original borrower.
 - b. Related parties as defined under the **Insolvency and Bankruptcy Code (IBC), 2016**.

This safeguard prevents defaulting borrowers from regaining repossessed assets through direct or indirect means.

Accounting and Reporting

1. SNFAs will not be treated as **Gross NPAs, Net NPAs**, or stressed assets, and will not affect the **Provisioning Coverage Ratio (PCR)**.
2. They must be disclosed separately in banks' balance sheets under **"Non-banking assets acquired in satisfaction of claims."**
3. Banks must annually report details of acquisitions, disposals, age-wise classification, and assets retained for own use through the RBI's **Centralised Information Management System (CIMS)**.
4. The framework will come into effect on **1 October 2026**. Existing SNFAs held as on **30 September 2026** must be aligned with the new framework by **30 September 2027**, providing banks with a one-year transition period.

Significance

1. Introduces uniform regulatory standards for managing immovable assets acquired during loan recovery.
2. Brings consistency to valuation, accounting, disclosure, and disposal practices.

3. Facilitates timely disposal and monetisation of non-core assets.
4. Protects the integrity of the recovery process by restricting resale to borrowers and related parties.
5. Strengthens the stressed asset resolution framework alongside the **SARFAESI Act**, the **Insolvency and Bankruptcy Code (IBC)**, and RBI's prudential regulations.

Conclusion

The SNFA framework provides a structured approach for managing immovable assets acquired during loan recovery. By introducing uniform standards for valuation, reporting, and disposal, it improves the efficiency of stressed asset resolution, enhances financial discipline, and contributes to a stronger and more resilient banking system.

5. PLFS and ASUSE 2025: Labour Market and Informal Enterprise Landscape

Context

The **National Statistics Office (NSO)** has released two reports—**Labour Market Dynamics in Million-plus Cities** and the **Annual Survey of Unincorporated Sector Enterprises (ASUSE) 2025**. Together, they provide the first comprehensive **city-level assessment** of labour market dynamics and the informal enterprise landscape across India's **46 million-plus cities**, offering valuable inputs for labour market reforms, MSME development, and urban planning.

Periodic Labour Force Survey (PLFS)

1. The **Periodic Labour Force Survey (PLFS)** is conducted by the **National Statistics Office (NSO)** under the **Ministry of Statistics and Programme Implementation (MoSPI)**.
2. Introduced in **2017**, it replaced the earlier Employment–Unemployment Surveys to provide regular and reliable labour market statistics.
3. It is India's principal source of official data on employment and unemployment.

Objectives

1. Estimate employment and unemployment indicators.
2. Measure labour force participation, employment, and unemployment trends.
3. Generate annual and quarterly labour market statistics.
4. Support evidence-based policymaking on employment, skill development, and labour welfare.

Key Labour Market Indicators

1. **Labour Force Participation Rate (LFPR):** Percentage of the population that is employed or actively seeking work.
2. **Worker Population Ratio (WPR):** Percentage of the population that is employed.
3. **Unemployment Rate (UR):** Percentage of the labour force that is unemployed but actively seeking work.
4. **Current Weekly Status (CWS):** Employment status based on an individual's activity during the previous seven days.
5. **Usual Status (US):** Employment status based on an individual's usual activity over a longer reference period.

Annual Survey of Unincorporated Sector Enterprises (ASUSE)

1. The **Annual Survey of Unincorporated Sector Enterprises (ASUSE)** is an annual survey conducted by the NSO.
2. It provides official statistics on the structure and performance of **unincorporated non-agricultural enterprises**, excluding the construction sector.
3. The survey collects information on:
 - a. Employment.
 - b. Number of enterprises.
 - c. Gross Value Added (GVA).
 - d. Productivity.
 - e. Wages and emoluments.
 - f. Ownership patterns.
4. It serves as a key source of official statistics for policymaking on **MSMEs, urban employment, and the informal economy**.

Coverage of ASUSE

1. Covers **unincorporated non-agricultural enterprises**.
2. Includes:
 - a. Manufacturing enterprises.
 - b. Trade establishments.
 - c. Service enterprises.
3. Excludes:
 - a. Agriculture.
 - b. Construction.
 - c. Incorporated companies.

Key Findings of PLFS 2025

1. Labour Market Trends

- The **Labour Force Participation Rate (LFPR)** stood at **52.4%**, marginally higher than in other urban areas.
- The **Worker Population Ratio (WPR)** increased to **49.8%**, reflecting improved employment outcomes.
- The **Unemployment Rate (UR)** under the **Usual Status** approach declined to **4.9%**, broadly in line with the national urban average.
- Urban unemployment has shown a sustained decline since **2017–18**, indicating improving labour market conditions.

2. Female Labour Force Participation

- The female **Worker Population Ratio** increased from **17.9% in 2017–18** to **25.5% in 2025**.
- Million-plus cities also recorded a lower proportion of youth classified as **Not in Employment, Education or Training (NEET)** compared to other urban areas.

3. Employment Profile

- 58.5%** of workers are engaged in **regular wage or salaried employment**.
- Casual employment** accounts for only **6.3%**, reflecting relatively higher employment stability than in other urban areas.
- Workers also recorded higher average working hours than those in other urban areas.

Key Findings of ASUSE 2025

1. Informal Enterprise Landscape

- The **46 million-plus cities** account for:
 - Around **39 lakh** unincorporated enterprises.
 - Nearly **1.98 crore** informal workers.
 - About **13%** of India's informal establishments.
 - Around **16%** of India's informal employment.
 - Nearly **21%** of the **Gross Value Added (GVA)** of India's unincorporated non-agricultural sector.
- The surveyed cities are located across **17 States and one Union Territory**.

2. Major Urban Centres

- Greater Hyderabad** recorded the largest informal workforce.
- Kolkata** had the highest number of unincorporated enterprises.
- Delhi, Bengaluru, Surat, Jaipur, and Greater**

Mumbai also emerged as major hubs of informal employment and enterprise activity.

- Together, these six cities account for nearly **40%** of informal employment across the surveyed cities.

3. Women in the Informal Economy

- Women constitute nearly **26%** of the informal workforce.
- Female participation is highest in **Greater Visakhapatnam** and **Surat**, while **Srinagar** and **Varanasi** record the lowest levels.
- The variation reflects differences in local economic structures, industrial composition, and socio-cultural factors.

4. Productivity and Earnings

- Pimpri-Chinchwad, Greater Hyderabad, and Delhi** recorded the highest **Gross Value Added (GVA) per worker**.
- Jaipur** recorded the highest average annual emoluments per hired worker, followed by **Greater Hyderabad**.
- The average annual emoluments across the surveyed cities stood at approximately **₹1.51 lakh**.

Policy Implications

- Promote quality and productive urban employment.
- Increase women's labour force participation through skill development, safe workplaces, childcare support, and improved employment opportunities.
- Strengthen MSMEs and informal enterprises through better access to finance, technology, infrastructure, and markets.
- Expand formalisation by improving access to institutional finance, social security, and digital platforms.
- Align skill development programmes with the evolving requirements of urban industries.
- Enhance enterprise productivity through technology adoption, innovation, and capacity building.
- Strengthen evidence-based policymaking by effectively utilising PLFS and ASUSE data for employment generation and urban planning.

Conclusion

The **PLFS** and **ASUSE 2025** reports highlight improving labour market outcomes while reaffirming the central role of the informal economy in India's urban development. Their findings provide a robust evidence base for policies aimed at generating quality employment, strengthening

MSMEs, promoting formalisation, and enhancing productivity. By supporting inclusive and sustainable urban growth, these surveys will play an important role in advancing the vision of **Viksit Bharat**.

6. National Food Security Act (NFSA), 2013

Context

The Union Government has proposed an amendment to the **National Food Security Act (NFSA), 2013** to revise foodgrain distribution under the **Antyodaya Anna Yojana (AAY)**. The proposal seeks to replace the existing **household-based allocation** with an **individual-based entitlement**, a move opposed by **Tamil Nadu and Kerala**, which contend that it could reduce foodgrain support for smaller AAY households, particularly in States with predominantly nuclear families.

National Food Security Act (NFSA), 2013

Objective: Provides a **legal entitlement** to subsidised foodgrains to nearly **two-thirds of India's population** through the **Targeted Public Distribution System (TPDS)**, thereby ensuring food and nutritional security.

Coverage

1. Covers up to **75%** of the rural population.
2. Covers up to **50%** of the urban population.

Categories of Beneficiaries

1. **Antyodaya Anna Yojana (AAY):** Covers the poorest and most vulnerable households.
2. **Priority Households (PHH):** Covers other eligible households identified under the Act.

Entitlements under NFSA

1. **AAY:** 35 kg of foodgrains per household per month.
2. **PHH:** 5 kg of foodgrains per person per month.

Key Features

1. **Subsidised foodgrains:** Rice at ₹3/kg, wheat at ₹2/kg, and coarse grains at ₹1/kg.
2. **Women-centric provision:** The eldest woman (18 years or above) is recognised as the head of the household for issuing ration cards.
3. **Nutritional support:** Provides supplementary nutrition to pregnant women, lactating mothers, and children.
4. **Maternity benefit:** Pregnant and lactating women are entitled to a cash benefit of at least **₹6,000**.
5. **Child nutrition:** Age-appropriate meals are provided through **Anganwadis** for children up to six years, while schoolchildren receive cooked meals under the **PM POSHAN Scheme**.

6. **Grievance redressal:** Mandates State Food Commissions, District Grievance Redressal Officers (DGROs), and Vigilance Committees.
7. **Transparency:** Requires proactive disclosure of PDS records and beneficiary lists.

Proposed Amendment

The proposed amendment seeks to modify **Section 3(1)** of the **National Food Security Act, 2013** by replacing the existing **household-based allocation** under **AAY** with an **individual-based entitlement**, while retaining an upper limit of **35 kg per household**.

1. **Existing provision:** Every AAY household receives **35 kg of foodgrains per month**, irrespective of family size.
2. **Proposed provision:** Every member of an AAY household will receive **7 kg of foodgrains per month**, subject to a maximum of **35 kg per household**.
3. The Union Government has invited **public comments** before finalising the amendment.

Rationale Behind the Amendment

According to the Union Government, the present system results in unequal distribution among AAY households.

1. The existing household-based system results in unequal **per capita** distribution, with smaller families receiving relatively higher allocations, while larger households may receive less foodgrain per member than **Priority Household (PHH)** beneficiaries.
2. The amendment aims to:
 - a. Ensure equitable distribution on a per-person basis.
 - b. Rationalise subsidised foodgrain distribution.
 - c. Align allocations more closely with household size and consumption needs.

Limitation: The proposal does not address the continued inclusion of **ineligible beneficiaries** under the NFSA.

Concerns Raised by Tamil Nadu and Kerala

1. **Lower entitlement for smaller households:** States with predominantly nuclear families may witness reduced foodgrain support for many AAY households.
2. **Impact on vulnerable families:** Kerala argues that AAY beneficiaries, being the poorest households, require stronger social protection.
3. **Higher out-of-pocket expenditure:** Reduced allocations may compel beneficiaries to purchase additional foodgrains from the market.
4. **Inter-State equity concerns:** States with larger average family sizes may benefit relatively more than those with smaller households, potentially creating regional disparities.

Evolution of Food Security in Tamil Nadu and Kerala

Kerala

1. Developed one of India's earliest **Public Distribution Systems (PDS)**, with organised food distribution beginning in **1962**, prior to the establishment of the **Food Corporation of India (FCI)**.
2. Raised concerns during the enactment of the NFSA in 2013 regarding the possible exclusion of deserving beneficiaries and the additional fiscal burden.

Tamil Nadu

1. Food security has remained central to State politics since the rice shortages of the 1950s and 1960s.
2. Since **2011**, the State has implemented a **universal free rice distribution** system through the PDS.
3. During the enactment of the NFSA, Tamil Nadu secured an assurance that its existing foodgrain allocation would remain protected.

Challenges and Way Forward

Challenges	Way Forward
Balancing equity and social protection: An individual-based approach may reduce support for smaller but vulnerable households.	Adopt a balanced allocation model that ensures equitable distribution while guaranteeing a minimum quantity of foodgrains for every AAY household.
Federal concerns: Uniform national criteria may not adequately reflect regional demographic patterns.	Strengthen cooperative federalism through wider consultation with States before implementing the amendment.
Household food security and nutrition: Lower allocations may adversely affect the poorest families.	Safeguard minimum nutritional support while redesigning the entitlement framework.
Errors in beneficiary identification: Inclusion of ineligible beneficiaries and exclusion of deserving households continue to affect the effectiveness of the NFSA.	Undertake periodic revision of beneficiary lists using transparent and technology-enabled verification mechanisms.
Administrative complexity: Transitioning to an individual-based system requires updating beneficiary databases and ration card records.	Strengthen digital PDS infrastructure and ensure timely updation of beneficiary records before implementation.
Fiscal sustainability: Rationalising allocations may reduce subsidy expenditure but could increase the financial burden on poorer households.	Balance fiscal prudence with welfare objectives so that subsidy reforms do not disproportionately affect vulnerable sections.

Conclusion

The proposed amendment seeks to improve fairness in foodgrain distribution by shifting from a household-based to an individual-based allocation under the **Antyodaya Anna Yojana**. However, its implementation should account for regional demographic differences and the welfare needs of vulnerable families. A balanced approach that upholds **equity, nutritional security, fiscal sustainability, and cooperative federalism** will be essential to fulfil the objectives of the **National Food Security Act, 2013** without compromising food security for the poorest sections of society.

7. Index of Core Industries (ICI)

Context

The **Office of Economic Adviser (OEA)** under the **Department for Promotion of Industry and Internal Trade (DPIIT)** has released the revised **Index of Core Industries (ICI)** with **2022–23** as the new base year, replacing **2011–12**.

About the Index of Core Industries (ICI)

The **Index of Core Industries (ICI)** is a **monthly indicator** that measures the production performance of India's major infrastructure industries. It serves as an **early indicator of industrial activity** and significantly influences the **Index of Industrial Production (IIP)**.

Core Industries under the Revised ICI

The revised ICI covers **nine core industries**:

1. Coal
2. Crude Oil
3. Natural Gas
4. Refinery Products
5. Fertilizers
6. Steel
7. Cement
8. Electricity
9. **Iron Ore (newly added)**

These industries together account for **32.88%** of the weight in the **Index of Industrial Production (IIP)**.

Evolution of the ICI

1. **1980–81:** Initial series introduced.
2. **1993–94:** First base-year revision.
3. **2004–05:** Fertilisers and Natural Gas added.
4. **2011–12:** Previous base year.
5. **2022–23:** Current base year.

Key Changes in the Revised ICI

1. **Inclusion of Iron Ore**

- a. **Iron ore** has been included as the **ninth core industry** based on the recommendations of the **Praveen Mahto Committee (2025)**.
 - b. It has been assigned a **4.9% weight** in the revised index.
 - c. Iron ore production grew by **43.9% in June 2026**, making it a major contributor to overall core sector growth.
- 2. Revision in Sectoral Weights**
- a. **Electricity** now carries the highest weight (**30.93%**), replacing **Refinery Products**.
 - b. The weights of **Coal, Crude Oil, and Refinery Products** have been reduced.
 - c. Sectoral weights have been aligned with the revised **IIP (2022–23 base year)**.
- 3. Methodological Improvements**
- a. The **Steel Index** is now compiled using **gross production** data.
 - b. The **Coal Index** includes only **raw coal**, excluding washed coal and coal middlings to avoid double counting.
 - c. The revised methodology improves the accuracy and representativeness of the index.

Performance of Core Industries (June 2026)

1. Major Growth Drivers

- a. **Overall ICI Growth: 5%** (*highest in five months*)
- b. **Iron Ore: 43.9%**
- c. **Electricity: 9.8%**
- d. **Cement: 9.8%**
- e. **Steel: 4.6%**
- f. **Coal: 1.4%**, recovering after three consecutive months of decline.

2. Sectors Recording Decline

- a. **Crude Oil: -4.2%** (*18th consecutive monthly decline*)
- b. **Natural Gas: -7.4%** (*24th consecutive monthly decline*)
- c. **Refinery Products: -4.7%** (*third consecutive monthly decline*)
- d. **Fertilisers: -3.3%** (*fourth consecutive monthly decline*)

Lower global crude oil prices encouraged higher imports, leading to reduced domestic production of petroleum products and fertilisers.

India's Monthly Economic Indicators

1. Index of Core Industries (ICI)

- a. Measures production in **9 core industries**.
- b. Released by the **Office of Economic Adviser (OEA), DPIIT**.

- c. **Base Year: 2022–23**.

2. Index of Industrial Production (IIP)

- a. Measures industrial output across **Mining, Manufacturing, Electricity, and Gas Supply, Water Supply, Sewerage and Waste Management**.
- b. Released by the **National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI)**.
- c. **Base Year: 2022–23**.

3. Index of Services Production (ISP)

- a. India's first official **monthly indicator** for measuring output in the **formal services sector**.
- b. Released by **MoSPI** on a **trial basis**.
- c. **Base Year: 2024–25**.
- d. Covers **19 service sub-sectors**, representing nearly **60%** of the services sector.
- e. Uses **GST data** and **administrative records** instead of production surveys.
- f. **Health and Education** are currently excluded because they are largely exempt from GST. They are proposed to be included using administrative data, which could increase coverage to around **80%**.

Interrelationship among ICI, IIP and ISP

1. The **ICI** is a leading indicator of the **IIP**, as the nine core industries account for **32.88%** of the **IIP**.
2. The **ISP** complements the **IIP** by providing monthly information on the formal services sector, enabling a more comprehensive assessment of India's economic activity.

Conclusion

The revised **Index of Core Industries** better reflects the current structure of the Indian economy through updated sectoral weights, the inclusion of **iron ore**, and methodological improvements. As a leading indicator of industrial activity, it enhances the quality of official economic statistics and supports informed policy formulation.

8. Foreign Direct Investment (FDI) in Inventory-Based E-commerce

Context

The Government has amended the **Consolidated Foreign Direct Investment (FDI) Policy** through **Department for Promotion of Industry and Internal Trade (DPIIT)**.

Policy Framework

1. India's FDI policy classifies e-commerce entities into two models:
 - a. **Marketplace Model:** The e-commerce platform acts as a digital intermediary connecting buyers and sellers without owning the goods.
 - b. **Inventory-Based Model:** The e-commerce entity owns the inventory and sells goods directly to customers.
2. Since 2016, 100% FDI under the automatic route has been permitted in the **marketplace model**, while FDI in the **inventory-based model** has remained prohibited for domestic retail trade.
3. The restriction was introduced to protect small retailers and maintain fair competition by preventing foreign-funded companies from directly owning and selling inventory in the domestic market.
4. To promote e-commerce exports, strengthen manufacturing, and integrate Indian producers with **Global Value Chains (GVCs)**, the Government has introduced a limited relaxation for **export-only inventory-based e-commerce**, while continuing existing safeguards for domestic retail.

Key Features

1. **FDI Permitted Only for Export-oriented Operations**
 - a. 100% FDI under the automatic route is permitted in inventory-based e-commerce entities engaged **exclusively in exporting** goods manufactured or produced in India.
 - b. The relaxation is limited to export activities and **does not extend to domestic retail sales**.
2. **No Change in Domestic E-commerce Rules**
 - a. The existing prohibition on **Business-to-Consumer (B2C)** inventory-based e-commerce funded through foreign investment remains unchanged.
 - b. Foreign-funded e-commerce companies cannot own inventory for direct sale to Indian consumers.
3. **Support for Indian Manufacturers**
 - a. The policy seeks to improve global market access for Indian manufacturers, particularly **Micro, Small and Medium Enterprises (MSMEs)** and businesses located in **Tier-II and Tier-III cities**.
 - b. Export-oriented warehousing is expected to improve logistics, reduce delivery time, and enhance the competitiveness of Indian products in international markets.
4. **Removal of Regulatory Ambiguity**
 - a. The amendment clarifies that restrictions on

inventory-based e-commerce apply **only to domestic retail trade**.

- b. It removes uncertainty regarding export-oriented operations and provides greater policy clarity for investors.

Significance

1. Strengthens India's **e-commerce export ecosystem** by enabling efficient procurement, storage, and shipment of Indian products through global e-commerce platforms.
2. Supports India's integration into **Global Value Chains (GVCs)** by enabling global e-commerce companies to source and export Indian products more efficiently.
3. Supports the Government's target of achieving **\$200 billion in e-commerce exports by 2030**.
4. Expands export opportunities for **MSMEs** by improving access to global logistics infrastructure and international customer networks.
5. Provides greater policy certainty for global e-commerce companies investing in India's export ecosystem.
6. Complements initiatives such as **Make in India**, the **Foreign Trade Policy**, and **Districts as Export Hubs**.
7. Contributes to the Government's objective of increasing the **manufacturing sector's share in GDP to 25% by 2035**, while promoting exports and employment generation.

Challenges and Way Forward

Challenges	Way Forward
Monitoring Export Inventories: Ensuring that inventories created for exports are not diverted to the domestic market may be difficult.	Strengthen Monitoring: Develop robust digital tracking systems to monitor export-oriented inventories and prevent diversion.
Demand for Further Liberalisation: The export-only relaxation may increase demands for similar FDI liberalisation in domestic inventory-based e-commerce.	Maintain Policy Balance: Periodically review the policy while balancing export promotion with the interests of domestic retailers and consumers.
Regulatory Compliance: Effective implementation will require strong enforcement of FDI norms and coordination among regulatory agencies.	Strengthen Compliance Framework: Establish clear audit, reporting, and compliance mechanisms to distinguish export inventories from domestic inventories.

Logistics Constraints for MSMEs: Many MSMEs continue to face challenges related to warehousing, logistics, and cross-border trade.	Enhance Export Readiness: Improve logistics infrastructure, simplify export procedures, and promote digital capacity-building, quality certification, and export readiness among MSMEs to maximise the benefits of cross-border e-commerce.
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Conclusion

The amendment reflects a balanced approach to FDI liberalisation by promoting e-commerce exports while safeguarding domestic retail. Its success will depend on effective implementation, regulatory oversight, and stronger export competitiveness.

9. Financial Stability Report (FSR) Highlights India's Financial Resilience

Context

The **Reserve Bank of India (RBI)** has released the latest **Financial Stability Report (FSR)**, identifying **geopolitical fragmentation** and rapid advances in **Artificial Intelligence (AI)** as two major forces reshaping the global economy. The report also reaffirms the resilience of India's financial sector amid a challenging global environment.

Financial Stability and Development Council (FSDC)

1. Established in **2010**.
2. Apex **non-statutory** body under the **Ministry of Finance**.
3. Chaired by the **Union Finance Minister**.
4. The **RBI Governor** heads the **FSDC Sub-Committee**, which assesses systemic risks and provides inputs for the FSR.

The report serves as an early warning mechanism by identifying emerging vulnerabilities before they develop into systemic risks.

Key Global Risks

1. Geopolitical Fragmentation

Rising geopolitical tensions and economic fragmentation continue to disrupt:

- a. Global trade and investment.
- b. Supply chains.
- c. Financial markets.

These developments heighten external vulnerabilities

and complicate economic policy management.

2. Artificial Intelligence (AI)

Rapid advances in AI are transforming production, financial services, and economic activity.

While AI offers significant productivity gains and long-term growth opportunities, it also raises concerns regarding:

- a. Employment displacement.
- b. Financial market stability.
- c. Regulatory and governance challenges.

Global Financial Vulnerabilities

The RBI has identified several factors that could amplify financial stress:

1. Persistently high public debt in major economies.
2. Fragile global bond markets.
3. Elevated asset valuations.
4. Growing role of leveraged non-bank financial intermediaries (NBFIs).
5. Possibility of prolonged tight monetary policy in advanced economies due to persistent inflation.

India's Macro-Financial Position

The report observes that India's macro-financial environment remains strong despite external headwinds, supported by:

1. Robust economic growth.
2. Moderating inflation.
3. Healthy balance sheets of banks and corporates.
4. Adequate capital and liquidity buffers.

The RBI has reiterated its commitment to strengthening institutional safeguards against both domestic and external risks.

Banking and Financial Sector Performance

Improving Asset Quality

The **Gross Non-Performing Asset (GNPA)** ratio declined to a multi-decadal low of **1.8%** in **March 2026**, reflecting broad-based improvement across all major banking groups.

Stress Test Assessment

The RBI's stress tests indicate that the banking sector remains well-capitalised and resilient.

1. Under the **baseline scenario**, the GNPA ratio is projected to increase marginally to **1.9%** by **March 2028**.
2. Under severe stress scenarios, it could rise to **3.8%–4.1%**, while remaining within manageable limits.

Banks and **Non-Banking Financial Companies (NBFCs)** continue to maintain:

1. Strong capital adequacy.
2. Comfortable liquidity.
3. Healthy profitability.
4. Low NPAs.
5. Stable credit growth.

Asset Quality Trends

The **annual slippage ratio** declined to **1.2%** during **FY 2025–26**, indicating a sustained reduction in fresh NPAs across most sectors.

However, the **agriculture sector** continues to remain relatively vulnerable.

1. GNPA ratio: **5.1%** (highest among all sectors).
2. Share in the total GNPA of Scheduled Commercial Banks: **37.2%**.

Large Borrowers

Large borrowers accounted for **44.5%** of total bank credit.

Their asset quality improved significantly, with the aggregate GNPA ratio declining from **2.4% (September 2024)** to **1.2% (March 2026)**, reflecting stronger credit discipline and improved recoveries.

Growth Outlook

Despite geopolitical tensions and financial market volatility, India's financial markets have remained orderly.

Key observations include:

1. Credit growth continues to support investment and economic activity.
2. Financial institutions remain well-capitalised to absorb potential shocks.
3. AI-driven productivity gains are expected to support medium-term global growth despite persistent geopolitical and economic uncertainties.

Strengthening Financial Stability

The RBI emphasises that financial stability depends not only on prudential regulation but also on sustained public confidence in the financial system.

Key priorities include:

1. Promoting fair business practices.
2. Improving customer experience.
3. Delivering efficient financial services.
4. Expanding financial inclusion.
5. Building a resilient financial ecosystem that supports households, businesses, and long-term economic growth.

Significance of the Report

1. Provides an early assessment of systemic risks affecting India's financial system.
2. Reinforces confidence in India's macro-financial fundamentals.
3. Supports evidence-based financial regulation and risk management.
4. Demonstrates the resilience of banks and NBFCs under adverse scenarios.
5. Highlights emerging risks arising from geopolitical fragmentation and AI.
6. Promotes a balanced approach that combines financial resilience with efficiency, inclusion, and consumer protection.

Conclusion

The latest **Financial Stability Report (FSR)** indicates that India's financial system remains fundamentally strong, supported by sound macroeconomic fundamentals, a resilient banking sector, and effective regulatory oversight. However, evolving geopolitical risks, tighter global financial conditions, and rapid technological transformation underscore the need for continuous risk monitoring, adaptive regulation, and robust institutional safeguards to preserve long-term financial stability and sustain economic growth.

10. Ethanol-Blended Petrol (E20 and E85)

Context

India achieved the target of **20% ethanol blending (E20)** in petrol ahead of schedule. Recently, the Government launched **E85 fuel** (85% ethanol and 15% petrol) for flex-fuel vehicles, signalling the next phase of the **Ethanol Blending Programme (EBP)**.

Ethanol Blending Programme (EBP)

1. The **National Policy on Biofuels, 2009** laid the foundation for ethanol blending in petrol to promote cleaner transport fuels. Subsequently, the programme was accelerated to achieve higher blending targets.
2. India rapidly progressed from **E10 to E20**, achieving the revised blending target ahead of schedule.
3. The programme aims to enhance **energy security**, reduce **crude oil imports**, lower **vehicular emissions**, and promote the use of **domestically produced biofuels**.
4. It supports India's **energy transition**, **climate commitments**, and the objective of reducing

dependence on imported fossil fuels.

Benefits of Ethanol Blending

1. Enhances **energy security** by reducing reliance on imported crude oil.
2. Lowers **greenhouse gas emissions** by partially replacing fossil fuels with a renewable alternative.
3. Creates a stable market for agricultural feedstocks such as **sugarcane and maize**, thereby strengthening farmers' incomes and supporting the biofuel value chain.
4. Ethanol's **high Research Octane Number (RON)** improves combustion efficiency, reduces engine knocking, and offers better performance in engines designed for higher ethanol blends.

Key Challenges

1. **Lower Fuel Efficiency:** Ethanol has a lower energy content than petrol, resulting in reduced mileage, particularly in vehicles not designed for higher ethanol blends.
2. **Engine and Material Compatibility:** Higher ethanol blends may corrode fuel-system components and require engine modifications, especially in older vehicles.
3. **Cold-Start Performance:** Ethanol's combustion characteristics can reduce engine-starting efficiency under low-temperature conditions.
4. **Limited Consumer Choice:** Consumers currently have limited options to choose between different ethanol blends at retail fuel outlets.
5. **Cost-effectiveness:** Lower fuel efficiency may offset the price advantage of higher ethanol blends unless supported by appropriate pricing policies.

Properties of Ethanol as a Fuel

1. **Ethanol (C_2H_5OH)** is a renewable, oxygen-rich fuel that burns more cleanly than petrol.
2. Its **high Research Octane Number (RON)** improves combustion efficiency and reduces engine knocking.
3. Its **high latent heat of vaporisation** enhances engine cooling and supports efficient combustion.
4. Compared with petrol, ethanol has a **lower carbon content**, resulting in comparatively lower carbon dioxide emissions during combustion.

Way Forward

1. Promote **flex-fuel vehicles** through phased policy support.
2. Ensure vehicle compatibility, safety standards, and rigorous testing before expanding to higher ethanol blends such as **E25**.

3. Strengthen fuel infrastructure, transparent pricing mechanisms, and consumer awareness to facilitate wider adoption.
4. Encourage research and technological innovation to improve engine efficiency, fuel-system durability, and compatibility with higher ethanol blends.

Brazil's Ethanol Model: Lessons for India

1. Brazil has developed a mature ethanol ecosystem based on **sugarcane-derived ethanol** and widespread adoption of **flex-fuel vehicles**.
2. Its success is driven by **consumer choice, competitive pricing**, and sustained policy support for ethanol-based fuels.
3. India can draw lessons by promoting flex-fuel vehicles, strengthening market incentives, and providing consumers with greater fuel choices.

Conclusion

Higher ethanol blending can strengthen **India's energy security**, reduce **greenhouse gas emissions**, and promote the use of **domestically produced biofuels**. However, its long-term success will depend on balancing environmental objectives with vehicle readiness, consumer awareness, appropriate pricing, robust infrastructure, and sustained policy support.

11. Biogas: Strengthening India's Energy Security

Context

Renewed geopolitical tensions in **West Asia** have once again exposed India's vulnerability to disruptions in fossil fuel supplies. This has renewed interest in **Compressed Biogas (CBG)** as a domestically produced renewable fuel that can strengthen energy security, promote sustainable waste management, and accelerate India's transition towards a low-carbon economy.

India's Energy Security Challenge

1. India imports nearly **85% of its crude oil requirement**, making it highly vulnerable to external supply disruptions and international price volatility.
2. Although India has diversified its crude oil import sources, nearly **90% of its LPG imports** continue to transit through the **Strait of Hormuz**, exposing the country's energy supply to geopolitical risks.
3. These vulnerabilities highlight the need to diversify India's energy basket through **indigenous, renewable, and sustainable fuels**, including Compressed Biogas (CBG).

Biogas and Compressed Biogas (CBG)

1. **Biogas** is produced through the **anaerobic decomposition of organic matter** and primarily consists of **methane (CH₄)**, **carbon dioxide (CO₂)**, and **trace gases**.
2. After purification and compression, it is converted into **Compressed Biogas (CBG)**, which is chemically comparable to **Compressed Natural Gas (CNG)**.
3. CBG is a **renewable and carbon-neutral fuel** that can be used for:
 - a. Transportation.
 - b. Electricity generation.
 - c. Cooking and heating.
4. **Wider adoption of CBG can:**
 - a. Reduce dependence on imported fossil fuels.
 - b. Enable productive utilisation of agricultural residues, livestock waste, and municipal organic waste.
 - c. Lower greenhouse gas emissions.
 - d. Generate additional income opportunities for farmers through biomass utilisation.
 - e. Support the **circular economy**, energy security, and India's climate commitments.

Policy Initiatives

1. **SATAT (Sustainable Alternative Towards Affordable Transportation), 2018:** Launched by the **Ministry of Petroleum and Natural Gas (MoPNG)** in collaboration with Public Sector Oil Marketing Companies (OMCs) to promote the commercial production and marketing of CBG by facilitating the establishment of CBG plants.
2. **GOBARdhan Scheme:** Promotes the conversion of organic waste into biogas and bio-manure through financial assistance and infrastructure support under a '**Waste to Wealth**' approach.
3. **CBG Blending Obligation (CBGO), 2023:** Approved by the **National Biofuels Coordination Committee**, mandating phased blending of CBG in the **City Gas Distribution (CGD)** network from **1% in FY26** to **5% by FY29**.
4. **Union Budget 2024–25:** Announced phased mandatory blending of CBG in **Compressed Natural Gas (CNG)** for transport and **Piped Natural Gas (PNG)** for domestic use.

Global Lessons

1. **Germany: Avoid Excessive Dependence on Energy Crops**
 - a. Long-term financial incentives under the **Renewable Energy Sources Act, 2000**

significantly expanded biogas production.

- b. However, excessive dependence on **maize** as feedstock reduced crop diversity and increased competition with food production, prompting restrictions on the use of energy crops.
2. **Denmark: Prioritise Waste-Based Feedstock**
 - a. Denmark primarily relies on **livestock manure and agricultural residues** for biomethane production.
 - b. The Danish experience demonstrates that renewable energy expansion can be achieved while safeguarding food security and agricultural sustainability.

Challenges and Way Forward

Challenges	Way Forward
High capital costs and limited access to institutional finance reduce the commercial viability of CBG projects.	Strengthen fiscal incentives, concessional finance, tax benefits, and improve access to institutional credit.
Inadequate biomass collection, aggregation, storage, and transportation infrastructure affects reliable feedstock availability.	Develop efficient biomass supply chains, modern storage facilities, and integrated logistics infrastructure.
Slow expansion of gas-grid connectivity restricts market access for CBG producers.	Expand the gas-grid network and accelerate the commissioning of CBG plants.
Policy uncertainty, long project gestation periods, and limited private sector participation discourage investment.	Ensure stable policy support, simplify regulatory procedures, and encourage greater private sector participation.
Lack of assured long-term biomass supply and feedstock price volatility affect the sustainability of CBG projects.	Develop organised biomass markets and establish reliable long-term feedstock supply mechanisms.
Growing dependence on food crops such as maize for biofuel production may reduce crop diversity and threaten food security.	Prioritise agricultural residues, livestock manure, municipal waste, and other non-food biomass as feedstock.
Weak integration between waste management and bioenergy systems limits efficient resource utilisation.	Promote convergence between agriculture, urban local bodies, and the energy sector through a circular economy approach.

Limited technological adoption affects productivity and cost competitiveness.	Invest in research, innovation, advanced technologies, and capacity building to improve the efficiency, affordability, and adoption of CBG.
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Conclusion

Biogas can emerge as a strategic pillar of **India's clean energy transition** by simultaneously enhancing energy security, promoting resource efficiency, and generating sustainable rural livelihoods. Unlocking its full potential will require a **stable policy framework, efficient biomass supply chains, robust infrastructure, and greater reliance on waste-based feedstock**, ensuring that the pursuit of energy security complements **food security and environmental sustainability**.

12. Antariksh Venture Capital Fund: Boosting India's Private Space Ecosystem

Context

Recently, the Union Government indicated that the Antariksh Venture Capital Fund is set to commence funding eligible space start-ups from the first quarter of FY2027, providing a major boost to India's private space ecosystem.

About Antariksh Venture Capital Fund

1. It is a **close-ended, SEBI-registered Category II Alternative Investment Fund (AIF)** established to promote private participation in India's space sector.
2. The fund is **sponsored by SIDBI Venture Capital Limited**, with **IN-SPACE**, under the **Department of Space (DoS)**, as its key investor.
3. It provides **growth capital** to Indian space companies for scaling operations and commercialising new technologies.
4. The fund will invest **exclusively in Indian space companies** with a **Technology Readiness Level (TRL) of 4 or above**.
5. It aims to strengthen India's space start-up ecosystem and support the country's long-term space ambitions.

About Indian National Space Promotion and Authorization Centre (IN-SPACE)

1. It is an **autonomous, single-window nodal agency** under the **Department of Space (DoS)**.
2. Established as part of **India's space sector reforms**, it facilitates the participation of **non-governmental entities (NGEs)** in space activities.

3. It **promotes, enables, authorises, and supervises** the space activities of NGEs.
4. Its mandate includes facilitating the development of **launch vehicles, satellites, space-based services, and space infrastructure**, besides enabling access to **ISRO and DoS facilities**.
5. It acts as the **institutional interface between ISRO and NGEs**, promoting collaboration, efficient utilisation of national space resources, and the growth of commercial space activities.
6. IN-SPACE functions through **three directorates: Promotion Directorate (PD), Technical Directorate (TD), and Programme Management and Authorization Directorate (PMAD)**.

13. Boss Scam: AI-Enabled Corporate Impersonation Fraud

Context

The Securities and Exchange Board of India (SEBI) has advised regulated entities and listed companies to strengthen internal controls against the growing threat of **'Boss Scam'**, a cyber fraud involving the impersonation of senior executives to induce unauthorised fund transfers.

About Boss Scam

1. The fraud increasingly relies on **Artificial Intelligence (AI)** and **deepfake technology**, including voice cloning, fake video calls, and fabricated social media profiles, to make fraudulent instructions appear genuine.
2. Fraudsters typically create a sense of urgency by directing employees to transfer money to designated bank accounts. They may also falsely claim that the transaction relates to **Unpublished Price Sensitive Information (UPSI)** to discourage verification or disclosure.
3. Another common technique involves sending **compressed ZIP files** containing malware. Once opened, the malware can compromise the user's device and hijack active **WhatsApp Web** sessions.
4. After gaining access, attackers send fraudulent payment requests through the victim's WhatsApp account or replace executive contact details with their own numbers, making the messages appear authentic.
5. The scam exploits organisational trust, urgency, and weak verification procedures, underscoring the importance of robust cybersecurity measures, independent verification of financial instructions, and regular employee awareness programmes.



SCIENCE AND TECHNOLOGY

1. Vikram-1: India's First Private Orbital Launch Vehicle

Context

1. Skyroot Aerospace's **Vikram-1** became India's first privately developed orbital launch vehicle to successfully place payloads into **Low Earth Orbit (LEO)**.
2. **Mission Aagaman** makes India the **third country**, after the **United States** and **China**, to demonstrate **private-sector orbital launch capability**.
3. The achievement reflects the growing maturity of India's commercial space ecosystem following the **space-sector reforms introduced in 2020**.

Key Features of Vikram-1 Mission

1. **Historic Achievement**
 - a. **Vikram-1**, a **22-metre, three-stage** launch vehicle, was successfully launched from the **Satish Dhawan Space Centre, Sriharikota**.
 - b. The mission successfully demonstrated the rocket's capability to achieve a full orbital flight.
 - c. It established India's private sector as an important contributor to orbital launch services alongside **ISRO**.
2. **Technical Features**
 - a. **Payload Capacity**: Up to **350 kg**.
 - b. Built using **all-carbon composite structures**, **3D-printed engines**, **high-thrust solid-fuel boosters**, and **indigenous propulsion systems**.
 - c. Successfully validated critical systems, including **propulsion**, **stage separation**, **Guidance, Navigation and Control (GNC)**, **avionics**, **telemetry**, and overall vehicle performance.
3. **Payloads and Technology Demonstrations**
 - a. Carried technology demonstration payloads from **Grahaa Space**, **Cosmoserve**, and **DCubed**.
 - b. Also transported commemorative payloads, including a **lab-grown diamond**, a **miniature gold sculpture**, and a **micro-art tribute** to **Vikram Sarabhai**, **Dr. A.P.J. Abdul Kalam**, and **C.V. Raman**.
 - c. Included messages from well-wishers, including

the **Prime Minister**.

- d. Equipped with **robotic arms** designed to support future **space-debris removal** missions, reflecting India's growing focus on sustainable space operations.

Evolution of Skyroot Aerospace

1. Founded in **2018** following the liberalisation of India's space sector.
2. Became India's first **space-tech unicorn**.
3. Successfully launched **Vikram-S** in **2022**, demonstrating suborbital launch capability.
4. **Vikram-1** marks the company's transition from technology demonstration to operational orbital launch capability.
5. The company plans to scale up commercial launch services with a manufacturing capacity of **12 Vikram-1 rockets annually**.

Space-Sector Reforms (2020)

1. Opened the Indian space sector to **private participation**.
2. Established **IN-SPACe** to authorise, regulate, and promote private space activities.
3. Strengthened commercialisation through **NewSpace India Limited (NSIL)**.
4. Enabled private companies to access **ISRO's** infrastructure, expertise, and launch facilities.
5. Encouraged the growth of startups in launch vehicles, satellite manufacturing, and downstream space applications.

Challenges and Way Forward

Challenges	Way Forward
The global small-satellite launch market is highly competitive, with several private launch providers competing for limited demand.	Demonstrate consistent launch reliability to build customer confidence and strengthen market credibility.
Increasing use of ride-share launches has reduced the demand for dedicated small-satellite launch vehicles.	Improve cost competitiveness through technological innovation, operational efficiency, and continuous product development.

Competition from ISRO's Small Satellite Launch Vehicle (SSLV) and the established Polar Satellite Launch Vehicle (PSLV).	Focus on specialised launch services and niche market segments requiring dedicated orbital insertion.
Domestic demand for dedicated small-satellite launches remains limited.	Expand the international customer base by securing long-term commercial launch contracts.
Launch services are capital-intensive and subject to increasing regulatory and space-debris mitigation requirements.	Expand into satellite manufacturing, downstream applications, and space-based services to diversify revenue sources.

Conclusion

Vikram-1 marks a significant milestone in India's commercial space journey. Sustained policy support, technological innovation, and global competitiveness will be crucial for positioning India as a leading space economy.

2. Zoonotic Outbreaks: Challenges in Preparedness and Vaccine Development

Context

Recent outbreaks of **Ebola**, **Hantavirus**, and **Nipah virus** have highlighted the growing threat of **zoonotic diseases**—infections transmitted from animals to humans.

About Zoonotic Outbreaks

- Zoonotic diseases** are infectious diseases that spread naturally from **animals to humans** through direct contact, contaminated environments, disease vectors, or infected animal products.
- Their emergence is driven by factors such as **deforestation, urbanisation, wildlife interaction, intensive farming, climate change, and global travel**.
- Effective prevention requires **early detection, robust surveillance, infection prevention, rapid response, and international cooperation**.

Key Zoonotic Viruses

1. Ebola Virus Disease (EVD)

- A severe viral disease with an **average case-fatality rate of about 50%**.
- Spreads through **direct contact with infected body fluids**.
- Recent outbreaks in **Central Africa** show that **conflict, population displacement, weak surveillance, unsafe burial practices, and**

distrust of health workers can hinder outbreak control.

2. Hantavirus

- A **rodent-borne virus**, named after the **Hantaan River** in South Korea.
- Causes **Hantavirus Pulmonary Syndrome (HPS)**, a severe respiratory illness, and **Haemorrhagic Fever with Renal Syndrome (HFRS)**, which primarily affects the kidneys.
- Most strains do not spread between humans; however, the **Andes hantavirus** can cause limited human-to-human transmission.
- A recent cluster linked to the **MV Hondius cruise ship** demonstrated how international travel can amplify the impact of localised outbreaks.

3. Nipah Virus

- Naturally carried by **fruit bats**.
- Causes **respiratory illness** and **encephalitis (brain inflammation)**.
- Has a **case-fatality rate of 40–75%**.
- Recurrent outbreaks in **India and Bangladesh** indicate that it remains a significant regional public health threat.
- Human transmission mainly occurs through **close household or healthcare contact**.

Challenges and Way Forward

Challenges	Way Forward
Limited vaccine availability: A licensed human vaccine is available only for one species of the Ebola virus, while Nipah virus, Hantavirus, and Bundibugyo Ebola virus still lack approved human vaccines.	Strengthen the One Health approach: Integrate human, animal, and environmental health surveillance to improve early detection and coordinated outbreak response.
No reliable curative treatment: Most zoonotic viral diseases lack effective treatment, making early diagnosis, isolation, and infection control essential.	Promote academia-industry partnerships: Combine scientific research with industrial expertise to accelerate vaccine development, manufacturing, and distribution.
Difficulty in conducting clinical trials: Sporadic and unpredictable outbreaks make conventional large-scale vaccine trials difficult.	Increase public investment: Expand public funding, technology transfer, regional manufacturing capacity, and equitable global vaccine stockpiles.

Limited commercial incentives: Low and uncertain market demand discourages private investment in vaccines for diseases affecting relatively small populations.	Develop flexible clinical trial networks: Establish adaptive and regional trial mechanisms for rapid vaccine evaluation during outbreaks.
Restricted access to advanced technologies: Many vaccine platforms depend on patents, specialised manufacturing, and proprietary technologies, limiting wider access.	Leverage emerging technologies: Use Artificial Intelligence (AI) and platform technologies such as mRNA vaccines, viral vector vaccines, and recombinant protein vaccines to accelerate vaccine research and production.
Weak surveillance and vaccine hesitancy: Inadequate surveillance, misinformation, and lack of public trust reduce the effectiveness of outbreak control.	Strengthen risk communication: Promote transparent communication, community engagement, and awareness campaigns to build public confidence before health emergencies arise.

Conclusion

The recurrence of **Ebola, Hantavirus, and Nipah virus** demonstrates that zoonotic diseases remain a major global health challenge. Building resilient surveillance systems, accelerating vaccine development, strengthening international collaboration, and fostering public trust are essential for effective preparedness against future outbreaks.

3. Semicon 2.0: Accelerating India's Semiconductor Ecosystem

Context

The **Union Cabinet** has approved **Semicon 2.0**, the second phase of the **India Semiconductor Mission (ISM)**, with a financial outlay of **₹1.27 lakh crore**. It has also approved the **Mobile Phone Manufacturing Scheme (MPMS)** with an allocation of **₹62,500 crore**.

About Semicon 2.0

- Semicon 2.0** is the second phase of the **India Semiconductor Mission (ISM)**, launched to establish an end-to-end semiconductor ecosystem in India by strengthening manufacturing, design, research, and innovation.
- The scheme extends support across the semiconductor value chain, including **fabrication, chip design, research & development (R&D), capital equipment,**

semiconductor-grade materials, and domestically owned intellectual property (IP).

- It complements the **Mobile Phone Manufacturing Scheme (MPMS)** to increase domestic value addition in the electronics sector.

Key Features

Five-Year Targets

The scheme aims to achieve the following over the next five years:

- Attract investments worth **₹4 lakh crore**.
- Generate semiconductor and electronics production worth **₹2 lakh crore**.
- Achieve exports worth **₹1 lakh crore**.

Expanded Scope

Semicon 2.0 supports the entire semiconductor value chain by promoting:

- Semiconductor fabrication, assembly, testing, packaging, and design.
- Capital equipment used in semiconductor manufacturing.
- High-purity semiconductor-grade chemicals and gases.
- Research, innovation, and domestically owned intellectual property.

Revised Incentive Structure: Capital subsidy has been rationalised to **30–40%**, reflecting growing investor confidence and encouraging greater private participation.

Greater Role of States: State governments are expected to provide land and additional incentives, reducing dependence on Central assistance and encouraging competitive federalism.

Implementation: Detailed operational guidelines will be issued through a **Gazette Notification**.

Major Achievements under Phase I

The **first phase of the India Semiconductor Mission**, approved in **December 2021** with an outlay of **₹76,000 crore**, laid the foundation for India's semiconductor ecosystem.

Key achievements include:

- Approval of **12 semiconductor manufacturing and packaging projects** with a committed investment of approximately **₹1.64 lakh crore**.
- Projects located across **Gujarat, Uttar Pradesh, Punjab, Assam, Odisha, and Andhra Pradesh**.
- Approval of:

- a. One **silicon fabrication (Fab) unit**.
- b. One **Gallium Nitride (GaN) Micro-LED fabrication facility**.
4. Support for **24 projects** under the **Design-Linked Incentive (DLI) Scheme**.
5. Provision of licensed **Electronic Design Automation (EDA)** software to universities and startups to strengthen semiconductor design capabilities.
6. Modernisation of the **Semiconductor Laboratory (SCL), Mohali**, enabling researchers and startups to **tape out** (finalise chip designs for manufacturing).
7. **Tata Electronics' semiconductor fabrication plant** is expected to begin commercial production in **2028**.

Need for Semicon 2.0

India's emphasis on semiconductor manufacturing has gained momentum due to growing geopolitical uncertainties, supply-chain disruptions, and the strategic importance of semiconductor technologies.

The initiative seeks to:

1. Build resilient semiconductor supply chains.
2. Reduce dependence on imported chips.
3. Strengthen technological sovereignty.
4. Improve India's integration into global semiconductor and electronics value chains.
5. Support long-term growth of the domestic electronics manufacturing sector.

Focus on Legacy and Frontier Chips

1. India is initially prioritising **28-nanometre (nm) legacy-node chips**, which are widely used in:
 - a. Automobiles.
 - b. Consumer electronics.
 - c. Industrial equipment.
 - d. Telecommunications.
 - e. Medical devices.
2. Legacy-node chips provide a **commercially viable entry point** for developing domestic semiconductor manufacturing.
3. The long-term objective is to develop capabilities for **frontier-node chips (7 nm and below)** through stronger research, innovation, and domestically owned intellectual property.

Mobile Phone Manufacturing Scheme (MPMS)

The **Mobile Phone Manufacturing Scheme (MPMS)** complements Semicon 2.0 by increasing domestic value addition across the mobile phone manufacturing

ecosystem.

Its objectives are to:

1. Expand domestic handset assembly.
2. Increase local value addition.
3. Strengthen the component manufacturing ecosystem.
4. Promote indigenous product design and R&D.
5. Reduce dependence on imported mobile phone components.

The scheme offers incentives ranging from **2.25% to 5%**, depending on the level of domestic design and value addition.

Challenges and Way Forward

Challenges	Way Forward
Dependence on imported semiconductor equipment, materials, and advanced technologies	Promote domestic manufacturing of semiconductor equipment, specialised materials, and critical inputs
Heavy reliance on imported semiconductor manufacturing equipment	Encourage domestic production of capital equipment and facilitate technology transfer
Limited domestically owned intellectual property and advanced chip design capabilities	Strengthen indigenous R&D, innovation, and academia-industry collaboration
Shortage of skilled semiconductor professionals	Expand specialised education, industry-oriented training, and research institutions
High capital requirement and long project gestation period	Ensure stable policies, long-term financing, and sustained investor confidence
Intense competition from established semiconductor-producing countries	Promote strategic international partnerships and technology collaboration
Limited availability of ultra-pure water, reliable power supply, and specialised infrastructure	Develop dedicated semiconductor manufacturing clusters with world-class infrastructure
Dependence on legacy-node manufacturing	Gradually build capabilities for frontier-node semiconductor technologies through sustained research and investment

Conclusion:

Semicon 2.0 lays the foundation for India's emergence as a trusted global semiconductor hub. Its long-term success

will depend on sustained policy support, technological innovation, skilled manpower, and strong industry-academia collaboration to build a competitive and resilient semiconductor ecosystem.

4. Ban on Irrational Fixed-Dose Combination (FDC) Drugs

Context

The Union Government has **banned 16 Fixed-Dose Combination (FDC) drugs**, including certain antibiotic combinations and dermatological formulations, citing the absence of therapeutic justification, lack of supporting clinical evidence, potential safety risks, and the growing threat of **antimicrobial resistance (AMR)**.

Fixed-Dose Combination (FDC) Drugs

A **Fixed-Dose Combination (FDC)** is a pharmaceutical formulation containing **two or more active pharmaceutical ingredients (APIs)** in fixed proportions within a single dosage form such as a tablet, capsule, syrup, or cream.

FDCs are widely prescribed for:

1. Infectious diseases
2. Pain and inflammation
3. Skin disorders
4. Diabetes
5. Cardiovascular diseases
6. Cough, cold, and fever

Rational and Irrational FDCs

Rational FDCs

A combination is considered rational when it:

1. Has a well-defined therapeutic objective.
2. Combines pharmacologically compatible drugs.
3. Demonstrates superior efficacy, safety, or treatment adherence compared to individual medicines.
4. Is supported by robust clinical evidence.

Irrational FDCs

A combination is considered irrational when it:

1. Lacks scientific or therapeutic justification.
2. Is not supported by adequate clinical evidence.
3. Exposes patients to avoidable risks without improving clinical outcomes.

Regulatory Framework

1. The **Central Drugs Standard Control Organisation**

(CDSCO), under the **Ministry of Health and Family Welfare**, is India's apex drug regulatory authority.

2. The **Drugs and Cosmetics Act, 1940** regulates the approval, manufacture, and sale of medicines.
3. Under the **New Drugs and Clinical Trials Rules, 2019**, FDCs are classified as **new drugs** and require prior approval from the CDSCO before marketing.
4. Expert committees constituted by the Government periodically assess the safety and efficacy of marketed FDCs and recommend regulatory action where necessary.
5. The **Indian Council of Medical Research (ICMR)** has consistently identified irrational FDCs as a significant contributor to **antimicrobial resistance (AMR)**.

Reasons for the Ban

The prohibited formulations were found to:

1. Lack adequate therapeutic justification.
2. Result in unnecessary exposure to medicines without additional clinical benefit.
3. Increase the risk of adverse drug reactions.
4. Accelerate antimicrobial resistance.
5. Increase treatment costs without improving patient outcomes.

Illustrative Examples

Fixed-Dose Combination	Concern
Amoxicillin + Serratiopeptidase	No convincing clinical evidence demonstrates additional therapeutic benefit over amoxicillin alone.
Norfloxacin + Tinidazole	Treats infections that rarely occur together, resulting in unnecessary antimicrobial exposure.
Amoxicillin + Clavulanic Acid	Beneficial only where bacterial resistance is mediated by β-lactamase enzymes ; indiscriminate use accelerates antimicrobial resistance.

Public Health Concerns

1. Antimicrobial Resistance (AMR)

Irrational antibiotic combinations:

1. Increase unnecessary antibiotic consumption.
2. Promote the emergence and spread of drug-resistant microorganisms.
3. Reduce the clinical effectiveness of existing antibiotics.

4. Limit future treatment options.

Irrational Dermatological Combinations

Several banned formulations combine **aloe vera** with ingredients such as **Vitamin E, jojoba oil, olive oil, and tea tree oil**.

Major concerns include:

1. Lack of evidence demonstrating superior efficacy over individual ingredients.
2. Irrational **steroid-antifungal combinations** may suppress local immunity, aggravate fungal infections, and delay appropriate treatment.

Risks Associated with Irrational FDCs

The use of irrational combinations may lead to:

1. Adverse drug reactions and drug interactions.
2. Allergic reactions due to unnecessary ingredients.
3. Difficulty in optimising the dose of individual medicines.
4. Masking of symptoms, delaying accurate diagnosis and appropriate treatment.
5. Higher treatment costs without added therapeutic benefit.

Key Terms

1. **Fixed-Dose Combination (FDC):** A medicine containing two or more active pharmaceutical ingredients in fixed proportions.
2. **Antimicrobial Resistance (AMR):** The ability of microorganisms to survive medicines designed to eliminate them.
3. **Antimicrobial Stewardship:** Coordinated interventions that promote appropriate antimicrobial use, improve treatment outcomes, and minimise the emergence of resistance.
4. **Rational Use of Medicines:** Use of medicines appropriate to the patient's clinical needs, in the correct dose and duration, at the lowest possible cost.

Way Forward

Area	Measures
Regulatory Reforms	Strengthen scientific evaluation, periodic review of marketed FDCs, and post-marketing surveillance.
Clinical Practice	Promote evidence-based prescribing, adherence to standard treatment guidelines, and antimicrobial stewardship.

Research & Surveillance	Strengthen AMR surveillance and generate robust clinical evidence for FDCs.
Public Awareness	Encourage rational drug use, discourage self-medication, and improve awareness about banned formulations.

Significance of the Ban

1. Strengthens evidence-based pharmaceutical regulation.
2. Promotes the rational use of medicines.
3. Reduces unnecessary drug exposure and adverse effects.
4. Supports national efforts to combat antimicrobial resistance.
5. Encourages periodic scientific review of marketed medicines.
6. Enhances patient safety and public health.

Conclusion

The ban on irrational Fixed-Dose Combination drugs marks a significant step towards **evidence-based pharmaceutical regulation** and **rational prescribing**. Eliminating scientifically unjustified drug combinations will improve patient safety, strengthen antimicrobial stewardship, and help preserve the long-term effectiveness of existing antimicrobials. Sustained regulatory vigilance, supported by scientific evidence and responsible prescribing practices, will be essential to ensure the safe and effective use of medicines in India.

5. Andromeda Galaxy (M31): Hubble Study Reveals Declining Star Formation

Context

A recent study using data from NASA's **Hubble Space Telescope** has revealed that **star formation in the Andromeda Galaxy has been steadily declining over the past 500 million years**, showing that the galaxy is gradually transitioning from an active star-forming system to a **quiescent (less active)** stage.

About Andromeda Galaxy

1. The **Andromeda Galaxy (M31)** is the **closest major galaxy** to the **Milky Way** and is comparable to it in size and it is located about **2.5 million light-years** from Earth in the **constellation Andromeda**.
2. It is a **barred spiral galaxy**, characterised by a **bar-shaped concentration of stars** at its centre, from which spiral arms extend and is one of the few galaxies

visible to the **naked eye** under favourable observing conditions.

3. The galaxy is moving towards the **Milky Way** at a speed of about **110 km/s**.
4. Its proximity and similarity to the Milky Way make it an ideal natural laboratory for understanding the structure and evolution of **spiral galaxies**.

Recent Findings

1. Hubble observations indicate that **star formation in Andromeda has been declining continuously for nearly 500 million years**.
2. The galaxy is transitioning from an **active star-forming system** to a **quiescent galaxy**, representing an important stage in its long-term evolution.
3. The findings improve scientific understanding of how **large spiral galaxies gradually evolve** as their star-forming activity declines over time.

About Hubble Space Telescope

1. The **Hubble Space Telescope (HST)** is a **space-based astronomical observatory** named after astronomer **Edwin Hubble**.
2. It was launched by **NASA** aboard the **Space Shuttle Discovery** in **1990**.
3. It observes the Universe across the **ultraviolet, visible, and near-infrared** regions of the electromagnetic spectrum.
4. It is one of **NASA's Great Observatories Programmes** and has significantly advanced the study of galaxies, stars, planets, and the Universe.

6. India's Uranium Quest

Context

India has signed a **long-term uranium supply agreement with Australia**, marking a major step in implementing the **India–Australia Civil Nuclear Cooperation Agreement (2014)**.

The agreement follows similar long-term uranium supply partnerships with **Canada** and **Kazakhstan**, reflecting India's strategy to diversify nuclear fuel sources.

The initiative supports India's long-term plan to expand nuclear power generation by ensuring a reliable supply of nuclear fuel.

India's Nuclear Power Ambition

1. India aims to increase its **civil nuclear power capacity to 100 gigawatt-electric (GWe) by 2047**.
2. To achieve this target, the government has enabled

greater **private sector participation** in the civil nuclear sector.

3. A stable and diversified uranium supply is essential to sustain India's long-term nuclear power expansion.

India's Uranium Resources and Fuel Cycle

1. Uranium is converted into usable nuclear fuel through four key stages:
 - a. **Mining and milling**
 - b. **Conversion**
 - c. **Enrichment** (where required)
 - d. **Fuel fabrication**
2. India has around **4.3 lakh tonnes of uranium oxide reserves**, distributed across **Andhra Pradesh, Telangana, Jharkhand, Meghalaya, Rajasthan, Karnataka, Chhattisgarh, Uttar Pradesh, Uttarakhand, Himachal Pradesh, and Maharashtra**.
3. **Uranium Corporation of India Limited (UCIL)** is the state-owned enterprise responsible for uranium exploration, mining, and processing.
4. Major uranium mining centres include:
 - a. **Jaduguda and Turamdih** (Jharkhand)
 - b. **Tummalapalle** (Andhra Pradesh)

India's Uranium Supply Gap

1. India's **Pressurised Heavy Water Reactors (PHWRs)** primarily use **natural uranium**, sourced through domestic production and imports.
2. The **Light Water Reactors (LWRs)** at **Tarapur and Kudankulam** operate entirely on **imported enriched uranium**.
3. Domestic production currently meets the fuel requirement for only **2.4 GWe** of India's **8.7 GWe** installed nuclear power capacity.
4. According to the **Ministry of Power**, India will require an additional:
 - a. **8,029 tonnes of natural uranium** annually.
 - b. **1,045 tonnes of enriched uranium** annually by **2047**.

NSG Waiver and International Cooperation

1. In **2008**, the **Nuclear Suppliers Group (NSG)** granted India a **clean waiver**, enabling it to participate in international civilian nuclear commerce despite being a **non-signatory to the Nuclear Non-Proliferation Treaty (NPT)**.
2. The waiver paved the way for uranium imports and expanded civil nuclear cooperation with multiple partner countries.

Uranium Imports

- Between **2008–09** and **2024–25**, India imported **18,842.60 metric tonnes** of uranium in various forms for reactors placed under **International Atomic Energy Agency (IAEA)** safeguards.
- In **2024–25**, India's nuclear power plants generated **56,631.48 million units (MU)** of electricity, of which **39,180 MU** was produced using imported uranium.
- India is projected to require around **9,000 metric tonnes** of imported natural uranium during **2025–2033** for existing and upcoming safeguarded PHWRs.

Major Uranium Suppliers

- India currently imports uranium from **Russia** and **Uzbekistan**.
- Recent long-term supply agreements have been signed with:
 - Australia**
 - Canada** (*Cameco Corporation*)
 - Kazakhstan** (*Kazatomprom*)
- France** and the **United States** have also supplied uranium products to India in recent years.

Challenges and Way Forward

Challenges	Way Forward
Low-grade uranium ore makes domestic mining and processing three to four times more expensive than imports.	Modernise uranium mining, processing, and fuel-cycle infrastructure while improving efficiency and ensuring environmental sustainability.
Domestic uranium production is insufficient to meet the country's growing nuclear fuel requirements.	Expand uranium exploration and mining to strengthen long-term domestic fuel security.
Rising global demand for uranium may increase international prices and procurement costs.	Diversify long-term uranium supply partnerships with reliable countries to minimise supply and price risks.
Dependence on imported uranium exposes India to geopolitical uncertainties and supply-chain disruptions.	Adopt a balanced strategy combining diversified imports with enhanced domestic production.

Expansion of domestic production requires significant investment and timely project implementation.	Strengthen UCIL's production capacity through sustained financial support, technological upgrades, and faster project execution.
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Conclusion

India's long-term uranium strategy will be crucial for achieving its nuclear energy goals while strengthening energy security. A balanced mix of domestic capacity enhancement and international cooperation can ensure a reliable and sustainable nuclear power programme.

7. QDenga (TAK-003): India's First Approved Dengue Vaccine

Context

The **Drug Controller General of India (DCGI)** has granted market authorisation to **QDenga (TAK-003)**, making it **India's first approved dengue vaccine**.

About QDenga (TAK-003)

- QDenga (TAK-003)** is a **live-attenuated tetravalent vaccine** developed by the **Japanese pharmaceutical company Takeda**.
- It is designed to provide protection against **all four dengue virus serotypes (DENV-1, DENV-2, DENV-3, and DENV-4)**.
- It is the **first dengue vaccine approved in India** and is indicated for **individuals aged 4 to 60 years**.
- The vaccine is administered in **two doses**, with the second dose given **three months after the first**.
- It can be administered **irrespective of prior dengue infection** and **does not require pre-vaccination screening**.
- QDenga has received **regulatory approval in more than 40 countries**, including the **European Union, the United Kingdom, Brazil, Indonesia, and Argentina**.

About Dengue

Dengue is a **mosquito-borne viral disease** caused by the **dengue virus (DENV)** and transmitted mainly through the bite of infected **Aedes aegypti** mosquitoes. It is a major public health challenge in tropical and subtropical regions.

Salient Features of Dengue

- The dengue virus has **four serotypes—DENV-1, DENV-2, DENV-3, and DENV-4**.
- Most infections are **mild**, but severe dengue can lead

to **bleeding, shock, organ failure, and death.**

3. **No specific antiviral treatment** is available; management depends on **early diagnosis, supportive care, and timely medical intervention.**
4. Dengue is **endemic in more than 125 countries**, making it one of the world's fastest-growing **vector-borne diseases.**
5. **India accounts for nearly one-third of the global dengue burden**, highlighting the importance of **vaccination, vector control, disease surveillance, and public awareness** to reduce transmission and prevent outbreaks.

8. PRAXIS Mission: In-Situ Exploration of Planetary Rings

Context

NASA has selected the **PRAXIS (Planetary Rings Autonomous EXploration with In-situ Sampling)** mission concept for **Phase I funding** under the **NASA Innovative Advanced Concepts (NIAC) 2026** programme.

About PRAXIS Mission

1. The mission seeks to improve understanding of the **origin, composition, structure, and evolution** of planetary ring systems.
2. It is primarily designed to investigate the **dense rings of Saturn** and the **tenuous rings of Uranus and Neptune.**
3. The mission concept can also be adapted to explore the ring systems of **Centaur**s, including **Chariklo** and **Chiron.**

Key Features

1. PRAXIS proposes a **bio-inspired robotic explorer** equipped with **Artificial Intelligence (AI)** for autonomous operations.
2. The spacecraft is designed to operate independently in the **dynamic environment of planetary rings**, where continuous communication with Earth is limited.
3. It integrates **robotic autonomy** for collision avoidance, precision sampling, and onboard scientific analysis.
4. A **sport-casting-inspired sampling mechanism** is designed to capture free-floating ring particles.
5. **Miniaturised scientific instruments** will analyse collected samples in real time.
6. The spacecraft will **graze the ring plane**, enabling

direct sampling while minimising the risk of collisions.

Mission Working

1. The onboard **AI system** will identify a suitable ring particle for sampling.
2. The spacecraft will execute a **touch-and-go manoeuvre** using a **long deployable boom** to collect material while maintaining a safe distance from surrounding particles.
3. Onboard instruments will analyse the collected samples to determine their **size, porosity, and composition.**
4. The spacecraft will then move to another **ring region or ring gap** to collect additional samples, allowing comparison of particles from different parts of the ring system.

9. INSAT-3DR: India's Advanced Meteorological Satellite

Context

Recent analysis of **visible satellite imagery** and **INSAT-3DR infrared images** indicated that nearly **60–70% of India's landmass** was under cloud cover, highlighting the satellite's role in continuous weather monitoring.

About INSAT-3DR

1. **INSAT-3DR (Indian National Satellite-3DR)** is India's advanced geostationary meteorological satellite, developed by the **Indian Space Research Organisation (ISRO).**
2. It was launched on **8th September 2016** aboard the **GSLV-F05** launch vehicle.
3. It is designed to provide **continuous weather observation, cyclone tracking, disaster warning, and environmental monitoring** over India and the surrounding region.
4. The satellite succeeds **INSAT-3D**, ensuring continuity while strengthening India's capabilities in **meteorological observation, data relay, and search-and-rescue services.**

Key Features

1. It carries an **Imaging System** that captures **multispectral images** of clouds, land, and oceans for continuous weather monitoring.
2. An **Atmospheric Sounder** measures **atmospheric temperature and humidity profiles**, improving the accuracy of weather forecasting.
3. A **Data Relay Transponder (DRT)** receives and

transmits data from remote observation platforms across land and sea.

4. A **Search and Rescue Transponder (SART)** detects and relays distress signals from ships, aircraft, and emergency beacons to support rescue operations.
5. Operating from a **geostationary orbit**, INSAT-3DR provides **multispectral images every 30 minutes**, enabling continuous monitoring of weather systems over the Indian region.

Key Improvements over INSAT-3D

1. **Middle Infrared (MIR) imaging** enables the detection of **low clouds and fog during night-time**, improving weather observation under low-light conditions.
2. **Two Thermal Infrared (TIR) bands** provide more accurate estimation of **Sea Surface Temperature (SST)**, enhancing weather forecasting and ocean monitoring.
3. **Higher spatial resolution** in the **Visible and Thermal Infrared** bands enables clearer and more detailed observation of weather systems.

10. Chandipura Virus (CHPV): A Vector-Borne Cause of Acute Encephalitis Syndrome

Context

Gujarat has recently reported **seven confirmed cases of Chandipura Virus (CHPV)** infection, including **three deaths**, prompting renewed attention to the disease.

About Chandipura Virus (CHPV)

1. **CHPV** is a **vector-borne virus** belonging to the **Rhabdoviridae** family, which also includes the **rabies virus**, though it causes a different disease.
2. It was first identified in **1965** in **Chandipura village, Maharashtra**, from which it derives its name.
3. It causes **Acute Encephalitis Syndrome (AES)**, a severe inflammation of the brain.

Transmission

1. **Sand flies** are the primary vectors of **CHPV**.
2. **Ticks** are suspected to act as vectors, but their role has not been conclusively established.
3. **No evidence of human-to-human transmission** has been reported.

Epidemiology

1. **Children** are the most affected group.

2. Outbreaks occur mainly during the **rainy season**, particularly in **western and central India**.
3. Previous outbreaks in India have reported a **case fatality rate (CFR) of 56–75%**.

Clinical Features

1. Common symptoms include **high fever, severe headache, vomiting, muscle pain, weakness, irritability, drowsiness, seizures, confusion, and, in severe cases, loss of consciousness**.
2. The disease can **progress rapidly**, particularly in children, and may lead to severe **neurological complications**.

Treatment

1. **No specific antiviral drug or vaccine** is available.
2. Treatment is **limited to supportive care** to manage symptoms and prevent complications.

11. SHetA2 Therapy: A Promising Oral Treatment for HPV-Related Cervical Cancer

Context

A new oral therapy, **SHetA2**, has shown promising results in preventing **Human Papillomavirus (HPV)** infection from progressing to **cervical cancer**.

About SHetA2 Therapy

1. **SHetA2** is a **small molecule therapy** comprising low-molecular-weight compounds that are readily absorbed by the body.
2. It is being developed to treat **HPV-induced cervical dysplasia** (abnormal precancerous changes in cervical cells) and **cervical cancer**.
3. Currently under evaluation as an **oral capsule**, the therapy is intended for individuals with **HPV-induced precancerous cervical lesions**.
4. **SHetA2** targets three human proteins—**mortalin**, **Heat Shock Cognate 70 (Hsc70)**, and **Glucose-Regulated Protein 78 (Grp78)**—that support the activity of the **HPV E7 oncoprotein** (a cancer-promoting viral protein). By disrupting the interaction between the E7 protein and a host cell protein, it enables the body's natural defence mechanisms to eliminate the viral protein, thereby preventing further damage to healthy cells.
5. **Human Papillomavirus (HPV)** is the **most common sexually transmitted infection (STI)**, with **more than 100 identified types**.

6. **Most HPV infections resolve naturally without treatment.** However, some low-risk types cause **genital warts**, while high-risk strains can lead to **cervical and other cancers**.
7. HPV spreads through **skin-to-skin contact**, mainly during **vaginal, anal, and oral sexual contact**. Around **80% of both men and women** acquire HPV infection at some point in their lives.
8. Symptoms may include **genital or anal warts** and, in some cases, **cancerous growths of the cervix, mouth, or throat**.
9. Although there is **no cure for HPV infection**, **HPV vaccination** remains the most effective measure to prevent HPV-related cancers.

12. Alanine Aminotransferase (ALT): A Key Biochemical Marker for Assessing Liver Injury

Context

The **Union Ministry of Health and Family Welfare** has advised people to monitor **Alanine Aminotransferase (ALT)** levels as an early indicator of **liver injury**.

About Alanine Aminotransferase (ALT)

1. **Alanine Aminotransferase (ALT)**, also known as **Serum Glutamic-Pyruvic Transaminase (SGPT)**, is an enzyme found predominantly in **liver cells**, with smaller amounts present in other body tissues.
2. It plays a key role in **amino acid metabolism**, the process through which amino acids are converted into energy and other essential compounds required by the body.
3. Under normal conditions, only **small quantities of ALT** are present in the bloodstream.
4. Damage to liver cells caused by **inflammation, infection, or injury** leads to the release of ALT into the bloodstream, resulting in elevated levels.

Key Features

1. **ALT is measured through a blood test**, with results generally available within a few hours.
2. It forms an important part of the **Liver Function Test (LFT)**, which includes other liver enzymes and indicators used to assess liver function.
3. **ALT is a sensitive indicator of ongoing liver injury** and is widely used to detect liver cell damage.
4. Elevated ALT levels may suggest **liver cell injury**, but **cannot independently confirm liver disease**, as

the enzyme is also present in smaller amounts in other body tissues.

5. **Normal ALT levels do not always exclude significant liver disease**; therefore, results should always be interpreted along with clinical findings and other diagnostic investigations.
6. Although many laboratories consider **ALT levels below 40 U/L** as the normal reference range, interpretation depends on the patient's clinical condition. Lower reference values are often used for individuals with **chronic Hepatitis B or Hepatitis C**.

13. Eärendil-1: Sunlight Reflection Satellite

Context

Recently, the U.S. Federal Communications Commission (FCC) cleared a proposal by the U.S.-based startup Reflect Orbital to test a novel space-based lighting system through its Eärendil-1 satellite, which aims to redirect sunlight to designated locations on Earth after dark.

About Eärendil-1

1. It is designed to **demonstrate the feasibility of redirecting sunlight to selected locations on Earth after sunset** using a space-based reflective mirror.
2. The satellite will operate in a **non-geostationary Low Earth Orbit (LEO)** at an altitude of **600–650 km**.
3. It carries a **motorized, highly reflective thin-film mirror** that can be deployed in orbit and precisely oriented to redirect sunlight.
4. The mission aims to **increase the availability of sunlight for solar energy applications** beyond natural daylight hours.
5. The technology could provide **temporary illumination for emergency response, humanitarian assistance, and other critical operations**.
6. If successfully demonstrated, it could support **clean energy, agriculture, industrial activities, and disaster management**.

14. Reusable Launch Vehicle (RLV)

Context

Japan's space agency, **JAXA**, recently carried out the successful lift-off and landing of a prototype reusable rocket, marking a significant milestone in reusable launch technology. The achievement follows similar advances by the **United States** and **China**, highlighting the global shift towards cost-effective and sustainable access to space.

About Reusable Launch Vehicle (RLV)

1. A **launch vehicle** is a rocket designed to place satellites, spacecraft, or other payloads into the **desired orbit or space trajectory**.
2. A **Reusable Launch Vehicle (RLV)** is designed to recover and reuse major components—primarily the **first-stage booster**—instead of discarding them after every launch.
3. Reusing launch vehicle components offers several advantages:
 - a. **Reduces launch costs** by recovering high-value rocket components.
 - b. **Increases launch frequency** by shortening the turnaround time between missions.
 - c. **Improves the sustainability of space missions** by reducing material consumption and launch-related waste.
4. **SpaceX** pioneered the operational deployment of reusable launch vehicles through **Falcon 9**, while **China** and **Japan (JAXA)** have also demonstrated significant progress in reusable rocket technology.
5. **ISRO's Reusable Launch Vehicle (RLV) programme** aims to develop a **cost-effective, fully reusable launch vehicle** to make future space missions more economical.
6. As part of this programme, the **RLV-LEX (Reusable Launch Vehicle–Landing Experiment)** successfully demonstrated **autonomous runway landing**, representing a major technological milestone in the development of a fully reusable launch vehicle.

15. Interplanetary Coronal Mass Ejections: Space Weather Phenomenon

Context

Indian researchers have reported new findings on the thermal evolution of **Interplanetary Coronal Mass Ejections (ICMEs)** as they travel from the Sun to the Earth, improving scientific understanding of these solar eruptions.

About Interplanetary Coronal Mass Ejections (ICMEs)

1. **Interplanetary Coronal Mass Ejections (ICMEs)** are **large expulsions of magnetized plasma** released from the Sun's outer atmosphere that travel through interplanetary space.
2. Their occurrence is closely linked to the Sun's **11-year solar cycle**, with a higher frequency during the **solar maximum** phase.
3. When Earth-directed ICMEs interact with the **Earth's magnetic field**, they can trigger **severe geomagnetic storms**.
4. These storms can produce **auroras** in the Earth's upper atmosphere and are responsible for some of the **most intense geomagnetic disturbances** affecting the Earth.
5. Their **vast plasma clouds** serve as **natural laboratories** for studying plasma behaviour and other physical processes in space.
6. Severe geomagnetic storms associated with ICMEs can disrupt **satellite operations, GPS and radio communications, aviation routes, and power grids**.



GEOGRAPHY AND ENVIRONMENT

1. Rice Fields and Methane Emissions

Context

A recent study published in **Nature Food** reported that **greenhouse gas (GHG) emissions from global paddy fields have nearly doubled since the 1960s**, with **eastern India's rice-growing regions** identified among the world's major methane hotspots.

Methane Emissions in Rice Cultivation

1. **Methane (CH₄)** is a potent greenhouse gas with a **global warming potential about 25 times greater than carbon dioxide (CO₂)** over a 100-year period.
2. Agriculture is one of the largest **anthropogenic (human-induced)** sources of methane, with **rice cultivation being the largest agricultural contributor**.
3. Rice is generally cultivated in **flooded fields**, which create **anaerobic (low-oxygen) conditions** in the soil.
4. Under these conditions, **methanogenic microorganisms (methanogens)** decompose organic matter and produce methane.
5. Methane reaches the atmosphere through **diffusion across floodwater, ebullition (bubbling) from the soil, and transport through rice plants**.
6. **Continuous flooding** prolongs anaerobic conditions, resulting in higher methane emissions.

Factors Contributing to Methane Emissions

1. **Crop residue incorporation** supplies organic matter that serves as a substrate for methane-producing microorganisms.
2. **Excessive nitrogen fertiliser application** stimulates microbial activity and indirectly increases methane production.
3. **Loss of soil organic carbon** reduces the soil's capacity to store carbon, converting paddy fields from **carbon sinks** into **carbon sources**.
4. **Expansion of irrigated paddy cultivation**, coupled with intensive farming practices, has further increased methane emissions.

Key Findings

1. **Global Emissions**
 - a. During **2011–2020**, global paddy fields emitted

approximately **1.1 billion tonnes of CO₂-equivalent (CO₂-e)** annually.

- b. This represents a **90.4% increase** compared to **1961–1980**, indicating that emissions have nearly doubled over the past six decades.

2. Loss of Soil Organic Carbon

- a. Around **half of the increase** in emissions resulted from the depletion of **soil organic carbon**.
- b. During **1961–1980**, paddy fields removed nearly **289 million tonnes of CO₂-equivalent annually**.
- c. By the **2010s**, more than **one-third of global paddy fields** had become **net carbon emitters**.

3. India's Position

- a. **Eastern India** has emerged as one of the world's major methane hotspots.
- b. Irrigated paddy fields in India emit approximately **3.9 million tonnes of methane annually**, slightly exceeding Germany's annual methane emissions.
- c. India is the **world's largest rice producer**, and paddy cultivation occupies nearly **55% of the country's rainfed harvested area**, making it a major contributor to agricultural methane emissions.

4. Future Outlook

- a. Between **2031 and 2050**, annual methane emissions from rice cultivation are projected to increase by **about 25%**.
- b. **Global warming**, erratic rainfall, and intensive agricultural practices are expected to further increase methane emissions from rice cultivation.

Study Methodology

The study estimated greenhouse gas emissions from rice cultivation by integrating:

1. **Meta-analysis** of more than **1,200 field experiments**.
2. **Process-based ecosystem modelling**.
3. **Artificial Intelligence (AI)** for large-scale estimation and analysis.

1. Mitigation Measures

System for Rice Intensification (SRI)

The **National Innovations in Climate Resilient Agriculture (NICRA)** promotes the **System for Rice Intensification (SRI)**, which involves:

- a. Transplanting **young seedlings**.
- b. Avoiding **continuous flooding** through controlled irrigation.
- c. Improving **water-use efficiency** while reducing methane emissions.

2. Other Recommended Measures

- a. Adoption of **Alternate Wetting and Drying (AWD)** irrigation.
- b. Balanced application of **nitrogen fertilisers**.
- c. Scientific **crop residue management**.
- d. **Reduced tillage** to conserve soil organic carbon.

These measures could reduce global rice-related greenhouse gas emissions by **around 10% by the middle of the century**, even under a warming climate.

3. KERA-AWD Project

The **International Rice Research Institute (IRRI)** is implementing the **KERA-AWD Project** in Kerala's **Thrissur Kole lands** and **Palakkad Malampuzha canal command area**.

The project focuses on:

- a. Enhancing **soil organic carbon**.
- b. Improving **water management** and irrigation scheduling.
- c. **Optimising fertiliser use and crop residue management**.
- d. Studying **soil microbial communities** and farmers' preferences.
- e. Using **phosphogypsum** as a partial substitute for lime to reduce emissions from acidic soils.

Challenges and Way Forward

Challenges	Way Forward
Labour-intensive cultivation practices limit the large-scale adoption of improved methods such as SRI.	Promote farm mechanisation and provide financial incentives to encourage the adoption of climate-smart farming practices.
Limited awareness and technical knowledge among farmers hinder the implementation of low-emission technologies.	Strengthen agricultural extension services, farmer training programmes, and digital advisory platforms.
Erratic rainfall and increasing climate variability reduce the effectiveness of water-management practices.	Develop climate-resilient irrigation systems and promote efficient water-management techniques such as AWD.

Excessive fertiliser use and improper crop residue management increase methane emissions	Encourage balanced nutrient management and scientific crop residue management practices.
Regional variations in soil, climate, irrigation, and farming practices affect the effectiveness of mitigation measures.	Formulate region-specific policies based on local agro-climatic conditions and scientific evidence.
Dependence on water-intensive paddy cultivation increases environmental pressure and groundwater stress.	Promote crop diversification wherever agro-climatically suitable while safeguarding farmers' livelihoods and incomes.
Limited research, innovation, and adoption of low-emission technologies slow mitigation efforts.	Invest in research, technological innovation, and climate-smart agriculture to improve sustainable rice production.

Conclusion

Reducing methane emissions from rice cultivation is essential for achieving **climate-resilient agriculture** while ensuring **food security**. This requires the widespread adoption of **scientific farming practices, efficient water management, technological innovation, and region-specific policy interventions** to promote sustainable and low-emission rice production.

2. Flash Floods in India

Context

A recent study by **IIT Gandhinagar**, published in **Nature Hazards**, has identified India's major flash flood hotspots and the factors driving their increasing frequency. The study comes amid recent flash flood disasters in **Himachal Pradesh (July 2025)**, **Wayanad in Kerala (July 2024)**, **Ladakh (June 2024)**, and **Sikkim (October 2023)**.

About Flash Floods

1. A **flash flood** is a **rapid-onset flood** that develops within a few hours of intense rainfall, cloudbursts, dam failures, or **Glacial Lake Outburst Floods (GLOFs)**.
2. The **India Meteorological Department (IMD)** generally considers floods occurring within **six hours** of the triggering event as flash floods.
3. Flash floods are characterised by a **rapid rise in water level, high flow velocity, and very limited warning time**, making them highly destructive.
4. They occur most frequently in **mountainous regions, steep river basins, and urban areas** with inadequate drainage.

Major Findings of the IIT Gandhinagar Study

1. The study, “**Drivers of Flash Floods in the Indian Sub-continental River Basins**”, assessed flash flood vulnerability using **hydrological** (water movement) and **geomorphological** (landform) characteristics.
 2. It identifies the **Himalayan region, the Western Coast, and Central India** as India’s major flash flood hotspots.
 3. Around **75%** of flash floods occur due to the combined impact of **extreme rainfall and saturated soil**, while only **25%** result from heavy rainfall alone.
 4. Only **23%** of extreme rainfall events trigger flash floods within six hours, highlighting the importance of **antecedent soil moisture** (water already present in the soil).
 5. Flash flood vulnerability varies across river sub-basins depending on **terrain, drainage patterns, soil characteristics, and local climatic conditions**.
 6. The study also shows that several **previously low-vulnerability river basins** are becoming increasingly susceptible to flash floods because of changing rainfall patterns associated with climate change.
5. More than **75%** of flash floods recorded between **1980 and 2018** occurred during the **monsoon**.
 6. Since **1995**, flash flood events have increased significantly in the **Brahmaputra, Ganga, and Krishna** river basins.
 7. Climate change is also expanding flash flood risk to previously less vulnerable regions:
 - a. **51%** of non-prone sub-basins recorded increased rainfall.
 - b. **66.5%** experienced higher streamflow.

Key Drivers of Flash Floods

1. **Extreme Rainfall:** Intense rainfall remains the primary trigger, especially during the monsoon.
2. **Saturated Soil:** Waterlogged soil cannot absorb additional rainfall, leading to rapid surface runoff.
3. **Steep Topography:** The Himalayan region is highly vulnerable because steep slopes accelerate the movement of water.
4. **High Basin Flashiness:** River basins along the **Western Coast and Central India** respond rapidly to rainfall, resulting in sudden increases in streamflow.
5. **Regional Characteristics:** Differences in elevation, landforms, drainage networks, and climatic conditions influence flash flood risk even within the same river basin.

Climate Change and Flash Flood Risk

1. Climate change is increasing both the **frequency and intensity** of flash floods across India.
2. According to the **Clausius-Clapeyron principle**, the atmosphere can hold nearly **7% more moisture for every 1°C rise in temperature**, increasing the likelihood of extreme rainfall.
3. Between **1981 and 2020**, extreme rainfall during the **pre-monsoon season** doubled.
4. During the same period, extreme precipitation

increased by:

- a. **56%** during the **monsoon**
- b. **40%** during the **post-monsoon season**
- c. **12.5%** during the **winter season**

Challenges

1. Lack of **high-resolution flash flood vulnerability maps** for river sub-basins.
2. Limited **real-time hydrological, soil moisture, and river monitoring data** for accurate local forecasting.
3. Inadequate **early warning systems** for rapidly developing flash floods.
4. Rapid urbanisation, encroachment on floodplains, deforestation, and poor drainage increase flood vulnerability.
5. Changing rainfall patterns reduce the reliability of conventional flood-risk assessments.
6. Limited climate-resilient infrastructure in vulnerable regions.

Way Forward

1. Develop **region-specific flash flood management strategies** based on topography, hydrology, soil conditions, and local climatic characteristics.
2. Strengthen **real-time forecasting and early warning systems** through improved weather observation and river monitoring networks.
3. Regularly identify and monitor **emerging flash flood hotspots** using scientific risk assessment.
4. Promote **climate-resilient infrastructure**, watershed management, and sustainable land-use planning.
5. Implement **Integrated River Basin Management (IRBM)** through coordinated action among meteorological, hydrological, and disaster management agencies.
6. Strengthen **community-based disaster preparedness** through awareness campaigns, mock drills, and local emergency response mechanisms.

7. Integrate climate projections into infrastructure planning and disaster risk reduction strategies to enhance long-term resilience.

3. Cloudburst: Formation, Characteristics and Impacts

Context

The **India Meteorological Department (IMD)** recently clarified that the floods in **Upper Assam** were **not caused by cloudbursts**, rejecting reports that cloudbursts had occurred in **Assam and Nagaland**.

About Cloudburst

1. A **cloudburst** is an **extreme weather event** marked by **very intense rainfall over a small geographical area within a short period**.
2. Although cloudbursts can occur in **plains**, they are **most common in hilly and mountainous regions**, particularly the **Himalayan region**.
3. According to the **India Meteorological Department (IMD)**, a cloudburst occurs when **10 cm or more of rainfall** is recorded within **one hour** over an area of about **20–30 sq. km**.
4. **Cloudbursts are highly localised events** and should not be confused with widespread heavy rainfall associated with the **monsoon**.

Formation of Cloudbursts

1. The process begins with **convection**, in which **warm, moisture-laden air** rises rapidly into the atmosphere.
2. In mountainous regions, the rising air is forced upward by steep slopes through **orographic lifting**.
3. As the air cools, it condenses to form **cumulonimbus clouds**, which can grow up to **15 km** in height.
4. **Strong upward air currents (updrafts)** keep water droplets suspended inside the cloud, allowing them to combine into larger droplets.
5. When the droplets become too heavy or the updrafts weaken, a large volume of water is released over a short period, resulting in a **cloudburst**.

Impacts of Cloudbursts

1. Trigger **flash floods, landslides, and soil erosion**, particularly in mountainous regions.
2. Cause extensive damage to **lives, property, transport networks, and public infrastructure**.

Lead to **river overflow**, disrupt **transport and communication networks**, and interrupt **essential public services**.

4. Landslide Early Warning System (LEWS)

Context

Recent landslides in the **Western Ghats**, including those affecting the under-construction twin tunnel project in **Wayanad (Kerala)**, have reinforced the need for a robust **Landslide Early Warning System (LEWS)**. Scientific forecasting and timely evacuation can substantially reduce the loss of life and damage to infrastructure in landslide-prone regions.

Significance of a Landslide Early Warning System

1. Facilitates **timely evacuation**, minimising loss of life and property.
2. Promotes a shift from **disaster response to disaster risk reduction**.
3. Provides authorities with sufficient lead time for preparedness, evacuation, and emergency response.
4. In India, the **2024 Munnar landslides** demonstrated the effectiveness of early warning systems, where timely evacuation prevented fatalities.
5. International experience, particularly from **Switzerland**, shows that scientific forecasting and advance warnings can significantly reduce disaster impacts.

Landslide Vulnerability in India

1. According to the **National Disaster Management Authority (NDMA)**, nearly **13% of India's geographical area** (about **0.42 million sq. km**) is susceptible to landslides.
2. The **Himalayan region** and the **Western Ghats** are the most vulnerable zones.
3. Major landslide-prone regions include:
 - a. **Tehri Garhwal and Uttarkashi** (Uttarakhand)
 - b. **Mandi and Shimla** (Himachal Pradesh)
 - c. **Aizawl region** (Mizoram)
 - d. **Parts of Manipur**
4. Despite frequent landslides, **Sikkim** has comparatively lower overall vulnerability due to limited road construction and reduced slope disturbance.

Major Approaches to Landslide Forecasting

1. Sensor-Based Monitoring

Developed by institutions such as **Amrita University**, this approach continuously monitors slope stability using

specialised sensors.

Key Instruments

1. Tilt meters
2. Pressure gauges
3. Accelerometers
4. Ground movement and vibration sensors

Mechanism

1. Sensors continuously monitor changes in slope conditions.
2. Warnings are generated when monitored parameters exceed predefined safety thresholds.

Advantages

1. Provides highly accurate, real-time assessment of slope stability.
2. Offers sufficient lead time for evacuation.
3. Successfully demonstrated in parts of Kerala.

Limitations

1. Covers only instrumented slopes.
2. Cannot detect failures on nearby unmonitored slopes.
3. Involves high installation and maintenance costs.

2. Probabilistic Forecasting Model

Developed by **IIT Mandi**, this model estimates landslide probability over large geographical areas.

Methodology: Integrates satellite-derived landslide inventories with rainfall forecasts, terrain characteristics, geological conditions, soil properties, and slope gradients.

Advantages

1. Covers extensive and remote regions.
2. Identifies multiple vulnerable locations simultaneously.
3. Successfully validated against historical landslide events in the Himalayan region.

Limitations

1. Depends on high-resolution rainfall forecasts.
2. Limited forecast lead time reduces predictive effectiveness.
3. Improved rainfall forecasting by the **India Meteorological Department (IMD)** can significantly enhance forecasting accuracy.

Towards a National Landslide Early Warning System

A comprehensive **National Landslide Early Warning System** should:

1. Identify high-risk zones through detailed hazard zonation and risk mapping.

2. Deploy sensor networks in high-risk locations.
3. Integrate **satellite observations, sensor networks, GIS, remote sensing, and high-resolution weather forecasting** into a unified decision-support platform.
4. Strengthen coordination among the **India Meteorological Department (IMD)**, **National Disaster Management Authority (NDMA)**, **Geological Survey of India (GSI)**, **State Disaster Management Authorities (SDMAs)**, and local administrations.

Challenges and Way Forward

Challenges	Way Forward
Inadequate mapping of landslide-prone areas limits accurate risk assessment.	Develop an integrated National Landslide Early Warning System combining sensor-based monitoring with probabilistic forecasting models.
Limited coverage of monitoring infrastructure restricts effective real-time surveillance.	Expand sensor networks and strengthen landslide susceptibility mapping using GIS, remote sensing, and AI-based analytics .
Dependence on short-range rainfall forecasts reduces warning lead time.	Enhance high-resolution rainfall forecasting through advanced meteorological models and forecasting systems.
High deployment and maintenance costs hinder large-scale implementation.	Prioritise critical infrastructure, transport corridors, and densely populated hill settlements for phased deployment.
Weak institutional coordination delays dissemination of warnings and emergency response.	Strengthen coordination through integrated disaster management protocols involving central, state, and local agencies.
Limited community preparedness increases disaster vulnerability.	Strengthen community awareness, conduct regular evacuation drills, and promote local disaster preparedness.

Conclusion

With **climate change** increasing the frequency and intensity of extreme rainfall events, landslide risks are expected to rise across India. An integrated **National Landslide Early Warning System**, supported by scientific forecasting, advanced technologies, and coordinated institutional action, can significantly strengthen disaster resilience.

and enable a shift from **reactive disaster response** to **proactive disaster risk reduction**, thereby safeguarding lives, livelihoods, and critical infrastructure.

5. Borjuli Wetland and Its Recognition as a Biodiversity Heritage Site (BHS)

Context

Recently, the **National Biodiversity Authority (NBA)** declared **Borjuli Wetland** in **Sonitpur district, Assam**, as a **Biodiversity Heritage Site (BHS)**.

About Borjuli Wetland

1. **Borjuli Wetland**, located in **Sonitpur district of Assam**, is an important habitat of **Oryza rufipogon**, the wild ancestor of cultivated rice (**Oryza sativa**).
2. **Oryza rufipogon** is naturally resistant to **pests, diseases, flooding, and saline conditions**, making it a valuable genetic resource for breeding **climate-resilient rice varieties**.
3. The species is **photosensitive** and flowers during the **short-day season of November and December**.
4. Its seeds shatter naturally after maturity, a characteristic feature of wild rice species.

Biodiversity Heritage Site (BHS)

1. A **Biodiversity Heritage Site (BHS)** is a well-defined area recognised for its unique **biological, ecological, evolutionary, or cultural significance**.
2. Such sites may include areas with **rich biodiversity, high endemism, rare or threatened species, keystone species, species of evolutionary importance, wild relatives of cultivated plants, fossil beds, or landscapes of cultural, ethical, or aesthetic value**.
3. Under **Section 37 of the Biological Diversity Act, 2002**, the **State Government**, in consultation with local bodies, may notify an area as a **Biodiversity Heritage Site**.
4. The designation aims to conserve biodiversity through **sustainable management** while improving the livelihoods of local communities.
5. **Nallur Tamarind Grove** in **Karnataka** was notified as **India's first Biodiversity Heritage Site** in **2007**.

6. Bab el-Mandeb Strait: Geography and Strategic Significance

Context

The **Bab el-Mandeb Strait** has returned to the geopolitical spotlight after **Yemen's Iran-backed Houthi movement**

announced a **maritime blockade against Saudi Arabia**.

About Bab el-Mandeb Strait

1. The **Bab el-Mandeb Strait**, meaning "**Gate of Tears**" in Arabic, derives its name from the numerous shipwrecks historically associated with the region.
2. It is a **narrow natural strait** located at the **southern entrance of the Red Sea**.

Location and Connectivity

1. The strait is situated between **Yemen** and the **Horn of Africa**.
2. It connects the **Red Sea** with the **Gulf of Aden**, providing access to the **Indian Ocean**.
3. It separates the **Arabian Peninsula** in the northeast from the **African continent** in the southwest.
4. Through the **Red Sea** and the **Suez Canal**, it provides a vital maritime link between the **Indian Ocean** and the **Mediterranean Sea**.

Geographical Features

1. The strait is approximately **30 km wide**.
2. **Perim Island (Yemen)** divides it into two navigation channels:
 - a. **Eastern Channel: Alexander's Strait.**
 - b. **Western Channel: Dact-el-Mayun Channel.**

7. Tiger Conservation Roadmap: Towards Landscape-Based Tiger Conservation

Context

On the **18th anniversary of tiger reintroduction in Sariska Tiger Reserve (Rajasthan)**, the Union Government released two key documents: a **roadmap for future tiger conservation** and a review of **12 tiger reintroduction programmes**. The roadmap marks a shift from a population-centric approach to **landscape-based conservation**, with emphasis on habitat restoration, ecological connectivity, and recovery of underperforming tiger reserves.

Status of Tiger Conservation in India

1. India's tiger population has increased from **1,411 in 2006** to **3,682 in 2022**.
2. The country has **58 tiger reserves** spread across nearly **85,000 sq. km**.
3. Despite this progress, tiger distribution remains uneven:
 - a. Around **36% of the total population** is

concentrated in **10–12 reserves**.

- b. **Twelve reserves** support fewer than **three tigers** each.
- c. **Kawal (Telangana), Kamlang (Arunachal Pradesh), and Dampa (Mizoram)** currently have **no resident tiger population**.

Key Conservation Challenges

1. High-Density Reserves

- a. High tiger densities drive dispersal into adjoining human-use landscapes.
- b. This results in:
- c. Increased human–tiger conflict.
- d. Greater dependence on livestock as prey.
- e. Higher mortality due to roads, railways, canals, and other infrastructure.

2. Low-Density Reserves

- a. Several reserves have suitable habitats but suffer from **poor prey density** and the absence of **viable breeding populations**.
- b. Habitat fragmentation further limits natural dispersal and population recovery.

Source and Sink Populations

The roadmap highlights the imbalance between **source** and **sink** populations as a major conservation concern.

Source Populations (Net Exporters)

1. Reserves with healthy habitats, abundant prey, and stable breeding populations.
2. They naturally supply dispersing tigers to neighbouring landscapes.
3. Examples include **Corbett, Bandipur, and Kaziranga**.

Sink Populations (Net Receivers)

1. Areas with few or no breeding tigers because of inadequate prey, fragmented habitats, or poor connectivity.
2. These landscapes require ecological restoration before they can support self-sustaining populations.

Reducing the gap between source and sink populations is essential for ensuring long-term population stability and genetic diversity.

Conservation Strategy

The roadmap proposes a landscape-level approach by:

1. Consolidating healthy populations in **13 source tiger reserves**.
2. Identifying **25 priority reserves** for habitat restoration,

prey-base augmentation, and improved protection.

3. Considering **tiger reintroduction only after scientific assessment** in reserves with critically low populations.
4. Strengthening ecological corridors connecting tiger reserves, territorial forests, and multiple-use landscapes to facilitate natural dispersal.

Priority Recipient Sites and the Metapopulation Approach

The **National Tiger Conservation Authority (NTCA)** and the **Wildlife Institute of India (WII)** evaluated all **58 tiger reserves** using indicators such as:

1. Habitat quality,
2. Prey availability, and
3. Tiger population status.

Based on this assessment:

1. **Twenty-five reserves** were identified for priority intervention.
2. The **Central Indian–Eastern Ghats landscape** contains the largest number of priority reserves.
3. The **North Eastern Hills and Brahmaputra floodplains** offer strong recovery potential through improved protection, prey restoration, and habitat connectivity.

The roadmap advocates a **metapopulation approach**, enabling movement between connected tiger populations to maintain **gene flow**, improve genetic diversity, and minimise local extinction risks.

Lessons from Tiger Reintroduction

The review of **12 reintroduction programmes** highlights important conservation experiences.

Tiger Reserve	Outcome	Key Lesson
Sariska (Rajasthan)	Successfully re-stored after re-introduction in 2008; first cubs born in 2012.	Demonstrated that scientifically planned reintroductions can revive locally extinct populations.
Panna (Madhya Pradesh)	Rapid recovery following translocation after local extinction.	Timely intervention, continuous monitoring, and habitat suitability are critical for success.

Satkosia (Odisha)	Reintroduction programme failed.	Community resistance, livestock depredation, and inadequate local support can undermine conservation efforts.
Mukundara Hills (Rajasthan)	Recovery has remained slow.	Habitat suitability alone is insufficient without successful breeding and long-term population management.

Key Lessons for Future Reintroductions

Successful reintroduction requires:

1. Suitable habitat with an adequate prey base.
2. Strong protection against poaching.
3. Functional habitat connectivity.
4. Long-term monitoring and adaptive management.
5. Active participation and support of local communities.
6. Careful assessment of ecological as well as socio-economic conditions.

Accordingly, **tiger reintroduction should be adopted only as a measure of last resort**, after all essential ecological and social prerequisites have been fulfilled.

Institutional Framework

1. **National Tiger Conservation Authority (NTCA):** Statutory body established under the **Wildlife (Protection) Act, 1972**, responsible for implementing **Project Tiger** and overseeing tiger reserve management.
2. **Wildlife Institute of India (WII):** Provides scientific research and technical support for wildlife conservation and species recovery.
3. **Project Tiger (1973):** India's flagship conservation programme aimed at securing viable tiger populations and their habitats.

Significance of the Roadmap

1. Shifts the focus from increasing tiger numbers to building **self-sustaining populations**.
2. Promotes **landscape-based conservation** instead of isolated reserve management.
3. Prioritises habitat restoration, prey-base augmentation, and ecological connectivity.
4. Facilitates **gene flow** between tiger populations,

reducing long-term extinction risks.

5. Integrates scientific planning with community participation to improve conservation outcomes.

Conclusion

The roadmap represents the next phase of India's tiger conservation strategy, moving beyond population growth towards **landscape-level ecosystem management**. By strengthening underperforming reserves, restoring habitats, improving connectivity, and involving local communities, it seeks to create resilient tiger populations across interconnected landscapes. This approach provides a stronger foundation for the long-term conservation of India's national animal while balancing ecological sustainability with human interests.

8. Bhavani River: A Major Tributary of the Cauvery River

Context

Large stretches of the **Bhavani River** near **Kooduthurai** in **Bhavani (Tamil Nadu)** have recently been covered by **water hyacinth**, an invasive alien aquatic weed.

About Bhavani River

1. The **Bhavani River** is a major **tributary of the Cauvery River** that flows through **Tamil Nadu** and **Kerala**. It is the **second-largest river in Tamil Nadu**.
2. The river originates in the **Western Ghats**, in the **Nilgiri Hills** of **Tiruppur district (Tamil Nadu)**, at an elevation of about **2,165 metres (7,100 feet)**. It flows through **Kerala**, passing the **Silent Valley National Park**, before re-entering **Tamil Nadu**.
3. The **Bhavani River** is **217 km** long and joins the **Cauvery River** at **Bhavani town**, near the **Bhavani Sangameswarar Temple**, an important Hindu pilgrimage centre.
4. It is a **perennial river** with a **drainage basin** of nearly **6,200 sq. km.**, extending across **Tamil Nadu, Kerala, and Karnataka**.
5. Around **90% of the river's water** is utilised for **agriculture**, making it a vital source of irrigation.
6. Its principal tributaries are the **West Varagar** and **East Varagar** rivers, both originating in the **Nilgiri Hills**.
7. Major dams built across the river include the **Bhavani Sagar Dam** and the **Kodiveri Dam**.

9. Taal Volcano and the Recent Phreatomagmatic Eruption

Context

Recently, **Taal Volcano** in the Philippines witnessed a brief **phreatomagmatic eruption**, sending an ash plume about **450 metres** above its crater following the interaction of magma and water.

About Taal Volcano

1. **Taal Volcano** is an active **stratovolcano** situated in **Batangas Province**, about **70 km south of Manila**, Philippines.
2. The **Philippine Institute of Volcanology and Seismology (PHIVOLCS)** classifies it as a **complex volcano** because it consists of multiple volcanic cones, craters, and hills rather than a single volcanic edifice.
3. It forms part of the **Pacific Ring of Fire**, a geologically active belt known for frequent earthquakes and volcanic eruptions.
4. **More than 38 eruptions** have been recorded at Taal Volcano over the past **450 years**, making it one of the most active volcanoes in the Philippines.
5. A large **caldera**, formed by a series of prehistoric eruptions between **140,000 and 5,380 BCE**, now contains **Taal Lake**, which covers about **265 sq. km** and has an average depth of **100–150 metres**.
6. **Volcano Island**, located within Taal Lake, extends over about **24 sq. km** and contains **Crater Lake**, which features the rocky islet **Vulcan Point**.
7. The caldera rim is characterised by deeply eroded hills and steep cliffs.

Phreatomagmatic Eruption

1. A **phreatomagmatic eruption** occurs when **magma comes into contact with water**, including groundwater, surface water, or water-saturated rocks.
2. The intense heat rapidly converts water into steam, generating high pressure that triggers an explosive eruption.
3. These eruptions eject **volcanic ash, pyroclastic materials**, and fragments of magma and surrounding rocks.

10. Gulf of Mannar: Marine Biodiversity Hotspot

Context

A recent peer-reviewed study has reported a significant decline in bird populations in the **Gulf of Mannar**, with

the abundance of shorebirds decreasing by nearly **57% over the past four decades**, raising concerns over the health of its coastal ecosystem.

About Gulf of Mannar

1. The **Gulf of Mannar** is a **shallow bay** of the **Laccadive Sea (Indian Ocean)**, located between the **southeastern coast of India** and **western Sri Lanka**. It extends about **160 km** in length and **130–275 km** in width.
2. It is connected to the **Palk Bay** through the **Palk Strait** and is bounded by **Rameswaram Island**, **Adam's (Rama's) Bridge**, and **Mannar Island**.
3. Freshwater inflow into the gulf is provided by rivers such as the **Tambraparni (India)** and the **Aruvi (Sri Lanka)**.
4. **Tuticorin (Thoothukudi)**, a major port on India's southeastern coast, lies along the gulf, which is also known for its **pearl banks** and the **sacred chank (*Turbinella pyrum*)**, a commercially important marine gastropod.

Ecological Significance

1. The gulf comprises three major coastal ecosystems—**coral reefs, seagrass beds, and mangroves**—and is recognised as one of the world's richest **marine biodiversity hotspots**.
2. Its rich marine ecosystem supports **over 4,223 recorded species** of flora and fauna, including **dugongs, dolphins, sharks, sea turtles**, and **117 species of hard corals**.
3. The **Gulf of Mannar National Park** was established in **1986**, and the region was designated **India's first Marine Biosphere Reserve** in **1989**, becoming the **first marine biosphere reserve in South Asia**.

11. Crete Island: Geography, Historical Evolution and Strategic Relevance

Context

Thousands of residents and tourists were recently evacuated after **wildfires**, intensified by **strong winds**, spread across parts of **Crete Island**, threatening several tourist destinations in **Greece**.

About Crete Island

1. **Crete** is the **largest island of Greece** and the **fifth-largest island in the Mediterranean Sea**, covering an area of about **8,336 sq. km**.
2. It is located in the **southern Aegean Sea**, approximately

160 km south of mainland Greece, and forms the **southern boundary of the Aegean Sea**.

3. The island is bounded by the **Sea of Crete** to the north, the **Libyan Sea** to the south, the **Myrtoan Sea** to the west, and the **Carpathian Sea** to the east.
4. It extends for about **260 km** from east to west and reaches a maximum width of about **60 km**.
5. The terrain comprises **mountain ranges, fertile plains, and an extensive coastline with sandy beaches**, supporting diverse ecosystems and human settlements.
6. **Heraklion** is the **capital** as well as the **largest city** of the island.
7. The economy is primarily driven by **tourism, agriculture, and shipping**.

Historical Background

1. Crete has been inhabited since the **Palaeolithic Age**, making it one of the earliest centres of human settlement in Europe.
2. It was the birthplace of the **Minoan Civilization (c. 2700–1420 BCE)**, widely regarded as the **earliest advanced civilisation in Europe**.
3. The decline of the **Minoan Civilization**, following a major earthquake and other contributing factors, was succeeded by the rise of the **Mycenaean Civilization**.
4. Over time, the island came under the rule of the **Romans, Byzantines, Andalusians, Venetians**, and the **Ottoman Empire**.
5. Following its independence from Ottoman rule, Crete was integrated into **Greece**.
6. During the **Second World War**, the island was occupied by **Nazi Germany** and became the site of the historic **Battle of Crete**.

12. Saryu River: Origin, Course and Significance

Context

The **National Green Tribunal (NGT)** has directed the **District Magistrate of Almora, Uttarakhand**, to submit a report on the remedial and punitive measures taken to address **improper waste disposal along the Saryu River at Sera Ghat**, highlighting concerns over river pollution and environmental conservation.

About Saryu River

1. The **Saryu** (also known as **Sarayu** or **Sarju**) is a

Himalayan river that flows through **Uttarakhand** and **Uttar Pradesh**.

2. It originates at **Sarmul (Sarmool)** in **Bageshwar district, Uttarakhand**, on the southern slopes of the **Nanda Kot** range.
3. It flows through the **Kumaon Himalayas** and joins the **Sharada (Kali) River** at **Pancheshwar** along the **India–Nepal border**.
4. The **Sharada River** subsequently joins the **Ghaghara River** in **Sitapur district, Uttar Pradesh**. The **lower course of the Ghaghara** is popularly known as the **Saryu**, particularly along its stretch through **Ayodhya**.
5. The river is approximately **350–400 km** long.
6. It is mentioned in ancient Indian texts such as the **Vedas** and the **Ramayana**, reflecting its historical, cultural, and religious significance.
7. **Ayodhya**, traditionally regarded as the birthplace of **Lord Rama**, is situated on the banks of the **Saryu**, making the river one of the most revered in Hindu tradition.

13. Mount Erebus: Southernmost Active Volcano in the World

Context

Mount Erebus, the world's southernmost active volcano, has recently attracted attention for emitting tiny crystals of pure gold into the atmosphere, in addition to housing a persistent lava lake.

About Mount Erebus

1. **Mount Erebus** is a **stratovolcano** located on the western part of **Ross Island** in the **Ross Sea**, off the coast of **Antarctica**.
2. It is the **second-highest volcano in Antarctica**, with an elevation of **3,794 m (12,448 ft)** above sea level, after **Mount Sidley**.
3. It is an **intraplate volcano** belonging to the **McMurdo Volcanic Group** and is located within the **Terror Rift**, a part of the **West Antarctic Rift System**.
4. It forms part of the **Pacific Ring of Fire** and is one of only **two active volcanoes in Antarctica**, the other being **Deception Island**.
5. It is one of the few volcanoes in the world with a **persistent lava lake**, which has remained active since at least **1972**. Its eruptions are generally **Strombolian** in nature, ejecting volcanic bombs onto the crater rim.

14. Krishna River: Geographical Features and Significance

Context

A week-long dry spell in the Western Ghats of Karnataka and Maharashtra has significantly reduced water inflows into the **Krishna River** and its tributaries, highlighting the river's importance for irrigation, drinking water, and hydropower in **Peninsular India**.

About Krishna River

1. **Krishna**, also known as **Krishnaveni**, is one of the major east-flowing rivers of **Peninsular India** and the fourth-largest river in India in terms of basin area and water inflows, after the **Ganga**, **Godavari**, and **Brahmaputra**.
2. It originates near **Mahabaleshwar** in the **Western Ghats** of Maharashtra and flows for about **1,400 km** through **Maharashtra**, **Karnataka**, **Telangana**, and **Andhra Pradesh** before draining into the **Bay of Bengal** at **Hamasaladeevi** in Andhra Pradesh.
3. The **Krishna River Basin** covers about **2,58,948 sq. km**, accounting for nearly **8% of India's geographical area**. It is bounded by the **Balaghat Range** in the north, the **Western Ghats** in the west, and the **Eastern Ghats** in the south and east.
4. The principal tributaries are the **Bhima**, **Tungabhadra**, **Ghataprabha**, **Malaprabha**, and **Musi** rivers.
5. Important dams on the river include **Almatti (Lal Bahadur Shastri) Dam**, **Narayanpur Dam**, **Srisailem Dam**, **Nagarjuna Sagar Dam**, **Dhom Dam**, and **Jurala Dam**.
6. The river system forms several waterfalls, including **Gokak Falls**, **Kalhati Falls**, **Theertham Falls**, **Manikyadhara Falls**, **Magod Falls**, and **Hampi Waterfall** on the **Tungabhadra River**.
7. The **Krishna River Basin** supported major kingdoms such as the **Satavahanas** and the **Vijayanagara Empire**, contributing to the region's agriculture, trade, and cultural development.

15. Norwegian Sea: Location and Oceanographic Features

Context

Recently, the Norwegian Sea came into focus after UK fighter jets intercepted a Russian maritime patrol aircraft that approached a carrier strike group operating in the region.

About Norwegian Sea

1. The **Norwegian Sea** is a **marginal sea of the Arctic Ocean**, situated between **Norway**, **Iceland**, and **Greenland**.
2. It is connected to the **Barents Sea** in the northeast and the **Greenland Sea** in the north, while a **submarine ridge extending from Iceland to the Faroe Islands** separates it from the **North Atlantic Ocean** in the southwest.
3. The sea originated due to the **rifting of the Eurasian and North American tectonic plates**, a process that began around **250 million years ago**.
4. The **warm North Atlantic Current** flows through the Norwegian Sea towards the **Barents Sea**, while the **cold East Iceland Current** carries cold water towards **Iceland**.
5. The interaction of these warm and cold currents creates **rich fishing grounds**, making the Norwegian Sea an important marine fishing region.
6. The Norwegian Sea forms a **transition zone between the boreal and Arctic climatic regions**, supporting a marine ecosystem that exhibits characteristics of both climatic zones.



SOCIETY AND CULTURE

1. School Dropout Rate: UDISE+ 2025–26 and Performance Grading Index (PGI) 2.0

Context

Recently, the **Ministry of Education** released the **Unified District Information System for Education Plus (UDISE+) 2025–26 and Performance Grading Index (PGI) 2.0** reports. The findings highlight improvements in school access, student retention, teacher availability, and infrastructure, while underscoring the need to strengthen learning outcomes and reduce regional disparities.

About the Reports

Unified District Information System for Education Plus (UDISE+)

1. **UDISE+** is the Government of India's official digital database for school education, maintained by the **Ministry of Education**.
2. It provides real-time information on **student enrolment, teacher profile, school infrastructure, basic facilities, and the learning environment**.
3. The database is updated through data submitted by schools with valid **UDISE+ codes**.

Performance Grading Index (PGI) 2.0

1. PGI 2.0 evaluates the performance of States and Union Territories in school education.
2. It assesses six domains:
 - a. Learning Outcomes
 - b. Access
 - c. Infrastructure and Facilities
 - d. Equity
 - e. Governance Process
 - f. Teacher Education and Training
3. States and UTs are evaluated under a 10-tier grading framework based on their overall performance.

Key Findings

1. Educational Access and Retention

- a. School dropout rates declined at both the **preparatory** and **secondary** stages in 2025–26.
 - i. Preparatory stage: **2.3% → 1.8%**
 - ii. Secondary stage: **8.2% → 7.0%**

- b. **Ladakh, Gujarat, Chhattisgarh, and Karnataka** recorded the highest dropout rates at the secondary level.
- c. Student retention improved at the **middle** and **secondary** stages, while the **Gross Enrolment Ratio (GER)** at the secondary level increased from **68.5%** to **71.7%**, reflecting better participation and continuity in schooling.
- d. However, retention at the **foundational** and **preparatory** stages witnessed a marginal decline after three consecutive years of improvement.
- e. Despite overall progress, **only about half of the students enrolled in Class I complete Class XII**, indicating continued attrition at higher stages.
- f. These trends reflect the impact of expanded secondary schooling, improved accessibility, targeted interventions, and a more supportive school environment.

2. Teachers and School Infrastructure

- a. The number of school teachers crossed **1.02 crore** for the first time, registering an **8.3% increase** over **2022–23**.
- b. **Women account for 54.9%** of the teaching workforce.
- c. **Pupil–Teacher Ratios (PTRs)** remained well below the **NEP 2020 benchmark of 30:1**:
 - i. Foundational – **10**
 - ii. Preparatory – **12**
 - iii. Middle – **17**
- d. Secondary – **21**
- e. School rationalisation continued with:
 - i. **Zero-enrolment schools** declining by **29%** to **5,663**.
 - ii. **Single-teacher schools** reducing by **3%** to **100,843**.
- f. **Girls constituted 48.4%** of total enrolment, indicating near gender parity in school education.

3. Digital and Inclusive Education

- a. School infrastructure continued to improve, with near-universal availability of basic facilities:
 - i. Safe drinking water – **99.5%**
 - ii. Girls' toilets – **98.5%**
 - iii. Boys' toilets – **97.2%**

- iv. Grid electricity – **95%**
 - b. Digital readiness also strengthened:
 - i. Computer access increased from **64.7%** to **69.9%**.
 - ii. Internet connectivity improved from **63.5%** to **67.4%**.
 - c. Schools equipped with **ramps and handrails** increased from **54.9%** to **58.2%**, improving accessibility for children with disabilities.
 - d. However, **playground availability** declined from **83%** to **81.9%**, highlighting the need to strengthen sports infrastructure.
- 4. Enrolment Profile**
- a. **Minority communities** accounted for **over 20%** of total enrolment.
 - b. Among minority students:
 - i. Muslims – **79.4%**
 - ii. Christians – **10.1%**
 - iii. Sikhs – **7.1%**
 - iv. Buddhists – **2.0%**
 - v. Jains – **1.3%**
 - vi. Parsis – **0.1%**
 - c. **Social category-wise enrolment:**
 - i. OBC – **44.9%**
 - ii. General – **27.5%**
 - iii. SC – **17.7%**
 - iv. ST – **10%**

Performance Grading Index (PGI) 2.0 Highlights

Performance of States and Union Territories

1. No **State or Union Territory** secured any of the **top three grades**, indicating considerable scope for improving school education outcomes.
2. **Chandigarh** emerged as the highest performer by attaining the '**Uttam-3**' grade.
3. **Delhi, Dadra & Nagar Haveli and Daman & Diu, Kerala, and Punjab** were placed in the '**Prachesta-1**' category, while **Himachal Pradesh, Goa, Maharashtra, Odisha, and Lakshadweep** featured in '**Prachesta-2**'.
4. Most remaining States and UTs fell under the '**Prachesta-3**' and '**Akanshi-1**' categories. The **Akanshi** category included **Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh, Jharkhand, Jammu & Kashmir, Nagaland, Arunachal Pradesh, Manipur, Mizoram, and Meghalaya**.
5. **Punjab** led in **Learning Outcomes**; **Kerala and**

Puducherry in Access; Tamil Nadu in Equity; and Kerala and Lakshadweep jointly topped **Teacher Education and Training**.

6. Compared with **2024–25**, **Madhya Pradesh, Manipur, Odisha, and Uttarakhand** recorded a decline in PGI scores.
7. The performance gap between the highest-scoring (**Chandigarh**) and lowest-scoring (**Meghalaya**) State/UT narrowed from **51% (2017–18)** to **31.4%**, indicating gradual reduction in inter-state disparities.

Significance

1. The reports indicate steady progress in improving **school access, retention, teacher availability, and infrastructure**, supporting the objectives of **NEP 2020**.
2. Improved **Pupil–Teacher Ratios**, better digital infrastructure, and enhanced accessibility are expected to strengthen the quality and inclusiveness of school education.
3. The narrowing inter-state performance gap reflects gradual improvements in educational governance and performance monitoring.
4. At the same time, persistent dropout at the secondary stage and uneven learning outcomes highlight the need for sustained policy interventions.

Challenges and Way Forward

Challenges	Way Forward
High dropout and low retention at the secondary stage.	Expand secondary schooling, strengthen scholarships, counselling, career guidance, and targeted retention programmes.
Learning outcomes remain below expectations despite improved enrolment.	Strengthen foundation-literacy and numeracy (FLN), competency-based learning, teacher capacity building, and continuous assessment.
Regional disparities in infrastructure, digital access, and teacher availability.	Ensure equitable resource allocation, targeted funding, balanced teacher deployment, and improved infrastructure in under-served regions.
Scope for improving governance and school quality, as reflected in PGI rankings.	Strengthen outcome-based monitoring, institutional accountability, and inter-state sharing of best practices.

Declining playground availability and limited emphasis on physical education.	Integrate sports infrastructure and physical education into school development planning.
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Conclusion

The **UDISE+ 2025–26** and **PGI 2.0** reports reflect encouraging progress in expanding educational access, improving school infrastructure, and strengthening institutional capacity. However, achieving the objectives of **NEP 2020** and **SDG 4 (Quality Education)** will require sustained efforts to improve **learning outcomes**, **reduce regional disparities**, **strengthen secondary-level retention**, and **ensure equitable access to quality education**.

2. Pithora Painting: Traditional Tribal Wall Art of Gujarat

Context

Pithora Painting, a traditional tribal art form of **Gujarat**, was awarded the **Geographical Indication (GI)** tag in **2026**.

About Pithora Painting

- Pithora Painting** is a traditional **ritual wall art** that originated around the **13th century** in the tribal regions of **Panchmahal** and **Chhota Udaipur** in Gujarat. It is practised mainly by the **Rathwa, Bhil, and Bhilala** tribes, who have a deep faith in **nature, ancestral spirits, and divine powers**.
- The art form is named after **Pithora De**, the tribal deity associated with **marriage, prosperity, and the well-being of the community**.
- Traditionally, the paintings are created on the walls of houses during important occasions such as **marriages, childbirth, and festivals** to invoke blessings and divine protection. They are executed by specialist ritual painters known as **Lakharas**, under the guidance of a priest called the **Badwa**.
- Walls are prepared using a mixture of **cow dung and clay**, while **natural pigments** derived from minerals, plants, and other organic materials are applied using **bamboo sticks, cotton, and wooden stencils**.
- The paintings depict **tribal and Hindu deities, horses, animals, and scenes of farming, hunting, dancing, and everyday tribal life**, reflecting the social, cultural, and religious traditions of the tribal communities.
- Although traditionally practised as **wall art**, **Pithora paintings** are now also created on **paper and canvas** for commercial purposes, helping preserve and promote the art form.

3. Maori of New Zealand

Context

During his visit to New Zealand, the Prime Minister referred to the Maori concept of '**waka**' while addressing the Indian community in Auckland, underscoring the deepening India–New Zealand partnership.

About Maori

- The **Maori** are the indigenous **Polynesian** people of New Zealand, who are believed to have settled the islands in the **early 13th century**. They constitute around **one-sixth** of the country's population, with nearly **86%** residing on the **North Island**.
- They are closely related to other **Eastern Polynesian** communities and have preserved their distinct identity despite centuries of colonial rule.
- Maori**, an **Eastern Polynesian** language of the **Austronesian** family, is one of New Zealand's **official languages**, with nearly **one-third** of the community continuing to speak it alongside English.
- The **marae** is a sacred meeting place that serves as the focal point of social, cultural and ceremonial life.
- The **Haka**, a ceremonial dance marked by rhythmic movements, chants and expressive facial gestures, is one of the most recognisable symbols of Maori heritage.
- Ta moko**, the traditional tattooing practice, uses unique designs to represent an individual's ancestry, lineage, social status and achievements.
- Traditional art, attire and customs reflect the community's deep spiritual connection with its ancestors, land and natural environment.
- Since the **1960s**, the Maori have witnessed a cultural and political resurgence centred on the revival of their language and the protection of indigenous rights. The **Treaty of Waitangi Act, 1975** established the **Waitangi Tribunal** to investigate and address historical grievances arising from breaches of the Treaty of Waitangi.
- Waka**, literally meaning '**canoe**' or '**vessel**', symbolises a shared journey, unity, cooperation and collective purpose in Maori tradition. Top of Form

4. Draft National Health Research Policy, 2026

Context

The **Department of Health Research (DHR)** has released the **Draft National Health Research Policy, 2026** for public consultation. The draft seeks to establish a **unified, innovation-driven, and outcome-oriented framework** by aligning scientific priorities with India's

disease burden, strengthening research governance, and promoting evidence-informed decision-making.

Health Research in India

Health research generates scientific evidence to improve **disease prevention, diagnosis, treatment, healthcare delivery, and public health governance**. It encompasses **biomedical sciences, clinical medicine, public health, epidemiology, health systems, digital health, behavioural sciences, and emerging technologies**.

Its key objectives are to:

1. Understand disease patterns and emerging health risks.
2. Develop vaccines, diagnostics, therapeutics, and medical technologies.
3. Strengthen healthcare delivery and emergency preparedness.
4. Support evidence-informed policymaking.

The **National Health Research Policy, 2011** provides the existing framework, which the **Draft National Health Research Policy, 2026** seeks to modernise in line with emerging health challenges and national priorities.

Key Institutions

1. **Department of Health Research (DHR)**
2. **Indian Council of Medical Research (ICMR)**
3. **All India Institute of Medical Sciences (AIIMS)** and other premier medical institutions.
4. **National Institute of Nutrition (NIN), Hyderabad**

Need for Reform

1. **Low Investment:** India spends only **0.024% of GDP** on health research, significantly below the **0.27%** average among high-income countries.
2. **Regional Disparities:** Research infrastructure and expertise remain concentrated in a few institutions and states, while many medical colleges have limited research output.
3. **Fragmented Ecosystem:** Weak coordination among government, academia, healthcare institutions, industry, and communities has resulted in duplication of efforts and inefficient use of resources.
4. **Mismatch with National Priorities:** Existing research does not adequately reflect India's disease burden, health system requirements, equity concerns, or emerging health threats.
5. **Weak Translation into Practice:** Administrative and regulatory bottlenecks delay the application of scientific findings in healthcare and public policy.

Major Provisions

1. **Enhanced Public Investment:** The policy proposes a

phased increase in government expenditure on health research:

- a. **Current: 0.024% of GDP**
- b. **By 2037: 0.072% of GDP**
- c. **By 2047: 0.15% of GDP**

2. **National Health Research Agenda: A National Health Research Agenda** will identify priority areas based on:

- a. Disease burden
- b. Emerging health threats
- c. Health system needs
- d. National priorities
- e. Equity
- f. Pandemic preparedness
- g. Strategic national interests

3. **Priority Research Areas:** The policy prioritises research on-

- a. Tuberculosis
- b. Antimicrobial Resistance (AMR)
- c. Vector-borne diseases
- d. Cancer
- e. Non-Communicable Diseases (NCDs)
- f. Mental health
- g. Anaemia
- h. Child malnutrition
- i. Women's health
- j. Maternal and neonatal mortality
- k. Primary and emergency healthcare

4. **Research Governance:** The policy proposes a **three-tier governance framework** comprising:

- a. **National Health Research Stewardship Committee** for strategic oversight.
- b. **Department of Health Research (DHR)** as the nodal implementing agency.
- c. **Indian Council of Medical Research (ICMR)** as the scientific and technical lead.

States will also be encouraged to prepare **State Health Research Agendas** aligned with local health priorities.

Strengthening the Research Ecosystem

The policy aims to:

1. Strengthen research capacity in medical colleges.
2. Foster collaboration among government, academia, healthcare institutions, industry, and communities.
3. Encourage participation by private hospitals, startups, philanthropic organisations, and **Corporate Social Responsibility (CSR)** initiatives.
4. Shift performance assessment from **publications and grants to real-world impact**, including policy influence, innovation, institutional capacity, and health outcomes,

through wider use of the **ICMR Impact of Research and Innovation Scale (ICMR-IRIS)**.

Regulatory and Ethical Reforms

1. Simplify ethics approval for multicentre studies.
2. Establish a **National Research Integrity Office (NRIO)**.
3. Promote the responsible use of **Artificial Intelligence (AI)** in health research.
4. Expand access to publicly funded laboratories, biobanks, and research infrastructure.

Significance

1. Establishes India's first **integrated national framework** for health research.
2. Aligns scientific priorities with national health needs.
3. Promotes indigenous innovation and evidence-informed policymaking.
4. Strengthens coordination among research institutions and stakeholders.
5. Expands research capacity across states and medical colleges.
6. Improves preparedness for future public health emergencies.

Implementation Challenges

1. Mobilising the proposed increase in public investment.
2. Reducing regional disparities in research infrastructure.
3. Strengthening institutional capacity across states.
4. Ensuring effective coordination among multiple stakeholders.
5. Accelerating the translation of research into healthcare delivery and public policy.
6. Maintaining ethical standards while facilitating timely research.

Conclusion

The **Draft National Health Research Policy, 2026** lays the foundation for a **more integrated, innovation-driven, and outcome-oriented health research ecosystem** in India. If implemented effectively, it can strengthen scientific capacity, improve health outcomes, and promote evidence-informed governance. Its success, however, will depend on **adequate public investment, stronger institutional capacity, cooperative federalism, and effective implementation**.

5. Changpa Community: Nomadic Pastoralists of the Changthang Region

Context

Recently, the Ladakh administration announced a series of measures to improve the livelihoods and socio-economic

well-being of the indigenous Changpa pastoral community.

About Changpa Community

1. The **Changpas** are a **semi-nomadic pastoral community** inhabiting the **Changthang region of Ladakh** in the **Trans-Himalayas**.
2. They are renowned for rearing **Pashmina (Cashmere) goats**, which form the backbone of their traditional livelihood.
3. The community follows **Buddhism** and is recognised as a **Scheduled Tribe (ST)** in India.
4. Their traditional dwellings are **conical yak-skin tents**, known as **Reboo**, which typically house the family deity and an image of their spiritual leader, usually the **Dalai Lama**.
5. Based on their lifestyle, **nomadic Changpas** are known as **Phalpa**, while those living in permanent settlements are called **Fangpa**.
6. Their major cultural traditions include **Jyabten**, a purification ritual involving food offerings to **Lord Padmasambhava**, and **Tangpe Chona**, celebrated on the **15th day of the first month of the lunar calendar**.

6. Arul Mihu Navasakthi Vinayagar Temple: The Only Hindu Temple in Seychelles

Context

The Prime Minister visited the **Arul Mihu Navasakthi Vinayagar Temple** during his recent three-day State visit to Seychelles, highlighting its cultural significance.

About Arul Mihu Navasakthi Vinayagar Temple

1. **Arul Mihu Navasakthi Vinayagar Temple** is located in **Victoria**, the capital of Seychelles, on **Mahé Island**.
2. It is the **only Hindu temple in Seychelles**.
3. Built in **1992** by the Hindu community, which constitutes about **2% of the country's population**, it is dedicated to **Lord Vinayagar (Lord Ganesha)**.
4. The shrine is designed in the **Dravidian architectural style** and resembles the traditional temples of **Tamil Nadu** and other parts of **South India**.
5. Its most distinctive feature is the **nearly 100-foot-high gopuram (entrance tower)**, adorned with brightly coloured sculptures of Hindu deities and mythological figures.
6. The **garbha griha (sanctum sanctorum)** houses the idol of **Lord Vinayagar**, while the **mandapam** serves as a venue for prayers, religious ceremonies, and community celebrations.



HISTORY

1. Ahom Dynasty and the Moidams of Assam

Context

The **Ahom Dynasty** and its funerary tradition, the **Moidams**, have recently been in the news, highlighting the historical and cultural legacy of the medieval kingdom of Assam.

About the Ahom Dynasty

1. The **Ahom Dynasty (1228–1826 CE)** was a medieval kingdom in the **Brahmaputra Valley** that remained independent for nearly **600 years** and successfully resisted **Mughal expansion** into North-East India.
2. It was founded by **Sukaphaa**, a **Shan prince** from **Mong Mao**, who entered Assam by crossing the **Patkai Mountains**.
3. The dynasty established its **suzerainty** over the **Brahmaputra Valley** and significantly influenced the region's political and social life.
4. Though later known as the **Ahom Kingdom**, it was a **multi-ethnic kingdom**, with ethnic Ahoms constituting less than **10%** of the population towards the end of its rule. Its rulers were known as **Chaopha** or **Swargadeo**.
5. Despite repeated **Mughal invasions**, including the occupation of **Garhgaon** by **Mir Jumla** in **1662**, the Ahoms defeated the Mughals under **Lachit Borphukan** in the **Battle of Saraighat (1671)**. By **1682**, Mughal influence had been completely eliminated from the region.
6. The later phase of Ahom rule was marked by the **Tungkhungia line of kings**, established by **Gadadhar Singha**.
7. The kingdom declined following the **Moamoria Rebellion** and successive **Burmese invasions**. After the **First Anglo-Burmese War**, the **Treaty of Yandabo (1826)** brought it under the control of the **British East India Company**.

About the Moidams of the Ahom Dynasty

1. **Moidams** (also spelt **Maidam**) are the **burial mounds** of Ahom kings, queens, and nobles in **Assam**.
2. The term is derived from the **Tai** words '**Phrang-Mai-Dam**' or '**Mai-Tam**', meaning '**to bury**' and

'the spirit of the dead'.

3. They are found across **Upper Assam**, with **Charaideo**, the first Ahom capital, serving as the principal royal necropolis.
4. The **Moidams** reflect **Tai-Ahom architectural traditions and foreign influences**. A typical Moidam comprises a **burial vault**, a **hemispherical earthen mound**, and a **Chaw-chali** (brick structure) enclosed by an **octagonal boundary wall** with an arched gateway.
5. During the reign of **Rudra Singha (1696–1714 CE)**, **wooden vaults** were replaced with **stone and brick** structures.
6. The burial chamber **contains** the deceased along with personal belongings such as **clothes, ornaments, and weapons**.

2. Garhwa Fort: History, Architecture and Heritage

Context

The **Central Bureau of Investigation (CBI)** has arrested the last absconding accused in the **2002 Garhwa Fort idol theft, dacoity, and murder case**.

About Garhwa Fort

1. **Garhwa Fort** is a historic **fortified Hindu temple complex** located in **Garhwa village, Prayagraj district, Uttar Pradesh**.
2. The temples within the complex date to the **Gupta period**, while the present fortifications were built around **1750 CE** by the **Baghel ruler Vikramaditya**.
3. During the **Gupta period**, the site was known as **Bhattagram** or **Bhattapraya**. It is protected as a **Monument of National Importance** by the **Archaeological Survey of India (ASI)**.
4. **Seven inscriptions** from the reigns of **Chandragupta II, Kumaragupta I, and Skandagupta** have been discovered at the site, highlighting its importance during the Gupta period.
5. The principal temple, believed to be of **Gupta origin**, follows a **Panchakona (five-sided) plan**. It consists of a **square sanctum (garbhagriha)** and a **pillared mandapa**, with an **east-facing entrance**.

6. The fort complex extends over nearly **2 km** and has **bastions at all four corners** and **two perennial stepwells**.
7. The complex preserves sculptures and inscriptions dating from the **Gupta period to the British era**. Its most notable artefact is an **11th–12th century sculpture depicting the Dashavatara (Ten Incarnations of Lord Vishnu)**.
8. Most of the sculptures have been shifted to the **State Museum, Lucknow**, for conservation.
9. **Gupta-period sculptures** are carved from **pink sandstone**, whereas **medieval-period sculptures** are carved from **grey sandstone**.

3. Guru Ravidas: Saint-Poet and Social Reformer of the Bhakti Movement

Context

Guru Ravidas was recently in the news after the Union Government named the newly inaugurated Adampur Airport in Punjab in his honour to mark his birth anniversary.

About Guru Ravidas

1. **Guru Ravidas (1377–1527 CE)** was a prominent **Bhakti saint, poet, and social reformer** who made significant contributions to the **Bhakti Movement** through his devotional hymns and teachings.
2. He is also known as **Raidas, Rohidas, and Ruhidas**.
3. He was born at **Sir Gobardhanpur**, near **Varanasi** in present-day **Uttar Pradesh**. His birthplace is now known as **Shri Guru Ravidass Janam Asthan**, and his birth anniversary is celebrated as **Ravidas Jayanti**.
4. Traditionally regarded as a disciple of **Ramananda**, he is believed to have been a contemporary of **Kabir**.
5. He composed devotional hymns and poems in local languages, which inspired a large number of devotees. **Forty-one** of his compositions are included in the **Guru Granth Sahib**, while several others are preserved in the **Panch Vani** of the **Dadu Panthi** tradition.
6. His philosophy upheld **equality, human dignity, and spiritual freedom**, while rejecting the **caste system, untouchability**, and all forms of social discrimination.
7. He envisioned an ideal society called '**Beghumpura**', a city free from sorrow, fear, and discrimination, and advocated devotion to the **Nirguna** (formless) Supreme Being over the **Saguna** (with attributes) form.
8. **Meera Bai** is believed to have accepted **Guru Ravidas** as her guru.

9. His teachings form the **basis of the Ravidassia religion**. Followers regard him as a revered Guru, follow the **Amrit Bani Guru Ravidass** as their holy scripture, and observe their own religious symbols and practices.

4. Hul Diwas and the Santhal Rebellion (1855–56)

Context

Recently, **Jharkhand** observed **Hul Diwas** to commemorate the **Santhal Rebellion (1855–56)** and pay tribute to its tribal leaders.

About Hul Diwas

1. **Hul Diwas** is observed annually on **30 June** to mark the beginning of the **Santhal Rebellion**.
2. In the **Santhali** language, '**Hul**' means **revolution, uprising, or resistance**.
3. The day symbolises the **valour, sacrifice, and cultural identity** of tribal communities, particularly in **Jharkhand, West Bengal, Bihar, Odisha, and Assam**.

Santhal Rebellion (1855–56)

1. The **Santhal Rebellion** was one of the **earliest and largest tribal uprisings** against **British rule**, the **exploitative zamindari system**, and **moneylenders (mahajans)**.
2. It began on **30 June 1855** at **Bhognadih** (present-day **Sahibganj district, Jharkhand**) and continued until **3 January 1856**, spreading across present-day **Jharkhand, Bihar, and West Bengal**.
3. The movement was led by **Sidho Murmu** and **Kanhu Murmu**, with significant contributions from **Phulo Murmu** and **Jhano Murmu**.
4. The rebellion was triggered by **land alienation**, exploitation by **moneylenders, zamindars**, and **British officials**, the erosion of **traditional tribal self-governance**, and growing **colonial oppression**.
5. The uprising led to the enactment of the **Santhal Pargana Tenancy Act, 1876**, which restricted the transfer of **Adivasi land** to non-Adivasis.

5. Mangal Pandey: A Key Figure in the Revolt of 1857

Context

The **Prime Minister** recently paid tribute to **Mangal Pandey** on his **birth anniversary**.

About Mangal Pandey

1. **Mangal Pandey (19 July 1827 – 8 April 1857)** was a **sepo**y of the **British East India Company** and is regarded as one of the earliest heroes of the **Revolt of 1857**.
2. Born in **Ballia district, Uttar Pradesh**, he joined the **British East India Company's army** in **1849** at the age of **22** and served in the **6th Company of the 34th Bengal Native Infantry** at **Barrackpore**.
3. He opposed the introduction of **cartridges allegedly greased with animal fat**, which hurt the religious sentiments of Indian soldiers.
4. On **29 March 1857**, he attacked **two British officers** at **Barrackpore**, marking the first major armed challenge that sparked the **Revolt of 1857**.
5. He was **executed on 8 April 1857** at **Barrackpore** at the age of **29**.
6. The **Revolt of 1857** led to the **Government of India Act, 1858**, which abolished the rule of the **British East India Company** and transferred the administration of India to the **British Crown**.

6. Pandya Dynasty: History and Cultural Legacy

Context

Recently, the discovery of an **800-year-old Shiva temple** from the **Later Pandya period** at **Udampatti in Madurai district, Tamil Nadu**, has highlighted the rich historical and cultural legacy of the **Pandya dynasty**.

About the Pandya dynasty.

1. The **Pandya**s were one of the **three major Tamil dynasties** of ancient South India, alongside the **Cholas** and the **Cheras**, collectively known as the **Three Crowned Kings of Tamilakam**.
2. They emerged during the **Sangam Age** and ruled parts of southern India, with brief interruptions, from around the **4th century BCE** to the **early 16th century CE**.
3. The dynasty initially ruled from **Korkai**, a major port and **pearl trading centre**, before shifting its capital to **Madurai**.
4. **Kadungon** revived Pandya power in the **6th century CE** after the **Kalabhra interregnum**.
5. Under **Maravarman Sundara Pandyan** and **Jatavarman Sundara Pandyan**, the **Later Pandya**s (1216–1345 CE) expanded their influence into the **Telugu region, Kalinga (Odisha)**, and parts of **Sri Lanka**.
6. The **Pandya**s controlled the **pearl fisheries** of the **Gulf**

of Mannar and maintained extensive maritime trade with **Sri Lanka, Southeast Asia**, and the **Roman world**.

7. Their **royal emblem** was the **twin fish**.
8. The dynasty is mentioned in **Sangam literature**, the writings of **Megasthenes**, the **Periplus of the Erythraean Sea**, and **Ptolemy**, reflecting its political and commercial importance.
9. The **Pandya**s patronised **Tamil literature, temple architecture, music, dance, and learning**. The **Meenakshi Temple** at **Madurai** and the **Nellaiappar Temple** at **Tirunelveli** are notable examples of their architectural legacy.
10. During the revived Pandya period, the **Bhakti movement** flourished with the rise of the **Nayanars** and **Alvars**, strengthening **Shaivism** and **Vaishnavism**.
11. Repeated conflicts with the **Cholas, Hoysalas**, and later the **Delhi Sultanate** led to the decline of Pandya power. After the loss of **Madurai** in **1335 CE**, a branch of the dynasty continued to rule from **Tenkasi**.

7. Rani Durgavati: Warrior Queen of Gondwana

Context

The **Madhya Pradesh Cabinet** has approved the construction of a **₹100-crore memorial** for **Rani Durgavati** at **Madan Mahal Hill, Jabalpur**. The memorial is being developed to commemorate her **500th birth anniversary** and highlight the legacy of the legendary Gond queen and the cultural heritage of **Gondwana**.

About Rani Durgavati

1. **Rani Durgavati (1524–1564)** was the queen of the **Garha-Katanga Kingdom (Gondwana)**. She belonged to the **Chandela dynasty** of **Mahoba** and was born on **5th October 1524** at **Kalinjar Fort** in present-day **Banda district, Uttar Pradesh**.
2. The **Chandela dynasty** is known for building the **Khajuraho temples** and for **King Vidyadhara's** resistance to **Mahmud of Ghazni's** invasions.
3. In **1542**, she married **Dalpat Shah**, the eldest son of **Gond ruler Sangram Shah**. This marriage strengthened relations between the **Chandela** and **Gond** dynasties.
4. After **Dalpat Shah** died around **1550**, **Rani Durgavati** became the ruler because her son, **Vir Narayan**, was still a minor.
5. Her ministers **Adhar Kayastha** and **Man Thakur** assisted her in running the administration.

6. She shifted the capital from **Singaurgarh** to **Chauragarh Fort** in the **Satpura Hills** because of its strategic location.
7. During her reign, the kingdom expanded. Trade flourished, the administration remained efficient, and the economy prospered.
8. She successfully repulsed repeated attacks by **Baz Bahadur**, the Sultan of Malwa.
9. After **Akbar annexed Malwa in 1562**, the Mughal Empire shared a border with the Gond kingdom.
10. In **1564**, she fought the Mughal forces led by **Asaf Khan**. She chose to sacrifice her life rather than surrender.

8. Soliga Tribe: An Indigenous Forest Community and a Model of Community-Based Conservation

Context

A recent study highlighted the **Soliga tribe** of the **Biligiri Rangaswamy Temple Wildlife Sanctuary (BRTWS)** as a successful example of **community-based conservation**.

About Soliga Tribe

1. The **Soliga** are an indigenous **forest-dwelling tribal community** primarily found in **Karnataka** and **Tamil Nadu**, particularly around the **Biligiri Rangana Hills** and **Male Mahadeshwara Hills**.
2. The name “**Soliga**” means “**children of bamboo**”, reflecting the community’s close cultural and spiritual connection with forests and their belief that they originated from nature.
3. In **2011**, the **Soliga** became the **first tribal community residing inside a tiger reserve** to have their **forest rights recognised through a court judgment**.
4. The community primarily speaks **Sholaga**, a **Dravidian language**, and also uses **Kannada** and **Tamil**.
5. The **Soliga** traditionally live in **single-room bamboo and mud houses** and follow a lifestyle based on **coexistence with nature**. They use indigenous knowledge to make utility items such as the ‘**jottai**’, a cup crafted from leaves.
6. Their religious practices combine **Hindu traditions**

with **animism** (the belief that natural objects possess spiritual significance) and **nature worship**.

7. Their traditional livelihood is based on **shifting cultivation** and the collection of **minor forest produce**.

9. Yadava (Seuna) Dynasty: Rule and Legacy

Context

The remains of a **12th-century Mandir-style stone pillar** of the **Yadava (Seuna) Dynasty** have been discovered near the **Vena River** in **Hinganghat, Wardha district, Maharashtra**.

About the Yadava (Seuna) Dynasty

1. The **Yadava (Seuna) Dynasty** ruled a powerful Hindu kingdom in the **Deccan** between the **12th and 14th centuries CE**.
2. Initially, they served as **feudatories of the Western Chalukyas of Kalyani** before emerging as an independent power.
3. **Bhillama V (c. 1187–1191 CE)** established the independent Yadava kingdom and made **Devagiri** (present-day **Daulatabad**) its capital.
4. Under **King Singhana (c. 1210–1247 CE)**, the kingdom reached its greatest extent, stretching from the **Narmada River** to the **Tungabhadra River** and covering present-day **Maharashtra, northern Karnataka**, and parts of **Madhya Pradesh**.
5. Under Singhana, the Yadavas expanded their kingdom through successful campaigns against the **Hoysalas, Kakatiyas, Paramaras**, and the **Chalukyas**.
6. During the reign of **Ramachandra (1271–c.1309 CE)**, **Alauddin Khalji** invaded **Devagiri** in **1294 CE**, forcing the Yadavas to accept the suzerainty of the **Delhi Sultanate**.
7. After Ramachandra’s death, his successor’s attempt to regain independence failed, and the kingdom was **annexed by the Khalji Empire in 1317 CE**.
8. The Yadavas played an important role in the development of **Marathi language and culture**.
9. The dynasty is also associated with the **Hemadpanti style of architecture**, which uses **large stone blocks laid without mortar**.



SCHEMES IN NEWS

1. Agnipath Scheme: Review of the Agniveer Retention Policy

Context

As the **first batch of Agniveers** completes its four-year tenure in **2026**, the Indian Armed Forces are reviewing the **25% retention policy**. The review follows operational experience gained from the first batch and reflects efforts to align the scheme with technological modernisation, evolving security needs, and long-term military manpower planning.

Agnipath Scheme

Overview

1. Launched in **2022**, the **Agnipath Scheme** is a short-term recruitment model for personnel below officer rank in the **Indian Army, Indian Navy, and Indian Air Force**.
2. Under the scheme:
 - a. Youth aged **17.5–23 years** are recruited as **Agniveers**.
 - b. They serve for **four years**, including **six months of training**.
3. The scheme aims to:
 - a. Reduce the average age of the Armed Forces from **around 32 years to 26 years**.
 - b. Build a younger, agile, and technology-oriented force.
 - c. Enhance operational effectiveness.
 - d. Rationalise long-term pension expenditure.

Service Conditions

1. During service, Agniveers receive:
 - a. Pay and allowances comparable to regular personnel.
 - b. Leave, medical, and welfare benefits.
2. On completion of service:
 - a. A **tax-free Seva Nidhi package** of about **₹11.71 lakh**.
 - b. No pensionary benefits.
3. Additional benefits include:
 - a. Disability compensation based on the degree of disability.
 - b. Financial assistance to the family in case of death during service.

Existing Retention Framework

1. Currently, **up to 25%** of Agniveers are **re-enrolled** as regular soldiers, sailors, or airmen based on:
 - a. Merit,
 - b. Performance, and
 - c. Willingness to continue service.

2. The remaining Agniveers are released after completing their four-year tenure.

Post-Service Opportunities

The Government has introduced several measures to facilitate the resettlement of former Agniveers.

1. **Central Government employment: 10% reservation** for eligible Agniveers in the **Central Armed Police Forces (CAPFs), Assam Rifles, Indian Coast Guard, and Defence Public Sector Undertakings (DPSUs)**.
2. **Civilian employment:** Initiatives to facilitate induction into the **merchant navy** and other sectors through inter-ministerial coordination.

Proposal for Higher Retention

The Armed Forces are examining the possibility of increasing the retention ceiling based on operational and service-specific requirements.

Proposals under consideration include:

1. **Indian Navy:** Retention of around **75%** of Agniveers.
2. **Indian Army and Indian Air Force:** Retention of around **50%**.

These proposals are currently under consideration and will be examined by the **Department of Military Affairs (DMA)** before any policy decision is taken.

Rationale for Revising the Retention Policy

Factor	Significance
Operational Capability	Retaining trained Agniveers preserves combat skills, operational experience, and mission readiness.
Technological Modernisation	Advanced weapon systems and platforms require experienced personnel, particularly in the Navy and Air Force.
Manpower Management	Higher retention can help address personnel shortages while maintaining continuity within units.
Force Effectiveness	Longer service strengthens leadership, unit cohesion, discipline, and institutional knowledge.
Lessons from Operational Deployments	Recent operational experience has highlighted the value of experienced personnel in enhancing decision-making and operational efficiency.

Alternative Retention Model

The Armed Forces are also considering a **differentiated retention model**, under which:

1. Higher retention may be adopted in **specialised and technology-intensive units**.
2. Conventional combat units may continue with the existing retention pattern.
3. Specialised formations, such as the proposed **Bhairav battalions**, could serve as a model for this approach.

Significance for Defence Reforms

The review seeks to balance two key objectives:

1. Maintaining a **young, agile, and technology-enabled force**.
2. Ensuring the availability of **experienced and technically skilled personnel** for emerging operational requirements.

The outcome of the review is likely to influence:

1. Military human resource management.
2. Operational preparedness.
3. Defence modernisation.
4. Long-term force restructuring.

Way Forward

Priority Area	Measures
Retention Policy	Periodically review retention based on operational experience and service-specific requirements.
Capability Development	Align retention with the increasing demand for specialised and technology-intensive roles.
Human Resource Management	Balance youthful recruitment with the retention of experienced personnel.
Skill Transition	Expand skill certification, lateral entry opportunities, and industry partnerships to improve post-service employability.
Resettlement Support	Strengthen rehabilitation measures and employment opportunities for released Agniveers.

Continuous Assessment	Regularly evaluate the scheme based on operational feedback and evolving security requirements.
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Significance of the Scheme

1. Promotes a younger, agile, and technology-enabled Armed Forces.
2. Enhances operational readiness through continuous induction of trained personnel.
3. Supports defence modernisation by aligning manpower with future warfare requirements.
4. Rationalises long-term pension expenditure.
5. Creates a pool of disciplined, skilled, and employable youth for civilian sectors after military service.

Conclusion

The review of the **Agniveer retention policy** reflects the evolving nature of the **Agnipath Scheme**. Going forward, its success will depend on maintaining a balance between a youthful force profile and the retention of experienced, technically skilled personnel. A calibrated, evidence-based approach, supported by continuous policy review and effective post-service rehabilitation, will be essential for strengthening operational capability and advancing India's long-term defence modernisation.

2. Atal Beemit Vyakti Kalyan Yojana (ABVKY): Unemployment Relief for ESI-Insured Workers

Context

The **Employees' State Insurance Corporation (ESIC)** has approved the extension of the **Atal Beemit Vyakti Kalyan Yojana (ABVKY)** from **1st July 2026** to **30th June 2027**.

About Atal Beemit Vyakti Kalyan Yojana (ABVKY)

1. The **Atal Beemit Vyakti Kalyan Yojana (ABVKY)** is an **unemployment relief scheme** launched on **1st July 2018** for workers covered under the **Employees' State Insurance (ESI) Act, 1948**. It is implemented by the **Employees' State Insurance Corporation (ESIC)**.
2. The scheme provides **temporary income support** to insured employees who lose their jobs while they search for new employment.

Salient Features

1. **Financial Assistance:** Eligible beneficiaries receive **50% of their average daily earnings**, calculated on the basis of the **previous four contribution periods**.
2. **Benefit Period:** Relief is payable for a maximum of **90 days of unemployment**.
3. **One-Time Benefit:** The benefit can be availed **only once during the lifetime** of an insured person.
4. **Claim Submission:** Claims can be submitted **after becoming unemployed**, but **not later than one year** from the date of unemployment.

Eligibility Criteria

An insured person is eligible to receive relief if he or she:

1. Is covered under **Section 2(9) of the ESI Act, 1948**.
2. Is **unemployed** during the claim period.
3. Has completed at least **two years of insurable employment**.
4. Has contributed for **at least 78 days** during each of the **previous four contribution periods**.
5. The employer has **paid or is liable to pay** the prescribed ESI contributions.
6. Has linked **Aadhaar** and **bank account**.

Exclusions

Relief under the scheme is **not admissible** in the following cases:

1. During a **lockout**.
2. During an **illegal strike** declared by the competent authority.
3. **Voluntary abandonment of employment, voluntary retirement, or premature retirement**.
4. Completion of **less than two years of contributory service**.
5. On attaining the age of **superannuation**.
6. Conviction under **Section 84 of the ESI Act** read with **Rule 62 of the ESI (Central) Rules**.
7. **Re-employment** during the period of receiving relief under the scheme.
8. **Dismissal or termination** due to disciplinary action.
9. **Death** of the insured person.

3. Ayushman Sarathi (PM-JAY WhatsApp Chatbot)

Context

The Centre has introduced Ayushman Sarathi, an official WhatsApp-based digital platform to enable beneficiaries to access a wide range of services under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY).

About Ayushman Sarathi

1. It is developed by the **National Health Authority (NHA)** to simplify access to services under the **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)**.
2. Built on **secure API integration** with the PM-JAY digital platform, it enables beneficiaries to access multiple scheme services through a single digital interface with real-time support.
3. The chatbot allows users to **verify eligibility**, generate and download the **Ayushman Card**, complete **eKYC**, link **Aadhaar**, and use **card management features**, including locking and unlocking their PM-JAY card.
4. It also enables beneficiaries to **view their treatment history and wallet balance**, locate **empanelled hospitals**, and access essential scheme-related details.
5. The platform incorporates an **integrated grievance redressal mechanism**, allowing users to register, track, or withdraw grievances, request a callback, and submit feedback after treatment.
6. **Senior citizens aged 70 years and above** can access and download the **Ayushman Vaya Vandana Card**, which provides **health insurance coverage of up to ₹5 lakh** under the scheme.
7. By providing **24×7 digital access** to PM-JAY services, the chatbot reduces the need for physical visits and enhances **accessible, efficient, and citizen-centric service delivery**.
8. Beneficiaries can access the chatbot by sending **“Hi”** to the official PM-JAY WhatsApp number **+91 72908 23838** or by scanning the designated QR code.

4. BHAVYA Rasayan Scheme: Promoting Integrated Growth of India's Chemical Industry

Context

The **Union Cabinet** has approved the **Bharat Audyogik Vikas Yojana (BHAVYA) – Rasayan Scheme** for establishing **three dedicated chemical parks** across the country.

About Bharat Audyogik Vikas Yojana (BHAVYA) – Rasayan Scheme

1. The BHAVYA Rasayan Scheme aims to establish **three dedicated chemical parks** to promote the development of the **entire chemical value chain**, including **upstream, downstream, and ancillary industries**.
2. It seeks to create integrated industrial ecosystems with modern common infrastructure to enhance the efficiency

and competitiveness of India's chemical sector.

3. **Implementation Period: FY 2026–27 to FY 2030–31** (five years).
4. **Financial Outlay: ₹3,030 crore**, comprising:
 - a. **₹3,000 crore** for developing common infrastructure and basic utilities within the chemical parks.
 - b. **₹30 crore** for administrative expenses.

Salient Features

1. **Central Financial Assistance:** The Central Government will provide **up to ₹1,000 crore** for each chemical park, subject to a **minimum contribution of ₹500 crore** by the respective state government.
2. **Selection Process:** Chemical parks will be developed by **state governments** through a **challenge-based selection process**.
3. **Land Requirement:** Each park must have at least **2,000 acres (8 sq. km.)** of **contiguous, encumbrance-free land**.
4. **Plug-and-Play Infrastructure:** The parks will provide ready-to-use industrial infrastructure, including:
 - a. **Common Effluent Treatment Plants (CETPs)** for industrial wastewater treatment.
 - b. **Treatment, Storage and Disposal Facilities (TSDFs)** for hazardous waste management.
 - c. Water supply and distribution systems.
 - d. Solvent recovery and distillation facilities.
 - e. Steam generation and distribution networks.
 - f. Interconnected pipeline systems.
 - g. Logistics and warehousing infrastructure.

5. DAANVEER Initiative

Context

The **Ministry of Panchayati Raj** has launched the **DAANVEER Initiative**, a citizen participation programme to facilitate voluntary computer donations for strengthening the digital infrastructure of **Gram Panchayats**.

About the Initiative

1. The initiative aims to strengthen the digital infrastructure and administrative capacity of Gram Panchayats, thereby promoting digital governance and improving public service delivery at the grassroots.
2. It is implemented through the **Meri Panchayat** mobile application.
3. The initiative has been developed in collaboration with the **National Informatics Centre (NIC)** and integrated with **DigiHaat** to facilitate a seamless,

transparent, and technology-driven donation process.

Key Features

1. Provides an **end-to-end digital, transparent, and verifiable platform** for voluntary computer donations.
2. Operates through the **Meri Panchayat** mobile application integrated with the **DigiHaat** marketplace.
3. Enables donors to select **pre-approved computer bundles** based on **state-specific technical specifications**.
4. Automatically generates delivery details, reducing paperwork and streamlining logistics.
5. Facilitates **real-time tracking** of donated computers from dispatch to installation.
6. Issues a **digital certificate of appreciation** to recognise donor contributions.

Significance

1. **Strengthens Grassroots Governance:** Enhances the digital infrastructure and administrative capacity of **Gram Panchayats**, enabling efficient record management, digital administration, and better local governance.
2. **Promotes Participatory Governance:** Encourages citizens, institutions, and organisations to directly contribute to strengthening Panchayati Raj Institutions through voluntary participation.
3. **Improves Public Service Delivery:** Facilitates the effective implementation of digital governance initiatives, leading to faster, transparent, and citizen-centric service delivery at the grassroots.
4. **Supports Rural Digital Transformation:** Advances the vision of a **Digitally Empowered and Self-Reliant Rural India** by expanding digital infrastructure and technology adoption in rural areas.

6. Indiahandmade: Digital Marketplace for Handloom and Handicrafts

Context

The **Indiahandmade** platform has emerged as a digital marketplace to promote India's traditional handloom and handicraft products by connecting artisans and weavers directly with consumers.

About Indiahandmade

1. The Digital India Corporation, under the **Ministry of Textiles**, developed and launched the platform in 2023 to help handloom weavers and handicraft artisans sell their products through online markets.
2. The platform enables artisans to **sell directly to consumers**, reducing dependence on intermediaries

and enabling better price realisation.

3. It promotes the **economic and social empowerment** of artisans by facilitating their participation in digital commerce.
4. The marketplace features products across categories such as **apparel, home decor, furnishings, paintings, furniture, jewellery, bags, footwear, stationery, musical instruments, and religious articles**.
5. It also showcases **Geographical Indication (GI)-tagged and One District One Product (ODOP)** items, promoting region-specific crafts and strengthening market access for traditional products.
6. Buyers benefit from **secure payment systems, free shipping, purchase protection, and customer support**.
7. Artisans without **GST registration** can enrol using an **Enrolment ID** to sell products within their respective states, lowering entry barriers for **small artisans and first-time digital sellers**.
8. The platform provides **guided onboarding** and digital support to help artisans participate effectively in e-commerce.
9. It also showcases the **success stories of artisan enterprises**, helping preserve and promote India's traditional craft heritage.

7. Mobile Phone Manufacturing Scheme (MPMS)

Context

The Union Cabinet has approved the **Mobile Phone Manufacturing Scheme (MPMS)** with an outlay of **₹62,500 crore** to increase domestic value addition, foster indigenous innovation, and promote globally competitive Indian smartphone brands.

About the Scheme

1. The **Mobile Phone Manufacturing Scheme (MPMS)** will be implemented for **five years (FY 2026–27 to FY 2030–31)**.
2. It succeeds the **Production Linked Incentive (PLI) Scheme for Large-Scale Electronics Manufacturing**, which concluded on **31 March 2026**.
3. The scheme seeks to move India beyond **assembly-led manufacturing** by promoting **design, innovation, domestic component manufacturing, and indigenous brand development**.

Key Features

1. Manufacturers will receive **performance-linked incentives ranging from 2.25% to 5%** on eligible sales.
2. An **additional incentive of up to 1.5%** will be provided for the **domestic sourcing of key components and sub-assemblies**.
3. Indian companies investing in **product design, research and development (R&D), and innovation** will receive an **additional 3% incentive**.
4. The scheme also promotes **exports, domestic value addition, and component manufacturing**, thereby strengthening India's electronics manufacturing capabilities.

Targets

1. Achieve **mobile phone production worth about ₹39 lakh crore** during the scheme period.
2. Significantly increase **mobile phone exports**.
3. Generate around **60,000 direct jobs**.
4. Enhance India's role in **global electronics value chains**.

Need for the Scheme

1. Although India manufactures most smartphones sold in the domestic market, a significant share of the economic value is retained through **foreign-owned technology, intellectual property, components, and brands**, whereas assembly contributes only a small share of the overall value.
2. The scheme aims to increase **domestic value addition**, promote **technological self-reliance**, encourage **innovation and patent creation**, and support the emergence of globally competitive Indian smartphone brands.
3. It also seeks to bridge the cost disadvantage faced by Indian manufacturers, enabling them to compete more effectively in domestic and international markets.

Decline of Indian Smartphone Brands

1. Companies such as **Micromax, Karbonn, and Lava** built a strong presence in the feature-phone and budget handset segments but struggled to keep pace with the rapid shift towards smartphones.
2. In contrast, Chinese brands gained market leadership through **competitive pricing, faster product innovation, extensive marketing, robust distribution networks, and efficient after-sales service**.

India's Mobile Manufacturing Journey

1. Under the **Make in India** initiative, mobile phone production increased from **₹18,900 crore in 2014–15** to **₹6.27 lakh crore in 2025–26**.
2. Mobile phone exports rose from **₹1,566 crore** to **₹2.60 lakh crore** during the same period.
3. India is now the **world's second-largest mobile phone manufacturer by volume**, with **over 99% of mobile phones sold in the domestic market manufactured in India**.
4. Smartphones have **emerged as India's largest merchandise export category**.
5. The earlier **PLI Scheme** attracted significant investment, expanded production and exports, and laid a strong foundation for the MPMS.

Significance

1. The scheme is expected to **reduce import dependence, increase domestic value addition, attract investment, and generate skilled employment**.
2. It will strengthen **technology development and component manufacturing**, making India's electronics ecosystem more competitive and improving its position in global value chains.
3. By promoting **innovation, indigenous capabilities, and brand ownership**, the scheme supports the vision of **Viksit Bharat** and positions India as a global hub for electronics manufacturing.

Challenges

1. Developing globally competitive smartphone brands will require sustained investment in **technology, innovation, intellectual property, and branding**.
2. Indian manufacturers face intense competition from established global players with **integrated supply chains, economies of scale, advanced technological capabilities, and strong global brands**.
3. Long-term success will depend on expanding **domestic component manufacturing**, strengthening **research and development**, and reducing dependence on imported technologies.

Conclusion

The **Mobile Phone Manufacturing Scheme (MPMS)** marks the next stage of India's electronics manufacturing strategy. By promoting **innovation, higher domestic value addition, component manufacturing, and indigenous brand development**, it seeks to strengthen India's position in global electronics value chains while advancing the objectives of **Make in India, Atmanirbhar Bharat**, and **Viksit Bharat**. Its long-term success, however, will depend on sustained investment in technology, research,

and a globally competitive component ecosystem.

8. PARIVARTAN Scheme for Cleaner Commercial Vehicles in the National Capital Region (NCR)

Context

Recently, the Ministry of Housing and Urban Affairs (MoHUA) approved the **Guidelines for the PARIVARTAN Scheme** to accelerate the replacement of ageing commercial vehicles in the National Capital Region (NCR).

About the PARIVARTAN Scheme

1. **PARIVARTAN (Programme for Accelerated Renewal and Incentivization of Vehicle Assets for Reducing Transport Air Pollution and Network Emissions)** is a Central Government initiative to replace ageing, high-emission trucks and buses in the **National Capital Region (NCR)** with **Bharat Stage (BS)-VI-compliant or electric vehicles (EVs)**.
2. The scheme is funded by the **National Capital Region Planning Board (NCRPB)**.
3. The Governments of **Delhi (NCT), Haryana, Uttar Pradesh, and Rajasthan** have issued notifications granting **Motor Vehicle Tax concessions** to support the scheme's implementation.

Key Incentives

1. **Motor Vehicle Tax concessions and waiver of registration fees** for eligible replacement vehicles.
2. **5% interest subvention** on vehicle loans.
3. A minimum **8% discount** from **Original Equipment Manufacturers (OEMs)** on eligible new vehicles.
4. **Monthly fuel vouchers** for eligible diesel and CNG replacement vehicles.
5. **One-time financial assistance** for eligible electric replacement vehicles.
6. Benefits through **Certificate of Deposit (CoD)** trading.

Digital Implementation

1. The scheme will be implemented through an integrated digital platform linked with **VAHAN, V-Scrap, DigiELV**, the **Public Financial Management System (PFMS)**, and participating lenders.
2. The platform will integrate vehicle scrappage, incentive disbursal, and financial assistance through a seamless digital interface.

9. PM-YASASVI Scheme (Prime Minister Young Achievers Scholarship Award Scheme for Vibrant India)

Context

The **Minister of State for Social Justice and Empowerment** recently informed the **Lok Sabha** about the implementation of the **PM-YASASVI Scheme**.

About the Scheme

1. **PM-YASASVI (Prime Minister Young Achievers Scholarship Award Scheme for Vibrant India)** is a **Central Sector umbrella scheme** that provides scholarship support to eligible students belonging to **Other Backward Classes (OBCs), Economically Backward Classes (EBCs), and Denotified Tribes (DNTs)**.
2. The scheme aims to promote **inclusive, equitable, and quality education** by reducing financial barriers for disadvantaged students.
3. It is implemented by the **Department of Social Justice and Empowerment** under the **Ministry of Social Justice and Empowerment**.

Key Features

1. Integrates multiple scholarship programmes under a **single umbrella framework**.
2. Extends scholarship support from the **pre-matric level to higher education**, ensuring continuity in education.
3. **Eligibility:** Annual family income should **not exceed ₹2.5 lakh**.

10. Special Assistance to States for Capital Investment (SASCI) Scheme

Context

Recently, the Union Government extended financial support under the Special Assistance to States for Capital Investment (SASCI) Scheme to 28 infrastructure projects proposed by the Delhi Government.

About Special Assistance to States for Capital Investment (SASCI) Scheme

1. **Special Assistance to States for Capital Investment (SASCI)** is a **Ministry of Finance** scheme that provides financial assistance to **States and Union Territories** for **capital expenditure projects**.
2. It was **launched in 2020–21** to sustain public investment during the economic disruptions caused by the **COVID-19 pandemic**.
3. Under the scheme, the Centre provides **50-year interest-free loans** to support **capital expenditure** by States and Union Territories.
4. It also offers **reform-linked incentives** to encourage States to undertake higher **capital expenditure**.
5. Financial assistance is provided to **projects selected from proposals submitted by the respective State Governments**.
6. The scheme also supports the **integrated development of tourism infrastructure**, including end-to-end tourist facilities, tourism value-chain development, quality design, and sustainable operation and maintenance.



ETHICS

1. Tolerance: An Essential Ethical Value in Public Service

India's rich diversity in religion, language, culture, ethnicity, and traditions requires not only constitutional safeguards but also ethical values that promote mutual respect and peaceful coexistence. Tolerance is one such value that enables individuals and institutions to accommodate differences while preserving social harmony. For civil servants, it is indispensable for ensuring impartial, inclusive, and citizen-centric governance.

“Mutual tolerance is a necessity for all times and all races.” — Mahatma Gandhi

Meaning of Tolerance

Tolerance is the ethical virtue of respecting and accommodating differences in beliefs, opinions, identities, cultures, and ways of life while upholding human dignity, constitutional values, and peaceful coexistence. It involves recognising the right of others to hold views different from one's own without prejudice, hostility, or discrimination.

Tolerance does not require agreement with every opinion or practice. Rather, it reflects openness, mutual respect, and the ability to coexist peacefully despite differences.

Voltaire: *“I may disagree with what you say, but I will defend your right to say it.”*

Tolerance in the Indian Ethos

Tolerance has been an enduring feature of Indian civilisation.

1. Indian civilisation evolved through the accommodation of diverse religious, philosophical, and cultural traditions, reflecting a deep commitment to pluralism.
2. Emperor Ashoka advocated respect for all faiths and promoted peaceful coexistence through his edicts.
3. The Bhakti and Sufi traditions fostered inclusiveness and social harmony by transcending sectarian divisions.
4. Akbar's policy of **Sulh-i-Kul** emphasised equal respect for all religions and encouraged dialogue among communities.
5. The Indian Constitution institutionalises tolerance through the values of justice, liberty, equality, fraternity, and secularism.
6. India's tradition of providing refuge to communities such as Parsis, Jews, and Tibetans reflects its enduring culture of acceptance.

India's unity amidst diversity is rooted in this long-standing tradition of accommodation and mutual respect.

Significance of Tolerance in Public Service

1. **Ensures Objectivity and Impartiality:** Tolerance enables civil servants to rise above personal biases and make decisions based on law, evidence, and public interest.
2. **Facilitates Inclusive Governance:** It helps administrators understand and respond effectively to the needs of diverse communities, ensuring equitable delivery of public services.
3. **Upholds Constitutional Morality:** Tolerance reinforces the constitutional ideals of justice, liberty, equality, and fraternity, ensuring fair treatment of all citizens.
4. **Promotes Social Harmony:** A tolerant administration can address communal, caste, and identity-based tensions through balanced, lawful, and non-discriminatory action.
5. **Strengthens Democratic Values:** Democracy thrives on diversity, dialogue, and dissent. Tolerance enables public servants to respect differing viewpoints while safeguarding constitutional rights.
6. **Enhances Administrative Effectiveness and Citizen-Centric Governance:** Tolerance enables civil servants to engage sensitively with diverse stakeholders, adapt to varying socio-cultural contexts, and deliver responsive, people-centric governance.
7. **Protects Human Dignity and Rights:** It safeguards the interests of minorities, vulnerable groups, and dissenting voices, thereby strengthening social justice and inclusiveness.

Tolerance Is Not Permissiveness

Tolerance is a virtue, but it cannot become an excuse for accepting injustice, illegality, or unethical conduct. Respect for diversity must operate within the framework of justice and constitutional morality.

1. **No tolerance for injustice and violence:** Corruption, terrorism, discrimination, trafficking, and human rights violations cannot be justified in the name of tolerance.
2. **Subject to constitutional values:** Activities that threaten public order, national security, or fundamental rights cannot be accepted.
3. **Accountability must accompany empathy:** Respect for differing views should not prevent firm action against unlawful conduct.
4. **Protection of vulnerable groups:** Tolerance should never legitimise exploitation, exclusion, or oppression.
5. **Rule of law above personal preferences:** Administrative decisions must be guided by constitutional principles rather than individual beliefs.

As illustrated by the **Shishupala episode in the Mahabharata**, tolerance must be balanced with justice and

accountability.

Conclusion

Tolerance is the cornerstone of ethical governance in a plural society. It enables civil servants to respect diversity, uphold constitutional values, and foster social harmony. However, tolerance must always be balanced with justice,

accountability, and the rule of law. In a diverse nation like India, it serves as the foundation of social harmony, constitutional governance, and ethical public service.



PLACES IN NEWS

Place	Context	Key Highlights
Costa Rica	India and Costa Rica held the inaugural meeting of the Joint Economic and Trade Committee (JETCO), marking a significant step towards strengthening bilateral cooperation in trade, investment, and economic relations.	Costa Rica is a Central American country with San José as its capital. - It shares land borders with Nicaragua to the north and Panama to the southeast, while the Pacific Ocean lies to its west and the Caribbean Sea to its east. - The Central Valley, the country's principal population and economic centre, is situated between the Cordillera Volcánica in the north and the Cordillera de Talamanca in the south. Mount Chirripó (3,821 m), located in the Cordillera de Talamanca, is the highest peak. - Prominent volcanic features include Arenal, Poás and Irazú, while Lake Arenal is the largest lake. - Important rivers include the Reventazón, which flows into the Caribbean Sea, the Tempisque, the Sierpe, and the San Juan, which forms part of the Costa Rica–Nicaragua border. - The country is endowed with mineral resources such as copper, manganese, gold, magnetite and bauxite.
2. Greece	Recently, the Union Minister for Commerce and Industry discussed strengthening India–Greece economic ties by enhancing cooperation in financial services, fintech, digital payments, and emerging technologies .	Greece, with Athens as its capital, is situated at the southern end of the Balkan Peninsula in southeastern Europe. - It occupies a strategic position between Europe, Asia, and the Mediterranean, giving it considerable geopolitical and maritime significance. - The country is bordered by Albania, North Macedonia, Bulgaria, and Turkey, while the Aegean Sea, Ionian Sea, and the Mediterranean Sea surround its eastern, western, and southern coasts, respectively. - Approximately 80% of its landscape is covered by mountains and hills, making Greece one of Europe's most mountainous countries. It experiences a Mediterranean climate, with hot, dry summers and mild, wet winters. - The Pindus Mountain Range forms the country's principal mountain system and includes the Vikos Gorge, one of the deepest gorges in the world. Mount Olympus, at 2,918 metres, is Greece's highest peak. - Important rivers associated with Greece include the Maritsa (Evros), Struma (Strymon), and Vardar (Axios). - Greece possesses a variety of natural resources, including petroleum, lignite, magnetite, bauxite, marble, and hydropower.

3. Maldives	The successful completion of the first round of India–Maldives Free Trade Agreement (FTA) negotiations has highlighted the Maldives’ strategic location and its importance in the Indian Ocean Region.	1. The Maldives is an island country in the Indian Ocean, located in the Arabian Sea region, about 700 km southwest of mainland India. 2. It consists of more than 1,110 islands grouped into a double chain of 26 natural atolls. Its capital is Malé. 3. The Eight Degree Channel, located between Lakshadweep and the Maldives, is an important sea route and holds strategic importance for India’s maritime security and trade. 4. The islands are low-lying and mainly consist of sandy land and marshy wetlands. 5. The Maldives has the world’s seventh-largest coral reef system, covering about 3.14% of the global coral reef area. 6. The islands have an average elevation of less than 1.7 metres above mean sea level, making the Maldives one of the lowest-lying countries in the world and highly vulnerable to sea-level rise. 7. Gan Island, located in the Laamu Atoll, is the country’s largest island.
4. Peru	India and Peru have taken a step closer to finalising a bilateral trade agreement with the successful conclusion of the ninth round of negotiations held in Peru.	1. Peru, with Lima as its capital, is the third-largest country in South America after Brazil and Argentina. It is located in western South America, just south of the Equator. 2. It is bounded by the Pacific Ocean to the west and shares land borders with Ecuador (north), Brazil (east), Bolivia (southeast), and Chile (south). 3. Peru is divided into three distinct geographical regions—the Costa (coastal plain), the Sierra (Andean highlands), and the Amazonia (Amazon rainforest). 4. The Andes Mountains traverse the country and comprise the Occidental, Central, and Oriental Cordilleras. Mount Huascarán (6,768 m) is Peru’s highest peak. 5. Major rivers include the Amazon, Ucayali, and Madre de Dios, while Lake Titicaca, shared with Bolivia, is the world’s highest navigable lake. 6. Peru experiences diverse climatic conditions, ranging from arid along the Pacific coast to temperate and frigid in the Andes, and tropical in the Amazon Basin. 7. Major natural resources include copper, silver, gold, petroleum, natural gas, iron ore, coal, phosphate, potash, and timber.
5. Qatar	Recently, India and Qatar reviewed the progress of their bilateral partnership during a meeting between India’s External Affairs Minister and the Prime Minister of Qatar, with discussions focusing on strengthening cooperation across key sectors.	1. Qatar, with Doha as its capital, is situated on the Qatar Peninsula along the western coast of the Persian Gulf, in the northeastern part of the Arabian Peninsula. 2. It shares its only land border with Saudi Arabia to the south and is otherwise surrounded by the Persian Gulf. 3. The country is characterised by a low-lying, arid desert landscape, with extensive sand dunes concentrated in the southern region. 4. Sabkhas (salt flats) and wadis (seasonal river valleys) are among its distinctive physical features. 5. Qurain Abu al-Bawl is the country’s highest point. 6. Qatar possesses vast reserves of oil and natural gas, which form the backbone of its economy.

6. Sudan	Recently, Sudan was in the news after UNICEF highlighted the severe impact of the ongoing civil conflict, reporting that more than 300 children were killed or injured over a six-month period.	1. Sudan is a Northeast African country, with Khartoum as its capital. 2. It shares land borders with Egypt (north), Libya (northwest), Chad and the Central African Republic (west), South Sudan (south), and Eritrea and Ethiopia (east). It also has a coastline along the Red Sea. 3. The country's terrain is dominated by extensive plains and plateaus, drained by the Nile River system. 4. The Nile River system flows from south to north across Sudan and serves as the country's dominant river system. 5. Sudan experiences a gradual climatic transition from arid desert conditions in the north to semi-arid regions in the centre and tropical savannah in the south. 6. Jabal Marrah is the country's highest point. 7. Major natural resources include petroleum, hydropower potential, and deposits of gold, silver, iron ore, copper, chromium, zinc, tungsten, and mica.
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ESSAY

1. The time to repair the roof is when the Sun is shining

A timeless fable narrates the story of **the ant and the grasshopper**. While the grasshopper spent the summer enjoying the pleasant weather, the ant quietly gathered food and strengthened its shelter. When winter arrived, the ant survived because it had prepared in advance, whereas the grasshopper struggled for survival. The story conveys a timeless truth: **resilience is built during periods of stability, not in the midst of adversity**.

The statement, “**The time to repair the roof is when the Sun is shining**,” captures this wisdom. Literally, it advises that essential repairs should be undertaken when conditions are favourable rather than postponed until adversity makes them difficult or impossible. Symbolically, the **roof** represents the institutions, systems and values that sustain individuals and societies, while the **sun** signifies periods of peace, stability and opportunity. At its core, the quotation is a call for **foresight**—the ability to recognise emerging challenges and strengthen foundations before they are tested. Enduring progress is rarely the result of crisis management; it is built through timely preparation and responsible action.

History repeatedly validates this principle. Civilizations seldom decline because of a single event; rather, crises expose weaknesses that have accumulated through years of neglect. The fall of the **Mughal Empire** reflected prolonged administrative decay and weakening institutions rather than a single military defeat. Likewise, the **Treaty of Versailles**, by prioritising punishment over reconciliation after the First World War, sowed the seeds of another global conflict. These examples illustrate that neglecting structural challenges today often creates far greater crises tomorrow. Yet history also demonstrates that timely preparation creates opportunity. India's sustained investment in **ISRO** over several decades enabled achievements such as **Chandrayaan** and **Mangalyaan**, proving that patient institution-building can transform long-term vision into national accomplishment.

The importance of foresight extends beyond history to the functioning of modern societies and democratic institutions. The **COVID-19 pandemic** demonstrated that countries with stronger healthcare systems and better public preparedness responded more effectively to an unprecedented global emergency. Similarly, democratic resilience depends upon institutions that evolve with changing circumstances. Measures such as the **Right to Information Act, 2005**, the **Basic Structure Doctrine** established in the **Kesavananda Bharati** judgment and the **Digital Personal Data Protection Act, 2023** illustrate how timely reforms strengthen transparency, constitutional governance and public trust before deeper institutional challenges emerge.

Economic development reinforces the same lesson. India's **1991 economic reforms** highlighted the importance of undertaking structural reforms before economic vulnerabilities become unmanageable. Building on that experience,

initiatives such as the **Jan Dhan–Aadhaar–Mobile (JAM) Trinity** strengthened financial inclusion and improved welfare delivery, while investments in education, healthcare and skill development remain essential to convert India's **demographic dividend** into sustained national growth. These measures demonstrate that economic resilience depends not merely on responding to crises but on preparing for future opportunities.

Whether viewed through the lens of history, governance or economic development, the evidence is unmistakable: societies that invest in preparedness during periods of stability are better equipped to confront uncertainty. This timeless principle becomes even more relevant in the twenty-first century, where technological transformation, climate change and global interdependence are reshaping the nature of future challenges, demanding not merely reactive governance but the wisdom to prepare well in advance.

The relevance of this philosophy becomes even more apparent in the twenty-first century, where technological disruption, environmental degradation and global interdependence have made preparedness an essential condition for sustainable development. Unlike many traditional challenges, today's risks evolve gradually, transcend national boundaries and often remain unnoticed until their consequences become severe. In such a world, societies can no longer rely solely on reactive measures; they must cultivate the foresight to anticipate change and strengthen their capacity to respond.

The rapid advancement of **science and technology** best illustrates this reality. Innovations such as **Artificial Intelligence (AI)** promise unprecedented improvements in productivity, governance and public service delivery, yet they also raise concerns about privacy, misinformation, algorithmic bias and employment. If legal and ethical safeguards are introduced only after these challenges become widespread, societies will be forced into costly corrective measures. Likewise, India's emphasis on **semiconductor manufacturing** reflects the importance of building technological self-reliance before external dependencies become strategic vulnerabilities. These examples demonstrate that responsible innovation requires institutions capable of preparing for tomorrow's challenges while encouraging today's progress.

The need for foresight is equally evident in environmental governance. Ecological degradation usually occurs gradually, but its consequences often become irreversible if timely action is not taken. **Climate change** is perhaps the clearest example of a slow-moving global crisis that demands preventive action rather than emergency responses. The **Paris Agreement** reflects the international community's recognition that environmental protection cannot be postponed indefinitely. Likewise, the degradation of the **Sundarbans** has weakened a vital natural barrier against cyclones, demonstrating how neglecting ecosystems ultimately increases human vulnerability. Protecting the environment, therefore, is not merely an ecological responsibility but an investment in long-term human security and sustainable development.

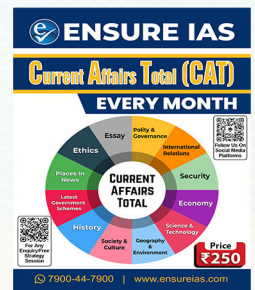
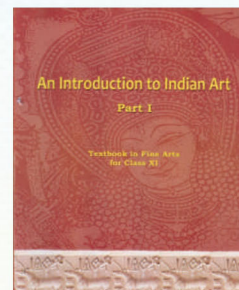
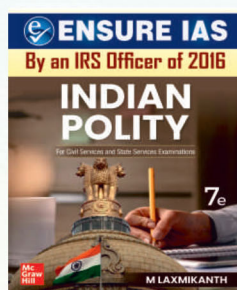
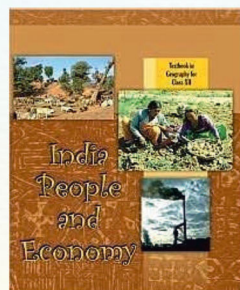
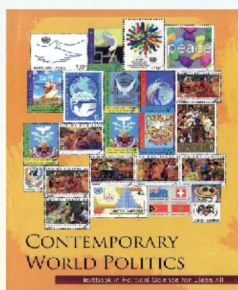
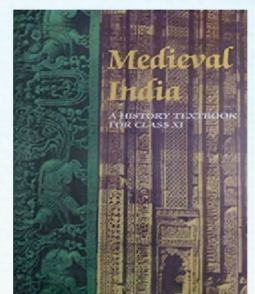
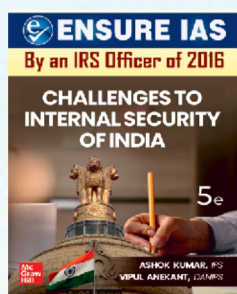
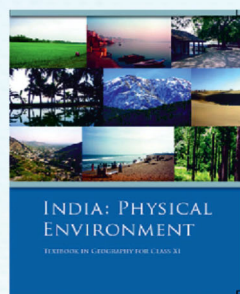
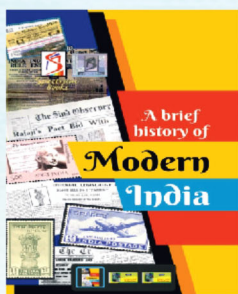
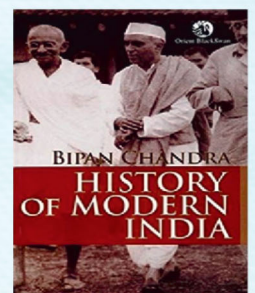
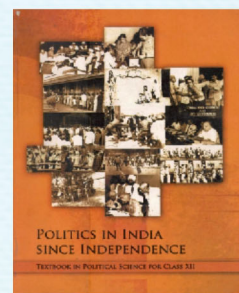
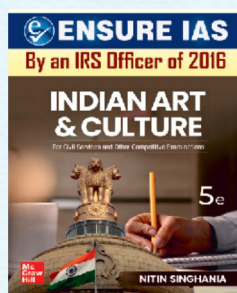
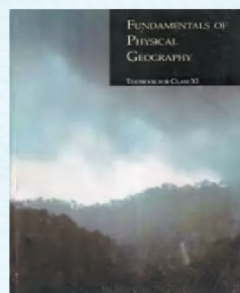
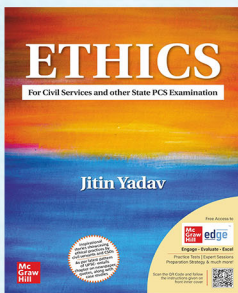
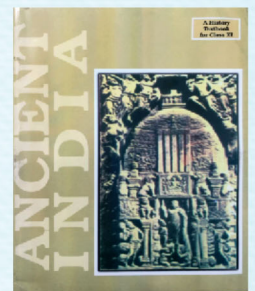
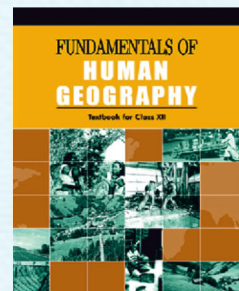
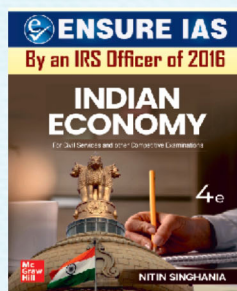
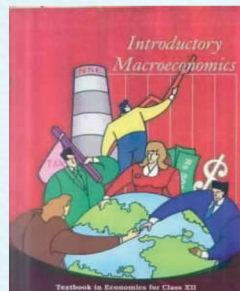
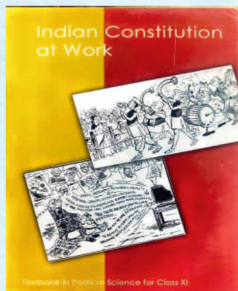
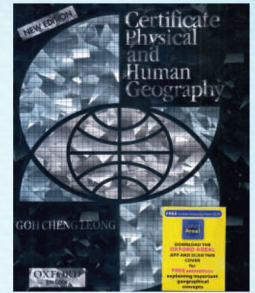
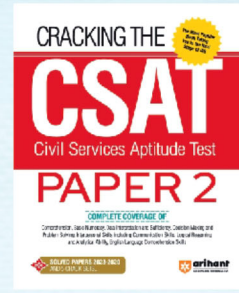
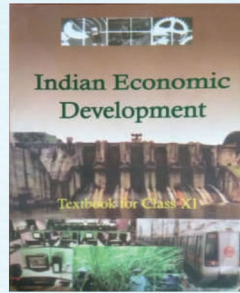
Preparedness, however, extends beyond infrastructure and technology to the realm of **ethical leadership**. Institutions derive their strength not only from laws and policies but also from the integrity, competence and commitment of those who serve them. Recognising this, **Mission Karmayogi** seeks to build a future-ready civil service through continuous learning and capacity building. The same philosophy is reflected in **Aristotle's Virtue Ethics**, which emphasises that character is shaped through consistent practice rather than occasional acts of virtue. Ethical preparedness ensures that institutions remain trustworthy even under extraordinary pressure, reinforcing public confidence when societies face difficult challenges.

The need for preparedness also extends to international relations, where cooperation has become indispensable for addressing shared global challenges. India's **Act East Policy** reflects a long-term vision of strengthening engagement with Southeast Asia before regional competition intensifies further. Similarly, the **International Solar Alliance** demonstrates how proactive partnerships can promote energy security and climate resilience through collective action. In an increasingly interconnected world, diplomacy achieves lasting success when it anticipates future realities instead of merely responding to immediate crises.

History, however, also reminds us that adversity can become a catalyst for transformation. India's **1991 economic reforms** gained momentum because a severe financial crisis made structural change unavoidable. Likewise, the **COVID-19 pandemic** accelerated digital governance, telemedicine and institutional innovation at a pace that routine policymaking could scarcely have achieved. These experiences remind us that while crises often trigger reform, wise societies do not depend upon adversity to initiate change; they prepare long before circumstances leave them with no alternative.

Ultimately, the future cannot be predicted with certainty, but it can be prepared for with wisdom. Societies that invest in strong institutions, ethical leadership, scientific innovation and environmental stewardship during periods of stability are best equipped to transform uncertainty into opportunity. **The true measure of progress lies not in merely responding to change, but in possessing the foresight, resilience and collective resolve to shape a better future before circumstances compel action.**

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