

OFFICERS IAS ACADEMY™

OFFICERS' PULSE

JUNE 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

RIGHT TO WALK ON FOOTPATH

Why in News?

The Supreme Court of India declared the freedom to walk on demarcated, well-maintained footpaths a **Fundamental Right** that takes priority over the movement of motorized vehicles. A Bench authored by **Justice P.S. Narasimha** issued this ruling during a case involving the death of a five-year-old child who was crushed by a truck while walking to school with his father.

About

Supreme Court Judgement

The Supreme Court anchored the **Right to Walk** primarily under Part III of the Constitution:

- **Article 21 (Right to Life & Personal Liberty):** Walking safely and carefree on footpaths without lurking danger is an essential aspect of a dignified life ("inextricably connected to life").
- **Article 19(1)(d) (Freedom of Movement):** Guarantees the right to move freely throughout the territory of India.
- **Article 19(1)(a), (b), and (c) (Expressional, Congregational, & Associational Rights):** The court noted that walking has deep political and social roots in India (e.g., during the Freedom Struggle) and embodies expression, peaceful assembly, and association.

Key Judicial Observations & Directives

- **Duty of Municipalities:** If a road exists, the state and municipal authorities have an enforceable, non-negotiable duty to construct and maintain usable footpaths.
- **Overriding Motorized Vehicles:** The court emphasized that pedestrian safety takes precedence over the privilege of motorized transport, noting that urban design has historically prioritized vehicles (elitism/car-centric design) while treating walkers as a "nuisance."
- **Legislative Framework:** The court recommended that the Union Government

frame a dedicated law to protect pedestrians, define duty-bearers, and provide remedies.

- **Specialized Regulator:** The court directed the creation of a full-time regulatory body with domain experts to plan, enforce, and maintain pedestrian rights.

The judgment recognizes safe walking as a constitutional right, not just an urban planning issue. It reinforces a **pedestrian-first approach** to urban governance and public infrastructure.

RIGHT TO BE FORGOTTEN

Why in News?

A recent Delhi High Court ruling ordered search engines to remove or obscure judgment details concerning a previously acquitted individual under the **Right to be Forgotten (RTBF)**. This has reopened a major constitutional debate on balancing individual privacy rights against the principle of **open justice** and digital archiving accuracy.

About

The Right to be Forgotten **allows individuals to request the removal or masking of their personal data, past conviction/acquittal records, or personal information from publicly searchable internet databases** once that data is no longer relevant, accurate, or necessary.

Is RTBF a Fundamental Right in India?

- RTBF is **not an explicit statutory right** in India yet, but it flows directly from the **Right to Privacy** under **Article 21** (Right to Life and Personal Liberty).
- In the landmark **Justice K.S. Puttaswamy v. Union of India (2017)** ruling, the Supreme Court recognized RTBF as an intrinsic component of the Right to Privacy, particularly regarding personal autonomy and control over personal information.
- It also held that RTBF is **not absolute** and must be subject to public interest, freedom of expression, and legal requirements.

- In *Vasunathan v. Registrar General, Karnataka High Court (2017)*, the High Court permitted the redaction of a woman's name from a judgment index to protect her reputation and privacy in a sensitive family matter.
- **Arguments For and Against the Right to be Forgotten**

Arguments FOR

1. **Rehabilitation & Dignity:** Prevents a person from being permanently judged by past legal encounters, especially after being acquitted or serving a sentence.
2. **Mitigating "Digital Stigma":** Online search engines make past charges perpetually discoverable, hindering employment, relationships, and social life.
3. **Control over Personal Data:** Gives individuals autonomy over personal details when there is no overriding public interest.

Arguments AGAINST

1. **Compromising the Public Record:** Redacting or removing official acts of the state dilutes legal history and official accuracy.
2. **Chilling Effect on Press Freedom:** Threatens investigative journalism and the right of the public to know (*Article 19(1)(a)*).
3. **Distorting Search Results:** Removing context or selective de-indexing can lead to incomplete public knowledge (e.g., hiding a history of fraud or misconduct).

RIGHT TO KNOW CHILD'S PATERNITY VS FATHER'S RIGHT TO PRIVACY

Why in News?

The Supreme Court upheld trial court orders directing a DNA test in a long-standing paternity dispute. The judgment addresses the **constitutional friction between a child's right to know their biological identity/parentage and an alleged father's fundamental right to privacy and bodily autonomy**.

About

Both the rights claims flow directly from **Article 21 (Right to Life and Personal Liberty)** of the Indian Constitution:

- **Child's Right to Know Paternity:** Recognized as an intrinsic facet of **identity, personal dignity, and status** under Article 21, as well as **Article 7 of the UN Convention on the Rights of the Child (UNCRC)** (right to know and be cared for by parents).
- **Father's Right to Privacy:** Recognized under Article 21 (*Puttaswamy, 2017*). Compelling a person to yield biological samples (blood, saliva) directly interferes with **bodily autonomy** and **informational privacy**.

How Are the Two Rights Balanced? – The "Triple Test"

Courts order a **DNA/genetic test only as a last resort**. Before allowing it, they apply a **Triple Test**:

1. Paternity must be the main issue

- The child's parentage should be the central question in the case (such as maintenance or inheritance).

2. No other evidence should be available

- The court should not have any other reliable documents, witnesses, or evidence to decide the case.

3. The test must serve the interests of justice

- The court must ensure that the benefit of finding the truth is greater than the possible harm, such as violating privacy or causing social stigma.

Supreme court Judgements

LANDMARK SUPREME COURT RULINGS ON DNA TESTING & RIGHT TO PRIVACY

JUDGMENT	KEY HOLDING / BENCHMARK
 <i>Goutam Kundu v. State of West Bengal</i> (1993)	• Established that DNA testing cannot be ordered routinely or on speculative allegations; a strong prima facie case of non-access must be shown first.
 <i>Rohit Shekhar v. N.D. Tiwari</i> (2014)	• Held that a biological father cannot hide behind the veil of privacy to deny a child's right to know their biological lineage and claim legitimate rights.
 <i>Nandlal Wasudeo Badwaik</i> (2014)	• Declared that when legal fiction (presumption of legitimacy) directly conflicts with conclusive scientific evidence (DNA report), scientific truth must prevail .
 <i>Aparna Ajinkya Firodia</i> (2023)	• Applied the Puttaswamy proportionality test , holding that children are not "material objects" and DNA tests should not be weaponized in matrimonial disputes.
 <i>CP v. AP</i> (2026)	• Tied these principles together, holding that where an alleged father continuously denies paternity and no other evidence exists, a court-ordered DNA test passes the proportionality standard and is necessary for justice .

Current Stand of the Supreme Court

- **No Right is Absolute:** An alleged father cannot refuse a DNA test by claiming privacy alone, and a child cannot demand a DNA test in every case. Courts balance the rights of both sides.
- **Refusal Has Consequences:** A person cannot be physically forced to provide a DNA sample. However, if they refuse a court-ordered DNA test, the court may draw an **adverse inference**.
- **DNA Test Only in Exceptional Cases:** Following the **Puttaswamy** judgment, courts allow DNA testing only when it is **legally justified, genuinely necessary, and essential to deliver justice**, while protecting the dignity and privacy of individuals.

ARTICLE 142 AND POCSO

Why in News?

The Supreme Court invoked **Article 142** to set aside a man's conviction under the **POCSO Act, 2012**, after he married the victim upon her attaining majority and they were living together peacefully. The Court clarified that the order was based on the case's unique facts and **shall not be treated as a precedent**.

About

- Article 142(1) confers extraordinary, inherent, and plenary powers on the Supreme Court to pass any decree or order necessary for doing

"**complete justice**" in any cause or matter pending before it.

- It gives the apex court the **liberty to mould remedies suited to unique factual situations** where strict application of procedural or statutory law might lead to injustice.
- Any decree or order passed under Article 142 is **enforceable throughout the territory of India** in such manner as prescribed by Parliament.

Landmark Precedents on Article 142:

- **Union Carbide Corporation v. Union of India (1991):** Supreme Court held that its power under Article 142 is plenary and uninhibited by statutory provisions, provided it does not violate express constitutional prohibitions or fundamental rights.
- **Supreme Court Bar Association v. Union of India (1998):** Clarified that Article 142 cannot be used to supplant substantive statutory law or create a new law altogether; it is meant to **supplement** existing statutory provisions to do complete justice.
- **Shilpa Sailesh v. Varun Sreenivasan (2023):** Held that the Supreme Court can use Article 142 to directly grant a divorce on grounds of "irretrievable breakdown of marriage," bypassing the mandatory waiting period under the Hindu Marriage Act.

Refer January 2026 Digest for POCSO

Judicial Approach in "Adolescent Love" Cases

- The Supreme Court often acknowledges the **distinction between predatory child abuse and consensual romantic relationships** between adolescents that result in formal marriage when both reach legal age.
- To prevent the disruption of a settled domestic life, the Supreme Court invokes

Article 142 as an extraordinary exception to set aside convictions.

- **The "No Precedent" Caveat:** Recognizing that relaxed enforcement could undermine the protective umbrella of POCSO, the Supreme Court consistently attaches a caveat: **such quashing is strictly restricted to the "peculiar facts and circumstances" of the individual case and cannot be cited as a binding legal precedent.**

INCREASE IN SUPREME COURT JUDGES

Why in News?

The Supreme Court got five new judges, taking its working strength to 37 following an **increase in its sanctioned strength from 33 to 37**. The appointments recommended by the collegium headed by Chief Justice of India Surya Kant, aim to tackle mounting pending cases and improve gender and regional diversity on the Bench.

Refer May 2026 Digest

NORTH EASTERN COUNCIL

Why in News?

The North Eastern Council (NEC) convened its **73rd Plenary Session** in Shillong, Meghalaya, chaired by Union Home Minister Shri Amit Shah. The meeting focused on reviewing progress across key sector task forces, boosting inter-state economic initiatives, and deliberating on the **North East Vision Plan 2047** for long-term regional development.

About

- The **North Eastern Council (NEC)** is the **apex regional planning and advisory body** for the development of the **North Eastern Region (NER)**.
- It was **constituted under the North Eastern Council Act, 1971**.
- It functions under the **Ministry of Development of North Eastern Region (MDoNER)**.

- It serves as the **nodal agency** for promoting balanced economic and social development across the eight North-Eastern States.

States Covered

1. Arunachal Pradesh
2. Assam
3. Manipur
4. Meghalaya
5. Mizoram
6. Nagaland
7. Sikkim
8. Tripura

Composition

- The Union Home Minister acts as the **Chairman** of the Council.
- The Union Minister for Development of North Eastern Region (MDoNER) acts as the **Vice-Chairman** of the Council.
- The Ex-Officio Members are the Governors and Chief Ministers of all **8 North Eastern States**.
- 3 members are nominated directly by the President of India.

Roles and Functions

- **Regional Infrastructure & Planning:** Formulates integrated regional plans covering transport, telecommunications, energy, flood management, and cross-border trade.
- **Inter-State Coordination:** Facilitates consensus among member states to resolve inter-state development bottlenecks and foster cooperative federalism.
- **Project Funding & Monitoring:** Finances and monitors developmental projects of regional importance that benefit two or more constituent states.
- **Security & Law Order Review:** Reviews measures taken by member states to maintain security and public order across the region.
- **Strategic Roadmap Execution:** Oversees long-term regional initiatives such as the *North East Vision Plan 2047*, investment summits, and specialized task forces in tourism, agriculture, and sports.

NATIONAL INSTITUTE OF URBAN AFFAIRS

Why in News?

The **National Institute of Urban Affairs (NIUA)** celebrated its Golden Jubilee (50 years of establishment) at Vigyan Bhawan, New Delhi, under the theme '**Resilient Urban India @2047**'.

About

- **National Institute of Urban Affairs** is a premier national **think tank** and apex institute for research, capacity building, and knowledge dissemination in India's urban sector.
- It was established in **1976** as an autonomous body.
- It was registered under the **Societies Registration Act, 1860**.
- It functions under the aegis of the **Ministry of Housing and Urban Affairs (MoHUA)**, Government of India.

Functions

- It acts as a **vital bridge connecting research, policy formulation, and ground-level execution** for Urban Local Bodies (ULBs).
- It **trains urban planners, municipal officials, and local administrative authorities to improve urban governance** and service delivery.
- It **provides evidence-based policy inputs** to central, state, and local governments on urban planning, climate resilience, and municipal finance.
- It coordinates with international development agencies (e.g., World Bank, AFD, Asian Development Bank, WRI) to implement urban innovation programs.

Key Schemes, Initiatives & Flagship Projects

Initiative / Program	Objective / Focus Area

National Urban Learning Platform (NULP)	Integrated hybrid learning framework launched as the urban arm of iGOT-Mission Karmayogi to build capacity among urban officials.
Climate Centre for Cities (C-Cube)	Dedicated hub established at NIUA to mainstream climate action into urban planning and help cities implement climate adaptation measures.
National Urban Digital Mission (NUDM)	Citizen-centric, digital-first urban ecosystem creating open digital public infrastructure (DPI) for Indian cities.
CITIIS (City Investments to Innovate, Integrate & Sustain)	Joint initiative with MoHUA, AFD (French Development Agency), and EU to finance innovative, sustainable, and scalable urban infrastructure projects.
Urban Outcomes Framework (UOF)	Tool to assess and benchmark performance metrics across Indian cities (e.g., Ease of Living Index, Municipal Performance Index).
Urban Renaissance Tech Programme	Specialized program aimed at strengthening tech-led urban governance, innovation,

and smart city applications.

PANCHAYAT ADVANCEMENT INDEX

Why in News?

The **Panchayat Advancement Index (PAI)** was awarded the **Gold Award** at the National e-Governance Awards (NAeG) 2026 under **Category VII: Digital Transformation through the Use of Data Analytics in Digital Platforms**.

About

Panchayat Advancement Index

- The Panchayat Advancement Index (PAI) is a performance assessment framework developed by the Ministry of Panchayati Raj.
- It aims to measure the progress of Gram Panchayats toward achieving the Localized Sustainable Development Goals (LSDGs).
- It relies primarily on data entered by Gram Panchayats through the **Panchayat Enterprise Suite (PES)** and the **eGramSwaraj** portal.

The 9 Localized Sustainable Development Goals (LSDGs)

1. Poverty-free and enhanced livelihoods
2. Healthy Panchayat
3. Child-friendly Panchayat
4. Water-sufficient Panchayat
5. Clean and Green Panchayat
6. Self-sufficient infrastructure in Panchayat
7. Socially just and socially secured Panchayat
8. Panchayat with good governance
9. Women-friendly Panchayat

National e-Governance Award

- National e-Governance Award** is conferred annually to recognize and promote excellence in the implementation, innovation, and replication of **e-Governance and digital public infrastructure (DPI)** initiatives across India.

Institutional Framework

- It is jointly organized by the **Department of Administrative Reforms and Public Grievances (DARPG)** and the **Ministry of Electronics and Information Technology (MeitY)**, in collaboration with state host governments.
- It is presented at the annual **National Conference on e-Governance (NCeG)**.

Award Structure & Key Features

- Incentive Structure:**
 - Gold Award:** Trophy, citation, and ₹10 lakh cash incentive (for tech scaling/R&D).
 - Silver Award:** Trophy, citation, and ₹5 lakh cash incentive.
- Eligible Entities:** Central Ministries/Departments, State/UT Governments, District Administrations, Local Bodies, PSUs, and Academic/Research Institutions.

Categories under National e-Governance Award:

Category	Focus Area
Category I	Government Process Re-engineering by Use of Technology for Digital Transformation Redesigning workflows and processes using digital tools to improve speed, transparency, and public service outcomes.
Category II	Innovation by Use of AI and Other New Age Technologies for Providing Citizen-Centric Services Deploying emerging technologies (e.g., AI/ML, blockchain, IoT) to simplify citizen-facing interactions and service delivery.
Category III	Best e-Gov Practices / Innovation in Cyber Security Building resilient digital infrastructures, proactive threat detection, and robust data protection frameworks.
Category IV	District Level Initiatives in e-Governance Local, district-led ICT interventions that solve grassroots operational issues or improve local administrative efficiency.
Category V	Grassroots Level Initiatives by Gram Panchayats or Equivalent Local Bodies Instituted to deepen service delivery at the rural level – recognizing village-level local bodies leveraging technology for community development.
Category VI	Replication and Scaling of Nationally Awarded / Mission-Mode Projects Successfully adopting and scaling proven e-governance models across States, UTs, or Districts.
Category VII	Digital Transformation by Use of Data Analytics in Digital Platforms Using data analytics to drive evidence-based decision-making, policy formulation, and resource allocation across Central/State ministries.

- Kadepur Gram Panchayat, Sangli (Maharashtra)** was given Gold award under Category V.
- Agri Stack** (Ministry of Agriculture & Farmers Welfare) received the **Gold Award** under Category I.

ANTI-DEFECTION

Why in News?

The Tamil Nadu Assembly Secretariat issued **disqualification notices under the Anti-Defection Law** to four former AIADMK MLAs. The notices were initiated after the **legislators defied their party's official direction (whip)** by voting in favor of the government during a trust vote in the State Legislative Assembly before resigning their seats to join another political party.

About

The **Anti-Defection Law** was incorporated into the Constitution of India via the **52nd Constitutional Amendment Act, 1985**, introducing the **Tenth Schedule**.

- **Article 102(2):** Deals with disqualification of Members of Parliament (MPs) on grounds of defection.
- **Article 191(2):** Deals with disqualification of Members of Legislative Assemblies/Councils (MLAs/MLCs) in states on grounds of defection.
- Any question regarding disqualification under the Tenth Schedule is decided by the **Presiding Officer** of the House (Speaker or Chairman).

Conditions for Disqualification Under the Tenth Schedule

A member of a House (Parliament or State Legislature) incurs disqualification under three distinct categories:

1. Members Belonging to a Political Party

- **Voluntary Giving Up of Membership:** If an elected legislator voluntarily gives up membership of their political party.
- **Voting Against the Whip:** If a member votes or abstains from voting in the House contrary to any direction (whip) issued by their political party, without obtaining prior permission, and such act is **not condoned** by the party within **15 days**.

2. Independent Members

- If an independent member joins any political party *after* the election.

3. Nominated Members

- If a nominated member joins any political party **after the expiry of six months** from the date on which they take their seat in the House. *(If they join within six months, they are not disqualified).*

Exceptions to Defection

1. **Merger of Political Parties (Paragraph 4):** Disqualification does not apply if a political party merges with another, provided that **at least two-thirds (2/3rd) of the members** of the legislature party agree to the merger.
2. **Presiding Officer's Exemption:** A member who gets elected as the Speaker or Chairman of a House can resign from their party upon election and rejoin it after demitting office without incurring disqualification.

Judicial judgements

- In *Kihoto Hollohan v. Zachillhu, 1992 case*, the Supreme Court upheld the constitutional validity of the Tenth Schedule,
- And the Speaker's final decision is subject to **judicial review** on grounds of mala fides, perversity, or violation of natural justice.
- *Keisham Meghachandra Singh v. Speaker, Manipur Assembly, 2020 case*, the Supreme Court held that Speakers must decide anti-defection petitions within a **reasonable time frame**, ideally within **three months**, unless exceptional circumstances exist.

THREE LANGUAGE POLICY

Why in News?

Senior Congress leader **Digvijaya Singh** urged the Prime Minister to defer the **CBSE three-language policy** rollout for Class IX, citing the lack of textbooks, trained teachers, and adequate transition time.

About

- The **Three-Language Policy (or Three-Language Formula)** is an educational policy

that aims to promote **multilingualism, national integration, and regional languages** by requiring students to learn **three languages** during their school education.

Evolution

- **1968 National Policy on Education (NPE):** First formally adopted the Three-Language Formula based on the recommendations of the Kothari Commission.
- **National Education Policy (NEP) 2020:** Continues the three-language approach with greater flexibility.

Key Features under NEP 2020

- **At least two of the three languages must be native to India.**
- **No language is imposed by the Centre.**
- **States, schools, and students have flexibility** in choosing languages.
- The **medium of instruction** is preferably the **mother tongue/home language/regional language** at least until **Grade 5**, and preferably till **Grade 8**.

Constitutional Provisions

- **Article 29:** Protects the language and culture of minorities.
- **Article 30:** Grants minorities the right to establish and administer educational institutions.
- **Article 350A:** Directs States to provide primary education in the mother tongue for children belonging to linguistic minority groups.
- **Eighth Schedule:** Recognizes **22 scheduled languages**.

Is it Mandatory?

- The **Three-Language Formula is a policy guideline, not a constitutional or statutory mandate.**
- **Education is in the Concurrent List (Entry 25, List III)**, so States have flexibility in implementation.

OVER-CROWDING IN PRISONS

Why in News?

The NCRB's *Prison Statistics India* report shows that despite a slight fall in the national prison occupancy rate to **112.7%**, Indian prisons remain overcrowded, with **undertrial prisoners constituting nearly 73% of all inmates**.

About

- Under the **Seventh Schedule** of the Constitution of India, "*Prisons, reformatories, Borstal institutions and other institutions of a like nature*" fall under **List II (State List, Entry 4)**.
- Prison administration and management are the primary responsibility of the respective **State Governments**.
- The **Ministry of Home Affairs (MHA)** provides regular financial assistance, policy guidelines, and **advisory directives** (such as the Model Prison Manual) to modernize and standardize prison administration across states.

Laws relating to prisons

- **Model Prisons Act, 2023** which replaced the colonial-era 1894 Act focuses on reform, rehabilitation, security technology (drones, CCTV), open/semi-open jails, and legal aid.
- **Section 479 BNSS**, mandates the release of undertrial prisoners on bail or personal bond if they have served **half of the maximum imprisonment period** specified for the offence (and first-time offenders who have served one-third).

Constitutional Guarantees

- **Article 21** includes the fundamental right to a **speedy trial**, humane living conditions, and legal aid (*Hussainara Khatoon v. Home Secretary, Bihar, 1979*).
- **Article 39A** directs the State to provide free legal aid to ensure equal access to justice.

National Crime Records Bureau data

Metric	Statistic / Highlight
 Sanctioned Capacity vs Inmates	- Sanctioned capacity: ~4.53 lakh - Total inmates: ~5.11 lakh
 Occupancy Rate	National average stands at 112.7% (down from previous highs, but still over capacity).
 Undertrials Share	~73% of the prison population consists of undertrials (awaiting trial/judgment).
 Convicts Share	Convicted prisoners account for only ~26.6% of total inmates.
 Regional Extremes	Delhi (~194%) and Jammu & Kashmir (~148%) record among the highest occupancy rates. Delhi and Bihar lead in undertrial concentration (>87%).
 Staff Vacancies	Over 40-50% of medical staff and security posts remain vacant across several States/UTs.

ECONOMY

NATIONAL STATISTICAL COMMISSION (NSC)

Why in News?

The **Appointments Committee of the Cabinet (ACC)** has approved the appointment of the **Chairperson and four Members of the National Statistical Commission (NSC)**.

About National Statistical Commission (NSC)

- The **National Statistical Commission (NSC)** is an autonomous body established by the **Government of India through a Resolution dated 1 June 2005**, based on the recommendations of the **Rangarajan Commission**.
- It became operational on **12 July 2006** under the **Ministry of Statistics and Programme Implementation (MoSPI)**.
- It is the apex advisory body for strengthening the credibility, independence, and quality of India's official statistical system.

Composition

- Headed by a **Chairperson** appointed by the Central Government.
- Consists of **four expert Members** from fields such as statistics, economics, demography, social sciences, or public administration.
- The **Chief Statistician of India (CSI)** serves as the **Secretary to the Commission**.

Mandate

- Ensure **professional independence, transparency, and credibility** of official statistics.
- Evolve policies, priorities, and standards for the national statistical system.
- Improve coordination among Central Ministries, State Governments, and statistical agencies.

- Strengthen statistical infrastructure and promote adoption of international best practices.

Functions

- Recommends policies, priorities, and standards for official statistics.
- Monitors the quality, coverage, timeliness, and reliability of statistical data.
- Advises the Government on statistical surveys, methodologies, and data dissemination.
- Reviews the functioning of the national statistical system and recommends reforms.
- Constitutes technical committees and expert groups on statistical issues.

Powers

- Calls for information, records, and reports relating to official statistics.
- Reviews methodologies and statistical standards adopted by government agencies.
- Examines issues affecting the quality and integrity of official statistics.
- Makes recommendations to the Government for improving the statistical system.

Jurisdiction

- Covers the **Indian Statistical System**, including **Central Ministries, Departments, MoSPI, and State statistical agencies**.
- Oversees matters relating to **Core Statistics** and promotes uniform standards and coordination across the country's official statistical system.

LABOUR BUREAU

Why in News?

The **Vizag Steel Plant explosion**, which killed nine people, has brought attention to inconsistencies between industrial accident data compiled by the **Labour Bureau** and the **DGFASLI**, highlighting serious gaps in the reporting of industrial accidents in India.

About

- The **Labour Bureau** is an **attached office under the Ministry of Labour and Employment, Government of India**.
- It was established in **1946** and is headquartered in **Chandigarh**.
- It is responsible for the **collection, compilation, analysis and dissemination of labour statistics** at the national and State levels.
- It compiles information on **industrial disputes, closures, retrenchments and lay-offs in factories**, based on returns received from State Labour Departments and the Regional Labour Commissioner (Central).
- It conducts surveys and collects data on **employment, unemployment, wages, working conditions and industrial relations**.
- It publishes important price indices, including the **Consumer Price Index for Industrial Workers (CPI-IW)**, **CPI for Agricultural Labourers (CPI-AL)** and **CPI for Rural Labourers (CPI-RL)**.
- Its data supports **wage policy, minimum wage fixation, dearness allowance calculation, social security planning and broader labour policy formulation**.

PERIODIC LABOUR FORCE SURVEY

Key Labour Market Indicators (PLFS):

- **Unemployment Rate (UR):** Remained unchanged at **5.5%**, indicating a stable share of the labour force seeking but unable to find work.
- **Labour Force Participation Rate (LFPR):** Held steady at **54.4%**, reflecting the proportion of the population that is either employed or actively seeking employment.
- **Worker Population Ratio (WPR):** Stabilized at **51.4%**, representing the share of the population that is currently employed.

Refer January digest 2026

INDEX OF SERVICES PRODUCTION (ISP)

Why in News?

The **Ministry of Statistics and Programme Implementation (MoSPI)** released India's first **trial monthly Index of Services Production (ISP)** on **14 July 2026**, with **2024–25 as the base year**, to measure short-term changes in the output of the services sector.

About

- The **Index of Services Production (ISP)** is India's first **high-frequency macroeconomic indicator** measuring short-term changes in the output of the **formal services sector** and serves as the counterpart of the **Index of Industrial Production (IIP)**.
- It was developed by the **Ministry of Statistics and Programme Implementation (MoSPI)**.
- The first **sub-sectoral trial ISP** was released for **April 2026**, covering **19 sub-sectors** representing nearly **60% of the services sector**.
- **Base Year: 2024–25**.
- It uses a **fixed-weight Laspeyres volume index**, with weights based on sectoral **GVA contributions** from the **National Accounts Statistics (NAS)**.
- The main data sources are **administrative/secondary data, GST data on outward supplies and ASISSE**.

Key Features

- It is a **monthly indicator** released with an approximate **60-day lag**.
- **14 of 19 sub-sectors** recorded double-digit year-on-year growth in **April 2026**.
- **Top-performing sub-sectors:** Accommodation and food (**37.2%**), retail trade (**30.8%**), administrative and support services (**28.7%**), real estate (**27.7%**) and telecommunications (**22.8%**).
- It marks the **first use of GST data for statistical applications** in compiling a major macroeconomic indicator.

- **Deflators used:** WPI for wholesale trade; sector-specific CPI wherever available; CPI-General for banking and insurance; and CPI-Non-Food where suitable sector-specific deflators are unavailable.
- **Excluded sectors:** Public administration and defence, financial services other than banking and insurance, personal services, government-provided health and education, gambling and betting, etc., due to their **government/non-market nature or significant informal-sector presence**.

UNIFORM GUIDELINE FOR COMPILATION OF DISTRICT DOMESTIC PRODUCT (DDP) ESTIMATES

Why in News?

The Ministry of Statistics and Programme Implementation (MoSPI) released the final **Guideline for Compilation of District Domestic Product (DDP) Estimates with 2022-23 as the base year**.

About

- **District Domestic Product (DDP)** measures the **economic activity and income generated within a district** during a given period.
- The guideline, prepared by the **National Statistics Office (NSO)** under MoSPI, provides a **standard framework** for compiling DDP estimates across **States and Union Territories**.
- It covers:
 - **Gross District Domestic Product (GDDP)**
 - **Net District Domestic Product (NDDP)**
 - **Per Capita Income** at the district level.
- The **draft guideline** was released on **7 April 2026** for consultation with States/UTs, academic institutions, researchers and other stakeholders. The final guideline was released after considering the feedback received.

Methodology

- A **bottom-up approach** is preferred wherever district-level data is available.
- Where adequate district-wise data is unavailable, **top-down approaches and suitable allocation indicators** are used.
- At present, **26 States/UTs** are compiling DDP estimates. MoSPI aims to bring all States and UTs under a **uniform and comparable framework**.
- The guideline is expected to:
 - **Harmonize** DDP estimation practices across States/UTs.
 - Improve the **reliability and comparability** of district-level economic data.
 - Support **decentralized planning, evidence-based policymaking and regional development analysis**.
 - Strengthen **data systems and statistical capacity** at the district level.

WPI BASE YEAR REVISED FROM 2011-12 TO 2022-23 AND INTRODUCTION OF PPI

Why in News?

The **Office of Economic Adviser (OEA)**, DPIIT revised the base year of the **Wholesale Price Index (WPI)** from **2011-12 to 2022-23**. Alongside the revised WPI, new **Producer Price Indices (PPIs)** were introduced on **15 June 2026**.

About WPI

- **WPI** measures the average change in the prices of goods traded at the **wholesale level**.
- It is a **goods-based index** and does not cover services.
- It is compiled and released by the **Office of Economic Adviser (OEA)**, DPIIT.
- The revised series uses **2022-23 as the base year (100)**.
- The revised WPI will continue alongside PPI for **five years** and will be discontinued thereafter to facilitate the transition to PPI

Changes in the Revised WPI Series (2022–23)

- **Expanded Basket:** The number of items has increased from **697 to 957**.
- **Renewable Energy:** Solar, wind and nuclear electricity have been added under the **Electricity** group.
- **Energy Reclassification:** Crude petroleum and natural gas have been shifted from **Primary Articles** to **Fuel and Power**.
- **New Weighting Method:** **Gross Value of Output (GVO)** has replaced **Net Traded Value (GVO + Imports – Exports)** for deriving weights.
- **Improved Computation:** A **short-term, chain-based formulation method** has replaced the earlier long-term formulation method.
- **Improved Missing Data Method:** **Targeted Mean Imputation** has replaced the earlier **Carry-forward method**.
- **Linking Factor:** It has been computed using the ratio of the **geometric means of the 12-month indices** of the old and new WPI series for FY 2024–25.

What is PPI?

- **Producer Price Index (PPI)** measures changes in the prices received by **domestic producers** for goods and services at the **producer/factory-gate level**.
- **Components:** **Output PPI (OPPI)** measures prices received for **final goods and services**; **Input PPI (IPPI)** measures prices paid by industries for **inputs** and was initially introduced on a **trial basis for manufacturing**; **Service PPI** measures price changes in services such as **banking, securities transactions, insurance, pension funds, railways, air passenger services and telecom**.
- **Price Basis:** **WPI, Output PPI and Service PPI** use **Basic Prices** (excluding **net taxes and trade and transport margins**), while **Input PPI** uses **Purchaser's Price**, i.e. the price actually paid by industries for inputs.

EDIBLE OIL

Why in News?

Recently, the Government stated that India is unlikely to face any pressure on edible oil supplies, as major import routes remain unaffected and production in exporting countries is expected to peak between June and September.

About Edible Oils

- Edible oils are mainly **vegetable oils** processed through refining.
- India is one of the **largest consumers and importers of edible oils** globally.
- Domestic production meets only around **40–44% of India's edible oil requirement**, leaving a 56–60% gap met through imports.

Major Oilseed-Producing States in India

- **Soybean:** Madhya Pradesh, Maharashtra and Rajasthan
- **Groundnut:** Gujarat, Rajasthan and Andhra Pradesh
- **Rapeseed–Mustard:** Rajasthan, Uttar Pradesh, Haryana and Madhya Pradesh
- **Sunflower:** Karnataka, Maharashtra and Telangana
- **Oil Palm:** Andhra Pradesh, Telangana, Kerala, Karnataka and Tamil Nadu

India's Major Import Sources

- **Palm oil:** Indonesia and Malaysia
- **Soybean oil:** Argentina and Brazil
- **Sunflower oil:** Ukraine and Russia

Government Initiatives

- **National Mission on Edible Oils–Oil Palm (NMEO-OP):** Launched in 2021 to expand oil palm cultivation area and boost domestic Crude Palm Oil (CPO) production.
- **National Mission on Edible Oils–Oilseeds (NMEO-Oilseeds):** Approved for 2024-25 to 2030-31 to increase primary production of 9 key oilseed crops and maximize secondary oil extraction.

OILSEEDS KISAAN MITRA

Why in News?

ICAR has launched **Oilseeds Kisaan Mitra**, India's first **WhatsApp-based AI advisory service** for oilseed farmers, providing **24×7 multilingual scientific guidance**.

About Oilseeds Kisaan Mitra

- **Platform Identity:** Developed by **ICAR-IIOR, Hyderabad**, **Oilseeds Kisaan Mitra** is a **WhatsApp-based, AI-powered advisory platform** designed to provide farmers with direct access to scientific agricultural research.
- **Objective:** The initiative aims to enhance **crop productivity** and streamline advisory services to help reduce India's heavy reliance on **edible oil imports**.
- **Covered Crops:** It delivers specialized guidance for major oilseed varieties, including **groundnut, mustard, soybean, sunflower, sesame, and niger**.
- **Accessibility:** Operating completely free of charge, the service requires **no separate mobile app or web portal**, utilizing a familiar chat interface.
- **Language and Availability:** It provides **24×7 instantaneous** responses to user queries submitted in **multiple regional Indian languages**.
- **Scope of Guidance:** The platform offers end-to-end support across the crop cycle, covering **variety selection, crop management, pest and disease control, irrigation, and post-harvest practices**.
- **Technology:** Backed by **Artificial Intelligence**, the chatbot draws verified answers directly from a consolidated knowledge base compiled by **multiple ICAR institutes**.

MUGA SILK

Why in News?

Union Minister Jyotiraditya M. Scindia and the **Chief Minister of Assam** launched **Mission Senehjori** to transform Assam's unique Muga silk into a globally competitive luxury brand and increase the incomes of local rearers and weavers.

About Assam Muga Silk

- **Muga silk**, known as the "**Golden Silk of Assam**", is the world's only naturally golden silk and is native to the **Brahmaputra Valley**.
- Assam accounts for around **90% of global Muga silk production** and supports nearly **2.6 lakh rearer and weaver families**.
- It is obtained from the **semi-domesticated multivoltine silkworm *Antheraea assamensis***, which feeds on **Som and Soalu plants**.
- It is valued for its **natural golden hue, durability and eco-friendly production** and received a **GI tag in 2007**.
- Major production hubs include **Jorhat, Sivasagar, Lakhimpur, Dhemaji, Dibrugarh, Tinsukia, Majuli and Sualkuchi**.
- **Mission Senehjori**, led by the **Ministry of Development of North Eastern Region (MDoNER)** in collaboration with the **Government of Assam, Central Silk Board and Ministry of Textiles**, aims to transform Muga silk into a global luxury brand through **value-chain development, infrastructure, branding, GI authentication, digital traceability and export promotion**.
- It targets **regeneration of 5,000 hectares of host plants, five modernised reeling units, a Muga Spun Mill, 30 FPOs, over 1,180 Farmer Interest Groups, traceability for 8,000+ households and GI authentication of over 80% of traded Muga silk**.
- By **2028**, it aims to increase exports to **over 2,000 kg annually** and promote silk tourism through a **Muga Silk Trail, Silk Tourism Park and Muga Utsav**.
- Muga silk is traditionally used in **sarees, mekhelas, chaddars and stoles**.

SARAS AAJEEVIKA

Why in News?

SARAS Aajeevika is in the news for showcasing women-led SHG products and launching the **SARAS Shakti Collection** at the **Rashtriya Gramin Vikas Sammelan (RGVS) 2026**.

SARAS Aajeevika

- **SARAS Aajeevika** is a flagship marketing initiative under the **Deendayal Antyodaya Yojana–National Rural Livelihoods Mission (DAY-NRLM)** of the **Ministry of Rural Development**.
- It aims to **promote and market products made by women Self-Help Groups (SHGs)** and rural artisans across India.
- It provides **market access** through **SARAS Melas**, the **SARAS Aajeevika Gallery**, the **eSARAS e-commerce platform**, and **digital commerce channels**.
- The initiative offers **100% authentic handcrafted, handloom, and rural products** made by SHGs and their federations.
- It supports **branding, packaging, product curation, and national-level marketing** to improve the incomes of rural women entrepreneurs.
- The Ministry has secured '**SARAS**', '**SARAS Aajeevika**', and '**Aajeevika**' trademarks to create a distinct national identity for SHG products.
- The initiative promotes **women-led rural entrepreneurship, financial inclusion, livelihood diversification, and the vision of Viksit Bharat**.



JAN SAMARTH PORTAL

Why in News?

Recently, the **Jan Samarth Portal** completed **four years** of operation, continuing to strengthen financial inclusion through seamless credit delivery.

About

- Jan Samarth Portal is a **single-window digital platform** for **credit-linked Central Government Schemes**, launched on **6 June 2022**.
- It aims to **expand access to government credit schemes and simplify credit delivery**.
- It connects **beneficiaries, lenders, government and nodal agencies** on one platform, promoting financial inclusion and ease of doing business.
- Covers **agriculture, business, housing, renewable energy and livelihood sectors**.
- Available in **8 languages** and provides access to **16 credit-linked Central Government Schemes**.
- Integrated with **UIDAI, UDYAM, AgriStack, DPIIT Startup Portal, LGD, GST and CIBIL** for eligibility verification and credit assessment.
- Provides access to **269 Member Lending Institutions (MLIs)**, including banks, NBFCs, RRBs, Small Finance Banks and cooperative banks.

Functions

- Matches applicants with **eligible credit-linked schemes**.
- Verifies eligibility and **auto-fills details** using integrated databases.
- Enables **24x7 online loan application submission**.
- Provides **automated in-principle loan sanction** through a Business Rule Engine.
- Forwards applications and documents to the **selected lending institution**.
- Allows **real-time application tracking** and status updates.
- Provides a **grievance redressal mechanism** for applicants and lending institutions.

NATIONAL PAYMENTS CORPORATION OF INDIA (NPCI) AND CROSS-BORDER EXPANSION OF UPI IN GREECE AND CMBODIA

Why in News?

India has expanded UPI's international footprint through NPCI International (NIPL) by partnering with Eurobank Greece and ACLEDA Bank of Cambodia. Indian travellers can now make seamless QR-based UPI payments in both countries, with Cambodia becoming the ninth country to accept UPI.

NPCI International Payments Limited (NIPL)

- NPCI International Payments Limited (NIPL) is the international subsidiary of the National Payments Corporation of India (NPCI), established in 2020.
- It is responsible for expanding India's digital payment systems globally, particularly UPI and RuPay.
- NIPL partners with foreign banks, payment service providers, and governments to enable cross-border UPI acceptance, remittances, and interoperable digital payments.
- It promotes India's Digital Public Infrastructure (DPI) model and supports secure, low-cost international payment solutions.
- NIPL plays a key role in advancing the internationalization of India's fintech ecosystem and strengthening digital economic cooperation with partner countries.

Major Initiatives of NPCI

- **Unified Payments Interface (UPI):** Real-time payment system enabling instant bank-to-bank transfers through smartphones; supports **Person-to-Person (P2P)** and **Person-to-Merchant (P2M)** transactions.
- **RuPay:** India's domestic card payment network, launched in 2012.

- **Immediate Payment Service (IMPS):** 24×7 instant interbank fund transfer service.
- **Aadhaar Enabled Payment System (AePS):** Enables basic banking services using Aadhaar-based authentication.
- **Bharat Bill Payment System (BBPS):** Integrated platform for utility and other bill payments.
- **National Financial Switch (NFS):** Interconnects ATMs of different banks.
- **National Electronic Toll Collection (NETC):** Enables electronic toll collection through FASTags using RFID technology.

INITIAL PUBLIC OFFERING (IPO)

Why in News?

SpaceX is in the news as it is set to launch the world's largest IPO, with a valuation of nearly \$1.8 trillion, potentially making **Elon Musk** the world's first trillionaire.

About

- **Initial Public Offering (IPO)** is the process through which a private company offers its shares to the public for the first time, becoming a publicly listed company.
- It helps companies raise funds for expansion, new projects, technology development, business growth and debt repayment.
- An IPO may involve:
 - **Fresh Issue:** New shares are issued and the funds raised go to the company.
 - **Offer for Sale (OFS):** Existing shareholders sell their shares and receive the proceeds.
- **Eligibility of Companies:** Companies must fulfil SEBI-prescribed requirements related to financial performance, disclosure of information, corporate governance and investor protection.
- **Startups and new-age companies** with high growth potential can also launch IPOs subject to SEBI norms.
- **Who can invest in IPOs?**

- Individual investors (retail investors).
- Institutional investors such as mutual funds, banks, insurance companies and other eligible investors.
- **SEBI (Securities and Exchange Board of India)** regulates IPOs in India and ensures transparency and investor protection.

GLOBAL MARKET CAPITALISATION RANKING

Why in News?

India slipped to **7th place globally** in market capitalisation as **South Korea overtook it** due to a rally in AI chip stocks. India's market capitalisation stood at **\$4.85 trillion**, compared to **\$5.01 trillion for South Korea**.

What is Market Capitalisation?

- **Market Capitalisation (Market Cap)** is the total market value of all outstanding shares of a company.
- **Formula:** Market Cap = Current Market Price per Share × Total Outstanding Shares.
- A country's market capitalisation is the combined market value of companies listed on its stock exchanges.
- It reflects the **size and value of the equity market**, not GDP.

How are Countries Ranked?

- Countries are ranked based on the **combined market capitalisation of companies listed on their stock exchanges**.
- The ranking changes due to **share price movements, new listings and IPOs, foreign investment flows, exchange-rate movements, corporate earnings and valuations**.
- There is **no separate eligibility criterion**; ranking is based on the aggregate market capitalisation of listed companies.

Why did India Lose its Position?

- India's market capitalisation declined due to **sustained foreign investor withdrawals since September 2024, weak corporate earnings growth and a weakening rupee**.
- Meanwhile, **South Korea and Taiwan gained rapidly** due to strong semiconductor-sector performance driven by rising global demand for AI chips.
- Thus, India's position fell due to **weakness in its own market and faster growth in competing markets**.
- **Global Market Capitalisation Ranking:** United States, China, Japan, Hong Kong, Taiwan, South Korea and India.

NATIONAL FINANCIAL REPORTING AUTHORITY (NFRA)

Why in News?

NFRA and the Institute of Chartered Accountants of India (ICAI) jointly organised a workshop in **Pune** to strengthen **audit quality** and improve the **financial reporting ecosystem** in India.

About NFRA

- The **National Financial Reporting Authority (NFRA)** is a statutory body established under **Section 132 of the Companies Act, 2013** and constituted in **2018**.
- It functions under the **Ministry of Corporate Affairs (MCA)** to regulate accounting and auditing standards and ensure high-quality financial reporting.

Composition of NFRA

- Headed by a **Chairperson** appointed by the Central Government.
- Consists of **up to 15 members**, including full-time and part-time members, possessing expertise in accountancy, auditing, finance, law, economics, or related fields.

Functions of NFRA

- Recommends accounting and auditing standards to the Central Government.
- Monitors and enforces compliance with accounting and auditing standards.
- Oversees the quality of audit services and recommends measures for improvement.
- Investigates cases of professional or other misconduct by auditors under its jurisdiction.

Powers of NFRA

- Possesses powers of a **civil court** while conducting investigations.
- Can summon persons, examine witnesses, and call for documents.
- May impose monetary penalties on individuals and audit firms for professional misconduct.
- Can debar chartered accountants or audit firms from practice for a specified period.

Jurisdiction of NFRA

- Covers **listed companies, large unlisted public companies, banking companies, insurance companies, electricity companies**, and other prescribed entities.
- Exercises disciplinary and regulatory oversight over **chartered accountants and audit firms** associated with these entities.

GOVERNMENT REFORMS TO EXPAND FOREIGN PARTICIPATION IN GOVERNMENT SECURITIES (G-SECS)

Why in News?

The Government has recently introduced reforms to increase **Foreign Portfolio Investor (FPI) participation in Government Securities (G-Secs)** and deepen India's bond market.

Key Terms

- **Government Securities (G-Secs):** Debt instruments issued by the Central and State Governments to borrow money from the market.

- **Foreign Portfolio Investment (FPI):** Investment by foreign individuals, institutions or funds in financial assets such as shares, bonds and G-Secs, without participating in the management of the concerned entity.
- **General Route:** Allows foreign investors to invest in permitted G-Secs, subject to certain investment restrictions.
- **Fully Accessible Route (FAR):** Allows foreign investors to invest in specified G-Secs with fewer investment restrictions.
- **Sovereign Green Bonds (SGrBs):** Government bonds issued to raise funds for environmentally sustainable and climate-related projects.

Recent Reforms

- **Tax Exemption:** FPIs/FILs are exempt from tax on interest income and capital gains from the sale, transfer, exchange or redemption of G-Secs for income arising on or after **1 April 2026**. Earlier, interest income was taxed at **20%**, STCG at **30%** and LTCG at **12.5%** for eligible foreign investors.
- **Expansion of FAR:** Includes new issuances of **15-year, 30-year and 40-year G-Secs**, along with **Sovereign Green Bonds (SGrBs)** issued in FAR-eligible tenors.
- **Relaxation under General Route:** The **short-term investment, concentration and security-wise investment limits** have been removed.
- **FPI Holdings (12 May 2026):** FPIs held **₹3,75,171 crore** in G-Secs (**3.34%** of total outstanding G-Secs). Of this, **₹54,091 crore (0.83%)** was through the General Route and **₹3.21 lakh crore (6.74%)** through FAR out of FAR-eligible outstanding stock.
- **Overall Investment Limits Retained:** FPI investment remains capped at **6% of outstanding Central Government Securities** and **2% of outstanding State Government Securities**.

- **Investment Categories Merged:** Existing 'General' and 'Long-Term' categories will be merged into a single investment limit for Central and State Government Securities, respectively.

FDI NORMS

Why in News?

The **Delhi High Court** quashed the FIR and related proceedings against **NewsClick** over alleged **foreign funding and violations of FDI norms**.

About FDI

- **Foreign Direct Investment (FDI)** is investment by a **foreign individual or entity in an Indian company** with a **long-term interest and significant influence/control** over business operations.
- In India, **foreign investment of 10% or more ownership in an Indian company is generally considered FDI**.
- FDI is part of the **Financial Account of the Balance of Payments (BoP)**.
- FDI differs from **FPI**, as FDI involves long-term interest and influence, while FPI is investment in financial assets without control.

Types of FDI in India

- **Greenfield FDI:** Setting up a new business or facility in India.
- **Brownfield FDI:** Investment in an existing Indian business through acquisition or merger.

FDI Norms in India

- FDI is regulated under:
 - **FEMA, 1999**
 - **Consolidated FDI Policy by DPIIT**
- **DPIIT** frames FDI policy, while **RBI** regulates foreign exchange aspects.
- **FDI routes in India:**

- **Automatic Route:** No prior government approval required.
- **Government Route:** Prior government approval required.

- Foreign investment must follow **sectoral caps, entry conditions and FEMA rules**.
- Investments from countries sharing a **land border with India** require government approval under the **Beneficial Ownership Rule**.

Important Sectoral Limits

- **Defence:** 74% Automatic Route; up to 100% Government Route.
- **Private Sector Banking:** 49% Automatic Route; up to 74% Government Route.
- **Print Media:** 26% Automatic Route.
- **Pharmaceuticals:** 100% Automatic Route in Greenfield projects; up to 74% in Brownfield projects through the Automatic Route.
- **Railway Infrastructure:** 100% Automatic Route.
- **Civil Aviation MRO:** 100% Automatic Route.
- **E-commerce:** 100% Automatic Route in the marketplace model; FDI is not permitted in the inventory-based model.

INDIA'S CRITICAL MINERAL MISSION

Why in News?

The Ministry of Mines has successfully concluded the **7th tranche of Critical Mineral Block Auctions** and the **2nd tranche of Exploration Licence auctions** under the **National Critical Mineral Mission (NCMM)**.

National Critical Mineral Mission (NCMM)

The **National Critical Mineral Mission (NCMM)** is a flagship initiative of the **Ministry of Mines**, approved by the Union Cabinet on **29 January 2025**, to establish a resilient and self-reliant critical mineral value chain in India. It aims to ensure the long-term availability of critical minerals required for clean energy, electric

vehicles (EVs), electronics, semiconductors, defence, aerospace, and other strategic sectors.

Objectives

- Strengthen domestic exploration and mining of critical minerals.
- Build a complete value chain from exploration to recycling.
- Reduce import dependence and enhance mineral security.
- Support India's clean energy transition and Atmanirbhar Bharat.
- Promote overseas acquisition of critical mineral assets.
- Encourage research, innovation, and advanced processing technologies.

Major Components

- **Exploration:** Geological Survey of India (GSI) to undertake **1,200 exploration projects** between 2024–25 and 2030–31.
- **Mining:** Accelerated auction and development of critical mineral blocks.
- **Processing:** Establishment of **Critical Mineral Processing Parks** (₹500 crore allocation).
- **Recycling:** ₹1,500 crore support for recovery and recycling of critical minerals from end-of-life products.
- **Global Sourcing:** Acquisition of overseas mineral assets through **Khanij Bidesh India Ltd. (KABIL)**.
- **Research & Innovation:** Support for R&D, skill development, and establishment of a **Centre of Excellence on Critical Minerals (CECM)**.

Governance Structure

- **Empowered Committee** chaired by the **Cabinet Secretary**.
- Members include the **CEO of NITI Aayog** and Secretaries of key stakeholder Ministries.
- Oversees implementation, coordination, and monitoring of the Mission.

Overseas Strategy

- **KABIL** has:

- Signed an agreement with **CAMYEN (Argentina)** for lithium brine exploration.
- Signed an MoU with Australia's **Critical Mineral Facilitation Office (CMFO)** for joint investment and due diligence in lithium and cobalt assets.

Importance:

- Critical minerals are indispensable for:
 - Electric vehicle batteries (Lithium, Cobalt, Nickel)
 - Solar panels and wind turbines
 - Semiconductors and electronics
 - Defence and aerospace technologies
 - Energy storage systems
- India is highly import-dependent for several critical minerals, making supply chains vulnerable to geopolitical disruptions. The Mission seeks to ensure strategic resource security and support India's **Net Zero 2070** and **Viksit Bharat 2047** goals

LAND PORT MANAGEMENT SYSTEM

Why in News?

The union home minister launched the **Land Port Management System (LPMS) – 'VINIMAY'** in New Delhi to digitise and streamline land-port management.

About LPMS-VINIMAY

- LPMS-VINIMAY is a **digital, integrated, real-time platform** for managing cargo, passengers and vehicles at land ports.
- It integrates **border management agencies** on a single platform under the **Smart Borders Initiative**.
- The **Land Ports Authority of India (LPAI)** develops and manages land ports, while **LPMS-VINIMAY** streamlines their digital operations.

Key Features

- **Single Electronic Window:** Reduces nearly **90% of paperwork** through a unified clearance system.

- **End-to-end digital workflows:** Enables online slot booking, payments, tracking and clearances.
- **ANPR-based gate operations:** Uses Automatic Number Plate Recognition (ANPR) for faster vehicle processing.
- **Faster Processing:** Expected to reduce truck waiting time by 40–60% and gate processing time by 22–35%.
- **Inter-agency Integration:** Connects ICEGATE, ULIP, Motor Vehicle System, CBIC, BSF, DGFT and UIDAI for real-time data sharing.

Land Ports Authority of India (LPAI)

- 1) *LPAI is a statutory body under the Department of Border Management, Ministry of Home Affairs.*
- 2) *It develops and manages land ports to facilitate cross-border trade, connectivity and regional cooperation.*
- 3) *15 land ports are currently operational across India's international borders:*
India-Pakistan: 2
India-Nepal: 3
India-Bhutan: 1
India-Bangladesh: 8
India-Myanmar: 1
- 4) *11 more land ports are planned over the next 2–3 years.*
 - *Land-port trade increased from ₹5,000 crore in 2014 to ₹83,000 crore in 2026, reflecting a 16-fold increase.*

NIXI (NATIONAL INTERNET EXCHANGE OF INDIA)

Why in News?

NIXI celebrated its 23rd Foundation Day by launching new initiatives to strengthen India's internet ecosystem.

About National Internet Exchange of India (NIXI)

- The **National Internet Exchange of India (NIXI)** is a **not-for-profit Section 8 company** established on **19 June 2003** under the aegis of the **Ministry of Electronics and Information Technology (MeitY)**.
- It was created to **keep domestic Internet traffic within India**, reducing latency,

lowering bandwidth costs, and strengthening the country's Internet infrastructure.



Composition

- Governed by a **Board of Directors**.
- Functions under the administrative oversight of **MeitY**.
- Led by a **Chief Executive Officer (CEO)**, supported by senior management and technical teams.
- Operates through three major verticals:
 - **Internet Exchange (IX)**
 - **.IN Registry & .भारत (IDN) Registry**
 - **Indian Registry for Internet Names and Numbers (IRINN)** (National Internet Registry).

Functions

- Facilitates **Internet Exchange (IX)** services by enabling domestic Internet traffic exchange among Internet Service Providers (ISPs).
- Manages India's **.IN** country-code Top-Level Domain (ccTLD) and **.भारत** Internationalized Domain Names (IDNs).
- Operates **IRINN** for allocation of **IPv4, IPv6 addresses, and Autonomous System (AS) Numbers** in India.
- Promotes adoption of **IPv6**, multilingual domain names, and Internet governance awareness through training and capacity-building programmes.
- Supports a **secure, resilient, and inclusive Internet ecosystem** aligned with Digital India.

Powers

- Administers and manages .IN and .भारत domain registration policies.
- Allocates Internet Protocol (IP) resources and **AS Numbers** through IRINN.
- Establishes operational policies for Internet Exchange Points (IXPs) and domain registry services.
- Coordinates with national and international Internet governance organizations on technical standards and Internet resource management.

BHAVYA PORTAL

Why in News?

Union Minister of Commerce and Industry, Shri Piyush Goyal, launched the **BHAVYA Portal** for the implementation of the Bharat Audyogik Vikas Yojana (BHAVYA).

About

- **BHAVYA Portal** is an **end-to-end single-window digital platform** for managing the entire lifecycle of industrial parks under the **Bharat Audyogik Vikas Yojana (BHAVYA)**.
- It enables **DPR submission, project appraisal, evaluation, implementation monitoring, reporting and investor mapping**.
- It facilitates a **challenge-based selection process**, allowing **States, UTs and implementing agencies** to submit proposals based on **land availability, industrial strengths, sectoral potential and investor interest**.
- It ensures **transparent proposal evaluation** and stakeholder coordination throughout the project lifecycle.
- It supports **real-time monitoring** of project progress, enhancing **transparency, accountability and coordination**.
- It provides **digital and satellite-based mapping** of industrial parks, enabling investors to access details on **land availability, connectivity and infrastructure**.

- It comes under the **Ministry of Commerce & Industry**, with the **National Industrial Corridor Development Corporation (NICDC)** as the **Project Management Agency** for implementation and monitoring.

BHAVYA SCHEME

- **BHAVYA (Bharat Audyogik Vikas Yojana)** is a **₹33,660 crore** scheme under the **Ministry of Commerce & Industry**.
- It aims to develop **100 investment-ready, world-class industrial parks** across India over **six years**.
- It seeks to create **integrated plug-and-play industrial ecosystems** with **multimodal connectivity, reliable utilities and digital governance**, tailored to regional and sectoral needs.
- The parks may include dedicated spaces for **start-ups, deep-tech enterprises, R&D and Global Capability Centres (GCCs)**.
- Under the **51:49 partnership model**, **State Governments** provide land, while **NICDC** supports infrastructure development.
- It aims to **reduce delays in land acquisition and approvals, attract domestic and foreign investment, generate employment, and strengthen India's industrial competitiveness**.

WAVES OTT

Why in News?

WAVES OTT, Prasar Bharati's digital streaming platform, crossed **1 crore (10 million)** registered users, less than two years after its launch in **November 2024**.

About WAVES OTT

- **WAVES OTT** is India's national public service **Over-The-Top (OTT) digital streaming platform**, launched by **Prasar Bharati** under the **Ministry of Information and Broadcasting** in **November 2024**.
- It aims to integrate **traditional public broadcasting with modern digital media**.

- It provides content on **entertainment, education, culture, news, spirituality and public service.**

Key Features

- Hosts **24,000+ content titles** and **15,000+ hours of programming.**
- Offers **140+ live TV channels** and **200+ radio services.**
- Provides educational content through **PM eVIDYA channels.**
- Offers digital editions of government publications such as **Yojana, Kurukshetra and Rozgar Samachar.**
- Provides access to **archival content from Prasar Bharati.**
- Available on **mobile devices, web browsers and connected TV devices.**
- Reaches audiences in **130+ countries** and offers content in **multiple Indian languages.**
- Aims to reach **2 crore registered users by March 2027.**

ENVIRONMENT

BLACK TIGER

Why in news?

Similipal National Park achieved **India's first successful inter-State tiger translocation** when the translocated tigress **Zeenat**, brought from Maharashtra's **Tadoba-Andhari Tiger Reserve** in **2024** to combat **inbreeding and genetic collapse**, gave birth to **four cubs**, significantly boosting genetic diversity.

About

- **Pseudo-melanistic tigers (black tigers)** are a rare **Bengal tiger** variant featuring **wide, coalesced black stripes** over minimal golden-yellow coats.
- Found **exclusively** in **Similipal Tiger Reserve**, Odisha.
- Their unique appearance is caused by a **recessive gene mutation** in the *Taqpep* (Transmembrane Aminopeptidase Q) gene.
- Amplified by **genetic isolation** and **inbreeding**.
- According to the latest camera-trap survey by the **Odisha Forest Department**, there are **19 pseudo-melanistic (black) tigers** in India, all located exclusively within the **Similipal Tiger Reserve**.

Similipal Tiger Reserve

- Located in Odisha's **Mayurbhanj district**, adjoining Jharkhand and West Bengal.
- Part of the **Mayurbhanj Elephant Reserve** (along with Hadagarh and Kuldiha Sanctuaries), a **UNESCO Biosphere Reserve** since 2009, and **Asia's second-largest biosphere**.
- Its name is derived from the abundance of **red silk cotton trees** (*simul*).
- Home to Bengal tigers, Asian elephants, gaurs, and chausinghas, and stands as

India's **only wild habitat** for melanistic (black) royal Bengal tigers.

SARISKA TIGER REINTRODUCTION PROGRAMME

Why in News?

Sariska Tiger Reserve marked **18 years** of India's pioneering tiger reintroduction programme on 28 June 2026.



About

- **The Sariska Tiger Reserve** is situated in **Alwar district, Rajasthan**, in the **Aravalli Hills**—one of the world's oldest mountain ranges.
- **Protected Area Status:** Declared a **Wildlife Sanctuary** in 1955, included under **Project Tiger** in 1979, and notified as a **Tiger Reserve** in 2007.
- **Vegetation:** Predominantly **Northern Tropical Dry Deciduous** and **Northern Tropical Thorn Forests**; **Anogeissus pendula (Dhok)** is the dominant tree species.
- **Fauna:** Home to **Tiger, Leopard, Caracal, Striped Hyena, Golden Jackal, Sambar, Chital, Nilgai, Four-horned Antelope (Chousingha)** and numerous bird species.
- **Unique Distinction:** **World's first tiger reserve** where **tigers were successfully reintroduced after local extinction** (programme launched in **2008** using tigers translocated from Ranthambore).

- **Historical Significance:** Encloses the **17th-century Kankwari Fort**, where Mughal prince **Dara Shikoh** was imprisoned by Aurangzeb before his execution.
- **Rivers:** **Ruparel River** flows through the middle of the reserve (north-south); **Sabi (Sahibi) River** is another important **seasonal river** in the Sariska landscape.
- **Pilgrimage Site:** The reserve contains the famous **Pandupol Hanuman Temple**, associated with the **Mahabharata**.

Tiger (Panthera tigris)

- **IUCN Red List: Endangered (EN)**
- **CITES: Appendix I**
- **Wild Life (Protection) Act, 1972: Schedule I**
- **Project Tiger: Launched in 1973**
- **National Animal of India: Bengal Tiger (Panthera tigris tigris)**
- **India: Home to ~70% of the world's wild tigers**
- **Ecological Role: Apex, Keystone, Umbrella & Flagship species**

REOPENING OF JUNGLE SAFARIS IN BANDIPUR & NAGARAHOLE TIGER RESERVES

Why in News?

The Karnataka Government has fully reopened jungle safaris at Bandipur and Nagarahole Tiger Reserves from 27 June 2026, following the acceptance of a Technical Committee's recommendations.

About

BANDIPUR TIGER RESERVE

- **Located in** Mysuru and Chamarajanagar districts of **Karnataka**, in the **Western Ghats**.
- **Included among the original 9 Tiger Reserves** under **Project Tiger (1973-74)**.
- **Forms part of the Nilgiri Biosphere Reserve**, India's first Biosphere Reserve.

- **Kabini River** forms its northern boundary, while the **Nugu** and **Moyar** rivers are important water sources.
- **Connected with** Nagarahole, Mudumalai, Wayanad and Sathyamangalam protected areas, forming one of the world's largest contiguous habitats for tigers and Asian elephants.
- **Home to** Tiger, Asian Elephant, Leopard, Dhole, Gaur, Sloth Bear and Four-horned Antelope.

NAGARAHOLE (RAJIV GANDHI) TIGER RESERVE

- **Located in** Mysuru and Kodagu districts of **Karnataka**, in the **Western Ghats**.
- **Also known as** **Rajiv Gandhi National Park**.
- **Forms part of the Nilgiri Biosphere Reserve**.
- **Named after the Nagarahole River**, which flows through the reserve before joining the **Kabini River**.
- **Connected with** Bandipur Tiger Reserve, Wayanad Wildlife Sanctuary and Mudumalai Tiger Reserve, forming a vital wildlife corridor.
- **Home to** Tiger, Asian Elephant, Leopard, Dhole, Gaur, Sambar and over **300 bird species**.

Tiger Reserves in India

- **Total Tiger Reserves: 58 across 18 Tiger Range States.**
- **Latest Tiger Reserve: Madhav Tiger Reserve (Madhya Pradesh), notified in 2025.**
- **State with the highest number of Tiger Reserves: Madhya Pradesh – 9.**
- **Second highest: Maharashtra – 6.**
- **Third highest: Karnataka – 5 and Tamil Nadu – 5**
- **Nagarjunsagar-Srisailem Tiger Reserve, spanning Andhra Pradesh and Telangana, is India's largest Tiger Reserve.**

ELEPHANT CONSERVATION AND FOREST CARBON STORAGE

Why in News?

A recent study published in the Journal of Threatened Taxa found that conserving the

endangered **Asiatic elephant** helps safeguard **India's forests as major carbon sinks.**



About

- Elephants disperse **large seeds over long distances** through dung, aiding forest regeneration and maintaining tree diversity.
- **They promote Carbon-rich Trees by** feeding preferentially on **fast-growing, low wood-density vegetation**, elephants create space for **slow-growing, high wood-density trees** that store more carbon.
- **Natural Fertilisation:** Elephant dung enriches soil with nutrients, improving **seed germination** and seedling survival.
- **Maintain Habitat Structure:** Their movement creates **forest gaps and trails**, enhancing light availability, habitat heterogeneity, and ecosystem resilience.
- **Climate Mitigation:** Healthy elephant populations support forests with **higher above-ground carbon stocks**, making them important allies in climate change mitigation.

Asian Elephant (Elephas maximus)

- **IUCN Red List: Endangered (EN)**
- **CITES: Appendix I**
- **Wildlife (Protection) Act, 1972: Schedule I**
- **CMS: Appendix I**
- **National Heritage Animal of India (since 2010)**
- **India harbours over 60% of the world's wild Asian elephant population.**
- **Project Elephant** launched in **1992** for elephant conservation.

KAZIRANGA NATIONAL PARK

Why in news?

A rapid survey released on World Environment Day revealed that Kaziranga National Park and Tiger Reserve harbors 30 raptor species (217 individuals) and six stork species (266 individuals), underscoring its status as a critical global habitat for birds of prey.

About

- Located between the Brahmaputra River and Karbi Hills in Assam, featuring the valley's largest undisturbed floodplain with tall grass, marshes, and pools.
- Designated a UNESCO World Heritage Site in **1985**.
- Traversed by the Diphlu River and bordered by the Moradifalu.
- Comprises dense elephant grasses and aquatic vegetation including water lilies, water hyacinths, and lotus.
- Harbors the world's largest population of one-horned rhinoceroses, alongside tigers, elephants, eastern swamp deer, wild buffalo, Hoolock gibbons, capped langurs, Gangetic River dolphins, and diverse bird species.

JAI PRAKASH NARAYAN BIRD SANCTUARY

Why in news?

India achieved a milestone of **100 Ramsar sites** with the designation of the **Jai Prakash Narayan Bird Sanctuary (Surha Tal)** in Ballia, Uttar Pradesh.

About

- Located in the **Ganga River basin** in Uttar Pradesh, it is a natural oxbow lake formed by the meandering river, fed by three channels and expanding across floodplains during monsoons.
- Situated along the **Central Asian Flyway**, it serves as a critical wintering ground for migratory birds from Siberia and hosts

species like the **common pochard**, **Indian river tern**, **sarus cranes**, and **bar-headed geese**.

- Supports rich biodiversity, including **221 plant species**, **66 fish species** (such as *Wallago attu* and *Bagarius bagarius*), and acts as a primary feeding and breeding ground for the vulnerable **fishing cat**.
- Holds deep historical, religious, and traditional significance in eastern Uttar Pradesh.

SAMBHAR LAKE

Why in news?

A scientific analysis of satellite data from 1984 to 2023 revealed that **Sambhar Lake** shrank significantly between 2022 and 2023 while nearby industrial salt pans expanded. This shrinkage, driven by heavy dependence on seasonal rainfall, prompted scientists to urge a strict separation between industrial salt operations and the natural wetland to preserve its ecosystem.

About

- Situated across the Nagaur and Jaipur districts in Rajasthan, surrounded entirely by the Aravalli hills.
- Recognized as India's largest inland saltwater lake.
- Fed by five streams, with **Rupangarh** and **Mendha** as the primary tributaries, alongside smaller feeds from **Samoad**, **Khari**, and **Khandela**.
- Formally designated as a **Ramsar site** in **1990**.

Infrastructure and Salt Production

- Bisected by a **5-kilometer-long** stone dam, separating the water body from the eastern salt evaporation ponds.
- Salt farming has been actively practiced here for a millennium.
- Houses one of the nation's premier salt manufacturing units, generating brine and accounting for approximately **9%** of India's total salt production.

Ecology and Wildlife

- Specialized algae and bacteria thrive in the lake, producing vibrant water coloration that tints the harvested salt while sustaining the local ecosystem.
- Serves as India's premier wintering habitat for flamingos (*Phoeniconaias minor* and *Phoenicopiterus roseus*) outside of the Rann of Kachchh.
- Hosts a wide variety of migratory birds, including pelicans, common shelducks, redshanks, common sandpipers, black-winged stilts, Kentish plovers, ringed plovers, ruffs, and sociable lapwings.

CLIMATE-RESILIENT CORAL REEFS

Why in News?

A global study at the **Our Ocean Conference 2026 in Mombasa, Kenya** identified **one-third of the world's coral reefs** as potentially **climate-resilient**.

Key Findings of the Study

- Identified **~166,000 sq. km (64,000 sq. miles)** of **climate-resilient coral reefs**, covering **about one-third of the world's coral reefs**.
- The estimated extent of resilient reefs is **more than three times** higher than previous global estimates.
- The study analysed **45,000 coral reef surveys** along with **decades of climate and ocean data** to identify reefs most likely to survive climate change.
- Climate-resilient reefs were mapped across **71 countries and over 100 territories**, including previously unrecognised areas in the **Caribbean, Pacific and Atlantic Oceans**.
- Only **28%** of these resilient reefs are currently within **protected or conserved areas**, indicating a major conservation gap.
- The findings provide a scientific basis for **prioritising conservation** of resilient reefs to support the global **30×30 biodiversity target** and improve long-term coral survival.

CORAL REEFS



- Coral reefs are **marine ecosystems** built by colonies of **reef-building (stony) coral polyps**, which secrete **calcium carbonate (CaCO_3)** skeletons.
- Reef-building corals live in a **sympiotic relationship** with microscopic algae called **zooxanthellae**, which provide food through **photosynthesis** and give corals their colour.
- They are found mainly in **warm, shallow, clear, sunlit tropical waters**, generally between **30°N and 30°S**.
- The **three major types** of coral reefs are **Fringing Reefs, Barrier Reefs, and Atolls** (classified by **Charles Darwin**).
- Coral reefs occupy **less than 1% of the ocean floor** but support **at least 25% of all marine species**, earning them the title "**Rainforests of the Sea**."
- Major threats include **ocean warming, coral bleaching, ocean acidification, pollution, overfishing, and destructive coastal development**.
- **Distribution in India:** Coral reefs are primarily distributed in the **Gulf of Mannar, Palk Bay, Gulf of Kachchh, Lakshadweep Islands, and the Andaman & Nicobar Islands**.

Government Initiatives for Coral Reef Conservation

- **Legal Protection:** Reef-building corals are protected under the **Wild Life (Protection) Act, 1972**, while coral reefs are classified as **CRZ-IA** under the **CRZ Notification, 2019**.
- **PM Matsya Sampada Yojana (PMMSY):** **937 artificial reefs** sanctioned across **11 coastal States/UTs** to restore marine habitats and enhance fisheries.
- **Coral Restoration:** **Zoological Survey of India (ZSI)** completed India's **largest coral translocation project** at **Narara, Gujarat**, relocating **16,522 corals**.
- **Monitoring & Early Warning:** **INCOIS** operates the **Coral Bleaching Alert System (CBAS)** and uses **satellite-based monitoring** to track bleaching events.
- **Research & Technology:** Institutions such as **NCCR, NCSCM, ZSI, and INCOIS** undertake coral reef monitoring, restoration, mapping, and climate resilience research using **remote sensing, AUVs, and in-situ observations**.

BIS LAUNCHES FOR INDEGENOUS CROP VARIETIES

Why in News?

The Bureau of Indian Standards (BIS) **introduced IS 20201:2026** to standardise Community Seed Bank (CSB) management for **conservation of indigenous crop varieties and agricultural biodiversity**.

About

- IS 20201:2026 is a BIS standard that lays down requirements for the **establishment and management of Community Seed Banks (CSBs)**.
- The standard provides **guidelines for seed collection, processing, storage, documentation, quality maintenance and regeneration** of traditional crop varieties.
- It aims to **create a structured framework for community-level conservation** of indigenous

seeds while ensuring their availability and viability.

Objectives of IS 20201:2026

- IS 20201:2026 **establishes uniform requirements** for the management and operation of Community Seed Banks (CSBs).
- It **standardises procedures for seed collection**, identification, storage, documentation, quality assessment and regeneration.
- It **provides a framework for maintaining seed viability**, purity and traceability of conserved crop varieties.
- It **promotes systematic documentation of indigenous crop varieties** and associated traditional knowledge.
- It enables certification and quality assurance of Community Seed Bank management practices.

Community Seed Banks (CSBs)

- Community Seed Banks **are locally managed repositories** where farmers conserve, store, regenerate and exchange traditional crop seeds.
- They preserve indigenous crop diversity **by maintaining locally adapted varieties** that may be lost due to replacement by commercial varieties.
- They act as community-level institutions **supporting biodiversity conservation, food security and climate-resilient agriculture**.

Bureau of Indian Standards (BIS)

- *It is the **National Standards Body of India**, established under the Bureau of Indian Standards Act, 2016, which came into force in 2017, replacing the BIS Act, 1986.*
- *BIS functions under the Department of Consumer Affairs, **Ministry of Consumer Affairs**.*
- *Its primary functions include formulating Indian Standards, operating conformity assessment and certification schemes (such as the **ISI Mark and Hallmark**), and promoting quality, safety and consumer confidence through standardisation and certification.*

MISSION LIFE

Why in news?

The National Zoological Park is in the news for launching its 15-day **Swachhata Pakhwada 2026** campaign to promote environmental stewardship and sustainable lifestyles. The initiative aligns directly with the vision of **Swachh Bharat Mission** and **Mission LiFE** through active public participation.

About

- Mission LiFE is an India-led global mass movement launched by the Prime Minister at COP26 in Glasgow in November 2021 to drive individual and community action for environmental protection.
- Designed to mobilize one billion people worldwide to adopt sustainable daily habits and eco-friendly lifestyles.
- Democratizes the fight against climate change, enabling everyone to contribute according to their capacity.
- Powered by the Pro Planet People (P3) model to foster global climate responsibility.
- Operates on the core principles of a lifestyle "of the planet, for the planet, and by the planet."

Three Phases of Mission LiFE

- **Phase I (Change in Demand):** Nudges individuals globally to adopt eco-friendly daily habits.
- **Phase II (Change in Supply):** Shifts in consumer demand prompt industries and markets to adapt their supply and procurement.
- **Phase III (Change in Policy):** Influences global demand-supply dynamics to trigger long-term industrial and government policy shifts supporting sustainable consumption and production.

WORLD DAY TO COMBAT DESERTIFICATION AND DROUGHT

Why in News?

The United Nations observed **17 June 2026** as the **World Day to Combat Desertification and Drought**, calling on countries to accelerate **land restoration, strengthen drought resilience, and promote sustainable land management** under the **United Nations Convention to Combat Desertification (UNCCD)**.

About

- Desertification was identified as one of the greatest challenges to sustainable development during the Rio Earth Summit in 1992.

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

- Centrally Sponsored Scheme** launched in 2015 with the motto to provide "**Har Khet Ko Pani**" (water to every farm) and "**Per Drop More Crop**".
- It aims to expand cultivable area under assured irrigation, improve water use efficiency, and promote precise, water-saving technologies.
- In 1994, the UN General Assembly established the United Nations Convention to Combat Desertification (UNCCD).
- This legally binding international agreement linked the environment and development to sustainable land management.
- In addition to the UNCCD, the UN proclaimed **June 17 as World Day to Combat Desertification and Drought**.
- In 2026, the theme "**Rangelands: Recognize. Respect. Restore.**" highlights the importance of rangelands—ecosystems that have long been undervalued despite their critical role.
- This year's observance also aligns with the International Year of Rangelands and Pastoralists.

United Nations Convention to Combat Desertification (UNCCD)

- It is the only legally binding international agreement linking environment and

development to sustainable land management.

- It was set up to address desertification and the effects of drought.
- Adopted on June 17, 1994, it entered into force on December 26, 1996 after the 50th ratification was received.
- The UNCCD is one of the three Rio Conventions—along with the UN Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD)—and was called for in Agenda 21, the programme of action adopted at the 1992 UN Conference on Environment and Development (UNCED, or Earth Summit).
- There are 197 Parties to the Convention, including 196 country Parties and the European Union.
- It works together to improve the living conditions for people in drylands, to maintain and restore land and soil productivity, and to mitigate the effects of drought.
- Parties to the Convention meet in Conferences of the Parties (COP) every two years, as well as in technical meetings throughout the year.
- The UNCCD permanent secretariat is located in Bonn, Germany.
- National reporting:** Every 4 years, parties must report on the actions they have undertaken to implement the convention.



- Rangelands** are expansive natural areas primarily characterized by native vegetation like grasses, shrubs, and forbs.
- Not typically suitable for intensive agriculture.
- The United Nations has declared 2026 as the International Year of Rangelands and Pastoralists.

CARBON CREDIT TRADING SCHEME

Why in news?

India showcased its Carbon Credit Trading Scheme, renewable energy standards, and early

achievement of 2030 NDC goals such as reaching **53.21%** non-fossil capacity and a **37.38%** decline in GDP emission intensity between 2005 and 2022 during the WTO Trade and Environment Week 2026 in Geneva.

About

- **Carbon Credit Trading Scheme (CCTS)** is a market-based initiative under the Indian Carbon Market accelerating India's low-carbon transition by valuing greenhouse gas emissions.
- Targets a **45%** reduction in GDP emission intensity by **2030** relative to 2005 levels.
- Administered by the **Bureau of Energy Efficiency (BEE)** and **NSICM**.
- Applies to **eight core sectors**: aluminium, cement, paper and pulp, chlor-alkali, iron and steel, textiles, petrochemicals, and petro refineries.

Key Mechanism

- Obligates target sectors to meet emission intensity reduction targets, transitioning from the PAT scheme.
- Rewards entities exceeding targets with tradable Carbon Credit Certificates (CCCs) required by non-compliant entities.
- Permits voluntary participation and emission reductions for non-obligated entities via an offset mechanism.

BIOCHAR: TURNING FARM WASTE INTO BLACK GOLD

Why in News?

Biochar has gained attention as a **carbon-negative solution** for sustainable agriculture and carbon sequestration.

About

- **Biochar** is a **stable, carbon-rich material** produced by heating **organic biomass** (e.g., crop residues, wood chips, manure) in a **low- or no-oxygen environment** through **pyrolysis**.

- It stores carbon in the soil for long periods, making it a **carbon-negative technology**.
- It improves **soil fertility, water-holding capacity, nutrient retention, and microbial activity**.
- It offers a sustainable alternative to **stubble burning**, reducing **greenhouse gas emissions** and **air pollution**.
- Studies indicate biochar can **improve crop productivity by 10-30%** and water-holding capacity by **10-25% in degraded soils**.
- The government could integrate biochar production into carbon credit markets, with each tonne of certified biochar **generating 2-2.8 tonnes of carbon dioxide-equivalent credits**.

Applications of Biochar

- **Soil amendment:** Improves **soil fertility, water-holding capacity, nutrient retention, and microbial activity**, enhancing crop productivity.
- **Carbon sequestration:** Acts as a **long-term carbon sink**, helping mitigate climate change through stable carbon storage in soils.
- **Crop residue management:** Converts **agricultural waste** into a valuable resource, reducing **stubble burning** and associated air pollution.
- **Waste and water management:** Used to **adsorb pollutants**, improve compost quality, and aid in the treatment of wastewater and contaminated soils.
- **Livestock and energy:** Used as a **feed additive**, bedding material, and in integrated **bioenergy systems**, where pyrolysis also produces **bio-oil** and **syngas**.
- **Climate change mitigation:** Helps generate **carbon credits** through long-term carbon storage.
- **Mine land and degraded land reclamation:** Improves **soil quality** and supports ecological restoration.
- **Heavy metal remediation:** Immobilizes **heavy metals** (e.g., lead, cadmium, arsenic), reducing their uptake by crops.

Government Initiatives

- **Crop Residue Management (CRM) Scheme:** Promotes *in-situ* and *ex-situ* management of crop residues to curb stubble burning and encourage their productive use, including for biochar production.
- **GOBARDhan (Galvanizing Organic Bio-Agro Resources Dhan):** Supports the conversion of *crop residues, cattle dung and organic waste* into value-added products such as *biogas, organic manure* and other bio-based resources, advancing the *waste-to-wealth* approach.
- **National Mission for Sustainable Agriculture (NMSA):** Encourages *sustainable farming practices, improved soil health, and efficient crop residue management, creating an enabling framework for biochar adoption*

BHARAT CLIMATE OBSERVATION NETWORK (BCON)

Why in News?

Indian Institute of Tropical Meteorology (IITM) and Aryabhata Research Institute of Observational Sciences (ARIES) signed an MoU to establish a Climate Observation Station at Devasthal (Uttarakhand) under the Bharat Climate Observation Network (BCON).

About

- It aims to establish a **long-term, high-precision climate observation network** for systematic monitoring of climate variables across India.
- It is a **national observational initiative** under the **Ministry of Earth Sciences (MoES)**.
- It is **conceptualized and implemented** by the **Indian Institute of Tropical Meteorology (IITM), Pune**.

- It monitors **meteorological parameters, climate-active trace gases** (including **greenhouse gases** and **short-lived climate forcers**), **atmospheric chemistry**, and **soil moisture**.
- It generates **high-quality, high-accuracy climate datasets** to detect **long-term climate trends**, advance **climate change research**, and support **evidence-based policymaking**.
- Its datasets help **validate and benchmark Earth System Models (ESMs)**, including IITM's **Earth System Model (IITM-ESM)**, enabling **more accurate climate simulations** and **future climate projections** for India.

Significance

- Detects **long-term climate trends** and **variability**.
- Improves **validation and benchmarking** of **Earth System Models**, including **IITM-ESM**.
- Strengthens **climate change research, adaptation planning, and evidence-based policymaking**.
- Provides **reference-quality observations** from diverse ecosystems, including the **Himalayan region**.

AMMONIA GAS LEAK

Why in News?

An ammonia gas leak at a seafood processing unit in Tiruvallur, Tamil Nadu renewed focus on industrial chemical safety.

About

- **Ammonia (NH₃)** is a **colourless, alkaline gas** with a **sharp, pungent odour**.
- Produced industrially through the **Haber-Bosch process** using nitrogen and hydrogen.
- Widely used in the **fertiliser industry, refrigeration systems, chemical manufacturing, and seafood/cold-storage processing**.
- **Lighter than air** and highly **water-soluble**, forming **ammonium hydroxide** in water.
- Classified as a **hazardous chemical**; exposure can cause severe irritation of the **eyes, skin**

and respiratory tract, and high concentrations may be fatal.

- Although **not flammable under normal conditions**, ammonia can form **flammable mixtures with air** under specific concentrations.

Uses of Ammonia (NH₃)

- **Fertiliser production** – Used to manufacture **urea, ammonium nitrate, ammonium sulphate, and DAP**, accounting for the largest share of ammonia consumption.
- **Industrial refrigeration** – Used as a **natural refrigerant (R-717)** in cold storages, seafood processing units, dairies, breweries, and ice plants.
- **Chemical manufacturing** – Feedstock for **nitric acid**, explosives, dyes, pharmaceuticals, plastics, and synthetic fibres.
- **Water treatment** – Used in the **chloramination process** to produce chloramines for disinfecting drinking water.
- **Pollution control** – Injected in **Selective Catalytic Reduction (SCR)** systems to reduce **nitrogen oxide (NO_x)** emissions from power plants and industrial boilers.
- **Mining and metallurgy** – Used in **ore processing**, metal nitriding, and as a protective atmosphere during heat treatment.



- *Ammonia (R-717) is a natural refrigerant with zero Ozone Depletion Potential (ODP) and zero Global Warming Potential (GWP = 0).*
- *About 70–80% of global ammonia production is used to manufacture nitrogen fertilisers, making it essential for global food production.*
- *Ammonia is lighter than air (relative density ≈ 0.6) and has a pungent odour detectable at very low concentrations (around 5–50 ppm), helping leaks to be identified early.*

SPF NUMBER ON SUNSCREEN LOTION

Why in news?

The Bureau of Indian Standards (BIS) has mandated in vivo (human volunteer) testing for determining Sun Protection Factor (SPF) claims on sunscreens, replacing earlier laboratory based methods for SPF certification.

About

- **SPF** measures **UVB radiation** required to cause sunburn on protected versus unprotected skin, acting as a safe-exposure multiplier.
- **Sunscreen** uses **chemical filters** (avobenzone, octocrylene) to absorb UV rays into heat, and **physical filters** (zinc oxide, titanium dioxide) to reflect and scatter them.
- **Efficiency** blocks **95–97%** of UVB rays at **SPF 30**, **97–98%** at **SPF 50**, and near **99%** at **SPF 80**.
- **PA+++** ratings protect against deep-penetrating ultraviolet A (UVA) rays linked to pigmentation, photoageing, wrinkles, and elasticity loss.
- **Limitations** include measuring only core **UVB protection** (excluding UVA without PA ratings), creating false security, posing texture and stability challenges, and containing chemical filters like oxybenzone that cause **coral bleaching**.

PLASTIC NURDLES POLLUTION

Why in News?

The **Kerala High Court** raised concerns over the environmental threat posed by **plastic nurdles** spilled from the sunken **MSC Elsa 3** cargo ship and sought urgent pollution containment measures to protect the marine ecosystem.



About

- Plastic Nurdles are tiny **pre-production plastic pellets (2–5 mm)** used as raw material for plastic manufacturing.
- Also known as **plastic pellets, resin pellets** or **mermaid's tears**.
- Commonly made of **polyethylene (PE), polypropylene (PP)** and **polystyrene (PS)**.
- Considered a major source of **primary microplastic pollution**.
- Transported globally in **bags, containers and bulk cargo** to plastic industries.
- Small size and buoyancy enable them to **float and disperse over long distances** in marine waters.

Why are they a Concern?

- Mistaken as food by **fish, turtles and seabirds**, causing injury or death.
- Persist in the environment and **fragment into microplastics**.
- **Adsorb toxic pollutants** (e.g., PCBs, PAHs), contaminating the food chain.
- Extremely **difficult to recover** once spilled due to their size and wide dispersion.
- Threaten **marine biodiversity, fisheries and coastal ecosystems**.

Government Initiatives to Tackle Plastic Pollution

- **Plastic Waste Management (PWM) Rules, 2016** – Provide the statutory framework for segregation, collection, recycling and environmentally sound management of plastic waste.
- **Ban on Identified Single-Use Plastics (SUPs)** – Prohibits the manufacture, import, stocking, sale and use of specified single-use plastic items from **1 July 2022**.
- **Extended Producer Responsibility (EPR) Guidelines (2022)** – Make **Producers, Importers and Brand Owners (PIBOs)** responsible for collecting and processing plastic packaging waste.
- **Centralized EPR Portal (CPCB)** – Digital platform for registration, compliance monitoring and implementation of EPR for plastic packaging. (In 2026, it was migrated to the new **Common EPR Portal**.)

FLY ASH

Why in News?

The Ministry of Railways, in collaboration with NTPC, launched a national initiative to promote rail-based transportation of fly ash, reducing transportation costs, dust pollution, and encouraging its use in cement, concrete, bricks, and infrastructure projects.

About

- Fly Ash Composition depends on the type and quality of coal used in thermal power plants.
- It mainly contains silica, aluminium oxide, ferric oxide, and calcium oxide along with unburnt carbon particles.
- Fly ash may also contain toxic elements such as arsenic, beryllium, and dioxins, which can cause environmental pollution.
- The chemical composition of fly ash determines its properties and industrial uses in cement, concrete, and construction activities.

Uses of Fly Ash

- Used in cement, concrete, and fly ash bricks to improve strength, durability, and reduce construction costs.
- Applied in road construction, embankments, mine filling, and land reclamation for better soil stability.
- Used in paints, plastics, rubber, lightweight construction materials, and for recovery of valuable metals, promoting waste recycling.

Harmful Effects of Fly Ash

- Fine fly ash particles cause air pollution, respiratory diseases, eye and skin irritation, and increase risks of heart disease and cancer.
- Leaching of heavy metals contaminates soil and groundwater, reducing soil fertility and agricultural productivity.

- Large ash ponds occupy vast land, degrade ecosystems, and toxic elements such as arsenic and beryllium harm plants, animals, and biodiversity.

Government Initiatives Related to Fly Ash

- **NTPC Initiatives:** In 2021, NTPC invited Expression of Interest (EOI) for the sale and utilisation of fly ash to achieve higher ash utilisation levels.
- NTPC collaborated with cement manufacturers across India for the large-scale supply and transportation of fly ash for industrial use.
- **Pradhan Mantri Awas Yojana (Urban):** The scheme promotes eco-friendly construction technologies such as the use of fly ash bricks in affordable housing projects.
- **Fly Ash Utilisation Policies:** Several state governments have introduced policies for scientific fly ash management and utilisation. Maharashtra became the first state to adopt a dedicated fly ash utilisation policy.
- **ASHTRACK Portal and Mobile App:** The Government launched the ASHTRACK web portal and mobile application for monitoring fly ash generation, transportation, and utilisation across thermal power plants.

COASTAL REGULATION ZONE

Why in News?

The **Coastal Regulation Zone (CRZ)** norms were in the news following concerns over the **Great Nicobar Island Development Project**, with questions raised about the project's **CRZ clearance**, environmental safeguards, and compliance with coastal regulations.

About

- Coastal Regulation Zone (CRZ) regulates activities along **India's 7,516 km coastline** to protect fragile ecosystems. The CRZ refers to the **set of regulations enforced by the government of India to protect and conserve coastal areas and their ecosystems**. These

regulations are intended to balance development with environmental protection, especially in areas near the coastline.

- **The Ministry of Environment, Forest and Climate Change (MoEFCC)** first issued the Coastal Regulation Zone (CRZ) Notification in **1991**, with subsequent amendments.

CRZ-I (Ecologically Sensitive Areas) 2019

- **CRZ-I (A):** Includes ecologically sensitive areas (ESAs) like mangroves, coral reefs, sand dunes, national parks, wildlife habitats, and areas of archaeological importance.
- **CRZ-I (B):** The intertidal zone between the Low Tide Line (LTL) and High Tide Line (HTL), extending up to 500 meters inland and up to 12 nautical miles seaward, covering tidal-influenced water bodies.

CRZ-II (Developed Areas)

Consists of developed land close to the shoreline within municipal limits, including drainage systems, roads, and other infrastructure.

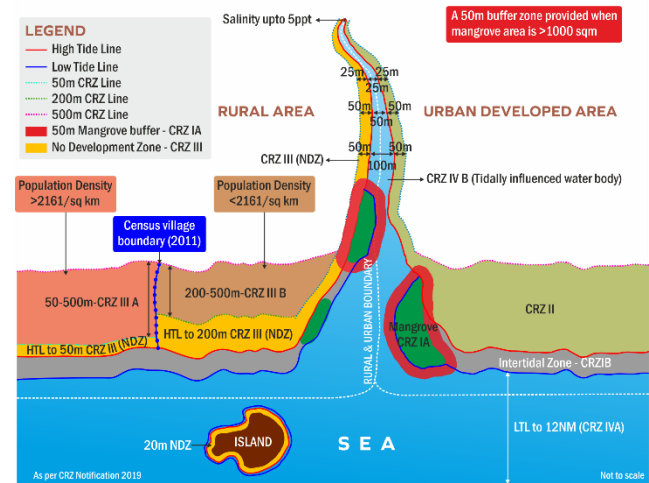
CRZ-III (Rural Areas)

- **CRZ-III (A):** Densely populated areas (over 2161 people per sq. km) with a No Development Zone (NDZ) extending 50 meters from the HTL.
- **CRZ-III (B):** Less populated areas with an NDZ extending up to 200 meters from the HTL.

CRZ-IV (Water Areas)

- **CRZ-IV (A):** Water areas and seabed up to 12 nautical miles from the LTL on the seaward side.

- **CRZ-IV (B):** Water areas between the LTL on both sides of tidal-influenced water bodies



SMALL HYDRO POWER DEVELOPMENT SCHEME

Why in news?

The Ministry of New and Renewable Energy launched the **Small Hydro Power Development Scheme (FY 2026-27 to FY 2030-31)** with an outlay of **₹2,584.60 crore** to install **1,500 MW** of new capacity, alongside the introduction of a **National Online SHP Portal** to streamline execution and unlock India's **21 GW** of untapped potential.

Small Hydro Power (SHP)

- Hydroelectric projects with an installed capacity of **up to 25 MW** are classified as **Small Hydro Power (SHP)** in India.
- **Ministry of New and Renewable Energy (MNRE)** is the nodal ministry for SHP (**≤25 MW**), while projects **above 25 MW** are administered by the **Ministry of Power**.
- SHP projects are predominantly **run-of-the-river** with **little or no storage reservoir**.
- SHP is a **renewable, non-fossil fuel** source of electricity.
- Compared to large hydro, SHP involves **less land submergence** and **minimal displacement**.

- India has an **estimated Small Hydro Power potential of about 21 GW**.
- SHP potential is concentrated in the **Himalayan States and the Western Ghats** due to perennial rivers and steep gradients.

About

- Higher central financial assistance provides **₹3.6 crore per MW** (or 30% of cost, capped at **₹30 crore**) for North Eastern states and border districts, and **₹2.4 crore per MW** (or 20%, capped at **₹20 crore**) for other states.
- **₹30 crore** is allocated to support government agencies in preparing Detailed Project Reports (DPRs) for about **200 future projects**, alongside generating **51 lakh person-days** of construction employment.
- **100% domestic sourcing** of plant and machinery is mandated to strengthen the local industrial base.

Capacity Classification:

- *Micro Hydro: Up to 100 kW*
- *Mini Hydro: 101 kW–2 MW*
- *Small Hydro: 2.01–25 MW*

FLOATING SOLAR CAPACITY REPORT

Why in News?

The Ministry of New and Renewable Energy (MNRE) released **the Floating Solar PV Potential Assessment Report**, estimating India's floating solar potential at over **102 GWp**.

Floating Solar PV Potential Assessment Report

- **Floating Solar Photovoltaics (FSPV)** are solar power systems installed on **floating platforms over inland water bodies**, whereas **offshore floating solar is excluded**.

- The report assesses the **technical potential for Floating Solar Photovoltaic (FSPV) deployment**.
- It was prepared by the National Institute of Solar Energy (NISE) under the **Ministry of New and Renewable Energy (MNRE)**.
- It is **India's first comprehensive national-level assessment** dedicated exclusively to FSPV potential.

Report Findings

- The report estimates **India's floating solar photovoltaic (FSPV) potential at 102.18 GWp**, covering about **1,946 km²** of suitable inland water surface.
- With the inclusion of floating solar, **India's total assessed solar PV potential increases to about 3,445 GWp** ($\approx 3,343$ GW ground-mounted + 102 GW floating).
- The assessment assumes utilisation of **up to 20% of the surface area** of identified water bodies to **minimise ecological impacts** and avoid interference with reservoir operations.
- **Top States by FSPV Potential:**
 - **Maharashtra** (16.28 GW)
 - **Madhya Pradesh** (14.89 GW)
 - **Karnataka** (13.69 GW)
 - **Odisha** (12.81 GW)
 - **Telangana** (10.72 GW)
- Against an estimated potential of **102 GWp**, India has installed only **about 700 MW** of floating solar capacity, indicating significant scope for expansion.



*FSPV systems can reduce water evaporation, suppress algal growth and **improve solar module efficiency** (by about 5-10% than ground-mounted modules) through the cooling effect of water.*

SOLAR COMMUNITY HUB SKILL VANS

Why in news?

The Ministry of Skill Development and Entrepreneurship launched five new **Solar Community Hub Skill Vans** developed by Dell Technologies and NSDC to deliver solar-powered, AI-enabled digital learning and employability training to underserved populations across five states.

About

- Developed by **Dell Technologies** in collaboration with the **National Skill**
- **Development Corporation (NSDC)** and implemented by the Learning Links Foundation, the initiative bridges the digital divide for youth, women, and underserved populations.
- Each solar-powered unit features **laptops, interactive screens, internet connectivity, and AI-enabled learning tools**, supporting over 50 vocational and higher education institutions.
- Training modules provide **customized skilling and structured employability pathways** aligned with emerging market demands rather than just foundational literacy.
- The program expands on its wider domestic impact having reached **2.67 million beneficiaries across 18 districts in 14 states** since FY23 to further foster inclusive, technology-led growth.

'EK PED MAA KE NAAM' CAMPAIGN

Why in news?

Vice President **Shri C. P. Radhakrishnan** appealed to citizens to participate in the '**Ek Ped Maa Ke Naam**' campaign by planting trees to mark **World Environment Day**, planting a sapling at **Uprashtrapati Bhavan**.

About

"**Ek Ped Maa Ke Naam**" is a nationwide campaign encouraging citizens to **plant a tree in honor of their mothers** to show respect for nature, protect the environment, and build a greener future by celebrating both mothers and nature as the fundamental bases of life.

GEOGRAPHY

INDIA'S JUNE RAINFALL DEFICIT

Why in News?

India recorded an overall **rainfall deficit of about 40%** during June 2026, according to the India Meteorological Department (IMD), making it one of the driest Junes in recent decades.

About

- Rainfall deficit refers to a situation where the actual rainfall received during a specified period is **lower than the Long Period Average (LPA)**, as assessed by the India Meteorological Department (IMD).
- The IMD expresses rainfall deficit as the **percentage departure of actual rainfall from the LPA**; the current all-India southwest monsoon LPA is 86.8 cm, based on the 1971–2020 reference period.

Reasons for Rainfall Deficit in June

- **Delayed Advance of Southwest Monsoon:** Slower-than-normal northward progression of the southwest monsoon delayed rainfall over several parts of the country.
- **Weak Monsoon Circulation:** Weak low-level southwesterly winds reduced moisture transport from the Arabian Sea and the Bay of Bengal.
- **Fewer Low-Pressure Systems:** Reduced formation of low-pressure areas and depressions over the Bay of Bengal limited widespread monsoon rainfall.
- **Unfavourable Madden-Julian Oscillation (MJO):** The MJO remained in phases less favourable for convection over the Indian region, suppressing monsoon activity.
- **Weak Monsoon Trough:** The monsoon trough remained weak or was displaced

from its normal position, reducing rainfall over several regions

- **Developing El Niño Conditions:** The evolving warm ENSO conditions acted as a background climatic factor influencing the southwest monsoon

IMI-RESISTANT MUSTARD HYBRIDS

Why in news?

Indian farmers will begin large-scale cultivation of **imidazolinone-resistant (IMI-resistant) mustard hybrids** in the **2026–27 rabi season** to combat **Orobanche**, a **parasitic weed** that reduces **oilseed yields** and deepens **India's edible oil deficit**.

About

- **IMI-resistant mustard hybrids** are **varieties** bred to resist **imidazolinone herbicides** to combat the **root parasite Orobanche** (or *Phelipanche*), which drains **water** and **nutrients**.
- **India** faces a major **edible oil deficit** (importing **16 million tonnes** worth **₹1.6 lakh crore** in **2024–25**), making **mustard** vital despite **parasite-suppressed yields**.
- Created via **mutation breeding** rather than **genetic modification**, altering a single **DNA sequence** to make the essential **ALS enzyme** resistant to **IMI herbicides**.
- Direct **herbicide spraying** leaves the **mustard crop unharmed** while safely destroying hidden **weeds** through **plant and soil absorption**, lowering **labor demands** during critical windows and protecting **yields**.

About Mustard

- **Season:** Predominantly a Rabi oilseed crop.
- **Climate:** Thrives in a cool, dry climate (10–25°C) with 25–40 cm rainfall; waterlogging is harmful.
- **Soil:** Prefers well-drained loamy/alluvial soils; neutral to slightly alkaline; drought tolerant.
- **Importance:** India's 2nd-largest oilseed crop (after soybean); India is the world's 3rd-largest rapeseed-mustard producer (after Canada and China).
- **Leading Producer:** Rajasthan (followed by Uttar Pradesh, Haryana, Madhya Pradesh, West Bengal and Gujarat).

HYDROCARBONS

Why in News?

Hindustan Oil Exploration Company's proposal for **offshore hydrocarbon wells** near Tamil Nadu's Parangipettai coast faced opposition from farmers and environmental groups.

About

- Hydrocarbons are **organic compounds consisting only of carbon and hydrogen** atoms and constitute the basic components of fossil fuels such as **petroleum and natural gas**.
- They are formed from buried organic matter subjected to **geological processes involving heat and pressure** over millions of years.
- Hydrocarbon resources occur in **sedimentary basins where porous and permeable reservoir rocks store hydrocarbons**, while impermeable cap rocks prevent their escape.
- Hydrocarbons are classified into conventional and unconventional resources based on the method of extraction; **shale gas, Coal Bed Methane**

(CBM) and gas hydrates are examples of unconventional hydrocarbons.

India's Hydrocarbon Exploration Framework

- The **National Data Repository (NDR)** is a centralised repository of **geological and geophysical data** to facilitate hydrocarbon exploration in India.
- India's sedimentary basins are categorised based on exploration maturity and hydrocarbon potential into **Category-I, Category-II and Category-III basins**.

COPPER

Why in news?

Vedanta is attempting to reopen the closed **Sterlite Copper** plant in **Thoothukudi** by applying to set up a new "**green copper**" facility using cleaner technology. The **Tamil Nadu Pollution Control Board** rejected the application, leading Vedanta to approach the **Madras High Court**, which directed the State to consider forming an expert committee to review the proposal.

About

- Copper is a naturally occurring chemical element with the symbol **Cu**.
- It occurs naturally as a pure, free metal and is also extracted from minerals such as **chalcocite, chalcopyrite, and bornite**.
- The metal is celebrated for its physical properties, including high electrical and thermal conductivity, malleability, and strong resistance to corrosion.
- Copper is **100% recyclable** without any loss in quality, making it an eco-friendly and sustainable resource.
- Major copper reserves in India are located in the Khetri and Jhunjhunu belt of Rajasthan, the Malanjkhand mine in Madhya Pradesh (the largest open-pit copper mine in the country), and the Singhbhum copper belt in Jharkhand.

- Globally, the leading countries with major copper reserves include Chile, Australia, Peru, and Russia.

Applications

- In the electrical and electronics industries, copper is widely used for wiring, motors, transformers, semiconductors, and integrated circuits.
- The construction industry utilizes copper for architectural roofing, plumbing, and heating systems.
- The automotive industry relies on the metal for vehicle wiring, radiators, and electrical connectors.
- Copper plays a crucial, indispensable role in renewable energy technologies, including wind turbines, solar panels, and electric vehicles.

SCIENCE AND TECHNOLOGY

PM RESEARCH CHAIR SCHEME

Why in News?

The **Department of Higher Education, Ministry of Education** has launched applications for the **Prime Minister Research Chair (PMRC) Scheme 2026**.

About

- The **Prime Minister Research Chair (PMRC) Scheme** is a flagship initiative of the **Department of Higher Education, Ministry of Education**.
- It aims to leverage the expertise of the **Indian scientific diaspora** by facilitating their long-term engagement in research, innovation, teaching and capacity building in strategic sectors.
- The scheme supports the vision of **Viksit Bharat 2047, Atmanirbhar Bharat**, and the implementation of the **National Education Policy (NEP) 2020**.

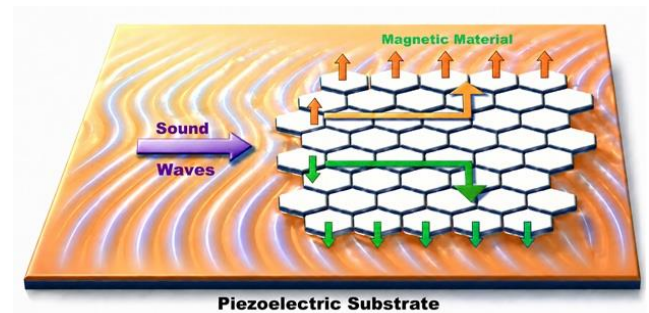
Features of the Scheme

- **Implementing Ministry:** Department of Higher Education, Ministry of Education.
- **Target Beneficiaries:** Indian nationals abroad, Overseas Citizen of India (OCI) cardholders, Persons of Indian Origin (PIO), and Indian-origin researchers working in reputed global universities, research institutions and industries.
- **Three Categories of Fellows:**
 - **Young Research Fellow (YRF):** 0–<5 years post-PhD experience.
 - **Senior Fellow (SF):** 5–<10 years post-PhD experience.
 - **Research Chair (RC):** 10+ years post-PhD experience with proven research leadership.
- **Eligible Institutions:** Selected Government Higher Educational Institutions (based on NIRF

rankings) and notified national laboratories such as those under CSIR, DST, DBT and ICMR.

- **Lead Institutions:** Seven premier institutions, including **IISc Bengaluru** and six IITs (Delhi, Bombay, Madras, Kanpur, Hyderabad and IIT-ISM Dhanbad), coordinate implementation.
- **Focus Areas:** Covers **13 strategic sectors**, including Artificial Intelligence, Quantum Computing, Semiconductors, Biotechnology, Cybersecurity, Space, Defence, Climate Technologies, Healthcare, Advanced Materials and Blue Economy.
- **Support Provided:** Competitive fellowship, research grants, relocation assistance, residential and medical support, and access to world-class research infrastructure.

SOUND WAVE SPINTRONICS



Why in News

Researchers have discovered a **new mechanism to generate and control spin currents using sound waves (acoustic waves)**, offering a promising pathway towards **low-energy spintronic devices**.

About the Discovery

- It is a **spintronics-based mechanism** in which **sound waves (phonons)** are used to generate and manipulate **spin currents**.
- Unlike conventional electronics that rely on the movement of **electric charge**, this approach exploits the **spin of electrons**, thereby reducing energy losses due to heat.
- The discovery opens new possibilities for **energy-efficient computing, memory devices and quantum technologies**.

Applications

- **Spintronic memory devices:** Development of faster and more energy-efficient MRAM and other non-volatile memories.
- **Low-power computing:** Enables next-generation processors with reduced power consumption and heat generation.
- **Quantum technologies:** Useful for controlling spin states in quantum information processing.
- **High-speed communication:** Can facilitate efficient transfer of spin information in future communication devices.
- **Energy-efficient electronics:** Supports the development of sustainable electronic devices with lower energy requirements.

ADVANTAGES

1. Low energy consumption
2. Reduced heat generation
3. High-speed data processing
4. Improved energy efficiency
5. Supports next-generation spintronic devices
6. Enables low-power memory technologies (e.g., MRAM)
7. Facilitates quantum computing applications
8. Greater device miniaturisation
9. Longer device lifespan
10. Environmentally sustainable electronics

NATIONAL COMMISSION FOR HOMOEOPATHY (NCH)

Why in news?

The National Commission for Homoeopathy (NCH) has issued an advisory urging all stakeholders, media organisations and members of the public to exercise responsibility while making statements concerning Homoeopathy and duly registered homoeopathic practitioners.

National Commission for Homoeopathy (NCH) – About

- The **National Commission for Homoeopathy (NCH)** is the **statutory regulatory body** for Homoeopathy education and practice in India.
- It was established under the **National Commission for Homoeopathy Act, 2020**, which came into force on **5 July 2021**.
- It replaced the **Central Council of Homoeopathy (CCH)** constituted under the **Homoeopathy Central Council Act, 1973**, as part of reforms to improve transparency, accountability and quality in Homoeopathy education.
- The Commission functions under the **Ministry of AYUSH, Government of India** and aims to ensure **quality and affordable Homoeopathy education**, availability of competent medical professionals, promotion of research, and maintenance of high ethical standards.

Key Functions

- Regulates **Homoeopathy medical education** and professional standards.
- Maintains the **National Register for Homoeopathy** practitioners.
- Assesses and rates Homoeopathy medical institutions.
- Frames guidelines for admission, curriculum, examinations and fee regulation (for specified seats).
- Promotes medical research, ethical practice and periodic assessment of institutions.

Autonomous Boards under NCH

- **Homoeopathy Education Board (HEB):** Regulates academic standards and curriculum.
- **Medical Assessment and Rating Board for Homoeopathy (MARBH):** Grants permission for institutions and assesses/rates medical colleges.
- **Board of Ethics and Registration for Homoeopathy (BERH):** Maintains the National Register and oversees professional ethics and registration.

BIOTECHNOLOGY

FIXED DOSE COMBINATION DRUGS

Why in News?

The Central Government banned 14 Fixed-Dose Combination (FDC) medicines after expert committees found them to be **therapeutically unjustified and potentially harmful** to public health.

Fixed-Dose Combination (FDC) Drugs

- **Fixed-Dose Combination (FDC) drugs** are pharmaceutical formulations containing **two or more active ingredients** in a fixed ratio for treating a specific medical condition.
- The **Central Drugs Standard Control Organisation (CDSCO)** regulates the approval, quality, and safety of FDC medicines in India.
- The ban was imposed based on the recommendations of an **Expert Committee** and the **Drugs Technical Advisory Board (DTAB)**, which concluded that the banned combinations **lacked therapeutic justification** and could **pose health risks**.
- The prohibition has been issued under **Section 26A of the Drugs and Cosmetics Act, 1940**, empowering the government to ban drugs in the interest of public health.
- **Rational FDCs** improve **treatment adherence**, reduce the **pill burden**, and may enhance therapeutic outcomes, particularly in diseases such as **tuberculosis, HIV/AIDS, diabetes, and hypertension**.
- **Irrational FDCs** can increase the risk of **adverse drug reactions**, inappropriate dosing, **drug interactions**, unnecessary medication exposure, and **antimicrobial resistance (AMR)**, especially when antibiotics are involved.

- India has previously undertaken similar regulatory action, including the **2016 ban on over 300 irrational FDCs**, to promote the safe and evidence-based use of medicines.

Central Drugs Standard Control Organisation (CDSCO)

- **CDSCO** is **India's National Regulatory Authority (NRA)** for pharmaceuticals and medical devices, functioning under the **Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare**.
- It is headed by the **Drugs Controller General of India (DCGI)**, who is responsible for regulating the approval and quality of drugs in the country.
- CDSCO grants **approval for new drugs and clinical trials**, regulates **import of drugs**, and lays down standards to ensure the **safety, efficacy, and quality** of drugs and medical devices.
- It coordinates with **State Drug Control Authorities** to enforce the **Drugs and Cosmetics Act, 1940** and **Drugs Rules, 1945**, and monitors the quality of drugs marketed in India.

SHIGELLA- VIRULENT BACTERIA

Why in News?

Kerala has reported a rise in cases of shigellosis (bacillary dysentery), prompting health authorities to strengthen surveillance and preventive measures.

ABOUT SHIGELLOSIS

- **Shigellosis (bacillary dysentery)** is a **highly contagious bacterial infection** of the intestines caused by *Shigella* bacteria and is one of the leading bacterial causes of diarrhoea worldwide.
- **Humans are the only natural reservoir** of *Shigella*, and **children below five years, the elderly, malnourished, and**

immunocompromised individuals are at greater risk of severe disease.

- It spreads primarily through the **faeco-oral route**, including **direct contact with infected persons, contaminated food or water**, and can also be transmitted through **certain forms of sexual contact**.
- **Virulence mechanism:**
 - *Shigella* invades the **colonic epithelial cells**, multiplies within them, and spreads from cell to cell using the **Type III secretion system**. Some species, especially *Shigella dysenteriae* type 1, produce **Shiga toxin**, which damages the intestinal lining and can lead to **bloody diarrhoea** and complications such as **haemolytic uremic syndrome (HUS)**.
- The disease commonly causes **diarrhoea (often bloody or mucus-filled), abdominal cramps, fever, vomiting**, and a frequent urge to pass stools even when the bowels are empty.
- **Treatment** mainly involves **rehydration and supportive care**, while **antibiotics** are recommended for severe cases or high-risk patients.



QDENGGA

Why in News?

India has approved its first dengue vaccine, **QDENGGA (TAK-003)**, to strengthen dengue prevention amid the country's rising disease burden.

For free learning, visit www.officerspulse.com

QDENGGA (TAK-003) Dengue Vaccine

- **QDENGGA (TAK-003)** is a **recombinant, live-attenuated, tetravalent dengue vaccine** developed by **Takeda** to protect against all four dengue virus serotypes (**DENV-1, DENV-2, DENV-3 and DENV-4**).
- It is **manufactured by Takeda GmbH (Germany)** and marketed in India by **Takeda Biopharmaceuticals India**.
- The vaccine received **marketing authorisation from the Central Drugs Standard Control Organisation (CDSCO)** under the **Drugs and Cosmetics Act, 1940** and **Drugs Rules, 1945**.
- It is approved for **individuals aged 4–60 years**, irrespective of whether they have had a previous dengue infection.
- **Unlike earlier dengue vaccines, QDENGGA does not require pre-vaccination blood testing**, enabling easier and wider immunisation.
- It has been **approved in over 40 countries**, has received **WHO prequalification**, and **more than 32 million doses** have been distributed globally.



Dengue

- **Dengue** is a **mosquito-borne viral disease** caused by the **dengue virus (genus Flavivirus)** and is transmitted primarily by the **female Aedes aegypti** mosquito.
- The virus has **four serotypes—DENV-1, DENV-2, DENV-3 and DENV-4**—and infection

with one serotype does not provide lifelong immunity against the others.

- Common symptoms include **high fever, severe headache, pain behind the eyes, muscle and joint pain, nausea, skin rash**, and in severe cases, **dengue haemorrhagic fever or dengue shock syndrome**.
- The *Aedes aegypti* mosquito also transmits **chikungunya, Zika, and yellow fever**.
- According to the **WHO**, dengue is one of the fastest-growing mosquito-borne diseases, with an estimated **390 million infections annually**, of which about **96 million are symptomatic**.

GENETICS OF OBESITY

Why in news?

A recent study highlighted that there is **no single "obesity gene"** determining whether a person becomes obese. Instead, obesity results from the interaction of **multiple genes, lifestyle and environmental factors**, reinforcing that **genetic makeup is not a fixed destiny**.

Discovery

- Researchers found that **obesity is a polygenic condition**, influenced by the combined effect of numerous genes rather than one specific gene.
- **Diet, physical activity, sleep, stress and environmental factors** can significantly modify the genetic predisposition to obesity.
- Even individuals with a high genetic risk can improve metabolic health through sustained lifestyle changes, highlighting the role of **gene environment interaction**.

INFORMATION TECHNOLOGY

NATURAL POLYMER-BASED GRAPHENE FILM FOR WEARABLE TECHNOLOGIES

Why in News?

Researchers from the **Centre for Nano and Soft Matter Sciences (CeNS)**, Bengaluru, an autonomous institute under the **Department of Science and Technology (DST)**, have developed an **eco-friendly graphene film using a natural**

polymer, paving the way for next-generation **flexible and wearable electronic devices**.

The Discovery

- Scientists developed a **flexible graphene film** using a **natural polymer (gum arabic)** instead of synthetic chemicals.
- The natural polymer helps **bind graphene sheets together**, making the film **strong, flexible and environmentally friendly**.
- The film is **lightweight, electrically conductive and can bend without losing performance**, making it suitable for wearable electronics.
- This innovation offers a **low-cost and sustainable alternative** for manufacturing flexible electronic materials.

What is Graphene?

- Graphene is a **single layer of carbon atoms** arranged in a **two-dimensional hexagonal (honeycomb) lattice**.
- It is one of the **strongest, thinnest and best electrical and thermal conductors** known.
- It is highly **flexible, lightweight and transparent**, making it useful in advanced electronic applications.

Key Features of the New Graphene Film

- Made using **gum arabic**, a biodegradable natural polymer.
- **Flexible, foldable and mechanically durable**.
- **Excellent electrical conductivity** even after repeated bending.
- **Environment-friendly** and suitable for large-scale production.
- Can be integrated with flexible substrates for wearable devices.

Potential Applications

- Wearable health-monitoring sensors.
- Flexible electronic devices and smart textiles.
- Electronic skin (e-skin).
- Energy storage devices such as flexible supercapacitors and batteries.

- Smart medical and Internet of Things (IoT) devices.

THE VARYA AI MODEL



Why in news?

The **IndiaAI Mission** has supported the launch of **Varya**, an **indigenous AI-powered video story generation model** developed by **Avataar.ai**, aimed at making high-quality AI video creation affordable, accessible and relevant for Indian users.

About Varya

- **Varya** is an **indigenous distilled AI video generation model** developed by **Avataar.ai** with support from the **IndiaAI Mission**.
- It converts **text prompts into high-quality videos** through AI-powered video generation.
- The model is designed specifically for **India's linguistic, cultural and regional diversity**.
- It seeks to make **frontier video AI** affordable and scalable for education, governance, businesses and citizens.

Key Features

- **Text-to-video AI generation** through simple prompts.
- **Distilled AI model**, reducing computational requirements.
- Claims to reduce **video generation from about 50 steps to just 4 steps**.
- Designed to be **around 10 times more efficient** than leading video generation models.

- Trained to understand **Indian festivals, food, clothing, public spaces, communities and regional contexts**.
- Developed under the **IndiaAI Mission** to strengthen indigenous AI capabilities.

SPACE

JUNO

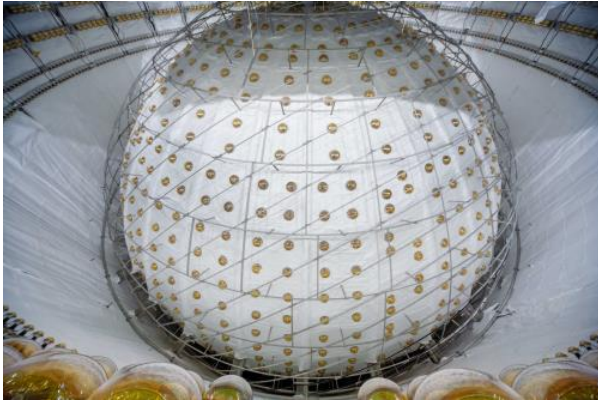
Why in News?

JUNO announced its **first physics results**, achieving the **world's most precise neutrino oscillation measurements**.

Jiangmen Underground Neutrino Observatory (JUNO)

- A large underground neutrino observatory located near **Kaiping, Guangdong Province, China**, about **700 m below the surface** and **53 km from the Taishan and Yangjiang nuclear power plants**.
- An **international project** involving **74 institutions** across Asia, Europe, and the Americas, led by the **Chinese Academy of Sciences (CAS)** through the **Institute of High Energy Physics (IHEP)**.
- It is **China's second major neutrino experiment**, following the **Daya Bay Reactor Neutrino Experiment**.
- To determine the **Neutrino Mass Ordering (NMO)** by studying the oscillation of **electron antineutrinos** emitted from nearby nuclear reactors.
- Houses the **world's largest and most precise liquid scintillator detector**, containing **20,000 tonnes** of liquid scintillator inside a **35 m-radius spherical detector**.
- The observatory features an **80 m-high, 50 m-diameter underground experimental hall**, designed for highly sensitive neutrino detection.
- Designed for a **30-year scientific mission**, JUNO is one of the world's **three next-generation neutrino experiments**, alongside

Hyper-Kamiokande (Japan) and the Deep Underground Neutrino Experiment (USA).



Neutrinos

- Neutrinos are **elementary particles** belonging to the **lepton family**. They are electrically **neutral**, have an **extremely small mass**, travel at **nearly the speed of light**, and interact only through the **weak nuclear force and gravity**, making them difficult to detect.
- Predicted by **Wolfgang Pauli in 1930** and experimentally discovered in **1956**, neutrinos are produced during **radioactive decay**, nuclear reactions in the **Sun and stars**, supernovae, and nuclear reactors.
- Neutrinos are among the **most abundant particles in the universe**. Around **100 trillion neutrinos pass through the human body every second** without causing harm.
- They are crucial for understanding the **Standard Model of particle physics**, the **life cycle of stars**, **black holes**, **supernovae**, and the **evolution of the universe after the Big Bang**.

GRAPES-3 TELESCOPE

Why in News?

Researchers from **India and Japan** used the **GRAPES-3 Telescope** to study how the **Earth's upper atmosphere** and the **Sun's magnetic field** influence cosmic-ray muons.

GRAPES-3 Telescope

- **Gamma Ray Astronomy PeV Energies phase-3 (GRAPES-3)** is a cosmic-ray observatory located at **Ooty, Tamil Nadu**, and operated by the **Tata Institute of Fundamental Research (TIFR)**.
- It studies the **origin, acceleration, and propagation of cosmic rays** by detecting extensive air showers produced when high-energy cosmic rays or gamma rays enter the Earth's atmosphere.
- The observatory also investigates **solar activity, geomagnetic effects, and thunderstorm phenomena** using cosmic-ray muons.
- It employs an array of **plastic scintillator detectors** along with a **large-area muon detector** based on proportional counters.
- It is designed to detect particles in the **tera-electronvolt (TeV) to peta-electronvolt (PeV)** energy range.



Cosmic Rays

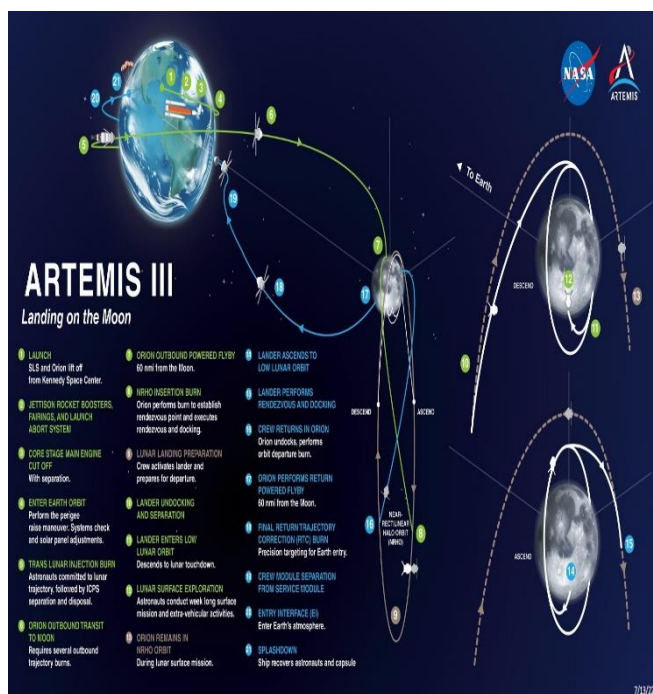
- Cosmic rays are **high-energy charged particles** originating from outer space and were discovered **over a century ago**.
- On entering the Earth's atmosphere, they generate **extensive air showers** consisting of **electrons, photons, muons, protons, and neutrons**, many of which reach the Earth's surface at nearly the speed of light.

- They are among the **most energetic particles in the universe**, with energies ranging from 10^8 eV to 10^{20} eV.

ARTEMIS III

Why in News

NASA's **Artemis III** mission remains a key milestone in the Artemis Programme aimed at returning humans to the Moon and laying the foundation for sustained lunar exploration and future crewed missions to Mars. Recent mission planning has refined its objectives and architecture.



About Artemis III

- **Artemis III** is NASA's first **crewed Artemis mission** intended to demonstrate critical technologies required for future lunar landings.
- It is part of NASA's **Moon-to-Mars Programme**, following **Artemis I** (uncrewed) and **Artemis II** (crewed lunar flyby).
- The mission will launch **four astronauts** aboard the **Orion spacecraft** using NASA's **Space Launch System (SLS)** rocket.
- Artemis III is currently targeted for **2027**.

Key Components

- **Launch Vehicle:** Space Launch System (SLS).
- **Crew Capsule:** Orion Multi-Purpose Crew Vehicle.
- **Crew:** Four astronauts.
- **Human Landing System (HLS):** Commercial lunar landers being developed by **SpaceX** and **Blue Origin**.
- **Launch Site:** Kennedy Space Center, Florida.

Mission Objectives

- Demonstrate **rendezvous and docking** with commercial Human Landing Systems (HLS).
- Validate critical technologies required for future lunar surface missions.
- Test interoperability between NASA's Orion spacecraft and commercial lunar landers.
- Reduce technical risks before subsequent crewed lunar landing missions.
- Support NASA's long-term objective of establishing a **sustained human presence on the Moon** and preparing for **human missions to Mars**.

BOLIDES



Why in News?

A **bright fireball accompanied by loud boom sounds** was reported over the **Boston (USA)** region, believed to have been caused by a **bolide** entering Earth's atmosphere. The event renewed interest in atmospheric meteors and bolides.

About Bolides

- A **bolide** is an **exceptionally bright meteor (fireball)** that **explodes or fragments**

violently while passing through Earth's atmosphere.

- Most bolides originate from **small fragments of asteroids**, though some may originate from **cometary debris**.

Phenomenon

When the bolides enter Earth's atmosphere at speeds of **11–72 km/s**, where rapid compression of air generates intense heat, causing them to glow brilliantly.

Features

- Bolides are often accompanied by a **bright flash, shock wave (sonic boom)**, and occasionally **meteorite fragments** reaching the Earth's surface.
- According to **NASA**, a **fireball** is a meteor brighter than **magnitude –4** (brighter than Venus), while a **bolide** is a fireball that undergoes a significant atmospheric explosion or fragmentation
- Most occur over **oceans or remote regions**, so many go unnoticed.
- Scientists study bolides to understand the **composition of asteroids**, the dynamics of atmospheric entry, and assess **near-Earth object (NEO)** hazards.

Term	Meaning
Meteoroid	A small rocky or metallic object travelling through space.
Meteor	The streak of light produced when a meteoroid enters Earth's atmosphere.
Fireball	An exceptionally bright meteor (brighter than magnitude –4).
Bolide	A fireball that explodes or breaks apart violently in the atmosphere.
Meteorite	A fragment of a meteoroid that survives atmospheric entry and reaches the Earth's surface.

DEFENCE

PROJECT KUSHA

Why in News

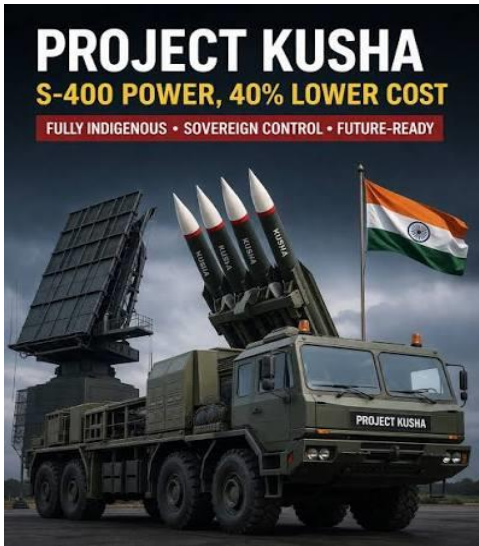
Defence Minister **Rajnath Singh** described **Project Kusha**, India's indigenous long-range air defence shield, as a **"game changer"** for national security, highlighting its role in strengthening India's self-reliant, multi-layered air defence architecture.

About Project Kusha

- **Project Kusha** is an **indigenous long-range Surface-to-Air Missile (SAM)** air defence system being developed by the **Defence Research and Development Organisation (DRDO)**.
- It is also known as the **Extended Range Air Defence System (ERADS)**.
- It aims to provide a **multi-layered shield** against advanced aerial threats and complement existing systems such as the **S-400, Akash and Ballistic Missile Defence (BMD)** programme.
- The project is expected to be inducted in phases between **2028 and 2030**.

Key Features

- **Developed by:** DRDO (with Bharat Electronics Ltd. and Bharat Dynamics Ltd. as major industry partners).
- **Type:** Long-range Surface-to-Air Missile (SAM) system.
- **Three interceptor variants:**
 - **M1:** ~150 km range
 - **M2:** ~250 km range
 - **M3:** ~350–400 km range
- Designed to intercept: Fighter aircraft Stealth aircraft, Cruise missiles, Ballistic missiles, Drones/UAVs, WACS aircraft.
- Network-centric architecture integrated with the **Indian Air Force's Integrated Air Command and Control System (IACCS)**.
- Equipped with **long-range surveillance radars** and **multifunction fire-control radars**.



INS BAAZ

Why in News?

INS Baaz was in the news after Congress leader **Jairam Ramesh** urged the Union Government to reconsider expanding its runway instead of constructing a new greenfield airport under the **Great Nicobar Island Development Project**, citing environmental and strategic considerations.

About INS Baaz

- **INS Baaz** is the **Indian Navy's southernmost Naval Air Station**, located at **Campbell Bay on Great Nicobar Island**.
- It was **commissioned on 31 July 2012** under the **Andaman and Nicobar Command (ANC)**, India's only tri-service theatre command.
- It provides logistical, administrative and operational support for **maritime reconnaissance aircraft, helicopters and surveillance missions** in the eastern Indian Ocean.

Functions of INS Baaz

- Conducts **maritime surveillance and reconnaissance** over the eastern Indian Ocean.
- Monitors **shipping traffic** through the **Strait of Malacca** and **Six Degree Channel**.
- Supports **anti-submarine warfare (ASW)**, maritime domain awareness and intelligence gathering.

- Enhances **search and rescue (SAR)**, humanitarian assistance and disaster relief (HADR) operations.
- Serves as a **forward operating base** for naval and air assets, extending India's operational reach in the Indo-Pacific.

Strategic Significance of its Location

- Located on **Great Nicobar Island**, close to the **Strait of Malacca**, one of the world's busiest maritime choke points through which a major share of global trade and energy supplies passes.
- Overlooks the **Six Degree Channel**, an important international sea lane connecting the Bay of Bengal with the Andaman Sea.
- Provides India with the capability to **monitor naval movements**, particularly in the eastern Indian Ocean and the approaches to the Strait of Malacca.
- Strengthens India's maritime presence in the **Indo-Pacific** and supports the security of **Sea Lines of Communication (SLOCs)**.
- Enhances India's ability to respond rapidly to regional contingencies, reinforcing the strategic role of the **Andaman and Nicobar Islands** in India's maritime security architecture.

NEXT-GENERATION CAPABILITIES

DEFENCE

Why in News?

The **Defence Research and Development Organisation (DRDO)** successfully conducted **three consecutive flight tests**, showcasing India's next-generation **Ballistic Missile Defence (BMD)** and **Naval Anti-Ship Strike** capabilities.

Defence Capabilities Showcased



1. Ballistic Missile Defence (BMD) System

- DRDO successfully demonstrated a **multi-layered Ballistic Missile Defence (BMD)** system capable of intercepting **long-range ballistic missiles, including ICBM-class threats**.
- The system employs **multiple interceptor missiles operating at different altitudes**, providing layered protection against incoming ballistic missiles.
- The successful trials place **India among an elite group of nations** possessing advanced BMD capabilities.

2. Long-Range Interceptor Missile

- A **long-range interceptor missile** successfully intercepted a simulated ballistic missile target in the **exo-atmospheric (outside Earth's atmosphere)** phase.
- It demonstrated high-precision target tracking, interception and destruction of hostile ballistic missiles at long ranges.



3. Naval Anti-Ship Missile – Medium Range (NASM-MR)

- DRDO conducted the **maiden flight test** of the **Naval Anti-Ship Missile – Medium Range (NASM-MR)**.
- The missile is designed to engage **enemy warships** with high precision and will significantly enhance the **Indian Navy's maritime strike capability**.
- It strengthens India's indigenous capability in precision-guided anti-ship weapon systems.

About DRDO

- **Established: 1958**
- **Headquarters: New Delhi**
 - **Ministry:** Ministry of Defence
- **Objective:** To develop indigenous technologies and systems for India's armed forces, promoting **self-reliance (Aatmanirbhar Bharat)** in defence.
- **Major Areas of Research:** Missiles, aeronautics, naval systems, combat vehicles, electronics, radar, cyber systems, artificial intelligence, life sciences and advanced materials.
- **Key Achievements:** Agni and Prithvi missile series, Akash air defence system, Astra BVRAAM, BrahMos (jointly with Russia), Light Combat Aircraft technologies, Ballistic Missile Defence (BMD) system and anti-satellite (ASAT) technologies.

CSIR TRANSFERS SEVEN INDIGENOUS TECHNOLOGIES



Why in News?

The **Council of Scientific and Industrial Research (CSIR)** transferred **seven indigenous technologies** to industry, released **10 Bharatiya Nirdeshak Dravyas (BNDs)**, and handed over **quantum sensing components** to DRDO during a technology transfer event held at CSIR Headquarters, New Delhi.

Key Highlights

1. Transfer of Seven Indigenous Technologies

The technologies were developed by **CSIR-NPL** and **CSIR-CRRI** and licensed to industry for commercialization.

CSIR-NPL Technologies

1. **Rydberg System-based Broadband Electric Field (E-Field) Sensing Technology:** for advanced electromagnetic field sensing.
2. **High-Volume PM2.5 Impactor Sampler:** for accurate ambient air quality monitoring.
3. **Environment-friendly Pharmaceutical Blister Recycling Process:** for sustainable recycling of pharmaceutical packaging waste.

CSIR-CRRI Technologies

4. **VInSD-VAIU** – Drone-based **Non-Destructive Testing (NDT)** system for bridge inspection.
5. **PAVE-SEAL** – Nano-photocatalytic Road sealing emulsion that helps reduce air pollution.
6. **PATCHFILL** – Mechanised pothole repair machine.
7. **CLARIVISOR** – Device to reduce glare and improve road safety.

Bharatiya Nirdeshak Dravyas (BNDs)

About

- **Bharatiya Nirdeshak Dravyas (BNDs)** are **Certified Reference Materials (CRMs)** developed indigenously by **CSIR-National Physical Laboratory (CSIR-NPL)**.

- They provide **traceable measurement standards** for calibration, testing and quality assurance in laboratories and industries.
- They help reduce dependence on imported reference materials while strengthening India's **National Quality Infrastructure (NQI)**.

Latest Release

- **10 new BNDs** were released:
 - **8 phytochemical reference materials**
 - **1 precious metal reference material**
 - **1 propane gas reference material**

Quantum Sensing Milestone

- **CSIR-NPL** handed over **five indigenous vapour cells** to the **Solid-State Physics Laboratory (SSPL), DRDO**.
- These are critical components used in **quantum sensing technologies**, supporting next-generation strategic and defence applications.

RUDRA M-II



Why in news?

Defence Research & Development Organisation (DRDO) and the Indian Air Force (IAF) have conducted the successful flight-tests of RudraM-II Air-to-Surface Missile from an airborne platform.

About RudraM-II Missile

- **RudraM-II** is an **indigenously developed solid-propelled, air-launched Anti-Radiation Missile (ARM)** designed by the **Defence Research and Development Organisation (DRDO)**.

- It is developed by **Research Centre Imarat (RCI), Hyderabad**, the nodal DRDO laboratory, in collaboration with other DRDO laboratories.
- It is primarily designed for the **air-to-surface role**, enabling the Indian Air Force to destroy enemy air defence assets before the launch of strike missions.
- The missile has successfully undergone **flight testing from a Su-30 MKI aircraft**, demonstrating its operational capability.
- It is intended to eventually replace the **Russian-origin Kh-31 anti-radiation missile** in Indian service.

What is an Anti-Radiation Missile (ARM)?

An Anti-Radiation Missile (ARM) is a precision-guided missile specifically designed to detect, track and destroy enemy radar, communication systems and other radio-frequency (RF) emitting sources, which form the backbone of an adversary's integrated air defence network.

Key Features of RudraM-II Missile

- **Type:** Air-launched, solid-propelled **Anti-Radiation Missile (ARM)**.
- **Role:** Air-to-surface precision strike against enemy radar and air-defence systems.
- **Speed:** Can attain a maximum speed of around **Mach 5.5**.
- **Range:** Approximately **300 km**.
- **Payload:** Can carry a **200 kg-class warhead**.
- **Launch Platform:** Compatible with **Su-30 MKI** and can be launched from altitudes of **3–15 km**.
- **Navigation System:** Employs a **hybrid guidance system** comprising:
 - **Inertial Navigation System (INS)**
 - **GPS-based navigation**
 - **Passive Homing Head (PHH)** capable of detecting and tracking radio-frequency emissions over a wide frequency spectrum.
- **Target Capability:** Can accurately engage:
 - Surface-to-Air Missile (SAM) sites
 - Communication nodes
 - Other enemy radio-frequency emitting assets.
- **Operational Advantage:** Acts as a significant **force multiplier** by suppressing or destroying enemy air defence (SEAD/DEAD) capabilities, thereby improving the survivability of friendly aircraft.

SIPRI YEARBOOK 2026

Why in News?

The **Stockholm International Peace Research Institute (SIPRI)** released its **Yearbook 2026**, presenting an annual assessment of global military expenditure, nuclear forces, arms transfers, armed conflicts, and international security trends

Key India-Related Findings of SIPRI Yearbook 2026

- **Nuclear Arsenal:** India's nuclear stockpile is estimated at **around 190 warheads** (early 2026), with modernisation focused on **longer-range missiles** and strengthening the credibility of its **nuclear triad**.
- **India-Pakistan Conflict:** The Yearbook identifies **Operation Sindoor (2025)** as a major military escalation, highlighting the growing role of **precision weapons, drones, cyber operations and information warfare**.
- **Cyber Warfare:** Cyber capabilities have become a key domain of warfare, being widely used for **espionage, disrupting critical infrastructure, intelligence gathering and military operations**.
- **Defence Expenditure:** India remained the **world's fifth-largest military spender** in 2025 with **US\$92.1 billion**, reflecting continued investment in military modernisation, border security and indigenous defence production.
- **Global Arms Imports:** India was the **second-largest importer of major conventional arms (2021–25)** with an **8.2% global share**, despite ongoing efforts to boost defence self-reliance under **Aatmanirbhar Bharat**.

About SIPRI (Stockholm International Peace Research Institute)

- **Established: 1966**
- **Headquarters: Stockholm, Sweden**
- **It is an independent international research institute** dedicated to the study of: Global security, Armed conflicts, Military expenditure, Arms transfers, Nuclear forces, Arms control and disarmament
- **SIPRI maintains globally recognised databases on military spending, international arms transfers, nuclear arsenals, and peace operations.**
- **It publishes the SIPRI Yearbook annually, regarded as one of the world's most authoritative references on armaments, disarmament, and international security.**

INS SHARDA

Why in News?

INS Sharda concluded its visit to **Colombo**, strengthening **India-Sri Lanka maritime cooperation** through joint training and professional exchanges with the **Sri Lankan Navy**.

INS Sharda

- **INS Sharda (P55)** is a **Sukanya-class Offshore Patrol Vessel (OPV)** of the **Indian Navy**, commissioned in **1991** and built by **Hindustan Shipyard Limited, Visakhapatnam**.
- It is deployed for **Exclusive Economic Zone (EEZ) surveillance**, **maritime patrol**, **coastal security**, **anti-piracy**, **anti-smuggling**, **search and rescue (SAR)**, and **Humanitarian Assistance and Disaster Relief (HADR)** operations across the **Indian Ocean Region (IOR)**.
- The ship is equipped with **advanced surveillance**, **navigation** and **communication systems**, and can operate a **HAL Chetak helicopter**, enabling long-endurance maritime missions.

- **INS Sharda** conducted **joint training and professional exchanges** with the **Sri Lankan Navy**, enhancing **operational preparedness**, **interoperability**, and **maritime cooperation**. It also **transported Indian Army stores** for **Sri Lankan Army personnel** deployed on a **UN peacekeeping mission**.
- The visit was undertaken under **India's 'Neighbourhood First' policy** and the **MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions)** vision, reaffirming India's commitment to **capacity building** and **maritime security cooperation** in the **Indian Ocean Region**.



Offshore Patrol Vessel (OPV)

An **Offshore Patrol Vessel (OPV)** is a **long-range patrol ship** designed to operate in a country's **Exclusive Economic Zone (EEZ)** and offshore waters. It is used for **maritime surveillance**, **coastal security**, **anti-piracy**, **anti-smuggling**, **fisheries protection**, **search and rescue (SAR)**, **Humanitarian Assistance and Disaster Relief (HADR)**, and **maritime law enforcement**. OPVs are built for **long-endurance missions** and are generally **larger than Fast Patrol Vessels** but **lighter and less heavily armed than frigates**.

AKSHAY

Why in News?

The **Indian Coast Guard** commissioned **ICGS Akshay** into the **Bharatiya Tatrakshak fleet**, enhancing India's **coastal surveillance**, **maritime security**, and **search-and-rescue capabilities**.

About ICGS Akshay

- **ICGS Akshay** is a **new-generation indigenous Fast Patrol Vessel (FPV)** of the **Indian Coast Guard**, named "**Akshay**", meaning "**Indestructible**."
- It is the **fourth vessel** in the **Adamyia-class** series of **eight Fast Patrol Vessels**, built by **Goa Shipyard Limited (GSL)** under the **Indian Coast Guard Fleet Modernisation Programme**.
- It is designed to undertake **EEZ surveillance, maritime law enforcement, coastal security, fisheries protection, anti-smuggling, anti-piracy, search and rescue (SAR), marine environmental protection, Humanitarian Assistance and Disaster Relief (HADR),** and assistance to mariners in distress.
- Earlier vessels inducted under the project include **ICGS Adamyia, ICGS Akshar, and ICGS Amulya**.



Features of ICGS Akshay

- **Dimensions:** Measures **52 metres** in length with a **320-tonne displacement**.
- **Propulsion:** Powered by **two 3,000 kW diesel engines** and is the **first class of Indian Coast Guard vessels** equipped with an advanced **Controllable Pitch Propeller (CPP)-based propulsion system**.
- **Armament:** Equipped with a **30 mm CRN-91 naval gun** and **two 12.7 mm stabilised**

remote-controlled machine guns integrated with fire-control systems.

- **Crew Capacity:** Manned by **6 officers and 35 sailors**.
- **Indigenisation:** Built with **over 65% indigenous content**, reflecting India's growing shipbuilding capability under **Aatmanirbhar Bharat**.

Fast Patrol Vessel (FPV)

A Fast Patrol Vessel (FPV) is a high-speed, lightly armed patrol ship designed to protect a country's coastal waters and maritime interests. It is primarily used for coastal surveillance, Exclusive Economic Zone (EEZ) patrols, anti-smuggling, anti-piracy, search and rescue (SAR), fisheries protection, maritime law enforcement, and disaster response. FPVs are valued for their speed, manoeuvrability, and ability to respond quickly to maritime threats and emergencies.

INS TARKASH

Why in News?

- **INS Tarkash** departed **Mauritius** after a port visit and joint engagements, continuing its operational deployment in the **South-West Indian Ocean Region** to strengthen maritime security and regional cooperation.

INS Tarkash

- **INS Tarkash** is a **state-of-the-art stealth guided missile frigate** of the **Indian Navy** and the **second of the three Talwar-class (Project 11356) frigates**, a modified version of the **Russian Krivak III-class frigate**.
- It was **built by the Yantar Shipyard, Kaliningrad (Russia)**, commissioned into the Indian Navy on **9 November 2012**, and operates under the **Western Naval Command**.
- The ship is designed for **multi-role naval operations**, including **air, surface, and anti-submarine warfare**, maritime security, escort

missions, and long-range deployments in the **Indian Ocean Region (IOR)**.

- It has a **displacement of 3,850 tonnes**, measures **124.8 m** in length, and is powered by **four gas turbines**, enabling a speed of **over 30 knots** with an operational endurance of **30 days**.
- It incorporates **stealth technology** with a **low radar cross-section hull design**, reducing detectability by enemy radar.
- It is equipped with **BrahMos supersonic cruise missiles**, **surface-to-air missiles**, a **100 mm naval gun**, **torpedoes**, **rocket launchers**, **close-in weapon systems**, and **advanced sensors and fire-control systems** for all-dimensional threat engagement.
- The frigate can operate one **Ka-28 Helix-A anti-submarine helicopter** or one **Ka-31 Helix-B airborne early warning helicopter**, enhancing its surveillance and combat capabilities.



Frigate

A **frigate** is a **medium-sized, multi-role warship** designed to protect naval fleets and safeguard maritime interests. It is equipped for **anti-air, anti-surface, and anti-submarine warfare**, and is used for **escort missions, maritime security, long-range patrols, and power projection**. Modern frigates carry **guided missiles, naval guns, torpedoes, advanced sensors, and helicopters**, making them one of the most versatile combat ships in a navy.

INS IKSHAK



Why in News?

INS Ikshak arrived at **Port Victoria, Seychelles**, to strengthen **India-Seychelles maritime cooperation**, enhance interoperability, and deepen bilateral naval ties.

INS Ikshak

- INS Ikshak is an **indigenously built Survey Vessel (Large) (SVL)** of the **Indian Navy**, designed to undertake **hydrographic surveys** and map the seabed for safe navigation.
- The name "**Ikshak**", meaning "**The Guide**", reflects its role in **charting unexplored waters** and supporting maritime navigation.
- It is **built by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata**, as part of India's indigenous naval shipbuilding programme.
- The vessel has **over 80% indigenous content**, reinforcing the **Aatmanirbhar Bharat** initiative in defence manufacturing.
- It measures **110 metres in length**, **16 metres in beam**, and has a **displacement of about 3,400 tonnes**.
- Powered by **two main engines in a twin-shaft configuration**, it has a **cruising speed of 14 knots** and a **maximum speed of 18 knots**.
- Besides hydrographic surveys, it is capable of serving as a **Humanitarian Assistance and Disaster Relief (HADR)** platform and a **hospital ship** during emergencies.
- It is the **first Survey Vessel (Large)** of its class to provide **dedicated accommodation for**

women officers and sailors, promoting greater gender inclusivity in the Indian Navy.

Survey Vessel (Large) (SVL)

A Survey Vessel (Large) (SVL) is a specialised ship designed to survey and map the seabed, coastal waters, and navigation routes. It collects hydrographic and oceanographic data using advanced sensors to prepare accurate nautical charts, which help ensure safe navigation for naval and commercial ships. These vessels also support port development, submarine operations, marine research, coastal security, and Humanitarian Assistance and Disaster Relief (HADR) missions.

INTERNATIONAL RELATIONS

INDIA-MIDDLE EAST-EUROPE ECONOMIC CORRIDOR (IMEC)

Why in News?

The ongoing **war in Iran** and the strategic blockade of the **Strait of Hormuz** have severely disrupted global energy supplies, exposing the vulnerabilities of traditional trade routes and amplifying the urgent strategic necessity of advancing the **India-Middle East-Europe Economic Corridor (IMEC)**.

About

- IMEC is a multi-modal connectivity project aimed at developing infrastructure of ports, railways, roads, sea lines and pipelines to enhance trade between India, the Arabian Peninsula, the Mediterranean region and Europe.
- Signatories:** India, the United States, Saudi Arabia, the United Arab Emirates, France, Germany, Italy, and the European Union.



Two Key Corridors:

- The East Corridor connects India to the Arabian Gulf (linking South Asia and the Middle East).
- The North Corridor extends from the Gulf to European markets.

Strategic and Economic Importance of IMEC for India

- Reduces India's dependence on traditional maritime chokepoints such as the **Suez Canal**, improving trade resilience.
- Provides a faster and more efficient connectivity route to **European markets** through the Mediterranean, reducing reliance on China-centric trade networks.
- Strengthens economic ties with the **European Union**, India's largest trading partner, with bilateral trade exceeding **US\$136 billion (2024)**.
- Better logistics and connectivity can increase India's exports to high-income European markets.
- Deepens India's strategic and economic engagement with the **Middle East**, a key region for energy security, trade, remittances, and the Indian diaspora.
- Enhances India's influence in West Asia and provides a strategic alternative to China's **Belt and Road Initiative (BRI)**.
- Expands India's partnerships with Gulf countries, helping balance competing regional influences and strengthening India's geopolitical presence.

INDIA-OMAN COMPREHENSIVE ECONOMIC PARTNERSHIP AGREEMENT (CEPA)

Why in News?

The India-Oman Comprehensive Economic Partnership Agreement (CEPA) came into force on 1 June 2026, creating one of India's most comprehensive trade agreements in the Gulf region.

About

A CEPA goes beyond a traditional Free Trade Agreement (FTA). While traditional FTAs focus narrowly on goods, a **CEPA links two economies with broad commitments**, covering preferential trade in goods, liberalization of services, investment protection, intellectual property rights, competition policy and government procurement.

Key Features of India–Oman CEPA

- Duty-free access on 99.38% of India's exports, compared to only 15.33% under the MFN regime.
- Oman is India's **second-largest trading partner in the Gulf region** and serves as a strategic gateway to the wider GCC market through its advanced port infrastructure.
- Bilateral trade between **India and Oman reached \$11.18 billion in FY 2025-26**, up from \$10.61 billion in FY 2024-25.
- Oman has opened 127 service sub-sectors, the most comprehensive offer by any GCC country to India. **100% FDI for Indian companies in the major services sector in Oman.**
- Oman will accept certificates issued by India's Export Inspection Council (EIC). This would

reduce testing delays and lower transaction costs for exporters.

GLOBAL COALITION FOR SOCIAL JUSTICE (GCSJ)

Why in News?

Union Minister **Shobha Karandlaje** led India's delegation at the **114th International Labour Conference** in Geneva, reaffirming commitment to global social justice, inclusive growth, and resilient labour markets at the **Global Coalition for Social Justice** meeting.

About

- The **Global Coalition for Social Justice (GCSJ)** is a **voluntary, action-oriented, multi-stakeholder initiative** launched by the **International Labour Organization (ILO)** on **11 June 2024** during the **112th International Labour Conference (ILC)** held in **Geneva, Switzerland**.
- It seeks to accelerate progress towards **social justice, decent work, inclusive growth, and the achievement of the Sustainable Development Goals (SDGs)** by fostering collaboration among governments, international organisations, employers, workers' organisations, development banks, academia, civil society, and the private sector.
- **Nature:** Voluntary, action-oriented, multi-stakeholder global coalition
- **Guiding Principle:** "Social Justice for All"
- **Core Objective:** Accelerate implementation of the **2030 Agenda for Sustainable Development** through social justice and decent work.
- **Aligned With:**
 - ILO Declaration on Social Justice for a Fair Globalization (2008)
 - ILO Decent Work Agenda
- **Supports Sustainable Development Goals (SDGs):**
 - SDG 1 – No Poverty
 - SDG 5 – Gender Equality

Measures Taken by India to Boost Exports

- **Remission of Duties and Taxes on Exported Products (RoDTEP):** Refunds embedded taxes and duties to exporters, improving competitiveness.
- **Export Promotion Mission:** Supports exporters through affordable trade finance, certification assistance and market access initiatives.
- **Districts as Export Hubs:** Promotes export-oriented manufacturing and employment generation at the district level.
- **Foreign Trade Policy (FTP), 2023:** Targets merchandise and services exports of **USD 2 trillion by 2030**.

- SDG 8 – Decent Work and Economic Growth
- SDG 10 – Reduced Inequalities
- SDG 16 – Peace, Justice and Strong Institutions
- SDG 17 – Partnerships for the Goals
- **India's Status:** India is a **founding member** of the Global Coalition for Social Justice.

About the International Labour Organization (ILO)

- **Established:** 1919 under the *Treaty of Versailles*
- **UN Status:** Became the **first specialised agency of the United Nations in 1946**
- **Headquarters:** Geneva, Switzerland
- **Unique Feature:** The ILO follows a **tripartite structure**, bringing together **governments, employers, and workers** in decision-making.
- **Primary Mandate:** Promote **social justice, internationally recognised labour rights, decent work, and social protection** worldwide.

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

Why in News?

IAEA reported that an overnight strike cut off external electricity supply to Ukraine's **Zaporizhzhia Nuclear Power Plant**, forcing Europe's largest atomic facility to rely on **emergency diesel generators** to maintain reactor cooling and essential safety functions.

About

- International Atomic Energy Agency (IAEA) is the world's leading intergovernmental organisation for **scientific and technical cooperation in the nuclear field**.
- The Agency's genesis was U.S. President Eisenhower's "Atoms for Peace" address to the General Assembly of the United Nations on 8 December 1953.

- The IAEA Statute was approved on 23 October 1956 and came into force on 29 July 1957.
- The **IAEA** is an autonomous organization within the United Nations system.
- It reports to both the United Nations General Assembly and the UN Security Council.
- Its primary goal is to ensure that nuclear energy is not diverted for weapons purposes.
- The IAEA works with its Member States and multiple partners worldwide to promote the safe, secure, and peaceful use of nuclear technologies.
- It is widely known as the world's "Atoms for Peace and Development" organization.
- **Member Countries:** The agency currently has 180 member states, reflecting its wide international mandate and credibility.
- **Headquarters** is located at **Vienna, Austria**
- **Board of Governors:** The Board of Governors, comprising 35 members, meets about five times a year to: approve safeguards agreements, carry out statutory functions, and appoint the Director General.
- The Secretariat, led by the Director General, handles the IAEA's daily operations.

SHANGRILA SUMMIT

Why in News?

Japanese Defence Minister **Shinjiro Koizumi** defended Tokyo's **proactive defence policy** at the **Shangri-La Dialogue**, rejecting Beijing's accusations of "**new militarism**" while criticizing China's lack of **military transparency** and rapid **nuclear expansion** amid ongoing regional tensions over **Taiwan**.

About

- The **Shangri-La Dialogue** is also known as the **Asia Security Summit**.
- It is regarded as **Asia's premier defence and security forum**.
- It was started in **2002** and is held annually in **Singapore**.

- The forum is named after the **Shangri-La Hotel**, Singapore, where it is traditionally organised.
- It is organised by the **International Institute for Strategic Studies**, London.
- The event brings together defence ministers, military chiefs, senior officials, diplomats, strategic experts and policymakers from the Asia-Pacific and beyond.
- **Focus:** It focuses on regional security, territorial disputes, military cooperation, Indo-Pacific issues, terrorism, cybersecurity, climate change, maritime security and defence partnerships.
- **Structure:** It is organised through keynote speeches, plenary sessions, breakout discussions, bilateral meetings and informal defence diplomacy.
- **Significance:** It provides a major platform for Asian and Indo-Pacific countries to discuss security challenges, build trust and strengthen defence cooperation.

India and Shangri-La Dialogue

- India uses the forum to highlight its vision for a **free, open, inclusive and secure Indo-Pacific**.
- India's participation reflects its growing defence and diplomatic engagement with Southeast Asia.
- The announcement of the BrahMos deal with Vietnam at this forum shows India's increasing importance as a strategic and defence partner in the region.
- India's **Raisina Dialogue** is often considered to be inspired by the Shangri-La Dialogue model.

BRICS INDORE DECLARATION

Why in News?

The **16th BRICS Agriculture Ministers' Meeting** was held in **Indore, Madhya Pradesh, on 12–13 June 2026** under India's BRICS Presidency and concluded with the unanimous adoption of the **Indore Declaration**.

About

- The **Indore Declaration** is a **farmer-centric framework** for agricultural cooperation among BRICS countries.
- It focuses on **food security, farmer welfare, agricultural trade, climate-resilient agriculture, sustainable farming and technological innovation**.
- BRICS countries account for nearly **half of the world's population, 42% of global agricultural land and 42% of global foodgrain production**.

Four Priority Areas

- **Farmers:** Welfare, livelihoods, income, market access, credit and resilience of small and marginal farmers.
- **Food Security:** Strengthening food production, supply chains, agricultural trade and nutritious food availability.
- **Climate:** Promoting regenerative, sustainable and climate-resilient agricultural practices.
- **Technology:** Promoting innovation, digital agriculture, Artificial Intelligence, geospatial technology and data-based agricultural solutions.

Four New Institutional Initiatives

- **BRICS Network of Centres of Excellence on Agro-Ecology and Regenerative Agriculture:** Promotes joint research, knowledge-sharing and capacity building in natural, organic and regenerative farming. **IIFSR, Modipuram**, will play an important role for India.
- **BRICS Network on Digital Agriculture:** Promotes cooperation in AI, geospatial technology, digital public infrastructure and data-based agriculture. **IIT Delhi** will coordinate the network for India.
- **Global Forum on Farmers' Rights in Seed Systems:** Focuses on protecting farmers' seed rights, indigenous seed diversity and traditional knowledge.
- **BRICS AgriN (Agro Inputs, Genetic Resources and Information Network):**

Promotes cooperation and information exchange on agricultural inputs, seeds and genetic resources.

Other Key Decisions

- The existing **BRICS Agricultural Research Platform** will be strengthened as a '**Knowledge to Action Hub**' to ensure that agricultural research and innovations reach farmers.
- Discussions on the **BRICS Grain Exchange** received fresh momentum to strengthen agricultural trade and cooperation.
- BRICS countries reaffirmed their commitment to a **fair, inclusive and transparent multilateral agricultural trading system**.
- The declaration also emphasised greater participation of **women and youth** in agriculture.

SCHEMES AND INITIATIVES

VIKSIT VIBRANT VILLAGES PROGRAM

Why in News?

- The **Department of Youth Affairs (Ministry of Youth Affairs & Sports)**, through **Mera Yuva Bharat (MY Bharat)**, launched the first phase of the **Viksit Vibrant Village Program (VVVP) 2026**.
- Under this youth-led initiative, **500 MY Bharat volunteers** selected from across India are undertaking a 7-day immersive engagement in border villages across **Ladakh, Himachal Pradesh, and Uttarakhand**.

About

- The **Viksit Vibrant Village Programme (VVVP)** is a **youth-led outreach initiative** implemented by **MY Bharat** under the **Department of Youth Affairs, Ministry of Youth Affairs & Sports**.
- It aims to strengthen **social, cultural, developmental, and strategic linkages** between India's youth and the country's **border villages**, contributing to the vision of **Viksit Bharat @2047**.
- **Collaborating Agencies:**
 - Ministry of Home Affairs (MHA)
 - Indo-Tibetan Border Police (ITBP)
 - State Governments
 - District Administrations
 - Panchayat Raj Institutions (PRIs)



Functions

- **Prevent Out-Migration:** Stop reverse migration from remote frontier areas by building local economic opportunities and essential civic amenities.
- **Infrastructure Upgradation:** Ensure all-weather road connectivity, 24x7 electricity, clean drinking water, mobile/broadband connectivity, and renewable energy installations.
- **Economic Empowerment:** Promote border tourism, local handicrafts, eco-tourism, and agricultural cooperatives through a **Hub-and-Spoke model**.
- **Border Security Support:** Populated border villages act as a vital strategic asset and "eyes and ears" for border guarding forces (ITBP/Indian Army).

What is MY Bharat?

MY Bharat (Mera Yuva Bharat) is an **autonomous body** under the **Ministry of Youth Affairs & Sports** established to create a **technology-enabled platform** for youth participation in nation-building. It connects young citizens with **volunteering, leadership, skill development, and community service opportunities** across India. It serves as the Government's flagship platform for mobilizing youth towards the vision of **Viksit Bharat @2047**.

Unique Features

- **"First Villages" Philosophy:** Re-frames border settlements from being viewed as the "last villages" to the **"First Villages of India."**
- **Youth Immersion (VVVP 2026):** Volunteers reside directly with local communities to participate in household surveys, Gram Sabha meetings, and environmental drives.
- **Nation First Challenge (5 Key Themes):**
 1. Adoption of **Swadeshi products**
 2. **Healthy cooking practices**

3. **Public transport usage & fuel conservation**
4. **Promotion of natural farming**
5. **Vocal support for local tourism**

PM SURYAGHAR MUFT BIJLI YOJANA

Why in News?

Union Minister for New & Renewable Energy, Shri Pralhad Joshi, announced during an event titled *"Two years of PM Suryaghar Muft Bijli Yojana: Scaling the solar home to 1 crore rooftops"* that the **PM Surya Ghar: Muft Bijli Yojana** has crossed **40 lakh beneficiary households** and set a target to cover **75 lakh households by December 2026**, staying on track to reach its ultimate target of 1 crore households by March 2027.

About

- **PM Surya Ghar: Muft Bijli Yojana** is a **Central Sector Scheme** launched on **15 February 2024** by the **Ministry of New and Renewable Energy**.
- It aims to **promote green energy self-reliance** by installing **rooftop solar (RTS) systems in residential households**.



Objectives

- To **provide up to 300 units of free electricity per month** to eligible households through rooftop solar installations.
- To **install rooftop solar systems in 1 crore households** across India to expand clean energy access.
- To **promote residential rooftop solar adoption** by providing **Central Financial Assistance (CFA)** directly to beneficiaries.

- To **reduce household electricity bills** and enable long-term savings through self-generation of solar power.
- To **provide subsidy up to ₹78,000** for residential rooftop solar systems (capped at 3 kW): ₹30,000/kW for the first 2 kW and ₹18,000/kW for the additional 1 kW.
- To **enable access to concessional bank loans** so households can install rooftop solar without a high upfront financial burden.
- To **create a seamless digital ecosystem** through a National Online Portal for application, vendor selection, subsidy disbursement, and monitoring.
- To reduce monthly electricity bills for households and **allow them to earn income by selling surplus generated power to local power distribution companies (DISCOMs)**.
- **Environmental Impact:** Generate 1,000 Billion Units (BUs) of clean electricity and reduce CO2 emissions by **720 million tonnes** over a 25-year system lifespan.
- To create roughly **17 lakh direct jobs** in manufacturing, installation, supply chain, and operation/maintenance (O&M).
- To establish **1 Model Solar Village in each district across India** (allocated ₹800 crore) to drive rural adoption.

PRADHAN MANTRI AWAAS YOJANA–GRAMIN

Why in News?

The Government informed Parliament about the implementation status of Pradhan Mantri Awaas Yojana–Gramin (PMAY-G), stating that 3.92 crore houses have been sanctioned, 3.09 crore houses have been completed (as of June 2026).

About

- PMAY-G is the flagship **rural housing scheme** of the Government of India that provides **financial assistance to eligible rural households** for constructing **pucca houses with basic amenities**, with the objective of achieving **"Housing for All"** in rural areas.
- The Nodal Ministry is the **Ministry of Rural Development (MoRD)**.



Key Objectives

- **Dignified Living:** Provide a minimum size of **25 sq. meters** per house (including a dedicated hygienic cooking space).
- **Financial Assistance:** Provide direct financial assistance to beneficiaries:
 - **Plain areas:** ₹1.20 lakh per unit.
 - **Hilly/North-Eastern States/UTs (J&K, Ladakh, etc.):** ₹1.30 lakh per unit.
- **Convergence with Other Schemes:**
 - **Sanitation:** ₹12,000 for toilet construction via convergence with *Swachh Bharat Mission–Gramin (SBM-G)*.
 - **Employment/Labor:** Unskilled wage employment for house construction provided through convergence with *MGNREGS / VB G-RAM G*.
 - **Utilities:** Provision for LPG connection (*PM Ujjwala Yojana*), electricity connection (*Saubhagya*), and piped drinking water (*Jal Jeevan Mission*).
- **Direct Benefit Transfer (DBT):** Funds are transferred directly to verified bank/post office accounts of beneficiaries in installments via Direct Benefit Transfer (DBT) based on geotagged verification of construction stages.

SOCIAL ISSUES

PRADHAN MANTRI SURAKSHIT MATRITVA ABHIYAN (PMSMA)

Why in News?

The Ministry of Health & Family Welfare launched the nationwide campaign "**10 Years of PMSMA – A Decade of Care**" to commemorate the milestone. More than **7.5 crore pregnant women** have benefited from the programme since its launch.

About

Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) was launched in **2016** by the **Ministry of Health and Family Welfare (MoHFW)** under the **National Health Mission (NHM)** to provide **free, comprehensive, and quality antenatal care (ANC)** to pregnant women, with a special focus on the **early detection, management, and continuous monitoring of high-risk pregnancies**, thereby ensuring **safe motherhood and reducing maternal and neonatal mortality**.

Target Beneficiaries

- Pregnant women in the **2nd and 3rd trimesters**, with special focus on **high-risk pregnancies** and women who have missed regular ANC check-ups.

Service Delivery

- **Schedule:** Services are provided on the **9th of every month** at designated government health facilities across the country.
- **Doctor Volunteer Initiative:** Private medical practitioners voluntarily provide ANC services under the '**I Pledge for 9**' campaign and are recognized through the **IPledgeFor9 Achievers Awards**.

Services Provided

- Comprehensive antenatal check-up by a trained Medical Officer or Specialist.
- Blood pressure, weight, and obstetric examination.

- Laboratory investigations (blood and urine tests).
- Ultrasonography, where available.
- Free medicines and nutritional supplements.
- Counselling on nutrition, birth preparedness, institutional delivery, breastfeeding, and family planning.

Extended PMSMA (Launched in 2022)

- Introduced to ensure **continuous tracking and follow-up of high-risk pregnancies** until safe delivery.
- Provides **financial incentives** to beneficiaries and **ASHA workers** for timely follow-up.
- Uses **SMS-based alerts** for monitoring, reminders, and referral services.

Integration with the Broader Healthcare Ecosystem

- **Janani Suraksha Yojana (JSY):** Promotes institutional deliveries and has benefited over 11.96 crore women since 2014-15.
- **Janani Shishu Suraksha Karyakram (JSSK):** Provides free healthcare to pregnant women and newborns, supporting over 18.05 crore beneficiaries.
- **Other aligned efforts:** SUMAN, POSHAN Abhiyaan, Pradhan Mantri Matru Vandana Yojana (PMMVY), and LaQshya, which collectively address nutrition, maternity benefits, and labor room quality.

TRIBAL CO-OPERATIVE MARKETING DEVELOPMENT FEDERATION OF INDIA LTD. (TRIFED)

Why in News?

TRIFED, under the **Ministry of Tribal Affairs**, organized **Aadi Mahotsav 2026** at **Ahmedabad Haat, Gujarat (29 June–8 July 2026)** to promote tribal handicrafts, handlooms, forest products, cuisine, and entrepreneurship.

About

- TRIFED is an organization under the **Ministry of Tribal Affairs**, Government of India, dedicated to the **socio-economic development of tribal communities through the marketing development of tribal products.**
- The Government of India as a national-level **cooperative body established it in August 1987** under the Multi-State Cooperative Societies Act, 1984.
- Mandate: Bringing about the socio-economic development of the tribals of the country by institutionalizing the trade of **Minor Forest Produce (MFP) & Surplus Agricultural Produce (SAP) collected/cultivated by them.**
- TRIFED carries out activities in relation to its two main divisions.
 - **Minor Forest Produce (MFP) Development**
 - **TRIFED** is the national nodal agency for implementing the MSP for MFP Scheme.
 - **Van Dhan Vikas Kendras (VDVKs)** promote value addition, processing, packaging, and marketing of MFP.
 - **Retail Marketing and Development.**
 - Tribal products are marketed under the **Tribes India** brand.
 - **Products Marketed:** Handicrafts, handlooms, natural products, organic products, and processed food items.
 - **Supplier Base:** Procures products directly from **tribal artisans, SHGs, cooperatives, producer groups, NGOs, and tribal organizations.**
 - **Marketing Support:** Provides branding, packaging, product development, exhibitions, and market linkages.

- **Tribal Artisan Melas (TAMs):** Organized to identify and promote tribal artisans and products.

Pradhan Mantri Van Dhan Yojana (PMVDY)

- **Implemented By:** Ministry of Tribal Affairs through **TRIFED.**
- **Objective:** Promote **value addition, processing, branding, and marketing** of Minor Forest Produce.
- **Institutional Mechanism:** Establishes **Van Dhan Vikas Kendras (VDVKs)** by organizing tribal gatherers into Self-Help Groups.
- **Focus Areas:** Value addition, entrepreneurship development, livelihood generation, and tribal empowerment.
- **Infrastructure Support:** Promotes storage, warehouses, processing units, packaging, and market linkages.
- **Quality Certification:** VDVKs receive **FSSAI** training for food safety standards and quality certification.
- **Ultimate Goal:** Develop a **tribal forest-based enterprise ecosystem** and enhance income through sustainable utilization of Minor Forest Produce.

SHE-MART

Why in News?

The **Ministry of Rural Development** held a **National Consultation in Bhubaneswar, Odisha**, to finalize the **operational guidelines** for the newly launched **SHE-MART initiative** under **DAY-NRLM**.

About

- **SHE-MART (Self Help Entrepreneurs-Marketing Avenues for Rural Transformation)** is a Government of India initiative to **empower women entrepreneurs** by creating community-owned retail outlets within cluster-level federations of self-help groups.
- **Announced In:** Union Budget 2026-27.

- It is aimed at creating **stronger market linkages, improving visibility of local products, strengthening SHG institutions,** and enabling women entrepreneurs to expand and scale their businesses.
- SHE Mart will primarily support SHG-made goods including handicrafts, textiles, food products, agricultural produce, and value-added processed products.
- **Nodal Ministry:** Ministry of **Rural Development**, implemented under Deendayal Antyodaya Yojana-National Rural Livelihoods Mission.

Key Features:

- **Community-Owned Stores:** Women-led retail stores and aggregation hubs managed by local SHG federations to ensure direct community ownership and governance.
- **Targeted SHG Support:** Focuses on mature SHGs with stable annual incomes above ₹1 lakh to scale successful rural enterprises.
- **ONDC Integration:** Linked with ONDC for commission-free digital selling, enabling nationwide e-commerce access for rural women entrepreneurs.
- **India Post Logistics Support:** Uses India Post's network for affordable last-mile delivery of rural products to urban markets.
- **Diverse Product Ecosystem:** Promotes products like organic farm goods, handlooms, handicrafts, processed foods, and wellness items.
- **Professional Retail Management:** Equipped with digital inventory systems, standardized billing, branding, and packaging support for market competitiveness.

LAKHPATI DIDI

Why in News?

The **Ministry of Rural Development** accelerated implementation of the **Lakhpati Didi Initiative**, directing States to prepare time-bound action plans to achieve the revised target of **6 crore Lakhpati Didis by March 2029**. The initiative also gained momentum through the launch of **SHE-MART** for market access to SHG products

About

- A Lakhpati Didi is a Self-Help Group member who earns an annual household income of Rupees One Lakh (Rs. 1,00,000) or more.
- This income is calculated for at least four agricultural seasons and/or business cycles, with an average monthly income exceeding Rupees Ten Thousand (Rs. 10,000), so that it is sustainable.
- It focusses on the individual SHG women and not on the Self-Help Group (SHG).
- This initiative facilitates diversified livelihood activities, by ensuring convergence across all Government departments/ Ministries, Private sector and Market players.
- **Objective:** To encourage women to start micro-enterprises within their villages.
- The initiative has been initiated by DAY-NRLM, wherein each SHG household is encouraged to take up multiple livelihood activities coupled with value chain interventions.
- **Financial Assistance:** DAY-NRLM serves as a catalyst, facilitating financial assistance and providing a platform for these women to thrive.
- **Nodal Ministry:** Ministry of Rural Development
- **Revised Target:** 6 crore Lakhpati Didis by March 2029.

ANAEMIA MUKT BHARAT (AMB) ABHIYAAN

Why in News?

The Ministry of Health & Family Welfare released the revised Operational Guidelines for Anaemia Mukt Bharat (AMB) Abhiyaan, upgrading the programme from Anaemia Mukt Bharat to a more comprehensive, technology-enabled, and community-centric mission.

About

- **Anaemia Mukt Bharat (AMB) Abhiyaan** is the Government of India's flagship programme to reduce the burden of anaemia through a life-cycle approach.
- Launched in 2018 by the **Ministry of Health and Family Welfare under the National Health Mission (NHM)** as part of **POSHAN Abhiyaan**, the programme aims to prevent, detect, treat, and monitor anaemia among vulnerable population groups.

Anaemia Mukt Bharat (AMB) Abhiyaan Original 6×6×6 Strategy

- **6-Beneficiary Groups:** Children (6–59 months & 5–9 years), adolescents, women of reproductive age, pregnant women, and lactating mothers.
- **6-Interventions:** IFA supplementation, deworming, behaviour change, anaemia testing & treatment, iron-fortified foods, and management of non-nutritional causes.
- **6-Institutional Mechanisms:** Multi-level coordination, monitoring, and implementation from national to grassroots levels.

Key Changes in the Revised AMB Abhiyaan (2026)

- **7×7×7 Strategy:** Expanded from 6×6×6 by adding one beneficiary group, one intervention, and one institutional mechanism.
- **New Beneficiary:** Includes low birth weight infants (0–6 months) due to higher anaemia risk.

- **Eat Right Initiative:** Promotes iron-rich, diversified diets alongside iron supplementation.
- **T4 Strategy:** Upgraded from Test, Treat, Talk to Test, Treat, Talk & Track with digital follow-up.
- **Improved Treatment:** Intravenous iron therapy (Ferric Carboxymaltose/Iron Sucrose) for severe anaemia in pregnant and lactating women.
- **Digital Monitoring:** Hb records through JANANI, RBSK & U-WIN portals, to be integrated into a unified AMB Portal.
- **Community Participation:** Jan Chetna campaigns for awareness, early screening, timely treatment, and anaemia prevention.

SUMAN (SURAKSHIT MATRITVA AASHWASAN) ROADMAP 2030

Why in News?

The Ministry of Health & Family Welfare launched the SUMAN Roadmap 2030 during the 16th Conference of the Central Council of Health and Family Welfare (CCHFW) to accelerate progress towards the SDG 2030 targets for maternal and newborn health.

About

- The **SUMAN (Surakshit Matritva Aashwasan) Roadmap 2030** is a multi-dimensional, data-driven national health strategy. Moving away from a one-size-fits-all model, it serves as a specialized operational matrix designed to eliminate preventable maternal and newborn deaths through localized, tech-enabled public health interventions.
- **Ministry:** Ministry of Health and Family Welfare (MoHFW), Government of India.

Aim:

- Reduce MMR below 70 per 1,00,000 live births by 2030 (SDG target).
- Reduce NMR and IMR.

- Ensure **universal, equitable, quality maternal and newborn healthcare.**

Key Features of the Roadmap:

- **Continuum of Care:** Covers pre-pregnancy, antenatal, delivery, and postnatal care.
- **High-Risk Pregnancy Tracking:** Four-stage identification and monitoring from ANC to postpartum.
- **Focused Intervention:** Targets **130 districts across 13 high-burden States** with improved maternal health infrastructure.

Community Participation (Jan Bhagidari)

- **SUMAN Panchayats** for local monitoring and institutional deliveries.
- **Bi-weekly ASHA visits** during the 8th and 9th months of pregnancy.
- **Mothers' Picnic** for awareness and newborn care practices.

Advanced Clinical and Digital Technology V

- **AI-Enabled Labour Rooms:** Deploys smart digital monitoring inside labor units to track maternal vitals and fetal distress automatically during delivery.
- **The JANANI Portal:** A powerful, centralized cloud platform engineered for real-time tracking of high-risk cases, clinical interventions, and regional health data across the nation.
- **Anti-Shock Garment Deployment:** Mandates the widespread use of Non-Pneumatic Anti-Shock Garments (NASG) to manage severe postpartum hemorrhages during emergency transits.
- **Centralized Care Access:** Establishes a round-the-clock, centralized SUMAN Call Centre for prompt grievance redressal, alongside designated Centers of Excellence to train healthcare staff.
- **Climate-Responsive Frameworks:** Introduces adaptive local protocols to safeguard pregnant women and newborns from extreme weather anomalies caused by climate change.

PRADHAN MANTRI MATRU VANDANA YOJANA (PMMVY)

Why in News?

The **Ministry of Women & Child Development** highlighted the achievements of **Pradhan Mantri Matru Vandana Yojana (PMMVY)**, emphasizing its role in strengthening maternal health, nutrition, and financial support for pregnant and lactating women.

About

- Pradhan Mantri Matru Vandana Yojana (PMMVY) is a maternity benefit scheme launched on **1 January 2017** to improve the health and nutrition of pregnant and lactating women.
- It is a **Centrally Sponsored Scheme (CSS)** implemented by the **Ministry of Women and Child Development (MoWCD)**.
- It provides **Direct Benefit Transfer (DBT)** to eligible beneficiaries to support maternal nutrition and partially compensate for wage loss during pregnancy

Key Features

- Centrally Sponsored Scheme implemented across all districts of India.
- Cash assistance is transferred directly into the beneficiary's bank account through **DBT**.
- Encourages adoption of positive maternal and child healthcare practices.
- Monitored digitally through **PMMVY-Common Application Software (PMMVY-CAS)**.

Target Beneficiaries

- All **Pregnant Women and Lactating Mothers (PW&LM)**.
- Excludes:
 - Women employed regularly under the Central Government.
 - Women employed regularly under State Governments.
 - Employees of Public Sector Undertakings (PSUs).

- Women already receiving similar maternity benefits under any existing law.
- Applicable to eligible women whose pregnancy commenced on or after **1 January 2017** (as per the original scheme).

Benefits under the Scheme

- Eligible beneficiaries receive **₹5,000** in **three instalments** after fulfilling specified conditions:
 - Early registration of pregnancy.
 - Completion of at least one antenatal check-up.
 - Registration of childbirth and completion of the first cycle of immunization for the first living child.
- In addition, beneficiaries receive incentives under **Janani Suraksha Yojana (JSY)**.
- Thus, an eligible woman receives approximately **₹6,000** in total.

SECURITY

VICE CHIEF OF THE AIR STAFF (VCAS)

Why in News?

Air Marshal Ashutosh Dixit assumed charge as the 51st Vice Chief of the Air Staff (VCAS) of the Indian Air Force.

About

- The **Vice Chief of the Air Staff (VCAS)** is the **second senior-most officer** in the Indian Air Force (IAF), immediately below the Chief of the Air Staff (CAS).
- The **VCAS holds the rank of Air Marshal**, which is a **three-star rank** in the Indian Air Force.
- The VCAS is appointed by the **Appointments Committee of the Cabinet (ACC)**.
- The **VCAS assists the CAS** in operational preparedness, force planning, modernization and policy implementation, and performs the duties of the CAS when required.

Chief of the Air Staff (CAS)

- The **Chief of the Air Staff (CAS)** is the **professional head and commander** of the Indian Air Force and exercises overall command, control and supervision over the service.
- The **CAS holds the rank of Air Chief Marshal**, which is a **four-star rank** in the Indian Air Force.
- The **CAS is the Principal Adviser to the Defence Minister** on matters relating to the Indian Air Force.
- The **CAS is a member of the Chiefs of Staff Committee (COSC)**, which facilitates coordination among the three Services.

- Since the creation of the **Chief of Defence Staff (CDS)** in 2020, the CAS works with the CDS for **tri-service planning**, jointness and integration, while operational command of the Indian Air Force remains vested in the CAS.

"Order of precedence in Indian Air Force (highest to lowest)"

- *Marshal of the Indian Air Force*
- *Air Chief Marshal*
- *Air Marshal*
- *Air Vice Marshal*
- *Air Commodore*
- *Group Captain*
- *Wing Commander*
- *Squadron Leader*
- *Flight Lieutenant*
- *Flying Officer*

ARMED FORCES (SPECIAL POWERS) ACT (AFSPA)

Why in News?

The Union Government has stated its aim to **withdraw AFSPA from most parts of the Northeast by 2027**.

About

- **AFSPA was originally enacted in 1958**, to tackle insurgency in the **Naga Hills and adjoining areas**.
- AFSPA authorises the armed forces to **use force, arrest and conduct searches without warrant, and destroy insurgent hideouts and arms dumps** while operating in disturbed areas.
- **AFSPA becomes operational only after a 'Disturbed Area' notification**; it is **not applicable throughout India by default**.

- AFSPA **does not amount to Martial Law**; civil administration, the judiciary and ordinary laws continue to operate.
- Prior sanction of the Central Government is mandatory before prosecution, suit or other **legal proceedings can be instituted against armed forces personnel for acts done under AFSPA**.
- **Section 3** of AFSPA empowers the **Central Government or the Governor/Administrator** to declare an area as a '**Disturbed Area**'.

Context & validity of AFSPA

- In *Naga People's Movement of Human Rights v. Union of India (1997)*, the Supreme Court upheld the constitutional validity of AFSPA and directed that '**Disturbed Area**' declarations be reviewed every six months.
- The *Justice B.P. Jeevan Reddy Committee (2005)* recommended repeal of AFSPA and incorporation of its provisions into the UAPA.
- AFSPA, 1958 (North-East) and AFSPA, 1990 (Jammu & Kashmir) are separate legislations.



Irom Sharmila ('Iron Lady of Manipur') undertook a 16-year hunger strike (2000–2016) demanding the repeal of AFSPA.

PROJECT BRAHMANK

Why in News?

Project BRAHMANK of the Border Roads Organisation (BRO) celebrated its **16th Raising Day** on 29 June 2026.

About

- Project BRAHMANK is **one of the Border Roads Organisation (BRO) projects**

responsible for border infrastructure development in **Arunachal Pradesh**.

- It was raised in **2011** following the bifurcation of Project UDAYAK to improve infrastructure development in the strategically important Siang region.
- The project covers the **Siang region of Arunachal Pradesh and parts of Dhemaji district in Assam**.
- Project BRAHMANK is one of the four major BRO field projects operating in Arunachal Pradesh
 - VARTAK
 - ARUNANK,
 - BRAHMANK
 - UDAYAK



Border Roads Organisation

- Border Roads Organisation (BRO) is India's **premier border infrastructure agency** established in 1960.



- BRO was initially under the Ministry of Transport & Communications and is presently under the **Ministry of Defence**.

- BRO is headed by the Director General Border Roads (DGBR) and functions through the General Reserve Engineer Force (GREF), comprising military personnel and civilians.
- BRO develops and maintains roads, bridges, tunnels, airfields and other **strategic infrastructure** while also enhancing **connectivity and socio-economic development** in remote border areas.
- **The Border Roads Development Board (BRDB)**, chaired by the **Union Defence Minister**, provides policy direction and overall coordination for BRO.
- BRO has executed infrastructure projects in friendly neighbouring countries including **Bhutan, Myanmar, Afghanistan and Tajikistan**.



BRO began in 1960 with two projects—Project Beacon and Project Tusker (later renamed Project VARTAK)—and has expanded to 18 field projects across 11 States, 3 Union Territories and Bhutan.

BORDER SECURITY FORCE (BSF)

Why in News?

The Border Security Force (BSF) and Border Guard Bangladesh (BGB) held bilateral talks on illegal cross-border crossings and border management.

About

- BSF is one of the **Central Armed Police Forces (CAPFs)** under the Ministry of Home Affairs,
- The Border Security Force (BSF) was officially established in 1965, but the **BSF Act, 1968** was enacted later and formally came into force in **1969**.
- BSF is India's 'First Line of Defence' and is responsible for **guarding the**

international borders with Pakistan and Bangladesh during peacetime.

- Besides border guarding, BSF is deployed along the Line of Control (LoC) with the Indian Army and is also employed in anti-Naxal operations and internal security duties.
- BSF is empowered to arrest, search and seize under various laws, including the **Passport (Entry into India) Act, 1920, Passports Act, 1967, Customs Act, NDPS Act and Arms Act.**
- BSF contributes to **United Nations Peacekeeping Missions (UNPKMs)** by deploying personnel for international peacekeeping operations.

The CAPFs under the Ministry of Home Affairs (MHA) are:

1. **Border Security Force (BSF)** – guards the India–Pakistan and India–Bangladesh international borders
2. **Central Reserve Police Force (CRPF)** – India's **largest CAPF**; primarily responsible for **internal security**, counter-insurgency and anti-Naxal operations.
3. **Central Industrial Security Force (CISF)** – Secures **critical infrastructure**, including airports, seaports, nuclear and space installations, metro networks and public sector establishments.
4. **Indo-Tibetan Border Police (ITBP)** – Guards the **India–China (LAC)** border.
5. **Sashastra Seema Bal (SSB)** – Guards the **India–Nepal and India–Bhutan** borders.
6. **Assam Rifles (AR)** – Guards the **India–Myanmar** border.
7. **National Security Guard (NSG)** – India's **federal counter-terrorism and hostage rescue force.**



BSF is the only CAPF with its own Air Wing, Marine Wing and Artillery Regiments.

CENTRAL INDUSTRIAL SECURITY FORCE (CISF)

Why in News?

The Central Industrial Security Force (CISF) has trained 7,120 personnel in counter-drone operations following Operation Sindoor.

About

- CISF is one of the Central Armed Police Forces (CAPFs) under the **Ministry of Home Affairs** and was raised in **1969** under the Central Industrial Security Force Act, 1968.
- CISF is India's **national security force for critical infrastructure**, providing security to airports, seaports, nuclear and space installations, metro rail networks, government buildings and other strategic establishments.
- Unlike other CAPFs, CISF provides security to **both public sector undertakings (PSUs) and private sector establishments** notified by the Central Government under the CISF Act.
- CISF personnel are trained in **disaster management and emergency response**, including industrial accidents, fires and natural disaster.



CISF is the only CAPF with a dedicated Fire Wing and is one of India's largest fire protection service providers; it also offers specialised security consultancy.

CRPF

Why in News?

A **CRPF officer** was suspended, and 20 personnel were transferred after their family members protested against provisions of the **CAPF Act, 2026**.

About

- CRPF is one of the Central Armed Police Forces (CAPFs) under the Ministry of Home Affairs.
- Originally raised as the **Crown Representative's Police in 1939**, it was renamed the Central Reserve Police Force under the CRPF Act, **1949**.
- It is the primary force for **internal security, counter-insurgency and Left Wing Extremism (LWE) operations**.
- Unlike border-guarding CAPFs, CRPF has no fixed area of responsibility and can be deployed anywhere in India based on operational requirements.
- CRPF has specialised units, including the **Rapid Action Force (RAF)** for riot control and crowd management, and the **Commando Battalion for Resolute Action (CoBRA)** for anti-Naxal operations.
- CRPF personnel are deployed in United Nations Peacekeeping Operations (UNPKOs), reflecting India's contribution to international peacekeeping.



CRPF is India's largest Central Armed Police Force (CAPF). CRPF has been **awarded the President's Colours**, recognising its distinguished service to the nation.

OPERATION DRISHTI

Why in News?

Operation DRISHTI concluded its 9th Mega Advanced Surgical Eye Camp in Ranchi.

About

- Operation DRISHTI is a **nationwide advanced ophthalmic outreach initiative** of the **Armed Forces Medical Services (AFMS)** providing free sight-restoring eye surgeries.

- It is **jointly executed** by specialist teams of the **Indian Army and the Indian Air Force**, with clinical leadership from **Army Hospital (Research & Referral), New Delhi**.
- It was launched in **2024 at Dehradun**, then the initiative has been conducted across multiple locations.
- The programme provides **advanced eye-care procedures** such as **Phacoemulsification (cataract surgery), Minimally Invasive Glaucoma Surgery (MIGS), Anti-VEGF intravitreal injections, and vitreo-retinal surgeries**.
- It follows an **inclusive outreach model**, extending **free advanced ophthalmic treatment to eligible civilians**, especially those from **remote, tribal and underserved regions**, besides **Armed Forces personnel and veterans**.

EXERCISE PITCH BLACK

Why in News?

The **Indian Air Force** participated in **Exercise Pitch Black 2026**, hosted by Australia from 13 July to 8 August 2026.

About

- Exercise Pitch Black is a **biennial multinational air combat exercise** hosted by the **Royal Australian Air Force (RAAF)**.
- It was First held in **1981** and has evolved into **one of the world's largest multinational air warfare exercises**.
- The exercise derives its name "**Pitch Black**" from **night-time flying missions** conducted under conditions of minimal ambient light to simulate realistic combat.
- **India participates through the Indian Air Force (IAF)** to enhance **operational interoperability and multilateral air combat capabilities** with partner air forces.

India–Australia Defence Exercises

- **AUSTRAHIND** – *Bilateral Army exercise between India and Australia.*
- **AUSINDEX** – *Bilateral naval exercise between India and Australia.*
- **Exercise Pitch Black** – *Australia-hosted multinational air combat exercise with IAF participation.*
- **Exercise Malabar** – *Quad multilateral naval exercise involving India, Australia, Japan and the United States.*
- **Exercise Talisman Sabre** – *Australia–US multinational tri-service exercise in which India participates as an invited country.*

TRICOMMISSIONING OF INS AGRAY, INS DUNAGIRI AND INS SANSHODHAK

Why in News?

Prime Minister Narendra Modi commissioned **INS Agray, INS Dunagiri and INS Sanshodhak** simultaneously at Kolkata on 21 June 2026.

INS AGRAY

- INS Agray is an **Anti-Submarine Warfare Shallow Water Craft (ASW-SWC)** designed to detect and neutralise enemy submarines in coastal and shallow waters.
- It **belongs to the Arnala-class ASW shallow water craft**.
- It is designed for **Anti-Submarine Warfare (ASW)** using **Hull-Mounted Sonar (HMS)** and **Low-Frequency Variable Depth Sonar (LFVDS)**.
- Besides ASW, it can undertake **mine-laying, Search & Rescue (SAR), and Low-Intensity Maritime Operations (LIMO)**.

INS DUNAGIRI

- INS Dunagiri is a **Project 17A (Nilgiri-class) stealth guided-missile frigate** of the Indian Navy.
- **Project 17A** is the **follow-on class to the Shivalik-class (Project 17) stealth frigates**.
- It is a **multi-role warship** capable of **anti-air, anti-surface and anti-submarine warfare**.
- It incorporates **advanced stealth features**, reducing its **radar, acoustic and infrared signatures**.
- It is designed for **blue-water operations**, including **fleet escort, maritime security and power projection**.

INS SANSHODHAK

- INS Sanshodhak is a **Survey Vessel (Large)** meant for **hydrographic surveys and nautical charting**.
- It belongs to the **Sandhayak-class Survey Vessel (Large)**.
- It supports **hydrographic, oceanographic and geophysical surveys** in Indian and international waters.
- It enhances **maritime domain awareness** by generating **updated nautical charts** for safe navigation.
- The vessel can also support **Humanitarian Assistance and Disaster Relief (HADR)** operations.



Each ship has over 75% indigenous content, reflecting the Aatmanirbhar Bharat initiative in defence manufacturing.

OPERATION CHAKRA

Why in News?

The Central Bureau of Investigation (CBI) launched **Operation Chakra-VI** against organised

cybercrime networks involved in digital arrest scams.

About

- **Operation Chakra-VI** is the the sixth phase of the CBI-led Operation Chakra series aimed at dismantling cybercrime networks involved in **digital arrest scams and cyber-enabled financial frauds**.
- Under the operation, the CBI conducted coordinated searches across multiple locations targeting **cybercrime infrastructure, shell companies and mule bank accounts used for laundering proceeds of crime**.

Objectives of Operation Chakra

- **Target transnational organised cyber-enabled financial crimes**, including digital arrest scams, tech-support frauds and cryptocurrency-related crimes.
- **Dismantle fraudulent cyber infrastructure**, such as illegal call centres and digital platforms used by cybercrime networks.
- **Track financial trails of cyber fraud**, including mule bank accounts, shell entities and proceeds of crime.
- **Identify key perpetrators and international linkages** of cross-border cybercrime syndicates.
- Strengthen cooperation with national and international law enforcement agencies against **cross-border cybercrime**.
- **Enable legal action against offenders** through investigation, prosecution and seizure of crime proceeds.

CHIEF OF INTELLIGENCE BUREAU

Why in News?

Senior IPS officer **Mahesh Dixit** was appointed as the **new Director of Intelligence Bureau (IB)**, succeeding Tapan Kumar Deka in June 2026

About

- The IB Chief, officially designated as the **Director of Intelligence Bureau (DIB)**, is the head of the Intelligence Bureau, India's domestic intelligence agency functioning under the **Ministry of Home Affairs (MHA)**.
- The post is **non-statutory**, as IB itself functions under executive authority and is not established through an Act of Parliament.
- The IB Chief is appointed by the **Appointments Committee of the Cabinet (ACC)** and is generally selected from the Indian Police Service (IPS), with the rank of Secretary to the Government of India.
- The IB Chief has a **fixed tenure of two years**, which can be extended by the Government of India as per applicable rules.



*Entry 8 of the Union List (List I) in the Seventh Schedule of the Constitution of India specifies the **Central Bureau of Intelligence and Investigation***

Intelligence Bureau

- **Intelligence Bureau (IB)** is India's **premier domestic intelligence agency** functioning under the **Ministry of Home Affairs (MHA)**.
- It is responsible for **collection of intelligence related to internal security, counter-terrorism, counter-espionage and threats to national security**.
- The IB traces its origin to **1887** and evolved from the **Central Special Branch** established during British rule.
- IB handled both domestic and external intelligence **before 1968**. R&AW was established in 1968 to take over external intelligence functions, **leaving IB focused on internal security**.

DISASTER

URBAN FIRE SAFETY

Why in News?

A major urban fire in Delhi's Malviya Nagar claimed 21 lives, following which financial assistance was announced from the **Prime Minister's National Relief Fund (PMNRF)** for the victims' families.

About

- Urban fire safety refers to **measures for preventing, detecting, containing** and mitigating fire hazards in densely populated urban areas.
- Fire and Life Safety requirements for buildings are prescribed under Part 4 of the **National Building Code (NBC), 2016**, published by the **Bureau of Indian Standards (BIS)**.
- The NBC is a model code and becomes **legally enforceable only after adoption** by State Governments or local authorities through building regulations.
- Fire prevention and fire services fall under **Entry 5 of the State List (List II) of the Seventh Schedule**, making States primarily responsible for legislation, administration and fire services.
- Fire safety in buildings relies on both **passive fire protection** (fire-resistant construction, compartmentation and protected escape routes) and **active fire protection** (fire detection, alarms, sprinklers and fire-fighting systems).

Prime Minister's National Relief Fund (PMNRF)

- It is a **non-statutory, voluntary public trust** established in 1948 via a public appeal.
- It was recognized as a **public charitable trust** managed by the Prime Minister as its Chairman.
- The fund consists **entirely of public donations** without any budgetary allocation from the government, and its accounts are audited by independent chartered accountants rather than the CAG.

National Disaster Response Fund (NDRF)

- It is a **statutory fund legally mandated** under Section 46 of the Disaster Management Act, 2005, to supplement state resources during severe calamities.
- It is financed through **government-levied cesses and budgetary provisions**, placed within the Public Account of India, and is subject to mandatory CAG audit.

NETRA EARLY WARNING SYSTEM & CONTROL (AEW&C)

Why in News?

The Ministry of Defence approved the procurement of six Netra Mk-1A Airborne Early Warning and Control (AEW&C) aircraft to strengthen the Indian Air Force's airborne surveillance and battle management capabilities.

About

- Netra is an indigenously developed Airborne Early Warning and Control (AEW&C) system designed by **DRDO's Centre for Airborne Systems (CABS)** for the Indian Air Force (IAF).
- It is integrated on the **Brazilian Embraer EMB-145** aircraft platform.
- It functions as a force multiplier by providing airborne early warning, surveillance, target tracking, Identification

Friend or Foe (IFF), real-time battle management and network-centric command and control.

- It is equipped with an **Active Electronically Scanned Array (AESA)** radar mounted in a dorsal fin, along with **Identification Friend or Foe (IFF)**, **Electronic Support Measures (ESM)**, **Communication Support Measures (CSM)**, mission computer and secure communication systems.
- Operating at high altitude enables the system to overcome the line-of-sight limitations of ground-based radars, providing wider surveillance coverage of aerial and selected maritime targets.

Netra Variants

- **Netra Mk-1:** Operational indigenous AEW&C system deployed on the Embraer EMB-145 platform.
- **Netra Mk-1A:** Upgraded version of Netra Mk-1 with enhanced mission systems, surveillance capability and communication networks.
- **AEW&C Mk-II:** A next-generation indigenous AEW&C programme being developed by DRDO on the **Airbus A321** platform, offering significantly enhanced endurance, payload capacity and surveillance capability.

AEW&C vs AWACS

- **AEW&C (Airborne Early Warning and Control)** systems provide airborne surveillance, early warning, target tracking and tactical battle management.
- **AWACS (Airborne Warning and Control System)** are generally larger platforms with longer endurance, wider radar coverage (typically **360°**) and more extensive command-and-control capabilities.
- India currently operates the **indigenous Netra AEW&C system** and the **Israeli-origin Phalcon AWACS** mounted on the IL-76 aircraft, providing complementary airborne surveillance capabilities.

ART & CULTURE

PRADHAN MANTRI RASHTRIYA BAL PURASKAR (PMRBP) AWARDS 2026

Why in News?

The **Ministry of Women and Child Development (MWCD)** has invited **online nominations** for the **Pradhan Mantri Rashtriya Bal Puraskar (PMRBP) 2026**.



About

- **PMRBP** is India's **highest civilian honour for children**, conferred by the **President of India**.
- Administered by the **Ministry of Women and Child Development (MWCD)**.
- Recognises **exceptional achievements** of children aged **5–18 years**.
- Instituted in its present form in **2018** by merging earlier national child awards.
- Awards are presented annually on **Veer Bal Diwas (26 December)**.
- PMRBP recipients are awarded a **Medal, Certificate and Citation** by the President of India in recognition of exceptional achievements.

Eligibility

- Indian citizen and resident of India.
- Age **5–18 years** (as on 31 July 2026).
- Achievement should have occurred within **two years** preceding the nomination deadline.
- Previous recipients are generally **not eligible in the same category**.
- Self-nominations and third-party nominations are permitted.

- Award categories: **Bravery, Social Service, Environment, Sports, Art & Culture, Science & Technology**.

NATIONAL FILM DEVELOPMENT CORPORATION (NFDC)

Why in News?

NFDC-NFAI completed the **4K restoration** of **Ritwik Ghatak's eight feature films** to mark his birth centenary.

NFDC
cinemas of india



About

- **NFDC** is a **Central Public Sector Enterprise (CPSE)** under the **Ministry of Information & Broadcasting (MoI&B)**.
- **Established in 1975** to **promote, finance and develop** the **Indian film industry**.
- **Film Finance Corporation (FFC)** and **Indian Motion Picture Export Corporation (IMPEC)** were **merged with NFDC in 1980**.
- In **2022**, **Films Division (FD)**, **Directorate of Film Festivals (DFF)**, **National Film Archive of India (NFAI)** and **Children's Film Society, India (CFSI)** were merged with NFDC.
- Promotes **quality cinema** through **film financing, production, co-production and distribution**.
- Organises **Film Bazaar**, India's **premier film market**, and operates the **Film Facilitation Office (FFO)** for **single-window filming clearances**.

- Through NFDC–National Film Archive of India (NFDC-NFAI), it preserves, digitises and restores India's cinematic heritage.



Film Bazaar, organised by NFDC, is **South Asia's largest film co-production market**, held annually alongside the International Film Festival of India (IFFI) in Goa. It connects **filmmakers with producers, distributors, sales agents and OTT platforms**

FRENCH OPEN 2026

Why in News?

Alexander Zverev (Germany) won the **Men's Singles** title, while **Mirra Andreeva (Russia)** won the **Women's Singles** title at the 2026 French Open held in Paris, France.

About

- The **French Open (Roland-Garros)** is one of the **four Grand Slam** tennis tournaments.
- Venue:** Stade Roland-Garros, Paris, France.
- Organised by:** French Tennis Federation (FFT).
- Held annually** during **May–June**.
- It became an **official Grand Slam** tournament in **1925**.
- Winners receive **2,000 ATP/WTB ranking points** in singles.
- The **Men's Singles trophy** is the **Coupe des Mousquetaires**, while the **Women's Singles trophy** is the **Coupe Suzanne Lenglen**.
- First Open Era Grand Slam:** Roland-Garros became the **first Grand Slam to adopt the Open Era in 1968**, allowing both amateurs and professionals to compete.

Grand slam

- **Grand Slams** are the **four most prestigious tennis tournaments**, organised under the **International Tennis Federation (ITF)**.
- The four Grand Slams are **Australian Open (Hard Court)**, **French Open (Clay Court)**, **Wimbledon (Grass Court)** and **US Open (Hard Court)**.



The French Open (Roland-Garros) is the **only Grand Slam played on clay courts**.

The tournament is named **after Rond Garros, a French World War I aviator, not a tennis player**.

GALLANTRY AWARDS 2026

Why in News?

The **President of India** conferred **Gallantry Awards** at the **Defence Investiture Ceremony–2026 (Phase-I)** held at **Rashtrapati Bhavan** on **8 June 2026**.



About

- Gallantry Awards** recognise acts of **conspicuous bravery, courage and self-sacrifice** by personnel of the **Armed Forces, Central Armed Police Forces (CAPFs)** and **State/UT Police Forces**.

- They are conferred by the **President of India**, the **Supreme Commander of the Armed Forces**.
- The awards were **instituted on 26 January 1950** and are **effective from 15 August 1947**.
- **Wartime Gallantry Awards:** **Param Vir Chakra (PVC)**, **Maha Vir Chakra (MVC)** and **Vir Chakra (VrC)**.
- **Peacetime Gallantry Awards:** **Ashoka Chakra (AC)**, **Kirti Chakra (KC)** and **Shaurya Chakra (SC)**.
- **Param Vir Chakra** is India's **highest wartime gallantry award**, while the **Ashoka Chakra** is the **highest peacetime gallantry award**.
- **Gallantry Awards are announced on: Republic Day (26 January) and Independence Day (15 August)**, while investiture ceremonies are held later.

- **First Param Vir Chakra:** **Maj. Somnath Sharma (Posthumous)**.
- **Only woman Ashoka Chakra awardee:** **Neerja Bhanot (Posthumous)**.
- **Living Param Vir Chakra awardees:** **Subedar Major Bana Singh, Subedar Major Sanjay Kumar, Honorary Captain Yogendra Singh Yadav**.

ARCHAEOLOGICAL SURVEY OF INDIA (ASI)

Why in News?

ASI and the National Museum of Denmark signed an **MoU** to locate and document the 17th-century Danish ship Oresund near Karaikal.

About

- **Established: 1861;** first Director General – **Alexander Cunningham**.
- **Ministry:** Functions under the **Ministry of Culture**.
- **Headquarters:** **New Delhi**.

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- **Legal Framework:** **AMASR Act, 1958** and **AMASR (Amendment and Validation) Act, 2010**.
- **Functions:** Conservation of **protected monuments**, excavations, epigraphy, museums, and heritage research.
- **Protected Heritage:** Maintains **3,600+ Centrally Protected Monuments and Sites**.
- **UNESCO Role:** Nodal agency for conservation of **World Heritage Monuments** under its jurisdiction.
- Documents and creates a national database of **monuments and antiquities**.

Karaikal (Ancient India)

- *Part of **Chola Nadu** and a **maritime trading town** till the **10th century CE**.*
- *Located on the **Coromandel Coast** in the **Cauvery Delta**.*
- *Associated with **Karaikal Ammaiyar**, one of the **63 Nayanmars**.*
- *Linked to the **Bay of Bengal** maritime trade through nearby **Nagapattinam** and **Puhar**.*
- *Later ruled by the **Vijayanagara Empire**, **Nayaks**, and **Marathas** before French rule.*

MAHARANA PRATAP

Why in News?

Lok Sabha Speaker Om Birla paid tribute to **Maharana Pratap** on his birth anniversary, highlighting his legacy of **patriotism, sacrifice, and the Battle of Haldighati**.



About

- **Maharana Pratap** reigned as the **Sisodia ruler of Mewar** from **1572–1597 CE**.

- He was the **eldest son** of **Maharana Udai Singh II**.
- He was **crowned at Gogunda** in **1572 CE**.
- He fought the **Battle of Haldighati (1576)** against the Mughal army led by **Raja Man Singh I of Amber**.
- He adopted **guerrilla warfare** to resist **Mughal expansion**.
- He established **Chavand** as his **capital** in **1585 CE**.
- He recovered much of **Mewar** after the **Battle of Dewair (1582)**.
- He received support from **Bhamashah** and **Rana Punja (Bhil chief)**.
- Court poet **Dursa Arha** composed **Virud Chihattari** in praise of **Maharana Pratap**.
- The **Battle of Dewair (1582)** was described by **Colonel James Tod** as the "**Marathon of Mewar**."
- **Maharana Pratap** shifted his **capital** from **Gogunda** to **Chavand** in **1585 CE**.
- **Maharana Pratap Jayanti** is observed on **Jyeshtha Shukla Tritiya** of the **Hindu calendar**.
- He died at **Chavand** in **1597 CE** and was succeeded by **Amar Singh I**.

Battle of Haldighati (1576)

- **Date:** 18 June 1576
- **Location:** Haldighati Pass, near Gogunda, Rajasthan
- **Combatants:** Maharana Pratap (Mewar) vs Mughal army led by Raja Man Singh I of Amber
- **Contemporary Mughal Emperor:** Akbar
- **Outcome:** Inconclusive; Maharana Pratap escaped and continued resistance.
- **Significance:** Symbol of Rajput resistance against Mughal expansion.

NEW GEOGRAPHICAL INDICATION (GI) TAGS – JHARKHAND

Why in News?

Eleven traditional products from Jharkhand were granted **Geographical Indication (GI)** tags by the **GI Registry, Chennai**, highlighting the State's rich tribal heritage and traditional craftsmanship.



About

- A **Geographical Indication (GI)** identifies goods originating from a **specific geographical region**, where a **quality, reputation, or characteristic** is essentially attributable to that place.
- GI registration in India is governed by the **Geographical Indications of Goods (Registration and Protection) Act, 1999**, which came into force on **15 September 2003**.
- The **GI Registry** is located at **Chennai** and functions under the **Office of the Controller General of Patents, Designs and Trade Marks (CGPDTM)**, **DPIIT**, **Ministry of Commerce & Industry**.
- A registered GI is valid for **10 years** and can be **renewed indefinitely** for successive periods of 10 years.
- **Only producers or authorised users** of a registered GI can legally use the GI on the goods.

- Agricultural products, natural goods, handicrafts, manufactured goods, and foodstuffs are eligible for GI registration.
- Darjeeling Tea became India's first GI-tagged product in 2004–05.

Jharkhand's 11 Newly GI-Tagged Products (2026)

1. Kuchai Silk Saree & Fabrics
2. Bhagaiya Saree & Fabrics
3. Dumka Chadar
4. Baroni (Badhoni) Putul
5. Panchi Parhan–Panchi Saree & Fabrics
6. Jharkhand Tussar Silk Sarees & Fabrics
7. Jharkhand Dokra Craft
8. Jharkhand Tribal (Munda) Jewellery
9. Jharkhand Bamboo Craft
10. Kesaria Kalakand
11. Jharkhand Jadapatia Painting

RAKHIGARHI HUMAN SKELETAL REMAINS

Why in News?

ASI transferred **Rakhigarhi** skeletal remains to Anthropological Survey of India (AnSI) for advanced scientific research under a newly signed MoU.



About

- Rakhigarhi is located in **Hisar district, Haryana**, on the **Ghaggar-Hakra river plain**.
- **Largest known settlement** of the **Indus-Saraswati (Harappan) Civilization**, spread over **~550 hectares**.
- Shows **continuous habitation** from the **Early Harappan** to the **Mature Harappan** phase.
- Excavations have revealed **planned streets, drainage systems, craft workshops, trade networks, and burial grounds**.
- The site has yielded **human burials, fire altars, Harappan seals, pottery, and beads**, providing insights into Harappan life.
- It is one of the **five iconic archaeological sites** identified for development in the **Union Budget 2020–21**.
- **Recent Discovery:** **Eight burials** were unearthed during the **2025–26 excavation season**, including complete human skeletons.
- **Ancient DNA:** The site has yielded **India's first successfully sequenced ancient Harappan human DNA**, providing insights into Harappan ancestry.
- **Government Initiative:** Rakhigarhi is one of the **five iconic archaeological sites** identified for development by the Government of India.

Anthropological Survey of India

- **Anthropological Survey of India (AnSI)** was established on **1 December 1945** and is headquartered in **Kolkata**.
- It is India's **premier institution for anthropological research**, functioning under the **Ministry of Culture**.
- AnSI houses the **Ancient Human Skeletal Repository**, the country's largest collection of ancient human skeletal remains used for **DNA and palaeo-anthropological research**.

VIJAYANAGARA-ERA INSCRIPTIONS DISCOVERED IN SESHACHALAM FOREST

Why in News?

The Archaeological Survey of India (ASI) recently discovered three 16th-century Vijayanagara-era trilingual stone inscriptions at Sadasivakona in the Seshachalam forest, Andhra Pradesh.

About

- These are **epigraphical records** engraved on **stone**, providing first-hand evidence on the **political, administrative, religious, and socio-economic** history of the **Vijayanagara Empire**.
- The recently discovered inscriptions belong to the reign of **Emperor Sadasiva Raya (1542–1570 CE)** and are engraved in **Telugu, Tamil, and Kannada**, reflecting the empire's **multilingual administration**.
- They record **royal pilgrimages, temple patronage, land grants**, and the establishment of **religious institutions**, offering valuable insights into **Vijayanagara governance** and **temple administration**.

SADASIVA RAYA

- **Sadasiva Raya (1542–1570 CE)** was the **last ruler of the Tuluva dynasty** of the **Vijayanagara Empire**.
- During most of his reign, **Aliya Rama Raya**, the **son-in-law of Krishnadevaraya**, exercised **de facto power** as the empire's regent.
- His reign witnessed the **Battle of Talikota (1565 CE)**, after which **Hampi (Vijayanagara)** was sacked by the **allied Deccan Sultanates**, marking the beginning of the empire's decline.
- **Stone inscriptions** issued during his reign provide valuable evidence on **temple patronage, land grants, and Vijayanagara administration**.

Vijayanagara Empire

- *Founded in 1336 CE by Harihara I and Bukka Raya I under the guidance of Vidyaranya.*
- *Capital: Vijayanagara (Hampi) on the Tungabhadra River; a UNESCO World Heritage Site.*
- *Ruled by four dynasties—Sangama, Saluva, Tuluva, and Aravidu.*
- *Reached its zenith under Krishnadevaraya (1509–1529 CE) and declined after the Battle of Talikota (1565 CE) against the Deccan Sultanates.*

BHAWAIYA FOLK TRADITION

Why in News?

The Vice-President released a book highlighting the preservation of the **Bhawaiya folk tradition** and India's intangible cultural heritage.

About

- **Bhawaiya** is a **traditional folk music** genre of **North Bengal, Assam** and adjoining areas of **Bangladesh**.
- It is closely associated with the **Koch Rajbanshi** community and reflects the region's **agrarian and pastoral life**.
- The songs portray themes of **love, separation (viraha), longing, rural life, nature** and the everyday experiences of ordinary people.
- Bhawaiya is traditionally sung by **bullock-cart drivers (Garials), buffalo herders (Moisals)** and rural communities.
- It is characterised by **melancholic melodies, simple lyrics**, and a **slow rhythmic style**.
- Traditional musical instruments include the **Dotara, Sarinda, Flute, Dhol, and Khol**.
- The tradition has been transmitted **orally** across generations and remains an important expression of the region's **living cultural heritage**.

Government of India Initiatives to Protect Folk Traditions

- ***Scheme for Safeguarding the Intangible Cultural Heritage (ICH):***
Implemented by the **Ministry of Culture**, the scheme supports the **documentation, preservation, revitalisation, research, training and promotion** of India's folk traditions, oral traditions, performing arts and other elements of intangible cultural heritage.
- ***Zonal Cultural Centres (ZCCs):***
The **seven Zonal Cultural Centres** promote regional folk arts through **cultural festivals, artist exchange programmes, workshops, exhibitions and financial support** to traditional artists, helping preserve diverse folk traditions across India.
- ***Sangeet Natak Akademi (SNA):***
As the **national academy for music, dance and drama**, SNA documents, preserves and promotes **folk and tribal performing arts** through **research, publications, training programmes, festivals, awards and the National Inventory of Intangible Cultural Heritage (ICH)**.