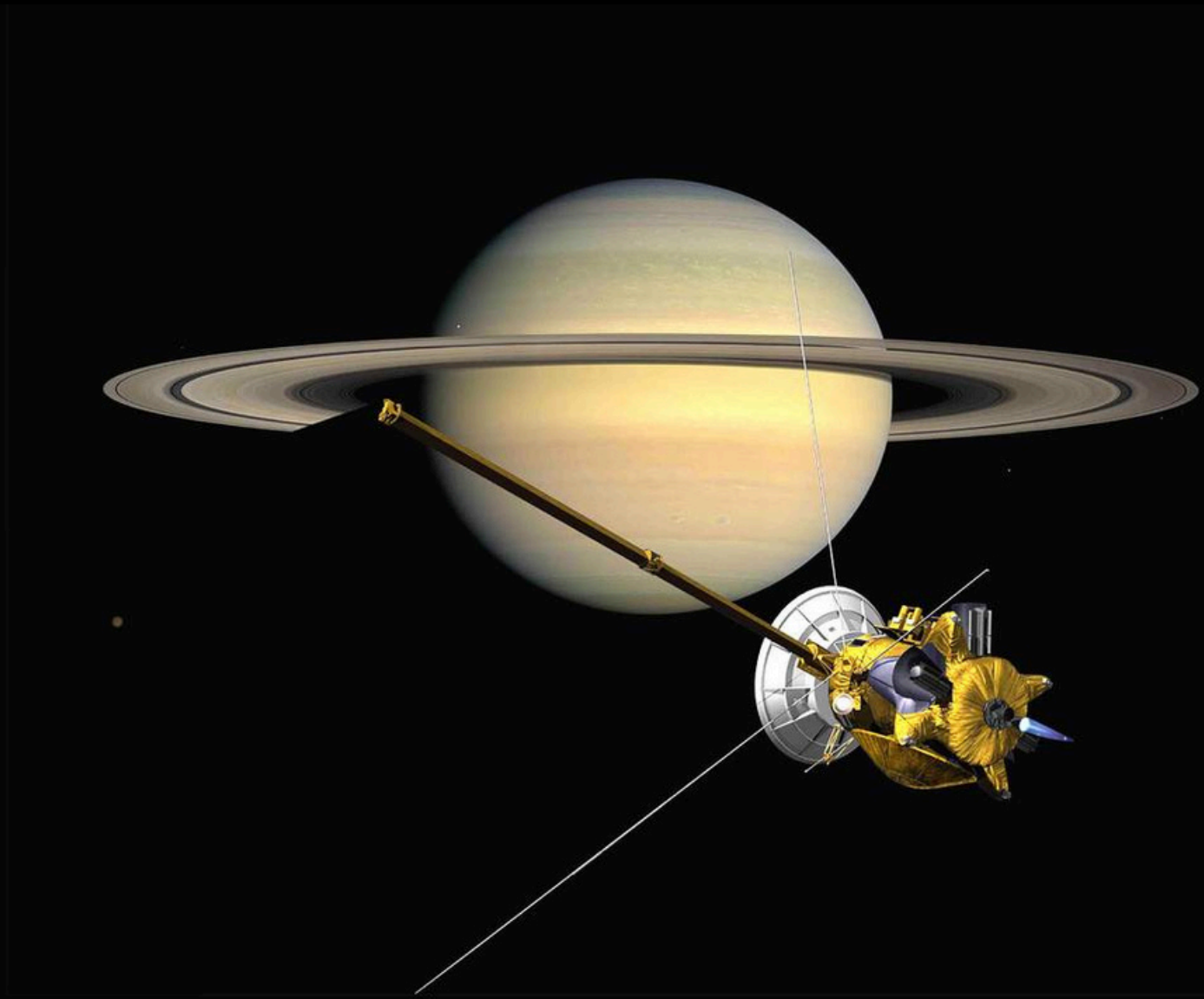
Current PULSE

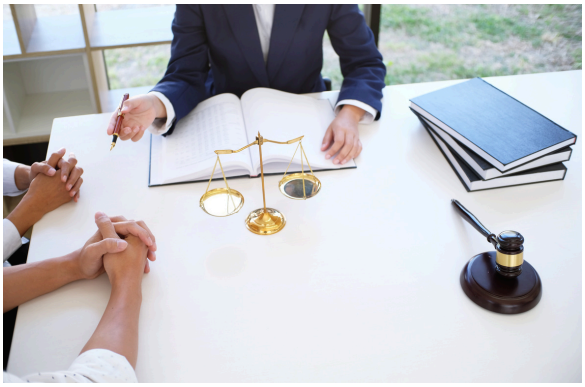


ESSENTIAL, THAT WILL BOOST YOUR PREPARATION

CHANAKYA IAS ACADEMY
SECTOR 25 CHANDIGARH

WE HAVE COMPILED THIS MAGZINE FROM ONLINE SITES AND NEWSPAPERS

Mutual Legal Assistance Treaty

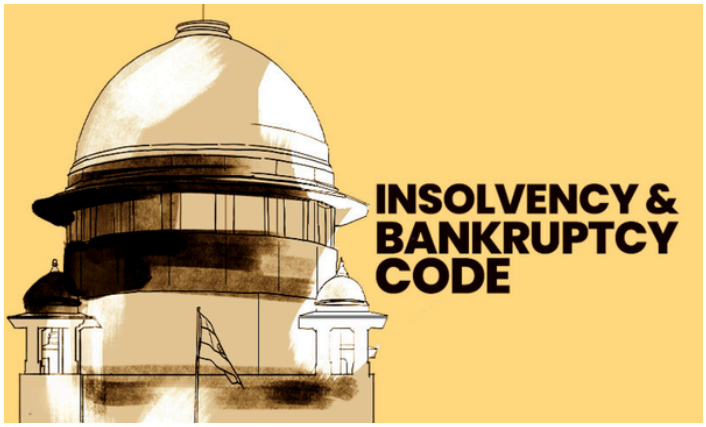


Recently, the central government invoked the Mutual Legal Assistance Treaty with Singapore over the singer's death.

About Mutual Legal Assistance Treaty

- It is a mechanism whereby countries cooperate with one another in order to provide and obtain formal assistance in prevention, suppression, investigation and prosecution of crime.
- It aims to ensure that the criminals do not escape or sabotage the due process of law for want of evidence available in different countries.
- India provides mutual legal assistance in criminal matters through Bilateral Treaties/Agreements, Multilateral Treaties/Agreements or International Conventions or on the basis of assurance of reciprocity.
- The Mutual Legal Assistance Treaties (MLATs) in criminal matters are the bilateral treaties entered between the countries for providing international cooperation and assistance.
- India has entered into Mutual Legal Assistance Treaties with more than 45 countries.
- Nodal Ministry: Ministry of Home Affairs (MHA).
- Common forms of assistance provided to or sought by India are as follows:
- Identifying and locating persons and objects;
- Taking evidence and obtaining statements; assisting in the availability of person in custody or others to give evidence or assist in investigations or appear as a witness;
- Effecting service of judicial documents;
- Executing searches and seizures;
- Providing information, documents, records and other evidentiary items;
- Taking measures to identify, locate, attach, freeze, restrain, confiscate or forfeit the proceeds and [7]instrumentalities of crime;

Clean Slate Doctrine under the Insolvency and Bankruptcy Code



The Delhi High Court recently confirmed the "clean slate" doctrine under the Insolvency and Bankruptcy Code (IBC) by holding that a successful resolution applicant cannot be burdened with the criminal liabilities of a corporate debtor's past management.

About Clean Slate Doctrine under the Insolvency and Bankruptcy Code

- The Clean Slate Doctrine is a key legal principle embedded in the Insolvency and Bankruptcy Code, 2016 ("IBC"), which plays a pivotal role in the corporate insolvency process in India.
- The doctrine suggests that once a company successfully undergoes the insolvency resolution process and is taken over by a new buyer, the new owner should not be held accountable for any of the company's pre-existing debts, penalties, or liabilities.
- This principle is designed to give the company a fresh start, essentially, a "clean slate" free from the baggage of its prior financial troubles.
- The Clean Slate Doctrine has been upheld in several landmark rulings by India's Supreme Court (SC), reaffirming its crucial role in the IBC framework.
- In the Essar Steel India case, the SC emphasized that one of the primary objectives of the IBC is to streamline insolvency procedures in India and bring all claims under a unified system.
- The SC ruled that once a resolution plan is approved by the National Company Law Tribunal (NCLT), any and all previous liabilities, including debts and penalties, are extinguished.
- This means no party can initiate or continue any legal proceedings related to a claim that is not included in the approved resolution plan.
- In the Edelweiss Asset Reconstruction case, the SC held that government dues, such as taxes and duties, are extinguished if they are not part of the resolution plan.
- In the Surya Exim case, the Gujarat High Court, following the SC rulings, held that any tax demands issued after the NCLT's approval of a resolution plan should be cancelled, reinforcing the idea that claims not included in the approved plan are no longer valid.

Payments Regulatory Board

Recently, the Reserve Bank of India (RBI) constituted a six-member Payments Regulatory Board (PRB).

About Payments Regulatory Board

- It derives its authority from the Payment and Settlement Systems Act, 2007.
- It replaces the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), a committee of the RBI's Central Board.
- Composition of Payments Regulatory Board
- Ex officio Chairperson: RBI Governor
- Ex officio members: Deputy Governor and the Executive Director in charge of Payment and Settlement Systems.
- Government nominees: Central government nominates 3 members to the board.
- The principal legal adviser of the RBI is a permanent invitee to the meetings of the board.
- The PRB will be supported by the RBI's Department of Payment and Settlement Systems (DPSS), which will report directly to the PRB.
- Decision Making: Decisions by a majority of members present and voting. In the event of a tie, the chairperson — or in his absence, the deputy governor will have a second or casting vote.
- The Board is required to meet at least twice a year.
- Function of PRB: It is responsible for the regulation and supervision of all payment systems including electronic and non-electronic, domestic and cross-border systems.

Key Facts about Philippines

Recently, an offshore earthquake of magnitude 6.9 struck Cebu province in central Philippines.

About Philippines

- Location: It is an island country of Southeast Asia in the western Pacific Ocean.
- It shares maritime borders with Vietnam to the west, Taiwan to the north, Palau to the east, and Malaysia and Indonesia to the south.
- Water Bodies: It is surrounded by the South China (north and west); Philippine Sea (east); Celebes Sea (south); and by the Sulu Sea to the (southwest).
- Highest Point: Mount Apo.
- Major Rivers: Cagayan River (Philippines' longest river), Mindanao, Agusan etc.
- Volcano: Mayon Volcano, one of the most active in the country.
- Climate: Tropical and monsoonal.
- Major Lake: Laguna de Bay
- Natural resources: Timber, petroleum, nickel, cobalt, silver, gold, salt, copper
- The Philippines is the third-largest producer of geothermal energy globally, after the United States and Indonesia.
- World Heritage Site: The Puerto-Princesa Subterranean River National Park site in the Philippines is inscribed on the World Heritage List in 1999.
- Capital city: Manila

Wassenaar Arrangement

The Wassenaar Arrangement faces challenges in adapting to cloud technology, requiring updates to control lists and enforcement mechanisms.

About Wassenaar Arrangement

- It is a multilateral "export control regime" for conventional arms and dual-use goods and technologies.
- The body came into being in 1996 to succeed the Cold War-era Coordinating Committee for Multilateral Export Controls.
- The name comes from Wassenaar, a suburb of the Hague, Netherlands, where the agreement to start such a multi-lateral cooperation was reached in 1995.
- Purpose: To promote transparency and greater responsibilities for transfers of conventional arms and dual-use goods, as well as technologies, to prevent destabilizing actions.
- Member countries: 42 members.
- India joined the Wassenaar Arrangement in 2017 and incorporated its lists into its Special Chemicals, Organisms, Materials, Equipment, and Technologies framework.
- Headquarters: Vienna, Austria.

How does Wassenaar Arrangement work?

- The group works by regularly exchanging information in respect of technology, both conventional and nuclear-capable, that is sold to, or denied to countries outside the grouping.
- This is done through maintenance and updating of detailed lists of chemicals, technologies, processes and products that are considered militarily significant.
- Through this exchange of information, the group aims at controlling the movement of technology, material or components to countries or entities which undermine international security and stability.

International Social Security Association

Recently, the Union Labour Ministry has highlighted the expansion of social protection in the country from 19% in 2015 to over 64% in 2025 at a conclave of the International Social Security Association (ISSA) held in Kuala Lumpur.

About International Social Security Association

- It was founded in 1927, under the auspices of the International Labour Organization (ILO).
- It is the principal international organisation for social security organisations, governments and departments of social security.
- It promotes excellence in social security administration through professional guidelines, expert knowledge, services and support to enable its members to develop dynamic social security systems.
- India is a member country of this organization
- Headquarters: Geneva, Switzerland

Governance of International Social Security Association

- General Assembly: It is actually the constituent assembly of the Association and is the highest statutory body. It consists of all members of the ISSA who are directly represented. It meets every three years.
- Council: It constitutes the electoral body of the Association, composed of the titular delegates of each country in which the ISSA has at least one affiliate member, with each of these countries having one titular delegate.
- Bureau: It constitutes the administrative authority of the Association, composed of the President of the ISSA, the Treasurer, the Secretary General, and elected members representing the different geographical regions of the world.
- Control Commission: It examines the financial records of the Association and the annual report and statements presented to the Bureau by the Treasurer, and verify that all financial transactions have been carried out in conformity with the Financial Regulations.

NATO Pipeline System

Recently, the Polish government said that it will finally join the NATO Pipeline System (NPS).

About NATO Pipeline System

- It was set up during the Cold War to supply NATO forces with fuel.
- It is approximately 10,000 kilometres long, runs through 12 NATO countries and has a storage capacity of 4.1 million cubic metres.
- The NPS links together storage depots, military air bases, civil airports, pumping stations, truck and rail loading stations, refineries and entry/discharge points.
- Funding: Bulk distribution is carried out using facilities from the common-funded NATO Security Investment Programme.
- Controlled by: The networks are controlled by national organisations, with the exception of the Central Europe Pipeline System (CEPS), which is a multinational system managed by the CEPS Programme Office under the aegis of the NATO Support and Procurement Agency.
- Structure
  - It is overseen by the Petroleum Committee, which is the senior advisory body in NATO on consumer logistics and, more specifically, on petroleum issues.
  - It reports to the Logistics Committee on all matters of concern to NATO in connection with military fuels and other petroleum installations.
  - The NPS consists of eight national pipeline systems and two multinational systems

New START Treaty

Recently, US President Donald Trump said that Russian President Vladimir Putin's idea of the New START Treaty was a good one.

About New START Treaty

- It is known as The New Strategic Arms Reduction Treaty (New START).
- It is the last remaining nuclear arms deal between Russia and the United States of America, and it was extended for five years in 2021. (Extended the treaty till February 4 2026.)
- Objective: The New START caps the number of nuclear warheads well below Cold War limits.
- This treaty entered into force on February 5, 2011.
- The treaty concerns strategic weapons: usually long-range weapons designed to influence the outcome of a war, not merely a battle, by destroying power centres, command and control facilities, or key infrastructure.
- Timeline of Treaty
  - It was signed by then-presidents Barack Obama and Dmitry Medvedev in Prague in 2010; it came into force in 2011.
  - New START replaced the 1991 START I treaty, which expired in December 2009, and superseded the 2002 Strategic Offensive Reductions Treaty (SORT), which terminated when New START entered into force.
  - Both Russia and the United States announced that they met New START limitations by Feb. 5, 2018.

Black Sea

Russia recently reported destroying 251 Ukrainian drones overnight, mostly over its southwest and the Black Sea, with one targeting Moscow.

About Black Sea

- It is a large inland sea situated at the southeastern extremity of Europe.
- It is one of the marginal seas of the Atlantic Ocean.
- The roughly oval-shaped body of water has a surface area of 436,000 sq.km.
- Bordering Regions:
  - West: Balkan Peninsula (Southeastern Europe).
  - East: Caucasus Mountains.
  - North: East European Plains (Russia & Ukraine).
  - South: Anatolia (Turkey, Western Asia).
- Countries bordering the Black Sea are Turkey to the south, Bulgaria and Romania to the west, Ukraine to the north, Russia to the northeast, and Georgia to the east. The Crimean Peninsula juts into the Black Sea from the north.
- Russia has the longest coastline (2,300 km), followed by Turkey (1,329 km) and Ukraine (1,282 km).
- It connects to the Aegean Sea (Mediterranean) via the Bosporus Strait, the Sea of Marmara, and the Dardanelles Strait.
- To its east, the Kerch Strait links the Black Sea to the smaller Sea of Azov.
- The Black Sea has lower salinity than the world's oceans due to isolation from the Mediterranean.
- Major rivers flowing into it include the Danube, Dnieper, Southern Bug, Rioni, and Dniester.

Environmental and Strategic Importance of the Black Sea

- World's Largest Meromictic Basin:
- Movement of water between the lower and upper layers of the Sea is rare.
- This creates considerable temperature and nutrient differences between these layers, with the lower layers being absolutely free of oxygen and anoxic.
- This complex water chemistry is fueled by extensive freshwater inputs from multiple large rivers and rainfall, with salt water exchanges with the Aegean Sea only through the Bosphorus and Dardanelles Strait.
- Anoxic zones: One of the largest anoxic basins, meaning low dissolved oxygen in deeper layers, affecting marine biodiversity.
- Crucial for global trade, particularly for Russia and Ukraine's grain and energy exports.
- NATO and Russia frequently conduct naval operations in the region.
- Russia's Black Sea Fleet is stationed in Sevastopol, Crimea, making the region highly militarized.
- Key Islands: Snake Island (Ukraine); Giresun Island (Turkey); St. Ivan Island (Bulgaria).

Critical Minerals

India's first auction of deep-sea blocks of critical minerals, which are vital for electric vehicles, defence equipment and renewable energy, has been delayed indefinitely following a poor response from bidders.

About Critical Minerals

- Critical minerals are those that are essential for modern technologies and national security but have supply chain risks due to their limited availability or geographical concentration.
- Their 'criticality' changes over time depending on technological demand and supply dynamics.
- Applications:
- They are used to manufacture advanced technologies, including mobile phones, computers, fibre-optic cables, semiconductors, banknotes, and defence, aerospace, and medical applications.
- Many are used in low-emission technologies, such as electric vehicles, wind turbines, solar panels, and rechargeable batteries.
- Some are also crucial for common products, such as stainless steel and electronics.
- Top Producers: Chile, Indonesia, Congo, China, Australia, and South Africa.
- Countries identify minerals critical for them based on their national priorities.
- In 2023, the Ministry of Mines released a list of 30 critical minerals for India.
- These minerals are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium, and Cadmium.
- 24 minerals added to Part D of Schedule I of the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act), granting Central Government exclusive auctioning powers.
- A Centre of Excellence for Critical Minerals (CECM) will regularly review the mineral list and advise policy.

National Critical Mineral Mission (NCMM)

- The Government of India launched the NCMM in 2025 to establish a robust framework for self-reliance in the critical mineral sector.
- The NCMM encompasses all stages of the value chain, including mineral exploration, mining, beneficiation, processing, and recovery from end-of-life products.
- Exploration:
- Under this mission, the Geological Survey of India (GSI) has been tasked with conducting 1,200 exploration projects from 2024-25 to 2030-31, with an aim of ensuring domestic production of at least 15 critical minerals (such as graphite, lithium, potash, REEs).
- The NCMM also aims for Indian companies to acquire 50 mining assets worldwide.
- To achieve these targets, it seeks to create a fast-track regulatory approval process for mining projects.
- Recycling: The NCMM seeks to set up an incentive scheme for mineral recycling with a budget of INR 1500 crore (USD 170 million), with a target of recovering 400 kilotonnes (kt) of recycled material.
- Stockpiling: The NCMM foresees the creation of a National Critical Minerals Stockpile comprising at least 5 critical minerals to mitigate the risks from global supply chain disruptions.
- Research:
- The NCMM seeks to promote research in critical mineral technologies with a target of achieving self-sufficiency in processing at least 5 critical minerals and generating 1000 patents across the critical mineral value chains by 2031.
- It also proposes setting up 4 regional mineral processing parks and 3 Centres of Excellence on Critical Minerals.
- Governance: The NCMM envisages the formation of an Empowered Committee on Critical Minerals that would coordinate and implement the initiatives under the NCMM.

Sir Creek Dispute

Recently, Defence Minister Rajnath Singh warned Pakistan against any aggression in the Sir Creek region, stating that India would give a "resounding and decisive response" that could alter "history and geography".

About Sir Creek

- Sir Creek is a 96 km long tidal estuary located in the marshy Rann of Kutch region, separating Gujarat (India) from Sindh (Pakistan).
- It flows into the Arabian Sea and is a strategically sensitive zone due to its proximity to the international boundary.
- The area is significant for security, fishing rights, oil and gas exploration, and Exclusive Economic Zone (EEZ) determination.

Nature of the Dispute

- The dispute arises from differing interpretations of the 1914 Bombay Government Resolution signed between Sindh (then under British India) and the Ruler of Kutch.
- Pakistan's claim: The boundary lies on the eastern bank of the creek (giving the creek to Sindh).
- India's claim: The boundary should follow the thalweg principle (mid-channel line of navigable waters).
- Pakistan's counter-argument: Sir Creek is not navigable, hence the thalweg principle doesn't apply.
- India's stand: The creek is navigable during high tide, so international maritime norms apply.

Dark Stars

Astronomers recently unearthed evidence that some of the earliest luminous objects in the universe may be “dark stars”, stars powered not by nuclear fusion but by dark matter annihilation.

About Dark Stars

- Dark stars are hypothetical objects that may have inhabited the early universe.
- Scientists believe that dark stars might be the oldest stars in the history of the universe and may represent the first phase of stellar evolution.
- These stars are giant, much larger than our sun or any of the other stars around today.
- A single dark star could be as much as 400 to 200,000 times wider than our sun and 500 to 1,000 times more massive.
- Dark stars aren't actually dark; they just don't emit any visible light.
- That's because instead of nuclear fusion, which is the process that converts hydrogen into helium in the core of an ordinary star, dark stars are powered differently.
  - Astronomers believe that dark matter heating is what powers them.
  - Because there’s no fusion happening inside them, they aren’t very hot.
  - Because dark stars don’t rely on core fusion to stave off gravitational collapse, they’re not extremely compressed like normal stars.
  - Instead, dark stars are likely giant, puffy clouds that shine extremely bright.
  - A single dark star from the early Universe could be as bright as an early galaxy containing many more standard stars.
- And even though they'd be massive — and potentially spewing gamma rays, neutrinos, and antimatter — so far, they've been too faint to be detected because they don't emit visible light.

Baratang Island

Recently, India's only mud volcano at Baratang in Andaman and Nicobar Islands has again erupted.

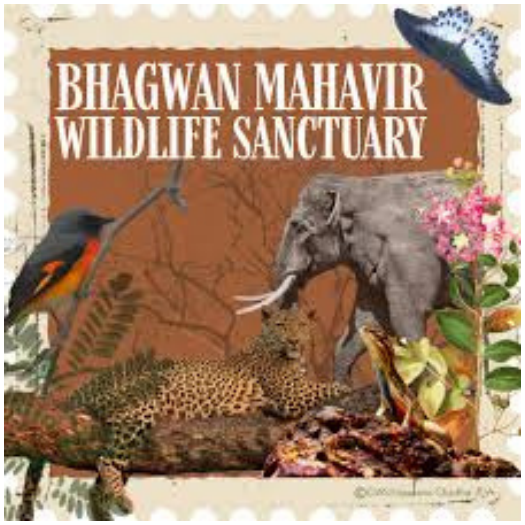
About Baratang Island

- Location: It is located in the North and Middle Andaman district, and it is nearly 150 km away from Port Blair.
- It is a very popular tourist spot because it is India's only mud volcano.
- It erupted recently in 2005 owing to the oceanic seismic shifts.
- The mud volcanoes in Baratang Islands are the only known volcanoes in the Indian sub-continent.
- It is also home to the Jarawa tribe, one of the indigenous tribes of the Andaman and Nicobar Islands.

What is Mud Volcano?

- Mud volcanoes, also called 'Mud Domes,' are formed by the eruption of mud slurries, water, and gases involving a series of geological processes.
- Unlike actual ingenious volcanoes, mud volcanoes don't throw out lava when they erupt.
- It is a geological formation where a mixture of mud, water, and gases (mainly methane, sometimes carbon dioxide or nitrogen) erupts to the surface, creating cone-like structures that resemble true volcanoes without molten lava.
- The sizes of mud volcanoes lie between one and two meters to 700 meters high and between one and two meters to 10 kilometers wide.
- Mud volcanoes also exist on the floor of the sea and can form islands and banks that alter the topography and shape of the coastline.

Bhagwan Mahavir Wildlife Sanctuary



Goa's State Board for Wildlife recently recommended that the proposal for wildlife clearance for iron ore handling at Kalem railway station in Bhagwan Mahaveer Wildlife Sanctuary and National Park be placed before the National Board for Wildlife (NBWL) for their "consideration".

About Bhagwan Mahaveer Wildlife Sanctuary

- It is located on the eastern border of the state of Goa, near the village of Mollem.
- Set amidst the foothills of the Western Ghats, it covers an area of 240 sq. km, out of which 170 sq.km. is dedicated to the Mollem National Park built at the core of the sanctuary.
- Originally known as the Mollem Game Sanctuary, it was declared a wildlife sanctuary in 1969 and then renamed the Bhagwan Mahavir Wildlife Sanctuary.
- It is also home to the famous Dudhsagar waterfall, the Devil's Canyon, the Tambdi Surla temple, the Tambdi falls, and a number of other historic and religious sites.
- Vegetation: West Coast tropical evergreen forests, West Coast semi-evergreen forests, and moist deciduous forests.
- Flora: Teak, bamboo, cashew, and eucalyptus trees dominate the landscape.
- Fauna:
- The sanctuary is particularly known for its Leopards, Elephants, Deers & Gaur, or Indian Bison.
- The chief attraction of the sanctuary is the King Cobra, which is found here in abundance.
- It is home to around 200 species of various types of birds, like the Malabar pied hornbill, Indian black woodpecker, great Indian hornbill, kingfishers, paradise flycatcher, shrikes, grey jungle fowl, etc.

Snow Leopard

Himachal Pradesh has recorded 83 snow leopards (up from 51 in 2021) as per the latest survey by the Wildlife Wing of the State Forest Department in collaboration with the Nature Conservation Foundation (NCF).

About Snow Leopard (Panthera uncia)

- Declared State Animal of Ladakh and Himachal Pradesh.
- Found across 12 range countries – Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan, Uzbekistan.
- India is home to an estimated 500–700 snow leopards spread across the Himalayas and Trans-Himalayan region.
- Mascot of Khelo India Winter Games 2024: named Sheen-e She (Shan) in Ladakh.
- It is listed as Vulnerable on the IUCN Red List and is native to the mountain ranges of Central and South Asia.

Key Characteristics Snow Leopard

- Medium-sized cat, weight 30–55 kg.
- Height: 55–65 cm | Length: 90–115 cm.
- Fur: Smoky-grey with black rosettes, providing camouflage in rocky terrain.
- Paws: Large, act like natural snowshoes to prevent sinking.
- Tail: Extra-long, used for balance and warmth.
- Ears: Small and round, reducing heat loss.
- Nasal cavity: Wide, short—warms cold air before inhalation.
- Leaping ability: Can leap 10 meters (30 feet) in a single bound.
- Vocalisation: Cannot roar, unlike most big cats.
- Evolutionary relation: Closer to tigers than leopards.

Key Details of the Survey

- The exercise, covering 26,000 sq km across Spiti Valley, Kinnaur, Pangi, Lahaul, and Great Himalayan National Park, involved 271 camera traps.
- First official sighting of Pallas's Cat in Kinnaur and rediscovery of Woolly Flying Squirrel in Lahaul also reported.
- For the first time globally, indigenous women from Kibber contributed to data analysis, highlighting inclusive community participation in conservation.
- Himachal Pradesh is the first state in India to complete a population estimation of snow leopards, setting a cost-effective, scalable model for monitoring.

CAQM

With the paddy harvest season beginning in northern India, the Commission for Air Quality Management in the National Capital Region and Adjoining Areas (CAQM) has stepped up measures to curb stubble burning, one of the key contributors to winter air pollution in the Capital.

About Commission for Air Quality Management in National Capital Region and Adjoining Areas

- It is a statutory body established under the Commission for Air Quality Management in National Capital Region (NCR) and Adjoining Areas, Act 2021.
- Mandate: Better coordination, research, identification, and resolution of problems surrounding the air quality index and for matters connected therewith or incidental thereto.
- It undertakes action for the prevention and control of Air pollution in Delhi-NCR & Adjoining Areas which impacts the air quality of the National Capital Territory (NCT) of Delhi.
- The Commission is required to coordinate its actions on monitoring of air quality with the government of Delhi and the adjoining states, which includes Punjab, Haryana, Rajasthan, and Uttar Pradesh.

Commission for Air Quality Management Powers

- Restricting activities influencing air quality.
- Investigating and conducting research related to environmental pollution impacting air quality, preparing codes and guidelines to prevent and control air pollution.
- Issuing directions on matters including inspections, or regulations, which will be binding on the concerned person or authority.
- All the directions and orders by the Commission are of binding nature, and any person, officer, or authority shall be bound to comply with the same.
- The commission is directly accountable to the parliament.

Commission for Air Quality Management Composition

- Chairperson: To be chaired by a government official of the rank of Secretary or Chief Secretary. He will hold the post for three years or until s/he attains the age of 70 years.
- It will also have five ex-officio members who are either Chief Secretaries or Secretaries in charge of the department dealing with environment protection in the States of Delhi, Punjab, Haryana, Rajasthan, and Uttar Pradesh.
- Three full time technical members.
- Three members from non-government organisations.
- Technical members from the Central Pollution Control Board (CPCB), the Indian Space Research Organisation, and NITI Aayog.

Kanha Tiger Reserve

Recently, three tigers, including two female cubs, have been found dead inside the Kanha Tiger Reserve (KTR) attributing the deaths to territorial fights among big cats.

About Kanha Tiger Reserve

- Location: It is located in the "Maikal" ranges of the Satpuras in the state of Madhya Pradesh.
- It was declared a reserve forest in 1879 and revalued as a wildlife sanctuary in 1933. Its position was further upgraded to a national park in 1955.
- Corridor: It has an active corridor between Kanha and Pench Tiger Reserves. Kanha is also connected with the Achanakmar Tiger Reserve of Chhattisgarh State.
- Habitat: It is characterized mainly by forested shallow undulations, hills with varying degrees of slopes, plateaus, and valleys.
- Tribal Communities: The region is known for some of the ancient tribal communities, like the Gond and Baiga still inhabit the region.
- It is also the first tiger reserve in India to officially introduce a mascot, "Bhoorsingh the Barasingha".
- Flora: It is primarily a moist Sal and moist mixed deciduous forest where Bamboo, Tendu, Sal, Jamun, Arjun, and Lendia flourish.
- Fauna: The Park has a significant population of Royal Bengal Tigers, leopards, sloth bears, and Indian wild dogs.
- The Park is respected globally for saving the Barasingha (the state animal of Madhya Pradesh) from near extinction and has the unique distinction of harbouring the last world population of this deer species.

Pulicat Lake

Recently, Pulicat lake fishermen demand a long-term solution as silt threatens lake livelihoods.

About Pulicat Lake

- It is a vast coastal shallow, brackish water lagoon along the coast of Bay of Bengal into which streams drain
- It is the second largest brackish water lagoon in India after Chilika, sprawling across Andhra Pradesh and Tamil Nadu.
- ThIS lagoon is separated from the Bay of Bengal by the Sriharikota island.
- It is fed by the Aarani River at the southern tip and the Kalangi River from the northwest. The Buckingham Canal, a navigation channel, passes through the lagoon.
- It was designated as a Ramsar site in 2002.
- Biodiversity: It is a unique ecotone that supports rich biodiversity — from aquatic life such as mudskippers, seagrass beds, and oyster reefs to more than 200 avian species,
- Flora: The green kingdom is represented with about 132 plant species like Walsura piscida; Manilkara elengi, Excoecaria agallocaha, Spinifex littoreus, Calamus viminalis, etc.
- Fauna: It includes migratory birds such as Eurasian curlews, oystercatchers, bar-tailed godwits, sand plovers, and greater flamingos.

Painted Stork

Recently, after a four-year hiatus, a pair of painted storks has been spotted in Kaziranga National Park and Tiger Reserve (KNPTR).

About Painted stork

- It is a large wading bird belonging to the stork family.
- 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 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.
- Food: Painted storks are carnivores (piscivores). Their diet consists mainly of small fish, but also crustaceans, amphibians, insects, and reptiles.
- Conservation Status: It is classified as near threatened under the IUCN Red List

Painted Stork Features

- Painted storks are the only storks within the genus Mycteria that have a black pectoral band.
- Males and females are not sexually dimorphic; however, male painted storks tend to be slightly larger than female storks.

Ortolan Bunting

The rare European bird, the Ortolan Bunting, with just a single recorded sighting in Bengal, was spotted at Baruipur, situated in the southern periphery of the city, recently.

About Ortolan Bunting

- It is a small Palearctic migrant songbird.
- Scientific Name: Emberiza hortulana
- Distribution: The bird is found in most of Europe, with populations found as far west as Mongolia and as far north as the Arctic Circle.

Ortolan Bunting Habitat

- Its habitat consists of open, cultivated, or uncultivated areas with sparse woody vegetation, up to an altitude of 2500 metres locally.
- It absolutely avoids forested areas, including during migration.
- The oceanic climate is not suitable for it.

Ortolan Bunting Features

- It is small, with a length of 6.3 to 6.7 inches and a wingspan of about 10 inches.
- The males have a greenish-gray head along with a yellow throat, swooping mustache, and ring around the eye.
- Its belly is brown and its back and rump are brown and streaked.
- The females and juveniles are smaller, have spots on the belly, and are duller overall.
- Like most buntings, the ortolan has a conical beak that’s good for cracking seeds.

Ortolan Bunting Conservations Status

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

Chlorophytum Vanapushpam

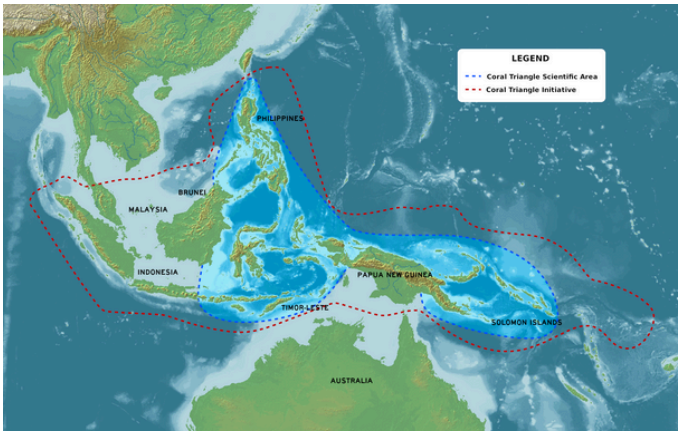
Researchers during a field exploration in Idukki district's Vagamon hills have identified a new species of the genus Chlorophytum and named the new species as Chlorophytum vanapushpam.

About Chlorophytum Vanapushpam

- It is a perennial herb belonging to the genus Chlorophytum (family Asparagaceae).
- It is a close relative of the safed musli.
- It has been found in the rocky hills of Vagamon and Neymakkad - parts of the Western Ghats regions of Idukki district - at elevations between 700 m and 2124 m.
- The species name vanapushpam is a composite of 'Vanam' and 'Pushpam,' the Malayalam for forest and flower respectively.
- Features of Chlorophytum vanapushpam:
  - It has white flowers in small clusters and slender leaves and grows up to 90 cm in height.
  - But unlike its more famous cousin Chlorophytum borivilianum, Chlorophytum vanapushpam lacks tubers.
  - Its seeds are about 4 to 5 mm across. Flowering and fruiting occurs from September to December.
- The Western Ghats region is thought to be a centre of origin of the genus Chlorophytum.
- A total of 18 species have been identified here so far, with many of them exhibiting medicinal properties.
- One of these is the Chlorophytum borivilianum, more familiar to Indians as the 'safed musli,' a herb widely used in traditional medical preparations and also popular as a leaf vegetable.

Coral Triangle

The Philippines is preparing to host Southeast Asia's first coral larvae cryobank which links research institutions in the Philippines, Taiwan, Indonesia, Malaysia, and Thailand to create a network of cryobanks across the Coral Triangle.



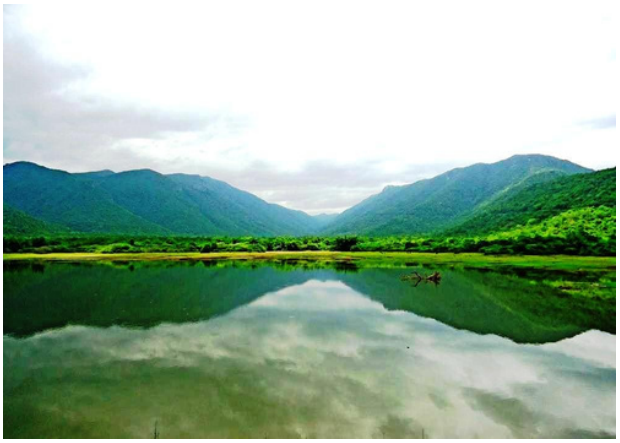
About Coral Triangle

- It is often referred to as the 'Amazon of the seas', is a huge marine area spanning over 10 million square kilometres.
- Countries of coral Triangle: It includes countries like Indonesia, Malaysia, Papua New Guinea, Singapore, the Philippines, Timor-Leste, and the Solomon Islands.
- Significance: The Triangle is home to more than three-quarters of the world's coral species, a third of all reef fish, the vast mangrove forests, and six of the seven marine turtle species.
- It also sustains the food security and livelihoods of more than 120 million people.
- Threats: Growing carbon emissions, destructive fishing, air, water, and soil pollution, and the accelerating effects of climate change are all driving coral bleaching, habitat loss, and species decline.

What are Corals?

- Corals are essentially animals, which are sessile, meaning they permanently attach themselves to the ocean floor.
- Corals share a symbiotic relationship with single-celled algae called zooxanthellae.
- The algae provide the coral with food and nutrients, which they make through photosynthesis, using the sun's light.
- They use their tiny tentacle-like hands to catch food from the water and sweep into their mouth.
- Each individual coral animal is known as a polyp and it lives in groups of hundreds to thousands of genetically identical polyps that form a 'colony'.

Bhavani River



The Tamil Nadu Forest Department is monitoring an injured makhna (tuskless male elephant) that has been standing in the river Bhavani along the Tamil Nadu-Kerala border.

About Bhavani River

- It is a major tributary of the Cauvery River.
- It flows through the states of Kerala and Tamil Nadu.
- It is the second largest river in Tamil Nadu.
- Course:
  - It originates from the Western Ghats in the Nilgiri Hills, located in the Tiruppur District of Tamil Nadu.
  - From there, it flows into Kerala, passing through the Silent Valley National Park.
  - After flowing through Kerala, the river turns and flows back into Tamil Nadu.
  - The river confluences with the Cauvery river at the town of Bhavani in Tamil Nadu.
  - Bhavani Sangameshwarar Temple, situated at the meeting point of the Bhavani and the Cauvery Rivers, is a prominent pilgrim center.
- Total Length: 217 km.
- It is a perennial river.
- The drainage basin of the Bhavani River spans approximately 6,200 sq.km., covering parts of Tamil Nadu, Kerala, and Karnataka:
- Tamil Nadu: 87% of the basin area
- Kerala: 9% of the basin area
- Karnataka: 4% of the basin area
- About 90 percent of the river water is used for agriculture.
- Tributaries: The largest tributaries of the Bhavani River are West and East Varagar, which come from the Nilgiris.
- There are two major dams on the Bhavani River:
- Bhavani Sagar Dam
- Kodiveri Dam
- Source: TH... Read more at: https://vajiramandravi.com/current-affairs/upsc-prelims-current-affairs/2025/10/07/

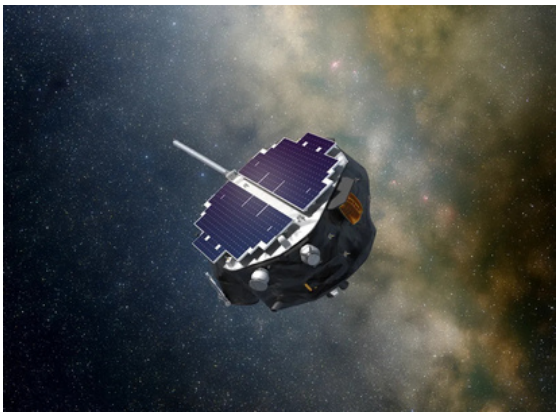
False Smut Disease

According to reports, the paddy crop, which is at the maturing and harvest stage, has been infested with false smut disease, causing widespread damage across Punjab.

About False Smut Disease

- False smut (haldi rog) is an important fungal disease of rice (paddy).
- It is caused by the fungus Ustilaginoidea virens.
- It is also known as Lakshmi disease or Oothupathi disease of rice.
- The disease is hard to stop, because fungus infects the crop during the flowering stage, and symptoms of the disease are evident after emergence of rice panicles.
- The typical symptom of the disease is black fungal mycelium growth in paddy grains, which become covered with yellow fungal growth in the field.
- Mature spores are orange and turn yellowish green or greenish black in colour.
- Only a few grains in a panicle are usually infected, and the rest are normal.
- It doesn't directly impact other plant parts.
- It causes chalkiness of grains, which leads to reduction in grain weight. It also reduces seed germination.
- The percentage of infected panicles and the extent of infection within each panicle significantly impact yield loss.
- Favorable Factors for False Smut in Paddy Crops?
- Warm and humid weather: Temperatures between 25-30°C and high humidity (>80%) promote fungal growth.
- Presence of infected plant debris: Spores can survive on leftover stubble and straw from previous harvests.
- High nitrogen content in soil: Excessive nitrogen application can increase susceptibility.
- Control of false smut of rice through fungicide application is feasible; however, high usage of fungicides has led to the resistance development in causal agents besides environmental pollution.

Interstellar Mapping and Acceleration Probe



Recently, NASA launched the Interstellar Mapping and Acceleration Probe (IMAP) to show how solar particles are energised and shield us.

About Interstellar Mapping and Acceleration Probe

- Its goal is to map the heliosphere's boundary, trace energetic particles, and improve space weather forecasting.
- The heliosphere is a huge bubble created by the Sun's wind that encapsulates our entire solar system.
- IMAP will support real-time observations of the solar wind and energetic particles, which can produce hazardous conditions in the space environment near Earth.
- It is situated at the first Earth-Sun Lagrange point (L1), at around one million miles from Earth toward the Sun.
- IMAP will also send data in near real-time to help scientists monitor space weather conditions.
- Interstellar Mapping and Acceleration Probe will
- Uncover fundamental physics at scales both tiny and immense.
- Improve forecasting of solar wind disturbances and particle radiation hazards from space.
- Draw a picture of our nearby galactic neighborhood.
- Help determine some of the basic cosmic building materials of the universe.
- Increase understanding of how the heliosphere shields life in the solar system from cosmic rays.

Components of Interstellar Mapping and Acceleration Probe

- IMAP is equipped with 10 scientific instruments, each designed to detect different types of particles or phenomena in space.
- Some of them are energetic neutral-atom detectors (IMAP-Lo, IMAP-Hi, IMAP-Ultra), which capture neutral atoms that were once charged ions but were changed by acquiring electrons.
- Other instruments detect charged particles directly, magnetic fields, interstellar dust, and solar-wind structures.

Lecanemab Drug

Recently, Australia approved Lecanemab drug for early Alzheimer's diseases.

About Lecanemab Drug

- It is a monoclonal antibody drug to treat early stages of Alzheimer's.
- It is designed to slow early Alzheimer's progression by targeting amyloid proteins in the brain.
- It was developed to tackle the causes of Alzheimer's disease rather than only relieving the symptoms.

Working of Lecanemab Drug

- It uses antibodies to recognise amyloid in the brain and works with the brain's immune cells to clear amyloid protein build-up from the brains of people living with early-stage Alzheimer's disease.
- These amyloid protein build-ups are thought to be toxic to brain cells, causing them to get sick and eventually die, leading to the symptoms of Alzheimer's disease.
- Lecanemab is given to patients intravenously, which means into a vein through a drip bag.
- Recent clinical trials show a 27 per cent reduction in disease progression.
- Issues with : High cost and potential side effects, including brain swelling, limit its accessibility and raise safety concerns.

What is Alzheimer's Disease?

- Alzheimer's disease is a brain disorder that slowly destroys memory and thinking skills and, eventually, the ability to carry out the simplest tasks.
- It is the most common cause of dementia, a general term for memory loss and other cognitive abilities serious enough to interfere with daily life.
- Alzheimer's disease accounts for 60-80% of dementia cases.
- It involves parts of the brain that control thought, memory, and language.
- The condition usually affects people aged 65 years and over, with only 10% of cases occurring in people younger than this.

Biomedical Research Career Programme Phase III

Recently, the Union Cabinet has approved the continuation of the Biomedical Research Career Programme (BRCP), Phase-III.

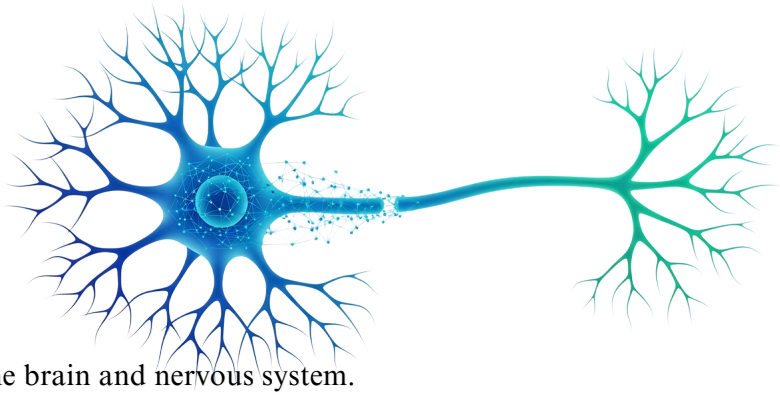
About Biomedical Research Career Programme Phase III

- It will nurture top-tier scientific talent for cutting-edge biomedical research and promote interdisciplinary research for translational innovation.
- It is being implemented in partnership between the Department of Biotechnology (DBT) and the Wellcome Trust (WT), United Kingdom and the SPV, India Alliance
- Time Period: Between 2025-26 and 2030-31 with an additional six-year support period until 2037-38.
- Funding: It will have a total outlay of ₹1,500 crore, of which DBT will contribute ₹1,000 crore and the Wellcome Trust ₹500 crore.
- In Phase-III, the following programmes are proposed to be implemented:
- Early Career and Intermediate Research Fellowships in basic, clinical and public health: These are globally recognized and tailored for the formative stages of a scientist's research career.
- Collaborative Grants Programme: These include Career Development Grants and Catalytic Collaborative Grants for 2-3 Investigator teams for early and mid-senior career researchers respectively with strong research track record in India.
- Phase III will also focus on strengthening mentorship, networking, public engagement, and developing new and innovative national and international partnerships.

What is the Biomedical Research Career Programme" (BRCP) ?

- It was first launched in in 2008-2009 through the DBT/Wellcome Trust India Alliance (India Alliance), a dedicated Special Purpose Vehicle (SPV)
- It offered research fellowships, based in India, for biomedical research at the world class standards.
- Subsequently, Phase II was implemented in 2018/19 with an expanded portfolio.

Neurons



A new study (2025) has identified dendritic nanotubes (DNTs) in the brains of mice and humans, a new form of neuron-to-neuron connection.

About Neurons

- Neurons (nerve cells) are the fundamental units of the brain and nervous system.
- They are responsible for:
- Receiving sensory input from the environment.
- Sending motor commands to muscles.
- Processing and transmitting electrical and chemical signals.
- Structure of Neuron:
- Dendrites → receive incoming signals.
- Cell Body (Soma) → integrates signals.
- Axon → carries impulses away from the cell body.
- Axon Terminals → release neurotransmitters at synapses.
- Neuronal Communication
- Traditionally, neurons communicate via synapses where neurotransmitters cross gaps.
- New Discovery: Neurons may also connect via nanotubes (DNTs), enabling:
- Direct electrical signal transfer.
- Protein transport (including amyloid-beta, linked to Alzheimer's).

Anusandhan National Research Foundation (ANRF)

The Anusandhan National Research Foundation (ANRF) has launched a tool called SARAL (Simplified and Automated Research Amplification and Learning) to make scientific research more accessible and understandable.

About Anusandhan National Research Foundation (ANRF)

- Established under: ANRF Act, 2023, functioning under the Department of Science & Technology (DST).
- Subsumed body: The Science and Engineering Research Board (SERB) has been merged into ANRF.
- Core objective: To seed, grow, and promote R&D, and foster a research and innovation culture across universities, colleges, research institutions, and R&D labs in India.
- Strategic role: Acts as an apex body providing high-level strategic direction to research, in line with the National Education Policy (NEP), 2020.
- Funding target: ₹50,000 crore for the period 2023–2028, with ~70% expected from private sector contributions.
- Broader vision: Develop an AI Science & Engineering Open India Stack to revolutionize sectors like drug and chemical discovery, aerospace design, advanced materials, climate and weather studies.
- Single-window system: Envisaged as a single-window clearance mechanism for R&D funding in academic and research institutions.
- SARAL uses Artificial Intelligence (AI) to generate simplified summaries of complex research papers in the form of videos, podcasts, posters, and presentations for wider outreach.

Trichloroethylene (TCE)

Long-term exposure to the industrial solvent trichloroethylene (TCE) outdoors may be linked to an increased risk of Parkinson's disease, according to a recent study.

About Trichloroethylene

- It is a volatile, colorless liquid organic chemical.
- TCE does not occur naturally and is created by chemical synthesis.

Trichloroethylene Applications

- It is used primarily to make refrigerants and other hydrofluorocarbons and as a degreasing solvent for metal equipment.
- TCE is also used in some household products, such as cleaning wipes, aerosol cleaning products, tool cleaners, paint removers, spray adhesives, and carpet cleaners and spot removers.
- Commercial dry cleaners also use trichloroethylene as a spot remover.

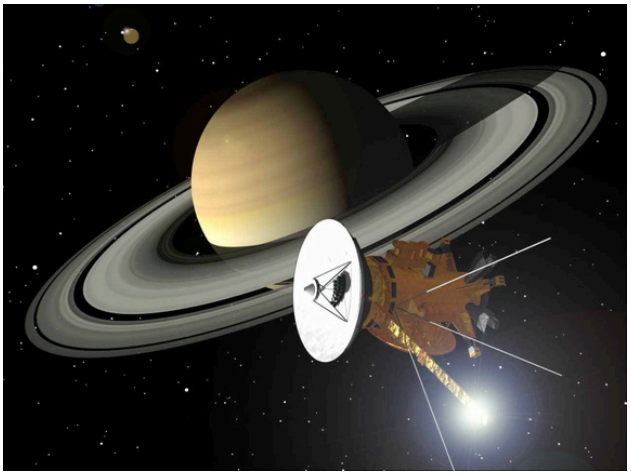
How are People Exposed to Trichloroethylene?

- TCE may be found in the air, water, and soil at places where it is produced or used.
- It breaks down slowly and remains in the environment for a long time.
- It readily passes through soil and can accumulate in groundwater.
- People in the general population can be exposed to TCE by inhaling it in indoor and outdoor air, drinking contaminated water, or eating foods that have been washed or processed with contaminated water.

Impact of Trichloroethylene on Human Health

- People with prolonged or repeated exposure to TCE could experience liver problems and may have an increased risk of developing liver or kidney cancer.
- TCE also has genotoxic and immunotoxic potential, and some studies indicate that it may be a teratogen.
- There is also increasing evidence supporting the association between TCE exposure and non-Hodgkin lymphoma, and several reproductive and developmental toxicity endpoints, including infertility in males and females, impaired fetal growth, and cardiac teratogenesis.

Cassini Spacecraft



A fresh look at data collected by NASA's Cassini spacecraft has uncovered more evidence that Saturn's moon Enceladus may be able to support life.

About Cassini Spacecraft

- It is a joint project of NASA, the European Space Agency and the Italian space agency (ASI).
- Cassini was a sophisticated robotic spacecraft sent to study Saturn and its complex system of rings and moons in unprecedented detail.
- It was launched on October 15, 1997. It was one of the largest interplanetary spacecraft.
- The mission consisted of NASA's Cassini orbiter, which was the first space probe to orbit Saturn, and the ESA's Huygens probe, which landed on Titan, Saturn's largest moon

Objectives of Cassini Spacecraft

- Saturn—Study cloud properties and atmospheric composition, winds and temperatures, internal structure and rotation, ionosphere, origin, and evolution
- Rings—Observe their structure and composition, dynamical processes, interrelation of rings and satellites, dust and micrometeoroid environment.
- Titan—Study abundances of atmospheric constituents, distribution of trace gases and aerosols, winds and temperatures, composition and state of the surface, and upper atmosphere
- Saturn's Magnetosphere—Study its structure and electric currents; composition, sources, and sinks of particles within it; dynamics; interaction with the solar wind, satellites, and rings; Titan's interaction with solar wind and magnetosphere

Components of Cassini Spacecraft

- The instruments on board Cassini included radar to map the cloud-covered surface of Titan and a magnetometer to study Saturn's magnetic field.
- The disk-shaped Huygens probe was mounted on the side of Cassini and carried six instruments designed to study the atmosphere and surface of Titan.

Key Facts about Enceladus

- It is named after a giant in ancient Greek mythology,
- It is one of the innermost moons of the ringed gas giant Saturn.
- It has a diameter of 313 miles (504 km) and orbits Saturn at a distance of roughly 148,000 miles (238,000 km).
- Scientists believe Enceladus possesses the chemical ingredients needed for life and has hydrothermal vents releasing hot, mineral-rich water into its ocean, the same type of environment that may have spawned Earth's first living organisms.
- Its ocean resides under a crust of ice about 12-19 miles (20-30 km) thick.

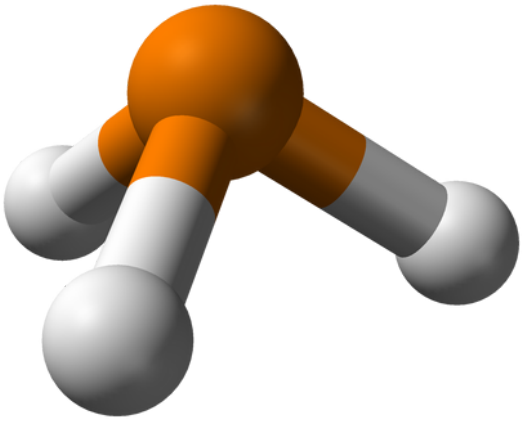
Mono Ethylene Glycol

The textile industry has appealed to the government not to levy anti-dumping duty on Mono Ethylene Glycol (MEG), which is one of the main raw materials used in the production of polyester fibre and filament.

About Mono Ethylene Glycol

- It is an organic compound with the formula C2H6O2.
- It is also called ethylene glycol or just glycol.
- It is a slightly viscous liquid with a clear, colourless appearance and a sweet taste that emits virtually no odour.
- It's miscible with water, alcohols, and many other organic compounds.
- It is produced from the reaction between water and ethylene oxide.
- It is hygroscopic, meaning it can absorb water from its surroundings, and this property makes it useful as a dehydrating agent in various applications.
- MEG has a relatively low toxicity and is considered safe for many industrial and commercial uses.
- Uses:
- MEG is most commonly used in the manufacture of polyester fibre, fabrics, and polyethylene terephthalate (PET) resin used for the production of plastic bottles.
- Other industrial uses are as a coolant, heat transfer agent, antifreeze, and hydrate inhibitor in gas pipelines.

Phosphine



Recently, astronomers using the James Webb Space Telescope have detected phosphine (PH3) in the atmosphere of brown dwarf Wolf 1130C.

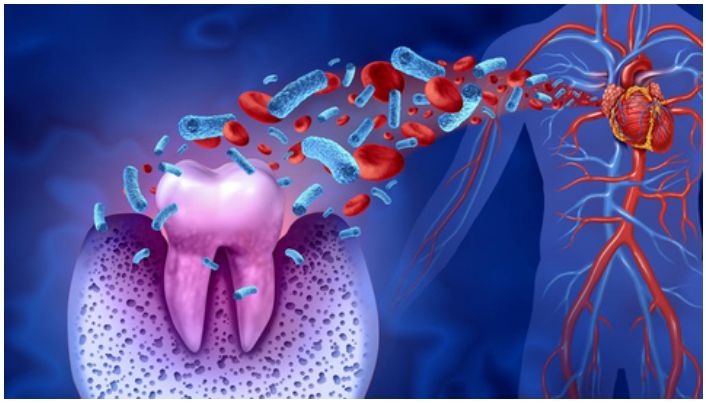
About Phosphine

- It is a chemical compound made of one phosphorus atom and three hydrogen atoms.
- Formation: Phosphine on Earth is developed naturally by bacteria that live in very low-oxygen environments.
- To produce phosphine, Earth bacteria take up phosphate from minerals or biological material and add hydrogen.
- It is also found in the atmospheres of Jupiter and Saturn.
- It is also called hydrogen phosphide.
- Uses of Phosphine: It is used in semiconductor and plastics industries, in the production of a flame retardant, and as a pesticide in stored grain.

Properties of Phosphine

- It is a colourless, flammable, extremely toxic gas with a disagreeable garlic like odour.
- It is slightly soluble in water.
- It is formed by the action of a strong base or hot water on white phosphorus or by the reaction of water with calcium phosphide (Ca3P2).
- It is structurally similar to ammonia (NH3), but phosphine is a much poorer solvent than ammonia and is much less soluble in water.

Viridans Streptococci



The new study, by a research team at Tampere University in Finland, examined coronary arteries from 121 sudden-death autopsies and found Viridans streptococci were the most frequent species, present in about 42% of both autopsy and surgical cases.

About Viridans Streptococci

- It is a group of common oral bacteria.
- It can form sticky bacterial layers called biofilms deep inside atherosclerotic plaques, remaining hidden from the immune system until the moment of rupture.
- Viridans streptococci are commensals in the gastrointestinal, respiratory and female genital tracts and are most prevalent in the oral cavity.
- It is a group of gram-positive cocci that are commonly associated with infective endocarditis (IE) and typically colonize previously damaged cardiac tissue.
- Viridans Streptococcal Biofilm Evades Immune Detection and Contributes to Inflammation.
- Importantly, the bacterial clusters were often arranged in biofilms, protective layers that allow bacteria to survive unnoticed by the body's immune system.

How do Oral Bacteria Trigger Heart Attacks?

- The biofilm formed by this bacteria remains hidden, parts of it can break loose. Once released, the bacteria trigger inflammation in the artery wall.
- This weakens the fibrous "cap" covering the fatty plaque, making it more likely to rupture.
- Plaque rupture is a critical event that leads to clot formation and, ultimately, a heart attack.

Bathukamma Festival

Recently, in Telangana, the celebrations of Bathukamma Festival, organised by the state Government, have set two new Guinness World Records.

About Bathukamma Festival

- Bathukamma is a floral festival celebrated by the women folk of Telangana.
- History Behind Bathukamma
- The term “Bathukamma” translates to “Mother Goddess Come Alive”, reflecting the divine feminine energy and protection.
- Folklore connects the festival to legends of Goddess Gauri and her miraculous survival as well as King Dhramangada and Queen Satyavati of the Chola dynasty.
- Historically, the Kakatiya dynasty emphasized Bathukamma as a celebration of feminine strength and agricultural prosperity.
- Every year this festival is celebrated usually in September–October of the Gregorian calendar.
- It is celebrated for nine days during Durga Navratri and the 9-day festivities will culminate on "Saddula Bathukamma" or "Pedda Bathukamma" festival.
- Bathukamma is followed by Boddemma, which is a 7-day festival.
- It has been declared as the Telangana State Festival.

Thumri Music

Recently, Thumri lost a towering voice with the demise of Pandit Chhannulal Mishra (1936–2025), Padma Vibhushan awardee and one of the last great exponents of the Purab Ang of Banaras Gharana.

About Thumri Music

- Thumri is a semi-classical vocal form of Hindustani music, often called the “lyric of Indian classical music”.
- It originated in Eastern Uttar Pradesh (mainly Lucknow and Benares) during the 18th century CE, developed by Sadiq Ali Shah.
- Themes: Primarily about love, separation, and devotion, often centered on Radha-Krishna episodes.
- Language: Usually sung in Braj Bhasha, Awadhi, and Hindi dialects, with touches of Urdu and Sanskrit.
- Distinct Feature: Freedom in improvisation; emphasis on bhava (emotion) over strict adherence to raga grammar.
- Associated Dance Form: Closely linked with Kathak, enhancing its narrative expression.
- Influences: Draws from Hori, Kajri, Dadra, Jhoola, Chaiti, etc.
- Types of Thumri:
- Purbi Thumri (Eastern/Slow tempo): More emotional and lyrical, usually associated with Banaras Gharana.
- Punjabi Thumri (Fast tempo): Energetic, lively, linked with Patiala Gharana.
- Major Gharanas of Thumri:
- Banaras Gharana – Girija Devi, Rasoolan Bai, Siddheshwari Devi, Chhannulal Mishra.
- Lucknow Gharana – Courtly refinement under Nawabs, Begum Akhtar.
- Patiala Gharana – Vibrant style with rhythmic play.

Remission of Duties and Taxes on Exported Products Scheme

The Government recently extended the Remission of Duties and Taxes on Exported Products (RoDTEP) incentive scheme for exporters until March 31, 2026.

About Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme

- It was introduced through an amendment to the Foreign Trade Policy 2015-20, and it became effective for exports starting January 1, 2021.
- The primary aim of this scheme is to offset the taxes and duties incurred on exported goods that wouldn't otherwise be credited, reimbursed, or refunded in any way, and are integrated into the exported goods.
- It is designed to reimburse exporters for embedded duties, taxes, and levies that are not otherwise refunded under any other existing scheme.
- It is compliant with World Trade Organization (WTO) norms and is implemented via a comprehensive end-to-end digital platform to ensure transparency and efficiency.
- It was enforced to repeal and reduce taxes on exported products, thereby encouraging exports and increasing the number of exports in the country.
- The scheme is administered by the Department of Revenue, Ministry of Finance.
- It replaced the Merchandise Export Incentive Scheme (MEIS), in response to the US challenging Indian export subsidies under the MEIS at the WTO.
- Tax Reimbursement under RoDTEP Scheme:
- The Scheme provides a mechanism for reimbursement of taxes, duties, and levies, which are currently not being refunded under any other mechanism at the central, state, and local levels, but which are incurred by the export entities in the process of manufacture and distribution of exported products.
- This not only includes the direct cost incurred by the exporter but also the prior stage cumulative indirect taxes on goods.
- RoDTEP Scheme Eligibility Criteria:
- All sectors are covered under the scheme.
- Labor-intensive sectors will be accorded priority.
- Both manufacturer exporters and merchant exporters (traders) are eligible for the scheme.
- There is no turnover threshold for availing of benefits under the scheme.
- The exported products should have India as their country of origin to be eligible for benefits under the scheme.
- Special Economic Zone Units and Export Oriented Units are also eligible.
- The scheme also applies to goods that have been exported via courier through e-commerce platforms.
- Re-exported products are not eligible under this scheme.
- Process of Refund:
- Rebates under the scheme are provided to eligible exporters as a percentage of the freight on board (FOB) value of exports.
- Remission is issued in the form of transferable e-scrips (a type of certificate with some monetary value) maintained in an electronic credit ledger by the CBIC (Central Board of Indirect Taxes and Customs).
- e-scrips used to pay basic customs duty on imported goods. The credits can also be transferred to other importers.
- Speedy Clearance Through Digitalization: Faster clearance through a digital platform will be facilitated through a monitoring & audit mechanism, with an IT-based risk management system that would physically verify the exporters' records.

Mission for Aatmanirbharta in Pulses

Recently, the Union Cabinet has approved the Mission for Aatmanirbharta in Pulses.

About Mission for Aatmanirbharta in Pulses

- It is aimed at boosting domestic production and achieving self-sufficiency (Aatmanirbharta) in pulses.
- Time Period: The Mission will be implemented over a six-year period, from 2025-26 to 2030-31.

Key Features of Mission for Aatmanirbharta in Pulses

- Comprehensive strategy: The mission covers research, seed systems, area expansion, procurement, and price stability.
- Focus on quality seeds: It focuses on developing and disseminating the latest varieties of pulses which are high in productivity, pest-resistant and climate-resilient. Multi-location trials will be carried out in major pulse-growing states to ensure regional suitability.
- Seed Production: To ensure availability of premium quality seeds, states will prepare five-year rolling seed production plans.
- The breeder seed production will be supervised by the Indian Council of Agricultural Research (ICAR).
- Foundation and certified seed production will be done by state and central level agencies, and closely tracked through the Seed Authentication, Traceability & Holistic Inventory (SATHI) portal.
- Capacity building: Structured training programmes for farmers and seed growers to promote sustainable techniques and modern technologies.
- Post-harvest infrastructure: To strengthen markets and value chains, the Mission will help develop 1000 processing units, thereby reducing crop losses, improving value addition.
- A maximum subsidy of Rs. 25 lakhs will be available for setting up of processing, packaging units.
- Cluster-Based Approach: Tailoring interventions to the specific needs of each cluster to enhance productivity, and promote geographic diversification of pulse production.
- Procurement: Assured maximum procurement of Tur, Urad, and Masoor under Price Support Scheme (PSS) of PM-AASHA.
- NAFED and NCCF will undertake 100% procurement in participating states for the next four years from farmers who register with these agencies and enter into agreements.
- Additionally, to safeguard farmer confidence, the Mission will establish a mechanism for monitoring global pulse prices.

Urban Flood Risk Management Programme

Recently, a high-level committee headed by the Union Home Minister approved the Urban Flood Risk Management Programme (UFRMP) Phase-2.

About Urban Flood Risk Management Programme

- The programme will complement the states in mitigating the risk of urban flooding in the cities through uniform structural and non-structural intervention measures.
- Cities Involved (11 cities) -- Bhopal, Bhubaneshwar, Guwahati, Jaipur, Kanpur, Patna, Raipur, Trivandrum, Vishakhapatnam, Indore and Lucknow
- Selection Criteria: The 11 cities were selected on the basis of their status of being the most populous cities/state capitals, primarily prone to floods, as well as consideration of other physical, environmental, socio-economic and hydro-meteorological factors
- Funding: The funding pattern will be on a cost-sharing basis between the Centre and the states according to the NDMF guidelines, i.e., 90 per cent from the Centre and 10 per cent from the states.
- Activities under Urban Flood Risk Management Programme
- Structural measures of Interlinking of water bodies to Stormwater Management, Construction of flood protection wall, Erosion Control and Soil Stabilisation using Nature-Based Solutions (NBS),etc.
- Non-structural measures such as Flood Early Warning System and Data Acquisition System and capacity building, etc.

National Dam Safety Authority

After two years of political and administrative controversy over the structural ability of the barrages of the Kaleshwaram project, the government recently decided to repair the three barrages based on the suggestions of the National Dam Safety Authority (NDSA).

About National Dam Safety Authority

- It is a statutory body set up by the Central Government under the Dam Safety Act, 2021.
- It operates with a clear mandate to regulate, oversee, and inspect dams.
- It is headed by a chairman and assisted by five members to lead its five wings - policy and research, technical, regulation, disaster and resilience, and administration and finance.
- It has its headquarters at New Delhi.
- Functions of the Authority include:
- implementing the policies formulated by the National Committee on Dam Safety;
- resolving issues between State Dam Safety Organisations (SDSOs), or between a SDSO and any dam owner in that state;
- specifying regulations for inspection and investigation of dams;
- providing accreditation to agencies working on construction, design, and alteration of dams.
- One of the standout features of the NDSA's approach is its commitment to establishing and enforcing comprehensive safety standards.
- These standards encompass various aspects, including structural integrity, environmental impact, and emergency response protocols.
- The NDSA actively engages in nationwide awareness programs to educate citizens about dam safety.
- In the face of natural calamities or unforeseen events, the NDSA ensures that comprehensive emergency response plans are in place.

Jal Jeevan Mission

The Union government plans to map all drinking water assets including pipelines created under its Jal Jeevan Mission (JJM) on PM Gati Shakti, a Geographic Information System (GIS)-based platform.

About Jal Jeevan Mission

- It was launched on August 15, 2019.
- JJM is envisioned to provide safe and adequate drinking water through individual Functional Household Tap Connections (FHTCs) by 2024 to all households in rural India.
- It is based on a community approach to water and will include extensive Information, Education and communication as key components of the mission.
- Nodal Ministry: Ministry of Jal Shakti.

Components of Jal Jeevan Mission

- Development of in-village piped water supply infrastructure to provide tap water connections to every rural household.
- Bottom-up planning: Community engagement in planning, implementation and Operation and Maintenance (O&M)
- Women empowerment: Involvement of women in planning, decision-making, implementation, monitoring, and O&M
- Focus on future generations: Provision of tap water supply to schools, tribalhostels, and anganwadi (daycare) centers
- Skill development and employment generation: Local people are skilled for building and maintaining water supply structures
- Greywater management: Reuse and recycle waste water for source sustenance
- Source sustainability: Promote groundwater recharge and water conservation
- Water Quality: Ensure safe drinking water to reduce water-borne ailments

Funding Pattern for Jal Jeevan Mission

- 50:50 between Centre and States
- 90:10 for Himalayan and North-Eastern States.
- In case of UTs, 100% of the funding is provided by the Central government.