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polity

Booth Level Officer

Recently, concerns have been raised with several Booth Level Officers (BLOs) deaths have been reported from the states undergoing Special Intensive Revision (SIR) of electoral rolls.

About Booth Level Officer

- A BLO is a representative of the Election Commission of India (ECI) at the grass-root level who assists in updating the roll using his local knowledge.
- They are local government/semi-government officials who are familiar with the local electors and enrolled as voters in the same polling area.
  - Teachers, Anganwadi workers, Panchayat Secretary, Village Level Workers, Electricity Bill Readers, etc are mainly appointed as BLOs.
- BLOs are not full-time electoral officials.
  - Section 13B (2) of the Representation of People Act, 1950 provision paved the way for the introduction of appointing a BLO for the first time in August 2006.

Roles of Booth Level Officer

- They play a significant role in the process of roll revision and collecting actual field information with regard to the roll corresponding to the polling area assigned to them.
- They maintain accuracy and fidelity of the electoral roll at the polling booth level.
- Distribution of Voter Slips: An important role of the BLO is the distribution of Voter Slips to the voters' households before the poll day.
- Informing eligible voters for Postal Ballot: BLOs inform the eligible Electors (senior citizens above 85 years & PwDs with benchmark certificate) about availing Home Voting Facility and Postal Ballot Facility by filling Form 12D.
- Promote use of Election Commission's IT applications: BLOs to promote applications launched by the ECI to facilitate voting and ensure an accurate electoral roll.
- The popular voter oriented apps like Voter Helpline App, eVIGIL app, Know you candidate app, Saksham-ECI.

Indian Statistical Institute Act, 1959

More than 1,500 academics have expressed grave concerns and held demonstrations in Kolkata to protest a Central government plan to repeal the Indian Statistical Institute (ISI) Act, 1959.

About Indian Statistical Institute (ISI) Act, 1959

- The Indian Statistical Institute was founded by Professor P.C. Mahalanobis in Kolkata on 17th December, 1931.
- The ISI, established earlier as a society, plays a crucial role in statistical research, education, and training in India.
- The ISI Act 1959 primarily applies to the ISI, its governing body, employees, and students.
- The Act aimed to recognize the ISI's contributions to national development and provide it with the necessary autonomy and support to carry out its functions effectively.
- The ISA Act 1959 declared the ISI an institution of national importance.
- This Act falls under the Ministry of Statistics and Programme Implementation.

Salient Features of Indian Statistical Institute (ISI) Act, 1959

- Empowers the ISI to grant degrees and diplomas in statistics, mathematics, quantitative economics, computer science, and related subjects.
- Provides for grants, loans, and other financial assistance from the Central Government.
- Mandates the audit of the Institute's accounts by qualified auditors.
- Requires prior approval from the Central Government for certain actions by the Institute, such as altering its objectives, amending its memorandum, or disposing of certain properties.
- Provides for the constitution of committees by the Central Government to prepare the Institute's program of work and review its activities.
- Empowers the Central Government to issue directions to the Institute.
- Allows the Central Government to assume control of the Institute under certain circumstances.

Assam Accord

The Supreme Court recently asked the Centre if a new order allowing persecuted minorities entry to India violates the Assam Accord's 1971 deadline.

About Assam Accord

- The Assam Accord was signed on 15th August, 1985, amongst the Union of India, the Govt. of Assam, the All Assam Students' Union (AASU), and the All Assam Gana Sangram Parishad.
- The signing of the Accord brought an end to the 6-year-long agitation, the Assam Movement (1979-1985), aimed at dispelling foreigners from the state of Assam.
- The aim of the accord was to detect and deport all immigrants in the state who had come to the territory post-24 March 1971.

Main Provisions of Assam Accord

- It determined 1st January 1966 as the cut-off date for the purpose of detection and deletion of foreigners.
- It allowed for citizenship for all persons coming to Assam from “Specified Territory” before the cut-off date.
- It further specifies that all persons who came to Assam prior to 1st January 1966 (inclusive) and up to 24th March 1971 (midnight) shall be detected in accordance with the provisions of the Foreigners Act, 1946, and the Foreigners (Tribunals) Order, 1939.
  - The names of foreigners so detected will be deleted from the Electoral Rolls in force.
  - Such persons will be required to register themselves before the Registration Officers of the respective districts in accordance with the provisions of the Registration of Foreigners Act, 1939, and the Registration of Foreigners Rules, 1939.
  - The Assam Accord does not call for their deportation, but they were to get voting rights only after expiry of 10 years from the date of their detection or declaration as foreigner.
- Foreigners who came to Assam on or after 25th March 1971 shall continue to be detected, deleted, and expelled in accordance with law.
- Clause 6:
  - It promises to provide constitutional, legislative, and administrative safeguards to protect, preserve, and promote the cultural, social, and linguistic identity, and heritage of the Assamese people.
  - These safeguards aim to address concerns regarding the state’s demographic and cultural integrity amidst the influx of migrants.

economics

Ramban Sulai Honey

The Prime Minister, during the 128th episode of his radio programme 'Mann Ki Baat' noted that Ramban Sulai honey from Jammu and Kashmir, made from wild basil, gained wider recognition after receiving a GI tag.

About Ramban Sulai Honey

- Ramban Sulai Honey, produced in the Ramban District of Jammu and Kashmir, is known for its rich taste, aromatic floral undertones, and high nutritional value.
- Extracted from Sulai plants growing in the Himalayas, it is prized for its medicinal properties and purity.
- The bees forage on the nectar of snow-white blossoms of Sulai during the months of August to October to produce this well-rounded, naturally sweet honey with floral undertones.
- This crystal-clear honey, ranging from white to amber, contains essential minerals, enzymes, and vitamins that enhance its health benefits.
- Due to superior bee strains and favourable climatic conditions, the honey yield in Ramban is significantly higher than in other regions.
- It earned a Geographical Indication (GI) tag in 2021.
- The Government of India declared Ramban Sulai Honey as the district's "One District, One Product."

What is a Geographical Indication (GI) Tag?

- A geographical indication, or GI, is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- It highlights the unique qualities, reputation, or characteristics that are tied to that region.
- GIs are recognized as an aspect of intellectual property rights (IPRs) under the Paris Convention for the Protection of Industrial Property and the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.
- The Geographical Indications of Goods (Registration and Protection) Act, 1999, is the main law in India that oversees the registration and protection of geographical indications.
- This act prohibits the use of GI-tagged products and their names without authorization.
- GIs are protected for 10 years and can be renewed forever.
- Examples of GI-tagged items in India include Darjeeling Tea, Mysore Silk, and Kashmiri Saffron.

Masala Bonds

The Enforcement Directorate's (ED) recent decision to issue notices to the Kerala Chief Minister in the KIIFB masala bond investigation marks a significant escalation in a long-running conflict between the LDF government and central agencies over the state's financing model.

About Masala Bonds

- They are rupee-denominated bonds issued outside India by Indian entities.
- The International Finance Corporation (IFC), an arm of the World Bank, issued the first masala bonds in October 2013 as part of its $2 billion dollar offshore rupee programme.
- They are debt instruments which help to raise money in local currency from foreign investors.
- That means the currency risk—if exchange rates change—is on the investor, not the issuer. This helps Indian companies manage their risks better.
- To offset the risk of exchange rate fluctuations, bonds typically offer attractive interest rates that are frequently greater than those offered in the investors' home countries.
- Both the government and private entities can issue these bonds.
- Who Can Invest?
  - Investors outside India who would like to invest in assets in India can subscribe to these bonds.
  - Any resident of that country can subscribe to these bonds which are members of the Financial Action Task Force (FATF).
  - That includes individuals, institutions, and even financial organisations from countries that follow international standards for fair and secure investing, like those under IOSCO (International Organisation of Securities Commissions).
  - It also covers multilateral and regional financial institutions of which India is a member.
- Maturity Period:
  - It depends on the size of the bond.
  - For bonds up to USD 50 million, the maturity is usually 3 years.
  - For larger amounts, it can go up to 5 years, giving investors more flexibility based on their goals.
- What Can The Money Be Used For?
  - The funds raised through Masala bonds are generally earmarked for productive and regulated purposes.
  - The proceeds can fund affordable housing, infrastructure, refinance rupee loans, or meet corporate working capital requirements.
  - Activities like buying land, investing in the stock market, or funding real estate projects are off-limits—unless they've received specific government approvals.

Trade Enablement and Marketing Scheme

Recently, the Minister of state for Micro, Small & Medium Enterprises informed the Rajya Sabha about the Trade Enablement and Marketing Scheme.

About Trade Enablement and Marketing Scheme

- It is the sub scheme of the scheme 'Raising and Accelerating MSME Performance' (RAMP), which is a Central Sector Scheme.
- The initiative will empower MSMEs with digital tools and guidance to effectively utilize the e-commerce marketplace.
- Objective: To support MSMEs to help them access different markets by integrating them with e-commerce platforms.
- Financial Outlay and Duration: The outlay is Rs. 277.35 Cr. for the duration of 3 years from 2024 to 2027.
- Eligibility Criteria: All the Udyam registered Micro and Small Enterprises (MSEs) under manufacturing and services sectors will be eligible for benefits under the Initiative.
- Targeted beneficiaries: It envisages benefiting 5 lakh Micro and Small Enterprises (MSEs) of which 50% are to be women owned MSEs.
- It focus on;
  - Connecting MSMEs with the ONDC Network.
  - Provides access to digital storefronts, integrated payment systems, and logistics support.
  - Reduce operational barriers and help businesses tap into wider customer bases.
  - It emphasizes formalizing operations and establishing digital transaction histories, which will enhance the credibility and trust of participating MSMEs.
- Implementing Agency: National Small Industries Corporation (NSIC)

New Geographical Indication Products

Recently, five products from Tamil Nadu have secured the Geographical Indications (GI) tag.

About New Geographical Indication Products

Woraiyur Cotton Sari

- It is native to Tiruchi district, and is woven in Manamedu on the banks of the Cauvery.
- They are known for their distinctive Korvai border (a continuous running pattern) — block colour palettes, and geometric motifs.
- The border has different motifs, including many geometrical shapes.
- The Devanga community has been the driving force behind the Woraiyur cotton sarees for generations.

Thooyamalli Rice

- Thooyamalli, meaning 'pure jasmine', is a traditional sambha-season rice variety grown over 135 - 140 days.
- It is often referred to as 'pearl rice' due to its shiny nature and is regarded highly for its nutritional benefits.

Kavindapadi 'Naatu Sakkarai'

- Kavindapadi in Erode district is a major supplier of jaggery powder in Tamil Nadu, with vast stretches of sugarcane fields nourished by the Lower Bhavani Project canal.
- It is made locally by mechanically crushing the cane and slowly evaporating the extracted juice.

Namakkal 'Kalchatti'

- Namakkal's famed cookware is made using soapstone (makkal pathirangal).
- It is popularly known as kalchatti, and has been a staple in South Indian kitchens for generations.

Ambasamudram 'Choppu Saman'

- Origin: The art of making choppu saman (wooden toys) has been practiced for over two centuries, with origins tracing back to the 18th century.
- This craft involves the careful handcrafting of miniature wooden toys — from tiny kitchen utensils to small tables, chairs, and other play objects.
- Material used:Traditionally, these toys were carved from indigenous trees like the Manjal Kadamba tree (Neolamarckia cadamba), teak, and rosewood.

RBI Integrated Ombudsman Scheme

According to the RBI's Annual Report, the complaints registered under the Reserve Bank of India's Integrated Ombudsman Scheme (RB-IOS) were up by 13.55 per cent in FY25.

About RBI Integrated Ombudsman Scheme

- It was launched on November 12, 2021.
- It integrated the erstwhile three Ombudsman schemes of RBI namely: the Banking Ombudsman Scheme, 2006, the Ombudsman Scheme for Non-Banking Financial Companies, 2018 and the Ombudsman Scheme for Digital Transactions, 2019.
- It adopted the 'One Nation One Ombudsman' approach by making the RBI Ombudsman mechanism jurisdiction neutral.
- Objective: To provide customers of regulated entities (REs) a speedy, cost-effective and expeditious alternate grievance redress mechanism.

Features of RBI Integrated Ombudsman Scheme

- It defines 'deficiency in service' as the ground for filing a complaint, with a specified list of exclusions.
- Covered Banks: It covers all commercial banks, Non-Banking Financial Companies (NBFCs), RRBs, Payment System Participants, most Primary (Urban) Cooperative Banks with a deposit size of ₹50 crore and Credit Information Companies.
- A Centralised Receipt and Processing Centre has been set up at RBI, Chandigarh, for receipt and initial processing of physical and email complaints in any language.
- Under this scheme, compensation up to Rupees 20 lakh, in addition to, up to 1 lakh for the loss of the complainant's time, expenses incurred and for harassment/mental anguish suffered by the complainant can be awarded.

Open Market Operations

The Reserve Bank of India (RBI) recently said it will conduct Open Market Operation (OMO) purchases of government securities worth ₹1 trillion and a three-year dollar–rupee buy/sell swap of $5 billion to inject further durable liquidity into the financial system.

About Open Market Operations

- OMOs refer to a central bank selling or purchasing securities in the open market in an effort to influence the money supply.
- In India, the Reserve Bank of India (RBI) uses OMOs to manage liquidity and ensure financial stability.
- By influencing the availability of funds in the banking system, OMOs play a critical role in shaping interest rates and controlling inflation.
  - When the RBI buys government securities, it injects money into the banking system, increasing liquidity and lowering interest rates.
  - When the RBI sells government securities, it reduces liquidity by absorbing money, leading to higher interest rates.
- OMOs are used to:
  - Control inflation: By selling government securities, the RBI reduces liquidity, causing interest rates to rise. This, in turn, helps control inflation by curbing excess demand.
  - Boost economic growth: During economic slowdowns, the RBI can buy securities to inject liquidity into the system. Lower interest rates encourage borrowing and investment, which can help stimulate growth.
  - Manage exchange rates: OMOs can influence the exchange rate of the Indian Rupee by impacting the supply of money. This can be particularly relevant in maintaining stability amidst volatile foreign exchange markets.

Infrastructure Investment Trust

Recently, National Highways Authority of India received the Securities and Exchange Board of India's (SEBI) in-principle approval for 'Raajmarg Infra Investment Trust' (RIIT) as an Infrastructure Investment Trust (InvIT).

About Infrastructure Investment Trust (InvIT)

- It is Collective Investment Scheme similar to a mutual fund, which enables direct investment of money from individual and institutional investors in infrastructure projects
- These are like mutual funds in structure which can be established as a trust and registered with Sebi.
- Objective: To provide retail investors with access to investment opportunities in infrastructure projects, which were previously only available to large institutional investors.

Features of the Infrastructure Investment Trust (InvIT)

- An InvIT has 4 parties namely; Trustee, Sponsor(s) and Investment Manager and Project Manager.
- INVITs are created by sponsors, who are typically infrastructure companies or private equity firms.
- The sponsor sets up the INVITs and transfers ownership of the underlying infrastructure assets to the trust.
- The trust then issues units to investors, which represent an ownership stake in the trust and thus the underlying assets.
- While the trustee (certified by Sebi) has the responsibility of inspecting the performance of an InvIT, sponsor(s) are promoters of the company that set up the InvIT.
- InvITs are regulated by the SEBI (Infrastructure Investment Trusts) Regulations, 2014.

Technology Development Fund Scheme

Recently, the Defence Research and Development Organisation has handed over seven technologies developed under the Technology Development Fund (TDF) scheme to armed forces.

About Technology Development Fund (TDF) Scheme

- It has been established to promote self-reliance in Defence Technology as a part of the 'Make in India' initiative.
- It encourages the participation of public/private industries, especially MSMEs and startups, so as to create an ecosystem for enhancing cutting-edge technology capability in the defence sector.
- Nodal Ministry: Ministry of Defence.
- Funding Support
  - The project cost of up to INR 50 crore will be considered for funding.
  - The funding may be up to 90% of the total project cost.
  - Project Duration: The maximum development period will be four (4) years.

Eligibility criteria for Technology Development Fund (TDF) Scheme

- Entity Type: A public limited company, a private limited company, a partnership firm, a limited liability partnership, a one-person company, or a sole proprietorship registered as per applicable Indian laws registered in India especially MSMEs and Startups.
- The industry must be owned and controlled by a resident Indian citizen.
- An entity with excess of 49 percent foreign investment not be eligible.
- Start up
  - Startups must be recognized by the Department for Promotion of Industry and Internal Trade (DPIIT) as per Government of India (GOI) guidelines.
  - Startups incorporated for less than three years from date of submission of application will be considered as nascent startups.
  - A nascent Startup should be incubated at one of the Central/State government assisted incubators.
  - Startups should not have received any grants/grants-in-aid by any government scheme for a similar technology.
  - The startup must be owned and controlled by a Resident Indian citizen with a shareholding of at least 51%.

Investor Education and Protection Fund Authority

Recently, the Investor Education and Protection Fund Authority (IEPFA) collaborated with the Securities and Exchange Board of India (SEBI) organised a "Niveshak Shivir" in Jaipur

About Investor Education and Protection Fund Authority

- It was established in 2016 under the Companies Act, 2013.
- Purpose: It is dedicated to promoting investor awareness and protection through sustained outreach, education, and strategic collaborations.
- Functions
  - It manages the Investor Education and Protection Fund (IEPF) and promotes investor awareness and financial protection.
  - It makes refunds of shares, unclaimed dividends, matured deposits/debentures etc. to investors and promotes awareness among investors.
  - It is dedicated to safeguarding investor interests by facilitating the return of unclaimed shares and dividends and advancing financial literacy nationwide.
- Nodal Ministry: Ministry of Corporate Affairs
- Initiatives: Through flagship initiatives such as Niveshak Didi, Niveshak Panchayat, and Niveshak Shivir, IEPFA empowers individuals to make informed financial choices and fosters a financially aware citizenry.
- The IEPF consists of amounts that remained unclaimed for 7 years, including:
  - Unpaid dividends,
  - Application money is due for refund,
  - Matured deposits and debentures,
  - Interest on investments from the fund,
  - Grants or donations received from the government or other entities.

National Mission on Edible Oils

The National Mission on Edible Oils (NMEO) embodies India's commitment to realizing the vision of Atmanirbhar Bharat by transforming the edible oil sector from an import-dependent to a self-reliant one.

\About National Mission on Edible Oils

- It aims to strengthen the country's oilseed ecosystem and achieve Atmanirbharta in edible oil production.
- Targets of the mission
  - It targets to increase the area coverage from 29 million ha (2022-23) to 33 million ha, primary oilseed production from 39 million tonnes (2022-23) to 69.7 million tonnes, and yield from 1,353 kg/ha (2022-23) to 2,112 kg/ha by 2030-31.
  - This mission targets domestic edible oil production at 25.45 million tonnes by 2030-31.
  - The Mission also seeks to expand oilseed cultivation by an additional 40 lakh hectares by targeting rice and potato fallow lands.
- It has two-pronged approach which is as follows

National Mission on Edible Oils-Oil Palm

- It is focused on expanding oil palm cultivation and increasing domestic crude palm oil output.
- It was approved in 2021, as a Centrally Sponsored Scheme, with the aim to enhance the edible oilseeds production and oils availability in the country by area expansion and increasing Crude Palm Oil (CPO) production.
- It focuses on increasing production of seedlings by establishment of seed garden, and nurseries of oil palm in order to assure domestic availability of seedlings as per target fixed under NMEO-OP.
- Targets: To bring 6.5 lakh hectares under oil palm cultivation by 2025–26 and increase crude palm oil production to 28 lakh tonnes by 2029–30.
- Implementation: The Department of Agriculture & Farmers Welfare (DA&FW) serves as the nodal central authority.

National Mission on Edible Oils– Oilseeds

- It is aimed at improving productivity, seed quality, processing, and market linkages for traditional oilseed crops.
- Target: To increase oilseed production from 39 to 69.7 million tonnes by 2030–31 through cluster-based interventions and improved seed systems.
- It was approved in 2024, for a seven-year period, from 2024-25 to 2030-31.
- Focus: Increasing production of key primary oilseed crops such as Rapeseed-Mustard, Groundnut, Soybean, Sunflower, Sesamum, Safflower, Niger, Linseed and Castor.
- It also focuses on increasing collection and extraction efficiency from secondary sources like cottonseed, coconut, rice bran as well as Tree-Borne Oilseeds (TBOs).
- Implementation: It will be implemented in all States/UTs with the funding pattern of 60:40 in case of general States, Delhi & Puducherry and 90:10 in case of North-Eastern States and hill States, and 100% funding for UTs and Central Agencies.

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Venezuela

Recently, US President Donald Trump said his administration would "close the airspace above and surrounding Venezuela in its entirety."

About Venezuela

- Location: It is located on the northern coast of South America.
- Bordering Countries: It is bounded by Guyana to the east, Brazil to the south, and Colombia to the southwest and west.
- Maritime boundaries: It shares a border with the Caribbean Sea and the Atlantic Ocean to the north.
- Capital: Caracas.

Geographical Features of Venezuela

- Terrain: Andes Mountains and Maracaibo Lowlands in northwest; central plains (llanos); Guiana Highlands in southeast
- Major Rivers: Rio Negro (shared with Colombia and Brazil) and Orinoco (shared with Colombia).
- Major Lakes: Lake Guri and Lake Maracaibo (the largest lake in South America).
- Highest Point: Pico Bolivar
- The world's highest waterfall – the Andes Mountains Angel Falls is located in the Guiana Highlands.
- Natural Resources: It is home to the world's largest oil reserves as well as huge quantities of coal, iron ore, bauxite, and gold.

UNESCO's Creative Cities Network

Recently, Lucknow has officially joined the UNESCO Creative Cities Network (UCCN) under the Gastronomy category during the 43rd Session of the UNESCO General Conference.

About UNESCO Creative Cities Network

- It was created in 2004 to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development.
- It was launched to promote UNESCO's goals of cultural diversity and strengthen resilience to threats such as climate change, rising inequality, and rapid urbanisation.
- The network covers seven creative fields: crafts and folk arts, media arts, film, design, gastronomy, literature and music.
- Aim of UCCN: The network is aimed at leveraging the creative, social, and economic potential of cultural industries.
- Indian Cities in the UCCN: Kozhikode (Literature) and Gwalior (Music) Jaipur (Crafts and Folk Arts), Varanasi (Music), Chennai (Music), Mumbai (Film), Hyderabad (Gastronomy), Lucknow (Gastronomy), and Srinagar (Crafts and Folk Arts).

Objectives of the UCCN

- It allows member cities to recognise creativity as an essential component of urban development, notably through partnerships involving the public and private sectors and civil society.
- It envisages developing hubs of creativity, innovation and broadening opportunities for creators and professionals in the cultural sector.
- These cities have to achieve the UN agenda of sustainable development.

Key Facts about Thailand

Recently, Thailand has formally expressed its ambition to join BRICS and is seeking India's backing ahead of New Delhi's chairmanship of the grouping in 2026.

About Thailand

- Location: Thailand is located in the center of mainland Southeast Asia.
- Bordering Countries: It shares boundaries with Myanmar (North West), Laos (North Easst), Cambodia (East), and Malaysia (South).
- Maritime boundary: Bordered by Andaman Sea (SW) and Gulf of Thailand (S)
- Capital City: Bangkok

Geographical Features of Thailand

- Highest Peak: Doi Inthanon (Approx. 2,565 m)
- Plateau: Khorat Plateau in the northeast region which is a vast tableland bounded by the Mekong River on the north and east.
- Major Rivers: Chao Phraya River and Mekong River (Forms a natural border with Laos)
- Climate: It is influenced by Southwest and Northeast Monsoons
  - The Tropical Wet and Dry (Savanna) Climate (Köppen's classification) dominates most areas.
  - Tropical Monsoon Climate in the south and east; some areas also have a Tropical Rainforest Climate.
- Natural Resources: Rubber, Rice, Tin, Natural Gas, Timber, Tungsten, Tantalum
- Thailand is a leading global exporter of rubber, fruits, vegetables, and rice.

Intergovernmental Committee for Safeguarding of the Intangible Cultural Heritage

India will host the 20th session of the UNESCO Intergovernmental Committee for Safeguarding of the Intangible Cultural Heritage from 8 to 13 December 2025 in New Delhi.

About Intergovernmental Committee for Safeguarding of the Intangible Cultural Heritage

- Intangible cultural heritage (ICH), as UNESCO defines it, includes the practices, knowledge, expressions, objects, and spaces that communities see as part of their cultural identity.
- For the Safeguarding of ICH, UNESCO adopted the 2003 Convention on 17th October 2003 during its 32nd General Conference in Paris.
- The Convention formally established mechanisms for international cooperation, support, and recognition, laying the foundation for UNESCO's ICH lists and the subsequent work of the Intergovernmental Committee.
- The purposes of this Convention are
  - To safeguard the ICH;
  - To ensure respect for the ICH of the communities, groups, and individuals concerned;
  - To raise awareness at the local, national, and international levels of the importance of the ICH, and ensure mutual appreciation thereof;
  - To provide for global cooperation and assistance.
- The Intergovernmental Committee for Safeguarding of the ICH advances the objectives of the 2003 Convention and ensures their effective implementation across Member States.
- In fulfilling this mandate, the committee:
  - Promotes and monitors the objectives and implementation of the 2003 Convention.
  - Provides guidance on best practices and recommends measures for safeguarding ICH.
  - Prepares and submits to the General Assembly the draft plan for the use of the Intangible Cultural Heritage Fund.
  - Mobilises additional resources for the Fund in accordance with the Convention's provisions.
  - Drafts and proposes operational directives for the implementation of the Convention.
  - Examines periodic reports submitted by States Parties and compiles summaries for the General Assembly.
  - Evaluates requests from States Parties and makes decisions regarding:
  - Inscription of elements on UNESCO's ICH Lists (as per Articles 16, 17, and 18).
  - Granting of international assistance.
- Membership:
  - It has 24 members who are elected for a term of four years.
  - The election of new members takes place every two years during the ordinary session of the General Assembly of States Parties.
  - India is currently a member of the committee (2022-2026).

UN Environment Assembly

Recently, the seventh UN Environment Assembly (UNEA-7) is taking place in Nairobi, Kenya.

About UN Environment Assembly

- It is the world's highest-level decision-making body on the environment.
- Member Countries: It has the universal membership of all 193 UN Member States and the full involvement of major groups and stakeholders.
- It gathers ministers of environment in Nairobi, Kenya every 2 years.
- Background: UNEA was created in 2012, as an outcome of the UN Conference on Sustainable Development (Rio+20), held in Brazil.

Functions of UN Environment Assembly

- It sets the global environmental agenda, provides overarching policy guidance, and defines policy responses to address emerging environmental challenges.
- It undertakes policy review, dialogue and the exchange of experiences, sets the strategic guidance on the future direction of the UN Environment Programme (UNEP).
- It fosters partnerships for achieving environmental goals and resource mobilization.
- Organisational Structure: It consists of a President and 8 Vice Presidents (forming the UNEA Bureau)
- Seventh UNEA session (2025) Theme: "Advancing sustainable solutions for a resilient planet"

Key Facts About Japan

Recently, a major earthquake rocked Japan's northern coast and also the country's meteorological agency recorded several tsunami waves.

About Japan

- Location: It is an island nation in East Asia, situated in the Northwestern Pacific Ocean.
- Maritime borders: It is bordered by the Pacific Ocean (East), Sea of Okhotsk (North), Sea of Japan (West East) and East China Sea (Southwest).
- Political Structure: Parliamentary government under a constitutional monarchy.
- Capital City: Tokyo, located in east-central Honshu.

Geographical Features of Japan

- It comprises a chain of islands stretching ~1,500 miles in a northeast–southwest arc.
- Main Islands (north to south): Hokkaido, Honshu, Shikoku, and Kyushu.
- Terrain: Over 80% mountainous, with rugged terrain.
- Volcanic activity: It is located on the Pacific Ring of Fire – a major zone of earthquakes and active volcanoes.
- Highest peak: Mount Fuji (3,776 m), which is a stratovolcano.
- Major mountain ranges: Japanese Alps.
- Major rivers: Shinano River (longest), Tone River, Kiso River.
- Climate: It ranges from subarctic in the north to humid subtropical in the south.
- It is often disturbed by earthquakes, tsunamis, and volcanic eruptions due to tectonic activity.

Key Facts about Brunei

Recently, the inaugural meeting of the India-Brunei Joint Working Group (JWG) on Defence Cooperation was held in New Delhi.

About Brunei

- Location: It is located along the northern coast of Borneo Island in Southeast Asia.
- Bordered by: Brunei is bordered by the South China Sea in the north and on all other sides by Malaysia.
- Brunei is divided into two non-contiguous parts by a portion of the Malaysian State of Sarawak.
- Capital: Bander Seri Begawan – the capital and largest city of Brunei.
- It is a member country of the Commonwealth and ASEAN.

Geographical Features of Brunei

- Climate: The climate of Brunei (or Brunei Darussalam) is equatorial, i.e. hot, humid and rainy throughout the year.
- Terrain: It consists of flat coastal plain rises to mountains in east; hilly lowland in west
- Mountain: Bukit Pagon is the highest point in the country at 6,069 ft along the border with Malaysia in the eastern mountainous region.
- Rivers: Numerous rivers drain the land, including the Belait, Pandaruan, and Tutong.
- Natural Resources: It is also a major oil producer in Southeast Asia.

Key Facts about Italy

The recently held Italy–India Business Forum 2025 will strengthen bilateral trade, innovation and strategic economic partnership.

About Italy

- Location: It is located in South-central Europe on the Apennine Peninsula.
- Bordering Countries: It shares its border with Switzerland and Austria in the north, Slovenia in the northeast and France in the northwest.
- Vatican City and San Marino are the two enclaved sovereign states within Italy.
- Its southern boundary extends into the Mediterranean Sea.
- Maritime boundaries: Italian Peninsula is bordered by the Adriatic Sea in the east, the Sea of Sicily in the south, the Ionian Sea in the southeast, the Ligurian Sea, and the Tyrrhenian Sea in the southwest.
- Capital City: Rome

Geographical Features of Italy

- Terrain: It is mostly rugged and mountainous and has some plains, coastal lowlands.
- Major Rivers: Po (It is Italy's longest river) and Adige
- Highest Point: Mont Blanc
- Natural Resources: Coal, antimony, mercury, zinc, potash, barite, asbestos, pumice, fluorspar, feldspar, pyrite (sulfur), natural gas and crude oil reserves.
- Italy is volcanic in origin, and a few of its many volcanoes are active, including Sicily's Mt. Etna, Stromboli in the Aeolian Islands.

Key Facts about Mexico

Recently, the Mexico's Senate approved tariffs of up to 50% on imports from Asian countries, including India.

About Mexico

- Location: It is located in the southern part of North America.
- Bordering Countries: It shares its land border with the United States of America to the north and with Guatemala and Belize to the southeast.
- Maritime boundaries: It is surrounded by the Pacific Ocean to the south and west; by the Gulf of Mexico and the Caribbean Sea to the east.
- Capital City: Mexico City

Geographical Features of Mexico

- It is a part of the circum-Pacific "Ring of Fire"—a region of active volcanism and frequent seismic activity.
- Peninsulas: It consists of the Baja Peninsula and Yucatan Peninsula.
- Major Rivers: Rio Grande river and Colorado river (which is shared with US)
- Lakes: Lake Chapala and Lake Cuitzeo.
- Major mountain range: Sierra Madre.
- Natural Resources: Petroleum, silver, Antimony, Copper, Gold, Lead, zinc, natural gas.

International Fund for Agricultural Development

Recently, the Government of India highlighted the country's pioneering achievements in rural transformation and development leadership at the International Fund for Agricultural Development - India Day event held in Rome.

About International Fund for Agricultural Development

- It is an international financial institution and a specialized agency of the United Nations.
- It was established as an international financial institution in 1977 through United Nations General Assembly Resolution.
- Objective: It is dedicated to eradicating poverty and hunger in rural areas of developing countries.
- IFAD seeks to empower rural people to increase their food security, improve the nutrition of their families.
  - Its projects and programmes are carried out in remote and environmentally fragile locations, including least-developed countries and Small Island developing States.
- It is a member of the United Nations Development Group (UNDP).
- IFAD grants support research, innovation, institutional change, and pro-poor technologies.
  - IFAD extends two types of grants, depending on the nature of the innovation and the scope of intervention: global or regional grants and country-specific grants.
- Membership: Currently, IFAD has 180 Member States, including India. (India is a founding member of IFAD).
- Governance: Its Governing Council is the highest decision-making body which meets every three years.
- Headquarter: Rome, Italy.

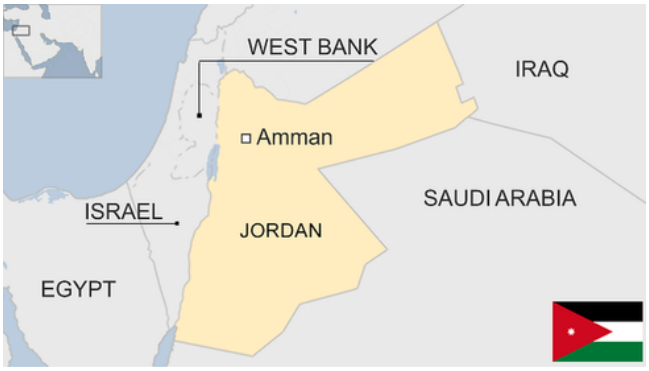
Pax Silica Initiative

The Congress party recently targeted the Prime Minister over India's exclusion from the United States-led strategic initiative, Pax Silica, citing the 'sharp downturn' in his relations with US President Donald Trump.

About Pax Silica Initiative

- It is a U.S.-led strategic initiative to build a secure, prosperous, and innovation-driven silicon supply chain—from critical minerals and energy inputs to advanced manufacturing, semiconductors, artificial intelligence (AI) infrastructure, and logistics.
- The term 'Pax Silica' comes from the Latin term 'pax' which means peace, stability, and long-term prosperity.
- Silica refers to the compound that is refined into silicon, one of the chemical elements foundational to the computer chips that enable AI.
- It aims to reduce coercive dependencies, protect the materials and capabilities foundational to AI, and ensure aligned nations can develop and deploy transformative technologies at scale.
- Which Countries Are Part of Pax Silica?
  - Japan
  - South Korea
  - Singapore
  - Netherlands
  - United Kingdom
  - Israel
  - United Arab Emirates
  - Australia
- Countries Affirmed a Shared Commitment To:
  - Pursue projects to jointly address AI supply chain opportunities and vulnerabilities in priority critical minerals, semiconductor design, fabrication, and packaging, logistics and transportation, compute, and energy grids and power generation.
  - Pursue new joint ventures and strategic co-investment opportunities.
  - Protect sensitive technologies and critical infrastructure from undue access or control by countries of concern.
  - Build trusted technology ecosystems, including ICT systems, fiber-optic cables, data centers, foundational models and applications.

Key Facts About Jordan



Recently, the Prime Minister of India has embarked on a three-nation visit to Jordan, Ethiopia and Oman.

About Jordan

- Location: It is a landlocked country located in the rocky desert of the northern Arabian Peninsula.
- Bordering Countries: It is bordered by 5 Nations: Syria in the north, Iraq in the east, Saudi Arabia in the south and southeast and Israel and Palestine in the west.
- Water bodies: Dead Sea, the Gulf of Aqaba and the Sea of Galilee.
- The Dead Sea is located along the western borders of the country.
- Ports: Al-Aqabah, the only port of Jordan is located in the south-western part of the country along the coasts of the Gulf of Aqaba.
- Capital City: Amman

Geographical Features of Jordan

- Terrain: It has arid desert plateau; a great north-south geological rift along the west of the country is the dominant topographical feature.
- Highest Point: Jabal Umm ad Dami is the highest point of Jordan.
- Rivers: The Jordan River which drains into the Dead Sea.
- Natural Resources: It mainly consists of phosphates, potash and shale oil.

Gulf of Oman

Iran recently seized an oil tanker in the Gulf of Oman, Iranian media said recently, adding that 18 crew members from India, Sri Lanka, and Bangladesh were on board.

About Gulf of Oman

- The Gulf of Oman, also known as the Gulf of Makran, is the northwest arm of the Arabian Sea.
- It forms the only entrance to the Persian Gulf from the Indian Ocean.
- It covers an area spanning 115,000 sq.km.
- It connects the Arabian Sea with the Strait of Hormuz, which then empties into the Persian Gulf.
- Bordering Countries: It is bordered by Pakistan and Iran in the north, by the United Arab Emirates in the west, and by Oman in the south.
- The gulf is about 320 km wide at its widest point between Cape al-Hadd in Oman and Gwadar Bay on the Iran-Pakistan border. It narrows to 35 miles (56 km) at the Strait of Hormuz.
- It is approximately 560 km long.
- The gulf is relatively shallow because of its origin as a fissure in the mountain spine now divided between Iran and Oman.
- Some of the significant islands that are located in the Gulf of Oman include Sheytan Island, Al Fahal Island, Dimaniyat Islands, and the Sawadi Islands.
- The major international shipping ports that are situated in the Gulf of Oman include Port Sultan Qaboos Muttrah in Muscat, Oman; Chabahar Port in Iran; the Port of Fujairah and Khor Fakkan Container Terminal in the United Arab Emirates.
- Roughly one-third of the world's oil is exported via the Strait of Hormuz and the Gulf of Oman.

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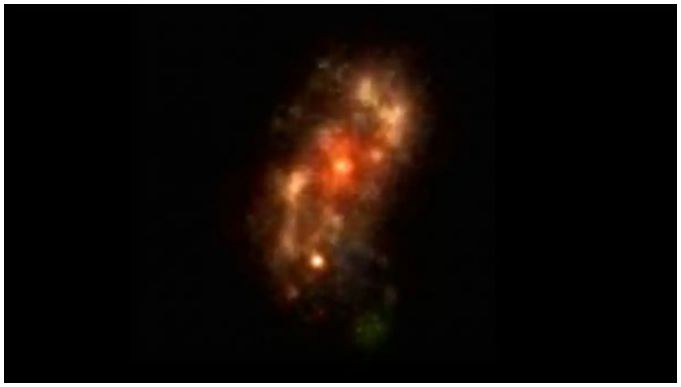
Cold Wave

Higher than normal cold wave days are expected to impact parts of central India as well as some regions in northwest and northeast India, according to the India Meteorological Department (IMD).

About Cold Wave

- Cold waves are unusual weather occurrences caused by extremely low temperatures in the near-surface atmosphere.
- Their duration can range from several days to a few weeks, contingent upon the geography and climatic conditions of the region.
- The India Meteorological Department (IMD) defines a cold wave as a rapid fall in temperature within 24 hours.
- This is distinguished by a marked cooling of the air, or with the invasion of very cold air, over a large area.
- As per IMD, a cold wave is considered when the minimum temperature of a station is 10°C or less for plains and 0°C or less for hilly regions.
  - A cold wave and severe cold wave is considered a negative departure from normal i.e., 4.5°C to 6.4°C and more than 6.4°C in hill stations, respectively.
  - Similarly, the departure in minimum temperature of ≤ 04°C and ≤ 02°C for plains is considered a cold wave and severe cold wave, respectively.
- Cold waves are predominantly experienced during the period December-February, when minimum temperatures drop to very low levels, especially over the northern parts of India.
- Health Risks:
  - Exposure to extreme cold can lead to frostbite, hypothermia, and other cold-related illnesses.
  - Non-freezing cold injuries, such as Immersion Foot—caused by prolonged exposure to cold, wet conditions—are also a risk.
  - In extreme cases, cold exposure may result in fatalities if adequate precautions are not taken.

Alaknanda Galaxy



Recently, researchers at National Centre for Radio Astrophysics - Tata Institute of Fundamental Research (NCRA–TIFR), Pune, have discovered a spiral galaxy and named it as Alaknanda.

About Alaknanda Galaxy

- It is located about 12 billion light years away and has textbook spiral structure.
- It is named after a Himalayan river Alaknanda and the Hindi word for the Milky Way.
- The galaxy has two well-defined spiral arms wrapping around a bright central bulge, spanning approximately 30,000 light-years in diameter.
- It is a powerhouse of stellar birth, creating stars at a rate equivalent to about 60 solar masses annually.
- It looks remarkably similar to our own Milky Way and formed when the Milky way was only 10 per cent of its current age.
- It was discovered by using NASA's James Webb Space Telescope.

What is a Spiral Galaxy?

- Spiral galaxies are twisted collections of stars and gas that often have beautiful shapes and are made up of hot, young stars.
- In a spiral galaxy, the stars, gas, and dust are gathered in spiral arms that spread outward from the galaxy's center.
- Structure
  - Most spiral galaxies contain a central bulge surrounded by a flat, rotating disk of stars.
  - The bulge in the center is made up of older, dimmer stars and is thought to contain a supermassive black hole.
  - Approximately two-thirds of spiral galaxies also contain a bar structure through their center, as does the Milky Way.
  - The disk of stars orbiting the bulge separates into arms that circle the galaxy.
  - These spiral arms contain a wealth of gas and dust and younger stars that shine brightly before their quick demise.

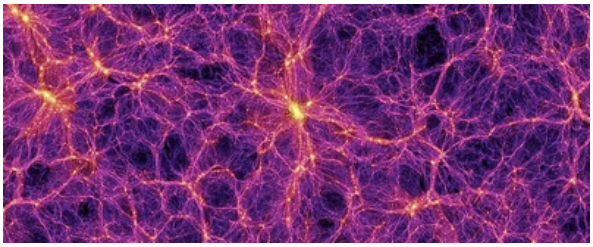
Afar Region

Scientists predict that Africa's Afar region could become Earth's next ocean basin.

About Afar region

- Location: It is the northeastern part of Ethiopia, where the Red Sea meets the Gulf of Aden.
- The Afar depression, also known as the Danakil depression, forms the northern part of the region and is largely desert scrubland with shallow salty lakes and long chains of volcanoes.
- The Awash River valley forms the southern part of the area.
- Tectonic Significance: It is situated at a unique triple junction where the Red Sea, Gulf of Aden, and East African Rift converge.
- Terrain: The region's landscape is marked by deep rift valleys, volcanic plateaus, and extensive fissures, reflecting the dynamic forces reshaping the Earth's crust.
- It offers scientists a rare opportunity to observe the processes of continental break-up and ocean genesis in action.
- The region is well known for its early hominid fossil finds including 'Lucy', an Australopithecus afarensis, discovered in 1974.

Cosmic Filament



Recently, the University of Oxford researchers reported a roughly 50-million-lightyear-long cosmic Filament traced by at least 14 galaxies.

About Cosmic Filament

- Cosmic or galaxy filaments are the largest 'threads' in the universe's cosmic web.
- Size: A single cosmic filament is a structure spanning hundreds of millions of lightyears.
- These filaments are the largest known structures in the Universe which are vast, thread-like formations of galaxies and dark matter that form a cosmic scaffolding.
- These cosmic web filaments serve as the nurseries where galaxies grow by accreting pristine gas that fuels their star formation.
- Formation
  - It is formed as a result of gravity pulling in gas, dark matter, and galaxies into long, thin strands that link giant clusters of galaxies.
  - These filaments also surround large, empty regions of space called voids.
  - A filament forms where sheets of matter intersect and collapse; they're also highways along which gas and smaller galaxies 'flow' towards big clusters.
- Significance: These filaments help decide where galaxies form, how fast they grow, and how much fresh gas they receive over billions of years.

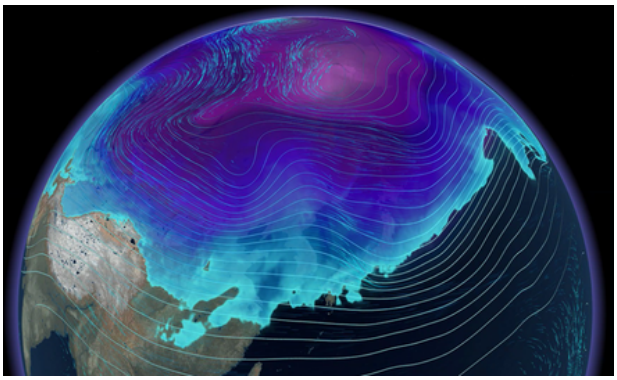
Kilauea Volcano

Fresh lava fountains recently erupted from Hawaii's Kilauea volcano nearly a year after one of the world's most active volcanoes began its current eruptive phase.

About Kīlauea Volcano

- It is one of the world's most active volcanoes.
- It is a shield-type volcano located in the southeastern part of the island of Hawaii, Hawaii State, United States.
  - Hawaii is the southernmost and largest of the island chain, which owes its existence to the very active Hawaiian hot spot.
- Kīlauea volcano's 1,250-metre summit has collapsed to form a caldera, a broad shallow depression nearly 5 km long and 3.2 km wide with an area of more than 10 sq.km.
- The summit caldera contains a lava lake known as Halema`uma`u that is said to be the home of the Hawaiian volcano goddess, Pele.
- Kilauea's slopes merge with those of the nearby volcano Mauna Loa on the west and north.
- Kilauea has been erupting on a continuous basis since 1983.
- Kilauea's frequent eruptions are usually nonexplosive and are contained within Halema‘uma‘u, which sometimes rises and overflows along the floor and flanks of the caldera proper.

Sudden Stratospheric Warming Event



Recently, a meteorologist warned of another Sudden Stratospheric Warming (SSW) event that could plunge temperatures below average across parts of the U.S. later this month.

About Sudden Stratospheric Warming Event

- It refers to a rapid rise in stratospheric temperatures that weakens or distorts the polar vortex (a cold-air mass typically stabilized over the Arctic).

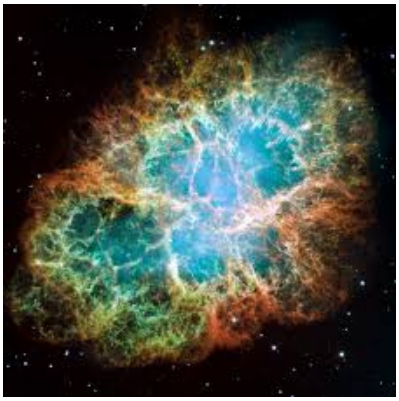
Occurrence of the Event

- It begins with large-scale atmosphere waves (called Rossby waves) getting pushed higher into the atmosphere.
- These waves can "break" (like waves in the ocean) on top of the polar vortex and weaken it. If waves are strong enough, the winds of the polar vortex can weaken so much that they can reverse from being westerly to easterly.
- This leads to cold air descending and warming rapidly.
- It can lead to a displacement or splitting of the polar vortex, so instead of cold air being locked above the polar region, it can push further south into the mid-latitudes.

What is the Polar Vortex?

- It is a large area of low pressure and cold air surrounding both of the Earth's poles.
- It extends from the tropopause (the dividing line between the stratosphere and troposphere) through the stratosphere and into the mesosphere (above 50 km).
- It always exists near the poles, but weakens in summer and strengthens in winter.
- Many times, during winter in the northern hemisphere, the polar vortex will expand, sending cold air southward with the jet stream.
- Jet streams are relatively narrow bands of strong wind in the upper levels of the atmosphere, typically occurring around 30,000 feet (9,100 meters) in elevation.
- This occurs fairly regularly during wintertime and is often associated with large outbreaks of Arctic air in the United States.
- This is not confined to the United States. Portions of Europe and Asia also experience cold surges connected to the polar vortex.

Supernova



A distant gamma-ray burst has led astronomers to a rare supernova from the Universe's early years, revealed recently by the James Webb Space Telescope (JWST).

About Supernova

- A supernova is the name given to the cataclysmic explosion of a massive star.
- They are the largest explosions that take place in space.
- A star can go supernova in one of two ways:
  - Type I Supernova: A star accumulates matter from a nearby neighbor until a runaway nuclear reaction ignites.
  - Type II Supernova: A star runs out of nuclear fuel and collapses under its own gravity.
- It can emit more energy in a few seconds than our sun will radiate in its lifetime of billions of years.
- These spectacular events can be so bright that they outshine their entire galaxies for a few days or even months.
- They can be seen across the universe.
- They're also the primary source of heavy elements in the universe.
- How Common are Supernovas?
  - Astronomers believe that about two or three supernovas occur each century in galaxies like our own Milky Way.
  - Because the universe contains so many galaxies, astronomers observe a few hundred supernovas per year outside our galaxy.

Pyrite

Scientists recently discovered the oldest-known evidence of fire-making by prehistoric humans in England, which included a patch of heated clay, some heat-shattered flint handaxes, and two pieces of iron pyrite - a mineral that creates sparks when struck against flint to ignite tinder.

About Pyrite

- It is a brass-yellow mineral with a bright metallic luster.
- It has a chemical composition of iron sulfide (FeS_2), and is the most common sulfide mineral.
- The name comes from the Greek word pyr, "fire," because pyrite emits sparks when struck by metal.
- Nodules of pyrite have been found in prehistoric burial mounds, which suggests their use as a means of producing fire.
- Pyrite is called "Fool's Gold" because it resembles gold to the untrained eye.
    - However, pyrite is quite easy to distinguish from gold: pyrite is much lighter but harder than gold and cannot be scratched with a fingernail or pocket knife.
- It is found in a wide variety of geological formations worldwide, from sedimentary deposits to hydrothermal veins and as a constituent of metamorphic rocks.

Pyrite Uses

- It is a source of iron and sulfur and is used for the production of sulfuric acid.
- It is used to create iron sulfate that is used to make nutritional supplements, ink, lawn conditioner, water treatment and flocculation, moss killer, and many other chemical processes.
- Iron sulfate, which comes from pyrite, is used to treat iron-deficiency anemia.
- Some types of pyrite contain enough microscopic gold to warrant mining them as a gold ore.

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Protosticta sooryaprakashi

A new species of damselfly named, Protosticta sooryaprakashi, sporting vibrant sky-blue markings, has been recently discovered in the biodiversity hotspots of India's Western Ghats.

About Protosticta sooryaprakashi

- It is a new species of damselfly.
- Named the Kodagu Shadowdamsel, it was discovered in Karnataka's Kodagu district.
- The species has been named in honour of the late Dr. Sooryaprakash Shenoy, a renowned botanist.
- Sporting striking sky-blue markings, the Kodagu Shadowdamsel thrives in low-light habitats and requires pristine environmental conditions to breed.
- Entomologists say its presence is a strong indicator of a healthy ecosystem with minimal pollution.
- Despite its resemblance to its close relatives, its slender build makes it the thinnest member of the damselfly family.
- Its distinguishing features include a unique blue spot on its neck and at the tip of its body.
- Unlike dragonflies, which inhabit bright, sunny spaces, damselflies like the Kodagu Shadowdamsel favour cool, shaded areas, making sightings rare and significant.

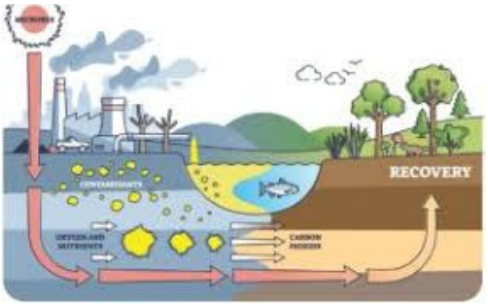
Bamboo Shrimp

A team of researchers rediscovered Indian populations of the bamboo shrimp in Karnataka and Odisha after 72 years.

About Bamboo Shrimp

- It is a medium-sized freshwater shrimp native to Southeast Asia.
- Common names: Wood Shrimp, Flower Shrimp, Singapore Wood, Marble Shrimp and Asian Fan Shrimp.
- Characteristics
  - The color of their body changes according to their mood. It becomes brighter when they are happy, while it fades when they are in a bad mood.
  - It is an amphidromous species i.e the larvae develop in brackish water before returning to freshwater.
  - They are primarily nocturnal, spending daylight hours sheltering under rocks or driftwood.
  - They are adapted to live in fast-moving streams and rivers, using their strong legs to cling to rocks and other surfaces.
- Distribution: These shrimps are found in various countries of Southeast Asia. Their distribution range includes Malaysia, Singapore and Thailand.
- Habitat: It is a social invertebrate commonly found in fast-flowing streams and rivers.
- Diet: This omnivorous filter feeder shrimp species feeds on water algae and microscopic organisms.
- Adaptation: It is distinctive within their genus due to their specialised feeding technique.
- These shrimp are filter feeders, using fan-like structures on their limbs to filter out particles of edible material from flowing water.

Bioremediation



Bioremediation offers a cheaper, scalable, and sustainable alternative, especially in a country like India where vast stretches of land and water are affected but resources for remediation are limited.

About Bioremediation

- Bioremediation literally means "restoring life through biology."
- It is the use of living organisms, primarily microorganisms, to degrade environmental contaminants into less toxic forms.
- It is used to clean up contaminated soil, air, and water.
- It harnesses microorganisms such as bacteria, fungi, algae, and plants to sequester or transform toxic substances such as oil, pesticides, plastics, or heavy metals.
- These organisms metabolise these pollutants as food, breaking them down into harmless by-products such as water, carbon dioxide, or organic acids.
- In some cases, they can convert toxic metals into less dangerous forms that no longer leach into the soil or groundwater.
- Two Broad Types of Bioremediation:
- In situ bioremediation, where treatment happens directly at the contaminated site, such as when oil-eating bacteria is sprayed on an ocean spill;
- Ex situ bioremediation, where contaminated soil or water is removed, treated in a controlled facility, and returned once cleaned.
- For bioremediation to be effective, the right temperature, nutrients, and food also must be present.
- Proper conditions allow the right microbes to grow and multiply—and eat more contaminants.

Bioremediation Advantages

- It cleans up the environment naturally without the use of toxic chemicals. So, it is an environmentally friendly method.
- Contaminants are converted into water and harmless gases.
- It is cost-effective, as extensive equipment and labor are not needed.
- It is a permanent solution, as the degraded material cannot revert back to the previous one.
- It is a recommended method for removing oil stains.

Bioremediation Disadvantages

- It takes a large area and time from months to years.
- It is limited to the compounds which are degradable.
- It is not able to remove all kinds of impurities from the contaminated site. Like, some kind of inorganic contaminants cannot be treated with this bioremediation method.
- Some heavy metals cannot be completely broken down, resulting in toxic by-products.

Rock Eagle Owl

Recently, a Rock Eagle Owl nest prompted the Telangana forest department to halt quarrying operations for over a month.

About Rock Eagle Owl

- It is also called Indian eagle-owl (Bubo bengalensis) or Bengal eagle-owl.
- It is a large-horned owl species native to hilly scrub forests in India.
- Appearance
  - It is usually brown and grey in colour, with a white throat patch that has black stripes.
  - It was earlier treated as a subspecies of the Eurasian eagle-owl.
  - Its chicks are born with white fluff which is gradually replaced by speckled feathers during the pre-juvenile moult after about two weeks.
  - It is usually seen in pairs. It has a deep resonant booming call that may be heard at dawn and dusk.
- Habitat: They are especially seen near rocky places within the mainland of the Indian Subcontinent south of the Himalayas. They avoid humid evergreen forests and extremely arid areas.
- Distribution: It is mainly found in South Asian countries like India, Nepal, Pakistan

Conservation Status of Rock Eagle Owl

- IUCN: Least Concern
- CITES: Appendix II

Horn-Eyed Ghost Crab

Recently, researchers documented unique predatory behaviour of horn-eyed ghost crab at Rushikonda Beach.

About Horn-Eyed Ghost Crab

- It belongs to the genus Ocypode.
- Their pale bodies blend seamlessly with the sand, and combined with their swift movements during dawn and dusk, this has led to their common name, "ghost crabs".
- It is widely regarded as a keystone species and indicator of coastal health.
- Six species of ghost crabs have been reported along the Indian coastline.
- Habitat: It is usually found in the intertidal zones.
- Distribution: It lives in the Indo-Pacific region (except the Red Sea); from the coast of East Africa to the Philippines and from Japan to the Great Barrier Reef.
- Threats: Pollution, changes in sediment distribution, rising sea temperatures and altered tidal patterns may prompt species to explore new microhabitats in search of food.

Characteristics of Horn-Eyed Ghost Crab

- It has traditionally been described as a scavenger within the intertidal food web.
- Diet: They hunt clams, snails, worms, isopods, shrimps and a variety of insects. They also prey on other crabs, including smaller hermit crabs.

Ecological Role of Horn-Eyed Ghost Crab

- It plays a crucial ecological role in sandy intertidal environments.
- They influence the distribution and abundance of smaller organisms through their feeding habits and the deep burrows they build.

Dolomedes indicus

In the evergreen rainforests of the Western Ghats, researchers recently identified a new species of spider named Dolomedes indicus.

About Dolomedes indicus

- It is a new species of spider.
- It was discovered in the evergreen rainforests of the Western Ghats, in the Wayanad district of Kerala.
- It marks the first time a spider of the Dolomedes genus, commonly known as raft or fishing spiders, has been described in India.
- Unlike the common house spiders that wait passively in webs, Dolomedes indicus is an active, semi-aquatic predator that uses the water's surface tension to its advantage.
- These spiders rest their legs on the water to detect the tiny vibrations from struggling insects or small fish, then launch themselves across the surface to capture prey with lightning speed.
- They are also capable swimmers and divers.
- The new species is distinguished by specific physical traits, particularly in males, which sport a striking snow-white marking running from their faces down to the centre of their backs.
- Females are larger and greenish-brown, allowing them to blend perfectly with the mossy rocks and foliage along the stream banks.
- It appears to be highly sensitive to its environment, thriving only in pristine, cool waters under a forest canopy.
- It could serve as a vital indicator species, helping conservationists monitor the health of freshwater ecosystems.

Red-Breasted Parakeet

In a rare sighting, two pairs of red-breasted parakeets were recently spotted on the NIT-Patna campus by a group of environmentalists.

About Red-Breasted Parakeet

- The red-breasted parakeet, or moustached parakeet, is a colorful bird found across many parts of Asia.
- Scientific Name: Psittacula alexandri
- It's known for its bright feathers and a unique "moustache" marking.
- These parakeets are quite common and have several different looks depending on where they live.
- Distribution: Their home stretches from parts of India and Nepal, through Southeast Asia, including countries like Thailand, Vietnam, and Indonesia.
- Habitat: They prefer living in forests, woodlands, and even in areas near farms or towns.
- Features:
  - It is a medium-sized parrot.
  - It can grow to about 33 to 38 centimeters long, including its long tail.
  - The male has overall green plumage with a distinct pink breast and belly, a grey head, a blue upper tail, a green tail tip, and a red upper bill.
  - The female is similar to the male but has duller pink underparts and a black upper bill.
  - These birds are very social and often live in small groups or larger flocks.
  - They are quite noisy, especially when flying or feeding.
  - Their calls are usually loud squawks and screeches.
- Conservation Status:
  - IUCN Red List: Near Threatened

Hoolock Gibbon

Recently, a stranded family of Hoolock gibbons was rescued in Arunachal Pradesh's Lower Dibang Valley district by officials.

About Hoolock Gibbon

- Gibbons, the smallest and fastest of all apes, live in tropical and subtropical forests in the southeastern part of Asia.
- The hoolock gibbon is one of 20 species of gibbons on Earth.

Distribution of Hoolock Gibbon

- Its distribution in Southeast Asia spans India, Myanmar, Bangladesh, and southern China.
- It is the only ape found in India.
- In India, it is found in Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, and Tripura, south of the Brahmaputra.
    - Hollongapar Gibbon Sanctuary in Assam has the largest concentration of the hoolock gibbon.
- It is categorised into Eastern Hoolock Gibbon (Hoolock leuconedys) found in a specific region of Arunachal Pradesh and Western Hoolock Gibbon (Hoolock hoolock) distributed elsewhere in the northeast.

Characteristics of Hoolock Gibbon

- They are diurnal and arboreal, brachiating through the trees with their long arms.
- They are monogamous (same partner throughout life).
- They live in small families and communicate with other gibbons by vocalisation.
- Life span: 25 years

Conservation Status of Hoolock Gibbon

- IUCN Red List
    - Eastern Hoolock Gibbon: Vulnerable
    - Western Hoolock Gibbon: Endangered
- Both are on Schedule I of the Wildlife (Protection) Act of India, 1972.

Deodar Tree

Deodar trees in Himachal Pradesh's Sangla Valley have revealed the process of climatic shifts from wetter spring conditions that prevailed during pre-historic times to drier conditions from the year 1757 onwards.

About Deodar Tree

- It is also known as the Himalayan Cedar, is one of the most revered and iconic tree species in the Western Himalayas.
- The name Deodar is derived from the Sanskrit word Devadāru, meaning "wood of the gods," highlighting the tree's cultural and spiritual importance.
- Distribution: It is mainly found in the western Himalayan region.
- Applications: Traditionally, its wood has been used in temple construction, religious ceremonies, and Ayurvedic medicine.
- Threats: It faced threats from logging, habitat loss, and climate change.

Characteristics of Deodar Tree

- It is native to high-altitude forests, this majestic conifer plays a critical ecological and cultural role.
- Soil and climate: It thrives in well-drained soils and moist temperate climates.
- It is a large evergreen tree found between 1800-3000m altitude. Branches are brown-reddish. Cones are solitary, erect, ovoid, dark brown.
- Male and female cones are on the same tree.
- Growth: It reaches heights of up to 50 meters and is characterized by its tall, pyramidal shape, drooping branches, and needle-like bluish-green leaves.
- Its bark is dark gray and becomes deeply fissured with age, adding to their stately presence in alpine and subalpine forest zones.

Goniopora Coral

Recently, scientists have reported that a combination of extreme heat stress and a rare Black band disease has wiped out 75 per cent of Goniopora coral colonies at a site on the Great Barrier Reef.

About Goniopora Coral

- It is also known as flowerpot or daisy coral, is a type of hard, soft coral belonging to the Poritidae family.
- It is appreciated for its beautiful appearance as it possesses unique polyps that resemble flower petals.
- Appearance: Colonies consist of small branching columns, usually oval in transverse section.
- Size: Goniopora polyps can range from a few to several centimeters in diameter.
- Habitat: It typically inhabits lagoons and turbid reefs and are considered thermally tolerant.
- Goniopora are a photosynthetic coral and derive some of their nutritional requirements from light.
- Symbiotic Relationship: They have a symbiotic relationship with dinoflagellates called zooxanthellae that live in the flesh of the coral.
- Goniopora can thrive in a wide range of lighting.
- Feeding: It is a predatory coral, meaning it obtains some of its nutrients by capturing small organisms in the water.

What is Black Band Disease?

- It is a bacterial necrotic infection that invades living coral.
- It forms a black band that crosses the infected coral, usually killing the colony.
- It is common in Caribbean reefs and rare in Australian waters.
- It is often linked to pollution or nutrient runoff.

Charaichung Royal Bird Sanctuary

Recently, 'Charaichung Festival' was hosted in Assam's Majuli island to revive Asia's first protected royal bird sanctuary.

About Charaichung Royal Bird Sanctuary

- It is Asia's first protected bird sanctuary.
- It was established in 1633 AD by Ahom king Swargadeu Pratap Singha.
- Location: It is located at Majuli - the world's largest river island.
- Ecological Significance: Nearly 150 varieties of indigenous and migratory birds are found here, making their protection and conservation extremely essential.

Key Facts about Charaichung Festival

- It is the second edition of the festival held in Majuli, Assam.
- This festival, organised with the support of Majuli Sahitya and local residents
- It aims to urge the government to further promote Charaichung as a tourism destination.

Majuli Island

- It is the world's largest river island located in Assam.
- The island is formed by the Brahmaputra River and its tributaries the Kherkutia Xuti and Subansiri
- Rice cultivation is the primary livelihood for the residents of Majuli, with several unique varieties of rice, such as Komal Saul and Bao Dhan, grown in the region.
- Most of the islanders belong to three tribes-Mishing, Deori, and Sonowal Kachari.

Pallas’s Gull

The rare migratory Pallas's Gull was recently spotted in Jharkhand's Udhwa Bird Sanctuary, marking its return after almost a decade.

About Pallas's Gull

- Pallas's Gull, also called the Great Black-headed Gull, is a large bird species.
- It is the world's largest black-headed gull and the third-largest species of gull in the world.
- It belongs to the family Laridae.
- Scientific Name: Ichthyaetus ichthyaetus

Pallas's Gull Distribution

- It breeds in colonies in marshes and islands from southern Russia to Mongolia.
- It is migratory, wintering in the Mediterranean Sea, the Arabian Peninsula, and India.
- Habitat: It prefers wetlands, salt lakes, lagoons, and slow-flowing rivers.

Pallas's Gull Features

- It measures 55–72 cm in length with a 142 to 170 cm wingspan.
- Summer adults are unmistakable, since no other gull of this size has a black hood.
- The adults have grey wings and back, with conspicuous white "mirrors" at the wing tips.
- The legs are yellow, and the bill is orangey-yellow with a red tip.
- In all other plumages, a dark mask through the eye indicates the vestiges of the hood.
- Pallas's Gulls feed on fish, including dead fish. They also prey upon insects, crustaceans, reptiles, other birds, and small mammals.

Pallas's Gull Conservation Status

- It is classified as Least Concern under the IUCN Red List.

Key Facts about Udhwa Lake Bird Sanctuary

- It is located in the Sahebganj district of Jharkhand.
- It is the state's only bird sanctuary.
- It comprises two interconnected wetlands, Pataura Lake and Berhale Lake, which are part of the Ganga River floodplain and surrounded by the Rajmahal Hills.
- It was declared a Ramsar Site in 2025.
- It supports a diverse ecosystem with over 146 species of birds, including endangered ones like the band-tailed fish eagle, lesser adjutant stork, and common pochard.
- It also hosts a variety of aquatic plants, fish, reptiles, and mammals, such as fishing cats and otters.
- The sanctuary is an important habitat within the Central Asian flyway, attracting migratory birds during the winter.

Western Tragopan

India's western tragopan population is steadied by captive breeding but human disturbance and habitat fragmentation continue to endanger its future.

About Western Tragopan

- It is also known as the western horned tragopan, is amongst the rarest of all living pheasants.
- Due to its beautiful plumage and large size, this bird is locally known as 'jujurana' or 'king of birds'
- It is one of the rarest and most stunning pheasant species in the world.
- These birds are shy and ground-dwelling.
- They are usually active during dawn and dusk, moving quietly through dense undergrowth.
- It is the state bird of Himachal Pradesh.
- Distribution: It is endemic to the northwest Himalaya, within a narrow range from Hazara in north Pakistan through Jammu and Kashmir and Himachal Pradesh, to the western part of Garhwal.
    - The upper part of Great Himalayan National Park's (GHNP) forest zone holds the world's largest known population of western tragopan.
- Habitat: It prefers a habitat of ringal (dwarf) bamboo beneath dense forest.
- Diet: It feeds mostly on leaves, shoots and seeds, but also consumes insects and other invertebrates.
- Breeding: It breeds during May to June, laying 3–5 eggs in concealed nests on the forest floor.
- Threats: Habitat loss, hunting pressure and anthropogenic disturbances which includes livestock grazing, minor forest produce collection like medicinal herbs etc.
- Conservation status: IUCN: Vulnerable.

Champions of the Earth Award

Recently, the Additional Chief Secretary of the Department of Environment, Climate Change and Forests of Tamil Nadu, Ms Supriya Sahu, has won the UN Environment Programme's 2025 Champions of the Earth Award.

About Champions of the Earth Award

- It was established in 2005 and awarded by the United Nations Environment Programme (UNEP).
- It is the UN's highest environmental honour, recognises trailblazers at the forefront of efforts to protect people and the planet.
- Every year, UNEP honours individuals and organizations working on innovative and sustainable solutions to address the triple planetary crisis of climate change, nature and biodiversity loss, and pollution and waste

Champions of the Earth are Celebrated in Four Categories

- Policy leadership: Public sector officials leading global or national action for the environment. They shape dialogue, lead commitments and act for the good of the planet.
- Inspiration and action: Leaders taking bold steps to inspire positive change to protect our world. They lead by example, challenge behavior and inspire millions.
- Entrepreneurial vision: Visionaries challenging the status quo to build a cleaner future. They build systems, create new technology and spearhead a groundbreaking vision.
- Science and innovation: Trailblazers pushing the boundaries of technology for profound environmental benefit.

Hard Corals

A major new assessment by the Global Coral Reef Monitoring Network (GCRMN) has reported a dramatic decline in hard coral populations across the Caribbean.

About Hard Corals

- Hard corals, also known as stony corals, are marine animals that build the limestone frameworks upon which reefs form.
- They grow in colonies and are often referred to as "reef-building corals."

Key Features of Hard Corals

- They are composed of thousands of tiny polyps that secrete calcium carbonate.
- Hard corals create skeletons out of calcium carbonate, a hard substance that eventually becomes rock.
- Over time, this rock builds up to form the foundation of a coral reef and provides a structure upon which baby corals can settle.
- These corals depend upon tiny algae called zooxanthellae that live inside them.
- They share a symbiotic relationship (the corals provide the zooxanthellae with shelter, and in return, the zooxanthellae provide the corals with food).

Threats to Hard Corals

- Bleaching events driven by extreme heat
- Stony Coral Tissue Loss Disease: It is spread across 30 countries which is causing unprecedented mortality of corals.
- Losses of key herbivores such as the Diadema sea urchin have fuelled an 85% surge in macroalgae.

Bar-Headed Goose

In a first-of-its kind study in eastern India, a bar-headed goose fitted with a GSM-GPS transmitter has revealed its migration route and flying pattern.

About Bar-Headed Goose

- It is a migratory bird species which is known to be one of the highest-flying birds in the world.
- It can fly at altitudes of 25,000 feet, while migrating over the Himalayas, where oxygen and temperature levels are extremely low.
- Distribution: It is native to central Asia, where the species breeds, Bar-headed Geese, are found in countries like India, Pakistan, Nepal, Kazakhstan, Bangladesh, Myanmar, Japan, and other nearby regions.
  - In India, their geographical range extends from the northeast to the southern parts of the country.
- Habitat: They reside near water bodies, preferring high-altitude lakes during the breeding season and freshwater lakes, rivers, and streams in their wintering habitats.
- Features of Bar-Headed Goose
  - This species is gray and white with two horseshoe-shaped, brownish-black bars on the back of its white head.
  - Although male and female birds appear similar, the male bird is slightly larger than the female.
  - They usually form monogamous pairs and are seasonal breeders.
- Conservation Status: It is classified as 'Least Concern' under the IUCN Red List.

New Ramsar Sites

Recently, Siliserh Lake, in Alwar, Rajasthan and Kopra Jalashay near Bilaspur, Chhattisgarh have been designated as Ramsar Sites.

About New Ramsar Sites Latest News

Siliserh lake

- Location: It is located in the state of Rajasthan.
- It is a human-made lake within the buffer zone of Sariska Tiger Reserve.
- It was built in 1845 by Maharaja Vinay Singh to supply drinking water to Alwar city.
- It is in a semi-arid zone, and the Site serves as an important water source for diverse species of the region.
- Fauna
  - It supports 149 bird species and 17 mammal species including the vulnerable river tern and the endangered tiger
  - The site also supports more that 1% of the biogeographic population of black stork (Ciconia nigra).

Kopra Jalashay

- Location: It is located in the state of Chhattisgarh.
- It is a reservoir located in the upper catchments of the River Mahanadi.
- Its strong hydrological and ecological connectivity contributes to a wide variety of habitats across the area.
- It supports more than 60 migratory bird species which rely on it for nesting, feeding and as a stop-over site.
- Fauna: Notable species include the vulnerable greater spotted eagle (Aquila clanga) and the endangered Egyptian vulture (Neophron percnopterus).

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Heron Mk II

To enhance their unmanned capabilities in the wake of Operation Sindoor, the Indian armed forces have signed up for more satellite-linked Heron Mk II UAVs under emergency procurement, sources in the Israeli defence industry said recently.

About Heron Mk II

- It is a medium-altitude long-endurance (MALE) unmanned aerial vehicle (UAV).
- It was developed by Israel Aerospace Industries (IAI).

Heron Mk II Features

- It has a length of 8.5 m, a wingspan of 16.6 m, and a payload capacity of 490 kg.
- It has a maximum takeoff weight of 1,430 kg.
- It offers an endurance of 45 hours and a top speed of 150 knots.
- It can reach altitudes up to 35,000 ft and has an operating range of more than 1,000 km.
- It can carry long-range radars and observation sensors, such as electro-optical/infra-red (EO/IR) systems for detection and tracking of targets.
- The electronic intelligence (ELINT) and communications intelligence (COMINT) systems will be installed on board to detect, analyse, geolocate, and gather electronic and communication radio signals for actionable intelligence at long-range stand-off distances.
- It is able to gather intelligence from tens of kilometers away without crossing borders.

Biological Weapons Convention

The External Affairs Minister recently called for urgent reforms to strengthen global biosecurity and modernise the Biological Weapons Convention (BWC), warning that biological threats are becoming harder to manage in a rapidly evolving scientific landscape.

About Biological Weapons Convention

- It is a legally binding international treaty that bans the use of biological and toxin weapons and prohibits all development, production, acquisition, stockpiling, or transfer of such weapons.
- The treaty also bans any equipment or means of delivery that is designed to use biological agents or toxins for hostile purposes or armed conflict.
- It requires signatories to destroy biological weapons, agents, and production facilities within nine months of the treaty's entry into force.
- It opened for signature on 10 April 1972 and entered into force on 26 March 1975.
- It was the first multilateral treaty categorically banning a class of weapon.
- Membership:
  - It currently has 187 states-parties, including Palestine, and four signatories (Egypt, Haiti, Somalia, and Syria).
  - Ten states have neither signed nor ratified the BWC (Chad, Comoros, Djibouti, Eritrea, Israel, Kiribati, Micronesia, Namibia, South Sudan, and Tuvalu).
  - India signed and ratified the BWC in 1974.
- The convention stipulates that states shall cooperate bilaterally or multilaterally to solve compliance issues.
- States may also submit complaints to the United Nations Security Council (UNSC) should they believe another state is violating the treaty.
- However, there is no implementation body of the BWC, allowing for blatant violations.
- There is a review conference every five years to review the convention's implementation, and establish confidence-building measures.

What Are Biological Weapons?

- Biological weapons disseminate disease-causing organisms or toxins to harm or kill humans, animals, or plants.
- They generally consist of two parts – a weaponized agent and a delivery mechanism.
- Almost any disease-causing organism (such as bacteria, viruses, fungi, prions, or rickettsiae) or toxin (poisons derived from animals, plants, or microorganisms, or similar substances produced synthetically) can be used in biological weapons.

GLP-1 Drugs

Recently, the World Health Organization has finally issued global guidelines on the use of popular GLP-1 drugs for weight loss.

About GLP-1 Drugs

- The Glucagon-like peptide-1 (GLP-1) or GLP-1 receptor agonists are synthetic drugs which are being used for the treatment of obesity in adults.
- These drugs are mainly injectables, though oral versions are under development.
- Examples: Two leading GLP-1 drugs are: Semaglutide and Tirzepatide (by Eli Lilly)
- Both have been introduced in India and are transforming obesity and diabetes treatment.

How Do GLP-1 Drugs Work?

- These drugs act by:
- Increasing insulin secretion when glucose is high.
- Inhibiting glucagon release, reducing liver glucose output.
- Slowing gastric emptying, preventing sudden spikes in blood sugar.
- Suppressing appetite, making the person feel full sooner.

Key Facts about Glucagon-like peptide-1

- GLP-1 is both an incretin hormone and a neurotransmitter.
- It is a naturally occurring gut hormone (incretin) released after food intake.
- It is secreted from the small intestine and from the hindbrain after we eat a meal.
- It travels to the pancreas, where it helps to regulate our blood sugar by increasing insulin and decreasing glucagon.
- It works for just a few minutes, so after you eat a meal and GLP-1 is secreted naturally, it gives an immediate effect that lasts maybe 30 minutes.
- GLP-1 also has beneficial effects in many organs, such as the kidney, liver, and cardiovascular system.

INS Aridhaman

Recently, the Indian Navy's Chief Admiral said that India will soon induct its third nuclear-powered ballistic missile submarine (SSBN), INS Aridhaman.

About INS Aridhaman

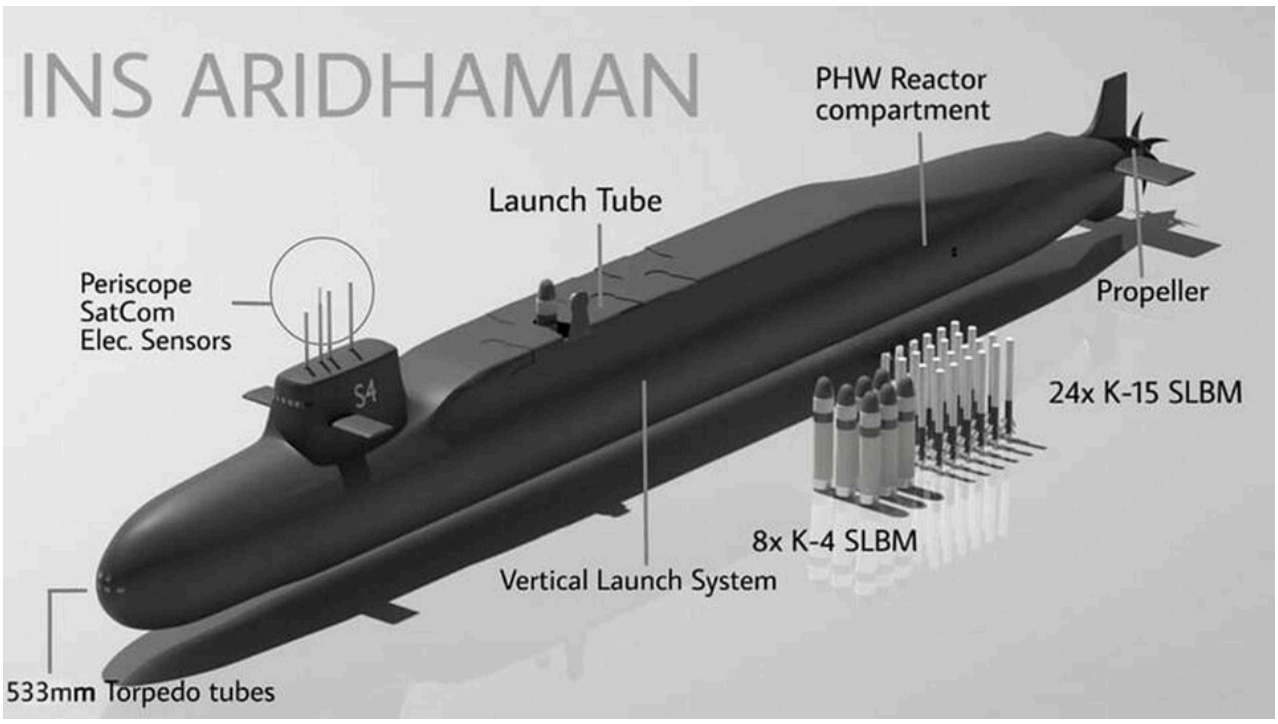
- It is India's third indigenously built nuclear-powered ballistic missile submarine.
- It is the second submarine in the Arihant class.
- It is being built under the Advanced Technology Vessel (ATV) project to build nuclear submarines at the Ship Building Centre in Visakhapatnam.

Features of INS Aridhaman

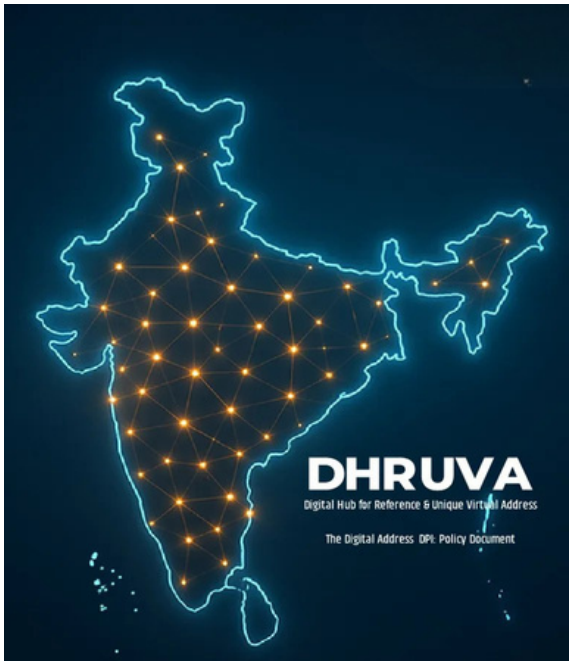
- Displacement Capacity: It can displace 6,000 tonnes on the surface and 7,000 tonnes submerged.
- It consists of an 83 MW pressurized water reactor supplied by the Bhabha Atomic Research Centre.
- Armaments
  - It has four launch tubes capable of deploying up to 24 K-15 Sagarika submarine each with a 750 km range or
  - Longer-range K-4 missiles extending to 3,500 km for intercontinental strikes.
- It also has anechoic tiles for acoustic damping and advanced sonar suites enhancing its survivability against detection.

History of India's Nuclear Submarine

- INS Arihant was the first vessel under the SSBN project.
- INS Arihant is India's first home-made nuclear submarine. It was launched in July 2009 and was quietly commissioned in 2016.
- The Navy commissioned its second indigenous SSBN, INS Arighaat, in August 2024.



Digital Hub for Reference and Unique Virtual Address



The Department of Posts recently released a draft amendment to the Post Office Act, 2023, aimed at introducing an interoperable, standardised, and user-centric addressing system called the Digital Hub for Reference and Unique Virtual Address, or DHRUVA.

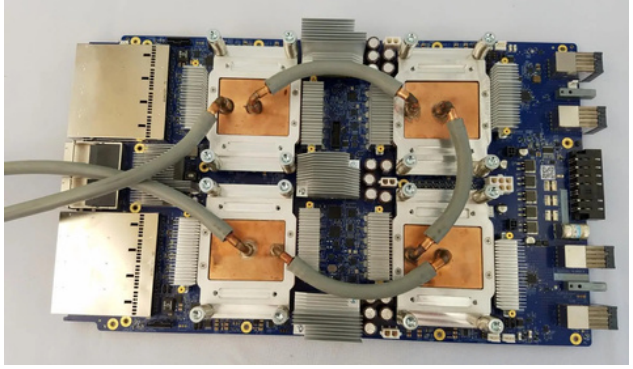
About Digital Hub for Reference and Unique Virtual Address (DHRUVA)

- Developed by the Department of Posts, DHRUVA sets the foundation for a nationwide Digital Address Digital Public Infrastructure (DPI).
- It envisions a standardized, interoperable, and geocoded digital addressing system that supports secure, consent-based, and seamless sharing of address information.
- At its core is the concept of Address-as-a-Service (AaaS) — the array of services associated with address data management to support secure and efficient interactions between users, government entities, and private sector organizations.
- The AaaS Framework Ensures:
  - Interoperability across different address systems used by various sectors.
  - Standardization of address formats and geolocation tagging.
  - Consent-based sharing to empower user control and privacy.
  - Public-private integration for seamless adoption and innovation.
- By recognizing digital addresses as core infrastructure, akin to Aadhaar and Unified Payments Interface (UPI), DHRUVA sets out to streamline everything from e-governance and online commerce to urban planning and emergency services.
- The policy also places emphasis on user-centric design, ensuring that citizens have meaningful control over how their address data is used and shared.
- Citizens will retain full control over their digital address identity, with options to manage access, update details, and share their verified address securely for various use cases.
- The DHRUVA platform will also feature multilingual support, mobile-first access, and integration with identity systems like Aadhaar, thereby improving usability and accessibility for all demographics.
- The DHRUVA policy builds upon the earlier launch of the Digital Postal Index Number (DIGIPIN)—the National Addressing Grid introduced by the Department of Posts.

Key Facts about DIGIPIN

- It is an open-source nationwide geo-coded addressing system developed by the Department of Posts in collaboration with IIT Hyderabad and NRSC, ISRO.
- It divides India into approx. 4m x 4m grids and assigns each grid a unique 10-character alphanumeric code based on latitude and longitude coordinates.
- The DIGIPIN system is publicly accessible and supports improvements in emergency response, logistics efficiency, and citizen service delivery.

Tensor Processing Unit



According to reports, Meta is in advanced talks with Google to use its Tensor Processing Units (TPUs).

About Tensor Processing Unit

- A TPU is a specialized chip designed to accelerate AI and machine learning (ML) tasks.
- Unlike traditional computer processors (CPUs) or graphics processing units (GPUs), TPUs are specifically built to handle the complex calculations required for deep learning models.
- TPUs were developed by Google in 2016 to improve the performance of their AI applications, such as Google Search, Google Translate, and Google Photos.
- Since then, TPUs have become a key component in AI infrastructure and are widely used in data centers and cloud computing.
- How Do TPUs Work?
  - AI models rely on a type of mathematical operation called tensor computation.
  - A tensor is a multi-dimensional array of numbers, similar to a table of data.
  - Deep learning models use these tensors to process large amounts of information and make predictions.
  - TPUs are optimized for tensor computations, allowing them to process large datasets much faster than CPUs or GPUs.
  - They achieve this through:
    - Massive parallelism: TPUs can perform many calculations at once, making them highly efficient.
    - Low power consumption: Compared to GPUs, TPUs use less energy while delivering high performance.
    - Specialized circuits: TPUs have circuits specifically designed for AI workloads, reducing the need for unnecessary computations.
- While CPUs are great for general tasks and GPUs are an excellent choice for gaming and AI, TPUs are specifically designed to make AI models work faster and more efficiently.

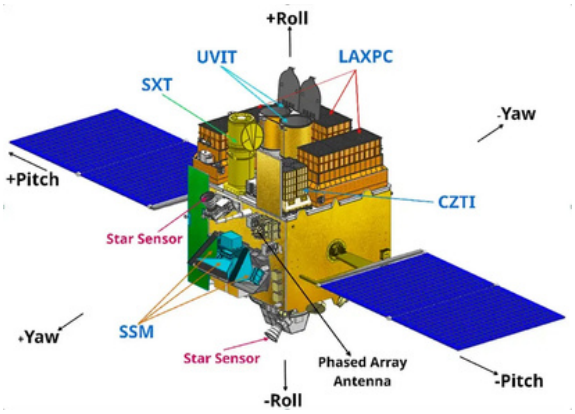
Centre for Chronic Disease Control

A new study by the Centre for Chronic Disease Control (CCDC) for the first time concurrently estimated the daily salt and iodine consumption levels of the adult population in India and examined the effect of the World Health Organization (WHO) recommended salt intake levels on iodine levels.

About Centre for Chronic Disease Control

- Established in 2000, CCDC is an independent, not-for-profit, biomedical research organization based in New Delhi.
- It aims to reduce the burden of chronic diseases in India and low- and middle-income countries through surveillance, capacity building, and translational research in cardio-metabolic diseases.
- It is a Scientific & Industrial Research Organization recognized by the Department of Scientific & Industrial Research, Ministry of Science and Technology, Government of India.
- It has been designated as a WHO Collaborating Centre for Surveillance, Capacity Building, and Translational Research in Cardio-Metabolic Diseases.
- Recently, CCDC received the recognition of a collaborating Centre of Excellence (CoE) by the Indian Council of Medical Research.
- It also holds registration under the Foreign Contribution (Regulation) Act, 1976.
- CCDC undertakes clinical research with special emphasis on chronic non-communicable diseases (NCD).
    - Within the spectrum of chronic diseases, CCDC's main focus areas are: cardiology, diabetes and metabolic disease, vascular diseases, cancers, and mental health.
- In addition, basic science research in diet/nutrition and cardiac biochemistry are also carried out.

AstroSat



Recently, the Indian Institute of Astrophysics (IIA) celebrated a decade of successful operation of the UltraViolet Imaging Telescope (UVIT) on AstroSat.

About AstroSat

- It is the first dedicated Indian astronomy mission aimed at studying celestial sources in X-ray, optical and UV spectral bands simultaneously.
- The payloads cover the energy bands of Ultraviolet (Near and Far), limited optical and X-ray regime (0.3 keV to 100keV).
- It enables the simultaneous multi-wavelength observations of various astronomical objects with a single satellite.
- Payloads of Astrosat: Ultra Violet Imaging Telescope (UVIT), Large Area X-ray Proportional Counter (LAXPC), Cadmium–Zinc–Telluride Imager (CZTI), Soft X-ray Telescope (SXT) and Scanning Sky Monitor (SSM).
    - UVIT consists of two telescopes: one dedicated to near-ultraviolet and visible wavelengths, and the other to far-ultraviolet observations.
- The spacecraft control centre at Mission Operations Complex (MOX) of ISRO Telemetry, Tracking and Command Network (ISTRAC), Bengaluru manages the satellite during its entire mission life.

Objectives of AstroSat

- To understand high energy processes in binary star systems containing neutron stars and black holes.
- Estimate magnetic fields of neutron stars.
- Study star birth regions and high energy processes in star systems lying beyond our galaxy.
- Detect new briefly bright X-ray sources in the sky.
- Perform a limited deep field survey of the Universe in the Ultraviolet region.

National Intelligence Grid

Recently, officials said that the National Intelligence Grid (NATGRID) is slowly gathering pace and receiving 45k requests a month.

About National Intelligence Grid

- It is a platform for the police and investigating agencies to securely access government and private databases in real time.
- It is conceptualised as a seamless and secure database for information on terrorists, economic crimes and similar incidents to help bolster India's capabilities.
- Background
  - The project was started in 2009 in the aftermath of the 26/11 Mumbai terror attacks.
  - NATGRID was set up as an attached Office of the Ministry of Home Affairs with effect from December 1, 2010.
  - It started its operations on December 31, 2020.
- NATGRID database is available to
  - Intelligence Bureau (IB), the Research and Analysis Wing (R&AW), the National Investigation Agency (NIA), the Enforcement Directorate (ED), the Financial Intelligence Unit (FIU), the Narcotics Control Bureau (NCB) and the Directorate of Revenue Intelligence (DRI).
  - Superintendent of Police (SP) rank officers.

Operation of National Intelligence Grid

- It has been mandated to maintain a repository of intelligence databases.
- It works as an integrated intelligence grid that connects databases of core security agencies of the government of India.
- It will have data related to all immigration entry and exit, banking and financial transactions, credit card purchases, telecom, individual taxpayers, air flyers, train travellers besides others to generate intelligence inputs.
- It will utilise Big Data and Analytics to study huge amounts of data generated to analyse events in order to get a better picture as well as to trail suspects.

India International Science Festival

The 11th edition of India International Science Festival is being held in Panchkula, Haryana.

About India International Science Festival

- It was launched in 2015.
- IISF aims to bring together people and the scientific community both nationally and internationally to collaborate, interact, and experience the joy of doing science for the wellbeing of India and humanity, guided by the spirit of swadeshi.
- Mission of IISF: Bridging traditional knowledge systems with modern scientific research thereby strengthening the link between India's indigenous knowledge heritage and contemporary scientific inquiry.

Key Facts about India International Science Festival 2025

- It is organised by the Ministry of Earth Sciences (MoES) and coordinated by Indian Institute of Tropical Meteorology (IITM) Pune.
- The theme of India International Science Festival (IISF) 2025: "Vigyan Se Samruddhi: for Aatmanirbhar Bharat".
- The event will feature more than 150 technical and thematic sessions across science, technology and innovation.
- IISF 2025 will focus on five broad themes
  - Science, Technology and Ecology of North-West India and the Himalayan Region;
  - Science for Society and Education;
  - Atmanirbhar Bharat through Science and Technology;
  - Biotechnology and Bio-economy; and
  - Integration of Traditional Knowledge with Modern Science.

C-130J Super Hercules

A new defence Maintenance, Repair, and Overhaul (MRO) facility to support the C-130J Super Hercules aircraft will be established in Bengaluru.

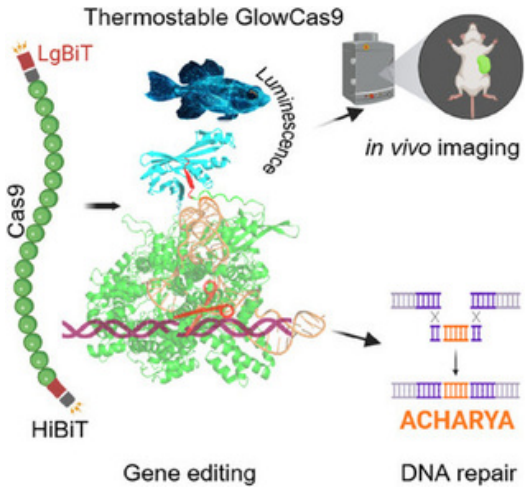
About C-130J Super Hercules

- It is a four-engine turboprop military transport aircraft.
- It was developed by Lockheed Martin, a US security and aerospace company.
- It is the US Air Force's principal tactical cargo and personnel transport aircraft.
- It is the current variant of the C-130 Hercules and is the airlifter of choice for 26 operators in 22 nations.
- The largest operators are the US Air Force, US Marine Corps, Australia, Canada, India, Italy, and the United Kingdom.
- The Indian Air Force (IAF) currently operates 12 C-130J Super Hercules.

C-130J Super Hercules Features

- The aircraft is capable of operating from rough, dirt strips and is the prime transport for airdropping troops and equipment into hostile areas.
- It has reduced crew requirements. A minimal crew of three men is required to operate this aircraft, including two pilots and one loadmaster.
- It is powered by four Rolls-Royce AE 2100D3 turboprop engines.
- It has digital avionics, including Head-Up Display (HUD) for each pilot.
- Range: 6,852 km (no payload)
- Speed: 644 km/hr
- Endurance: 20+ hours
- It is capable of short takeoffs and landings from unprepared runways.
- It has a payload capacity of 19 tons.
- It can accommodate a wide variety of oversized cargo, including everything from utility helicopters and six-wheeled armored vehicles to standard palletized cargo and military personnel.
- Equipped with an Infrared Detection Set, the aircraft can perform precision low-level flying, airdrops, and landing in blackout conditions.

GlowCas9 Protein



Recently, scientists from Kolkata based Bose institute have created GlowCas9 protein which can track gene editing.

About GlowCas9 Protein

- It is a CRISPR protein that lights up while performing gene editing.
- It is a bioluminescent version of Cas9 that glows inside cells.
- Structure: GlowCas9 is created by fusing Cas9 with a split nano-luciferase enzyme derived from deep-sea shrimp proteins.

Properties of GlowCas9 Protein

- The GlowCas9 is very stable and maintains its structure and activity at higher temperatures compared to the conventional enzyme.
- It glows inside cells, allowing for real-time monitoring of CRISPR operations

Working of GlowCas9 Protein

- The split nano-luciferase enzyme pieces reconnect when Cas9 folds correctly, producing light
- This glowing activity allows scientists to monitor CRISPR operations in living cells, tissues, and even plant leaves—without harming them.

Benefits of GlowCas9 Protein

- It can also increase the precision of homology-directed repair (HDR).
- Homology-Directed Repair (HDR) is a DNA repair process crucial for fixing hereditary mutations that are linked to genetic diseases like sickle cell anaemia, muscular dystrophy and so on.
- GlowCas9 pioneers the emerging field of theratracking or visualizing molecular gene therapy in motion.

Agentic AI

Satya Nadella, Chairman and CEO of Microsoft, recently observed that India is witnessing strong momentum in the deployment of AI and agentic AI applications.

About Agentic AI

- Agentic AI is an advanced form of artificial intelligence focused on autonomous decision-making and action.
- It consists of AI agents—machine learning models that mimic human decision-making to solve problems in real time.
- Unlike traditional AI, which primarily responds to commands or analyzes data, agentic AI can set goals, plan, and execute tasks with minimal human intervention.
- "Agentic" indicates agency — the ability of these systems to act independently, but in a goal-driven manner.
- At its core, this technology is built on several key components:
  - Perception: Agentic AI starts by gathering information from its surroundings and different sources, such as sensors, databases, and user interfaces.
  - Reasoning: Using a large language model (LLM), agentic AI analyzes the gathered data to understand the context, identify relevant information, and formulate potential solutions.
  - Planning: The AI then uses the information it gathered to develop a plan. This involves setting goals, breaking them down into smaller steps, and figuring out the best way to achieve them.
  - Action: Based on its plan, the AI takes action. This could involve performing tasks, making decisions, or interacting with other systems.
  - Reflection: After taking action, the AI learns from the results. It evaluates whether its actions were successful and uses this feedback to adjust its plans and actions in the future.
- Agentic AI builds on generative AI (GenAI) techniques by using large language models (LLMs) to function in dynamic environments.
- While generative models focus on creating content based on learned patterns, agentic AI extends this capability by applying generative outputs toward specific goals.
- For example, a generative AI model like OpenAI's ChatGPT might produce text, images, or code, but an agentic AI system can use that generated content to complete complex tasks autonomously by calling external tools.

Gonorrhoea

The U.S. Food and Drug Administration (FDA) recently granted approval for two new oral medicines, Nuzolvence (zoliflodacin) and Blujepa (gepotidacin), to treat gonorrhoea, a common sexually transmitted infection, prone to resistance against drugs.

About Gonorrhoea

- It is a preventable and curable sexually transmitted infection (STI) caused by the bacteria Neisseria gonorrhea.
- It's also sometimes called "the clap" or "drip."
- Gonorrhea bacteria can infect the urethra, rectum, female reproductive tract, mouth, throat, or eyes.
- Transmission:
  - It is most commonly spread during vaginal, oral or anal sexual activity.
  - But babies can get the infection during childbirth.
- In babies, gonorrhea most commonly affects the eyes.
- Gonorrhea can affect people of any age, anatomy, or gender, but it's particularly common among teens and young adults between the ages of 15 and 24.
- Symptoms:
  - Many people with gonorrhoea won't notice any symptoms. If you do get symptoms, it's usually between 1 to 14 days after getting the infection.
  - Men are more likely to experience symptoms. Up to 50% of women won't experience symptoms.
  - Gonorrhoea can cause a sore throat, conjunctivitis, unusual vaginal or penile discharge, and pelvic and genital pain.
- Untreated gonorrhoea can cause:
  - infections affecting the skin, joints, heart (endocarditis), and brain (meningitis)
  - infertility in both females and males
  - pelvic inflammatory disease (PID)
  - epididymitis and prostatitis (inflammation of your prostate)
  - Some of these complications can cause permanent damage to your health.
- Prevention: It can be prevented by practicing safe sex.
- Treatment:
- Gonorrhoea is treatable and curable with antibiotics.
- Antimicrobial resistance to gonorrhoea is a serious and growing problem, rendering many classes of antibiotics ineffective with the risk of becoming untreatable.

Bluebird 6 Satellite

The Indian Space Research Organisation (ISRO) is scheduled to launch the US-based commercial BlueBird-6 satellite developed by US-based AST Spacemobile on 21st December 2025 using ISRO's LVM-3 rocket.

About Bluebird 6 Satellite

- Purpose: Designed to provide direct-to-device internet connectivity, enabling mobile phones to access broadband without relying on traditional cell towers.
- Origin: Developed by the US-based commercial company AST SpaceMobile for global mobile coverage.
- Weight and Size: Weighs around 6.5 tonnes, making it one of the heaviest satellites launched by ISRO.
- Orbit Type: Will operate in low-Earth orbit (LEO) to cover large regions of the Earth efficiently.
- Technology: Features one of the largest phased array antennas ever flown, which covers nearly 2,400 square feet, allowing it to communicate directly with standard mobile phones.
- Significance: It enhances global mobile broadband connectivity, especially in remote and rural areas.
- Collaboration: Represents a significant step in Indo-US space cooperation and commercial space ventures.
- Future Impact: Expected to help bridge the digital divide, providing internet access to regions without cellular infrastructure.

About LVM-3

- LVM-3, also known as GSLV Mk III or "Bahubali", is a heavy-lift launch vehicle developed by ISRO.
- It is designed to carry large satellites into space and support human spaceflight missions.
- The rocket is approximately 43.43 meters tall and has a lift-off mass of around 640 tonnes, making it India's heaviest launch vehicle.
- It can carry up to 4 tonnes to Geostationary Transfer Orbit (GTO) and 10 tonnes to Low Earth Orbit (LEO).
- It is a three-stage rocket: two solid rocket boosters (S200), a liquid core stage (L110), and a cryogenic upper stage (C25).
- It has been used for heavier communication satellites, interplanetary missions, and India's Gaganyaan human spaceflight project.
- Its first successful experimental flight was in December 2014, and it is known for its reliability and heavy payload capability.

history

Hornbill Festival

Recently, the 26th edition of Nagaland's iconic Hornbill Festival kicked off with great enthusiasm.

About Hornbill Festival

- It was first organized in the year 2000.
- It aims to promote inter-tribal interaction and preserve Nagaland's heritage, blending the traditional with the contemporary in a harmonious display of unity.
- It is also called the festival of festivals and is held every year.
- Organised by: It is organized by the State Tourism and Art & Culture Departments of the Government of Nagaland.
- It is celebrated at Naga Heritage Village, Kisama which is about 12 km from Kohima in Nagaland.
- It has evolved into a celebration showcasing the diverse and vibrant cultural and traditional heritage of the tribes of Nagaland.
- It was named after the Hornbill bird given its association with the socio-cultural life of the Nagas.
- Theme of 2025 festival: Cultural Connect
- This year Nagaland has officially named Switzerland and Ireland as country partners for the Hornbill Festival 2025.

Deepavali

Recently, Deepavali has been inscribed on UNESCO's List of the Intangible Cultural Heritage of Humanity.

About Deepavali

- Deepavali, also known as Diwali, is the festival of lights celebrated across India.
- 'Deepa' means lamp or light and'Vali' means string or row, and Deepavali means rows of lights.
- It is celebrated on Kartik Amaavasya, which typically falls in October or November.
- The fundamental philosophy of Deepavali encompasses the celebration of prosperity, renewal, and abundance for all individuals.
- It is added as the 16th Indian element on UNESCO's List of the Intangible Cultural Heritage of Humanity.

Celebration of Deepavali

- It begins with Dhanteras, a day of auspicious beginnings when families buy new metalware or essentials that symbolise prosperity.
- The second day marks Naraka Chaturdashi, observed with rituals and lighting lamps to dispel negativity and welcome positive energy.
- The third day is the highlight of Deepavali- the sacred Lakshmi-Ganesha Puja.
- On the fourth day, families and friends visit one another, exchange gifts, and reconnect, strengthening their bonds and shared happiness.
- The celebrations conclude with Bhai Dooj, a heartfelt tribute to the bond between brothers and sisters, observed with prayers, blessings, and meaningful rituals.

Uchi Pillaiyar Temple

The Tamil Nadu government recently informed the Madurai Bench of the Madras High Court that the deepam (lamp) was lit at the Uchipillaiyar temple mandapam in Thirupparankundram hill during Karthigai Deepam this year too as it was done for over the last 150 years.

About Uchi Pillaiyar Temple

- The Uchi Pillaiyar Temple, also known as Rockfort Temple, is located at the top of Rockfort Hill, Trichy, in Tamil Nadu.
- It is a 7th-century-CE Hindu temple, dedicated to Lord Ganesha.
- The temple stands 83 metres (272 ft) tall, perched atop a rock.
  - Trichy Rockfort hill is made of granite that is estimated to be over 3.8 billion years old.
  - It is one of the oldest rock formations in the world.
  - In comparison, the Himalayas are much younger—they began forming only about 50 million years ago when the Indian tectonic plate collided with the Eurasian plate.
- The smooth rock was first cut by the Pallavas, but it was the Nayaks of Madurai who completed the temples under the Vijayanagara empire.
- There are three temples located closely on the rock fort:
  - Maanikka Vinayakar Temple situated at the foothill, dedicated to Lord Ganesha.
  - Uchchi Pillayar Temple at the top of the hill, dedicated to Lord Ganesha.
  - Thayumanaswamy Temple, dedicated to Lord Shiva, situated close to the base of the rockfort on the way to Uchchi
- This Rockfort Temple gives an aerial view of the entire Trichy City along with Srirangam Temple, River Kaveri, and River Kollidam.

Chenchu Tribe

The National Sanskrit University (NSU) organised a symposium, panel discussion, and exhibition recently highlighting the unique privilege the Chenchu tribal community has with the Ahobilam shrine and the deity of Lord Narasimha.

About Chenchu Tribe

- The Chenchus are a food-gathering tribe primarily residing in the Nallamalai forests of Andhra Pradesh.
- They are one of the Particularly Vulnerable Tribal Groups (PVTGs) in Andhra Pradesh.
- They are also found in Telangana, Karnataka, and Odisha.
- Language: They speak variants of Telugu, the Dravidian language of the region.
- A Chenchu village is known as "Penta".
  - Each penta consists of a few huts that are spaced apart and are grouped together based on kinship patterns.
- Small conjugal families predominate, women taking equal rank with men and marrying only upon maturity.
- "Peddamanishi" or the village elder, is generally the authority to maintain social harmony in a family or a village.
- Their rituals are few and simple; religious and political specializations are slight.
- Livelihood:
  - The Chenchu live life with exemplary simplicity. Most of them still gather food from the forest and roam in it to find things to meet their needs.
  - The bow and arrow and a small knife are all the Chenchus possess to hunt and live.
  - The Chenchus collect forest products like roots, fruits, tubers, beedi leaf, mohua flower, honey, gum, tamarind, and green leaves and make a meagre income from it by selling these to traders and government cooperatives.
  - Though at times they work as forest labourers, they mostly prefer to fall back on their native skills to hunt and gather food.
  - The Chenchus do not care much for money or material wealth.
- Religion:
  - Chenchus worship a number of deities. Chenchus have also adopted certain religious practices from Hindus.
  - For ages, the Chenchus have been associated with the famous Srisailam temple (dedicated to Lord Shiva and Devi Brahmaramba) in Andhra Pradesh, situated at the heart of Chenchu land.
  - The Chenchus enjoy special privileges at Srisailam temple.

Dandami Madia Tribe

Recently, members of the Dandami Madia tribe perform the traditional Bison Horn Maria dance during a village festival at Judiya Para in Jagdalpur.

About Dandami Madia Tribe

- Dandami Maria, also known by other names like Bison Horn Maria and Khalpati Maria.
- It is a tribal community which lives in Chhattisgarh.
- They have derived their name from their unique custom of wearing a distinctive head-gear, which resembles the horns of a wild bison.
- They generally wear that head-gear during ceremonies.
- They identify themselves as part of the larger Gond tradition.
- Language: The main distinct language spoken by this tribe is Dandami Maria. Some of them speak Gondi dialects, which is an oral language of Dravidian origins.

Society and Customs of Dandami Madia Tribe

- Economy: They live by agriculture, supplemented by hunting and fishing.
- Belief: Their belief is a combination of Hinduism with Animistic beliefs.
- Their ghotul (youth dormitory for unmarried boys and girls) is an important social institution.
- They permit divorce and widow remarriage.
- They perform the traditional Bison Horn Maria dance during a village festival. It is performed by both men and women.

Perumbidugu Mutharaiyar

Recently, a commemorative postage stamp in honour of the king Perumbidugu Mutharaiyar II (Suvaran Maran) was released by the Vice President of India.

About Perumbidugu Mutharaiyar

- Perumbidugu Mutharaiyar (705 AD-745 AD), also known as Suvaran Maran, was a ruler of the Mutharaiyar lineage.
- Suvaran Maran was also known as Shatrubhayankar.
- Perumbidugu Mutharaiyar is believed to have fought bravely in several battles alongside the Pallava king Nandivarman, and is remembered as a great administrator.
- He seems to have patronised Shaivya and other scholars, as a Jain monk Vimalachandra is mentioned as visiting his court to debate them.

Who are Mutharaiyars?

- They were the feudatories of the Pallavas.
- As the Pallavas' rule weakened, many such chiefs earned more power and prominence and were treated as rulers in their own right.
- The Mutharaiyars held sway over areas including Thanjavur, Pudukkottai, Perambalur, Tiruchirappalli, and others near the Cauvery river.
- As the feudatories of the Pallavas, the Mutharaiyars were great temple builders.
- Muttarayars were engaged in cave temple enterprises up to the opening decades of the ninth century.

other

Vande Mataram 150 Years Celebration

The Prime Minister of India will inaugurate the year-long commemoration of 150 years of the National Song "Vande Mataram" in New Delhi.

About Vande Mataram 150 Years Celebration

- "Vande Mataram," written by Bankim Chandra Chatterjee in a blend of Sanskrit and Bengali, is the National Song of India.
- It was first featured in his novel Anand Math in 1882, with its tune composed by Yadunath Bhattacharya.
- It became a symbol of patriotism during India's freedom struggle.

Historical Background of Vande Mataram

- It was initially composed independently and later included in Bankim Chandra Chatterjee's novel "Anandamath" (published in 1882).
- It was first sung by Rabindranath Tagore at the 1896 Congress Session in Calcutta.
- Vande Mataram, as a political slogan, was first used on 7 August 1905.
- In 1907, Madam Bhikaji Cama raised the tricolour flag for the first-time outside India in Stuttgart, Berlin. The words Vande Mataram were written on the flag.
- On 24 January 1950, the Constituent Assembly adopted Vande Mataram as the National Song of India.
- The National Song is held in equal reverence to the national anthem, but it is not mandatory to sing it at any given occasion.

Sanchar Saathi

The Department of Telecommunications (DoT) has made it mandatory for all newly manufactured or imported mobile phones in India to come with the Sanchar Saathi app pre-installed.

About Sanchar Saathi

- It is a security and awareness platform developed by the Department of Telecommunications (DoT).
- It is available both as an app and a web portal.
- Purpose: To help mobile users manage their digital identity, report suspicious activity, and safeguard their devices.
- The platform also provides educational material on telecom safety and cyber risks, making it a combined service-and-awareness system.

Sanchar Saathi Features

- 'Chakshu' Feature: It lets users report suspicious calls, SMS, and WhatsApp messages, such as fake KYC alerts, impersonation scams, or phishing links. It helps authorities spot fraud patterns.
- Report Spam and Unwanted Commercial Calls: Users can report spam calls and messages that break TRAI rules. Complaints made within seven days can lead to action against the sender.
- Report Malicious Links and Apps: Allows reporting of phishing links, unsafe APKs, and fraudulent websites.
- Checking Mobile Connections Linked To Your Identity: Shows how many mobile numbers are registered using your identity. Helps identify SIM cards taken without your knowledge.
- Blocking Lost or Stolen Phones: Allows users to block the IMEI of a lost or stolen device so it can't be used. Phones can be unblocked if recovered.
- Verifying The Authenticity Of A Device: Allows users to check if a phone is genuine by validating its IMEI. It is useful when buying second-hand phones.
- Reporting International Calls That Appear As Indian Numbers: Some scammers use illegal telecom setups to make international calls appear as regular +91 calls. Sanchar Saathi enables users to report such cases.
- Finding Your Local Internet Service Provider: The app also includes a feature that lets users check which wired internet service providers are available in their area by entering a PIN code, address, or provider name.
- Verifying Trusted Contacts and Helpline Numbers: Provides a directory to confirm genuine customer-care numbers, emails, and websites of banks and other major institutions.

National Centre for Polar and Ocean Research

Recently, the National Centre for Polar and Ocean Research (NCPOR) celebrated its Silver Jubilee and also released commemorative postage stamps.

About National Centre for Polar and Ocean Research

- It was established as an autonomous Research and Development Institution on the 25th May 1998.
- It was formerly known as the National Centre for Antarctic and Ocean Research (NCAOR).
- It has been at the forefront of leading India's scientific expeditions and research programmes in the Polar regions and the Southern Ocean.
- Nodal Ministry: Ministry of Earth Sciences Government of India
- Location: Vasco da Gama, Goa.

Mandate and Functions of National Centre for Polar and Ocean Research

- It is designated as the nodal organization for the co-ordination and implementation of the Indian Antarctic Programme, and executing polar expeditions in the Antarctic, Arctic, Southern Ocean, and Himalayas.
- It also works on strategically vital projects like: Mapping of Exclusive Economic Zone (EEZ), Continental shelf surveys, and the Deep Ocean Mission.
- It has established and operationalised permanent Indian research stations -- DakshinGangotri, Maitri, and Bharati in Antarctica, and Himadri in the Arctic, along with the Himalayan station Himansh.

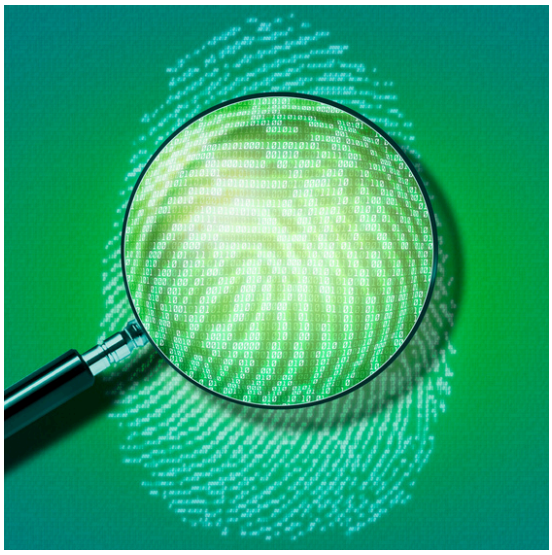
Caller Name Presentation

In the next few months, the Department of Telecommunications (DoT) will mandate telecom operators to show the KYC-registered name of all incoming callers using Indian phone numbers, a feature known as Caller Name Presentation (CNAP).

About Caller Name Presentation

- CNAP is a technology that enables mobile users to see an incoming caller's name, similar to Truecaller.
- The system retrieves the caller's name from a telecom operator's database and displays it on the recipient's phone.
- Unlike third-party apps, CNAP will rely on the official Customer Application Form (CAF) details provided during SIM registration.
- How Will CNAP Work?
  - Each telecom provider will maintain a database of subscriber names linked to mobile numbers.
  - When a call is made, the system will fetch the caller's registered name and display it on the recipient's screen.
  - Initially, CNAP will work only within the same network, meaning an Airtel-to-Airtel call will display the caller's name, but cross-operator name display, such as Jio-to-Vodafone, will require regulatory approval for data sharing between telecom providers.
- In February 2024, the Telecom Regulatory Authority of India (TRAI) recommended the adoption of CNAP for all smartphones, urging telecom operators to introduce the feature.
  - The aim is to reduce customer harassment from unknown or spam callers.

National Forensic Infrastructure Enhancement Scheme



Recently, the Minister of State in the Ministry of Home Affairs informed the Rajya Sabha about the National Forensic Infrastructure Enhancement Scheme.

About National Forensic Infrastructure Enhancement Scheme

- It is a Central Sector Scheme launched in 2024.
- Aim: The aim of the scheme is to help create a sound forensic laboratory infrastructure and prepare world class trained forensic professionals in the country.
- Nodal Ministry: Ministry of Home Affairs.
- Implementation Period: 2024–25 to 2028–29.

Components of National Forensic Infrastructure Enhancement Scheme

- Establishment of campuses of the National Forensic Sciences University (NFSU) in the country.
- Establishment of Central Forensic Science Laboratories (CFSLs) in the country.
- Enhancement of existing infrastructure of the Delhi Campus of the NFSU.

What is the NFIES?

- With the enactment of the New Criminal Laws, which mandates forensic investigation for offences involving punishment of 7 years or more, there is significant increase in workload.
- An increase in the workload of forensic science laboratories is expected.
- To address the significant shortage of trained forensic manpower in the Forensic Science Laboratories (FSL) in the country.
- To alleviate the case load / pendency of forensic laboratories, and align with the Government of India's goal of securing a high conviction rate of more than 90%.

Director General of Civil Aviation

Recently, the Directorate General of Civil Aviation (DGCA) granted the Indigo airline a temporary one-time exemption from some Flight Duty Time Limitation (FDTL) norms for pilots.

About Director General of Civil Aviation (DGCA)

- It is the regulatory body in the field of civil aviation primarily dealing with safety issues.
- It is an attached office of the Ministry of Civil Aviation.
- It is responsible for regulation of air transport services to/from/within India and for enforcement of civil air regulations, air safety and airworthiness standards.
- It also coordinates all regulatory functions with the International Civil Aviation Organisation.
- Headquarters: New Delhi

Functions and Responsibilities of the Director General of Civil Aviation (DGCA)

- One of the main functions of the DGCA is to ensure the safety of passengers and crew members on all flights operating in India.
- It conducts regular safety inspections of all airlines and aircraft to meet the required safety standards.
- It also investigates any incidents or accidents that occur within the Indian airspace.
- It plays a crucial role in developing new airports and modernizing existing facilities to ensure that they can meet the growing demands of the aviation industry.
- It is responsible for the regulation of air traffic in India. It works closely with the Airports Authority of India (AAI) to ensure air traffic is managed safely and efficiently.
- The DGCA also plays a key role in developing new air traffic control systems and technologies to improve the overall efficiency of Indian airspace.
- It is also responsible for issuing licenses and certificates to pilots, aircraft maintenance engineers, and other aviation personnel.

Bankim Chandra Chattopadhyay

The family of Bankim Chandra Chattopadhyay, the writer and composer of 'Vande Mataram', recently hailed the Prime Minister's gesture to mark the 150 years of the country's national song.

About Bankim Chandra Chattopadhyay

- Bankim Chandra Chattopadhyay, also known as Bankim Chandra Chatterjee, was one of the greatest novelists and poets of India.
- He is famous as the author of Vande Mataram, the national song of India.
- He was born on June 27, 1838, in the village of Kantalpara in the 24 Paraganas District of Bengal.
- Born into the family of a government official under the British rule of India, he was one of the first two graduates of the University of Calcutta and later obtained a degree in law.
- He began his literary career as a writer of verse. He then turned to fiction.
- Durgeshnandini, his first Bengali romance, was published in 1865.
- His famous novels include Kapalkundala (1866), Mrinalini (1869), Vishbriksha (1873), Chandrasekhar (1877), Rajani (1877), Rajsimha (1881), and Devi Chaudhurani (1884).
- Bankim Chandra Chatterjee's most famous novel was Anand Math (1882).
  - It was set in the background of the Sannyasi Rebellion in the late 18th century.
  - Anand Math contained the song "Vande Mataram", which was later adopted as the national song.
    - The patriotic song was written in Sanskrit.
    - In the year 1896, Gurudev Rabindranath Tagore sang this melodic poem for the first time at the Kolkata session of the Indian National Congress.
    - It was officially adopted as the national song by the Constituent Assembly of India on 24th January 1950.
- Bankim Chandra Chattopadhyay passed away on April 8, 1894.
- As a distinguished novelist, poet, and essayist, his contributions significantly influenced the development of modern Bengali prose and the articulation of an emerging Indian nationalism.
- He is often regarded as the "Sahitya Samrat" (Emperor of Literature) in Bengali literature.

NewSpace India Limited

As on date, M/s. NewSpace India Limited (NSIL) has signed 70 Technology Transfer Agreements to transfer technologies developed at ISRO to Industry.

About NewSpace India Limited

- NSIL, incorporated on 6 March 2019 (under the Companies Act, 2013) is a wholly owned Government of India company, under the administrative control of Department of Space (DOS).
- It is the commercial arm of Indian Space Research Organisation (ISRO).
- Primary Responsibility:
  - Enabling Indian industries to take up high technology space related activities.
  - Promotion and commercial exploitation of the products and services emanating from the Indian space programme.
- The major business areas of NSIL include:
  - Production of Polar Satellite Launch Vehicle (PSLV) and Small Satellite Launch Vehicle (SSLV) through industry.
  - Production and marketing of space-based services, including launch services and space-based applications like transponder leasing, remote sensing and mission support services.
  - Building of Satellites (both Communication and Earth Observation) as per user requirements.
  - Transfer of technology developed by ISRO centres/units and constituent institutions of the Dept. of Space.
  - Marketing spinoff technologies and products/services emanating out of ISRO activities.
  - Consultancy services.

‘Your Money, Your Right’ Movement

The Prime Minister recently called upon citizens to take part in the ‘Your Money, Your Right’ movement.

About ‘Your Money, Your Right’ Movement

- It was launched by the central government in October 2025.
- It is an initiative aimed at enabling people to reclaim their unclaimed deposits, insurance proceeds, dividends, and other financial assets.
- The effort brings together government agencies, regulators, banks, and financial institutions to identify and return long-forgotten funds.
  - Indian banks are holding Rs 78,000 crore of unclaimed money belonging to our own citizens.
  - Insurance companies have nearly Rs 14,000 crore lying unclaimed.
  - Mutual fund companies have around Rs 3,000 crore, and dividends worth Rs 9,000 crore are also unclaimed.
- The deposits in accounts which are not operated for a period of 10 years are classified as unclaimed deposits.
- Under the initiative, individuals need to verify if their close family members or relatives have unclaimed deposits, insurance proceeds, mutual-fund payouts, or dividends.
- To facilitate this, the government has created dedicated portals as follows:
  - Reserve Bank of India (RBI): UDGAM Portal for unclaimed bank deposits & balances.
  - Insurance Regulatory and Development Authority of India (IRDAI): Bima Bharosa Portal for unclaimed insurance policy proceeds.
  - Securities and Exchange Board of India (SEBI): MITRA Portal for unclaimed amounts in mutual funds.
  - Ministry of Corporate Affairs: IEPFA Portal for unpaid dividends and unclaimed shares.
- Facilitation camps are being organised in districts across both rural and urban regions of the country.
  - During the camps, the citizens will be provided on-the-spot guidance on how to search for their unclaimed assets, update records, and complete claim procedures.
  - Digital tools and step-by-step demonstrations will also be showcased.
- On the national level, the campaign is coordinated by the Department of Financial Services (DFS), Ministry of Finance.