

For UPSC CSE



# MONTHLY CURRENT AFFAIRS MAGAZINE



April 2026 (PRELIMS)

Part - 2

YOUR SIMPLIFIED GUIDE TO CURRENT AFFAIRS



## A Note to Our Readers

Dear Readers,

Welcome to **Simply Current Affairs Magazine** - your **trusted companion** in the ever-evolving journey of UPSC preparation. With UPSC preparation becoming more dynamic each year, the need for a **clear, exam-focused resource** is greater than ever. Our magazine has been designed with this very purpose - to **give you clarity from complexity**.

Each month, we present **two focused editions** - one dedicated exclusively to Prelims and the other exclusively to Mains. The content for the Prelims Magazine is carefully curated from authentic and diverse sources such as **The Hindu, Indian Express, Down To Earth, Press Information Bureau (PIB), All India Radio (AIR), DD News, and Economic and Political Weekly (EPW)**, ensuring coverage that is both relevant and reliable.

What makes this magazine stand apart is the **integration of Previous Year Questions (PYQs)**. Statements highlighted in orange are those that have appeared directly in UPSC Prelims, and the related PYQs are compiled at the end of the magazine for you to attempt as a test.

Our goal is simple - to provide a **concise, self-preparation-friendly comprehensive resource** that empowers aspirants, particularly those preparing independently, to approach current affairs with confidence and clarity.

We hope this magazine serves you well in your preparation journey.

With best wishes,  
Team Simply Current Affairs



**Mr. Guna Mathivanan,**  
Founder-Director, Simply Current Affairs



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# INITIATIVES

## 1) Information Technology Amendment Rules, 2026

### Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021

- Initially introduced in 2021 and amended in 2022 and 2023, the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021**, lay out obligations for intermediaries, including social media platforms, to ensure online safety and accountability.

#### Key Provisions of the 2021 Rules:

##### Due Diligence To Be Followed By Intermediaries:

- The Rules **prescribe due diligence** that must be followed by **intermediaries**, including **social media intermediaries**. In case, due diligence is not followed by the intermediary, **safe harbour provisions will not apply to them**.
  - Safe harbour provisions grant online intermediaries legal immunity from third-party user-generated content. Under Section 79 of the IT Act, platforms are protected as mere facilitators, provided they observe mandatory due diligence.*

##### Sahyog Portal:

- Launched by the **Ministry of Home Affairs** in 2024, the Sahyog portal is operated by the **Indian Cybercrime Coordination Centre (I4C)** as a **centralised platform for issuing takedown orders** to internet intermediaries, including telecom operators, internet service providers, social media platforms, and web-hosting services.
- Its purpose is to **enforce Section 79 of the IT Act**, which grants intermediaries “safe harbour” protection—shielding them from liability for user-generated content.

#### Grievance Redressal Mechanism:

- The Rules seek to empower the users by **mandating the intermediaries**, including **social media intermediaries**, to **establish a grievance redressal mechanism** for receiving resolving complaints from the users or victims.
  - Grievance Officer shall **acknowledge the complaint within twenty four hours** and **resolve it within fifteen days** from its receipt.

#### Ensuring Online Safety:

- Intermediaries shall **remove or disable access within 24 hours of receipt of complaints** of contents that expose the private areas of individuals, show such individuals in full or partial nudity or in sexual act or is in the nature of impersonation including morphed images etc.
  - Such a complaint can be filed either by the individual or by any other person on his/her behalf.

#### Two Categories of Social Media Intermediaries:

- To encourage innovations and enable growth of new social media intermediaries without subjecting smaller platforms to significant compliance requirements, the Rules make a **distinction between social media intermediaries and significant social media intermediaries** based on the **number of users** on the social media platform which the government is empowered to notify.
- The Rules require the **significant social media intermediaries** to follow certain **additional due diligence**:
  - Appoint a **Chief Compliance Officer** who shall be responsible for ensuring compliance with the Act and Rules. Such a person should be a **resident in India**.
  - Appoint a **Nodal Contact Person** for 24x7 coordination with law enforcement agencies. Such a person shall be a **resident in India**.



- Appoint a **Resident Grievance Officer** who shall perform the functions mentioned under Grievance Redressal Mechanism. Such a person shall be a **resident in India**.
- Publish a **monthly compliance report** mentioning the details of complaints received and action taken.
- Significant social media intermediaries **providing services primarily in the nature of messaging** shall **enable identification of the first originator** of the information.

#### Removal of Unlawful Information:

- An intermediary upon receiving actual knowledge in the form of an **order by a court or being notified by the Appropriate Govt. or its agencies should not host or publish any information which is prohibited** under any law in relation to the interest of the sovereignty and integrity of India, public order, friendly relations with foreign countries etc.

#### Why in News?

- The Centre has notified the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026 which aims to amend the Information Technology Rules, 2021.

#### Highlights of the latest Rules

- In a significant move addressing the rise of deepfakes and AI-generated content, the amendments introduce a **detailed definition** of 'synthetically generated information' (SGI).
  - SGI includes audio, visual or audio-visual content that is artificially or algorithmically created or modified in a manner that makes it appear real and indistinguishable from actual persons or events.
- Under the amended Rules, intermediaries will now be required to **inform users every three months**, instead of once a year, about the **consequences of violating the platform's terms of service, privacy policy or user agreement**.

- Users may face **penalties** under applicable laws for creating, generating or modifying unlawful content.
- One of the most striking changes is the **sharp reduction in timelines for content removal** including deepfakes and grievance redressal.
  - The amendments mandate that **court-ordered or law enforcement-directed takedowns** must now be complied with **within three hours**, as against the earlier 36-hour window.
  - Similarly, platforms must **remove non-consensual nudity within two hours**, down from 24 hours.
- **Grievance redressal timelines** have also been halved to **seven days**.

## 2) Great Nicobar Project

### About

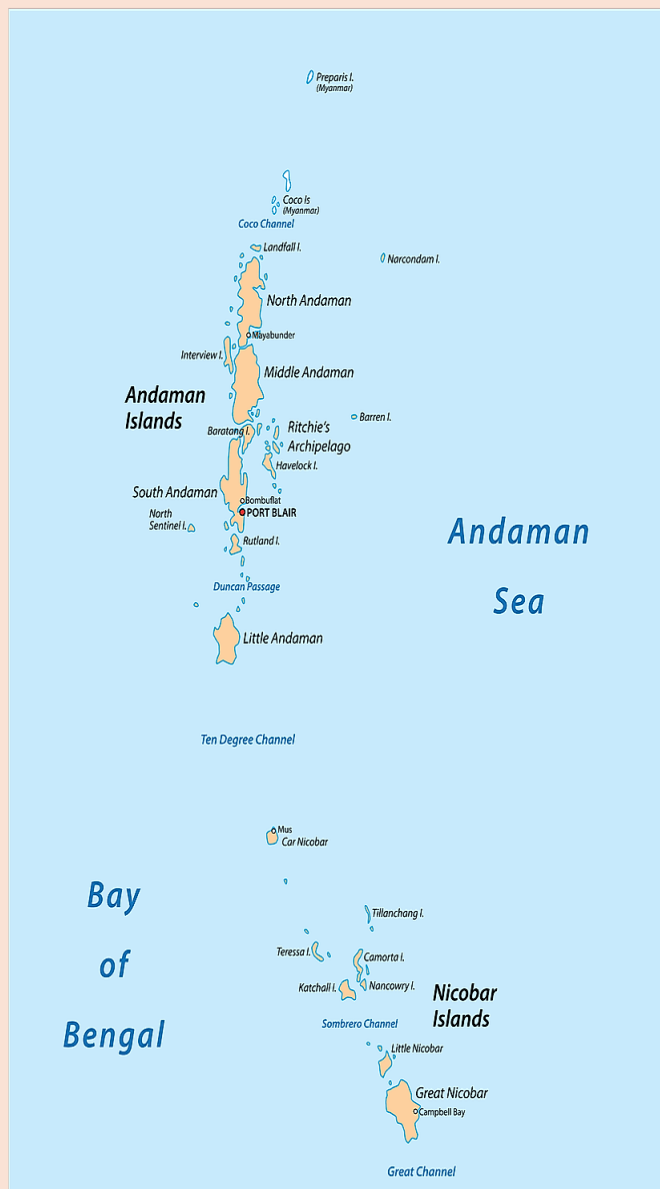
- The Great Nicobar Project is a **mega infrastructure initiative to transform Great Nicobar Island into a strategic and economic hub**.
- The plan includes:
  - **International Container Transshipment Terminal (ICTT)**
  - **Greenfield International Airport**
  - A **new township** to support workers and residents
  - **Power infrastructure**, including a gas-based plant.

### Great Nicobar:

- Great Nicobar is the **southernmost island of the Nicobar Islands archipelago**.
- It contains a **wide spectrum of ecosystems**, including **tropical wet evergreen forests, mountain ranges and coastal plains**.
- Notable endemic and/or threatened species include the **crab-eating macaque, Nicobar tree shrew, dugong, Nicobar megapode, serpent eagle, saltwater crocodile, marine turtles and reticulated python**.
- Great Nicobar Island is inhabited by the aboriginal Mongoloid tribes, the **Shompens** (about 237), who are **hunter-gatherers**, and the **Nicobarese** (about



1,094), who live in coastal settlements and depend mainly on **fishing** for survival.



### Significance

- The idea is to **position Great Nicobar as a key node in global maritime trade and reduce India's dependence on foreign transshipment hubs** such as Colombo, Singapore and Dubai, which currently handle a large share of Indian cargo traffic.
  - *Transshipment is the movement of cargo from one ship or transport mode to another at an intermediate port, where containers are unloaded, sorted, and reloaded onto another*

*vessel for onward delivery to their final destination.*

- This reliance stems from **lack of deep-water ports** capable of handling ultra-large container ships, which **drives up logistics costs, causes delays, and results in substantial foreign exchange losses.**
- The proposed port is **located close to the East-West international shipping route** (about 40 nautical miles away), and has **natural water depth of over 20 metres.** This strategic location gives it an advantage to **attract transshipment cargo.**
- Great Nicobar Island sits close to **one of the world's busiest shipping routes that connects the Strait of Malacca with global trade corridors.**
  - This gives India a **chance to enhance both commercial and military presence in the Indo-Pacific**, while **improving access to key economies** such as Singapore, Malaysia, Indonesia, and **further to East Asian markets** including Japan and South Korea.
- The project is also important for **regional power dynamics**, particularly in relation to **China's String of Pearls strategy.**
  - *The String of Pearls is a geopolitical theory and strategic framework used to describe China's growing network of commercial and military facilities along its sea lines of communication (SLOCs) in the Indian Ocean Region (IOR).*



# POLITY

## 1) Right to Information Act, 2005

### About

- Under the Right to Information Act, 2005, **Public Authorities** are required to make **disclosures on various aspects of their structure and functioning**.
  - This includes: (i) disclosure on their organisation, functions, and structure, (ii) powers and duties of its officers and employees, and (iii) financial information.
- If such information is **not made available, citizens have the right to request** it from the Authorities.
- This may include information in the **form of documents, files, or electronic records** under the control of the Public Authority. The intent behind the enactment of the Act is to **promote transparency and accountability** in the working of Public Authorities.

### Who is included in the ambit of 'Public Authorities'?

- The RTI Act defines "public authorities" in **Section 2(h)**.
- A "public authority" means **any authority or body or institution of self-government established or constituted**
  - by or under the Constitution;
  - by any other law made by Parliament;
  - by any other law made by State Legislature;
  - by notification issued or order made by the appropriate Government, and includes any -
    - body owned, controlled or substantially financed;
    - Non-Government organization substantially financed, directly or indirectly by funds provided by the appropriate Government.

### Section 8 of the RTI

- This provides for **exemption from disclosure of information** that are more valid in reasons:
  - Which would affect the **sovereignty and integrity** of India, the security,

strategic, scientific or economic interests of the State;

- Which has been **expressly forbidden** to be published by any court of law or tribunal;
- Which would cause a **breach of privilege** of Parliament or the State Legislature;
- Information including **commercial confidence, trade secrets or intellectual property**;
- Information received in **confidence from foreign government**;
- Information which would **endanger the life or physical safety of any person**; etc.

### Enforcement

- The Act has established a **three tier structure** for enforcing the right to information guaranteed under the Act.
- The first request for information goes to the **Central/State Assistant Public Information Officer and Central/State Public Information Officer**, designated by the Public Authorities. These Officers are required to provide information to an RTI applicant **within 30 days** of the request.
  - If information sought **concerns the life or liberty of a person**, it shall be supplied within **48 hours**.
- Appeals from their decisions go to an **Appellate Authority**.
- Appeals against the order of the Appellate Authority go to the **State Information Commission or the Central Information Commission**.
  - These Information Commissions consist of a **Chief Information Commissioner, and up to 10 Information Commissioners**.

### Section 4(2) of the RTI

- It mandates that different authorities and government departments should **voluntarily disclose (suo motu) much information to the public at regular intervals through various means**, including the internet, so that the public



have minimum resort to the use of this Act to obtain information.

### Fee

- There is an **application fee** that **varies for the Centre and for States.**
  - For **public authorities under the Central Government**, this is **Rs. 10.**

### Why in News?

- The Union government has stated that records of the **Inter-Ministerial deliberations, inputs, and suggestions** referred to in making the decision to enumerate caste in the **2027 Census** are **exempt from public disclosure** under **Section 8** of the **Right to Information Act, 2005.**
  - Refer *SCA Prelims Magazine January 2026 Edition* for details about *Census of India 2027.*

## 2) Constitution (131st Amendment) Bill

### What's in the news?

- Recently, the Union government introduced the **Constitution (131st Amendment) Bill** to **increase the maximum number of Lok Sabha seats** from the existing **550 to 850.** It had also introduced a **Bill to set up the Delimitation Commission** in 2026.
- However, the **Constitution Amendment Bill** was **defeated** in the Lok Sabha, and thereafter, the **Delimitation Bill** was **withdrawn** by the government.

### What are the existing provisions?

- **Delimitation** refers to the process of **fixing the number of seats and the boundaries of territorial constituencies** in each State for the Lok Sabha and Legislative Assemblies.
- This exercise is carried out by a **Delimitation Commission** set up through an **Act of Parliament.**

#### Delimitation Commission:

- The Delimitation Commission is a **statutory body** appointed by the **President of India.**
- The Commission **works in collaboration** with the **Election Commission of India.**
- It consists of:
  - a **retired Supreme Court judge,**

- the **Chief Election Commissioner** and
- the **respective State Election Commissioners.**

- The Commission is supposed to **determine the number and boundaries of constituencies** in a way that the **population of all seats**, so far as practicable, **is the same.**
- The Commission is also tasked with **identifying seats reserved for Scheduled Castes and Scheduled Tribes.**
- All this is done on the **basis of the latest Census** and, in case of **difference of opinion** among members of the Commission, the **opinion of the majority prevails.**

#### Special Powers:

- The orders of the Delimitation Commission have the **force of law** and **cannot be called in question before any court.**
- The copies of its orders are **laid before the House of the People and the State Legislative Assembly** concerned, but **no modifications are permissible therein by them.**

- In India, such **Delimitation Commissions** have been **constituted 4 times** - in 1952 under the Delimitation Commission Act, 1952, in 1963 under Delimitation Commission Act, 1962, in 1973 under Delimitation Act, 1972 and in 2002 under Delimitation Act, 2002.
- The **number of Lok Sabha seats**, based on the **1971 Census**, was **fixed at 543** when the population was 54.8 crore.
  - During the **1976 emergency**, **Indira Gandhi's government froze seat allocation** to ensure that states with successful family planning policies did not lose representation.
  - This decision was formalised through the **42nd Amendment to the Constitution**, which halted any change in the number of Parliamentary and Assembly seats. As per the current constitutional provisions. This number is to be **readjusted based on the 2027 Census.**



- In **2001**, the **constituency boundaries were redrawn**, keeping the total number of seats in the Lok Sabha and State Assemblies unchanged.
- In **2023**, through the **106th Constitutional Amendment**, Parliament provided for **one-third reservation of seats for women in the Lok Sabha and State Legislative Assemblies**. This would be through **delimitation based on the next Census**.

#### Nari Shakti Vandan Adhiniyam:

- The **Women's Reservation Act (Nari Shakti Vandan Adhiniyam)** was passed by the Parliament in 2023 to provide **33% reservation to women in the Lok Sabha and State Assemblies**.
- It is officially known as the **Constitution (106th Amendment) Act**.

#### Highlights of the Act:

- **Reservation Percentage:** The Act proposes to **reserve one-third of all seats for women in Lok Sabha, state legislative assemblies, and the Legislative Assembly of the National Capital Territory of Delhi**.
- **Horizontal Reservation:** One third of the total number of seats reserved for **Scheduled Castes and Scheduled Tribes** shall be reserved for women of those groups in the Lok Sabha and the legislative assemblies. The allocation of reserved seats shall be determined by such authority as prescribed by **Parliament**.
- **Commencement of Reservation:** The reservation will be **effective once the census is conducted after the commencement of the Act**. Based on the census, **delimitation** will be undertaken to reserve seats for women.
- **Seats on Rotational Basis:** The seats reserved for women will be allotted by rotation to different constituencies in the state or union territory **after each delimitation exercise**.
- **Duration of Reservation:** The reservation will be provided for a **period of 15 years**. However, it shall continue till

such date as determined by a law made by **Parliament**.

#### What are the Bills?

- The **131st Constitution Amendment Bill** proposed **three key changes**.
  - First, to **increase the maximum number of Lok Sabha seats from 550 to 850**.
  - Second, to **empower Parliament to determine the Census based on which delimitation would be carried out**.
  - Third, to **delink one-third reservation for women from the next Census in 2027** and to enable the same based on **delimitation as per the last published Census of 2011**.
- The **Delimitation Bill, 2026**, provided for the **setting up of a Delimitation Commission from time to time by the Union government**.
  - This Commission would **allocate Lok Sabha seats among the States and Union Territories based on the latest Census figures**.
  - Had the Bill been passed and a Commission immediately constituted, the allocation would have been based on the **2011 Census**.

#### What are the issues?

- The government argued that **increasing the number of Lok Sabha seats by around 50%** (from 543 to 816) would enable the **seamless implementation of one-third reservation for women** in an expanded House.
  - This would have resulted in approximately 272 seats being reserved for women.
- Union Home Minister gave an oral assurance that the **number of seats in each State and Union Territory would be increased by 50% on a pro-rata basis**, thereby **not altering the current proportion of their representation** in the total strength of the Lok Sabha.
- However, the Opposition raised **several objections**.



- Firstly, there was **no need to bundle women's reservations with delimitation**. The 106th amendment in 2023 enables one-third reservation for women within the existing 543 seats.
- Second, the draft Bills **did not contain an explicit provision for a pro-rata 50% increase in seats** for each State or Union Territory.
- Third, the Opposition contended that such an important and sensitive subject **requires detailed discussions** and should not be rushed through in a brief session.

### 3) Mines and Minerals (Development and Regulation) Amendment Act, 2025

#### About

- In 2025, the Parliament passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2025 which aims to amend the Mines and Minerals (Development and Regulation) Act, 1957.

#### Highlights of the 2025 Act

##### Inclusion of other minerals in a mining lease:

- Under the 1957 Act, a **mining lease** is granted for a specific mineral.
  - The amendment Act provides that **lease holders may apply to the state government for adding other minerals to an existing lease**.
  - For inclusion of **critical and strategic minerals, and other specified minerals, no additional amount needs to be paid**. These include minerals such as **lithium, graphite, nickel, cobalt, gold, and silver**.

##### Expanded scope of National Mineral Exploration Trust:

- The 1957 Act established the **National Mineral Exploration Trust** to fund mineral exploration in the country.
- The latest Act **widens the scope of the Trust** to also fund development of mines and minerals.

- Further, it allows the usage of funds in the Trust for **exploration and development in offshore areas and outside India**.
- The amendment also **renames the Trust** as the **National Mineral Exploration and Development Trust**.
  - Under the 1957 Act, all lessees are required to pay **two percent of royalty** into the Trust.
    - The amendment **increases the rate of contribution to three percent of the royalty**.

##### Removal of limit on sale for captive mines:

- Under the original Act, **captive mines are allowed to sell up to 50% of minerals produced** in a year, after meeting end-use requirements.
  - The 2025 Act **removes the limit on sale of minerals**.

##### Inclusion of contiguous area in mining lease for deep-seated minerals:

- The amendment Act allows for a **one-time extension of the area under a mining or composite lease**. This will be applicable for deep-seated minerals.
  - Deep-seated minerals are **minerals which occur at a depth of more than 200 metres from the surface of land**.

##### Mineral exchanges:

- The 2025 Act provides for establishing an **authority to register and regulate mineral exchanges**.
  - It defines mineral exchange as a **registered electronic trading platform or marketplace** for trading minerals and metals.



# ECONOMY

## 1) Priority Sector Lending

### About

- Priority sector lending (PSL) in India refers to the **mandatory lending targets set by the Reserve Bank of India (RBI)** for banks and financial institutions to ensure that certain sectors of the economy receive adequate credit and financial support.
- The objective of priority sector lending is to **promote inclusive growth, reduce regional imbalances, and support marginalized sections of society.**
- Priority Sector includes the following categories:
  - **Agriculture**
  - **Micro, Small and Medium Enterprises**
  - **Export Credit**
  - **Education**
  - **Housing**
  - **Social Infrastructure**
  - **Renewable Energy**
  - **Others.**
- Targets under the Priority Sector Lending:
  - **Domestic Commercial Banks and Foreign Banks** with 20 or more branches: **40 per cent** of Adjusted

Net Bank Credit (ANBC) or Credit Equivalent Amount of Off-Balance Sheet Exposure (CEOBE), whichever is higher.

- ANBC, in simple terms, is used in banking to refer to the total amount of loans and credit that a bank has given out, adjusted for certain deductions.
- CEOBE refers to the potential credit risk a bank has from its off-balance sheet activities.
  - **Regional Rural Banks: 75 per cent** of ANBC or CEOBE, whichever is higher.
  - **Small Finance Banks: 60 per cent** of ANBC or CEOBE, whichever is higher.
  - **Urban Cooperative Banks (UCBs): 60 per cent** of ANBC or CEOBE, whichever is higher.
  - **Sub-targets** are specified for certain sectors like **18% to agriculture with 10% to small and marginal farmers, 7.5% to micro units and 12% to Advances to Weaker Sections.**



## SCIENCE & TECHNOLOGY

### 1) Artemis II Mission

#### What's in the news?

- After a historic journey around the **Moon**, the four astronauts onboard **NASA's Artemis II mission** have returned to Earth as the **Orion spacecraft** splashed down in the Pacific Ocean, off the coast of southern California.

#### About the Mission

- Artemis II is the **first crewed mission of NASA's Artemis programme**. It was the **first time humans travelled to the vicinity of the moon since 1972**.
- Artemis II is **not a landing mission**. Instead, it is a **highly regulated flyby** designed to test the limits of the Orion spacecraft.
  - *A flyby is a path a spacecraft follows past a planet or other body in space to get information about it. In a flyby, the spacecraft passes close, but isn't "captured" into an orbit by gravity.*
- While earlier missions like **Apollo 8** followed a **circular lunar orbit**—requiring the crew to fire their engines to maintain a fixed distance from the lunar surface—the **Orion spacecraft** flew along an **elliptical "free-return trajectory."**
  - This path **relied on the Moon's gravity** to naturally slingshot the spacecraft back toward Earth making the route exceptionally **fuel-efficient**.



#### What next for the Artemis programme?

- The primary agenda of Artemis II is to prove that the **Orion spacecraft**—and its **European Service Module**—can **safely sustain human life** in the harsh radiation and isolation of deep space.

#### Did you know?

- The four astronauts become the humans to travel furthest away from the Earth, at 252,756 miles (406,771 kilometers).
- The success of the Artemis II mission clears the deck for the **first human Moon landing** in more than five decades, tentatively scheduled for **2028** right now.

### 2) Gaganyaan

#### What's in the news?

- **India's first human Space mission "Gaganyaan" programme** has entered its final phase, with the **first human spaceflight** now scheduled for the **first quarter of 2027** and prior to that ISRO will undertake **three uncrewed missions**.
- The Gaganyaan project envisages demonstration of **human spaceflight capability** by launching a **crew of three members to the Low Earth Orbit (LEO)** of 400 km for a three-day mission and **bringing them back safely to Earth** by landing in Indian sea waters.
- The **Human-rated LVM3 launch vehicle**, the **Crew Escape System**, and the **Crew Module** and **Service Module** are all undergoing final stages of testing and integration.
- The success of the Gaganyaan mission will put **India in the elite group of nations (the US, Russia and China) having human space flight capability**.

### 3) Large Hadron Collider discovers a new particle

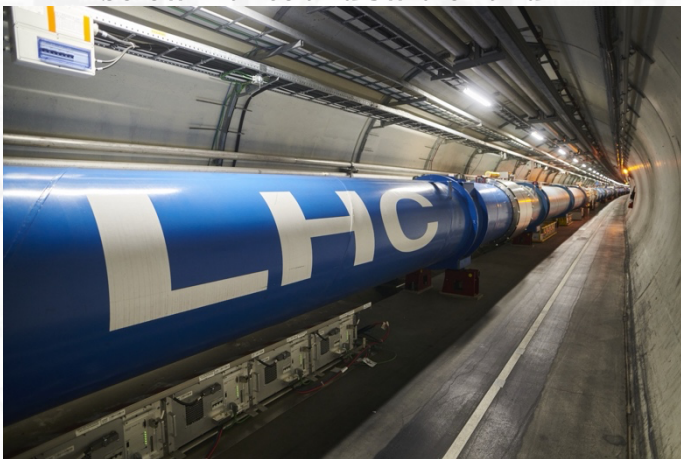
#### About

- The Large Hadron Collider (LHC) is a **giant, complex machine built to study**



particles that are the smallest known building blocks of all things.

- Built by the **European Organisation for Nuclear Research (CERN)**, LHC is the **world's largest and most powerful particle accelerator**.
  - *CERN is the world's largest nuclear and particle physics laboratory. India is an associate member of CERN.*
- Inaugurated in 2008, LHC is a **27-km-long track-loop running about 100 metres below France and Switzerland**.



- In its operational state, it **fires two beams of 'protons' almost at the speed of light in opposite directions inside a ring of superconducting electromagnets**.
  - *Protons are tiny subatomic particles that, along with neutrons, form the nucleus of an atom.*
- The magnetic field created by the superconducting electromagnets keeps the protons in a tight beam and guides them along the way as they travel through beam pipes and **finally collide**.
- Just prior to collision, **another type of magnet is used to 'squeeze' the particles closer together** to increase the chances of collisions. The particles are **so tiny** that the task of making them collide is akin to firing two needles 10 km apart with such precision that they meet halfway.
- Since the LHC's powerful electromagnets **carry almost as much current as a bolt of lightning**, they must be **kept chilled**.
  - The LHC uses a **distribution system of liquid helium** to keep its

critical components ultracold at **minus 271.3 degrees Celsius**, which is colder than interstellar space.

- In 2012, scientists at CERN announced the **discovery of the Higgs boson** (popularly known as the "**the God Particle**") during the LHC's first run.

#### Higgs Boson:

- **Particles make up everything in the universe but they did not have any mass when the universe began. They all sped around at the speed of light.**
- **Everything we see -- planets, stars and life -- emerged after particles gained their mass from a fundamental field associated with the particle known as the Higgs boson.**
- The particle has a **mass of 125 billion electron volts making it 130 times bigger than a proton.**

#### Why in News?

- The Large Hadron Collider has discovered a **new particle, the 80th identified so far** by the world's most powerful particle smasher.
- The new particle has been named "**Xi-cc-plus**".
  - Scientists have expressed hope that the particle — which is **similar to a proton but 4x heavier** — will reveal more about the strange behaviour of quantum mechanics.

#### 4) Malaria

##### About

- Malaria is a serious, sometimes fatal, illness caused by **Plasmodium parasites**. It is **mostly found in tropical countries**.
- There are **5 parasite species** that cause malaria in humans, and 2 of these species – ***P. falciparum*** and ***P. vivax*** – pose the greatest threat.
- Malaria mostly **spreads to people** through the bites of some infected **female Anopheles mosquitoes**. **Blood transfusion and contaminated needles** may also transmit malaria.



- **Children aged under 5 years** are the **most vulnerable group** affected by malaria.
- **Symptoms:** Fever, tiredness, vomiting, headaches, seizures, chills, etc.
- **Prevention: Vector control** is the main way to prevent and reduce malaria transmission.
  - Two forms of vector control – **insecticide-treated mosquito nets and indoor residual spraying** – are effective in a wide range of circumstances.
- **Treatment:** Antimalarial medications depending on the type of malaria.
- **Vaccine:** Since 2021, WHO has recommended broad use of the **RTS,S/AS01 malaria vaccine** among children living in moderate to high malaria transmission areas.

### Why in News?

- New research has confirmed that **genetically modified mosquitoes** using **gene-editing tool CRISPR-Cas9** can **block malaria parasites circulating** in endemic African settings.
- The work forms part of **'Transmission Zero'**, a Tanzania-led and internationally supported project developing genetic mosquito control.

### CRISPR Cas9:

- CRISPR-Cas9 is a **genome editing technology used to change parts of the genome by removing, adding, or altering sections of DNA.**
- It uses a **pre-designed RNA sequence** to guide the **Cas9 enzyme** to the location where the genome needs to be altered.
  - The Cas9 enzyme is a **specialized bacterial protein** that acts as an **endonuclease** (a type of **biological "molecular scissors"**) **capable of cutting DNA.**
- The **Cas9 enzyme** then **cuts the DNA strands**, and the **cell's natural repair mechanism** joins the **two ends together** by removing, adding, or replacing certain sections.

- The CRISPR Cas9 gene editing tool **won the 2020 Nobel Prize in Chemistry.**

### About the Study

- An organism normally has a 50% chance of passing a specific gene to its offspring. A **gene drive** alters this rule.
- Using the **CRISPR-Cas9**, scientists design a **genetic system that copies itself onto the partner chromosome during reproduction.** As a result, **far more than half of the offspring inherit the modified gene, often over 90%.** Over multiple generations, this biased inheritance allows a gene to spread rapidly through a population.
- Researchers are developing **two main types of mosquito gene drives:**
  - The first is **population suppression.** These drives disrupt the genes essential for female mosquitoes to develop or become fertile. As the drive spreads, more females become sterile, causing mosquito populations to shrink or collapse.
  - The second approach is **population modification,** also called **replacement.** Here, mosquitoes remain alive but carry genes that prevent the malaria parasites from developing inside their bodies. This strategy thus reduces the mosquitoes' ability to transmit malaria.

## 5) Dengue

### About

- Dengue is a **mosquito-borne viral infection** common in **warm, tropical climates.**
- The virus responsible for causing dengue is called **dengue virus (DENV)** which belongs to the **Flaviviridae family.** There are **four DENV serotypes** (DENV-1 to DENV-4), meaning that it is **possible to be infected four times.**
- Dengue virus is transmitted by **female mosquitoes** mainly of the species **Aedes**



*aegypti* and, to a lesser extent, *Aedes albopictus*.

- These mosquitoes are also vectors of chikungunya, yellow fever and Zika viruses.
- Dengue fever is clinically characterised by high fever, severe headache, muscle and joint pain, nausea, vomiting, swollen lymph nodes and rash. Some infected people may not develop apparent symptoms, and some may only have mild symptoms like fever.
  - In rare cases, the infection can be very serious and potentially life threatening.

#### Treatment:

- Currently, there is **no antiviral treatment or licensed vaccine** against dengue in India.
- Fever reducers and pain killers can be taken to control the symptoms of muscle aches and pains, and fever.

#### Prevention:

- WHO recommends prevention of dengue through **vector control methods such as mosquito habitat removal and use of insecticides**.

#### Why in News?

- **Takeda's** (Japanese pharmaceutical company) **tetravalent dengue vaccine, TAK-003** (called 'Qdenga'), recently received clearance from the Drugs Controller General of India (DCGI) for use among **individuals aged 4 to 60 years**.
  - DCGI is the head of the Central Drugs Standard Control Organisation (CDSCO) under the Ministry of Health and Family Welfare.
- This marks a significant milestone in the country's fight against a disease that causes millions of infections and thousands of hospitalisations every year, especially among children.
- TAK-003 has been evaluated in large global trials involving more than 28,000 participants and has already been **approved in more than 40 countries**.
- However, while TAK-003 **performs very well against the DENV-2 serotype**, and

reasonably well against DENV-1, its effectiveness against DENV-3 and DENV-4 appears to be lower — particularly in individuals who have not previously been infected with dengue.

#### DengiAll

- India's dengue vaccine pipeline is advancing, with an **indigenous candidate called 'DengiAll'**, developed by **Panacea Biotec** in collaboration with the **Indian Council of Medical Research**, currently undergoing large phase III clinical trials.

#### 6) Kalpakkam fast breeder reactor attains criticality

##### What's in the news?

- The **indigenously designed and built Prototype Fast Breeder Reactor (PFBR)** at **Kalpakkam in Tamil Nadu** has successfully attained its **first criticality** recently, marking a major milestone in India's nuclear energy programme.
- This PFBR is a **500 MWe (MegaWatt electrical) reactor** built by **Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI)** at the Kalpakkam Nuclear Complex.
  - BHAVINI is a Government Company under the **administrative control** of the **Department of Atomic Energy (DAE)** incorporated as a **Public Limited Company** under the **Companies Act, 1956**.

##### Understanding Criticality:

- Criticality is the point at which a **sustained and controlled nuclear fission chain reaction begins**.
- At this stage, **neutrons produced by fission equal those lost through absorption and leakage**, resulting in a **stable power output**.
- It marks the **transition from the construction phase to the operational phase** and is the **essential first step towards generating heat and, ultimately, electricity**.



## India's Three-Stage Nuclear Power Programme

- India holds **limited uranium reserves** but **one of the largest thorium reserves** in the world.
  - Thorium reserves in India are found in **coastal and inland placer sands** on the **beaches of Kerala, Tamil Nadu, Odisha, Andhra Pradesh, Maharashtra and Gujarat**, and in the **inland riverine sands of Jharkhand and West Bengal**.
- To make the most of these resources, the **Department of Atomic Energy** designed a **three-stage nuclear power programme** built on a **closed nuclear fuel cycle**.
- The goal is to **progressively multiply domestic fissile resources** and secure **long-term energy independence**.

### Stage 1: Pressurised Heavy Water Reactors (PHWRs):

- **Natural uranium** is used as **fuel in PHWRs** to generate power. The **spent fuel** from these reactors produces **plutonium**, which becomes the **primary input for the next stage**.

### Stage 2: Fast Breeder Reactors (FBRs):

- The **plutonium** obtained from **Stage 1** is used as **fuel in Fast Breeder Reactors**, which **generate more fuel than they consume**.
- The **PFBR at Kalpakkam** marks **India's entry into this stage**.
- These reactors will be used to **breed Uranium-233 from thorium**, laying the **groundwork for Stage 3**.

### Stage 3: Thorium-Based Reactors:

- This stage will **harness India's vast thorium reserves at scale**, using the **Uranium-233 bred in Stage 2 as fuel**.
- **Thorium** is considered a **practically vast energy source** and this stage holds the **key to India's long-term energy security**.
- **Each stage feeds into the next**, making India's nuclear programme one of the most forward-looking energy strategies in the world.

## PFBR: An Overview

- The PFBR technology was developed by the **Indira Gandhi Centre for Atomic Research (IGCAR)**, an R&D centre under the **Department of Atomic Energy**.
- Unlike conventional thermal reactors, the PFBR uses **Uranium-Plutonium Mixed Oxide (MOX) fuel**. The **fissile material used is recovered** from the reprocessing of spent fuel from Pressurised Heavy Water Reactors, **closing the loop on Stage 1**.
- The **core of the PFBR is surrounded by a blanket of Uranium-238**. **Fast neutrons convert this fertile material into fissile Plutonium-239**, enabling the reactor to **produce more fuel than it consumes**.
- The reactor is **designed to eventually use Thorium-232** in the blanket. Through **transmutation** (conversion of one chemical element or an isotope into another), **Thorium-232 will be converted into Uranium-233**, the fuel that will power India's third stage of nuclear energy based on thorium.
- Once commissioned, **India will be the second country after Russia** to have a **commercial operating FBR**.

## Current Nuclear Power Landscape in India

- **Installed Capacity:** India's current nuclear capacity is **8.78 Gigawatt (GW)**.
- **Stable Contribution:** Nuclear power has consistently accounted for **around 3% of India's total electricity generation**.
- **International Cooperation:** India has signed **Inter-Governmental Agreements (IGAs) on Civil Nuclear Cooperation for peaceful purposes with 18 countries**, reflecting the growing global confidence in India's nuclear programme.
- **Long-Term Mission:** The Government has announced the **Nuclear Energy Mission**, outlined in the **Union Budget 2025-26**, with the aim of achieving **100 GW of nuclear power generation capacity by 2047**.



## 7) OTHER NOTABLE TOPICS

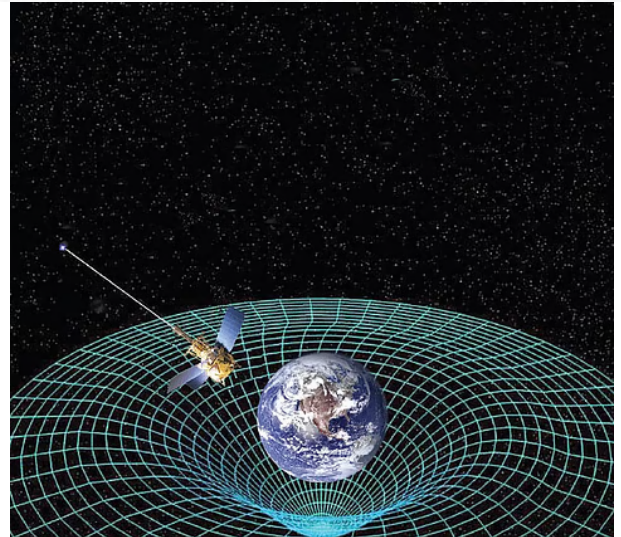
### 7.1. Gravitational Waves

#### About

- Gravitational waves are **cosmic ripples in space-time created by colossal events in the distant universe** such as **merging of black holes**, **explosion of supernovae** and **collision of neutron stars or pulsars**.

- Supernova** is a **stellar explosion** that marks the **end of a giant star's life**. It can leave behind a **neutron star or a black hole**.
- Neutron stars** are the **incredibly dense remnants of supermassive stars** that have **exploded as supernovae**.
- Black hole** formed by the **death of a massive star** is a cosmic body of **extremely intense gravity from which nothing, not even light, can escape**.
- Pulsars** are **rapidly rotating neutron stars** that **emit beams of electromagnetic radiation** from their magnetic poles.

- They are a fundamental prediction of **Albert Einstein's general relativity theory**, which explains gravity as the **curvature of space-time** caused by massive objects.
  - In contrast, **Newton's 17th-century theory of gravitation** viewed **gravity as an instantaneous force acting at a distance** determined by the masses of objects and their separation, with no concept of space-time or waves.
- These waves **travel at the speed of light** and carry **information about their violent cosmic origins**.



- Gravitational Waves were first detected by **Laser Interferometer Gravitational-wave Observatory (LIGO)** in 2015.

#### Laser Interferometer Gravitational-wave Observatory:

- LIGO is a scientific collaboration of **two widely-separated interferometers** within the **United States** to detect gravitational waves by measuring the tiny ripples they cause in spacetime.



- LIGO uses **lasers to detect ripples** in space-time through a method called **interferometry**: as gravitational waves pass by, they cause space itself to stretch and squeeze, which scientists can measure through changes in the beams of the LIGO lasers.
- Other observatories like **Virgo (Italy)**, **KAGRA (Japan)**, and **GEO600 (Germany)** add to this global network but are limited to detecting waves within 7 billion light-years in the 100–1,000 Hz range.
  - A light-year is the distance light travels in one year (9.46 trillion kilometers).*



**Why is the study of gravitational waves important?**

- The discovery of gravitational waves represents a scientific landmark, opening the door to an entirely new way to observe the cosmos and unlock secrets about the **early universe and mysterious objects like black holes and neutron stars.**

**LIGO-India**

- India is building **LIGO-India in Maharashtra**, which is set to join the global network by 2030, advancing gravitational-wave astronomy in the country.

- LIGO-India is envisaged as a **collaborative project between a consortium of Indian research institutions and the LIGO Laboratory in USA**, along with its international partners.



## DEFENCE & SECURITY

### 1) INS Aridhaman

#### What's in the news?

- **INS Aridhaman (S4), India's third Arihant-class nuclear-powered ballistic missile submarine (SSBN),** was commissioned recently by Defence Minister Rajnath Singh.



#### About

- INS Aridhaman is the **third in the Arihant-class of SSBNs (Submersible Ship Ballistic Nuclear).**
  - **India's first indigenous SSBN, INS Arihant, called S2, was commissioned in 2016. The second SSBN, INS Arighaat (S3), was commissioned in 2024.**
- The 7,000-tonne INS Aridhaman is **larger and technologically more advanced** than its predecessors.
- Equipped with eight vertical launch tubes, it is **designed to carry more long-range nuclear-tipped missiles** than INS Arihant and INS Arighaat.
  - These missiles include the **short-range K-15 submarine-launched ballistic missiles (SLBM) with a range of up to 750 km, and the longer-range K-4 nuclear-capable SLBMs that can hit targets 3,500 km away.**

#### Significance

- Like the other two SSBNs, Aridhaman will be a **key component of India's nuclear triad.**
  - This refers to a **country's ability to launch nuclear missiles from**

**platforms in the air, land, and at sea.**

- **Nuclear-capable missiles** (such as the Agni series) can be launched from **land**, and **fighter aircraft** such as the Rafales, Su-30MKIs, and Mirage 2000s can deliver nuclear warheads.
- Although **India's nuclear doctrine stipulates a "no first use" policy** — it is committed to using nuclear weapons solely for deterrence and retaliation — **SSBNs guarantee India's second-strike capability.**
  - Should an adversary deliver a first nuclear strike on India's land and air bases, an SSBN can launch a retaliatory nuclear attack, establishing deterrence.
- **India is part of a select group of countries with nuclear triad capabilities,** which includes the US, Russia, China, and France.

### 2) No Naxal-affected districts in India anymore: MHA

#### What's in the news?

- The Ministry of Home Affairs (MHA) has officially declared that **no district in India remains affected by Left-Wing Extremism (LWE),** marking what it describes as a historic milestone in the country's internal security landscape, against the backdrop of the **Centre's deadline to eliminate LWE by March 31.**
- This marks a major shift from previous classifications, where certain districts were identified as severely impacted by Maoist or Naxal activity.
- As part of the **revised framework,** the MHA has categorised **37 districts** across multiple states as **"Legacy and Thrust districts,"** indicating that they are **now free of active insurgency but require continued attention to prevent any resurgence.**



- These districts, located in Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Telangana, and West Bengal, were once considered hotspots of Naxal violence and are now part of the “Legacy and Thrust” category.
- Additionally, **one district—West Singhbhum in Jharkhand**—has been designated as a **“District of Concern,”** where **Naxal activity has been largely neutralised but vigilance remains necessary.**

#### Left Wing Extremism:

- Left Wing Extremism, often referred to as **Naxalism**, is **one of India's most serious internal security challenges.**
- Rooted in **socio-economic inequalities** and fuelled by **Maoist ideology**, LWE has historically affected some of the most remote, underdeveloped, and tribal-dominated regions of the country.

- The movement has aimed to **undermine the Indian state through armed rebellion and parallel governance structures**, particularly targeting security forces, public infrastructure, and democratic institutions.
- Originating from the **Naxalbari movement of 1967 in West Bengal**, it spread primarily across the **“Red Corridor,”** affecting states like Chhattisgarh, Jharkhand, Odisha, Maharashtra, Kerala, West Bengal, Madhya Pradesh, and parts of Andhra Pradesh and Telangana.
- India’s multidimensional counter-LWE strategy has sharply reduced violence, weakened the movement, and reintegrated districts.



## PLACES IN NEWS

### 1) Places related to the US-Israel-Iran Conflict

#### South Pars

- The **South Pars/North Dome field** is recognized as the **largest offshore gas field** in the world. It is **situated in the Persian Gulf**.
- The field is shared between **Iran** (South Pars) and **Qatar** (North Dome). This geographical split makes it a critical point of bilateral cooperation and regional energy policy.

#### Litani River

- The **Litani River**, in **Lebanon**, is a strategic boundary in the **Israel-Lebanon conflict**.
- It **flows entirely within Lebanon**, rising in the **Bekaa Valley and emptying into the Mediterranean Sea**.
- It serves as a key demarcation line for security zones and international resolutions regarding border stability between Israel and Lebanon.

#### Kharg Island

- Kharg Island is a 20-square-kilometer **Iranian continental island** in the **northern Persian Gulf** that serves as the economic backbone of Iran, handling approximately **90% of the nation's total crude oil exports**.

#### Port of Fujairah

- The Port of Fujairah is the **only multi-purpose seaport on the eastern seaboard of the United Arab Emirates**.
- Situated on the **Gulf of Oman**, it offers crucial strategic access to global trade by **bypassing the Strait of Hormuz**.

#### Ras Laffan

- Ras Laffan is the **world's largest Liquefied Natural Gas (LNG) export hub**, located in **Qatar**.
- The industrial city accounts for **about 20% of the global LNG supply**.
- It is also the **world's largest hub for helium production**.

#### Shebaa Farms

- The Shebaa Farms are a **highly disputed 22-square-kilometer strip of land** located at the **intersection of the Lebanese, Syrian, and Israeli borders**.
- Currently occupied by Israel, the area has long been a flashpoint in Middle Eastern conflicts.

#### Al Udeid Air Base

- Al Udeid Air Base is the **largest U.S. military installation in the Middle East**.
- It is located in **Qatar**.

### 2) Mekong River

#### About

- The Mekong River, a transboundary river, originates in the **Tibetan plateau** and passes through **six countries: China, Myanmar, Thailand, Laos, Cambodia and Vietnam**.
- It is the **longest river in Southeast Asia**, the 7th longest in Asia, and the 12th longest in the world. It has a length of about 2,700 miles (4,350 km).
- Rising in **Lasagongma Spring** which is in the **plateaus of Tibet**, it flows through the eastern part of the Tibet Autonomous Region and Yunnan province, after which it forms **part of the international border between Myanmar and Laos**, as well as between **Laos and Thailand**.
- The river then flows through Laos, Cambodia, and Vietnam before draining into the **South China Sea**.





Sources: International Rivers; Mekong River Commission; Stimson Center

W. Foo, 13/04/2020

REUTERS

## Why in News?

- **Toxic runoff from unregulated rare earth mining in war-torn Myanmar and Laos is heavily contaminating Mekong River tributaries.**
- This pollution featuring high levels of dangerous heavy metals like arsenic, mercury, lead, and cadmium poses a severe threat to Southeast Asia's ecosystems, public health, and agricultural exports.



## HIGHLIGHTS FROM OTHER ARTICLES

### 1) Sentinel Species

#### About

- A sentinel species is a species whose **members' health signals the condition of the ecosystem in which they live.**
- Scientists monitor them because they are among the **first to respond to stressors in their environment**, such as pollution and disease, and their response also tends to be more apparent than most other species.
  - In other words, they can provide **early warnings of ecosystem decline.**
- **Examples: Frogs, honeybees, canaries, etc.**

### 2) Amaravati Bill

#### News:

- President Droupadi Murmu has given her assent to the **Andhra Pradesh Reorganisation (Amendment) Bill, 2026**, officially declaring Amaravati as the **sole and permanent capital of Andhra Pradesh.**

### 3) National Manufacturing Mission

#### About

- The National Manufacturing Mission (NMM) was announced in **Union Budget 2025-26.**
- It sets **ambitious targets for 2035**, aiming to **double the manufacturing sector's contribution to GDP from 12.9 per cent (2023) to 25 per cent** and **generate 143 million jobs**, along with **boosting merchandise exports to USD 1.2 trillion** by deepening integration into Global value chains (GVCs).
- The NMM aims to **boost innovation, raise competitiveness, and expand manufacturing capacity across priority sectors**, complementing Make in India and the Atmanirbhar Bharat push.

### 4) CAFE III norms

#### About

- After months of negotiations, the government and auto industry have reached a consensus on the proposed **CAFE (Corporate Average Fuel Economy)-3 fuel efficiency norms.**
- CAFE norms are **government-regulated standards**, requiring automakers to meet a **minimum average fuel efficiency and maximum emission level (CO<sub>2</sub>) across their entire fleet of vehicles.**
- Introduced in **2017** and tightened in **2022** under the second phase, the framework aims to **lower fuel consumption and reduce oil dependence and promote environmentally responsible vehicle production.**
  - Unlike **Bharat Stage (BS) emission norms**, which **limit tailpipe pollutants**, CAFE standards focus on **overall fuel efficiency and CO<sub>2</sub> output.**
- India's CAFE 3 norms are set to **tighten fuel efficiency benchmarks for passenger vehicles from April 2027.**

### 5) Biofloc Technology

#### About

- Biofloc Technology is a **sustainable aquaculture method that recycles nutrients in water using beneficial microbes.**
- These **microbes form clumps called biofloc**, which serve as natural feed and also help clean the water.
- This method requires **little or no water exchange**, making it ideal for high-density fish farming with minimal resources.
- It boosts productivity while being environmentally friendly, earning it the name "**green soup**" or "**heterotrophic ponds**" in aquaculture circles.



## 6) ULLAS

### About

- Also known as **Nav Bharat Saaksharta Karyakram (New India Literacy Programme)**, **ULLAS** is a **centrally sponsored scheme** launched in 2022.
- It aims to **empower adults aged 15 and above**, especially those who **missed out on formal schooling**.
- The program seeks to **enhance their literacy**, enabling them to better integrate into society and actively contribute to the nation's development.

## 7) India-Canada Uranium Deal

### About

- **India and Canada** signed a landmark **uranium supply agreement** worth \$2.6 billion.
- The uranium deal will **help India secure a long-term supply of fuel for its civil nuclear energy programme**.
- Along with the uranium pact, India and Canada decided to speed up negotiations on a **Comprehensive Economic Partnership Agreement (CEPA)**.

## 8) Greenium

### About

- Greenium (or **green premium**) refers to the **lower yield that issuers pay on green bonds** compared to conventional bonds of similar risk and maturity.
- It indicates that investors are **willing to accept lower returns for environmentally friendly investments**, reducing capital costs for sustainable projects.

## 9) UAE quits OPEC

### News

- The **United Arab Emirates (UAE)** has announced it will **exit the Organization of the Petroleum Exporting Countries (OPEC) and the broader OPEC+ alliance**.
- Authorities say the decision reflects the country's evolving energy profile and its aim to enhance flexibility in responding to global market dynamics.
- The UAE is the **fourth producer to quit OPEC+ in recent years**, and **by far the biggest**. **Angola** quit the bloc in 2024, citing disagreements over production levels. **Ecuador** quit OPEC in 2020 and **Qatar** in 2019.
  - *Refer SCA Prelims Magazine March 2026 Edition for details about OPEC & OPEC+.*

## 10) Sawe broke iconic sub-two-hour barrier

### News:

- **Kenya's Sabastian Sawe** made history at the **London Marathon** by becoming the **first athlete to run a sub-two-hour marathon in a competitive race**.
- Sawe crossed the line to win in **one hour 59 minutes 30 seconds**, more than one minute faster than the late **Kelvin Kiptum's previous record** of two hours and 35 seconds, set in 2023.
  - **Eliud Kipchoge** became the first man to run a marathon in under two hours in 2019, on a course with only 2.4 metres of incline, which was **not record-eligible as it was held under controlled conditions**.



## PRACTICE WITH PYQS

**1. Match List-I with List-II and select the answer using the codes given below: (1998)**

List-I (Disease)	List-II (Organism)
A. Malaria	1. Fungi
B. Poliomyelitis	2. Bacteria
C. Tuberculosis	3. Virus
D. Ringworm	4. Protozoan

- A. A-4; B-3; C-2; D-1  
 B. A-4; B-3; C-1; D-2  
 C. A-3; B-4; C-1; D-2  
 D. A-3; B-4; C-2; D-1

**2. What is the Cas9 protein that is often mentioned in the news? (2019)**

- A. A molecular scissors used in targeted gene editing  
 B. A biosensor used in the accurate detection of pathogens in patients  
 C. A gene that makes plants pest-resistant  
 D. A herbicidal substance synthesized in genetically modified crops

**3. Consider the following statements: (2017)**

1. In tropical regions, Zika virus disease is transmitted by the same mosquito that transmits dengue.
2. Sexual transmission of Zika virus disease is possible.

**Which of the statements given above is/are correct?**

- A. 1 only  
 B. 2 only  
 C. Both 1 and 2  
 D. Neither 1 nor 2

**4. In which one of the following places is the Shompen tribe found? (2009)**

- A. Nilgiri Hills  
 B. Nicobar Islands  
 C. Spiti Valley  
 D. Lakshadweep Islands

**5. Priority Sector Lending by banks in India constitutes the lending to (2013)**

- A. Agriculture  
 B. Micro and small enterprises  
 C. Weaker sections  
 D. All of the above



**6. With reference to the Delimitation Commission, consider the following statements: (2021)**

1. The orders of the Delimitation Commission cannot be challenged in a Court of Law.
2. When the orders of the Delimitation Commission are laid before the Lok Sabha or State Legislative Assembly, they cannot effect any modifications in the orders.

**Which of the statements given above is/are correct?**

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**7. How many Delimitation Commissions have been constituted by the Government of India till December 2023? (2024)**

- A. One
- B. Two
- C. Three
- D. Four

**8. Consider the following statements regarding 'Nari Shakti Vandan Adhiniyam': (2024)**

1. Provisions will come into effect from 18th Lok Sabha.
2. This will be in force for 15 years after becoming an Act.
3. There are provisions for the reservation of seats for Scheduled Castes Women within the quota reserved for the Scheduled Castes.

**Which of the statements given above are correct?**

- A. 1, 2 and 3
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1 and 3 only

**9. Recently, scientists observed the merger of giant 'blackholes' billions of light-years away from the Earth. What is the significance of this observation? (2019)**

- A. 'Higgs boson particles' were detected.
- B. 'Gravitational waves' were detected.
- C. Possibility of intergalactic space travel through 'wormhole' was confirmed.
- D. It enabled the scientists to understand 'singularity'

**10. Consider the following pairs: (2023)**

Objects in space : Description

1. Cepheids : Giant clouds of dust and gas in space
2. Nebulae : Stars which brighten and dim periodically
3. Pulsars : Neutron stars that are formed when massive stars run out of fuel and collapse

**How many of the above pairs are correctly matched ?**

- A. Only one
- B. Only two



- C. All three
- D. None

**Answers:**

- 1. A
- 2. A
- 3. C
- 4. B
- 5. D
- 6. C
- 7. D
- 8. C
- 9. B
- 10. A

