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### RAJEEVIKA and NGO PRADAN's 'Sanjhi Pahal' (Shared Initiative)



#### Why in News?

- Recently, a state-level workshop was organized under the 'Sanjhi Pahal'—a joint initiative of the Rajasthan Grameen Aajeevika Vikas Parishad (RAJEEVIKA) and the NGO PRADAN.



#### Key Points:

- Inauguration of the Workshop:** By Charanjit Singh, former Additional Secretary to the Ministry of Rural Development, and Neha Giri, State Mission Director of RAJEEVIKA.
- Under this initiative, and through the collaboration between RAJEEVIKA and PRADAN, agriculture-based livelihood activities within the state will be strengthened. Furthermore, technical support, innovation, and capacity building will be promoted to enhance the incomes of families associated with Women's Self-Help Groups (SHGs).
- As part of this initiative, technical guidance will be provided in selected districts to empower community-based organizations, improve the quality of livelihood activities, and ensure the effective implementation of the 'Lakhpati Didi' program.
- The 'Sanjhi Pahal' will be implemented in its initial phase across selected blocks in eight districts of the state.

# Daily Current Affairs

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- **Selected Blocks:** Rajgarh (Alwar); Jothri and Seemalwada (Dungarpur); Bali (Pali); Suhagpura (Pratapgarh); Jhalra, Lasadiya, Salumber, and Jaisamand (Salumber); Abu Road, Pindwara, Revdar, and Shivganj (Sirohi); Khamnor (Rajsamand); and Gogunda, Sayra, Bhinder, and Kurabad (Udaipur).

## Facts for Prelims:

### Rajasthan Grameen Aajeevika Vikas Parishad (RGAVP) or RAJEEVIKA

- The Rajasthan Grameen Aajeevika Vikas Parishad (RGAVP)—also known as RAJEEVIKA—was established in the year 2010 by the Government of Rajasthan as an autonomous body under the administrative control of the Department of Rural Development.
- It is a society registered under the Rajasthan Societies Act, 1958.
- **Chairperson:** The Chief Minister.
- **Objective:**
  - To bring about effective convergence between the various government and non-government initiatives being undertaken for rural development.
  - To assist in the formation and strengthening of Self-Help Groups, Producer Organizations, Community Development Organizations, and Federations of Self-Help Groups.
  - To promote small and micro-enterprises in the agricultural and non-agricultural sectors to enhance the income of the poor.

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## Successful Testing of 'Advanced 28-ft Heavy Drop System – 20T (Type V)'

### Why in News?

- Recently, the Indian Army successfully tested the 'Advanced 28-ft Heavy Drop System – 20T (Type V)', a system developed entirely indigenously.



### Key Points:

- Test Site:** Mahajan Field Firing Range, Bikaner.
- Design and Development:** Developed by 'Airbonix Defence and Space'—a company within the JCBL Group—this system was created in partnership with the DRDO's 'Aerial Delivery Research and Development Establishment' (ADRDE).

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- **Objective:** This heavy drop system is designed to air-drop heavy military vehicles and equipment in remote and inaccessible areas.
- **Functionality:** This heavy drop system is designed to deploy large cargo and mechanized military platforms from transport aircraft. It is capable of handling payloads of up to 20 tons and is compatible with aircraft such as the Lockheed Martin C-130J Super Hercules and the Boeing C-17 Globemaster.
- This system incorporates a newly developed 28-foot platform and parachute assembly. This configuration utilizes a set of two 28-foot extractor parachutes, coupled with a four-point link system.

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## Impact of the Ongoing Conflict in Western Asia on Rajasthan

### Why in News?

- The ongoing conflict in Western Asia—involving Iran, Israel, and the United States—is having a direct and profound economic impact on Rajasthan. According to recent reports from March 2026, a widespread impact is evident across the state's tourism and export sectors.



### Key Points:

#### Impact on Tourism and Destination Weddings:

- Due to fears of war and disruptions in air travel routes, international tourists have cancelled their trips to Rajasthan on a large scale. Major tourist destinations, such as Jaisalmer, have witnessed a drastic decline in bookings by foreign tourists.

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- Rajasthan is renowned globally as a premier destination for weddings. As a consequence of the conflict, there has also been a decline in destination weddings.
- Ahead of the Holi festival, the crisis in the Gulf region has had a visibly severe impact on the tourism sector; with numerous international flights cancelled, there is a noticeable shortage of tourists even during the peak tourism season.

### Energy Crisis and Inflation:

- Rajasthan is facing a severe shortage of commercial LPG cylinders, as oil companies are prioritizing supplies for domestic consumption.
- Due to the lack of gas supply in industrial zones, crockery manufacturing units and other manufacturing facilities face the risk of closure, which could potentially exacerbate the threat of unemployment.
- With global crude oil prices reaching \$110 per barrel, there is a strong likelihood of an increase in petrol and diesel prices in the near future.

### Decline in Trade and Exports:

- Bhilwara—Rajasthan's major textile hub—has been the most severely affected region. Export orders worth approximately ₹800 to ₹1,000 crore, destined for Gulf nations and Europe, have been directly impacted.
- Due to disruptions in the Strait of Hormuz—a critical international trade route—Jaipur's gems and jewelry industry is also currently in the grip of a slowdown.

## 84th Annual Conference of the All India Ophthalmological Society

### Why in News?

- Recently, the 84th Annual Conference of the All India Ophthalmological Society was organized in Jaipur.



### Key Points:

- Duration of the Event:** March 12 to 15, 2026
- Venue:** Jaipur Exhibition & Convention Center (JECC), Sitapura, Jaipur.
- Organizer:** Rajasthan Ophthalmological Society.
- Theme:** 'Healthy Eyes – Happy Lives'.
- More than 8,000 senior ophthalmologists, physicians, and researchers from across the globe participated in this conference.
- Scientific sessions, live surgery training, and workshops were also organized during the conference.
- Awards:** The Chief Minister honored Dr. Tara Prasad Das and Dr. S. Natarajan with the Lifetime Achievement Award.

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## Report of the 'High-Level Ecosystem Oversight Committee' on River Pollution

### Why in News?

- Recently, the 'High-Level Ecosystem Oversight Committee'—constituted to assess the pollution status of the major rivers of Western Rajasthan (the Jojari, Bandi, and Luni)—submitted a 202-page interim report to the Supreme Court.

### Key Points:

- It is noteworthy that a Public Interest Litigation (PIL) regarding the pollution of the Jojari River was registered suo motu (on its own motion) by a bench comprising Justice Vikram Nath and Justice Sandeep Mehta.
- In light of this, the Supreme Court constituted the High-Level Ecosystem Oversight Committee on November 21, 2025. The committee's objective was to investigate the causes of pollution in these rivers and to formulate a time-bound plan for their rejuvenation.

### High-Level Ecosystem Oversight Committee (HLEOC)

- The Supreme Court constituted the High-Level Ecosystem Oversight Committee (HLEOC) to monitor the situation and ensure the rejuvenation of the rivers.
- Chairperson:** Justice (Retired) Sangeet Lodha.
- Key Members:** Additional Chief Secretary (Environment Department); Member Secretaries (CPCB and RSPCB); Managing Director (RIICO); and the District Collectors of Jodhpur, Pali, and Balotra.

### Facts for Prelims:

#### Jojari River:

- Origin:** From the hills near Pundlu village in the Nagaur district.
- Total Length:** 150 km. It is the longest among the tributaries of the Luni River.
- The Jojari River flows through Jodhpur, enters Balotra in the southwest, and eventually joins the Luni River near Siwana.
- It is the only right-bank tributary of the Luni.
- Other Tributaries of the Luni:** Jawai, Sukri, Guhiya, Bandi, Jojari, Mithri, and Khari.

## NEWS IN SHORTS

S. No.	News
1.	<p><b>Ayurveda-based Podcast Studio</b></p> <ul style="list-style-type: none"><li>Recently, the country's first Ayurveda-based podcast studio was established at the National Institute of Ayurveda (NIA), Jaipur, under the guidance of the Ministry of AYUSH.</li><li>Here, experts share authentic information regarding diseases and their Ayurvedic treatments. The episodes are available on the institute's social media handles.</li><li><b>Inauguration:</b> By the Union Minister of State (Independent Charge) for AYUSH, Prataprao Jadhav, on the occasion of the institute's 50th Golden Jubilee celebrations. The Union Minister recorded the inaugural episode of the podcast himself. The initiative aimed to strengthen digital outreach, academic communication, and public engagement.</li></ul>
2.	<p><b>Rajasthan Solar Association's 'Khejri Se Kal' Campaign</b></p> <ul style="list-style-type: none"><li>Recently, the 'Khejri Se Kal' campaign was jointly launched by the Rajasthan Solar Association (RSA) and the National Solar Energy Federation of India (NSEFI).</li><li>The primary objective of this initiative is to conserve Rajasthan's state tree—the 'Khejri'—and to build a sustainable future by integrating it with renewable energy (solar energy).</li><li>Under this campaign, the Rajasthan Solar Association plans to plant 1 million (10 lakh) Khejri trees across the state.</li></ul>

3.

## 'Panna Dhai Suraksha Evam Samman' (Safety and Honor) Awards

- On the occasion of International Women's Day 2026, the 'Panna Dhai Suraksha Evam Samman' awards were presented across various districts of Rajasthan in recognition of women's empowerment and outstanding social work.
- **Renu Chaudhary:** A school principal from Sardarshahar (Churu), recognized for her contributions in the fields of social service, medical assistance, and women's upliftment.
- **Rahada Foundation:** Recognized at the Udaipur district level for outstanding social work, particularly in the areas of education, healthcare, and environmental conservation (specifically, the 'Go Kashth Abhiyan' initiative).
- **Additional Superintendent of Police Chetna Bhati:** Recognized in Jaipur for her contributions to the fields of women's safety and empowerment.
- **Dr. Savita Rathore:** Recognized in Bundi for her work in the fields of women's empowerment and education.

4.

## Aryan Yadav

- Recently, Aryan Yadav, a boxer from Jaipur, won the gold medal in the 75 kg weight category at the All India Inter-University Games – 2026.
- This championship was held at Kurukshetra University from March 1 to March 8, 2026.

5.

## Pokarmal Rajrani Goyal Memorial Rajasthani Fiction Literature Awards

- Recently, the 5th Pokarmal Rajrani Goyal Memorial Rajasthani Fiction Literature Awards were announced under the aegis of the Mukti Sanstha, Bikaner.
- **Santosh Chaudhary (Jodhpur):** The 'Pokarmal Rajrani Goyal Memorial Rajasthani Fiction Literature Award for Rajasthani Women's Writing' for the Rajasthani short story collection Kaya Ri Kaljhal.
- **Bhanwarlal Bhramar (Bikaner):** The Rajasthani Fiction Award for the short story collection Uparlo Paso.



### Passive Euthanasia Framework



#### Why in News?

- The Supreme Court has, for the first time, implemented a framework for Passive Euthanasia.



#### Key Points:

- In its verdict in the case of Harish Rana vs. Union of India, the Supreme Court granted permission to withdraw the artificial life support system of an individual who had been in a vegetative state (a state of unconsciousness) for over 12 years. This decision was rendered based on the 'principle of the patient's best interest.'
- The Court waived the standard stipulation of a 30-day cooling-off period, as the patient's parents and the medical boards had unanimously concurred that there was no possibility of the patient's recovery.
- **Euthanasia:** This is a method of ending a patient's life to alleviate their suffering. There are two types of euthanasia: Active Euthanasia and Passive Euthanasia. It can only be administered by a physician.

#### Active Euthanasia:

- This involves a physician deliberately ending the life of a terminally ill or critically ill patient, typically through the administration of lethal drugs.
- **Status in India:** Active euthanasia is illegal in India.
- It is legal in countries such as the Netherlands and Belgium.

## Passive Euthanasia

- Under this form, a patient is allowed to die naturally by withholding or withdrawing life-sustaining medical treatment.

## Legal Status

- **Aruna Ramchandra Shanbaug Case (2011):** The Supreme Court rejected the plea for euthanasia in this specific instance but permitted 'Passive Euthanasia' for terminally ill and irreversibly ill patients, subject to strict conditions.
- **Common Cause Verdict (2018):** The Supreme Court recognized this right and held that the 'Right to Die with Dignity' is a Fundamental Right under Article 21 of the Constitution.
- In this case, guidelines were laid down, and the concept of a 'Living Will' was recognized.
- The Court held that passive euthanasia may be administered through the use of 'Advance Medical Directives.'
- **Revised Guidelines issued in 2023:** It shall be mandatory to constitute a primary and a secondary Medical Board to seek expert opinion regarding the withdrawal of life support systems for a patient in a vegetative state.

## Other Key Highlights of the Verdict

- **Enactment of Comprehensive Legislation:** The Court urged Parliament to formulate a comprehensive and coherent statutory framework concerning end-of-life care and passive euthanasia.
- **Administrative Directives:** To streamline the procedure for future cases, the Court directed High Courts to ensure that whenever Medical Boards decide to withdraw life support systems, the concerned hospitals must duly inform the Judicial Magistrates.

## National Shipping Board

### Why in News?

- The government held high-level consultations with the National Shipping Board to address emerging challenges in India's shipping sector amidst changing global geopolitical circumstances.

### Key Points:

#### National Shipping Board (NSB)

- It is India's apex advisory body on shipping and maritime matters, constituted under Section 23 of the Merchant Shipping Act, 1958.
- It functions under the Ministry of Ports, Shipping and Waterways.
- Its primary function is to advise the Central Government on shipping policies and maritime development.
- Its Chairperson is appointed by the Central Government.



## Economic Developments



### Kisan Credit Card (KCC)

#### Why in News?

- The government has undertaken several measures to enhance the reach, coverage, and effectiveness of the Kisan Credit Card (KCC) scheme.

#### Key Points:

- The Kisan Credit Card provides timely, affordable, and collateral-free credit to farmers, including small and marginal farmers, tenant farmers, and Self-Help Groups.

#### Kisan Credit Card

- The Kisan Credit Card scheme was launched in 1998.
- **Objective:** To simplify and expedite farmers' access to short-term institutional credit for crop production.
- It provides working capital and investment credit for allied activities and covers post-harvest and marketing expenses, thereby offering comprehensive financial support to boost agricultural income.
- Under the revised Interest Subvention Scheme, the credit limit has been raised to ₹5 lakh, and the limit for collateral-free loans has been increased to ₹2 lakh per borrower.



## Features of the KISAN CREDIT CARD SCHEME

RuPay-enabled KCC Card providing ATM-based withdrawals, digital payments and any number of withdrawals within the sanctioned credit limit

One-time documentation with provision for built-in cost escalation in credit limits over the operating cycle

Coverage of post-harvest expenses, produce marketing loans, household consumption needs, working capital for maintenance of farm assets, and activities allied to agriculture

Extension of the scheme since 2004 to meet investment credit requirements for allied and non-farm activities

Implementation across Commercial Banks, Regional Rural Banks (RRBs), Small Finance Banks and Cooperative Banks, ensuring wide institutional outreach.



Source: Department of Agriculture and Farmers Welfare

### Eligible Beneficiaries of KCC:

- Individual farmers and joint borrowers who are owner-cultivators;
- Tenant farmers, oral lessees, and sharecroppers;
- The scheme also covers Self-Help Groups (SHGs) and Joint Liability Groups (JLGs), including groups formed by tenant farmers and sharecroppers.

## Progress of Kisan Credit Card (As of March 2026)



### Total number of banks onboarded



**37**

COMMERCIAL  
BANK



**46**

RURAL  
BANK



**374**

COOPERATIVE  
BANK

### Total number of KCC/ISS applications (in Lakhs)



**631.5**

COMMERCIAL  
BANK



**337.2**

RURAL  
BANK



**1030**

COOPERATIVE  
BANK

Source : Department on Agriculture and Farmers Welfare

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# CIVIL SERVICES

## Indian Governance and State System

### NHRC Short Film Awards

#### Why in News?

- The National Human Rights Commission (NHRC) has announced the 7 winners of the 11th Annual Competition for Short Films on Human Rights for the year 2025.



#### Key Points:

- **Selection; Jury Chair:** NHRC Member Vijaya Bharati Sayani
- **Establishment of the Award:** Year in the 2015
- **Objective:** To encourage citizens to raise issues related to the protection and promotion of human rights, spread awareness, and make creative contributions.

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## Winning Short Films:

Award	Film	Language	Producer / Director	Amount	Description/Theme
First Prize	"Rani" (Uttar Pradesh)	Hindi	Sarika Jain	₹ 2 lakh	Shows Conservative beliefs promote which class division and inequality.
Second Prize	"Meanwhile shi." (Kerala)	Malayalam	Amal S.	₹ 1.5 lakh	Highlights the unequal burden on working women amid gender stereotypes and the challenges of domestic violence.
Third Prize	"The Delivery" (Tamil Nadu)	Tamil	Sai Shashank Tati	₹ 1 lakh	Shows the struggles of gig workers.

## "Certificate of Special Mention" and a cash prize of ₹50,000 for 4 short films:

Film	Producer/Director	Language	Theme/Subject
"Malti" (West Bengal)	Falguni Bhakta	Bengali	Efforts by a tribal woman to promote education in her community.
"Second Chance" (Uttar Pradesh)	Ravi Karnwal	Hindi	Based on Uttarakhand Jail.
"Dusk of Life" (Maharashtra)	Damodar D. Pawar	Marathi	Depicts the struggles of a childless elderly tribal couple and their right to livelihood and life.
"Bhagyashree" (Maharashtra)	Manoj Janvekar	Marathi	Highlights the struggles of young widows in rural families and their right to a dignified life.

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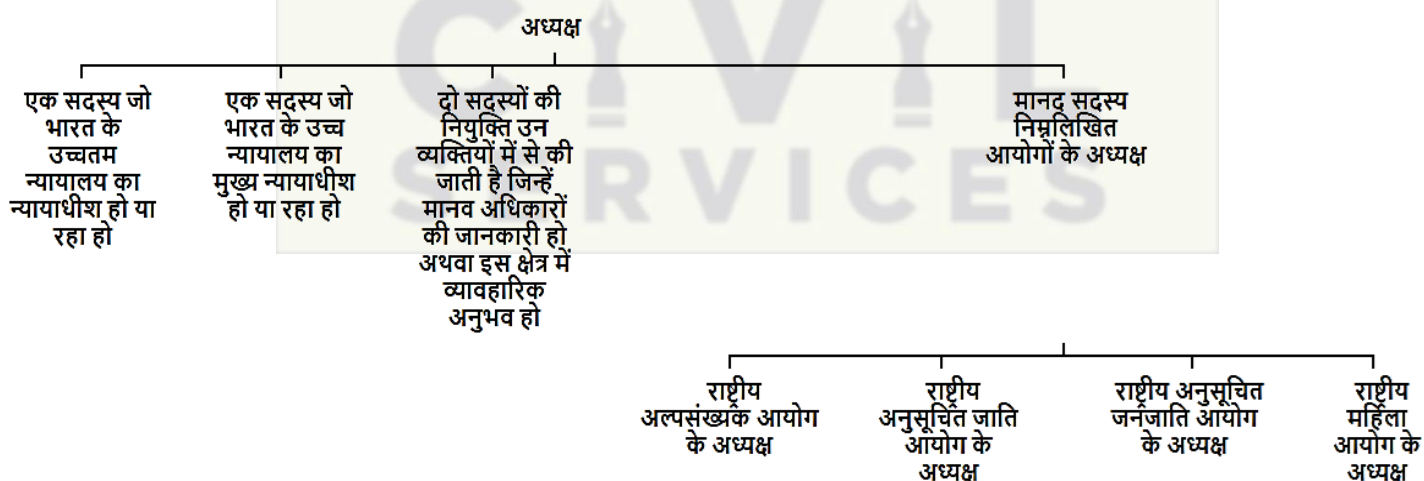
## Other Important Points:

### National Human Rights Commission:

- **Establishment:** October 12, 1993 (Human Rights Day: December 10).
- **Statutory Basis:** Protection of Human Rights Act, 1993 (Amendment: Year 2006).

### Composition:

- **Chairperson:** Retired Chief Justice or Judge of the Supreme Court of India (Following the 2019 amendment).
- **Members:** 5 Full-time Members + 7 Ex-officio Members (Chairpersons of the Commissions for Women, SC, ST, Minorities, Child Rights, and Persons with Disabilities).



- **Appointment:** By the President (Selection Committee: Prime Minister, Speaker of the Lok Sabha, Deputy Chairperson of the Rajya Sabha, Leaders of the Opposition in both Houses, and the Home Minister).



- **Tenure:** 3 years or until the age of 70 (Following the 2019 amendment).
- **Determination of Salary and Allowances:** By Central Government.
- **Re-appointment:** Members are eligible for re-appointment.
- **Post-Tenure Restrictions:** Employment under the Government is prohibited.
- **Powers:** Powers of a Civil Court.

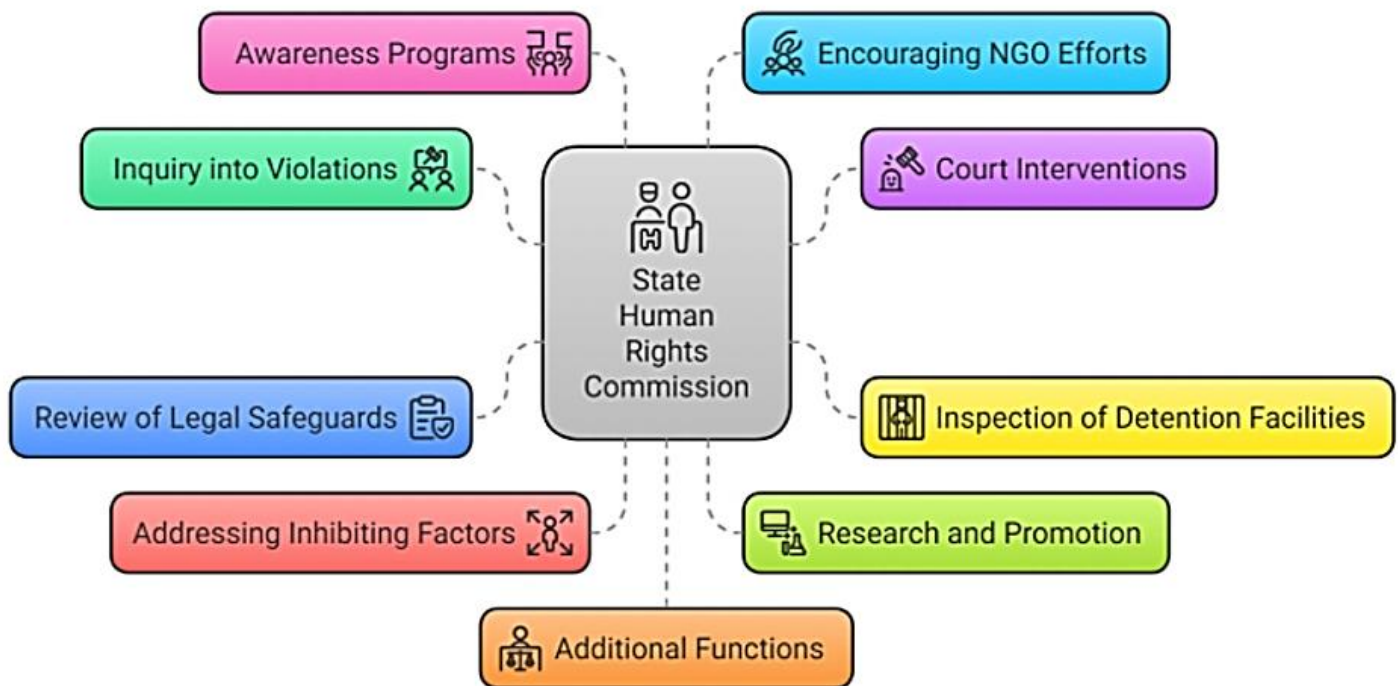
■ **Limitations:**

1. Cannot investigate cases more than one year after the alleged violation occurred.
2. Limited jurisdiction over the Armed Forces.
3. Recommendations are not binding.

■ **Current Chairperson:** V. Ramasubramanian.

■ **Functions:**

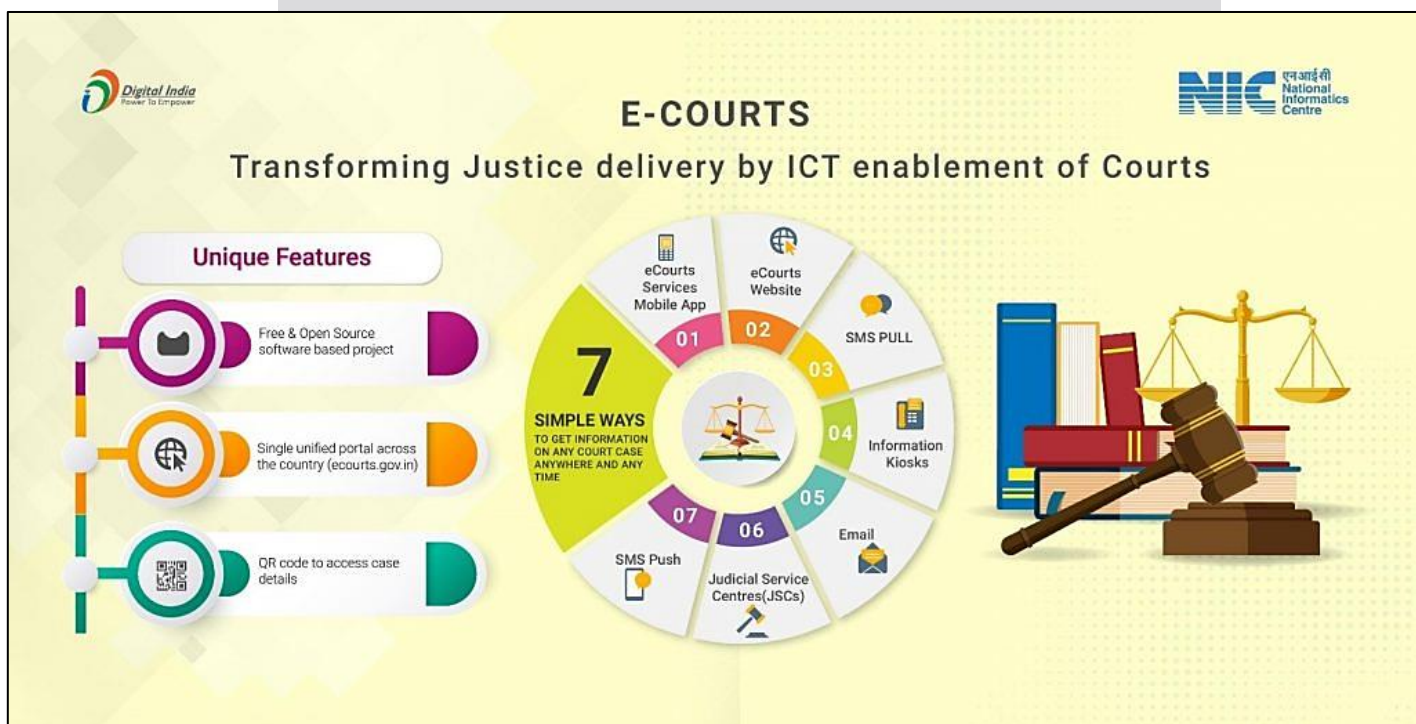
### Functions of the State Human Rights Commission



## Parliamentary Question: Empowerment of the Judiciary

### Why in News?

- The following information was shared by Arjun Ram Meghwal, Minister of State for Law and Justice and Minister of State for Parliamentary Affairs, in response to a question raised in the Rajya Sabha.



### Key Points:

#### e-Courts Mission Mode Project:

- Under the National e-Governance Plan, this project has been under implementation since 2007 to facilitate the development of Information and Communication Technology (ICT) within the Indian judiciary.

#### 3 Phases:

- Phase I (2011–2015):** Computerization of courts and establishment of connectivity.
- Phase II (2015–2023):** Development of ICT facilities for judicial services.

- **Phase III (2023–2027):** e-filing, e-payments, virtual and hybrid hearings, digitization of records, and public access.
- Under this project, 1,098 e-Courts are being operational in Rajasthan as of January 31, 2026.
- Under this initiative, between 2014 and 2025, an increase of 169% was recorded in the number of cases instituted annually by courts across the country, while an increase of 207% was recorded in the number of cases disposed of.

## Centrally Sponsored Scheme for Judicial Infrastructure:

- To augment the resources of States/Union Territories, the Central Government has been implementing this scheme since 1993–94 to provide infrastructure-related facilities for the judiciary within District and Subordinate Courts.
- This scheme comprises five components: Court Buildings, Residential Units for Judicial Officers, Lawyers' Chambers, Toilet Complexes, and Digital Computer Rooms.
- Currently, the Judge-to-Population ratio in the country stands at approximately 22 judges per one million people.
- **Digital Courts and JustIS App:** 'Digital Courts' is a web-based initiative aimed at creating paperless courts, whereas the 'JustIS App' assists in the monitoring and disposal of pending cases.



### Shadow Fleet



#### Why in News?

- Most legitimate tanker traffic through the Strait of Hormuz has ceased; however, vessels belonging to the global "Shadow Fleet"—operating outside standard regulations—continue to transport oil.



#### Key Points:

##### Shadow Fleet: (Dark Fleet)

- This term refers to a group of vessels that conceal their true origin, ownership, and other details, relying on deceptive shipping practices to transport sanctioned or high-risk commodities.

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- The modern Shadow Fleet expanded rapidly following the Russia-Ukraine War in 2022, as the need for alternative transportation methods surged due to sanctions imposed on various nations.
- Shadow Fleet vessels typically switch off their radio transponders (AIS), thereby rendering critical information regarding the ship publicly unavailable.
- The International Convention for the Safety of Life at Sea (SOLAS) mandates that vessels must keep their radio transponders active in order to facilitate the collection of relevant ship-related information.

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## Gulf Cooperation Council (GCC)

### Why in News?

- India has supported a proposal submitted by Bahrain, on behalf of the Gulf Cooperation Council (GCC), which condemns Iran's missile and drone attacks. This proposal is scheduled to be put to a vote in the United Nations Security Council (UNSC).



### Key Points:

#### Gulf Cooperation Council (GCC)

- Headquarters:** Riyadh (Saudi Arabia)
- Established:** On May 25, 1981
- Members (6):** United Arab Emirates, Bahrain, Saudi Arabia, Oman, Qatar, Kuwait.
- Objective:** To ensure greater regional unity by promoting coordination, integration, and cooperation among member states.



## ENVIRONMENT & ECOLOGY



### Black Rain in Tehran



#### Why in News?

- The World Health Organization has issued a warning regarding "black rain" and toxic air pollution in Tehran following attacks on oil facilities.



#### Key Points:

##### What is Black Rain?

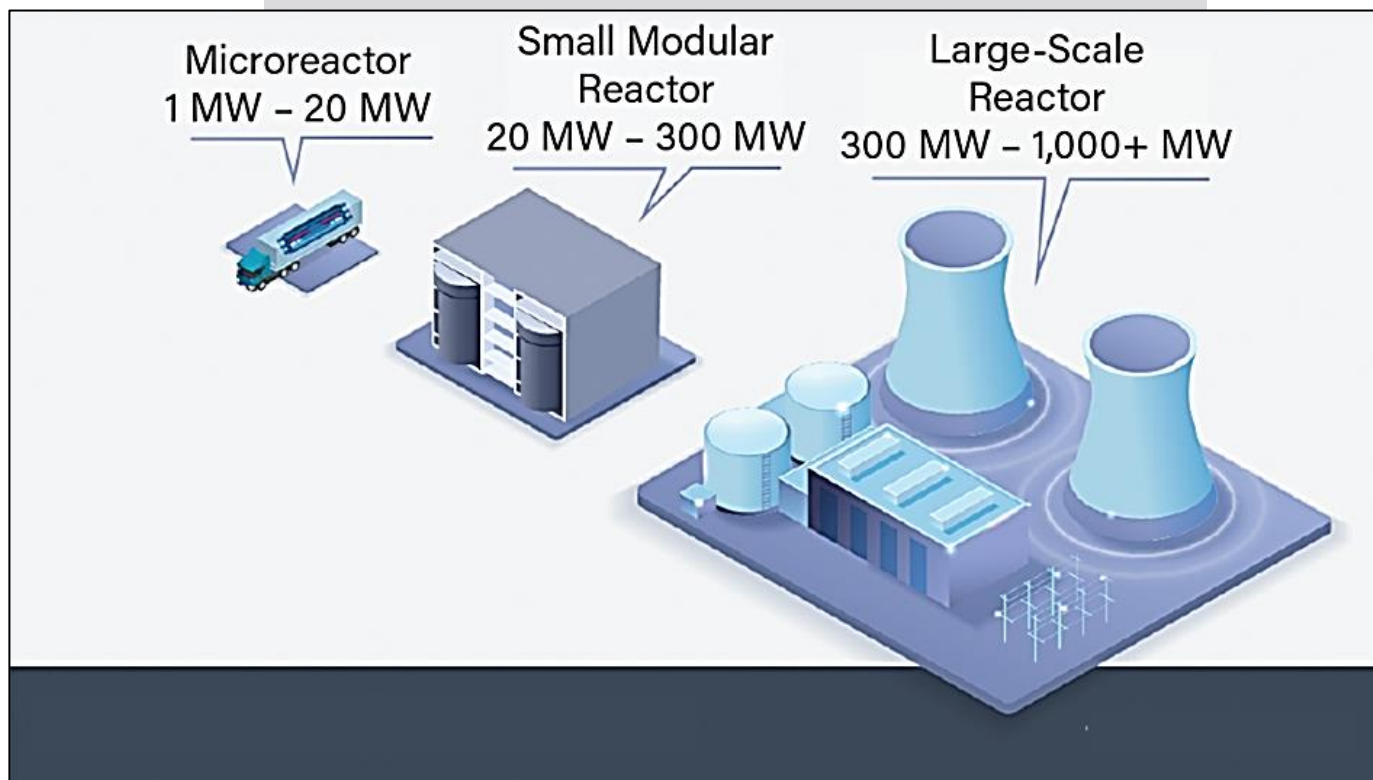
- "Black rain" refers to precipitation that is contaminated with soot, ash, oil particles, and chemical pollutants released into the atmosphere following large-scale fires or explosions.
- Instead of clear water droplets, this rain contains dark, oily particles, causing it to appear black or brown.
- Such rain typically occurs when pollutants from massive fires spread into the air, and the rainfall absorbs these particles before they reach the ground.
- Historically, similar phenomena were observed following the nuclear bombings of Hiroshima and Nagasaki in 1945, when radioactive soot and debris mixed with the rainwater.

## 🕒 SCIENCE & TECHNOLOGY 🕒

### Small Modular Reactors (SMRs)

#### 📣 Why in News?

- India is developing three different types of Small Modular Reactors (SMRs).



#### 📌 Key Points:

- According to the IAEA, SMRs are scaled-down versions of large nuclear power plants, generating up to 300 megawatts of nuclear power per module. This represents approximately one-third of the capacity of traditional nuclear power reactors.

#### India's Small Modular Reactors (SMRs)

- While SMRs represent an entirely new concept, Bharat Small Reactors (BSRs) are based on India's existing Pressurized Heavy Water Reactor (PHWR) technology.

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The 3 SMR models being developed by the Department of Atomic Energy (DAE):

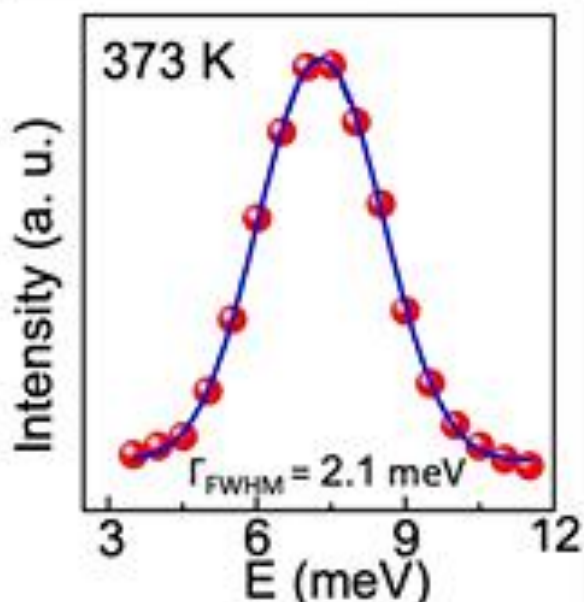
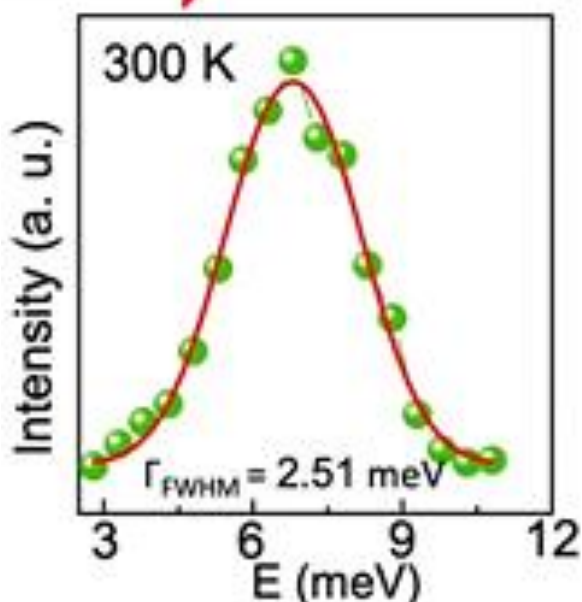
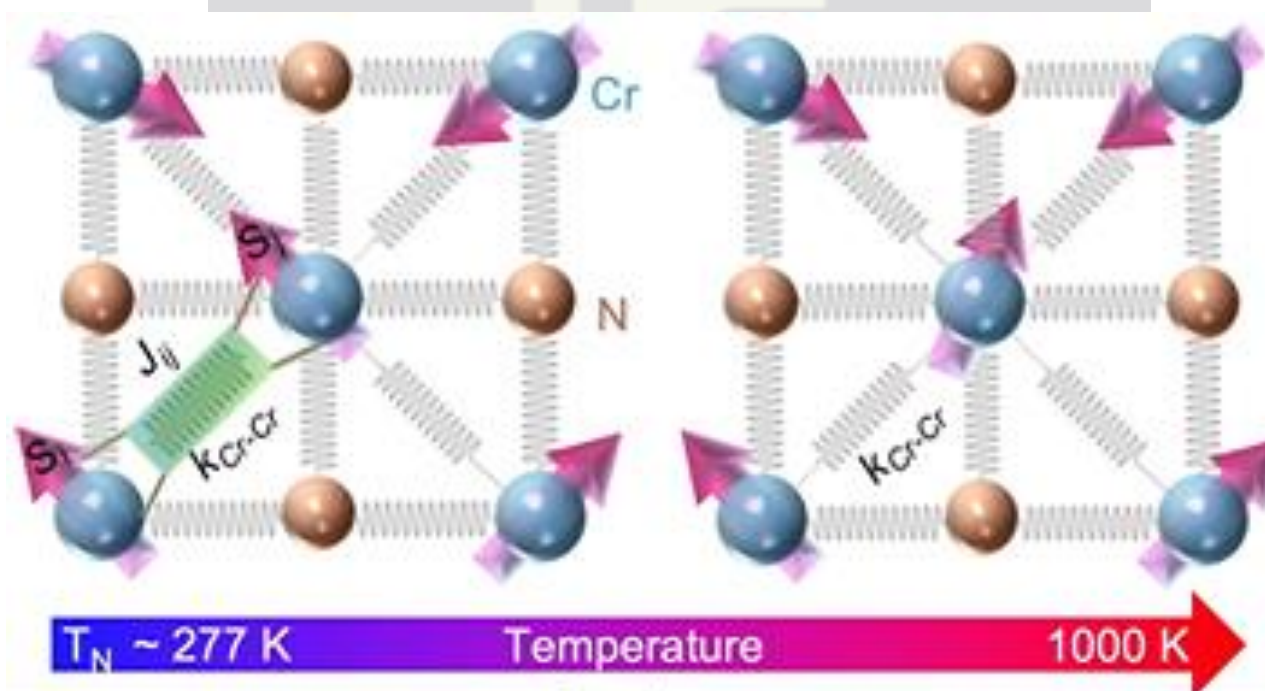
- **Bharat Small Modular Reactor (BSMR) 200 MWe:** This has been developed indigenously by the Bhabha Atomic Research Centre (BARC) and the Nuclear Power Corporation of India Limited (NPCIL).
- It is based on PWR (Pressurized Water Reactor) technology. It will utilize Low Enriched Uranium (LEU) as fuel. Its construction is proposed to take place at the Tarapur Atomic Power Station in Maharashtra.
- **SMR-55 MWe:** This is also based on PWR technology and features a block-type, highly modular design. Its construction will also take place at Tarapur.
- **High-Temperature Gas-Cooled Reactor (up to 5 MW):** The objective of this reactor is hydrogen production. It will be constructed at the BARC facility in Visakhapatnam (Vizag), Andhra Pradesh.

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## Heat Transport in Magnetic Semiconductors

### Why in News?

- Recently, scientists have achieved a breakthrough in understanding heat transport in magnetic semiconductors—materials that are crucial for emerging technologies such as spintronics, magnetic memory, and quantum devices.





## Key Points:

- **Publication:** Science Advances journal.
- **Researchers:** Led by Professor Biwas Saha at the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru.
- **Collaborators:** Indian Institute of Science Education and Research (IISER), Thiruvananthapuram; Linköping University, Sweden; SPring-8 (Japan); and DESY (Germany).
- **Introduction:** In conventional semiconductors, thermal conductivity decreases as temperature rises; this is primarily due to the increased scattering of lattice vibrations (known as phonons) that transmit heat. However, many magnetic semiconductors violate this rule and exhibit an anomalous increase in thermal conductivity above their magnetic transition temperatures—for instance, chromium oxide.
- **Research:** The team led by Biwas Saha has presented direct experimental evidence identifying the underlying mechanism responsible for this phenomenon.
- The study reveals that a strong coupling between phonons and magnetic spin fluctuations plays a crucial role in governing heat transport in magnetic semiconductors.
- Using state-of-the-art temperature-dependent inelastic X-ray scattering techniques, the researchers directly measured phonon lifetimes in high-quality epitaxial CrN thin films during magnetic phase transitions.
- **Findings:** Acoustic phonons—the primary carriers of heat—experience rapid damping near the Néel temperature due to intense interactions with magnetic spin fluctuations. Surprisingly, as the temperature rises, the long-range magnetic order weakens, while the lifetime of phonons increases anomalously—a phenomenon contrary to conventional theories.
- **Significance:**
  1. This research provides the first direct experimental evidence linking spin fluctuations to enhanced thermal conductivity in magnetic semiconductors.
  2. By understanding thermal effects through spin-lattice interactions, strategies for thermal management can be devised for magnetic, spintronic, and quantum devices, where heat dissipation poses a significant challenge.

## C-DOT and "FraudPro"



### Why in News?

- The Government of India's premier telecom R&D center, the Centre for Development of Telematics (C-DOT), has received global recognition at the Mobile World Congress 2026 (MWC 2026) for its indigenous AI-based fraud detection solution, "FraudPro."



## मोबाइल वर्ल्ड कांग्रेस 2026 MOBILE WORLD CONGRESS 2026 THEME: "THE IQ ERA"

- Mobile World Congress 2026 स्पेन के बार्सिलोना शहर में 2 से 5 मार्च 2026 तक आयोजित किया गया है।
- यह दुनिया का सबसे बड़ा मोबाइल और तकनीक उद्योग का सम्मेलन है।
- इस साल MWC 2026 की थीम "The IQ Era" रखी गई, जो आर्टिफिशियल इंटेलिजेंस और कनेक्टिविटी के मेल पर आधारित है।
- भारत के केंद्रीय संचार मंत्री श्री ज्योतिरादित्य सिंधिया ने इस सम्मेलन में भारत का नेतृत्व किया।
- मंत्री जी ने "Breaking the Cost Barrier" विषय पर भाषण दिया और कहा कि सस्ती इंटरनेट सेवा हर नागरिक का अधिकार होनी चाहिए।
- सम्मेलन में भारत पवेलियन (Bharat Pavilion) का उद्घाटन किया गया, जिसमें 40 भारतीय कंपनियों ने अपनी तकनीक प्रदर्शित की।
- भारत पवेलियन में 5G नेटवर्क, सैटेलाइट संचार, AI, IoT और अगली पीढ़ी के डेटा सेंटर जैसी तकनीकों को दिखाया गया।
- मंत्री जी ने India Mobile Congress (IMC) 2026 का ऐलान किया, जो 7 से 10 अक्टूबर 2026 को नई दिल्ली में होगा।
- Ericsson, Nokia, Meta, Qualcomm और Intel जैसी बड़ी वैश्विक कंपनियों से मुलाकात कर भारत के डिजिटल भविष्य पर चर्चा की गई।
- इस सम्मेलन में भारत ने यह संदेश दिया कि वह एक सुरक्षित, सस्ती और भविष्य के लिए तैयार डिजिटल महाशक्ति बन रहा है।

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## Key Points:

### Mobile World Congress (MWC) 2026:

- **Event Duration:** From March 2 to 5, 2026, Barcelona (Spain)
- **2026 Theme:** "The IQ Era"
- **Organizer:** Global System for Mobile Communications Association (GSMA)
- **Significance:** It is the world's largest event for the mobile and technology industry.

### "FraudPro"

- **Introduction:** It is an advanced AI/ML-driven fraud detection platform.
- **Design and Development:** By C-DOT (Department of Telecommunications)
- **Objective:** To secure telecom systems against identity-based fraud.
- **Global Recognition:** During MWC 2026, this solution secured a spot among the top finalists for the prestigious Global Mobile (GLOMO) Awards in the "Best Network Security and Fraud Prevention" category.
- **Deployment:** This solution has been deployed by the Department of Telecommunications as part of the Digital Intelligence Platform and the Sanchar Saathi portal.

## CE-20 Cryogenic Engine

### Why in News?

- The Indian Space Research Organisation (ISRO) successfully tested the CE-20 cryogenic engine.

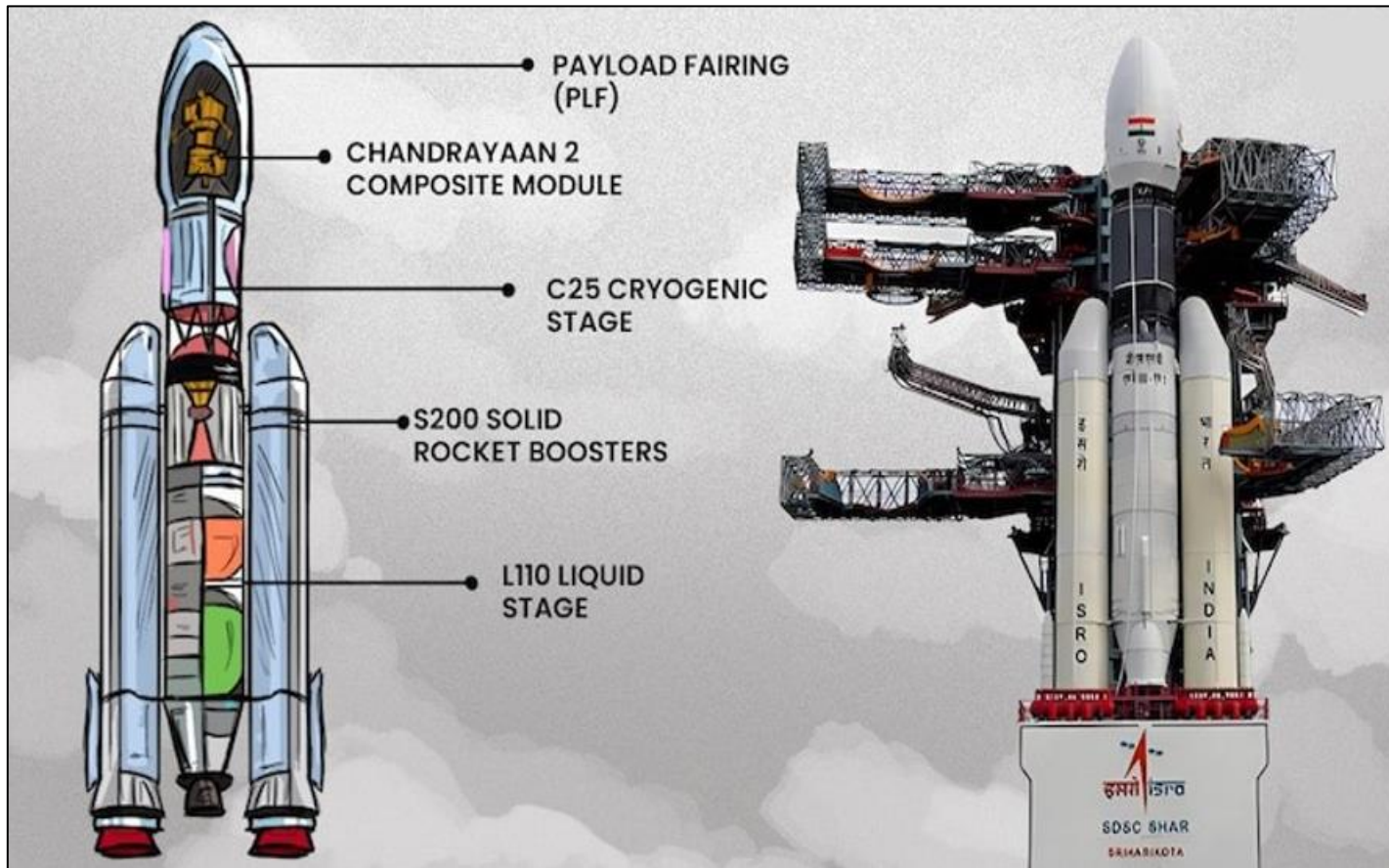


### Key Points:

- **Testing:** Conducted on March 12, 2026, from ISRO's Propulsion Complex located at Mahendragiri (Tamil Nadu).
- **Significance:** The CE-20 cryogenic engine will enhance the power capability of the upper cryogenic stage of the "Launch Vehicle Mark-3" (LVM-3).

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## CE-20 Cryogenic Engine:



- **Introduction:** It is a rocket engine that utilizes liquefied gases as both fuel and oxidizer.

### Fuel and Oxidizer Used:

- **Liquid Oxygen (LOX):** An oxidizer that liquefies at  $-183^{\circ}\text{C}$ .
- **Liquid Hydrogen (LH<sub>2</sub>):** A fuel that liquefies at  $-253^{\circ}\text{C}$ .

### Features:

1. Capable of restarting the engine.
2. Reduced vibration due to the nozzle protection system.
3. High efficiency.