

OFFICERS IAS ACADEMY™

OFFICERS' PULSE



August 2026 (Digest)

CURRENT AFFAIRS
MONTHLY

The **PULSE** of UPSC at your fingertips.

Foreword

Officers Pulse Digest is a comprehensive monthly current affairs magazine that serves as a complete resource for UPSC CSE Prelims. It includes significant topics from sources like **The Hindu, Indian Express, Business Standard, Yojana, Kurukshetra, Down to Earth**, and more.

Although “**Officers Pulse- Digest**” is primarily oriented towards Prelims, reading “Officers Pulse- In depth” along with it is crucial for effectively tackling the Prelims examination.

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POLITY

REGISTRATION OF BIRTHS AND DEATHS (AMENDMENT) ACT, 2026

Why in the News?

The Registration of Births and Deaths (Amendment) Act, 2026 has received the President's assent and will come into force from 1 October 2026.

What is Registration of Births and Deaths?

- Registration of Births and Deaths means the official recording of every birth and death occurring in India in the government's civil registration system.
- It provides a legal record of a person's birth or death.

Key Amendments (provision amended: Section 13(3) of the 1969 Act):

- The amendment makes delayed registration stricter based on the length of delay.
 - Delayed registration: Delayed registration means registering a birth or death after the normal period prescribed for reporting it has expired.
1. Delay of registration More Than 1 Year but Within 2 Years requires an order from:
 - District Magistrate (DM), or
 - Sub-Divisional Magistrate (SDM), or
 - Executive Magistrate authorised by the DM.
 2. Delay of registration More Than 2 Years requires an order from:
 - a Judicial Magistrate of the First Class (JMFC).

SUPREME COURT (NUMBER OF JUDGES) AMENDMENT ACT, 2026

Why in the News?

The President has given assent to the Supreme Court (Number of Judges) Amendment Act, 2026. The Act replaces the Supreme Court (Number of Judges) Amendment Ordinance, 2026 and seeks

to strengthen the Court's capacity amid rising case pendency.

Constitutional Provision

- Article 124(1) - The Supreme Court consists of the CJI and such number of other judges as Parliament may by law prescribe.
- Article 216 : Every High Court shall consist of a Chief Justice and such other judges as the President may deem necessary to appoint.
- In contrast, the number of Supreme Court judges is prescribed by Parliament by law, while the number of High Court judges is determined by the President.

Key Provisions

1. Increase in Judicial Strength
 - Number of Supreme Court judges including the CJI increased from 34 to 38.
 - Four additional judicial posts have been created.
2. Financial Implications
 - Additional judges require supporting infrastructure such as: Court staff, Official residences, Vehicles, Security arrangements
 - Expenditure will be met from the Consolidated Fund of India (CFI).

Passage of the bill:

- The Bill was introduced and passed as a Money Bill.
- Since it is a Money Bill, it does not require a special majority.
- It is passed in the Lok Sabha by a simple majority of members present and voting.
- Rajya Sabha can only make recommendations and cannot reject or amend the Bill.
- The Bill is deemed to have been passed by Parliament if Rajya Sabha does not return it within 14 days.

Why was it introduced as a Money Bill?

- The legislation involves expenditure from the Consolidated Fund of India.
- The government relied on Article 110, including provisions relating to appropriation of money out of the Consolidated Fund and matters incidental to such matters.

Article 110 — Money Bill

A Bill is a Money Bill if it contains provisions dealing only with matters specified in Article 110, including:

- *Imposition, abolition, remission, alteration or regulation of taxation.*
- *Regulation of government borrowing.*
- *Custody of the Consolidated Fund of India or Contingency Fund of India.*
- *Appropriation of money out of the Consolidated Fund of India.*
- *Declaring expenditure charged on the Consolidated Fund of India.*
- *Receipt, custody or issue of money from the Consolidated Fund/Contingency Fund.*
- *Matters incidental to the above matters.*

MISSION KARMAYOGI & IGOT KARMAYOGI

Why in the News?

Parliament reviewed the implementation of Mission Karmayogi and the iGOT digital learning platform for civil servants.

Mission Karmayogi

- Official name: National Programme for Civil Services Capacity Building (NPCSCB).
- Nodal Ministry: Ministry of Personnel, Public Grievances and Pensions.
- Core objective: Transform civil-service capacity building through competency-based, continuous and role-oriented learning.

It seeks to move civil-service HR management from a “Rule-based” to a “Role-based” approach.

The underlying idea is “right person for the right role at the right time.”

Six Pillars of Mission Karmayogi

1. Policy Framework: Focuses on continuous learning and competency development.
2. Competency Framework: Promotes transition from rule-based to role-based HR management.
3. Institutional Framework: Provides institutional oversight through the PM's Human Resource Council (PMHRC).
4. iGOT Karmayogi: Digital learning platform providing large-scale and continuous learning opportunities.
5. e-HRMS: Supports strategic human-resource management.
6. Monitoring & Evaluation Framework: Enables performance analysis, data-driven goal setting and monitoring.

iGOT Karmayogi

- iGOT: Integrated Government Online Training.
- It is the digital learning platform under Mission Karmayogi.
- Enables officials to undertake anytime-anyplace-any-device learning.

Mission Karmayogi focuses on strengthening three broad categories:

- Behavioural competencies
- Functional competencies
- Domain competencies

FRAC Framework (Framework of Roles, Activities and Competencies)

Civil-service positions are mapped against:

- Roles
- Activities
- Competencies

Learning content is then aligned with the competencies required for particular roles.

Institutional Framework:

Prime Minister's Human Resource Council (PMHRC): Apex body for providing strategic direction to capacity-building reforms.

Cabinet Secretariat Coordination Unit: Monitors implementation and execution and Oversees programme plans.

Capacity Building Commission (CBC): Harmonise training standards, Create shared faculty and resources, Supervise Central Training Institutions.

Karmayogi Bharat SPV: Special Purpose Vehicle responsible for owning and operating the iGOT Karmayogi platform. Facilitates digital learning and development of the online capacity-building ecosystem.

INDIAN STATISTICAL INSTITUTE (ISI) BILL, 2026

Why in the News?

The Central Government recently introduced the Indian Statistical Institute (ISI) Bill, 2026 in Parliament. The Bill seeks to replace the Indian Statistical Institute Act, 1959 and restructure the governance of the ISI.

About Indian Statistical Institute (ISI):

- Founded: 1931 by P.C. Mahalanobis in Kolkata.
- Nature: Originally established as a learned society for statistical research and training.
- Legal status: Declared an Institution of National Importance under the ISI Act, 1959.
- Headquarters: Kolkata.
- Centres: Delhi, Bengaluru, Chennai and Tezpur.
- Major areas: Statistics, mathematics and allied fields.

It conducts teaching and research and has the power to award degrees and receive Central Government grants.

Existing Governance Structure:

The highest decision-making body under the existing framework is a **33-member Council**.

The Council includes:

- Elected Chairperson
- Central Government representatives
- External scientists

The Director, appointed by the Council, functions as the academic and administrative head.

ISI Bill, 2026: Key Provisions

1. Change in Legal Status

- Converts ISI from a society into a statutory "body corporate".
- The status of Institution of National Importance is retained.

2. Wider Academic Powers

- Conduct education, training and research
- Establish centres and campuses in India and abroad.

3. Merit-Based and Inclusive Admissions

- Provides for admission through transparent and reasonable merit criteria.
- Permits special provisions for: Women, Persons with disabilities, Socially and educationally backward classes, Scheduled Castes, Scheduled Tribes.
- ISI will be treated as a Central Educational Institution for reservation purposes.

4. The Bill does not explicitly mention Kolkata as the headquarters, unlike the existing framework.

New Governance Structure:

1. The President of India will be the Visitor of ISI.

The Visitor can:

- Review the functioning of the Institute.
- Order inquiries.
- Issue directions based on findings of such inquiries.

Under the proposed framework, President = Visitor, not the administrative head of ISI.

2. Board of Governors:

- The 11-member Board of Governors will be the principal executive body of ISI.
- It will oversee policy, administration, finance, development and management.

3. Academic Council:

- The Academic Council will be the principal academic body, headed by the Director.
- The Director will function as the CEO and will be appointed by the Board with prior Visitor's approval.[visitor = president of india]
- The Director's removal also requires Visitor's approval.

SHIELD BILL, 2025 — CHILD SAFETY IN DIGITAL SPACES

Why in the News?

BJP MP introduced the Safeguarding Healthy Internet Environments for Little Digital-Natives (SHIELD) Bill, 2025, as a Private Member's Bill in Parliament.

About SHIELD Bill, 2025:

The Bill proposes age verification and verified parental consent for children under 13 seeking to create social-media or gaming accounts. It also seeks to restrict personalised advertising and harmful online content for minors, bringing child safety into focus in India's digital-governance framework.

Important Legal Linkages: Existing framework

- Digital Personal Data Protection Act, 2023: Protection of children's personal data
- IT Act, 2000 – Section 69A: Government power to block public access to online information
- IT Rules, 2021: Due diligence obligations of intermediaries
- POCSO Act, 2012: Protection of children from sexual offences/exploitation

Global Comparison:

- US – COPPA: focuses on online privacy of children, particularly those under 13.
- UK – Age Appropriate Design Code: establishes privacy-by-design standards for online services likely to be accessed by children.

What is a Private Member's Bill?

- A Private Member's Bill is a Bill introduced by a Member of Parliament who is not a Minister. Thus, an MP belonging to the ruling party can also introduce a Private Member's Bill if he/she is not a Minister.
- It can be introduced in either Lok Sabha or Rajya Sabha, subject to the prescribed procedure.
- It requires prior notice before introduction and is generally taken up for discussion on Private Members' Business.
- There is no separate Article in the Constitution specifically defining a Private Member's Bill.
- A Private Member can introduce a Constitution Amendment Bill.
- According to Parliament records, 14 Private Members' Bills have become part of the statute book since 1952. The last Private Member's Bill to become an Act was in 1970, Supreme Court (Enlargement of Criminal Appellate Jurisdiction) Bill, 1970.

TRIBUNALS REFORMS ACT, 2026 — NATIONAL TRIBUNALS COMMISSION

Why in the News?

Parliament has passed the Tribunals Reforms Bill, 2026, which replaces the Tribunals Reforms Act, 2021 and seeks to create a more uniform, transparent and independent tribunal system.

About Tribunal

A tribunal is a specialised adjudicatory body established under law to decide disputes requiring judicial or technical expertise.

Examples:

- Taxation
- Company law
- Service matters
- Securities
- Electricity

- Environment

Constitutional Basis

- Article 323A → Parliament can establish Administrative Tribunals for service matters.
- Article 323B → Parliament/State Legislatures can establish tribunals for specified matters such as taxation, labour, land reforms, etc.

Key Provisions of Tribunals Reforms Act, 2026:

1. National Tribunals Commission (NTC):

- The Act establishes the NTC as an overarching body for tribunals Responsible for the administration, selection, performance review and oversight of tribunals, including conducting selection for vacancies, reviewing tribunal performance, overseeing complaints against Chairpersons/Members, maintaining the National Tribunals Data Grid, and promoting uniformity in tribunal administration.
- Financial point: NTC accounts are subject to audit by the Comptroller and Auditor General of India (CAG).

2. Composition of NTC[5 members]

- Chairperson:Supreme Court Judge/former Judge or Chief Justice of a High Court
- Judicial Members: Chief Justices/Judges of High Courts- 2 members
- Technical Members-2 members
- Technical experience:At least 25 years in fields such as public administration, finance, law, accountancy, banking, management or technology
- Appointment:Central Government
- Consultation:CJI consulted for Chairperson and Judicial Members
- Tenure:5 years or 70 years, whichever is earlier

3. Removal and Safeguards:NTC members can be removed on grounds including:

- Insolvency
- Conviction involving moral turpitude
- Incapacity
- Conflict of interest
- Abuse of position

For conflict of interest/abuse of position, an inquiry and opportunity of hearing are required.

4. Search-cum-Selection Committees:

- A selection committee constituted to recommend candidates for specific tribunal vacancies.
- Two separate committees are constituted—one for selecting Tribunal Chairpersons and another for selecting Tribunal Members. They recommend suitable candidates for the respective vacancies.

Separate committees are provided for selection of:Tribunal Chairperson

Includes:

- NTC Chairperson
- NTC Technical Member
- Retired Chief Justice of a High Court
- Government Secretary
- Two empanelled experts
- NTC Secretary as Member Secretary

Separate committees are provided for selection of:Tribunal Member

Includes:

- NTC Chairperson
- NTC Technical Member
- Retired High Court Judge
- Government Secretary
- Two empanelled experts
- NTC Secretary as Member Secretary

For State Administrative Tribunals (SATs):

- The Search-cum-Selection Committee has the same composition as the committee for other tribunals.
- Additionally, the Chief Secretary of the concerned State is included as a member of the committee.

Voting Rights — Search-cum-Selection Committee:

- Voting members: All regular members of the Search-cum-Selection Committee have voting rights.
- Non-voting members: Empanelled experts and the Member Secretary participate but do not have voting rights.
- Casting vote: The Chairperson of the Committee has a casting vote in case of a tie.

5. Time-Bound Appointments

- Committee recommends one suitable candidate + one waiting-list candidate for each vacancy.
- Recommendations sent to the government within 3 days.
- Central Government must make appointment within 3 months.
- Previous performance considered for reappointment.
- For Members, the concerned Tribunal's Chairperson/President is also consulted.

6. Uniform Tenure

- NTC Chairperson/Members: 5 years or 70 years, whichever earlier
- Tribunal Chairperson: 5 years or 70 years, whichever earlier
- Tribunal Members: 5 years or 67 years, whichever earlier

7. Removal of Tribunal Members

Removal can be based on grounds such as:

- Insolvency
- Moral turpitude
- Incapacity
- Conflict of interest
- Abuse of position
- Incompetence/inefficiency
- Undertaking prohibited paid assignments
- Complaints on specified grounds undergo inquiry through the NTC.

9. Rule-making Powers: The Central Government can make rules regarding: Qualifications of tribunal members, Selection, Service conditions, Salaries

10. Regulations by NTC

The NTC can frame regulations relating to: Its functioning, Vacancy advertisements, Candidate assessment, Empanelment of experts

These are made in consultation with the Central Government.

E-FIR UNDER BNSS, 2023

Why in the News?

The Government is highlighting electronic FIR registration under the Bharatiya Nagarik Suraksha Sanhita, linking criminal justice with digital governance. It is part of the broader digitisation of criminal justice under the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023, which replaced the Code of Criminal Procedure (CrPC), 1973.

About e-FIR

- An e-FIR enables information relating to a cognisable offence to be given to the police through electronic communication.
- It is provided under Section 173(1) of the BNSS, 2023.
- Information may be given orally or by electronic communication.
- Where information is given electronically, it is taken on record only after the informant signs it within 3 days.

Why the 3-Day Rule?

- **Provides authentication:** The informant's signature within 3 days confirms the identity and authenticity of the person making the electronic complaint.
- **Prevents misuse:** It helps prevent false, frivolous or anonymous electronic complaints from being formally recorded as an FIR without verification.

Section 173 of BNSS

- Section 173(1): Information relating to a cognisable offence can be given orally or through electronic communication
- Cognisable offence: Police can investigate without a Magistrate's prior order
- Information Can be given irrespective of the area where the offence is committed
- The BNSS provision is broader than simply creating an "online FIR portal". It legally recognises electronic communication as a mode of giving information to police FI

FIR vs Zero FIR vs e-FIR

Basis	Regular FIR	Zero FIR	e-FIR
Jurisdiction	Police station having relevant jurisdiction	Any police station, irrespective of territorial jurisdiction	Electronic submission; subsequently handled by competent police station
mode	Oral/written	Oral/written	Electronic communication
number	Regular FIR number	Initially Zero FIR number, later transferred /re-registered as applicable	FIR number after it is formally taken on record
key features	Normal FIR registration	Removes territorial-jurisdiction barrier at initial stage	Enables digital reporting

offence	Cognisable offence	Cognisable offence	Cognisable offence
special requirement	-	Transfer to appropriate police station	Signature within 3 days

Key Clarification

- Zero FIR and e-FIR are not mutually exclusive concepts.
- Zero FIR concerns territorial jurisdiction.
- e-FIR concerns the mode of communication/registration.
- Non-cognisable offence: Police generally require a Magistrate's order to investigate under the BNSS framework.

LOK SABHA PROROGATION AND ARTICLE 85

Why in the News?

The delay in proroguing the Lok Sabha brought attention to the distinction between adjournment and prorogation.

Article 85 — Sessions of Parliament, Prorogation and Dissolution

1. Summoning of Parliament — Article 85(1)

- The President summons each House of Parliament from time to time.
- The President determines the time and place of the meeting.
- Maximum gap between two sessions = 6 months.
- The Constitution does not prescribe a fixed number of parliamentary sessions in a year.

2. Prorogation — Article 85(2)(a)

- The President may prorogue either House or both Houses.
- Prorogation ends a session of Parliament.
- It does not dissolve the Lok Sabha.

- The President exercises this power on the aid and advice of the Council of Ministers.

3. Dissolution — Article 85(2)(b)

- The President may dissolve the House of the People (Lok Sabha).
- Rajya Sabha is never dissolved because it is a permanent House.
- Dissolution ends the life of the Lok Sabha.

Adjournment Sine Die

- Means ending a sitting of the House without fixing a date for the next sitting.
- It is ordered by the presiding officer, not the President.

Article 74: The President acts on the aid and advice of the Council of Ministers. Therefore, although Article 85 vests the formal power of summoning, proroguing and dissolving in the President, these powers are exercised within the parliamentary system of responsible government.

OBC CREAMY LAYER CRITERIA — STATUS OF PARENT'S POST MATTERS

Why in the News?

The Supreme Court has clarified that parental salary/income alone cannot determine the creamy-layer status of an OBC candidate. The judgment emphasises the status and category/equivalence of the parent's post, particularly for PSU/private-sector employees.

About OBC Creamy Layer?

The creamy layer refers to socially advanced sections within OBCs who are excluded from reservation benefits.

The principle originated from the Indra Sawhney v. Union of India (1992) judgment.

OBC Creamy Layer – Criteria used & SC Clarification

Creamy Layer determination involves two broad criteria:

1. Status criterion – nature and level of the parent's post.
2. Income/wealth criterion – prescribed income ceiling of ₹8 lakh per annum.

The controversy particularly concerned the application of these criteria to PSU/private-sector employees, where salary was being considered without adequately examining the status of the post.

What did the Supreme Court say?

- Income alone cannot determine Creamy Layer status.
- For PSU/private-sector employees, the nature and status of the parent's post must also be examined.
- Thus, the ₹8 lakh threshold cannot be applied mechanically as a standalone test; the relevant status + income/wealth criteria must be considered together.

PAIMANA — INFRASTRUCTURE PROJECT MONITORING PLATFORM

Why in the News?

PAIMANA-CRIP (Central Repository of Infrastructure Projects) was launched in July 2026 as a central repository for infrastructure projects.

About PAIMANA

- PAIMANA [Project Assessment, Infrastructure Monitoring and Analytics for Nation-Building]
- Launched by: Ministry of Statistics and Programme Implementation (MoSPI)
- Launched in: 2025
- Purpose: Monitoring and assessment of Central Sector infrastructure projects.
- Covers projects costing ₹150 crore or more.
- Replaced the Online Computerized Monitoring System (OCMS), 2006.

PAIMANA-CRIP [PAIMANA – Central Repository of Infrastructure Projects]

- Functions as a central repository/database of infrastructure projects.

- Information is regularly updated by 20+ Ministries/Departments/Implementing Agencies.

Performance Monitoring Dashboard

The PAIMANA dashboard monitors 165 indicators across six infrastructure sectors:

1. Power
2. Civil Aviation
3. Telecommunications
4. Railways
5. Roads
6. Ports, Shipping & Waterways

Holistic Infrastructure Assessment

PAIMANA goes beyond simply measuring whether a project has been physically completed.

It assesses infrastructure on:

1. Access
2. Quality
3. Fiscal cost & revenue
4. Utilisation
5. Affordability

KERALA RENAMED AS KERALAM

Why in the News?

The President has given assent to the Bill seeking to rename the State of Kerala as Keralam, converting it into law.

About The Kerala (Alteration of Name) Act, 2026

- New name: Keralam
- Constitutional provision: Article 3
- Constitutional Schedule affected: First Schedule and 4th schedule
- The First Schedule contains the names and territories of States and Union Territories.
- Fourth Schedule: Contains the allocation of seats in the Rajya Sabha to the States and Union Territories.

Background

- The Kerala Legislative Assembly passed a unanimous resolution in 2024 seeking the change of name.

- The resolution was sent to the Central Government.
- Parliament subsequently enacted the legislation.
- Following Presidential assent, the Bill became an Act.

Constitutional Basis — Article 3:

Article 3 empowers Parliament to:

- form a new State;
- increase or diminish the area of a State;
- alter the boundaries of a State;
- alter the name of a State.

Procedure under Article 3

- Bill can be introduced only on the recommendation of the President.
- President refers the Bill to the concerned State Legislature for expressing its views.
- State Legislature's views are not binding on Parliament.
- Parliament may pass the Bill by simple majority.
- President's assent is required.

ECONOMY

MERCHANT DISCOUNT RATE (MDR)

Why in News?

The Government introduced a **new MDR framework for UPI**, under which MDR applies to specified **P2M transactions above ₹2,000**, while **P2P transactions remain completely free**.

About

- MDR is a **fee charged within the merchant payment ecosystem for processing digital transactions**, generally borne by the **merchant**, not the customer.
- It is **not a tax** and is not collected by the **Government or NPCI**; it is distributed among payment ecosystem participants such as **banks, payment service providers and UPI application providers**.

The New UPI MDR Framework

- Under the new UPI framework, **P2P transactions remain completely free**, irrespective of the transaction value.
- **P2M transactions up to ₹2,000** remain free of MDR.
- A **0.4% MDR** applies to specified **P2M transactions above ₹2,000**, with a maximum of **₹300 per transaction for transactions of ₹75,000 and above**.
- Transactions above ₹2,000 in **essential sectors** such as **railways, telecommunications, insurance, fuel and agricultural inputs** attract a flat **₹5 MDR per transaction**.
- Payments relating to **mutual funds, securities, stockbrokers and dealers** attract an MDR of **0.02%**, capped at **₹300 per transaction**.
- **Small merchants receiving up to ₹1 lakh per month through UPI QR codes**

- **under P2PM** continue to enjoy **zero MDR on all transactions**.
- Approximately **96% of P2M transactions remain unaffected** by the new MDR framework.
- Banks have been advised to ensure that **merchants do not pass MDR on to customers**.
- The framework was introduced under the **Payment and Settlement Systems Act, 2007**, following deliberations by the **UPI Steering Committee**.
- A dedicated fund for promoting UPI adoption among small merchants will receive an amount equivalent to **5% of total MDR collections**.

FAVARA-UPI CROSS-BORDER PAYMENT CORRIDOR

Why in News?

The Favara-UPI cross-border payment corridor went live between **Maldives and India**, enabling real-time remittances from **Maldives to India**.

About

- Favara is the **Instant Payment System of Maldives**, integrated with India's **Unified Payments Interface (UPI)**.
- The corridor enables **real-time Person-to-Person (P2P) fund transfers** from Maldives to **UPI-enabled bank accounts in India**.
- Transactions are initiated in **Maldivian Rufiyaa (MVR)** and credited to recipients in **Indian Rupees (INR)**.
- Permitted remittance categories include **family-maintenance-related remittances** and **gift-related remittances** under the applicable foreign-remittance framework.
- The integration involves the **Maldives Monetary Authority (MMA)**, **Reserve Bank of India (RBI)**, **NPCI International**

Payments Limited (NIPL) and participating financial institutions.

- **QR-based merchant payments** and other cross-border digital payment services are planned for subsequent phases.

UPI

- **UPI** is an **interoperable, real-time payment system** developed by the **National Payments Corporation of India (NPCI)** under the regulatory oversight of the **Reserve Bank of India (RBI)**.
- UPI was **launched in 2026**. It enables both **Person-to-Person (P2P)** and **Person-to-Merchant (P2M)** transactions.
- UPI accounted for approximately **49% of global real-time payment transaction volume in 2025**.
- As of August 2026, UPI was operational for **acceptance and/or cross-border remittances in 11 foreign countries**, including **Maldives and Greece**.

INFORMATION TECHNOLOGY RESILIENCE INDEX (ITRI)

Why in News?

SEBI introduced the **IT Resilience Index (ITRI)** framework for **Market Infrastructure Institutions (MIIs)** to assess the robustness and resilience of their critical IT systems.

About

- **ITRI** is a **system-driven index** designed to measure the **robustness and resilience of critical IT systems** of **Market Infrastructure Institutions (MIIs)**.
- It is introduced by the **Securities and Exchange Board of India (SEBI)** under **Section 11(1) of the Securities and Exchange Board of India Act, 1992**.
- The **Industry Standards Forum (ISF)** of MIIs, constituted by SEBI, finalises the sub-parameters and detailed measurement criteria for each parameter of the ITRI.
- The index covers **9 parameters** with a total weightage of **100%**.

Parameters	Weightage
Availability, Security	20% each
Integrity, Governance, Reliability and Monitoring, Business Continuity, Modularity and Flexibility	10% each
Scalability, Others (such as Incident Handling)	5% each

- The **ITRI** is to be **computed half-yearly within 60 days** of the end of each half-year.
- MIIs are required to establish an **Early Warning System (EWS)** to detect deterioration in IT resilience.
- The framework also requires **real-time monitoring of service delivery** through appropriate systems and dashboards.
- The framework is to be **operationalised by 28 February 2027**, with the **first computation covering the half-year ending 31 March 2027**.
- The **ITRI** is intended to enable MIIs to **identify weaknesses, monitor deterioration and undertake corrective measures** in their critical IT systems.

Market Infrastructure Institutions (MIIs)

- **MIIs** are institutions that provide the essential infrastructure required for the functioning of the **securities market**.
- **Stock Exchanges, Clearing Corporations and Depositories** are collectively referred to as **Market Infrastructure Institutions (MIIs)**.
- **Stock Exchanges** provide platforms for the **buying and selling of securities** through registered stock brokers at market-determined prices.
- **Clearing Corporations** facilitate **clearing and settlement of trades** and guarantee that buyers receive securities and sellers receive the corresponding funds.

- **Depositories** hold securities in **electronic/dematerialised form** and facilitate their transfer and settlement.
- **SEBI** regulates and supervises the functioning and operations of MIIs through its **Market Regulation Department (MRD)**.
- The **Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2018** provide the regulatory framework for stock exchanges and clearing corporations.
- In India, examples of MIIs include **BSE and NSE as stock exchanges, NSDL and CDSL as depositories**, and recognised **clearing corporations** such as NSE Clearing and Indian Clearing Corporation.

WORLD DEVELOPMENT REPORT 2026

Why in News?

The World Bank released the World Development Report 2026, titled “The Promise of Artificial Intelligence”, focusing on the role of Artificial Intelligence (AI) in developing economies.

About

- **WDR 2026** is the World Bank’s flagship report focusing on the implications of AI for developing economies.
- It proposes a **three-step framework — Adopt, Adapt and Advance**:
 - **Adopt**: Use existing AI tools.
 - **Adapt**: Tailor AI to **local languages, institutions, data and development needs**.
 - **Advance**: Develop **frontier AI models and supporting infrastructure**.
- “**Small AI**” refers to **low-cost AI tools** that can work through **text messages, voice calls and basic phones**, even where electricity, computing power or internet access is limited.
- The report identifies **reliable electricity, internet connectivity, skills, data and**

strong institutions as important complements for effective AI adoption.

- In developing economies, AI is expected to **complement rather than primarily displace workers**, since a large share of employment is in manual rather than cognitive work.
- **4.5% of existing jobs in developing economies** are at risk of automation by generative AI, while **16.2% could experience meaningful productivity gains** from AI.

TAXATION AND OTHER LAWS (AMENDMENT) BILL, 2026

Why in the News?

The Bill was introduced to amend tax provisions and provide greater tax certainty for offshore funds, electronics manufacturing, data centres and diamond trading.

Key Provisions

1. Offshore Investment Funds

- The Bill proposes to remove **8 of the existing 13 conditions** applicable to Eligible Investment Funds (EIFs) managed from India.
- Conditions relating to the **minimum number of investors, investment limits in a single entity, associate-entity investments and minimum ₹100 crore corpus** are proposed to be removed.
- The simplified framework requires the fund to be **non-resident**, not control or manage a business in India, and restricts Indian residents' investment to **5% of the corpus**.

2. Electronics Contract Manufacturing

- The Bill proposes to extend the tax exemption for foreign companies supplying **capital goods, machinery, equipment and tooling** to Indian electronics contract manufacturers up to **31 March 2041**.

- It also provides tax exemption for certain foreign companies involved in **storing electronic components in customs-bonded warehouses and selling them to Indian contract manufacturers.**

3. Data Centres

- The definition of an **eligible data centre** is proposed to include facilities operated through both **ownership and leasing.**
- The Bill seeks to remove the requirement of a **separate Central Government notification** for foreign companies procuring data-centre services from specified facilities in India.

4. Diamond Trading

- A **15-year tax holiday up to 31 March 2041** is proposed for specified foreign companies operating in notified special zones.
- The exemption covers entities such as **mining companies, sightholders, brokers, aggregators and tender/auction entities** dealing in rough diamonds within the notified zone.

5. Foreign Portfolio Investors

- The Bill incorporates provisions of the **Income-tax (Amendment) Ordinance, 2026**, which provided tax relief to certain foreign investors in government securities.
- **Foreign Institutional Investors (FIIs) and the Bank for International Settlements (BIS)** are exempted from income tax on specified **interest income and capital gains from government securities.**

6. Digital Payments and MDR

- The Bill amends the **Payment and Settlement Systems Act, 2007** to enable the Central Government to specify electronic payment modes on which charges may be levied.

- This creates a framework for possible **Merchant Discount Rate (MDR)** charges on specified merchant transactions, while the government has clarified that **UPI payments for ordinary consumers will remain free**

DIGITAL AGRICULTURE MISSION AND AGRI STACK

Why in the News?

Over 10.31 crore Farmer IDs have been generated under AgriStack as part of the Digital Agriculture Mission as of August 2026.

About Digital Agriculture Mission:

- The **Digital Agriculture Mission was approved in September 2024** to create a farmer-centric digital ecosystem.
- It aims to develop **Digital Public Infrastructure (DPI) for agriculture** for efficient delivery of schemes, services and advisories to farmers.
- Its major components include **AgriStack, the Krishi Decision Support System, Digital Crop Survey and digital crop-yield estimation systems.**
- It uses technologies such as **AI, satellite imagery, GIS, remote sensing and Big Data** for agricultural planning and decision-making.
- The Mission seeks to improve **access to credit, crop insurance, MSP procurement, weather advisories and other farmer-centric services.**

AgriStack

- **AgriStack is a farmer-centric Digital Public Infrastructure** designed to provide faster, transparent and targeted delivery of agricultural services and government schemes.
- It has three foundational registries: **Farmer Registry, Geo-referenced Village Maps and Crop Sown Registry**, maintained by States/UTs.

- The **Farmer Registry provides a unique Farmer ID** by linking farmers' details with digitised land records.
- The Farmer Registry can be integrated with **agricultural credit, crop insurance, weather advisories and MSP-based procurement systems.**
- AgriStack follows a **federated architecture**, with data ownership remaining with the respective States.
- Farmer data is protected through **consent-based data sharing, encryption and compliance with the Digital Personal Data Protection Act, 2023 and DPDP Rules, 2025**

WHITE REVOLUTION 2.0

Why in the News?

The Ministry of Cooperation highlighted the progress of White Revolution 2.0, aimed at expanding and strengthening dairy cooperatives across the country.

Key Provisions

- White Revolution 2.0 aims to **increase milk procurement, strengthen dairy cooperatives, improve market access and enhance the income of dairy farmers.**
- The initiative aims to establish **75,000 new Dairy Cooperative Societies (DCSs)** and strengthen **46,422 existing DCSs.**
- It focuses on expanding dairy cooperative coverage in **villages and panchayats that remain underserved or uncovered** by such societies.
- The initiative supports **Bulk Milk Coolers, Automatic Milk Collection Units, milk testing facilities and chilling infrastructure** to improve milk collection and quality.
- It seeks to enhance the **participation of women and small dairy farmers** in the cooperative dairy sector.
- By strengthening milk procurement and market linkages, the initiative seeks to

provide **better market access and remunerative returns** to dairy farmers.

- It facilitates access to **animal health, breeding, feed, fodder and technical services** through cooperative institutions.
- **Gomay Sahkari Samiti Multi-State Limited (BGSSL)** promotes the productive use of cow dung for **biogas and organic fertilisers**, supporting a circular economy.
- **Cooperative Inputs and Services Delivery Multi-State Limited (CISDL)** aims to provide dairy farmers with **affordable inputs and services**, including feed, fodder and animal-health services.

INVENTORY-BASED CROSS-BORDER E-COMMERCE EXPORT FRAMEWORK

Why in the News?

The Government operationalised the Inventory-based Cross-border E-Commerce Export Framework under the Foreign Trade Policy (FTP), 2023 on 5 August 2026.

Key Provisions

- The framework permits **inventory-based e-commerce operations exclusively for exports**, in line with the 2026 amendment to the FDI Policy.
- An **Exporter-on-Record (EOR)** can procure goods from Indian **Sellers-on-Record (SORs)** against confirmed overseas orders.
- Export inventory can be procured **only against confirmed export orders**, preventing speculative accumulation of goods.
- Export inventory must be **separately identified, segregated and digitally recorded** to ensure traceability.
- Goods procured for export **cannot be diverted for sale in the domestic market.**
- Indian sellers must receive **timely payment for their goods**, irrespective of when the overseas buyer makes payment.

- **Export rebates and refunds** must be passed on to sellers in proportion to the **FOB (Free On Board) value** of their goods.
- Returned or rejected consignments must be **re-exported, returned to the seller or disposed of as prescribed** under the framework.
- E-commerce entities must maintain **digital records and submit annual compliance certification** as prescribed.

NATIONAL FOOD SECURITY (AMENDMENT) BILL, 2026

Why in News?

The Department of Food and Public Distribution (DFPD) released the **draft National Food Security (Amendment) Bill, 2026** for public consultation to amend the **National Food Security Act (NFSA), 2013**.

About

- The draft Bill proposes to amend **Section 3(1)** of the **National Food Security Act, 2013**, specifically the provision relating to **Antyodaya Anna Yojana (AAY)**.
- Under the existing NFSA, **AAY households are entitled to 35 kg of foodgrains per household per month**.
- The draft Bill proposes to change the AAY entitlement from a **household-based entitlement to a per-person entitlement**.
- Under the proposed amendment, **each person in an AAY household would be entitled to 7 kg of foodgrains per month**, subject to a **maximum of 35 kg per household per month**.
- The **Priority Household (PHH)** entitlement remains **5 kg of foodgrains per person per month**.

Existing vs Proposed AAY Entitlement

Feature	Existing NFSA, 2013	Proposed Amendment, 2026

Basis	Per household	Per person
Entitlement	35 kg/household/month	7 kg/person/month
Maximum	35 kg/household/month	35 kg/household/month

National Food Security Act (NFSA):

- The NFSA, 2013 provides coverage of up to **75% of the rural population and 50% of the urban population**, covering approximately **two-thirds of India's population**.
- The Act covers two main categories: **Antyodaya Anna Yojana (AAY) households** and **Priority Households (PHH)**.
- **Priority Household (PHH)**: entitled to **5 kg of foodgrains per person per month**; **Antyodaya Anna Yojana (AAY)**: entitled to **35 kg per household per month** under the existing framework.

ELECTRONICS COMPONENTS MANUFACTURING SCHEME (ECMS)

Why in News?

The Government approved **31 additional projects under ECMS**, taking the total to **106 projects across 15 States**.

About

- ECMS was launched in **2025** by the **Ministry of Electronics and Information Technology (MeitY)**
- It aims to develop a robust **electronics component manufacturing ecosystem** by attracting **domestic and global investments** and integrating India with **Global Value Chains (GVCs)**.
- It provides three incentive structures: **Turnover-linked**, **Capex-linked** (plant & machinery) and **Hybrid** (combination of

both); **employment generation is mandatory** for all applicants.

- The scheme has a **six-year tenure**, including a **one-year gestation period**; the **Capex-linked incentive** is available for **five years**.
- It focuses particularly on **passive electronic components**, while **active components** fall under the **India Semiconductor Mission (ISM)**.

Key Incentive Conditions and Employment-Linked Provisions

- Turnover-linked incentive rates vary by product and year over the incentive period.
- **Capex-linked incentive:** 25% of eligible capital expenditure on plant, machinery and other eligible assets.
- **Hybrid incentive:** Combines turnover-linked and capex-linked incentives.
- **Employment condition:** 5% of the 25% capex incentive are linked to meeting the prescribed employment threshold.
- **Overall incentive ceiling:** 50% of cumulative actual eligible incremental investment during the scheme tenure, excluding specified additional incentives

Segment	Target segment (products covered)	Incentive type	Capex incentive
A	Sub-assemblies	Turnover-linked	—
B	Bare components (electro-mechanicals, lithium-ion cells)	Turnover-linked	—
C	Selected bare components (HDI, MSAP,)	Hybrid (turnover + capex)	25%

	flexible PCBs)		
D	Supply-chain ecosystem and capital equipment	Capex-linked	25%
E	Telecom sub-assembly (optical transceiver – SFP)	Turnover-linked	—

Did You Know?

- **Passive components:** Do not generate or amplify electrical energy; they include **resistors, capacitors, inductors, transformers and connectors**.
- **Active components:** Can control, amplify or generate electrical signals; they include **semiconductors such as transistors, diodes and integrated circuits (ICs)**.

NATIONAL INDUSTRIAL CORRIDOR DEVELOPMENT PROGRAMME (NICDP)

Why in news?

The Government approved **20 industrial nodes under NICDP**, with **4 completed and 16 under implementation**, and sanctioned **₹16,172.95 crore** to National Industrial Corridor Development and Implementation Trust (NICDIT) for industrial-corridor development.

About

- **NICDP** is a **Central Sector Scheme** aimed at developing **futuristic industrial cities**, integrated industrial corridors and a dynamic industrial ecosystem to attract **domestic and foreign investment**.
- It is implemented through the **National Industrial Corridor Development Corporation Limited (NICDC)** under the **Department for Promotion of Industry**

and Internal Trade (DPIIT), Ministry of Commerce and Industry.

- It originated with the Delhi-Mumbai Industrial Corridor (DMIC) in 2007.
- It is aligned with the PM GatiShakti National Master Plan for multimodal connectivity and integrated spatial planning.
- Its industrial cities are envisaged as greenfield smart cities, developed “ahead of demand” with plug-and-play infrastructure and a “walk-to-work” ecosystem.
- Under its Centre-State partnership model, the State Government provides land, while the Government of India provides equity and/or debt for project development.

National Industrial Corridor Development and Implementation Trust (NICDIT)

- NICDIT was constituted in 2016 by expanding and re-designating the DMIC Project Implementation Trust Fund, and functions under the DPIIT, Ministry of Commerce & Industry.
- It is the apex trust for the coordinated and unified development of industrial corridors and supports their funding and implementation.

SAMARTH SCHEME

Why in News?

The Ministry of Textiles highlighted the Scheme for Capacity Building in Textile Sector (SAMARTH) Scheme’s progress in skilling and placement of beneficiaries across the textile sector.

About

- SAMARTH scheme provides demand-driven, placement-oriented skilling in the organised textile and related sectors.
- It was launched in 2017 and extended till March 2026.

- It also promotes **skilling, upskilling and reskilling** in traditional sectors such as handlooms, handicrafts, sericulture and jute.

Samarth 2.0

- Samarth 2.0 was announced in the Union Budget 2026–27 as an upgraded skilling programme under the Ministry of Textiles.
- It focuses on modernising the textile skilling ecosystem through industry-relevant courses, technology-enabled learning, reskilling and upskilling.
- It aims to create a future-ready, industry-ready workforce across the textile value chain.
- It targets skilling 15 lakh individuals over five years, with greater collaboration between industry and academic institutions.

Did you know?

Both Samarth and Samarth 2.0 cover the broader textile value chain but excludes spinning and weaving in the organized sector.

SCALE BASED REGULATION FRAMEWORK FOR NBFC

Why in news?

The Reserve Bank of India released its updated list of 17 Upper Layer Non-Banking Financial Companies (NBFC-UL) for 2026–27.

Base Layer (BL)

- **Asset Cutoff:** Below ₹1,000 crore
- **Deposit Taking:** Prohibited
- **Core Entities:** P2P lenders, Account Aggregators, NBFCs with no customer interface
- **Capital Norm:** Minimum Net Owned Funds (NOF) of ₹10 crore
- **Listing:** Optional
- **Oversight:** Light-touch; basic governance and reporting

Middle Layer (ML)

- **Asset Cutoff:** ₹1,000 crore and above
- **Deposit Taking:** Permitted if authorized; prohibited for non-deposit-taking NBFCs
- **Core Entities:** Housing Finance Cos (HFCs), Infrastructure Finance Cos (IFCs), Core Investment Cos (CICs), Infrastructure Debt Funds (IDF-NBFCs), etc.
- **Capital Norm:** Minimum CRAR of 15%
- **Listing:** Optional
- **Oversight:** Moderate; board-level risk committees and internal capital assessment

Upper Layer (UL)

- **Asset Cutoff:** ₹1,00,000 crore (₹1 trillion) and above
- **Deposit Taking:** Permitted if already authorized
- **Core Entities:** Largest NBFCs posing systemic risk if they fail
- **Capital Norm:** Bank-like norms, including 9% Common Equity Tier 1 (CET1)
- **Listing:** Mandatory on stock exchanges within 3 years of classification (except fully Govt. owned NBFC-ULs)
- **Oversight:** Intense, bank-like scrutiny; strict board qualification and monitoring

Top Layer (TL)

- **Asset Cutoff:** No fixed cutoff; escalated from the Upper Layer
- **Deposit Taking:** Permitted subject to RBI intervention
- **Core Entities:** Currently empty; reserved for extreme, immediate threats
- **Capital Norm:** Customized, maximum RBI-dictated controls
- **Listing:** Frozen or controlled by RBI directives
- **Oversight:** Maximum supervisory intervention and immediate corrective action

RBI TO RESUME LICENSING OF URBAN COOPERATIVE BANKS

Why in the News?

The RBI announced plans to resume issuing licences for new Urban Cooperative Banks (UCBs), after a long gap.

Key Highlights

- The RBI had **paused fresh licensing of UCBs in 2004**, and the proposed resumption marks a significant change in the regulatory approach.
- The Reserve Bank of India is tightening and reforming the regulatory and licensing framework for Urban Cooperative Banks (UCBs) to ensure financial stability, strong governance, and sound capital adequacy while promoting financial inclusion and competition.
- UCBs are regulated by the **RBI for banking-related functions**, while cooperative aspects are governed under the relevant cooperative laws.
- The **Banking Regulation (Amendment) Act, 2020** enhanced RBI's regulatory powers over cooperative banks.
- RBI follows a **four-tier regulatory framework** for UCBs based on their deposit size.

Urban Cooperative Banks (UCBs)

- UCBs are **cooperative banks operating mainly in urban and semi-urban areas**, serving households, traders, small businesses and other local borrowers.
- UCBs are **member-owned institutions**, with members generally having ownership and voting rights in the cooperative.
- UCBs have been permitted to **open new branches**, subject to RBI regulations and applicable conditions.
- The housing-loan limit for UCBs has been increased from **10% to 25% of their total loans and advances**, supporting greater credit availability for housing.

- Deposits with UCBs are insured by the **Deposit Insurance and Credit Guarantee Corporation (DICGC) up to ₹5 lakh per depositor per bank**, including principal and interest.

National Urban Co-operative Finance and Development Corporation (NUCFDC)

- NUCFDC is the **umbrella organisation for Urban Cooperative Banks**.
- It was registered with the **RBI in February 2024** and is a **non-deposit-taking NBFC**.
- NUCFDC is intended to address the **fragmentation, technological limitations, financial constraints and operational challenges** faced by UCBs.
- It provides **fund-based support**, including capital support, secured credit lines, refinancing and emergency liquidity assistance to member UCBs.
- It provides **non-fund-based services** such as shared IT infrastructure, treasury management, payment and settlement services, training and consultancy.
- NUCFDC can function as a **Self-Regulatory Organisation (SRO)** for the UCB sector under RBI guidelines.
- It aims to promote **digital banking, cybersecurity, standardised banking operations and regulatory compliance** among UCBs.
- NUCFDC seeks to create **economies of scale** by enabling UCBs to share technology, infrastructure and other common services.
- Its broader significance lies in **strengthening the governance, competitiveness, digital capabilities and financial resilience of UCBs**.

NATIONAL CO-OPERATIVE DEVELOPMENT CORPORATION (AMENDMENT) ACT, 2026

Why in News?

The **National Co-operative Development Corporation (Amendment) Act, 2026** received the **President's assent on 14 August 2026** and

amends the **National Co-operative Development Corporation Act, 1962**.

About

- NCDC was established under the **National Co-operative Development Corporation Act, 1962**.
- The Act defines **"co-operative development"** as **planning, promoting and financing programmes**, either **directly or through an intermediary entity**, for co-operative societies.
- The amendment replaces the reference to the **Multi-State Co-operative Societies Act, 1984** with the **Multi-State Co-operative Societies Act, 2002**.
- The scope of specified **foodstuffs** is expanded to include **processed food and other edible products**, along with other food items notified by the Central Government.
- The definition relating to **industrial goods** is broadened by removing the requirement that such industries be **situated in rural areas**.
- The Corporation may undertake **all necessary or incidental actions** required for performing its functions.
- NCDC may **collect or furnish credit information** from or to the **Central Government, Reserve Bank of India, banking companies or other notified financial institutions**.

REVISED FDI FRAMEWORK

Why in News?

The revised FDI framework was in the news after **29 investment proposals worth ₹4,895.65 crore** were reported under the relaxed rules.

About

- The revised framework permits investors with **non-controlling beneficial ownership of up to 10%** from **Land Bordering Countries (LBCs)** to invest through the **automatic route**, subject to

applicable sectoral caps, entry routes and other conditions.

- The **beneficial ownership test is applied at the level of the investor entity.**
- The **investee entity is required to report relevant information/details to the Department for Promotion of Industry and Internal Trade (DPIIT).**
- **Before the revision,** investments involving beneficial ownership from LBCs generally required **prior Government approval**, even where the LBC ownership was **non-controlling or very small.**
- **New under the revised framework:** FDI proposals from LBCs in specified manufacturing activities such as **capital goods, electronic capital goods, electronic components, polysilicon and ingot-wafer** are to be **processed and decided within 60 days.**
- The revised framework seeks to facilitate **FDI inflows, access to technology, domestic value addition, expansion of domestic firms and integration with global supply chains.**
- The framework applies to **countries sharing a land border with India,** including **China, Pakistan, Bangladesh, Nepal, Bhutan, Myanmar and Afghanistan.**
- The revised framework has already facilitated reported investments across sectors including **Information Technology, Artificial Intelligence, manufacturing, pharmaceuticals, data centres and transport services.**

INTERNATIONAL ENTRY PORTS

The **Ministry of Home Affairs (MHA)** notified **11 additional international entry ports** for foreign nationals holding an Indian **e-Visa**, increasing the total designated entry ports from **77 to 88.**

About

- An **International Entry Port/Immigration Check Post (ICP)** is a designated location where foreign

nationals undergo **immigration and entry processing.**

- The designation of Immigration Check Posts is notified by the **Ministry of Home Affairs (MHA)** under the relevant legal framework governing entry of foreign nationals.
- India introduced the **e-Visa facility in 2014** with **Electronic Travel Authorization (ETA).**
- **e-Visa holders can enter India only through designated e-Visa entry ports,** while exit can be made through authorised Immigration Check Posts.

Newly added entry ports

- The **11 new entry ports** comprise **2 airports and 9 land ports.**
- The **2 airports**
 - **Raja Bhoj Airport (Bhopal)**
 - **Tirupati Airport (Andhra Pradesh).**
- The **9 land ports**
 - **Attari Road (Punjab)**
 - **Agartala (Tripura)**
 - **Darranga (Assam)**
 - **Gede (West Bengal)**
 - **Ghojadanga (West Bengal)**
 - **Haridaspur (West Bengal)**
 - **Jaigaon (West Bengal)**
 - **Dawki (Meghalaya)**
 - **Moreh (Manipur).**
- **Visa entry ports** comprise **37 airports, 38 seaports and 13 land ports.**

INDIA'S RISING DEPENDENCE ON U.S. LPG

Why in News?

India's LPG import basket has shifted sharply towards the **United States** amid disruptions in supplies from traditional Gulf suppliers. During **March–August 2026**, the U.S. accounted for **53% of India's LPG imports**, compared with **7.9% during September 2025–February 2026.**

About

- India meets about **60% of its LPG requirement through imports**, with the remainder supplied through domestic production.
- Traditionally, around **90% of India's imported LPG** came from **West Asian/Gulf suppliers**, particularly the **UAE, Qatar, Kuwait and Saudi Arabia**.
- LPG primarily consists of **propane (C₃H₈) and butane (C₄H₁₀)**.
- During the 2026 supply disruption, India diversified LPG procurement towards the **United States, Norway, Canada, Algeria, Russia**, in addition to available Gulf supplies.
- India's LPG import sources shifted between September 2025–February 2026 and March–August 2026.
 - **United States:** Increased from 7.9% to 53.0%.
 - **UAE:** Declined from 37.8% to 13.4%.
 - **Qatar:** Declined from 21.1% to 5.7%.
 - **Kuwait:** Declined from 15.1% to 4.9%.
 - **Saudi Arabia:** Declined from 14.1% to 5.9%

U.S. LPG Supply

- Indian PSU oil companies entered into a **one-year structured contract for around 2.2 MTPA of LPG from the U.S. Gulf Coast** for 2026.
- The contract represents **nearly 10% of India's annual LPG imports** and was the **first major structured U.S. LPG contract** for the Indian market.
- U.S. LPG is linked to the **Mont Belvieu** pricing benchmark.

ENVIRONMENT

GLAW LAKE

Why in news?

Glaw Lake in Arunachal Pradesh has been designated as the **state's first Ramsar Site**. The designation recognises its **ecological importance and rich biodiversity**. With this addition, **India's total Ramsar Sites has increased to 101**.

About

- Glaw Lake is situated in the Eastern Himalayas within the **Kamlang Tiger Reserve and Wildlife Sanctuary** in Arunachal Pradesh.
- **It is a** pristine freshwater water body supplied continuously by year-round mountain streams.
- Wetland ecosystems such as Glaw Lake play an important role in **water regulation, biodiversity conservation and ecological stability**.



Ramsar Convention

- The **Convention on Wetlands**, commonly referred to as the **Ramsar Convention**, is a global treaty adopted in **1971 in Ramsar, Iran**. Its primary objective is to promote the **conservation of wetlands and their sustainable or wise use**, along with the resources they provide.
- India has been a party to the Ramsar Convention since **1 February 1982**.
- **Montreux Record** is a register of Ramsar Sites where **ecological character has changed, is changing, or is likely to change due to pollution, technological developments or human interference**.
- A wetland can be declared a **Ramsar Site if it meets at least one of nine criteria** related to **ecology, botany, zoology, limnology, hydrology, threatened species or biodiversity**.

ASIATIC LION

Why in news?

Conservation experts have emphasised the need for **stronger habitat protection and scientific population management** of the Asiatic lion. The focus is on ensuring **long-term conservation and genetic diversity** of the species.

About

- The **Asiatic lion (*Panthera leo persica*)** is a critically important large carnivore that survives in the wild only in **India**.
- Historically, its range extended across parts of **West Asia and northern India**, but its present distribution is restricted to the **Gir landscape of Gujarat**.



Conservation Status

- **IUCN Red List:** Vulnerable
- **Wildlife (Protection) Act, 1972:** Schedule I
- **CITES:** Appendix I

Key features

- The Asiatic lion is generally **smaller than the African lion**.
- The Asiatic lion can be identified by a **distinctive longitudinal fold of skin along its abdomen**.

Project Lion

*Project Lion was launched in 2020 as a 10-year conservation programme, Project Lion adopts a landscape-based approach for the long-term conservation of Asiatic lions. It focuses on **habitat management, population monitoring, disease control and strengthening human-lion coexistence** across the lion landscape.*

CLOUDED LEOPARD

Why in news?

Meghalaya has launched **Mission Clouded Leopard**, a dedicated conservation programme for the **Clouded Leopard (*Neofelis nebulosa*)**, which is the **state animal of Meghalaya**.

About

- The Clouded Leopard (*Neofelis nebulosa*) is a **medium-sized, arboreal and nocturnal wild cat** found across the Himalayan foothills, Southeast Asia and southern China.

- In India, it is primarily found in the **Northeastern states**, including Meghalaya, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Sikkim.

Key Features

- It is named after the **cloud-like markings** on its coat.
- It is an excellent climber and has a **long tail and broad paws** adapted for arboreal movement.
- It possesses **exceptionally long canine teeth** relative to its body size.
- It is generally **solitary, shy, nocturnal and arboreal**.
- The **Sunda Clouded Leopard (*Neofelis diardi*)** is a separate species found in Sumatra and Borneo.



Conservation Status

- **IUCN Red List:** Vulnerable
- **CITES:** Appendix I
- **Wildlife (Protection) Act, 1972:** Schedule I
- **State Animal:** Meghalaya

Important Habitats: The **Clouded Leopard National Park** in Tripura, located within the **Sepahijala Wildlife Sanctuary**, is India's first dedicated wildlife park for the species. Important clouded leopard populations are also found in **Manas Tiger Reserve in Assam, Dampa Tiger**

Reserve in Mizoram, and Pakke Tiger Reserve in Arunachal Pradesh.

RAT HOLE COAL MINING

Why in news?

A **High Court-appointed committee** flagged Meghalaya's failure to frame a policy for **closing and securing illegal rat-hole mine openings**, despite the **NGT ban on rat-hole coal mining in 2014**.

About

- **Rat-hole mining** is a primitive and hazardous method of coal extraction in which **very narrow tunnels are dug into hills or through vertical shafts to reach thin coal seams**.
- The tunnels are so narrow that workers often have to **crawl inside like a rat**, hence the name.

Two types:

- **Side-cutting:** Narrow tunnels are dug horizontally into hill slopes to reach the coal seam.
- **Box-cutting:** A rectangular opening is made, followed by a **deep vertical shaft**, from which narrow horizontal tunnels are dug.

Why is it common in Meghalaya?

Meghalaya has **thin and scattered coal seams**, making large-scale mechanised mining difficult. Traditionally, coal-bearing land is also largely under **private, clan or community ownership**, linked to the State's Sixth Schedule framework.

LAWS & JUDICIAL DEVELOPMENTS

- The **National Green Tribunal (NGT)** directed Meghalaya to **stop rat-hole/illegal coal mining throughout the State** and prohibited illegal transportation of coal in **2014**.
- The Supreme Court in 2019, upheld the NGT's position against **unregulated rat-hole mining**.

- However, the Court clarified that **mining itself is not absolutely prohibited**.
- Mining can be undertaken by tribal/private/community landowners **if it complies with the MMDR Act and applicable mining regulations**, including obtaining the required approvals and mining lease.

MMDR Act, 1957

The **Mines and Minerals (Development and Regulation) Act, 1957** applies to Meghalaya, including its tribal areas. Therefore, traditional/community ownership of land **does not mean that minerals can be extracted outside the statutory regulatory framework**.

MIYAWAKI FOREST

Why in News?

Raichur in Karnataka has transformed 22 acres of land using the Miyawaki plantation method, highlighting the use of dense urban afforestation techniques for increasing green cover and restoring degraded land.

About

- The **Miyawaki method** is an afforestation technique developed by **Japanese botanist and plant ecologist Akira Miyawaki in the 1970s**.
- It aims to create **dense, native forests in a relatively small area within a short period**.
- It is particularly suited to **urban areas and degraded or vacant land**, where conventional large-scale afforestation may not be feasible.

Key Features

- **Native species:** It primarily uses indigenous plant species suited to the local climate and soil.

- **High-density plantation:** Multiple species are planted very close together, generally around **3–5 saplings per sq. metre**.
- **Multi-layered structure:** Plants are arranged into **four layers : shrub, sub-tree, tree and canopy**.
- **Soil preparation:** Soil is enriched with organic matter/biomass to improve **fertility, aeration and water-retention capacity**.
- **Mulching:** The soil surface is covered with mulch to retain moisture and suppress weeds.
- **Rapid growth:** Under suitable conditions, plants can grow considerably faster than conventional plantations.

LEPIDOPTERA

Why in News?

Scientists of the Zoological Survey of India (ZSI) have published a detailed *Catalogue of Lepidoptera (Butterflies & Moths) of India*. The catalogue records **13,703 species of Lepidoptera in India**, including **1,417 butterflies and 12,286 moths**, highlighting India's rich lepidopteran diversity.

About

- **Lepidoptera** is an order of insects that includes **butterflies and moths**.
- It is the **second-largest insect order after Coleoptera**, with around **180,000 species globally**.
- Lepidopterans are found on **every continent except Antarctica** and are particularly diverse in **tropical regions**.
- Most adult lepidopterans possess **two pairs of wings covered with microscopic scales**, giving the order its name, meaning **"scaly-winged."**
- Lepidopterans undergo **complete metamorphosis**, with four distinct stages: **egg, larva (caterpillar), pupa and adult**.
- The **larval stage is generally herbivorous**, with caterpillars feeding mainly on plant leaves.

- Adult butterflies and moths commonly feed on **nectar** and contribute to **pollination**.



Ecological Importance

- **Pollination:** Adult butterflies and moths contribute to pollination, with moths playing an important role as **nocturnal pollinators**.
- **Food chain:** Caterpillars act as **primary consumers**, while both larvae and adults form food for birds, bats and other predators.
- **Agriculture:** Caterpillars can also become agricultural pests because they consume large quantities of plant foliage.
- **Economic importance:** The **silkworm (*Bombyx mori*)**, a moth, is the source of commercial silk.

COMMISSION FOR AIR QUALITY MANAGEMENT (CAQM)

Why in News?

The Commission for Air Quality Management (CAQM) has approved a phased shift towards cleaner Light Goods Vehicles (LGVs) in Delhi-NCR and strengthened dust-control measures at stone-crushing units. The move is aimed at reducing vehicular and particulate pollution in the region.

About

- CAQM is a statutory body established under the **Commission for Air Quality Management in National Capital Region and Adjoining Areas Act, 2021** to

coordinate and address air-pollution issues in Delhi-NCR and adjoining areas.

- It replaced the **Environment Pollution (Prevention & Control) Authority (EPCA)** as the key statutory institution for air-quality management in the NCR.
- Its jurisdiction covers **Delhi and NCR areas of Haryana, Uttar Pradesh and Rajasthan**, along with adjoining areas whose activities affect NCR air quality.
- The Commission can issue **directions and take measures relating to industrial emissions, vehicular pollution, construction dust, biomass burning and other sources of air pollution.**

Important Functions of CAQM

- CAQM coordinates **air-pollution control measures across multiple States and agencies**, addressing the regional nature of Delhi-NCR pollution.
- It monitors and acts upon pollution from **vehicles, industries, construction and demolition, road dust and crop-residue burning.**
- It can issue **statutory directions** to authorities and industries for controlling air pollution.
- It oversees implementation of measures such as the **Graded Response Action Plan (GRAP)** during periods of deteriorating air quality.

CAQM vs GRAP

CAQM is the statutory authority/institution, while GRAP is an emergency response framework containing graded measures that are activated according to the severity of air pollution in Delhi-NCR. GRAP was approved by the Supreme Court in 2016 and notified in 2017.

CITES

Why in News?

The Directorate of Revenue Intelligence (DRI) seized 54 carved ivory artefacts and arrested four individuals in Lucknow on August 19, 2026, **highlighting ongoing enforcement challenges against transnational wildlife trafficking under CITES.**

About

- **CITES** is an international agreement that regulates **international trade in wild animals, plants and their parts/derivatives.**
- It aims to ensure that such trade is **legal, sustainable and does not threaten species survival.**
- It was **adopted in 1973 and entered into force in 1975.**
- The CITES Secretariat is located in **Geneva, Switzerland**, and the Convention is administered by **UNEP.**
- **India became a Party to CITES in 1976.**

CITES Appendices

Appendix	Key Feature
Appendix I	Species threatened with extinction; international commercial trade is generally prohibited.
Appendix II	Species whose trade must be controlled to prevent threats to their survival.
Appendix III	Species protected in a particular country that seeks international cooperation to control their trade.

India and CITES

- India implements CITES obligations mainly through the **Wild Life (Protection) Act, 1972**, as amended.
- The **Directorate of Wildlife Preservation, Ministry of Environment Forest and Climate Change** functions as India's **CITES Management Authority**.
- CITES provisions are particularly relevant to combating **illegal wildlife trafficking**, including trade in **ivory, rhino horn, pangolin scales and exotic species**.

ENVIRONMENTAL PERFORMANCE INDEX (EPI)

Why in News?

The **2026 Environmental Performance Index (EPI)** ranked **177 countries** on their environmental performance, with **India placed 176th** with a score of **22.46**.

About

The **Environmental Performance Index (EPI)** is a biennial report published jointly by the **Yale Center for Environmental Law & Policy (YCELP)** and the **Center for International Earth Science Information Network (CIESIN)** at **Columbia University**.

The EPI was initiated in **2000** as the **Pilot Environmental Sustainability Index**.

The EPI serves as a global benchmark to track progress towards the **UN Sustainable Development Goals (SDGs)**, the **Paris Agreement**, and the **Kunming-Montreal Global Biodiversity Framework**.

Scope

The **2026 edition** evaluates **177 countries** using **47 performance indicators**, grouped under **12 issue categories**.

Primary Objectives

The indicators are organised under three overarching policy categories:

1. **Environmental Health:** Covers air quality, sanitation and heavy metals.

2. **Ecosystem Vitality:** Covers biodiversity, habitat protection, forests and fisheries.
3. **Climate Change:** Covers greenhouse gas emissions intensity and projected emissions targets.

Key Findings of EPI 2026

Global Highlights

- **Top Performer:** *Estonia topped the global index with a score of 74.79.*
- **Regional Disparities:** *European nations consistently occupy the top positions due to robust air quality controls, renewable energy adoption and ecosystem restoration initiatives.*

India's Performance

- **Overall Score & Rank:** *India ranked 176th out of 177 countries, with a score of 22.46.*
- **Ranking Trajectory:** *141st (2016) → 177th (2018) → 168th (2020) → 180th (2022) → 176th (2024 & 2026)*

HARA MANGROVE FOREST

Why in News?

Hara Mangrove Forest in Iran's Qeshm Island region has come under environmental threat following an oil spill off the southern coast of Qeshm.

About

- The **Hara Mangrove Forest** is located in the **Persian Gulf region of Iran**.
- It is mainly spread around **Qeshm Island and the Strait of Hormuz**.
- It forms an important coastal ecosystem in the region.
- The forests mainly consist of **Grey Mangrove (*Avicennia marina*)**.
- *Avicennia marina* is highly adapted to **saline coastal environments**.
- Its specialised root system helps the plant survive under high-salinity conditions.
- The Hara forests are designated as a **UNESCO Biosphere Reserve** in 1976.

ECONOMIC & SOCIAL SIGNIFICANCE

- The Hara mangroves support **fisheries** by providing nursery habitats for marine organisms.
- They contribute to **sustainable tourism** in Qeshm Island.
- The area's interconnected waterways and mangrove landscape attract tourists.
- Thus, mangroves provide both **ecological services and livelihood support**.

UNCCD COP17 — UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION

Why in News?

The **17th Conference of the Parties (COP17) to the United Nations Convention to Combat Desertification (UNCCD)** was held in **Ulaanbaatar, Mongolia, from 17–28 August 2026** under the theme **“Restoring Land. Restoring Hope.”**

About

The **United Nations Convention to Combat Desertification (UNCCD)** is a legally binding international agreement dealing with **desertification, land degradation and drought**, particularly in dryland regions.

- It was adopted in **1994** and entered into force in **1996**.
- It emerged from the **1992 Rio Earth Summit**.
- It is one of the **three Rio Conventions**, along with:
 - **UNFCCC** – United Nations Framework Convention on Climate Change
 - **CBD** – Convention on Biological - diversity
 - **UNCCD** – United Nations Convention to Combat Desertification
- It has **197 Parties**.
- Its headquarters is in **Bonn, Germany**.

UNCCD's main objective is to **combat desertification, mitigate the effects of drought and land degradation**, particularly through **sustainable land management and restoration**.

Key Outcomes of UNCCD COP17

- **Rangelands and pastoralists received greater focus**, with countries supporting their conservation, sustainable use and restoration.
- **About \$1.3 billion was mobilised** for 45 projects in 23 countries to restore degraded land and improve drought resilience.
- A **Drought Resilience Investment Facility** was launched to increase funding for water security, sustainable farming and drought management.
- The **Ulaanbaatar Declaration** renewed global commitment to **Land Degradation Neutrality (LDN)** and better implementation of UNCCD goals.
- Countries adopted decisions on **sand and dust storms, land rights, capacity building and private-sector participation** to strengthen action against land degradation.
- **No agreement was reached on a legally binding global drought framework**, and negotiations on this issue will continue at COP18.

India at UNCCD COP17

- **India launched its first-ever Guide to Grasslands and Other Open Natural Ecosystems (ONES)**, highlighting their biodiversity, livelihoods and ecological importance.
- **India highlighted restoration of 21.76 million hectares of land during 2011–2020**, contributing towards its target of restoring **26 million hectares by 2030**.
- **India promoted community-led rangeland restoration**, stressing that pastoralists should be treated as **custodians of rangelands** rather than merely beneficiaries.

- **India called for a shift from reactive drought relief to proactive drought resilience**, using technology, early preparedness and better water management.

E- 20

Why in News?

The **Supreme Court refused to entertain a plea seeking mandatory disclosure of the ethanol content in petrol** at fuel pumps and on fuel receipts.

About E20

- E20 is petrol blended with **20% ethanol and 80% petrol**.
- It is implemented under the **Ethanol Blended Petrol (EBP) Programme**.
- The **20% ethanol-blending target, originally set for 2030**, was advanced to **ESY 2025–26** under the National Policy on Biofuels, 2018, amended in 2022.
- From **1 April 2026**, petrol containing up to 20% ethanol requires a minimum **RON of 95**.
- Vehicles manufactured after **April 2023** under **BS-VI Phase 2** norms were designed for E20 compatibility.
- India achieved the **20% ethanol-blending target ahead of schedule**.

Ethanol is a **renewable biofuel** produced from agricultural feedstocks such as **sugarcane, maize and rice**. It has **lower energy content per litre than petrol**, which may reduce fuel mileage at higher blends.

SCIENCE AND TECHNOLOGY

AGNI-4 MISSILE

Why in the News?

Medium Range Ballistic Missile 'Agni-4' was successfully test-fired from the Integrated Test Range, Chandipur in Odisha on August 06, 2026.

About

Agni-4 is an indigenously developed, nuclear-capable medium-range ballistic missile designed by the Defence Research and Development Organisation (DRDO) to provide India with a reliable long-range strategic strike capability.

Key Features of Agni-4

- **Medium-Range Ballistic Missile:** Agni-4 is an MRBM with a range of approximately **4,000 km** and can carry **nuclear and conventional warheads**.
- **Solid-Propellant System:** It uses a **two-stage solid-propellant propulsion system**, supporting rapid readiness and reliable deployment.
- **Road-Mobile System:** Launched from a **road-mobile Transporter Erector Launcher (TEL)**, allowing repositioning and reducing vulnerability to pre-emptive attacks.
- **High-Precision Guidance:** Uses **inertial navigation**, including **Ring Laser Gyroscope-based navigation** and **Micro Navigation System (MINGS)**, for accurate long-range delivery.
- **Advanced Re-entry Capability:** Its re-entry vehicle has a **heat shield capable of withstanding temperatures above 3,000°C**, protecting the warhead during atmospheric re-entry.
- **Strategic Reach & Agni Family:** With a range of around **4,000 km**, Agni-4 provides

- strategic strike capability and represents an intermediate capability between shorter-range systems and **Agni-5**.

Inertial Navigation System (INS): Determines the missile's **position, speed and direction during flight without relying on external signals such as GPS.**

Ring Laser Gyroscope (RLG): A device that detects the missile's **rotation and changes in orientation**, helping the navigation system maintain an accurate flight path.

Micro Navigation System (MINGS): A **miniaturised navigation system** that provides additional navigation information and helps improve the missile's **accuracy and stability**.

Agni Missile Series

- **Agni-I** - Medium-range **surface-to-surface ballistic missile (MRBM)**; ~750+ km.
- **Agni-II** - Intermediate-range **surface-to-surface ballistic missile (IRBM)**; ~2,000+ km.
- **Agni-III** - Intermediate-range **surface-to-surface ballistic missile (IRBM)**; ~3,500+ km.
- **Agni-IV** - Intermediate-range **surface-to-surface ballistic missile (IRBM)**; ~4,000 km.
- **Agni-V** - Intercontinental-range **surface-to-surface ballistic missile (ICBM)**; ~5,500+ km.
- **Agni-P (Prime)** - New-generation **surface-to-surface ballistic missile**; ~1,000–2,000 km; designed to replace older Agni-I/II systems.

KAVACH VERSION 4.0

Why in news?

The Indian Railways approved the provision of Kavach Version 4.0 on 660 route kilometres of the Izzatnagar Division of the North Eastern Railway, at an estimated cost of ₹295 crore.

What is Kavach?

- **Kavach** is India's **indigenously developed Automatic Train Protection (ATP) system**. It is designed to **prevent train**

collisions and Signal Passed at Danger (SPAD) by continuously monitoring train movements and automatically intervening when necessary.

- It assists the **Loco Pilot in maintaining the prescribed speed** and can **automatically apply brakes** when the required action is not taken by the Loco Pilot.

It also helps ensure safer train operations during **adverse weather conditions**, such as dense fog.

Kavach 4.0 - What is New?

Kavach 4.0 is an upgraded version designed particularly to address the operational requirements of India's **high-density and multi-line railway network**.

Its important improvements include:

- **Improved Location Accuracy:** Enables more precise determination of train location.
- **Better Signal Information:** Improves the availability of signal information, particularly in **large and complex station yards**.
- **Station-to-Station Communication:** Provides a Kavach interface between stations through **Optical Fibre Cable (OFC)** for faster and reliable data exchange.
- **Electronic Interlocking Integration:** Can directly interface with existing **electronic interlocking systems**, improving coordination between train protection and railway signalling.
- **Large-Scale Deployment:** Kavach 4.0 has been developed with the objective of being suitable for deployment across India's diverse and high-density railway network.

Institutional and Safety Aspects

- **Research Designs and Standards Organisation (RDSO):** Kavach 4.0 has been approved by RDSO.
- **Safety Integrity Level:** Kavach is a highly safety-critical system requiring **Safety Integrity Level-4 (SIL-4)** certification.

- **Independent Safety Assessment:** Kavach 4.0 has undergone independent safety assessment and has been certified to meet relevant global safety standards.

GNANI ARTHA – SOVEREIGN AI STACK

Why in News?

Gnani Artha, an end-to-end **sovereign AI stack for Indian enterprises and public institutions**, was unveiled by **Vice-President C. P. Radhakrishnan** in New Delhi on **28 August 2026**.

What is Gnani Artha?

Gnani Artha is an **end-to-end sovereign AI solution** that brings together AI models, an agentic platform and the infrastructure required to deploy them.

It is designed primarily for **Indian enterprises and public institutions**, particularly applications involving sensitive or high-volume data.

Key Components

Gnani Evon v3.3 – Language & Reasoning

- A **30-billion-parameter open-weights language model** trained natively across **11 Indian languages**.
- Designed to perform language and reasoning tasks in Indian languages rather than depending primarily on translation from English.

Gnani Plexus – Agentic AI Platform

- **Plexus** is an **agentic AI platform** that connects AI models with enterprise and public-sector workflows.
- **Agentic AI platform:** An AI system that can **autonomously plan, make decisions, use tools, and execute multi-step tasks** to achieve a specified goal.
- It supports **human-in-the-loop as well as AI-led workflows**, with guardrails, monitoring and audit logging.

Other Models in the Stack

Gnani Artha also incorporates specialised models:

- **Gnani Evon v2.0** - enterprise reasoning and tool orchestration.
- **Gnani Prisma v2.5** - speech recognition / **Automatic Speech Recognition (ASR)**.
- **Gnani Timbre v2.5** - speech synthesis / **Text-to-Speech (TTS)**.

What makes it a "Sovereign AI" system?

- **Self-controlled deployment:** Models can run within an institution's **own data centre or Virtual Private Cloud (VPC)**.
- **Data sovereignty:** Sensitive institutional or customer data can remain within the organisation's-controlled infrastructure instead of being sent to an external AI provider.

Potential Applications

- **Citizen grievance redressal** – Multilingual complaint registration, detection and routing.
- **Welfare-scheme outreach** – Identifying eligible beneficiaries and communicating in their language.
- **DBT failure resolution** – Detecting failed transfers and assisting beneficiaries.
- **Disaster response** – Collecting and categorising requests from affected people.
- **Public-health outreach** – Multilingual reminders and follow-ups.
- **Financial reconciliation** – Identifying discrepancies in government financial records.

BHARATIYA ANTARIKH STATION (BAS)

Why in News?

The **Indian Space Research Organisation (ISRO)** has begun designing the **subsystems of BAS-01**, the first module of India's planned **Bharatiya Antariksh Station**.

Key features of BAS

- **India's Indigenous Space Station:** BAS is planned as India's **first indigenous space station**, developed by ISRO.
- **Five-Module Configuration:** The station is planned to consist of **five modules** and will be assembled progressively in orbit.

- **Low Earth Orbit:** BAS is intended to operate in **Low Earth Orbit (LEO)**, enabling relatively accessible human operations and microgravity research.
- **Phased Development:** Instead of launching the complete station at once, different modules will be **developed and launched in stages**.
- **First Module – BAS-01:** The first module is targeted for **2028** and has received government approval for development and launch.
- **Operational Target – 2035:** The complete **five-module BAS is targeted to become operational by 2035**.

Applications:

1. Enables **long-duration human habitation in LEO** through advanced life-support systems.
2. Supports **microgravity research** in life sciences, medicine, pharmaceuticals, materials and manufacturing.
3. Enables **technology demonstration** for future human space exploration beyond LEO.
4. Builds on **Gaganyaan technologies**—human-rated launch systems, crew escape, life support, docking and recovery.

EVEREST ROCKET ENGINE

Why in News?

Bengaluru-based space-tech startup **Astrobase Space Technologies** unveiled **EVEREST**, described as **India's first privately built 800 kN Full-Flow Staged Combustion (FFSC) LOX–Methane rocket engine**. The engine is being developed for **next-generation reusable launch vehicles**.

Key Features of EVEREST.

- **High-Thrust Engine:** It belongs to the **80-tonne thrust class**, producing approximately **800 kN of thrust**, making it suitable for powerful launch vehicles.
- **Liquid Propellant Engine:** Uses **Liquid Oxygen (LOX)** as oxidiser and **liquid methane** as fuel, together known as **methalox**.

- **Full-Flow Staged Combustion (FFSC):** Both the fuel and oxidiser are passed through **separate preburners** before entering the main combustion chamber. This allows efficient use of propellant and supports operation at high chamber pressures.
- **High Propulsive Efficiency:** The FFSC architecture enables efficient utilisation of propellant and is suited to **high-performance launch systems**.
- **Methane as Fuel:** Methane produces relatively little soot or **coking**, which can simplify engine inspection and refurbishment, an important advantage for **reusable rockets**.
- **Reusable-Launch-Vehicle Focus:** The engine is being designed for **next-generation reusable launch vehicles**, where durability, refurbishment and repeated operation are important.
- **Throttling Capability:** It is designed for a **50%–110% thrust range**, which is particularly useful for controlling a reusable rocket during **descent and landing**.
- **Additive Manufacturing:** The engine uses **metal 3D-printing/additive manufacturing**, enabling the production of complex components and internal cooling channels while potentially reducing manufacturing time.
- **Potential Medium-Lift Application:** Astrobase envisages the technology for launch vehicles capable of carrying significant payloads to **Low Earth Orbit (LEO)**.

GLUE BALLS

Why in news?

The **BESIII experiment in Beijing** has provided further evidence that **X (2370)** could be a **glueball candidate**. A glueball is a theoretically predicted particle made predominantly of **gluons**, the force-carrying particles of the strong interaction.

However, **X(2370)** has **not yet been conclusively established as a glueball**.

What is a Glueball?

To understand a glueball, first understand the **strong interaction**.

- Nature has **four fundamental forces: gravity, electromagnetic force, weak nuclear force and strong nuclear force**.
- The **strong interaction (strong nuclear force)** is the fundamental interaction responsible for binding **quarks** together inside particles such as **protons and neutrons**.
- The theory that describes the interaction between **quarks and gluons** is called **Quantum Chromodynamics (QCD)**.
- In QCD, **gluons** are the force-carrying particles of the strong interaction.
- Unlike photons, which carry no electric charge, **gluons themselves carry colour charge**.
- Therefore, **gluons can interact with other gluons**. This property is called **gluon self-interaction**.
- Because gluons can interact with one another, QCD predicts that they can potentially form **bound states made predominantly or entirely of gluons**. Such a bound state is called a **glueball**.

HYDERACENE

Why in News?

The **University of Hyderabad (UoH)** has secured an Indian patent for **HYDERACENE**, a novel polymer-based material developed for use in **solid rocket propellants** for space and defence applications.

About HYDERACENE

- **HYDERACENE** is a novel **polymer-based burn-rate catalyst** developed by researchers from the **School of Chemistry, University of Hyderabad**.
- It is intended for use in **solid rocket propellants** used in **rockets, missiles and**

other solid-propellant propulsion systems.

- Its key feature is that it performs **two functions simultaneously**:
 - **Binder** – holds the different components of the solid propellant together and provides structural integrity.
 - **Burn-rate catalyst/modifier** – helps control the rate at which the propellant burns.
- In conventional solid propellants, the **binder and burn-rate catalyst are generally separate materials**. HYDERACENE combines these functions within a **single polymer molecule**.
- This dual-function nature can:
 - improve **long-term stability** by reducing separation of the catalyst from the binder;
 - enable **more controlled and efficient combustion** in solid rocket motors.
- HYDERACENE has been developed as an **indigenous alternative to BUTACENE**, a commercially used polymer-based burn-rate modifier that is largely imported.
- The material is formally described as **Ferrocene Polyethylene Glycidyl Grafted Hydroxyl-Terminated Polybutadiene** and was synthesised through **ring-opening polymerisation**.
- The innovation has potential applications in **defence missile systems and space launch vehicles**, contributing to greater **self-reliance in strategic technologies**.

MOON BASE PROGRAMME

Why in News?

NASA has **invited ISRO to join its Moon Base programme**, building on the India-US partnership under the **Artemis Accords**. The invitation was made during the **9th India-US Civil Space Joint Working Group meeting** held at ISRO headquarters, Bengaluru, on **5-6 August 2026**. India and the US also agreed to advance

cooperation on **open scientific data sharing** under the Artemis Accords.

About Moon Base Programme

- NASA's **Moon Base programme** aims to establish a **long-term human and robotic outpost near the lunar South Pole**.
- It will be developed **in phases**, rather than constructed all at once, through a combination of **robotic and human missions**.
- **Phase 1 (Now-2029)**: Robotic exploration, technology demonstrations and identification of suitable locations for future infrastructure.
- **Phase 2 (2029-2032)**: Deployment of initial infrastructure such as **power, cargo transportation, logistics and communication systems**.
- **Phase 3 (2032 onwards)**: Development of a permanent lunar outpost with **habitats, power, communications and transportation systems** to support astronauts for extended periods.
- The **lunar South Pole** is important because of its scientific value and the possibility of accessing **lunar resources**, including water ice. However, the region also presents extreme environmental and terrain challenges.
- The programme envisages significant participation from **commercial and international partners**, rather than being carried out solely by NASA.
- India's participation would build upon its association with the **Artemis Accords**, which provide principles for peaceful, transparent and sustainable civil exploration and use of outer space.
- **India joined the Artemis Accords as the 27th signatory in 2023.**

BIOE3 POLICY

Why in News?

The **Department of Biotechnology (DBT)** has identified six thematic areas under the **BioE3**

Policy for establishing **Biomanufacturing Hubs and Biofoundries**. The policy is expected to strengthen India's indigenous biomanufacturing ecosystem and contribute to the goal of a **\$300-billion bioeconomy by 2030**.

About BioE3 Policy

- **BioE3** stands for **Biotechnology for Economy, Environment and Employment**.
- **Six thematic areas** include:
 - Bio-based chemicals, bioplastics, APIs and enzymes
 - Functional foods and smart proteins
 - Precision biotherapeutics
 - Climate-resilient agriculture
 - Biofuels and carbon capture
 - Futuristic marine and space research
- **Bio-AI Hubs** focus on areas such as **Ayurveda, agricultural innovation, genome diagnostics, synthetic biology and biomolecular design**.
- The policy follows a **public-private co-creation model**, bringing together academia, start-ups, MSMEs and industry.
- Under the policy, financial assistance of **up to 70% of project cost** can be provided, with the remaining **30% expected from the private sector**.

CSIR-CRRI MSS+ TECHNOLOGY

Why in News

CSIR-CRRI showcased its indigenous **Modified Mix Seal Surfacing Plus (MSS+) Technology** to the **Government of Rajasthan**, with a live demonstration conducted on a Jaipur city road in August 2026. Rajasthan is evaluating the technology for wider use in road construction and maintenance.

Key Features

- **MSS+** stands for **Modified Mix Seal Surfacing Plus**.

- It is an **indigenous, sustainable road construction and maintenance technology** developed by **CSIR-Central Road Research Institute (CSIR-CRRI)**.
- It is designed to **extend pavement life** while reducing:
 - **Construction emissions**
 - **Energy consumption**
 - **Maintenance costs**
- It enables **rapid road construction and maintenance**, making it useful for preventive maintenance of roads.
- **MSS+ Smart Mix Pro Automatic Plant**: An indigenously developed **automatic mobile mixing plant** specifically designed for MSS+.
 - Automatically proportions and mixes materials.
 - Ensures **consistent quality**.
 - Reduces **material wastage and manual intervention**.
 - Improves the speed and efficiency of road works.
- **Field application**: MSS+ has already been implemented on **100+ km of roads in Uttar Pradesh**, where it has demonstrated improved pavement durability and cost-effective maintenance.

VEHICLE-TO-VEHICLE(V2V) COMMUNICATION

Why in News

The **Ministry of Road Transport and Highways (MoRTH)** has proposed the **phased implementation of Vehicle-to-Vehicle (V2V) communication systems** in motor vehicles through amendments to the Central Motor Vehicles Rules, 1989.

What is V2V Technology?

- **Vehicle-to-Vehicle (V2V) communication** is a **wireless communication technology** that enables nearby vehicles to exchange information with each other in real time.

- Vehicles can share information such as: **Speed, Position/location, Direction, Acceleration/deceleration, Braking status.**
- V2V is a component of the broader **Vehicle-to-Everything (V2X)** ecosystem and comes under **Intelligent Transport Systems (ITS).**
- Unlike conventional safety systems such as cameras and radar, which mainly depend on what the vehicle's sensors can detect, **V2V allows vehicles to communicate information beyond the driver's direct line of sight.**

GHOST PARTICLES – NEUTRINOS

Why in News?

A new study by the **Double Chooz Collaboration**, published in *Physical Review Letters*, has reported the **first high-precision measurement of the neutrino signature from spent nuclear fuel.**

About

- **Neutrinos** are electrically **neutral, extremely light subatomic particles** that interact only very weakly with matter.
- Because they interact so weakly, they can pass through **matter, including the human body and even large quantities of material**, with very little interaction. Hence, they are popularly called “**ghost particles.**”
- They are produced in several **nuclear and astrophysical processes**, including:
 - **Nuclear reactors**
 - **Radioactive decay**
 - **The Sun and other stars**
 - **Supernovae**
- In nuclear reactors, **beta decay of radioactive fission products produces antineutrinos** in enormous numbers.
- Unlike charged particles, neutrinos are **not significantly deflected by electromagnetic fields** and can travel through matter over large distances.
- Their extremely weak interaction makes them **difficult to detect**, requiring highly sensitive detectors and often substantial shielding against background radiation.

CYBER-PHYSICAL SYSTEMS (CPS)

Why in News

The **Department of Science and Technology (DST)** is strengthening India's **Cyber-Physical Systems (CPS)** ecosystem through the **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)**, with a focus on indigenous technology, specialised talent and technology translation.

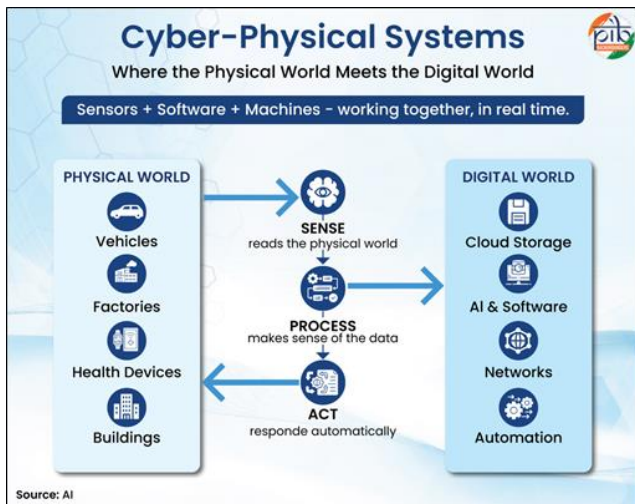
Standard Model Connection

- **Neutrinos are elementary particles belonging to the lepton family** of the Standard Model.
- There are **three types (flavours): electron neutrino (ν_e), muon neutrino (ν_μ) and tau neutrino (ν_τ).**
- They are **electrically neutral** and interact primarily through the **weak interaction.**
- The Standard Model also includes (particles that make up matter) such as **quarks, leptons, force-carrying bosons and the Higgs boson (Higgs boson gives mass to many elementary particles.).**

CYBER-PHYSICAL SYSTEMS

- **Cyber-Physical Systems (CPS)** connect the **digital and physical worlds**, enabling machines to **sense, analyse and respond** intelligently.
- A CPS integrates **computing technologies with physical systems** through:
 - **Sensors** – sense and collect information from the physical environment.
 - **Software/computing** – process and analyse the information.
 - **Communication networks** – enable exchange of information.

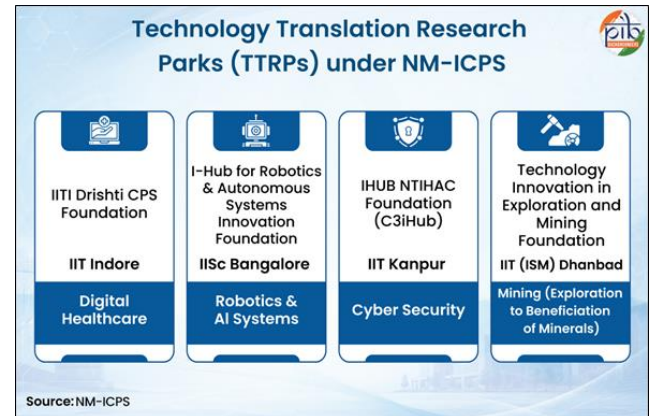
- **Physical systems** – respond to the processed information.
- Thus, CPS brings together **computation + communication + physical processes** to create intelligent, connected and responsive systems.
- **Examples:** driverless cars, smart factories, medical monitoring devices, smart buildings, cleaning robots and fitness trackers.



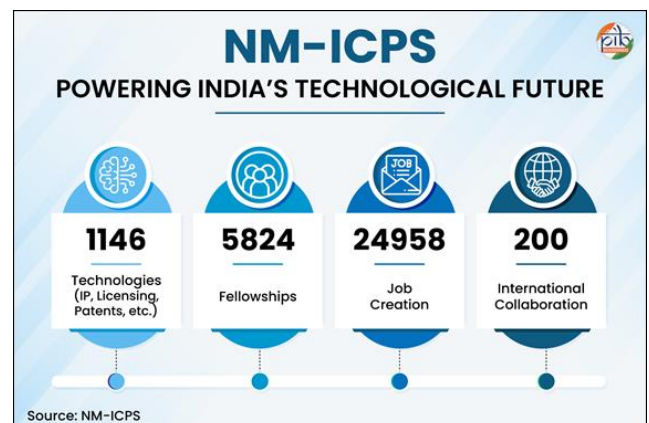
National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)

- NM-ICPS is being implemented by the **Department of Science and Technology (DST)** to develop India's indigenous capabilities in CPS.
- The **Union Cabinet approved the Mission in 2018** with an outlay of **₹3,660 crore for nine years**.
- It provides a national framework for **CPS research, innovation and applications**, connecting **academia, industry, Government and international organisations**.
- **25 Technology Innovation Hubs (TIHs)** have been established as **Section 8 companies** at premier academic institutions.
- TIHs work across four broad areas:
 - **Technology Development**
 - **Human Resource Development and Skill Development**

- **Innovation, Entrepreneurship and Start-up Development**
- **International Collaborations**
- In **2025**, four high-performing TIHs were supported as **Technology Translation Research Parks (TTRPs)** at:



- **Major Outcomes of NM-ICPS**
- As of **August 2026**, the Mission has:



- The **CHANAKYA Fellowship Programme** supports **undergraduate, postgraduate, PhD and postdoctoral researchers** working on real-world CPS challenges.
- **BharatGen**, supported under NM-ICPS, adds a **sovereign, multilingual and multimodal AI layer** to the CPS ecosystem, supporting applications across areas such as healthcare, agriculture and governance.

ROTATING DETONATION ENGINE (RDE)

Why in News

Rotating Detonation Rocket Engines (RDREs) are being actively developed and tested for **next-**

generation space propulsion, including potential applications for **Moon and Mars missions**. NASA has demonstrated full-scale RDRE technology and continues to work on improving its efficiency, injectors, cooling and integration with spacecraft.

What is a Rotating Detonation Engine?

- A **Rotating Detonation Engine (RDE)** is an advanced propulsion system that produces thrust using **detonation**, rather than the conventional **deflagration-based combustion** used in most rocket engines.
- **Deflagration** is a relatively slower combustion process in which the flame front travels through the unburnt mixture at **subsonic speed**.
- **Detonation** involves a **supersonic shock wave coupled with combustion**, producing a rapid release of energy and a significant increase in pressure.
- In an RDE, the fuel and oxidiser are injected into an **annular (ring-shaped) combustion chamber**.
- A **detonation wave continuously travels around the annular chamber**, rapidly consuming the propellant mixture and generating high-pressure combustion products.
- These high-pressure gases expand through the nozzle and produce **thrust**.

How is it different from a Conventional Rocket Engine?

- **Conventional rocket:** Propellants burn through relatively slower **deflagration** at approximately constant pressure.
- **RDE:** Uses **detonation** to achieve **pressure-gain combustion**, the combustion process itself produces a pressure increase that can improve propulsion efficiency.
- Because combustion occurs extremely rapidly, the combustion chamber can be **much shorter and more compact** than a conventional rocket engine. NASA notes that RDRE combustors can be only a few inches long and has demonstrated

substantial reductions in overall engine length.

Key Advantages

- **Higher efficiency:** ~10–15% potential improvement in specific impulse.
- **Reduced propellant:** Higher efficiency → less propellant for the same mission.
- **Compact & lightweight:** Shorter and potentially lighter propulsion system.
- **High power density:** Rapid detonation produces high combustion power density.
- **Wide propellant range:** Works with various propellants, including **cryogenic propellants**.

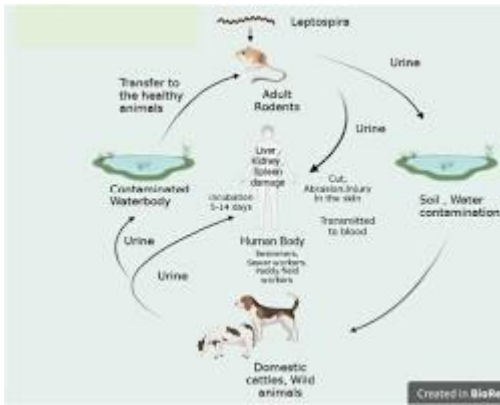
LEPTOSPIROSIS

Why in the News?

Leptospirosis cases and deaths have increased in Kerala during the monsoon.

About Leptospirosis:

- **Leptospirosis is a bacterial zoonotic disease** caused by pathogenic bacteria of the genus *Leptospira*.
- It is commonly **transmitted through contact with water or soil contaminated by the urine of infected animals**, particularly rodents.
- The bacteria can enter the human body through **cuts, abrasions or mucous membranes**, especially during contact with contaminated water.
- **Floods, heavy rainfall and waterlogging increase the risk** of transmission, making the disease particularly important during the monsoon.
- Common symptoms include **fever, headache and muscle pain**, while severe infection can cause **kidney and liver dysfunction and other complications**.
- India implements the **Programme for Prevention and Control of Leptospirosis (PPCL)**, focusing on surveillance, diagnosis, case management, prevention and inter-sectoral coordination.



CHANDIPURA VIRUS

Why in the News?

Reported cases of acute encephalitis syndrome (AES), particularly among children in India.

About Chandipura Virus:

- **Chandipura virus (CHPV)** is an **RNA virus** belonging to the **Rhabdoviridae** family and *Vesiculovirus* genus.
- It is primarily transmitted by **sandflies**, particularly *Phlebotomus* species.
- **Children are particularly vulnerable**, and infection can cause **acute encephalitis syndrome (AES)**.
- The disease may present with **fever, headache, vomiting, seizures and altered consciousness**, and severe cases can progress rapidly.
- The virus is mainly reported in **India**, with outbreaks often associated with **rural and semi-rural areas**.
- **Sandfly bites are the major mode of transmission**; prevention focuses on reducing vector exposure and controlling sandfly populations.
- There is **no specific antiviral treatment or widely available vaccine**; management is primarily supportive and focuses on early diagnosis and treatment of complications.



H1N1 (SWINE FLU)

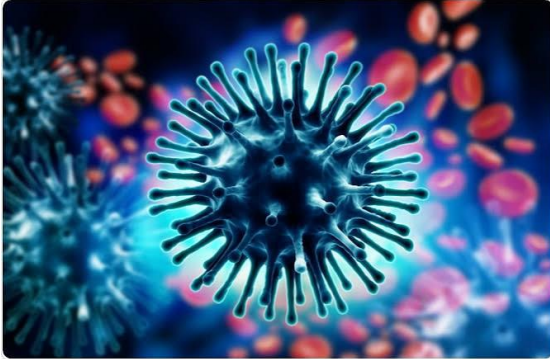
Why in the News?

Reported H1N1 cases increased during the seasonal influenza period, highlighting the need for surveillance and preventive measures.

About H1N1:

- **H1N1 is a subtype of Influenza A virus** that causes an acute respiratory infection, commonly called swine flu.
- The virus responsible for the **2009 pandemic is A(H1N1)pdm09**, which continues to circulate as a seasonal influenza virus.
- **H1 and N1 refer to two surface proteins** of Influenza A — Hemagglutinin (H1) and Neuraminidase (N1).
- It primarily spreads through **respiratory droplets** released during coughing and sneezing.
- Transmission can also occur through **contaminated hands or surfaces** followed by touching the mouth, nose or eyes.
- The **incubation period is generally 1–4 days**, with symptoms commonly appearing around two days after infection.
- Common symptoms include **fever, cough, sore throat, headache, muscle pain, chills, runny nose and fatigue**.
- Severe infection can cause **pneumonia, respiratory failure and sepsis**, particularly in high-risk groups.
- **Seasonal influenza vaccination is an important preventive measure**, especially for people at higher risk of severe disease.

- **Antiviral medicines such as oseltamivir may be used for treatment**, particularly in severe cases or among individuals at higher risk of complications.



Pluripotent stem cells

Pluripotent stem cells are stem cells that have the ability to differentiate into almost all cell types of the human body. They include **embryonic stem cells (ESCs)**, derived from the inner cell mass of a blastocyst, and **induced pluripotent stem cells (iPSCs)**, which are created by reprogramming adult somatic cells. They can form cells from all three germ layers—**ectoderm, mesoderm and endoderm**—and have applications in regenerative medicine, disease modelling, drug testing and developmental research.

BRAIN ORGANOIDS

Why in the News?

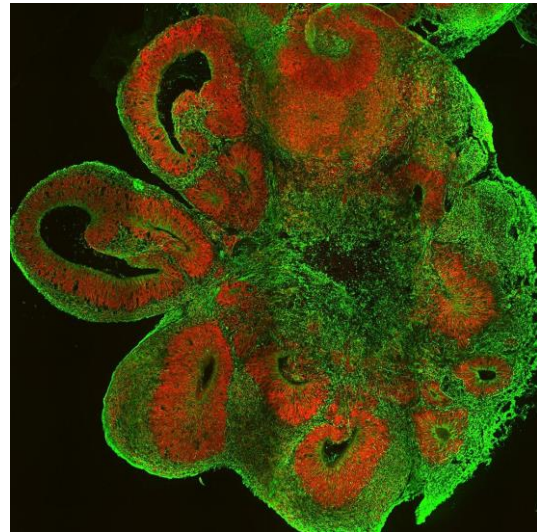
Harvard University researchers successfully grew human brain organoids in the laboratory for a record seven years, showing ageing patterns similar to those of the human brain.

About Brain Organoids:

- **Brain organoids are tiny 3D clusters of human brain cells** grown in laboratories from **pluripotent stem cells**.
- They can **mimic certain structural and functional features of the human brain**, including aspects of brain development and ageing.
- They can be used to study **neurological disorders** such as Alzheimer's,

Parkinson's, autism and epilepsy, as well as for **drug discovery and testing**.

- Brain organoids can support **personalised medicine** using patient-derived stem cells and may reduce dependence on animal models.



Types of Influenza Viruses and Examples

Influenza A: Infects humans and animals; causes seasonal epidemics and pandemics. Examples: H1N1 (Swine Flu), H5N1 (Avian Influenza/Bird Flu), H3N2 (Seasonal Influenza).

Influenza B: Mainly infects humans; causes seasonal influenza but not pandemics. Examples: B/Victoria (Influenza B lineage), B/Yamagata (Influenza B lineage).

Influenza C: Causes generally mild respiratory infections and rarely causes epidemics. Example: C/Johannesburg/1/66 (Influenza C strain).

Influenza D: Primarily infects cattle and other livestock; no established human disease. Example: D/bovine/Oklahoma/660/2011 (Bovine Influenza D strain).

INTERNATIONAL RELATIONS

INDIA-UK COMPREHENSIVE ECONOMIC AND FREE TRADE AGREEMENT

Why in news?

The **India-UK Comprehensive Economic and Trade Agreement**, alongside the **Double Contribution Convention**, took effect on **July 15, 2026**.

About

The **agreement** is a landmark **pact** designed to deepen **bilateral economic ties**, boost **investment**, integrate **India** into **Western supply chains**, and double bilateral trade toward **USD 120 billion** (projected to boost trade by roughly **£25.5 billion annually by 2040**).

Key Features:

- **Indian Exporters:** The **United Kingdom** granted **duty-free access** to roughly **99 percent** of **Indian goods**, boosting sectors like **textiles**, **marine products**, **engineering**, and **IT-enabled services**.
- **UK Exporters:** **India** provided phased **tariff concessions** on nearly **91 percent** of **United Kingdom imports** for a **reciprocal framework**.
- **Sensitive Sectors:** **India** protected **domestic industries** by granting **zero duty concessions** on **dairy**, **agriculture**, **millets**, **edible oils**, **apples**, and **gold**.
- **Services Sector:** The **United Kingdom** opened **12 major service sectors** and **137 sub-sectors**, creating opportunities for **Indian IT**, **healthcare**, **finance**, and **engineering professionals**.
- **Automotive:** **India** established a **quota-based, phased opening** for **automobiles**, delaying **import concessions** for affordable **electric vehicles** until **six years** to protect **domestic manufacturers**.
- **Professional Mobility:** The **Double Contribution Convention** exempts temporary **Indian workers** from **United**

- **Kingdom national insurance contributions** for up to **60 months**, saving **millions annually**.
- **Trade Facilitation Mechanisms:** The pact features streamlined **electronic customs procedures** and simplified **rules of origin** supporting **self-certification** to benefit **small and medium enterprises**.
- **Investment & Strategic Context:** The agreement aligns closely with broader frameworks like the **India-UK Vision 2035**, prioritizing mutual cooperation in **renewable energy**, **green infrastructure**, and **digital technology**.

Challenges:

While the **pact** drives **bilateral growth** and expands **trade volumes**, its success depends on resolving **non-tariff barriers**, meeting **United Kingdom technical standards**, and overcoming **climate-related hurdles** like **carbon border adjustment mechanisms**.

NATO

Why in news?

NATO is undergoing a fundamental transatlantic shift as the United States transitions from Europe's primary security guarantor to a strategic enabler, prompting European allies to assume greater responsibility for conventional defense while the U.S. prioritizes the Indo-Pacific.

About

- The **North Atlantic Treaty Organization (NATO)** is an intergovernmental political and military alliance established to ensure collective security and regional stability among North American and European nations.
- Formed on **April 4, 1949**, via the North Atlantic Treaty with 12 founding members, NATO maintains its political headquarters in **Brussels, Belgium**, and its military headquarters in Mons, Belgium.

- Under **Article 5**, an armed attack against one or more member states is considered an attack against all, enforcing mutual collective defense.
- Governed by **Article 10**, membership is open to eligible European states, with major decisions made by **consensus** via the North Atlantic Council.
- The alliance includes **32 members**, spanning major powers like the **U.S., U.K., France, and Germany**, alongside recent additions **Finland** (31st member in 2023, adding an **832-mile Russian border**) and **Sweden** (32nd member in 2024, ending its **military neutrality**).
- India is **not** a NATO member, maintaining strategic autonomy while engaging in selective partnerships, such as signing a "**Framework for Enhanced Cooperation**" in **2021** and participating in past missions like the ISAF in Afghanistan.

Historical and Regional Collective Defense Pacts

- **Warsaw Pact (1955–1991):** Soviet-led Eastern Bloc counterweight to NATO, enforcing collective defense among the **Soviet Union** and its European allies until its dissolution.
- **Collective Security Treaty Organization (CSTO):** Post-Soviet, Russia-led military alliance featuring a mutual defense clause similar to NATO's Article 5.
- **Southeast Asia Treaty Organization (SEATO) (1954–1977):** Cold War collective defense pact created to contain communism in Southeast Asia without maintaining a standing military.
- **Central Treaty Organization (CENTO) (1955–1979):** Originally the Baghdad Pact, uniting the **United Kingdom, Turkey, Iran, Pakistan, and Iraq** to block Soviet expansion in West Asia.

MAKKAH JOINT DEFENCE AGREEMENT (MJDA),

Why in News?

Saudi Arabia, Türkiye, and Pakistan signed the **Makkah Joint Defence Agreement (MJDA)**, establishing a **trilateral security framework** as regional middle powers seek alternatives to the **US security umbrella** amid shifting **West Asian dynamics**.

About

Makkah Joint Defence Agreement creates a **collective security architecture** designed to enhance **regional deterrence, military coordination, and strategic autonomy**.

Key Features and Contributions:

- **Mutual Defense Principle:** Dictates that an armed attack against one member is an attack against all three, establishing a mutual **collective defense** mechanism.
- **UN Charter Article 51:** Grounds the framework in **UN Charter Article 51**, acknowledging the right to **collective self-defence**.

Member Capabilities:

- **Saudi Arabia:** Contributes **financial resources, energy influence, and defense funding**.
- **Türkiye:** Contributes an **advanced defense industrial base, drone technology, aerospace capabilities, and NATO interoperability**.
- **Pakistan:** Contributes **military manpower, conventional capabilities, and nuclear assets**.
- **Institutional Mechanisms:** Envisions **joint military exercises, intelligence sharing, and threat assessments**.

Implications for India:

- **Pakistan's Strategic Space:** Raises concerns that Pakistan could leverage ties with Saudi Arabia and Türkiye for

diplomatic weight and military modernization.

- **Western Indian Ocean Dynamics:** Potential **security coordination** could extend the pact into the **Arabian Sea**, challenging India's role as a **net security provider**.
- **Bilateral Nuance with Riyadh:** Bilateral relations between New Delhi and Riyadh remain anchored through **structured strategic partnerships**.
- **Strategic Response:** Requires India to accelerate defense indigenization under **Atmanirbhar Bharat**, enhance **maritime domain awareness**, and strengthen **minilateral partnerships** across the Gulf and the Indian Ocean.

INDIA-JAPAN DEFENCE COOPERATION

Why in News?

India and Japan signed a **Memorandum of Arrangement on Maritime Security Cooperation** in New Delhi to deepen naval coordination, secure sea lanes, and counter unilateral actions in the Indo Pacific region.

About

India Japan defence cooperation establishes a formal framework between the Indian Navy and the Japan Maritime Self Defense Force to advance regional stability and promote a **free and open Indo Pacific**.

Key Highlights and Areas of Cooperation:

- Set up joint frameworks for information sharing, **Search and Rescue (SAR)**, and **Humanitarian Assistance and Disaster Relief (HADR)**.
- Integrated Japanese technology with **Make in India** for collaborative shipbuilding and mutual warship maintenance.
- Advanced **The UNICORN Project** using the **Unified Complex Radio Antenna (UNICORN)** for enhanced warship stealth via bilateral defense transfer.

- Institutionalized direct research cooperation between **DRDO** and Japan's **ATLA**.
- Aligned strategic policies to protect regional stability and safeguard freedom of navigation.

JAVELIN ANTI-TANK GUIDED MISSILE

Why in News?

India signed a **Letter of Offer and Acceptance (LOA)** with the United States to acquire 60 **Javelin anti tank guided missiles** and associated equipment under **emergency procurement powers** to address immediate operational requirements near the border.

About the Javelin Missile System

The **FGM 148 Javelin** is a **medium-range, man portable**, shoulder fired **anti tank system** built by **Lockheed Martin** and **RTX**. It serves as an immediate tactical bridge for the **Indian Army** while domestic alternatives like the **Man Portable Anti-Tank Guided Missile (MPATGM)** by **DRDO** are finalized.

Key Features

- Utilizes a reusable **Command Launch Unit** that detects, tracks, and locks targets, doubling as an independent surveillance tool.
- Employs an infrared seeker for **fire-and-forget** operation, allowing operators to seek cover immediately after firing.
- Features a **top-attack trajectory** for vulnerable vehicle armor alongside a direct-attack mode for bunkers and fortifications.
- Equipped with a tandem shaped charge **warhead** designed to penetrate advanced **Explosive Reactive Armor**.
- Features a minimal **backblast mechanism** for safe firing from enclosed indoor spaces.
- Weighs roughly **22 kilograms** with an effective range of up to **4 kilometers** for infantry operations.

AMCA PROJECT

Why in News?

The Indian government cleared the execution model and major funding for the **Advanced Medium Combat Aircraft (AMCA)** project, issuing a Request for Proposal (RFP) to three shortlisted private-sector industrial consortia to manufacture the prototypes.

About the AMCA Project

The **Advanced Medium Combat Aircraft (AMCA)** is India's flagship indigenous program to build a **fifth-generation stealth multirole fighter** for the **Indian Air Force (IAF)**. Managed by the **Aeronautical Development Agency (ADA)** under the **Defence Research and Development Organisation (DRDO)**, the twin-engine aircraft aims to bridge critical squadron gaps and advance domestic defense manufacturing under the *Make in India* initiative.

Key Features

- Built with radar-absorbent airframes, internal weapons bays, and S-shaped serpentine air intakes to provide low observable **stealth** that minimizes **radar signature** and evades enemy tracking.
- Engineered to deliver **supercruise** capability by sustaining **supersonic speeds** without relying on fuel-heavy afterburners.
- Outfitted with a **propulsion system** where the initial variant (**AMCA Mk1**) utilizes imported **GE F-414 engines**, while the advanced variant (**AMCA Mk2**) integrates a higher-thrust **indigenous engine** co-developed locally.
- Incorporates **network-centric capabilities**, **Active Electronically Scanned Array (AESA) radars**, and advanced **avionics suites** for real-time situational awareness.

INS MANGROL

Why in News?

Cochin Shipyard Limited (CSL) delivered **INS Mangrol**, the third ship of the **Mahe-class Anti-Submarine Warfare Shallow Water Craft (ASW-SWC)** project, to the **Indian Navy**.

About

INS Mangrol is an advanced **littoral combat vessel** designed to conduct **sub-surface surveillance**, counter shallow-water submarine threats, and replace the **Indian Navy's** ageing **Abhay-class corvettes**. Featuring over **80 percent indigenous content**, the vessel advances India's **defense self-reliance** under the **Aatmanirbhar Bharat** initiative and inherits its name from an erstwhile Indian Naval minesweeper.

Key Features

- Powered by marine diesel engines coupled with a specialized **waterjet propulsion system** that achieves a maximum speed of **25 knots**, a range of **1,800 nautical miles**, and drastically reduced **acoustic noise** to protect sensitive sonars.
- Equipped with state-of-the-art sub-surface sensors, including an indigenous **hull-mounted sonar** and a **low-frequency variable-depth sonar** tailored for tracking quiet conventional submarines in noisy littoral thermoclines.
- Armed with heavy indigenous ordnance, including an **RBU-6000 anti-submarine rocket launcher**, **Advanced Light-Weight Torpedoes (Shyena)**, and **mine-laying rails** for defensive minefields.
- Integrated with multi-role capabilities to perform **Low-Intensity Maritime Operations (LIMO)** and **mine warfare**, supported by a close-in surface defense system consisting of a **30 mm Naval Surface Gun** and **stabilized remote-controlled machine guns**.

EXERCISE UDARA SHAKTI

Why in News?

The **Indian Air Force (IAF)** concluded its participation in **Exercise Udara Shakti 2026** hosted by the **Royal Malaysian Air Force (RMAF)** at **Subang Air Base**, following deployment from **Exercise Pitch Black**.

About Exercise Udara Shakti

Exercise Udara Shakti is a biennial **bilateral air exercise** between the **Indian Air Force** and the **Royal Malaysian Air Force** designed to strengthen **defense cooperation**, enhance **interoperability**, and share **best practices** in **air combat operations** across the **Indo-Pacific**.

Key Highlights

- Featured the maiden participation of multirole **Rafale fighters** alongside **C-17 Globemaster III** transports.
- Executed **Dissimilar Air Combat Training (DACT)** pitting **Indian jets** against RMAF **Su-30MKM flankers** and **F/A-18D Hornets**.

IN-USN EOD EXERCISE

Why in News?

The **Indian Navy** and the **United States Navy** conducted the eighth edition of the **Explosive Ordnance Disposal (EOD) Exercise 2026** at the **Southern Naval Command** in **Kochi**.

About

The **IN-USN EOD Exercise** is a specialized biennial bilateral training program designed to enhance **interoperability** and strengthen professional cooperation between the specialist diving and **EOD teams** of both navies. Conducted since **2005**, this engagement focuses on sharing contemporary **EOD methodologies**, **emerging technologies**, and operational best practices.

Key Highlights

- Conducted **Subject Matter Expert Exchanges (SMEEs)** covering **Improved Explosive Devices (IEDs)**, render-safe

procedures, mine neutralization, and **unmanned underwater systems**.

- Executed cross-training drills in diving disciplines, including **wreck salvage**, specialist gear handling, and **tactical slithering**.
- Performed joint equipment demonstrations and scenario-based exercises to build operational synergy.

BORDER SECURITY FORCE (BSF)

Why in news?

The **West Bengal Cabinet** approved the permanent transfer of **31.905 acres** at **nine locations** to the **Border Security Force (BSF)** for **border fencing** and **security infrastructure**, alongside land for **three new Border Outposts** in **Malda, Nadia, and Cooch Behar**, following a **Calcutta High Court** order directing the state government to hand over **acquired land** by **March 31, 2026**.

About

- Formed on **December 1, 1965**, in the wake of the **India-Pakistan war**.
- Operates under the administrative control of the **Ministry of Home Affairs (MHA)**.
- Recognized as India's **First Line of Defence** along designated **land borders**.
- Guided by the motto "**Duty Unto Death**" (**Jeevan Paryant Kartavya**).

Key Responsibilities & Structure

- Securing India's **international borders** during **peacetime** and preventing **transnational crimes** while assisting the **Indian Army** during **active conflicts**.
- Deployed actively along the **Indo-Pakistan International Border**, **Indo-Bangladesh International Border**, certain sectors of the **Line of Control (LoC)** alongside the **Army**, and in **anti-naxal operations**.
- Equipped with specialized units including an **Air Wing**, **Water/Marine Wing**,

Artillery regiments, and camel and dog units to manage difficult terrains like **deserts, riverine stretches, and marshlands.**

- Headed by a **Director General (DG)** who traditionally serves as an **Indian Police Service** officer.
- Empowered statutorily under the **Border Security Force Act of 1968**, and in the **notified border area**, to conduct **arrests, searches, and seizures** under multiple statutes including the **Customs Act, Passport Act 1967, Narcotic Drugs and Psychotropic Substances (NDPS) Act,** and the **Arms Act.**

Other Central Armed Police Forces In India

- **Indo-Tibetan Border Police (ITBP):** *Specialized mountain-warfare force guarding the high-altitude Indo-China border from the Karakoram Pass to Diphu Pass.*
- **Sashastra Seema Bal (SSB):** *Guarding force assigned to secure India's open borders with Nepal and Bhutan and curb cross-border crimes.*
- **Assam Rifles:** *India's oldest paramilitary force, operating along the Indo-Myanmar border under administrative control of the MHA and operational command of the Indian Army.*
- **Central Reserve Police Force (CRPF):** *India's largest central armed police force, primarily deployed for internal security, anti-naxal operations, and counter-insurgency.*
- **Central Industrial Security Force (CISF):** *Mandated to provide integrated security cover to critical public sector undertakings, nuclear installations, space establishments, and major airports.*

PLACES IN NEWS

KURIL ISLANDS

Why in News?

Russian President Vladimir Putin visited **Iturup Island** in the **Kuril Islands**, prompting diplomatic protests from **Japan** amid strained ties.



About

The **Kuril Islands** form a volcanic **archipelago** in the **Russian Far East** stretching 1,300 kilometers from the **Kamchatka Peninsula** to **Hokkaido**, Japan. Separating the **Pacific Ocean** from the **Sea of Okhotsk**, the 56-island chain is administered by Russia's **Sakhalin Oblast** and lies within the tectonically active **Pacific Ring of Fire**.

Key Aspects

- The four southernmost islands—**Iturup**, **Kunashir**, **Shikotan**, and **Habomai** are claimed by Japan as its **Northern Territories**, fueling a decades-long territorial dispute.
- Because sovereignty over the islands remains unresolved since **World War II**, Russia and Japan have never signed a formal **peace treaty**.
- Russia maintains de facto control over the archipelago, conducting naval and missile

exercises that continuously draw friction with Tokyo.

COLOMBIA

Why in News

Colombia experienced a **magnitude 7.4 earthquake** centered in **Chocó**, triggering structural damage, a humanitarian crisis, and a state of emergency.



About

Colombia (the **Republic of Colombia**) is a multiparty republic in northwestern **South America** with coastlines along both the **Pacific Ocean** and the **Caribbean Sea**.

- **Capital:** **Bogotá** (situated on a northern Andean plateau).
- **Land Borders:** **Panama** (northwest), **Venezuela** (east), **Brazil** (southeast), **Peru** (south), and **Ecuador** (southwest).

Key Geographical Features

- The **Andes** divide northward into three parallel ranges: the **Cordillera Occidental**, the volcanic **Cordillera Central**, and the **Cordillera Oriental**.
- The **Magdalena** and **Cauca** river systems separate these Andean ranges, providing agricultural basins and drainage.

- The landscape spans high-altitude **Páramos**, Caribbean lowlands, the Pacific coast, **Llanos Orientales** savannas, and the **Amazonian rainforest**.
- It features the **Sierra Nevada de Santa Marta**, an isolated mountain mass hosting peaks **Pico Cristóbal Colón** and **Pico Simón Bolívar** (5,775 meters).
- As a **mega-diverse nation**, it encompasses volcanic highlands, tropical rainforests, coral reefs, and **UNESCO biosphere areas**.

Earthquake Vulnerability

- Situated on the **Pacific Ring of Fire**, where the **Nazca** and **Caribbean Plates** subduct beneath the **South American Plate**, driving frequent seismic activity.
- Andean fault systems generate powerful earthquakes that impact major urban centers like **Cali**, **Pereira**, **Manizales**, and **Chocó**.

DANUBE RIVER

Why in the News?

The **Danube River** recorded its **lowest water levels since 1996** due to prolonged drought and heatwaves across Europe.



About

- The **Danube** is Europe's **second-longest river** after the Volga and the **longest river within the European Union**.
- It **originates in the Black Forest mountains of Germany** and **drains into the Black Sea**.

- The river **flows through 10 countries**, making it one of the most internationally shared rivers in Europe.
- It passes through **four national capitals — Vienna, Bratislava, Budapest and Belgrade**.
- The **Rhine–Main–Danube Canal** links the Danube with the **Rhine and North Sea**, making it an important trans-European commercial corridor.
- The **Danube Delta**, located mainly in **Romania and partly in Ukraine**, is a major wetland ecosystem and a **UNESCO World Heritage Site**.

RHINE RIVER

Why in the News?

Water levels in the Rhine River fell below the previous record low set in October 2018, amid drought conditions in Europe.

About

- The **Rhine originates in the Swiss Alps**, with Lake **Toma (Tomasee)** traditionally regarded as one of its sources, and flows northward into the **North Sea**.
- The river flows through or along **Switzerland, Liechtenstein, Austria, Germany, France and the Netherlands**.
- It forms part of the **natural border between Germany and France**.
- The river is known by different names, including **Rhein in German-speaking regions**, **Rhin in France** and **Rijn in the Netherlands**.
- The **Rhine Falls in Switzerland** is one of Europe's major waterfalls and is notable for its very high water discharge.
- Major cities located along the Rhine include **Basel, Strasbourg, Mainz, Cologne and Worms**.
- The Rhine is a **major inland waterway and commercial corridor**, particularly important for transporting goods across Western Europe.



QESHM ISLAND

Why in the News?

Qeshm Island amid rising tensions in West Asia, due to its strategic location near the **Strait of Hormuz**, a major global maritime chokepoint.

About

- **Qeshm Island is Iran's largest island**, located in the **Persian Gulf** in Hormozgan Province, close to the Strait of Hormuz.
- It is separated from mainland Iran by the **Khuran Channel (Clarence Strait)** and lies opposite the **Oman Peninsula**.
- Qeshm is strategically important because of its proximity to the **Strait of Hormuz**, through which a significant share of global oil and LNG shipments passes.
- The island is home to the **Hara Mangrove Forests** and the **Qeshm Island UNESCO Global Geopark**, known for its distinctive geological formations.
- Qeshm was declared a **Free Trade Zone in 1991**, promoting trade, investment, industry and tourism in the region.

SCHEMES

PRADHAN MANTRI VIKISIT BHARAT ROJGAR YOJANA

Why in News?

The Prime Minister recently disbursed around **₹2,400 crore** under the **PM-VBRY** to about **15 lakh first-time employees**, aimed at promoting formal employment and expanding social security coverage.

About

- **PM-VBRY** is an employment-linked incentive scheme to promote **formal job creation** and workforce formalisation.
- **Nodal Ministry: Ministry of Labour & Employment**, Government of India.
- **Implementing Agency: Employees' Provident Fund Organisation (EPFO).**
- It was introduced with a **two-year implementation period** beginning **1 August 2025**.
- The scheme targets the creation of **more than 3.5 crore employment opportunities**.
- It operates through **EPFO (Employees' Provident Fund Organisation)**, linking employment generation with formal social-security coverage.
- It has **two components**:
 - **Part A:** Incentives for **first-time employees** entering EPFO-covered formal employment.
 - **Part B:** Incentives for **employers** creating **additional employment**.
- Under **Part A**, the employee incentive is linked to **one month's EPF wage**, subject to a maximum of **₹15,000**.
- Under **Part B**, employers can receive up to **₹3,000 per month per additional employee**.

- The scheme gives **special focus to manufacturing**, where employer incentives can continue beyond the standard period.
- Employee incentives under Part A are transferred through **Direct Benefit Transfer (DBT)** using the **Aadhaar Bridge Payment System (ABPS)**, while employer incentives are credited to **PAN-linked accounts**.

PRADHAN MANTRI ANUSUCHIT JAATI ABHYUDAY YOJANA (PM AJAY)

Why in News?

The Government informed Parliament that **47,328 villages have been selected under the Adarsh Gram Component of PM-AJAY** for the socio-economic development of Scheduled Caste communities.

About

- **PM-AJAY** is a **Centrally Sponsored Scheme** launched in **2021-22** for the socio-economic development of **Scheduled Castes (SCs)**.
- It was formed by merging three erstwhile schemes: **Pradhan Mantri Adarsh Gram Yojana (PMAGY)**, **Special Central Assistance to Scheduled Castes Sub Plan (SCA to SCSP)** and **Babu Jagjivan Ram Chhatrawas Yojana (BJRCY)**.
- It is implemented by the **Ministry of Social Justice and Empowerment (MoSJE)**.
- The scheme has three components: **Adarsh Gram, Grants-in-Aid and Hostel**.
- **Adarsh Gram** focuses on developing SC-dominated villages by filling gaps in basic infrastructure and essential services.

- Villages with **50% or more SC population** are eligible under the Adarsh Gram component.
- **Grants-in-Aid** supports socio-economic projects such as **livelihoods, skill development, infrastructure and asset creation** for SC communities.
- The **Hostel component** supports the construction and repair of hostels to improve access to education for SC students.
- The scheme is **100% funded by the Central Government**, while States/Union Territories may provide additional resources.
- Implementation is supported through the **PM-AJAY Portal and AJAY Mobile App** for monitoring, geo-tagging and digital tracking of projects.

PRADHAN MANTRI SURYA SAROVAR YOJANA

Why in News?

The Union Cabinet approved the Pradhan Mantri Surya Sarovar Yojana (PM-SSY) to promote the development of **floating solar photovoltaic projects with energy storage systems**.

About

- PM-SSY is a **Central Sector Scheme** aimed at promoting **floating solar photovoltaic (FSPV) projects** on reservoirs and other suitable inland water bodies.
- It targets **5,000 MW** of floating solar capacity with co-located **Energy Storage Systems (ESS)**.
- The storage systems will have a minimum capacity of **two hours, equivalent to 10,000 MWh**.
- The scheme has a total outlay of **₹5,070 crore**.
- Projects will be sanctioned during **FY 2026-27 to FY 2030-31**, while

financial support can continue up to **FY 2032-33**.

- The **Ministry of New and Renewable Energy (MNRE)** is the nodal ministry.
- The scheme is based on an assessment by the **National Institute of Solar Energy (NISE)**, which estimated India's floating solar potential at around **102.18 GWp** across reservoirs and suitable inland water bodies.
- It will support the development of the domestic **floating-system, photovoltaic (PV) module and energy-storage value chains**.
- **All States and Union Territories** are eligible to benefit from the scheme.
- The scheme is expected to increase India's floating solar capacity from around **700 MW to 5,000 MW** through the supported projects.

VIBRANT VILLAGES PROGRAMME II

Why in News?

The **Ministry of Home Affairs** provided an update on **Vibrant Villages Programme-II**, focusing on the development of **strategic border villages** through improved infrastructure, connectivity and livelihood opportunities.

About

- **VVP-II** is a **Central Sector Scheme** with **100% Central funding**.
- It is the **second phase** of the Vibrant Villages Programme, expanding beyond the northern border.
- It has an outlay of **₹6,839 crore** and will continue up to **FY 2028-29**.
- It covers **strategic villages along international land borders** in **15 States and 2 Union Territories**.
- **Nodal Ministry: Ministry of Home Affairs (MHA)**.

- It follows a **saturation-based, convergence-driven approach** for government schemes and services.
- Key interventions include **roads, telecommunications, electricity, education infrastructure and basic amenities**.
- It promotes **sustainable livelihoods** through **cooperatives, Self-Help Groups (SHGs), value chains and tourism circuits**.
- **Village Action Plans** are prepared based on the needs of villages and States.
- Road connectivity is linked with **Pradhan Mantri Gram Sadak Yojana (PMGSY)-IV**.
- **PM Gati Shakti** supports **integrated planning, monitoring and resource mapping**.
- Around **1.40 lakh Class 9 girls** are targeted to receive bicycles in the current year.
- The scheme focuses on reducing **access barriers to secondary education** for adolescent girls.

VIDYA VAHINI SCHEME

Why in News?

Tamil Nadu proposed the **Vidya Vahini Scheme** to strengthen school education through **digital connectivity, learning resources and technology-enabled support**.

About

- It is a **Delhi Government initiative** aimed at promoting **girls' education** by improving access to schools.
- Under the scheme, **free bicycles are provided to Class 9 girl students** in Delhi government schools.
- It addresses **transportation and distance-related barriers** to school attendance.
- It promotes **regular attendance, mobility, independence and self-reliance** among girls.

SOCIAL ISSUES

NURTURING ASPIRATIONS THROUGH VOCATIONAL TRAINING FOR YOUNG ADOLESCENT GIRLS (NAVYA)

Why in News?

The government highlighted the progress of NAVYA, with **1,060 girls trained across 15 States/Union Territories** as of June 2026. The programme has also been expanded to **100 Aspirational Districts** from May 2026.

About

- NAVYA stands for **Nurturing Aspirations through Vocational Training for Young Adolescent Girls**.
- It was launched in **2025** to promote **skill development and socio-economic independence among adolescent girls aged 16–18 years**.
- It is a **joint initiative of the Ministry of Skill Development and Entrepreneurship (MSDE) and Ministry of Women and Child Development (MWCD)**.
- It is implemented under **Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 4.0**.
- It provides **industry-relevant vocational training with embedded On-the-Job Training (OJT)**.
- Training covers **emerging job roles**, while the **Holistic Development Module** covers **digital/financial literacy, career readiness and entrepreneurship**.
- Promotes **employment, self-employment, internships and apprenticeships** through industry linkages.
- **Skill India Digital Hub (SIDH)** enables **real-time tracking** of registration, attendance, training and outcomes.

MISSION ZERO

Why in News?

A National Workshop on “**Mission Zero – Ending Fatalities in Sanitation Work**” was organised in **Bhubaneswar, Odisha**, to strengthen **mechanised sanitation, worker safety and institutional preparedness**.

About

- **Mission Zero** aims to achieve **zero fatalities in sanitation work** through **safe and mechanised sanitation practices**.
- It seeks to eliminate **hazardous manual cleaning** of sewers and septic tanks.
- It promotes **appropriate technology, operational preparedness and institutional coordination**.
- **Emergency Response Sanitation Units (ERSUs)** ensure **systematic and safe sanitation operations**.
- **NAMASTE and GARIMA** support **occupational safety, social security and livelihood opportunities** for sanitation workers.
- **Waste-to-Wealth SHGs** promote **livelihood generation, entrepreneurship and sustainable waste management**.
- Its overall goal is a **safe, dignified and technology-driven sanitation ecosystem**.

THE STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD (SOFI) 2026

Why in News?

The **Food and Agriculture Organization (FAO)** and four other **United Nations (UN)** agencies released the **SOFI 2026 report**,

highlighting a decline in global hunger for the third consecutive year.

About

- SOFI is an annual flagship report on **global hunger, food security and nutrition**.
- It is jointly published by **FAO, International Fund for Agricultural Development (IFAD), United Nations Children's Fund (UNICEF), World Food Programme (WFP) and World Health Organization (WHO)**.
- **Theme of SOFI 2026:** *Understanding and addressing the high cost of a healthy diet.*
- It assesses **undernourishment, food insecurity, nutrition outcomes and affordability of healthy diets**.
- It monitors progress towards **Sustainable Development Goal (SDG) 2 – Zero Hunger**.
- The report highlighted that **global hunger declined for the third consecutive year**, but **Africa surpassed Asia** in the number of people facing hunger for the first time.
- It noted that **645 million people faced hunger in 2025**, while **2.7 billion could not afford a healthy diet**.
- **Conflict, climate shocks, poverty and high food and energy prices** were identified as major drivers of food insecurity.

India's Position in SOFI 2026

- **Undernourishment in Southern Asia declined from 13.9% in 2021 to 9.3% in 2025.**
- Southern Asia recorded a decline of **over 16 million undernourished people** in 2025.
- **Maternal anaemia and child nutrition** remain areas of concern.
- The report emphasised making **nutritious and diverse foods more affordable**.

NITI AAYOG REPORT – REIMAGINING CARE

Why in News?

NITI Aayog released the report titled **“Reimagining Care: Strategies for Empowering Caregivers in Viksit Bharat@2047”** in August 2026.

About

- The report was prepared by the **Social Justice and Empowerment Division of NITI Aayog**.
- **Caregiving** refers to **physical, emotional and social support** for persons unable to perform daily activities independently due to **age, illness or disability**.
- **Formal caregivers:** Trained professionals providing **paid care**; **Informal caregivers:** Family, friends or community volunteers providing **unpaid care**.
- India's care services market was valued at **USD 29.62 billion in 2023** and is projected to reach **USD 72.31 billion by 2030**, growing at **13.76% CAGR**.

Key Highlights

- Elderly population is projected to rise from **149 million (10.5%) in 2022 to 347 million (20.8%) by 2050**.
- Women spend **299 minutes/day** on unpaid care work, compared with **97 minutes for men**.
- Proposes a **National Caregiver Council** and **National Policy on Caregiving**.
- Recommends caregiver qualifications aligned with **National Skills Qualification Framework (NSQF)** and **Recognition of Prior Learning (RPL)**.
- Calls for stronger **social security, financial protection and occupational safety** for caregivers.
- Promotes **home-based care, community caregiving and Self-Help Groups (SHGs)**.
- Seeks to position India as a **global hub for skilled caregiving services**, generating employment under **Viksit Bharat@20**

ART AND CULTURE

NATIONAL ANUBHAV AWARDS, 2026

Why in News?

The **9th National Anubhav Awards Ceremony** was held on **17 August 2026** at **Vigyan Bhawan, New Delhi**, where **15 selected awardees** were felicitated for their contributions to nation-building.

About

- The **Anubhav initiative** was launched in **March 2015** by the **Department of Pension and Pensioners' Welfare (DoPPW)**, Ministry of Personnel, Public Grievances and Pensions.
- It provides an online platform for **retiring and retired government employees** to document their work experiences, administrative innovations, achievements and lessons learned.
- The objective is to preserve the **institutional memory and administrative knowledge** accumulated by experienced government employees.
- These experiences can provide **replicable best practices and suggestions for improving governance and administrative processes**.

Eligibility

Eligible employees include:

- **Central Government employees**
- Employees of **Central Public Sector Enterprises (CPSEs)**
- Employees of **12 Public Sector Banks**
- Generally, employees who are **retiring within the next 8 months** or have **retired within the preceding 3 years** can submit Anubhav write-ups.
- **Basis of Award**
- Every annual National Anubhav Awards cycle provides for **5 Anubhav Awards and 10 Jury Certificates**.
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- Each ANUBHAV Awardees will be felicitated with a medal and certificate and a Prize of 10,000 rupees, whereas a Jury certificate Winner will be presented with a medal and a certificate.
- The **published Anubhav write-ups are evaluated through a structured marking system** introduced to make the assessment more objective.
- The assessment broadly looks at **Quality and significance of the experience**, Outstanding contribution to nation-building, **Innovation and new ideas**, **Impact of the work**, Leadership and exceptional work, Constructive feedback and suggestions, Quality of the write-up.

SANGEET NATAK AKADEMI FELLOWSHIP & AWARDS

Why in News?

The **President of India** conferred the **Sangeet Natak Akademi Fellowships and Awards for 2024 and 2025** on **13 August 2026** at **Vigyan Bhawan, New Delhi**. A total of **115 artists** were honoured.

About

- **Sangeet Natak Akademi (SNA)** is India's **national academy for music, dance and drama** and an **autonomous body under the Ministry of Culture**.
- It is the **apex body for performing arts** in India and works for preservation and promotion of India's performing-arts traditions.
- It was established on **31 May 1952** and became functional in **1953**.
- It was inaugurated by **Dr. Rajendra Prasad** on **28 January 1953** and **Dr. P. V. Rajamannar** was its first Chairman.
- **Headquarters:** New Delhi.
- **Sangeet Natak Akademi Fellowship — Akademi Ratna**

- It is a **prestigious honour for eminent personalities in performing arts**.
- Fellowship is restricted to **40 Fellows at any given time**.
- **Purse: ₹3 lakh**, along with **Tamrapatra and Angavastram**.
- **2024–25: 7 eminent personalities** were selected as Fellows.
- **Sangeet Natak Akademi Awards — Akademi Puraskar**
- The awards have been conferred since **1952**.
- They recognise sustained individual contribution in **music, dance, drama, folk & tribal arts, puppetry and allied theatre arts**.
- **Purse: ₹1 lakh**, along with **Tamrapatra and Angavastram**.
- **2024–25: 108 artists** were selected for the awards.
- **Ustad Bismillah Khan Yuva Puraskar**
- Instituted in **2006** for **young artists**.
- Recognises young talent in performing arts.
- **2024–25: 106 young artists** were selected.
- **Prize: ₹25,000**, along with **Tamrapatra and Angavastram**.

PINGALI VENKAYYA

Why in News?

The Prime Minister paid tribute to **Pingali Venkayya on his 150th birth anniversary on 2 August 2026**, recalling his contribution to the design and evolution of India's National Flag.

About Pingali Venkayya

- **Pingali Venkayya (1876–1963)** was a freedom fighter, educationist, agriculturist, linguist and flag designer who contributed to India's national movement.
- He was born on **2 August 1876** at **Bhatlapenumarru**, in present-day Andhra Pradesh.
- He studied **geology in Colombo, Sri Lanka** and served in the **British Indian Army during the Boer War (1899–1902)**.
- He was proficient in several languages, including **Japanese, Urdu and Sanskrit**, and

worked as a lecturer at **Andhra National College**.

- He developed a close association with **Mahatma Gandhi**, which influenced his participation in the national movement.

Contributions and Legacy

- **National Flag:** Between **1918 and 1921**, he advocated the need for a distinct national flag for India.
- **Swaraj Flag:** In **1921**, at the Indian National Congress session in **Vijayawada (then Bezawada)**, he presented a flag design to Mahatma Gandhi.
- **Evolution of the Tricolour:** His initial design consisted of **red and green bands** and was later modified with a **white band and the Charkha (spinning wheel)**.
- **Freedom Struggle:** He participated in national movements including the **Vande Mataram Movement and Home Rule Movement**.
- **Agriculture:** He conducted research on **cotton cultivation**, earning recognition for his work in the field.
- **Geology and Mining:** His research on **diamonds in Andhra Pradesh** earned him the popular title "**Diamond Venkayya**."
- **Post-Independence Work:** He served as an adviser to the Government of India on **mineral research** and authored *The Mother of Diamonds* in **1955**.
- **National Flag Adoption:** The **Constituent Assembly** adopted the present **National Flag on 22 July 1947**, with the **Ashoka Chakra replacing the Charkha** in the final design.
- **Posthumous Recognition:** The Government of India issued a **commemorative postage stamp in his honour in 2009**.
- A **bronze statue** of Pingali Venkayya was unveiled in **Guntur district in 2021** during the **Azadi Ka Amrit Mahotsav** celebrations.

Contributions to the National Flag

- **Pingali Venkayya (1921):** Presented the initial flag design with red and green bands and the *Charkha*.
- **Mahatma Gandhi:** Suggested the **white band** to represent other communities and the *Charkha* as a symbol of **self-reliance**.
- **Indian National Congress (1931):** Adopted the **saffron-white-green tricolour** with the *Charkha*.
- **Surayya Tyabji (1947):** Finalized the design by replacing the *Charkha* with the **Ashoka Chakra**.
- **Badruddin Tyabji:** Assisted in the formal presentation and adoption process.
- **Constituent Assembly:** Adopted the present National Flag on **22 July 1947**

QUIT INDIA MOVEMENT

Why in news?

Prime Minister Narendra Modi paid homage to all the brave participants of the historic Quit India Movement, honoring their courage and determination in India's freedom struggle.

About

Launched by **Mahatma Gandhi** on **August 8, 1942**, during the **All India Congress Committee** session in Bombay, the **Quit India Movement** (also known as the **Bharat Chhod Andolan** or the **August Kranti Movement**) was a **mass civil disobedience campaign** demanding an immediate end to **British rule**.

Key Slogans and Personalities:

- Mahatma Gandhi gave the **Do or Die** call at **Gowalia Tank Maidan**.
- Yusuf Meherally coined the **Quit India** slogan.
- Aruna Asaf Ali hoisted the **national flag**, and Usha Mehta operated an **underground radio station** in Bombay.

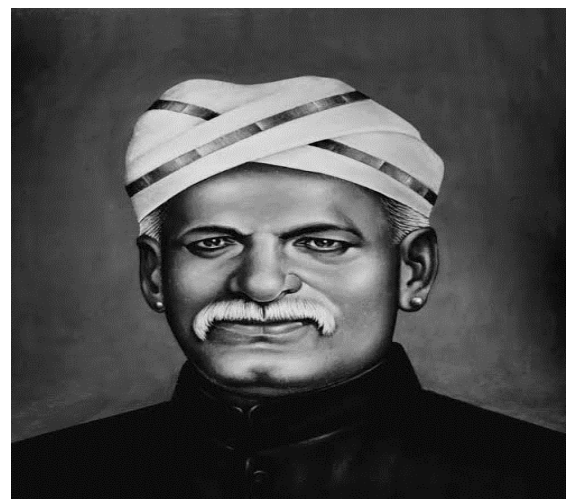
Causes:

- The immediate trigger was the failure of the **Cripps Mission**, which offered partition and **Dominion Status** instead of complete freedom.
- Other factors included **World War II** economic hardships, essential goods shortages, and the fear of **Japanese advancement**.
- Peak **nationalist sentiments** and public impatience following earlier movements.

Key Features and Phases:

- Unlike earlier peaceful efforts, it was an immediate, radical uprising involving **total defiance** of **colonial authority**.
- After major leaders were arrested on August 8 and 9, 1942, it evolved into a **leaderless revolt** marked by urban strikes, rural peasant rebellions, **sabotage** of communication lines, and **underground networks** led by figures like Jayaprakash Narayan, Rammanohar Lohia, and Aruna Asaf Ali.
- Nationalists overthrew colonial rule to establish independent shadow administrations such as in **Ballia** under Chittu Pandey, Tamluk's **Jatiya Sarkar**, and Satara's **Prati Sarkar**, which handled local courts, tax collection, and relief services.
- Though brutally suppressed with over **100,000 arrests**, the movement proved India was ungovernable amid post war realities, transforming political negotiations and paving the way for **independence**.

MAHATMA AYYANKALI



Why in News

The **163rd birth anniversary of Mahatma Ayyankali** was observed on **28 August 2026**. The Prime Minister paid tribute to him, recalling his contributions towards **education for marginalised communities, agricultural labourers and social empowerment**.

About Mahatma Ayyankali

- **Mahatma Ayyankali (1863–1941)** was a pioneering social reformer and Dalit rights leader from Kerala.
- He challenged **caste discrimination and untouchability** in the erstwhile Travancore region.
- Through movements such as the **Villuvandi Protest and Sadhu Jana Paripalana Sangham**, he advanced social equality and dignity.

Contributions

- **Anti-caste movement:** Fought against caste-based discrimination and social exclusion in the erstwhile **Travancore** state.
- **Villuvandi Yatra (1893):** Rode a **bullock cart on public roads**, challenging restrictions on the movement of oppressed communities.
- **Education:** Campaigned for **access to public schools for Dalit children**.
- **Sadhu Jana Paripalana Sangham (1907):** Founded the organisation to promote the **social and educational advancement of oppressed communities**.
- **Agricultural labourers:** Organised an **agricultural labour strike** demanding better working conditions, wages and education for workers' children.
- **Political representation:** Became a member of the **Sree Moolam Popular Assembly** of Travancore, providing representation to the oppressed community.
- **Social dignity:** Worked for **freedom of movement, access to public spaces, education, labour rights and dignity** of oppressed communities.

Honours & Recognitions

- **“Pulaya King”** — Mahatma Gandhi is reported to have referred to Ayyankali by this title.
- **“India's greatest son”** — attributed to former Prime Minister **Indira Gandhi** in recognition of his historical importance.
- **Statue:** A statue of Ayyankali was unveiled at **Kowdiar Square, Thiruvananthapuram, in 1980**.
- **Commemorative postage stamp:** The **Department of Posts issued a stamp featuring Ayyankali in 2002** as part of its Personality Set on Social Reformers.