

CURRENT PULSE

AUGUST-28-2025 TO SEPTEMBER-3-2025



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PREPARATION

CHANAKYA IAS ACADEMY
SECTOR 25 CHANDIGARH

WE HAVE COMPILED THIS MAGZINE FROM ONLINE SITES AND NEWSPAPERS

Foreigners Tribunal

The Union Ministry of Home Affairs (MHA) has given Foreigners Tribunals (FT), so far unique to Assam, the powers of a first class judicial magistrate.



About Foreigners Tribunal

- These are quasi-judicial bodies formed through the Foreigners (Tribunals) Order of 1964 under Section 3 of the Foreigners' Act of 1946, to let local authorities in a State refer a person suspected to be a foreigner to tribunals.
- Are FTs meant only for Assam?
- The Foreigners (Tribunals) Order, 1964, applies to the whole of India, yet FTs exist only in Assam as of now.
- In other states, if any illegal immigrant is found, he is produced before a local court and dealt with as per the Foreigners Act, 1946.
- Prior to the 2019 amendment to the Foreigners (Tribunals) Order, 1964, only the Centre was empowered to establish FTs in states, but after this amendment, the power has been granted to states as well.
- Composition: Each FT is headed by a member drawn from judges, advocates, and civil servants with judicial experience.
- Powers: According to the 1964 order, an FT has the powers of a civil court in certain matters, such as summoning and enforcing the attendance of any person and examining him or her on oath and requiring the production of any document.

Foreigners Tribunal Functioning

- A tribunal is required to serve a notice in English or the official language of the State to a person alleged to be a foreigner within 10 days of receiving the reference from the authority concerned.
- Such a person has 10 days to reply to the notice and another 10 days to produce evidence in support of his or her case.
- An FT has to dispose of a case within 60 days of reference.
- If the person fails to provide any proof of citizenship, the FT can send him or her to a detention centre, now called transit camp, for deportation later.

Immigration and Foreigners Order, 2025:

- The order is part of recently passed Immigration and Foreigners Act, 2025. This order replaces the Foreigners (Tribunal) Order, 1964.
- It allows FTs to issue arrest warrants and detain individuals who can't prove they're not foreigners. This was previously done through executive orders.
- It empowers FTs to issue arrest warrants if a person whose nationality is disputed fails to appear in person.
- FTs "shall have the powers of a civil court while trying a suit under the Code of Civil Procedure, 1908 (5 of 1908), and the powers of a judicial magistrate of the first class under the Bharatiya Nagarik Suraksha Sahita, 2023, (46 of 2023) in matters including-
- summoning and enforcing the attendance of any person and examining him on oath;
- requiring the discovery and production of any document;
- issuing commissions for the examination of any witness;
- directing the proceedee to appear before it in person;
- issuing a warrant of arrest against the proceedee, if he fails to appear before it."

Export Promotion Mission



The government is considering support measures worth about Rs 25,000 crore for exporters under the Export Promotion Mission, announced in the Budget, for six financial years (2025-2031).

About Export Promotion Mission

- It is a flagship initiative announced in the Union Budget 2025-26.
- It seeks to enable broad-based, inclusive, and sustainable export growth over six years (FY 2025-31) by exploring approaches beyond conventional mechanisms to address key bottlenecks faced by Indian exporters, especially MSMEs.
- It is driven jointly by the Ministries of Commerce and Industry, the Ministry of Micro, Small and Medium Enterprises, and the Ministry of Finance to enhance export competitiveness by facilitating improved access to export credit, enabling cross-border factoring, and assisting MSMEs in addressing non-tariff barriers in global markets.
- The Department of Commerce is the lead department for the Mission.
- The mission is proposed to be implemented through two sub-schemes - Niryat Protsahan (over Rs 10,000 crore) and Niryat Disha (over Rs 14,500 crore).
- The main elements under the Niryat Protsahan scheme being considered by the government, include interest equalisation support worth over Rs 5,000 crore for six financial years (2025-2031), support for alternative trade finance instruments, a credit card for e-commerce exporters, and other financing mechanisms to bridge liquidity gaps faced by exporters.
- Similarly, under Niryat Disha, the proposed components include support for export quality compliance (about Rs 4,000 crore), overseas market development (over Rs 4,000 crore), branding, export warehousing and logistics, and capacity building to integrate more Indian enterprises into global value chains.

Equity Derivatives

SEBI has come out with a new framework for monitoring intraday positions in equity index derivatives, a move aimed at preventing risks caused by large exposures.



What are Derivatives?

- Derivatives are financial contracts that derive value from an underlying asset.
- Derivatives allow traders to bid on the direction of the underlying asset's price change without owning them.
- They allow investors to speculate on price movements, hedge against risks, or enhance portfolio returns.

About Equity Derivatives

- Equity derivatives are financial instruments whose value is derived from the movements of a stock or a stock index.
- Equity derivatives serve various purposes for investors and traders, including risk management, speculation, and portfolio optimisation.

Equity Derivative Types

- Futures Contracts: These obligate the buyer to purchase and the seller to sell an underlying equity asset at a predetermined price and future date. Equity index futures, like the BSE S&P and Nifty IT, are popular examples.
- Options: Equity options give the holder the right, but not the obligation, to buy (call option) or sell (put option) an underlying stock or index at a specified price before or on a specific expiration date.
- Swaps: Equity swaps involve exchanging cash flows based on the return of an underlying equity asset. These can be used for hedging or investment purposes.
- Forwards: Forwards are the same as futures, where the parties are obligated to perform the contract. But forwards are non-standardised, over-the-counter contracts that don't trade on the stock exchanges.

Advantages of Equity Derivatives

- Leverage: Equity derivatives typically require a smaller upfront investment compared to buying the underlying assets directly. This allows investors to control a larger position in the underlying asset with a smaller investment, magnifying potential gains (but also losses).
- Hedging against price volatility: They provide a means to protect against adverse price movements in the stock market, reducing the risk of financial losses.
- Access to premium assets: By investing in these derivatives, investors can gain exposure to high-value, unaffordable or inaccessible assets.
- Cost efficiency: Trading equity derivatives typically requires lower transaction costs than directly investing in the underlying assets, making it a cost-effective choice.
- Arbitrage opportunities: They can be utilised to exploit price discrepancies between different markets, enabling investors to profit from market inefficiencies.
- Portfolio diversification: Including these derivatives in an investment portfolio can diversify risk by adding different asset classes and strategies.
- Flexibility: They offer various strategies and contract types, allowing investors to adapt their positions based on market conditions and investment objectives.
- Liquidity: The derivatives market tends to have high liquidity, ensuring ease of buying and selling positions without significant market impact.
- Risk management: They provide tools for managing risk exposure, allowing investors to mitigate losses and protect their portfolios.
- Income generation: Through option writing or other derivative strategies, investors can generate income from their equity positions, enhancing overall returns.

India's First EMI-Based Credit Card

BharatPe and Unity Small Finance Bank (Unity Bank) recently launched the Unity Bank BharatPe Credit Card—India's first EMI-driven credit card on the RuPay network.



About India's First EMI-Based Credit Card

- **Launch:** Unity Small Finance Bank (Unity Bank) and BharatPe have jointly launched a credit card that allows customers to either pay in full or convert their spends into equated monthly instalments (EMIs). This is being introduced as India's first EMI-driven credit card on the RuPay network.
- **Partnership:** The Unity Bank BharatPe Credit Card has been developed in association with the National Payments Corporation of India (NPCI).
- **UPI Linkages:** The card can be linked to Unified Payments Interface (UPI), enabling payments at a wide range of merchants nationwide.
- **Eligibility:** The card will be available to both salaried and self-employed individuals. Applications can be made through the BharatPe app, where users can complete onboarding, KYC, and credit eligibility checks digitally before card activation.

Key Features of First EMI-Based Credit Card

- **Auto-EMI Conversion:** Purchases can be instantly split into EMIs up to 12 months, with flexible repayment options.
- **Zero Fees:** No joining, annual, or foreclosure charges—lifetime free card.
- **UPI Integration:** Linked to UPI for widespread merchant acceptance and instant payments.
- **Reward Program:** Earn flat 2% rewards on EMI transactions, redeemable through the BharatPe app.
- **Premium Benefits:** Complimentary domestic and international lounge access, and preventive health checkups.
- **Digital Onboarding:** Seamless application, KYC, and activation via the BharatPe app.

Purple Notice



Recently, the Enforcement Directorate has secured an Interpol Purple Notice on trade-based money laundering modus operandi.

About Purple Notice

- It is one of eight types published by the Interpol organization.
- Purpose: It provides member countries with information on modus operandi, objects, devices and concealment methods used by criminals.
- Unlike notices that target specific individuals (such as Red Notices), Purple Notices focus on practices and tools that pose a threat to public safety.
- Other notices of Interpol: Red, yellow, blue, Black, green, Orange, Silver Notice (pilot phase)

Key Facts about Interpol

- The International Criminal Police Organisation (Interpol) was founded in 1923
- Members: Interpol is an international police organisation made up of 196 member countries.
- It does not work under the UN. It has enjoyed a special role – that of Permanent Observer at the United Nations – since 1996.
- Headquarter: Lyon, France.

Functions of Interpol

- It is not a police force in the traditional sense—its agents are not able to arrest criminals.
- It is more of an information-sharing network, providing a way for national police forces to co-operate effectively and
- tackle international crime ranging from human trafficking and terrorism to money laundering and illegal art dealing.
- Sharing of information is done by issuing colour-coded notices in four languages – English, Spanish, French, and Arabic.
- The organization operates centralized criminal databases that contain fingerprint records, DNA samples and stolen documents.
- Source: TOI... Read more at: <https://vajiramandravi.com/current-affairs/upsc-prelims-current-affairs/2025/08/31/>

International Monetary Fund (IMF)



Recently, former Reserve Bank of India (RBI) Governor Urjit Patel has been appointed as Executive Director at the International Monetary Fund (IMF) for a three-year tenure, representing India, Bangladesh, Sri Lanka, and Bhutan at IMF headquarters in Washington, D.C.

About International Monetary Fund (IMF)

- The International Monetary Fund (IMF) is a global financial body aimed at strengthening international monetary cooperation and maintaining financial stability.
- Members: It currently has 191 member nations, with Liechtenstein joining as the newest member on October 21, 2024.
- Creation: Created in 1944 at the Bretton Woods Conference, it works through a quota system, with countries contributing funds and receiving voting power proportional to their quotas.
- Mission: The core mission of the IMF is to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty worldwide.
- Role: The IMF acts as a lender of last resort and often requires policy reforms from borrowing countries, called “structural adjustment” programs.

International Monetary Fund Governance Structure

- Board of Governors: It is the IMF’s highest decision-making authority, comprising one governor and one alternate governor from each member country. It meets annually to decide on quota revisions, Special Drawing Rights (SDR) allocations, new memberships, or expulsion of members.
- International Monetary and Financial Committee (IMFC): IMFC advises the Board of Governors on matters related to the management of the international monetary and financial system. It has 24 members drawn from the governors.
- Executive Board: They are responsible for conducting the day-to-day business and work closely with the Managing Director.

International Atomic Energy Agency (IAEA)



The head of the UN's nuclear watchdog International Atomic Energy Agency has said a team of its inspectors are "back in Iran,"

About International Atomic Energy Agency

- It is the world's leading intergovernmental organisation for scientific and technical cooperation in the nuclear field.
- The IAEA Statute was approved on 23 October 1956 and came into force on 29 July 1957.
- The IAEA is an autonomous organization within the United Nations system.
- It reports to both the United Nations General Assembly and the UN Security Council.
- Its primary goal is to ensure that nuclear energy is not diverted for weapons purposes.
- Member Countries: The agency currently has 180 member states, reflecting its wide international mandate and credibility.
- Headquarters: Vienna, Austria.

Institutional Structure of the IAEA

- General Conference: The General Conference, composed of all member states, meets annually to approve budgets and set general policy directions.
- Board of Governors: The Board of Governors, comprising 35 members, meets about five times a year to: Approve safeguards agreements, Carry out statutory functions, and Appoint the Director General.
- Secretariat: The Secretariat, led by the Director General, handles the IAEA's daily operations.

Functions of the IAEA

- The IAEA works to ensure that nuclear technology is used solely for peaceful purposes.
- It applies comprehensive nuclear safeguards, including: Monitoring, On-site inspections, Information analysis, and Other techniques to verify peaceful use.

Indian Ocean Naval Symposium



Recently, the 'Emerging Leaders Panel Discussion' under the aegis of the Indian Ocean Naval Symposium (IONS) was held at Southern Naval Command, Kochi.

About Indian Ocean Naval Symposium

- It is a voluntary initiative that seeks to increase maritime co-operation among navies of the littoral states of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues.
- It was conceived by the Indian Navy in 2008 as a forum which seeks to enhance maritime co-operation among Navies of the littoral states of the Indian Ocean Region.
- The inaugural edition of IONS was held in Feb 2008 at New Delhi, with the Indian Navy as the Chair for two years (2008 – 2010).
- There are 36 littoral in the Indian Ocean which have been geographically grouped into the following four sub-regions
 - South Asian Littorals: Bangladesh, India, Maldives, Pakistan, Seychelles, Sri Lanka and United Kingdom (British Indian Ocean Territory)
 - West Asian Littorals: Iran, Oman, Saudi Arabia and United Arab Emirates
 - East African Littorals: France (Reunion), Kenya, Mauritius, Mozambique, South Africa and Tanzania.
 - South East Asian and Australian Littorals: Australia, Indonesia, Malaysia, Myanmar, Singapore, Thailand and Timor-Leste.
 - Observers: China, Germany, Italy, Japan, Madagascar, the Netherlands, Russia and Spain.

Pong Dam



The water level breached the danger mark at Pong Dam recently.

About Pong Dam

- The Pong Dam, also known as the Beas Dam, is an earth-fill embankment dam constructed on the river Beas in the wetland of Shivalik hills in the Kangra district of Himachal Pradesh.
- The purpose of the dam is water storage for irrigation and hydroelectric power generation.
- The construction of the dam began in the year 1961 and was completed in 1974, and at that time it was known as the tallest of its type in the country.
- The raised water level thus invariably created an artificial lake called the Maharana Pratap Sagar, after the great ruler of Mewar.
- It was declared a bird sanctuary in 1983 due to its waterfowl diversity.
- Over time, the reservoir emerged as a sanctuary for migratory birds, leading to its designation as a Ramsar Wetland Site in 2002.
- It is home to several species of avifauna, some of which include Barheaded Geese, Red-neck Grebe, northern lapwing, common teal, spot-billed duck, Eurasian coot, black stork, egrets, etc.
- It is the most important fish reservoir in the foothills of the Himalayas in Himachal Pradesh.

Pong Dam Features of Dam

- The Pong Dam is a 133 m tall and 1,951 m long earth-fill embankment dam with a gravel shell.
- It is 13.72 m wide at its crest, which sits at an elevation of about 435.86 m above sea level.
- The base of the Pong Dam is about 610 m wide and has a total volume of 35,500,000 metre cube.

Swarnamukhi River

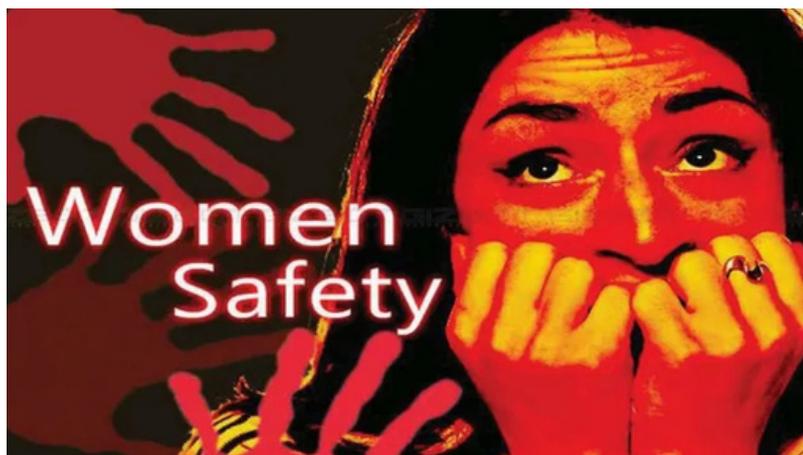


The Tirupati Urban Development Authority (TUDA) recently announced Operation SWARNA, a massive plan to rescue the River Swarnamukhi from the clutches of land grabbers, revive its flow area and rejuvenate it to ensure sustenance.

About Swarnamukhi River

- It is a river in Andhra Pradesh.
- It is an east-flowing river basin having a small catchment area of 3,225 sq.km.
- Course:
- It rises at an elevation of 300 m in the Eastern Ghat ranges near Pakala village in the Chittur district of Andhra Pradesh.
- It runs generally in the northeastern direction passing through the famous Tirupati hills before joining into the Bay of Bengal.
- Its total length is 130 km.
- It flows through the sacred regions of Tirumala and Srikalahasti, where notable Hindu temples like the Srikalahasteeswara Temple are located.
- Unlike larger river systems, the Swarnamukhi is independent, meaning it does not join or receive water from major river networks. Its flow is heavily dependent on rainfall, particularly in its upper catchment.
- The average annual rainfall in the Swarnamukhi basin decreases from 1270 mm at the eastern extremity of the basin to 762 mm at the western extremity.
- Its main tributary is the Kalyani River, across which the Kalyani Dam was constructed in 1977.

National Annual Report and Index on Women's Safety



The National Annual Report & Index on Women's Safety (NARI) 2025, released recently, has shed new light through its latest report on how safe Indian cities really are for women.

About National Annual Report and Index on Women's Safety (NARI) 2025

- Released by the National Commission for Women, NARI 2025 offers the telling reality of the urban safety landscape.
- The report, a collaborative effort by the Group of Intellectuals and Academicians (GIA), Pvalue Analytics, The NorthCap University, and Jindal Global Law School, is based on a survey of 12,770 women across 31 cities in all states.

Highlights of the National Annual Report and Index on Women's Safety (NARI) 2025

- It placed the national safety score at 65%, categorising cities as “much above”, “above”, “below” or “much below” this benchmark.
- Kohima, Visakhapatnam, Bhubaneswar, Aizawl, Gangtok, Itanagar, and Mumbai have emerged as the safest cities in the country for women, while Patna, Jaipur, Faridabad, Delhi, Kolkata, Srinagar, and Ranchi were ranked the lowest.
- Kohima and other top-ranked cities were associated with stronger gender equity, civic participation, policing, and women-friendly infrastructure.
- At the other end of the spectrum, cities like Patna and Jaipur fared poorly due to weak institutional responsiveness, patriarchal norms, and gaps in urban infrastructure.
- Overall, six in ten women surveyed felt “safe” in their city, but 40% still considered themselves “not so safe” or “unsafe”.
- Prevalence of harassment remains high, with 7% women reporting at least one incident of harassment in public spaces in 2024.
- The highest risk group is women under 24 years of age (14% reported harassment).
- Verbal harassment was most common (58%), with physical, psychological, economic, and sexual harassment reported less frequently.
- Neighborhoods (38%) and transport (29%) were the main hotspots for harassment.
- In terms of response, 28% of women confronted harassers, 25% left the scene, 21% sought safety in crowds, and 20% reported to authorities.
- The study revealed sharp drops in perceptions of safety at night, particularly in public transport and recreational spaces.
- While 86% of women felt safe in educational institutions during daylight hours, safety perceptions fall sharply at night or off-campus.
- The report shows low levels of faith in the redressal mechanism.
- Only one in three victims of harassment filed a formal complaint.
- Only one in four women expressed confidence that authorities would take effective action on their safety complaints.
- A concerning 53% were unaware whether their workplaces had a Prevention of Sexual Harassment (POSH) policy in place.
- Even when incidents are reported, only 22% are formally registered, and action is taken in a mere 16% of those cases.

Gangotri Glacier



A study by IIT Indore and international collaborators reveals that the Gangotri Glacier has lost 10% of its snowmelt flow over four decades due to climate change.

About Gangotri Glacier

- It is one of the largest glaciers in the Himalayas and is the primary source of the Ganges, the largest river in India.
- It is situated in the Uttarkashi district of Uttarakhand in the Garhwal Himalayas.
- It originates at the northern slope of the Chaukhamba range of peaks.
- It is fed by snow and ice from several peaks, including Shivling, Thalay Sagar, Meru, and Bhagirathi III.
- It lies at an altitude of around 4,000 meters bordering Tibet.
- The glacier is around 30 km in length and 4 km in width.
- Popularly known as Gaumukh, the terminus of the glacier resembles a cow's mouth.
- From its snout at Gaumukh, the Bhagirathi River emerges, which later joins the Alaknanda River to form the Ganges at Devprayag.
- The Gangotri Glacier holds immense religious significance in Hinduism and is visited by thousands of pilgrims every year, who trek up to Gaumukh, the source of the Ganges.

National Disaster Management Authority



Prime Minister Narendra Modi on August 29, 2025, nominated two people as new members of the National Disaster Management Authority (NDMA) and re-nominated three existing members for three years.

About National Disaster Management Authority (NDMA)

- **Establishment:** The NDMA, established under the Disaster Management Act, 2005, is the country's apex body for disaster management and is chaired ex officio by the Prime Minister of India.
- **Objectives:** NDMA is responsible for laying down the national policies, plans, and guidelines for disaster management, coordinating and enforcing implementation of these policies, and approving plans developed by ministries, states, and other agencies to ensure integrated responses to disasters.
- **Vision:** NDMA's vision is to build a safer and disaster-resilient India through proactive, technology-driven, and sustainable strategies involving all stakeholders.

NDMA Organisation Structure

- **Composition:** The NDMA is chaired by the Prime Minister of India, assisted by a Vice-Chairperson (Cabinet Minister rank) and up to eight Members (Minister of State rank).
- **Divisions:** It operates through specialized divisions, including Policy & Plans, Mitigation, Operations, Communications & IT, Administration, and Finance.
- **Institutional Mechanism:** At the state and district levels, State Disaster Management Authorities (SDMAs) and District Disaster Management Authorities (DDMAs) function under NDMA's overall framework and guidelines.

NDMA Functions and Responsibilities

- NDMA, as the apex body, is mandated to lay down the policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters. Towards this, it has the following responsibilities:-
 - Laying down policies, approving the National Disaster Management Plan.
 - Framing guidelines for central and state authorities, integrating mitigation measures into development plans.
 - Coordinating the enforcement and implementation of disaster management policies and plans.
 - Recommending provision of funds for mitigation efforts and capacity building.
 - Supporting international disaster relief as directed by the central government.
 - Overseeing the functioning of the National Institute of Disaster Management (NIDM).
 - Training officials, conducting preparedness drills, and developing community resilience strategies.

Mira Stars

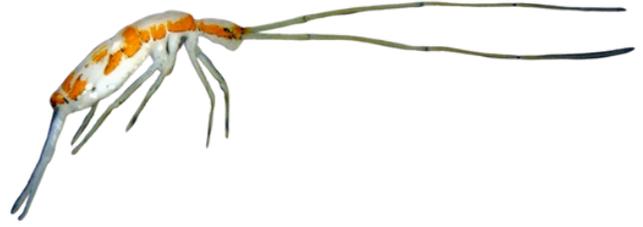
Recently, the most precise determination of the expansion rate of the universe was made using cool, giant variable stars 'Mira' by the scientists from Inter-University Centre for Astronomy and Astrophysics (IUCAA).



About Mira Stars

- Mira, also known as Omicron Ceti, is a star that remarkably changes its brightness over time, in a regular pattern.
- The name, Mira, means "the wonderful" in Latin, and it lived up to that name by becoming the prototype for an entire class of stars known as Mira variables.
- With the variability first measured by astronomers in the 17th century, Mira was the first known example of a "variable star"—a star that doesn't shine with a constant brightness.
- Mira variables are a type of giant star that go through regular cycles of expanding and contracting.
- These cycles cause their brightness to vary in a predictable way, typically over periods ranging from 100 to 1,000 days.
- These stars are relatively cool, with surface temperatures around 3,000 Kelvin (about half the temperature of the Sun's surface), and they are in the late stages of their life.
- One of the most important things about Mira variables is that there is a strong relationship between how bright they are and how long their pulsation cycles last.
- This relationship allows astronomers to use them as "standard candles."
- A standard candle is an object in space whose true brightness is known. By comparing how bright the object appears from Earth to how bright it actually is, scientists can calculate how far away it is.
- This is a key method used to measure distances in the universe, forming part of what astronomers call the "extragalactic distance ladder."

Salina Aurantiamaculata and Salina Pseudomontana



Recently, scientists at the Zoological Survey of India (ZSI) announced the discovery of two new Collembola, or springtails species -- *Salina aurantiamaculata* and *Salina pseudomontana*.

About *Salina Aurantiamaculata* and *Salina Pseudomontana*

- *Salina aurantiamaculata* is named for its striking bright orange markings – an unusual pigment pattern among its peers.
- Its counterpart, *Salina pseudomontana*, looks very similar to the already known *Salina montana*.
- Both species belong to the cosmopolitan “celebensis” group of Collembola.
- Collembola improves soil structure, aid nutrient cycling, and serves as indicators of ecosystem health. Their role, though often overlooked, is fundamental for the ecosystem.”
- The last time a *Salina* species was recorded in India was in 1979. After more than four decades, these two new additions bring the country’s tally to 17 species.

What are Collembola Springtails?

- These are among the oldest land-dwelling hexapods on Earth, dating back hundreds of millions of years.
- Habitat: They are found in leaf litter, decaying wood, and soil, they thrive quietly in habitats most of us overlook.
- Significance: Their abundance and sensitivity make them invaluable in monitoring pollution, climate change, and agricultural sustainability.
- Source: IE... Read more at: <https://vajiramandravi.com/current-affairs/upsc-prelims-current-affairs/2025/08/29/>

Dioscorea balakrishnanii

Researchers from Kerala have identified an edible tuber and named it as *Dioscorea balakrishnanii*.



About *Dioscorea balakrishnanii*

- It is an edible tuber found in the Western Ghats region of Wayanad district of Kerala.
- It is a new species of the genus *Dioscorea*.
- This yam species is locally known as 'chola kizhangu' among the Kattunayikar tribes of Wayanad. The tubers are edible when cooked and are said to have an excellent flavour
- Habitat: It is found only in the sholas of evergreen forests.
- The species holds potential as a tuber variety for food security and cultivation as a food crop with low glycemic index.
- Since there are male and female varieties, *Dioscorea balakrishnanii* was continuously observed for the last ten years and the differences in the flowers have been recorded.
- The Wayanad region of the Western Ghats is rich in unique wild tubers, relatives of the commonly cultivated tubers known as kachil or kavat (purple yam).
- These belong to the plant family Dioscoreaceae and 23 different forms of more than 14 species.
- Significance: The discovery of this new tuber is of significance for the conservation of unique ecosystems and unique wild relatives as well as food security and the medicinal sector.

Indian Rosewood



According to recent habitat modelling by the Institute of Wood Science and Technology (IWST), Bengaluru, only 17.2% of India's suitable habitat for *Dalbergia latifolia* — Indian rosewood — lies within protected areas.

About Indian Rosewood

- Indian Rosewood i.e *Dalbergia sissoo* (North Indian rosewood) is often called the “ivory of the forests,”
- Indian Rosewood is a fast-growing, hardy, deciduous crooked rosewood
- Distribution: It is native to the foothills of the Himalayas, ranging from Afghanistan in the west to Bihar, India, in the east.
- Habitat: It is primarily found growing along river banks above 200 m (700 ft) elevation, but can range naturally up to 1,400 m (4,600 ft).
- It has long, leathery leaves and whitish or pink flowers.
- Indian rosewood is prized for its rich grain, deep colour, and exceptional durability.
- It serves as both a premium timber resource for the furniture and handicraft industries and a keystone ecological species.
- It is commonly used for furniture, musical instruments, decorative items and veneers.
- Ecological Significance: Rosewood trees improve soil fertility through nitrogen fixation, support bird and insect diversity, and act as long-term carbon sinks.
- Concerns: Researchers observed that populations are dominated by mature, ageing trees with almost no regeneration in the wild. Seedlings are rare, and in many areas, entirely absent.

Conservation status of Indian Rosewood

- IUCN: Vulnerable
- CITES list: Appendix II

Blue Sea Dragon



Recently, several beaches in Spain were forced to shut down after an unusual invasion of blue sea dragons.

About Blue Sea Dragon

- The blue dragon (*Glaucus atlanticus*) is a type of mollusk known as a nudibranch.
- They also are known as blue sea slugs, blue angels, and sea swallows.
- Distribution: It can be found drifting on the surface of the Atlantic, Pacific and Indian oceans in temperate and tropical waters.
- They are hermaphrodites, meaning they have both male and female reproductive organs.

Diet of Blue Sea Dragon

- They feed on venomous siphonophores such as the Portuguese man-o-war and bluebottle, which also occur in ocean surface waters.
- When a blue sea dragon consumes its venomous prey, it doesn't just digest the toxins. Instead, through a complex biological process, it transports the stinging cells or nematocysts from its digestive system to specialised finger-like projections called cerata on its back and sides.
- They incorporate these cells into multiple finger-like structures protruding from their body which provides them with a potent form of protection from predators.
- The slug isn't venomous all on its own, however, it stores the stinging nematocysts created by the creatures on which it feeds.

How does the Blue Sea Dragon Affect Humans?

- Its sting can cause problems, especially to children and elderly.
- One sting from this little creature can lead to nausea, pain, vomiting, acute allergic contact dermatitis, and post-inflammatory hyperpigmentation.

Air Quality Life Index



AQLI Air Quality
Life Index®

Air pollution has emerged as India's most severe health threat, reducing the country's average life expectancy by 3.5 years, according to the Air Quality Life Index (AQLI) 2025 report .

About Air Quality Life Index

- It measures particulate air pollution's impact on life expectancy.
- Developed by Michael Greenstone and Energy Policy Institute (EPIC) at the University of Chicago, the AQLI quantifies pollution's effects.
- The AQLI combines research on long-term air pollution exposure with global particulate pollution measurements.
- It provides insight into the true cost of air pollution on communities worldwide.

Highlights of the Air Quality Life Index 2025 Report

- Air pollution has emerged as India's most severe health threat, reducing the country's average life expectancy by 3.5 years.
- Toxic air robs Indians of nearly twice as many years as childhood and maternal malnutrition and more than five times the impact of unsafe water, sanitation, and handwashing.
- All 1.4 billion Indians live in areas where pollution levels exceed the World Health Organization's (WHO's) safe limit of 5 $\mu\text{g}/\text{m}^3$ for PM2.5.
- The northern belt is still the world's most polluted zone, with 544.4 million people (38.9 percent of India's population) living under severe air pollution.
- Delhi-NCR is the worst hit, with residents facing a loss of 8.2 years in life expectancy (based on WHO's standard).
- Bihar: 5.6 years lost
- Haryana: 5.3 years lost
- Uttar Pradesh: 5 years lost
- Even by India's weaker PM2.5 standard of 40 $\mu\text{g}/\text{m}^3$, Delhi-NCR residents would still lose 4.74 years of life expectancy.
- Shockingly, the report notes that 46 percent of Indians live in areas that exceed even India's own PM2.5 standards.
- If pollution levels were reduced to meet this national benchmark, Indians could gain an average of 1.5 years of life expectancy.
- Meeting WHO's stricter 5 $\mu\text{g}/\text{m}^3$ guideline could add up to 9.4 months even in cleaner regions.
- The AQLI report underlines that South Asia is the most polluted region globally, with PM2.5 concentrations rising 2.8 percent in 2023 after a brief dip in 2022.
- Air pollution:
 - Cuts 3 years off average life expectancy across the region.
 - Reduces life by more than 8 years in the most affected zones

Burmese Pythons



Authorities in Florida have turned to robot rabbits for help to control the population of Burmese pythons.

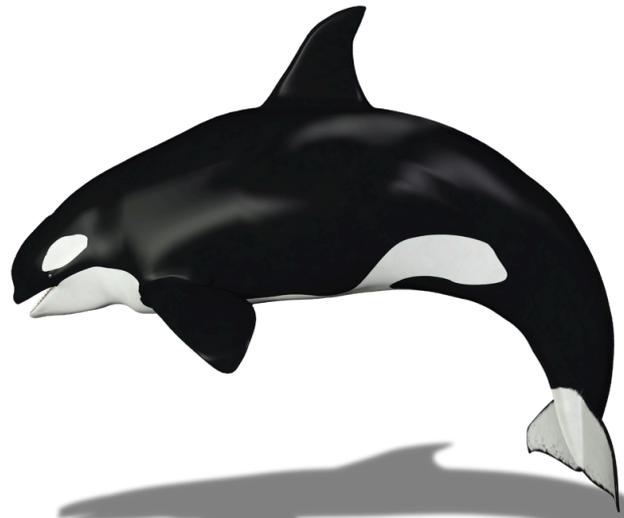
About Burmese Python

- It is one of the largest snake species in the world. It can grow up to 20 feet and weigh more than 250 pounds, with females being larger than males.
- It is a non-venomous, solitary and mainly nocturnal forest dweller snake.
- It is also an excellent swimmer and is able to stay submerged for up to half an hour. Burmese pythons spend the majority of their time hidden in the underbrush and will usually move only when hunting or when threatened.
- Until 2009, it was considered a subspecies of *Python molurus*, but is now recognized as a distinct species.
- Habitat of Burmese Pythons: They live in grasslands, marshes, swamps, wet rocky areas, caves, woodlands, rainforests, mangrove forests, river valleys, and jungles with open clearings.
- Conservation Status of Burmese Pythons: IUCN: Vulnerable

Distribution of Burmese Pythons

- It is native to the tropical rainforests and subtropical jungles of eastern and northeastern India, Myanmar, southern China, Southeast Asia, and to some extent of the Indonesian archipelago. Its distribution also encompasses eastern Nepal, Bhutan, and Bangladesh.
- It is an invasive species in Florida as a result of the pet trade.

Killer whales



A new study has found that killer whales may be exploring human behaviour by offering them whole prey and waiting for them to respond.

About Killer whales

- It is also known as Orcas which is found across the world and it is the ocean's top predator.
- It is the largest member of the Delphinidae family, or dolphins and are the most widely distributed of all cetaceans.
- Members of this family include all dolphin species, as well as other larger species, such as long-finned pilot whales and short-finned pilot whales, whose common names also contain "whale" instead of "dolphin".
- Behavior: Killer whales are highly social, and most live in social groups called pods (groups of maternally related individuals seen together more than half the time).
- Killer whales rely on underwater sound to feed, communicate, and navigate.
- Appearance: They are one of the most recognizable marine mammals, with their distinctive black and white bodies.
- Habitat: Globally, killer whales occur in a wide range of habitats, in both open seas and coastal waters.
- Threats: Killer whales are at high risk of becoming entangled in fishing gear. Also habitat loss is a major concern.
- Conservation Status: IUCN: Data Deficient

Srivilliputhur Megamalai Tiger Reserve



Recently, concerns have been raised over the unauthorised construction and repair of three roads in Theni district within the Srivilliputhur–Meghamalai Tiger Reserve (SMTR).

About Srivilliputhur–Meghamalai Tiger Reserve

- It is spread across the districts of Theni, Virudhunagar and Madurai in Tamil Nadu.
- It lies in the ecologically sensitive Western Ghats region.
- It was formed in February 2021 by combining Grizzled Squirrel Wildlife Sanctuary and Megamalai Wildlife Sanctuary.
- It will function as a connecting link between Kerala's Periyar Tiger Reserve and Tamil Nadu's Southern Kalakkad-Mundanthurai Tiger Reserve.
- The Srivilliputhu Megamalai Tiger Reserve (SMTR) area primarily relies on three perennial rivers: Vaigai, Suruliyaru, and Shanmuganathi.

Flora and Fauna of Srivilliputhur–Meghamalai Tiger Reserve

- It's a blend of tropical evergreen and semi-evergreen forests, dry deciduous and moist mixed deciduous woods, and grasslands.
- Mammals: Elephants, Tiger, Leopard, Nilgiri Tahr, Gaur, Spotted Deer, Barking Deer, Sambar Deer, Wild Boar, Porcupine, Nilgiri Langur, Lion-Tailed Macaque etc.
- Birds: Red-Whiskered Bulbul, Common Iora, White-Browed Wagtail, Grey Wagtail, Pied Bush Chat etc.
- Reptiles: Wood Snake, Monitor Lizard, Chameleon, etc.

Painted Stork

The National Zoological Park has stepped up surveillance and biosecurity measures after a fresh carcass of a migratory painted stork was found near a pond and another stork was detected sick in the water bird aviary, officials said recently.



About Painted Stork

- It is a large wading bird belonging to the stork family.
- It is easily recognized by its heavy yellow beak with a down-curved tip.
- Scientific Name: *Mycteria leucocephala*
- Distribution: These birds are found across the plains of tropical Asia, from the Indian Subcontinent extending into Southeast Asia, south of the Himalayas.
- Habitat:
- They favor freshwater wetlands, but they also frequent irrigation canals and agricultural fields, particularly during the monsoon when rice fields are flooded.
- They are absent from arid regions, dense forests, and higher hill areas.
- They are not migratory and only make short-distance movements in some parts of their range in response to changes in weather or food availability or for breeding.

Painted Stork Features

- This species of stork stands 93 to 102 cm tall and weighs between 2 to 5 kg.
- Painted storks are the only storks within the genus *Mycteria* that have a black pectoral band.
- This species has a long, heavy yellow bill and a yellow face.
- They display white plumage with a rose color near the tail feathers.
- The legs are yellowish to red but often appear white due to their habit of urohidrosis or defecating on their legs, especially when at rest.
- Males and females are not sexually dimorphic; however, male painted storks tend to be slightly larger than female storks.

Painted Stork Conservation Status

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

Crocothemis erythraea



Recently, odonatologists have reconfirmed the presence of the elusive dragonfly species, *Crocothemis erythraea*, in the high-elevation regions of the southern Western Ghats.

About *Crocothemis erythraea*

- It is a species of dragonfly in the family Libellulidae.
- Its common names include broad scarlet, common scarlet-darter, and scarlet darter.
- The genus *Crocothemis* in India includes two known species—*C. servilia* and *C. erythraea*. While *C. servilia* is common across lowland areas, *C. erythraea* is known from high-elevation habitats in parts of Europe and Asia, including the Himalayas.
- The molecular analysis showed that the high-elevation specimens from the Western Ghats match *C. erythraea* found in the Himalayas.
- Habitat: The study confirmed that the Western Ghats hosts both the species, *C. erythraea*, which is restricted to cool, high-elevation habitats (>550 m), while *C. servilia* is common in lowland habitats (<600 m).
- The researchers explain that *C. erythraea* colonised southern India during the Pleistocene Ice Age, when cooler climatic conditions allowed temperate fauna to extend their range southward.
- As the climate warmed, these populations became stranded in montane locations like the Sholas and grasslands of Munnar and Parambikulam, where they survived in isolation.

Gastrochilus Pechei



Recently, researchers discovered a new orchid plant in Vijoynagar, Arunachal Pradesh.

About *Gastrochilus pechei*

- It is a new orchid plant belonging to the *Gastrochilus* genus.
- Habitat: It flowers in September-October and thrives in moist, evergreen rainforest on small trees near riverbanks.
- The *Gastrochilus pechei* was known to bloom only in Myanmar.
- Before the Vijoynagar find, 22 species of the *Gastrochilus* genus had been recorded from India. Of these, 15 are from Arunachal Pradesh.
- Arunachal Pradesh is often referred to as the Orchid State of India, boasts approximately 60% of the country's varieties.
- First recorded in 1825, *Gastrochilus* is a monopodial orchid genus comprising 77 species widely distributed in tropical, subtropical, and temperate Asia.
- This genus is characterised by a short axillary inflorescence, often with brightly coloured flowers, a distinct epichile on the front of the saccate hypochile, and two porate, globose pollinia that are borne on a slender stipe.

Bordeaux Mixture

Planters in the Chikkamagaluru and Hassan districts of Karnataka are gearing up to apply Bordeaux mixture for the third or fourth time this year, following earlier crop damage caused by unseasonal rainfall.



About Bordeaux Mixture

- Bordeaux mixture is a bactericide and fungicide made by mixing copper sulfate and lime (calcium hydroxide) with water.
- Discovered in the late 19th century in France's Bordeaux region, from which it takes its name, Bordeaux mixture has stood the test of time and continues to be a reliable solution for disease management, particularly in organic farming systems.
- This mixture is especially effective in controlling fungal and bacterial diseases in various crops such as fruits, vegetables, and plantation crops.
- It has a low aqueous solubility and is not volatile.
- It persists in rainy weather and can provide long-lasting protection against a variety of diseases.
- Bordeaux mixture is usually applied after harvest, before rainy weather starts.
- Additionally, because it contains copper, it has a multi-site mode of action and may be a particularly useful spray in a pesticide resistance management program.
- However, applying Bordeaux mixture to newly growing leaves, however, can cause injury to the new growth.

What is E-20 Fuel?



India's auto industry lobby has said that carmakers will continue to honour warranties even if older vehicles, not originally designed for higher ethanol fuels, use E20 fuel, Reuters reported recently.

About E-20 Fuel

- Automotive fuel blends comprising 20% ethanol and 80% gasoline are referred to as E20 fuel.

What is Ethanol Blending?

- Ethanol blending is a process of mixing or blending ethanol, a renewable biofuel, with petrol to create a cleaner and more sustainable fuel.
- Since ethanol is a viable biofuel that can be derived by processing biomass sources such as sugarcane, the practice of ethanol blending has largely reduced India's dependence on fossil fuels and the high-value import of crude oil.
- Moreover, by adding ethanol to petrol, the oxygen content of fuel is increased, leading to lower emissions and cleaner burning.
- Additionally, since ethanol in India is largely derived from sugarcane molasses, rice, maize, and other agricultural sources, ethanol blending has also elevated the agricultural sector in India.
- With ethanol-blended petrol, India aims to tackle its ever-increasing fossil fuel dependence in a greener and more sustainable way.

India's Journey of Ethanol Blending

- With several countries widely adopting ethanol blending, India's journey towards achieving ethanol-blended petrol began in 2003, when the Government of India officially launched its Ethanol Blended Petrol (EBP) Programme.
- Since then, the ethanol blending in India has come a long way, achieving a 10% ethanol blend target in 2021-22, which was further increased to 12.06% in 2022-23, 14.06% in 2023-24, and 20% in July 2025, which was initially set to be achieved by 2030.

What is Ethanol?

- Ethanol, also known as ethyl alcohol, is a type of alcohol that is commonly used in various applications.
- It is a clear, colourless liquid with a characteristic odour and taste.
- Ethanol has the chemical formula C_2H_5OH and is composed of carbon, hydrogen, and oxygen atoms.
- Pure ethanol is nontoxic and biodegradable, and if spilled, they break down into harmless substances.
- However, fuel ethanol contains denaturants to make fuel ethanol undrinkable.
- How is ethanol sourced?
- Ethanol can be produced from various sources, but it is often derived from renewable resources such as crops like corn, sugarcane, barley, and wheat.
- It can also be produced from cellulosic materials like agricultural residues and wood.

Extended Range Attack Munitions (ERAM) Missile



Recently, the Trump administration has approved the sale of 3,350 Extended Range Attack Munitions (ERAM) missiles to Ukraine.

About Extended Range Attack Munitions (ERAM) Missile

- It is a next-generation, air-launched, precision-guided missile.
- It blends the destructive power of a heavy bomb with the standoff range of a cruise missile.

Features of Extended Range Attack Munitions (ERAM) Missile

- Range: Depending on flight profile, ERAM can reach between 240 and 450 kilometers.
- Warhead: Each carries a 500-pound high-explosive warhead, able to destroy hardened bunkers, fuel depots, or ammunition storage.
- Guidance: A combination of GPS, inertial navigation, and a terminal seeker provides accuracy within about ten meters.
- Launch platforms: Compact and modular, ERAMs can be mounted on Western fighter jets such as the F-16s Ukraine is now receiving, or potentially retrofitted on existing Soviet-era aircraft.
- ERAM is designed for volume, cheaper to produce, and compatible with multiple aircraft types.

Jarosite

Researchers confirmed the presence of jarosite in Matanomadh in Kutch, Gujarat similar to what was discovered on Mars a couple of decades ago.



About Jarosite

- Jarosite is a yellow-brown mineral composed of potassium, iron, and sulphate, commonly found in arid, saline environments.
- Jarosite formation is a signal of extreme geochemical conditions and a clue to unlocking complex environmental and planetary processes.
- On Earth, jarosite is formed when some minerals rich in oxygen, iron, sulphur and potassium react in the presence of water.
- Jarosite formation is typically associated with volcanic activity.
- In 2004, NASA's Opportunity mission to Mars was the first to detect traces of jarosite at the Meridiani Planum landing site.
- The discovery of jarosite on Mars was one of the strongest pieces of evidence of the presence of water on the planet at some point of time.
- In Matanomadh, the mineral dating 55 million years old, corresponding with the Paleocene period in the geological timeline was found.
- In India its presence has also been confirmed along Kerala's Varkala cliffs.
- Similar deposits have been found in Mexico, Canada, Japan, Spain, and in Utah and California in the US.
- Significance of the discovery: It could help decode the palaeo-evolution of the Martian geology and the past chemical interactions on the planet.
- Moreover, as sulphates such as jarosite could trap organic molecules and elements that support life within them, examining these samples in Kutch could open a window of opportunity for designing strategies for future Mars missions that will explore life on the red planet.

LUPEX Mission

Recently, the Prime Minister of India welcomed the agreement between the Indian Space Research Organisation and the Japan Aerospace Exploration Agency for the Chandrayaan-5 mission under the Lunar Polar Exploration (LUPEX) programme.



About LUPEX Mission

- It is jointly developed by ISRO and Japan Aerospace Exploration Agency (JAXA).
- Objective: To explore the moon's southern polar region, investigating the presence of water and other elements, potentially in the form of surface ice.
- It aims to showcase innovative surface exploration technologies. The special focus is on vehicular transport and lunar night survival.
- It features both a lander and a rover.
- JAXA is responsible for developing and operating the rover, and ISRO for developing and operating the lander that will carry the rover.
- The rover will drive on its own to search for areas where water is likely to be present and sample the soil by digging into the ground with a drill.
- The plan is to acquire data by analyzing the collected samples in detail with observation equipment mounted on the rover.
- The rover will be equipped with instruments for measuring the water content of regolith (lunar sand), drilling, and sampling, as well as with other world-first and world-leading technologies for the driving system and batteries.
- The rover will carry not only the instruments of ISRO and JAXA but also those of the US space agency NASA and the European Space Agency (ESA).

Vikram 3201

India unveiled its first fully indigenous 32-bit microprocessor, the Vikram 3201, at the Semicon India 2025 conference recently.



About Vikram 3201

- It is India's first fully indigenous 32-bit microprocessor.
- Designed by the Vikram Sarabhai Space Center (VSSC), Vikram 3201 has been built by the Indian Space Research Organisation's (ISRO) Semiconductor Laboratory (SCL) in Chandigarh.
- Unlike processors in everyday devices like smartphones or laptops, this one is designed specifically for rockets and satellites.
- It is an upgrade to Vikram 1601, a 16-bit processor that has powered ISRO's launch vehicles since 2009.
- The Vikram 3201 marks the first time India has indigenously designed and fabricated a processor of this scale and specification for launch vehicle avionics.

What will the Vikram 32-bit Processor do?

- The chip's job is to handle navigation, control, and mission management in launch vehicles, performing the split-second calculations needed to keep rockets stable and on course.
- Because space environments are harsh, the chip is manufactured to military-grade standards and rigorously tested to ensure it can keep working in extreme heat, cold, vibration, and radiation.
- The Vikram 3201 is built to withstand the extreme conditions of space missions, including temperatures from -55 degrees Celsius to +125 degrees Celsius.
- Unlike its predecessor, the new chip supports 64-bit floating-point operations, Ada programming language compatibility, and features on-chip 1553B bus interfaces for reliable communication during missions.
- It can handle substantial memory and execute complex instructions needed for launching satellites and space vehicles.

Cordualadensa acorni



Recently, researchers from McGill University identified a new dinosaur-era dragonfly fossil named *Cordualadensa acorni* from Alberta's Dinosaur Provincial Park.

About *Cordualadensa acorni*

- It represents the first Mesozoic dragonfly fossil in Canada and fills a 30-million-year evolutionary gap in dragonfly history.
- The fossil is a partial wing impression fossil preserved in the 75-million-year-old Dinosaur Park Formation (UNESCO World Heritage Site, Alberta, Canada).
- The fossil led to the creation of a new family, Cordualadensidae, highlighting its unique anatomical features.

Features of *Cordualadensa acorni*

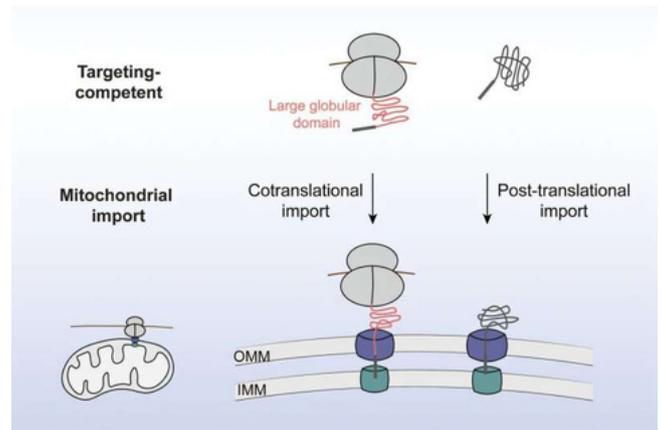
- Wingspan: Roughly the width of a human hand.
- Anatomy: The wing structure indicates adaptation for gliding flight, a feature common in migratory dragonflies today.
- Ecological Role: Though small, it would have been an important part of the Cretaceous ecosystem, possibly serving as prey for raptors.

Distribution & Significance

- First dinosaur-aged dragonfly fossil discovered in Canada.
- It is the first North American member of the dragonfly group Cavilabiata.
- Before this, only one insect fossil (a microscopic aphid in amber) had been reported from the region.

Mitochondrial Protein Import

Recently, researchers at Caltech University have uncovered new rules governing mitochondrial protein import, revising the long-standing understanding of how proteins are transported into mitochondria.



About Mitochondria

- Mitochondria are double-membraned organelles that generate ATP (adenosine triphosphate), the universal cellular energy currency.
- They originated over a billion years ago through endosymbiosis between a primitive archaeal cell and a bacterium.
- Over time, mitochondria transferred most of their genes to the host nucleus, making them dependent on the host cell for protein supply.

Traditional Model of Protein Import

- Earlier, it was believed that mitochondrial proteins are imported only after translation is completed in the cytosol.
- Proteins were thought to fully synthesize on ribosomes before passing through mitochondrial membrane channels.

New Findings by Caltech Scientists

- Around 20% of mitochondrial proteins are cotranslationally imported, i.e., they are imported while still being synthesized by ribosomes.
- This mechanism mainly applies to large and structurally complex proteins that require assistance during folding.
- If these proteins fully fold in the cytosol, they risk forming irreversible structures that block import channels.

Mechanism of Cotranslational Import

- Such proteins contain a mitochondrial targeting sequence, but this alone is insufficient for cotranslational delivery.
- A second signal is required – the first large protein domain that emerges during translation.
- This domain acts like a “code to unlock the boarding pass”, ensuring the protein is guided into mitochondria early.
- Experiments confirmed that transplanting these domains onto other proteins rerouted them for cotranslational import.

Mela Patt Festival

Recently, in Jammu and Kashmir the annual three-day Mela Patt festival started in Doda district.



About Mela Patt Festival

- It is dedicated to Lord Vasuki Nag, the presiding deity of Bhaderwah Valley.
- History: The festival, rooted in the Nag culture, marks the historic meeting between Mughal Emperor Akbar and King Nag Pal of Bhaderwah.
- The festival has been celebrated since the 16th century.
- This festival was first celebrated by King Nag Pal when Bhaderwah was known as Bhadarkashi,
- It is observed every year on Nag Panchami, seven days after the conclusion of the Kailash Yatra, and is renowned for its inclusive nature.
- The unique 'Dikko Dance,' a traditional folk performance where men and women of all religions and backgrounds participate, serves as a symbol of peace, pride, and communal harmony.
- Dhakku dance also known as traditional dance of Dogras has a respectable place in the folk dances of India.
- Significance: The festival not only honors religious traditions but also showcases the proud historical legacy of Bhaderwah.
- Mela Patt holds a special place in the cultural and religious fabric of the region.

Koya Tribe



The Supreme Court recently issued notice on a plea by Koya tribe members challenging Telangana HC's order on the ST status of Lambadi, Sugali & Banjara communities, citing the impact on reservation benefits.

About Koya Tribe

- The Koya are one of the few multi-racial and multi-lingual tribal communities in India.
- They live in the forests, plains, and valleys on both sides of the Godavari River, in the states of Andhra Pradesh, Telangana, Chhattisgarh, and Odisha.
- According to the 2011 census, the total population of these tribes in India is 7,38,629.
- The Koyas call themselves as "Koithur"
- They are said to have migrated to central India from their original home in Bastar, northern India.

Koya Tribe Language

- Koyas speak the Koya language, also known as koya basha, and is a member of the Dravidian language family. It is closely related to Gondi and has been strongly influenced by Telugu.
- Most Koyas speak either Gondi or Telugu, in addition to Koyi.

Koya Tribe Occupation

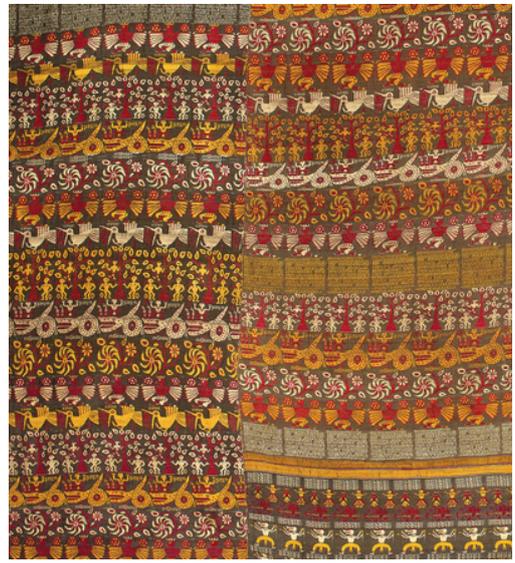
- Traditionally, they were pastoralists and shifting cultivators, but nowadays, they have taken to settled cultivation supplemented by animal husbandry and seasonal forest collections.
- They grow Jowar, Ragi, Bajra, and other millets.

Koya Tribe Society and Culture

- All Koya belong to one of five sub-divisions called gotrams. Every Koya is born into a clan, and he cannot leave it.
- The Koyas have a patrilineal and patrilocal family. The family is called "Kutum". The nuclear family is the predominant type.
- Monogamy is prevalent among the Koyas.
- The Koya usually live in villages located near dependable water sources.
- Villages vary in size from three to more than sixty houses.
- The chief of every Koya village is called "Peda".
- The Koya practice their own ethnic religion, but also worship a number of Hindu gods and goddesses.
- Many Koya deities are female, the most important being the "mother earth."
- They maintain community funds and grain banks at the village level to help the needy families and provide food security.
- Koyas either bury or cremate the dead. They erect menhirs in memory of the dead.
- Their main festivals are Vijji Pandum (seeds charming festival) and KondalaKolupu (festival to appease Hill deities).
- Koyas perform a robust, colourful dance called Permakok (Bison horn dance) during festivals and marriage ceremonies.

Vrindavani Vastra

Assam is likely to get the revered 16th-century “Vrindavani Vastra” from the British Museum in London for exhibition in 2027.



About Vrindavani Vastra

- The Vrindavani Vastra is a silk textile woven in Assam.
- The childhood stories of Lord Krishna in Vrindavan, his divine pastimes, and various events are woven with thread on this cloth.
- It was created under the guidance of Srimanta Sankardeva, at the request of Koch king Nara Narayan, who ruled over parts of modern-day Assam and West Bengal.
- Notably, Nara Narayan had sheltered Sankardeva after the Vaishnav saint was targeted by the Ahom kingdom on the instigation of Brahmin priests in the state.
- The textile serves as a testament to Assamese weaving, incorporating elements from various artistic traditions, and travelled from Assam to Tibet before being acquired by the British Museum in 1904.
- The exhibit, acquired by the British Museum, is nine and a half metres long and is made up of several pieces of silk drapes and originally featured 15 separate pieces that were later assembled.
- A masterpiece of sacred art, the Vrindavani Vastra is a central part of Assamese Vaishnavism.

Project Aarohan



Recently, the National Highway Authority of India launched Project Aarohan.

About Project Aarohan

- It has an objective to support the educational aspirations of the children of toll plaza employees.
- It was launched by the National Highway Authority of India.
- The nationwide project will reach a community of toll-plaza personnel that are deployed at a vast network of toll plazas on National Highways.
- The initiative aims to address financial barriers, bridge socio-economic divides and provide equal access to quality education for students from economically weaker sections, including girls from low-income households, first-generation learners and those from Economically Weaker Sections/Scheduled Castes/Scheduled Tribes/Other Backward Classes and minority communities.
- The program combines financial aid with structured mentorship, skill-building workshops, and career guidance to holistically prepare students for higher education, employment and entrepreneurship.
- It will be implemented by SMEC Trust's Bharat Cares,

Funding for Project Aarohan

- The first phase of 'Project Aarohan' will have a fund allocation of Rs. 1 Crore and will span from July 2025 to March 2026.
- The project aims to cover 500 students from Class 11 to the final year graduation, each receiving an annual scholarship of Rs.12,000 during FY 2025–26.
- Additionally, 50 bright students aspiring for postgraduate and higher studies will be supported with scholarships of Rs. 50,000 each.

BHARATI Initiative

Recently, the Agricultural and Processed Food Products Export Development Authority (APEDA) launched its new initiative BHARATI.



About BHARATI initiative

- BHARATI, stands for Bharat's Hub for Agritech, Resilience, Advancement and Incubation for Export Enablement.
- It has been designed to empower 100 agri-food and agri-tech startups, accelerate their journey, promote innovation and create new export opportunities for young entrepreneurs.
- It is conceived as APEDA's vision to achieve \$50 billion in agri-food exports for its Scheduled Products by 2030,
- It is structured to complement and enhance industry and government-led incubation programmes in the agriculture, food and food processing sectors.
- It seeks to drive innovation in high-value categories such as GI-tagged agri-products, organic foods, superfoods, novel processed Indian agri-foods, livestock products and AYUSH products.
- The initiative also aims to attract startups working on advanced technologies such as AI-based quality control, blockchain-enabled traceability, IoT-enabled cold chains and agri-fintech, while addressing critical areas like innovative packaging, sustainability and sea protocols.
- BHARATI seeks to resolve export challenges related to product development, value addition, quality assurance, perishability, wastage and logistics.
- By fostering a collaborative ecosystem, the programme will connect agri-food innovators, tech-driven solution providers and SPS-TBT-focused startups to deliver scalable, cost-effective solutions that enhance India's global competitiveness.
- It will create globally competitive agri-products, fuel demand-driven backward integration for food innovation and boost global demand for Indian food, beverage and processed food products and services.
- The initiative includes a nationwide awareness campaign to engage stakeholders and attract solution-oriented startups from across India, along with an application and selection process through the APEDA website to shortlist 100 startups for the export enablement programme.
- Selected startups will undergo a three-month acceleration programme focusing on product development, export readiness, regulatory compliance, market access and collaborative solutions to address export challenges.
- To strengthen this ecosystem, APEDA will partner with state agricultural boards, agricultural universities, premier institutions like IITs and NITs, industry bodies and existing accelerators to attract startups for agri-export enablement.
- The pilot cohort will serve as a model for a scalable annual incubation programme, driving continuous innovation and long-term export growth.
- Significance: The initiative marks a significant step to strengthen India's agricultural and processed food exports.

Matsya Shakti Project

The 'Matsya Shakti' project will be launched by the Union Minister of State for Fisheries, Animal Husbandry & Dairying.



About Matsya Shakti Project

- It is designed to empower minority fishing communities.
- It aims to equip participants with comprehensive skills for improved livelihoods and community welfare.
- The initiative will be implemented by the Vizhinjam Regional Centre of the ICAR–Central Marine Fisheries Research Institute (CMFRI), under the Ministry of Agriculture and Farmers' Welfare.
- It is conceived under the Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS) scheme.

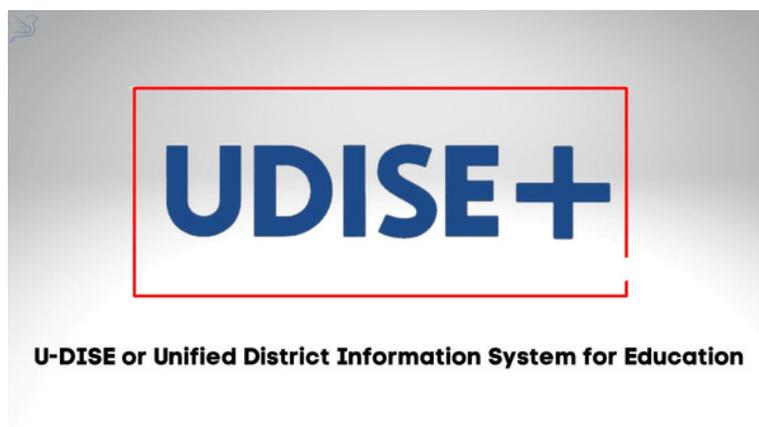
Features of Matsya Shakti Project

- The project seeks to enhance the socio-economic well-being of minority fisherfolk families in the district.
- It promises a year-long, phased training programme for members of the community, focusing on sustainable livelihood practices and modern skill development.
- Through hands-on training in areas such as integrated aquaculture, seed production, and advanced fisheries technologies.

Key Facts about Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS) scheme

- The PM VIKAS Scheme launched under the Ministry of Minority Affairs is a central sector scheme.
- It provides skill development, leadership training and entrepreneurship to minorities and artisan communities all over India.
- The scheme is divided into four components and is expected to benefit around 9 lakh candidates during the 15th Finance Commission Cycle (2025-26).
- The PM VIKAS Scheme also consolidates five already existing schemes: Seekho aur Kamao, USTTAD (Upgrading the Skills and Training in Traditional Arts/Crafts for Development), Hamari Dharohar, Nai Roshni Nai Manzil
- The merging of the scheme provides financial support to minorities and artisans while also integrating Skill India Mission and also working with other ministries like Women and Child Development, Panchayati Raj, Tourism and Education for the overall development in minority concentrated areas.

Unified District Information System for Education Plus



The Ministry of Education released a report on Unified District Information System for Education Plus (UDISE+) 2024-25 on school education of India which says that, since the beginning of UDISE +, the total number of teachers has crossed the 1 crore mark in 2024-25.

About Unified District Information System for Education Plus

- It is an educational management information system under the Department of School Education & Literacy, Ministry of Education under the Government of India.
- UDISE+ functions as a central platform that enables respective schools to efficiently record and submit data related to its profile (infrastructure & facilities), individual students and teachers' details.
- This is done in real-time mode by all recognised schools that provide formal, and special education in any of the school categories (that is, from pre-primary to higher secondary levels) throughout the country each academic year.
- The recorded data is validated by the MIS and other designated officials at the block, district and state levels; and monitored at four levels, including the national.

Features of the UDISE+

- Each onboarded school is provided a unique 11-digit UDISE code & login credentials to complete data entry and its modification in real-time.
- School User Directory module enables onboarding of schools, and management of designated users who can submit data on the UDISE+. This module enables block, district, state and national level user overall management of the UDISE+.
- The data on school profile, students and teachers is reported in three distinct but integrated modules:
- School profile & facilities: Infrastructure details and services and facilities available in schools are recorded in this module.
- Student module: General and academic profile of each student, including extracurricular activities, are recorded and maintained in this module using the Permanent Education Number
- Teacher Profile: General, academic and appointment details of all teaching and non-teaching staff are recorded and maintained individually in this module.

Guillain-Barre Syndrome



Gaza has recently seen a surge in Guillain-Barre syndrome, which can cause full-body paralysis in extreme cases.

About Guillain-Barré Syndrome

- It is a rare autoimmune condition in which the body's immune system attacks the peripheral nervous system.
- This is the part of the nervous system outside the brain and spinal cord.
- It controls muscle movement, pain signals, and temperature and touch sensations.
- GBS is also called acute inflammatory demyelinating polyradiculoneuropathy (AIDP).
- It can occur at any age, but it most commonly affects people between 30 and 50.

Guillain-Barré Syndrome Causes

- The exact cause of the disease remains unclear, but it is often observed following a viral or bacterial infection, vaccination, or major surgery.
- At such times, the immune system becomes hyperactive, leading to this rare condition.

Guillain-Barré Syndrome Symptoms

- Patients often begin with an unknown fever, followed by weakness and other nervous system-related symptoms.
- It can increase in intensity over a period of hours, days, or weeks until certain muscles cannot be used at all.
- Some cases of GBS are very mild and only marked by brief weakness. Others cause nearly devastating paralysis, leaving the person unable to breathe on their own.

Guillain-Barré Syndrome Treatment

- There's no known cure for GBS.
- Several treatment options can ease symptoms and help speed recovery.
- Most people recover completely from GBS, but some serious illnesses can be fatal.
- While recovery may take up to several years, most people are able to walk again six months after symptoms first began.

PM Svanidhi Scheme



Recently, the Union Cabinet has approved the “Restructuring and extension of the lending period beyond 31.12.2024 of Prime Minister Street Vendor’s AtmaNirbhar Nidhi (PM SVANidhi) Scheme”.

About PM SVANidhi Scheme

- It was initially launched on 1st June 2020 to support street vendors who faced unprecedented hardships during the COVID-19 pandemic.
- It is implemented jointly by the Ministry of Housing & Urban Affairs (MoHUA) and Department of Financial Services (DFS), with DFS being responsible for facilitating access to loan/ credit cards through banks/financial institutions and their ground level functionaries.

Key Facts about the Restructured PM SVANidhi Scheme

- The scheme’s coverage is being expanded beyond statutory towns to census towns, peri-urban areas etc..
- The enhanced loan structure includes first tranche loans increased up to ₹15,000 (from ₹10,000) and second tranche loans increased up to ₹25,000 (from ₹20,000), while the third tranche remains unchanged at ₹50,000.
- The introduction of UPI-linked RUPAY Credit Card would provide immediate access of credit to the street vendors in order to meet any emergent business and personal requirements.
- In order to give boost to digital adoption, the street vendors can avail cashback incentives upto ₹1,600 on making retail & wholesale transactions.
- The scheme also focuses on building the capacity of the street vendors with a focus on entrepreneurship, financial literacy, digital skills, and marketing through convergence.
- Standard hygiene and food safety training would be conducted for street food vendors, in partnership with FSSAI.
- In order to ensure holistic welfare & development of the street vendors and their families, the ‘SVANidhi se Samridhhi’ component will be further strengthened, through monthly Lok Kalyan Melas.
- Significance: It envisages the holistic development of street vendors by offering a reliable source of finance to support business expansion and opportunities for sustainable growth. This will not only empower street vendors but will also foster inclusive economic growth, socio-economic upliftment of street vendors and their families

Exercise Yudh Kaushal 3.0

The Indian Army recently conducted Exercise Yudh Kaushal 3.0 in the high-altitude Kameng region of Arunachal Pradesh.



About Exercise Yudh Kaushal 3.0

- It was conducted by the Indian Army in the high-altitude Kameng region of Arunachal Pradesh.
- The exercise demonstrated an impressive integration of advanced technology, operational innovation, and professional expertise by the troops.
- The large-scale manoeuvres highlighted the Army's capability to operate across multi-domain environments, with demonstrations including drone surveillance, real-time target acquisition, precision strikes, air-littoral dominance, and coordinated battlefield operations.
- A key feature was the operational debut of the newly raised ASHNI platoons, showcasing how next-generation technology, combined with proven tactical experience, can provide a decisive advantage in both current and future conflicts.
- A unique aspect of Exercise Yudh Kaushal 3.0 was the active involvement of the Indian Civil Defence Industry, reflecting India's ongoing "Decade of Transformation."
- The exercise validated the Army's readiness to operate in high-altitude, harsh climatic conditions and reaffirmed its commitment to integrating emerging technologies, including unmanned systems, precision weaponry, and multi-domain operational strategies.

Ramon Magsaysay Award



Recently, the Ramon Magsaysay Award, 2025 has been announced for 'Educate Girls', an Indian organisation that works to educate unprivileged girls across the country.

About Ramon Magsaysay Award

- It is Asia's premier prize and highest honor, celebrates greatness of spirit and transformative leadership in Asia.
- The Awardees, annually selected by the RMAF board of trustees, are presented with a certificate and a medallion with an embossed image of Ramon Magsaysay facing right in profile.
- From 1958 to 2008, the Award was given in six categories annually:
- Government Service: To recognize outstanding service in the public interest in any branch of government, including the executive, judicial, legislative, or military;
- Public Service: To recognize outstanding service for the public good by a private citizen;
- Community Leadership: To recognize leadership of a community toward helping the disadvantaged have fuller opportunities and a better life;
- Journalism, Literature, and Creative Communication Arts: To recognize effective writing, publishing, or photography or the use of radio, television, cinema, or the performing arts as a power for the public good;
- Peace and International Understanding: To recognize contributions to the advancement of friendship, tolerance, peace, and solidarity as the foundations for sustainable development within and across countries.
- Emergent Leadership: To recognize an individual, forty years of age or younger, for outstanding work on issues of social change in his or her community, but whose leadership may not yet be broadly recognized outside of this community.
- The category of Emergent Leadership was inaugurated in 2000 and is supported by a grant from the Ford Foundation.
- Starting in 2009, the Ramon Magsaysay Award is no longer being given in fixed Award categories, except for Emergent Leadership.
- The winners are presented with a certificate and a medallion with an embossed image of Ramon Magsaysay.
- It is presented in formal ceremonies in Manila, Philippines on August 31st, the birth anniversary of the much-esteemed Philippine President whose ideals inspired the Award's creation in 1957.

Multi-Lane Free Flow Tolling System



Recently, the Indian Highways Management Company Limited (IHMCL), a company promoted by NHAI has signed an agreement with ICICI Bank to implement country's first comprehensive Multi-Lane Free Flow (MLFF) tolling system at Choryasi Fee Plaza in Gujarat on NH-48.

About Multi-Lane Free Flow (MLFF) Tolling System

- It is a barrier-less tolling system that enables transactions through reading of FASTag and Vehicle Registration Number (VRN) by High performance RFID Readers and ANPR Cameras.

Significance Multi-Lane Free Flow (MLFF) Tolling System

- It enables seamless toll collection without stopping vehicles at fee plazas, reducing congestion and travel time leading to enhanced fuel efficiency and lowering emissions.
- Implementation of MLFF will also contribute towards improving toll revenue collection and creating a smarter, faster and more efficient National Highway network across the country.

Key Facts about NHAI

- It is India's premier highway infrastructure creator entrusted with developing, maintaining, and managing National Highways.
- It is a statutory body under the administrative control of the Ministry of Road Transport and Highways.
- It was constituted under National Highways Authority of India Act, 1998 and made operational in February 1995.
- Composition: It consists of a full time Chairman, and not more than five full time Members and four part time Members who are appointed by the Central Government.
- The part time Members are the Secretary (RT&H), Secretary (Expenditure), Secretary (Planning) and DG (RD) & SS.