

MANTHAN

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CL Educate Limited, A – 45, Mohan Co-operative Industrial Estate, New Delhi – 110044

Contact No. 011-41280800 / 1100

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1. Prime Minister Narendra Modi Attended Rajendra Chola Millennium Celebrations in Tamil Nadu



- Prime Minister Narendra Modi arrived in Tamil Nadu for a two-day visit, marking a significant push for infrastructure and development initiatives across the state.
- After concluding his visit to the Maldives
- Soon after his arrival, the Prime Minister inaugurated the newly developed terminal building of Tuticorin Airport, constructed at a cost of Rs. 452 crore.
- Later, he laid the foundation stone and inaugurated multiple development projects across Tamil Nadu, with a cumulative value of Rs. 4,900 crore.
- These projects span key sectors including energy, transport, and logistics.
- Among the major initiatives unveiled were, infrastructure projects worth Rs. 550 crore in Tuticorin, power transmission works related to the Kudankulam Nuclear Power Plant, electrification of the Madurai–Bodinayakkanur railway line, power distribution systems for Kudankulam Units 3 and 4, doubling of the railway line between Aralvaimozhi and Nagercoil, doubling of the Nellai-Melapalayam railway section, estimated at Rs. 283 crore, a four-lane road development project on the Sethiyathoppu-Cholapuram section, inauguration of the third northern cargo logistics terminal at V.O. Chidambaranar

Port in Tuticorin, costing Rs. 285 crore, doubling of the Nagercoil City-Junction-Kanyakumari railway line and railway projects worth Rs. 1,030 crore.

- Prime Minister Narendra Modi recently visited the Gangaikonda Cholapuram Shiva temple in Tamil Nadu, a UNESCO World Heritage Site, to commemorate the legacy of the Chola Empire.
- The visit coincided with the Aadi Thiruvathirai Festival, which celebrates the achievements of Rajendra Chola I, one of India's most renowned rulers.
- The event highlighted both the historic significance of the temple and the political dynamics surrounding Tamil Nadu's current landscape, particularly as the state approaches elections.

The Legacy of the Chola Empire



- The Gangaikonda Cholapuram temple, built by Rajendra Chola I, is one of the greatest examples of Chola architecture.
- The Chola Empire, at its peak, extended from the banks of the Ganges in the north to Southeast Asia. Rajendra Chola I's reign (1014-1044 AD) is particularly notable for the successful maritime expeditions that not only expanded the empire's boundaries but also solidified its position as a formidable naval power.
- During his visit, Modi praised the contributions of Rajaraja Chola (Rajendra's father) and Rajendra Chola I in shaping India's identity and pride.
- To honor their legacy, PM Modi announced plans to erect grand statues of these emperors in Tamil Nadu, further emphasizing their enduring historical importance.

The Gangaikonda Cholapuram Temple and Its Significance

- The Gangaikonda Cholapuram temple is considered an architectural marvel. Rajendra Chola I constructed the temple and the city of Gangaikonda Cholapuram as a symbolic gesture to commemorate his victory over the Pala kingdom of Bengal.

- The name of the city itself, meaning “the town of the Chola who took the Ganges,” highlights Rajendra’s military triumph and the pride of the Chola Empire.
- Historian K.A. Nilakanta Sastri notes that the name Gangaikonda Cholapuram advertised the Chola’s newfound power across India.
- The temple’s architecture is a testament to the Chola dynasty’s wealth and strength.
- Unlike the Tanjore temple, built by Rajaraja I, the Gangaikonda Cholapuram temple features softer lines and curves, showcasing a balance of power, beauty, and grace.
- The temple is also renowned for its grand water tank called Cholagangam, designed as a “liquid pillar of victory,” a symbol of the empire’s strength and Rajendra’s military success.

Aadi Thiruvathirai Festival

- The Aadi Thiruvathirai Festival holds deep significance, not only for its religious importance but also for its connection to the glory of the Chola dynasty.
- Aadi refers to the Tamil month, while Thiruvathirai is a star constellation linked to Lord Shiva, believed to be Rajendra Chola I’s birth star.
- The festival involves traditional performances such as therukoothu (road shows) depicting the achievements of the Chola king, and offerings of new silk robes to the statue of Rajendra I.
- This year’s festival also marks the 1,000th anniversary of Rajendra Chola I’s maritime expedition to Southeast Asia.
- The event highlighted the Chola Empire’s naval supremacy and its enduring legacy, linking the present celebration with historical milestones.

Modi’s Announcement of Statues

- As part of his visit, PM Modi announced the construction of grand statues for both Rajaraja Chola I and Rajendra Chola I in Tamil Nadu.

Chola Empire

- The Chola Empire was one of the longest-ruling and most influential dynasties in southern India, with its peak from the 9th to the 13th centuries CE.
- Centered in the fertile Tamil region, particularly around the Kaveri River, the Cholas expanded their power across South India, Sri Lanka, and even parts of Southeast Asia.

Significance of the Chola Empire

Political and Military Power

- The Cholas established a centralized and efficient administration.
- They maintained a powerful navy, which enabled them to control overseas trade routes and expand influence into Sri Lanka, the Maldives, and Southeast Asia (e.g., Srivijaya in modern-day Indonesia and Malaysia).

Cultural Patronage

- The Cholas were devout Shaivites (worshippers of Shiva) and supported Hindu temples, rituals, and literature.
- Under their patronage, Tamil literature and poetry flourished.

Temple Architecture

- They pioneered the Dravidian style of temple architecture.
- The Brihadeeswarar Temple in Thanjavur, built by Rajaraja Chola I, is a UNESCO World Heritage Site and a masterpiece of Chola architecture.

Importance of the Chola Empire

Administrative Innovations

- The Cholas introduced village self-governance through sabhas and ur (local councils).
- Land was meticulously surveyed and taxed, forming the basis of a structured economy.

Economic Prosperity

- Trade flourished across the Indian Ocean, particularly in spices, textiles, and precious stones.
- Ports like Nagapattinam became important trade centers with links to China, Arabia, and Southeast Asia.

Maritime Expansion

- One of the few Indian dynasties to develop a blue-water navy.
- Their naval campaigns helped spread Indian culture, religion (especially Hinduism and Buddhism), and political influence.

Legacy of the Chola Empire

Enduring Art and Architecture

- The Cholas are remembered for their bronze sculptures, particularly those of Nataraja (the dancing Shiva).
- Their temple designs influenced religious architecture in South and Southeast Asia.

Tamil Identity and Language

- They helped shape and promote Tamil culture, language, and identity, aspects that are still strong in Tamil Nadu.
- Chola-era inscriptions provide invaluable historical records in Tamil and Sanskrit.

Cultural Diplomacy

- Their overseas conquests spread Indian art, religion, and ideas to regions like Indonesia, Cambodia, and Thailand.
- The Cholas symbolize India's ancient maritime connections and soft power across Asia.

Notable Chola Rulers

- **Rajaraja Chola I (985–1014 CE)** – Consolidated the empire and initiated major temple constructions.
- **Rajendra Chola I (1014–1044 CE)** – Expanded the empire to its greatest territorial extent, including successful naval expeditions to Southeast Asia.
- **Kulothunga Chola I (1070–1122 CE)** – Known for administrative efficiency and maintaining Chola supremacy.

QUESTIONS

1. Consider the following statements regarding the Chola Empire:

1. The Chola Empire reached its peak during the reign of Rajaraja Chola I, who expanded the empire's territories to include parts of Southeast Asia.
2. Rajendra Chola I is known for consolidating the Chola Empire in South India, but he did not expand the empire's influence outside India.
3. The Chola dynasty was known for its advancements in architecture, particularly in the construction of temples in the Dravidian style.
4. The Cholas played a significant role in the spread of Tamil language and culture, both within South India and in regions like Southeast Asia.

How many of the above statements are correct?

- A. One statement only
- B. Two statements only
- C. Three statements only
- D. All statements are correct

2. Consider the following statements about the Gangaikonda Cholapuram temple:

1. The Gangaikonda Cholapuram temple was built by Rajendra Chola I as a commemoration of his naval victory over the Pala kingdom of Bengal.
2. Unlike the Brihadeeswarar temple in Thanjavur, the Gangaikonda Cholapuram temple is characterized by harsher lines and a more rigid architectural style.
3. The Gangaikonda Cholapuram temple includes a significant water tank known as Cholagangam, which symbolizes the empire's military success and Rajendra Chola's power.

Which of the above statements are correct?

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

3. Consider the following statements regarding the Aadi Thiruvathirai Festival:

1. The festival celebrates Rajendra Chola I's birthday, commemorating his reign and achievements.
2. Aadi Thiruvathirai is linked to Lord Shiva's birth star, which is believed to be Rajendra Chola I's star.
3. The festival is primarily a religious event without any significant cultural or political connotations.

Which of the above statements is/are correct?

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

4. Consider the following statements about the Chola Empire's naval power:
1. The Chola Empire was one of the few Indian dynasties to develop a strong blue-water navy, which enabled them to control overseas trade routes and spread influence across Southeast Asia.
 2. The Chola navy was primarily focused on territorial defense and had minimal influence over maritime trade.
 3. The Chola Empire's naval expansion included successful campaigns in Sri Lanka, Southeast Asia, and the Maldives.
- How many of the above statements are correct?
- A. One statement only
 - B. Two statements only
 - C. Three statements only
 - D. All statements are correct
5. Who among the following Chola emperor's reign saw the empire's greatest territorial expansion, including successful naval expeditions to Southeast Asia?
- A. Rajaraja Chola I
 - B. Rajendra Chola I
 - C. Kulothunga Chola I
 - D. Aditya Chola I

2. 17 MPs honoured with Sansad Ratna Awards for Parliamentary performance



- 7 Members of Parliament – including Supriya Sule (Nationalist Congress Party-Sharadchandra Pawar), Ravi Kishan (Bharatiya Janata Party), Nishikant Dubey (BJP) and Arvind Sawant (Shiv Sena-Uddhav Balasaheb Thackeray) – have been selected for the Sansad Ratna Awards 2025 for their exemplary performance in the Lok Sabha.
- The honours also include four Special Jury Awards, recognising their consistent contributions to parliamentary democracy across three successive terms.
- The Special Awards have been conferred on Bhartruhari Mahtab (BJP, Odisha), N K Premachandran (Revolutionary Socialist Party, Kerala), Supriya Sule (NCP-SP, Maharashtra), and Shrirang Appa Barne (Shiv Sena, Maharashtra) – all of whom have maintained top performance since the 16th Lok Sabha. Other award-winning MPs include Smita Uday Wagh (BJP), Naresh Mhaske (Shiv Sena), Varsha Gaikwad (Congress), Medha Kulkarni (BJP), Praveen Patel (BJP), Bidyut Baran Mahato (BJP), and Dilip Saikia (BJP), among others. In the committee category, the Standing Committee on Finance, chaired by Bhartruhari Mahtab, and the Standing Committee on Agriculture, chaired by Dr Charanjit Singh Channi (Congress), were recognised for the quality of their reports and contributions to legislative oversight.

What is the Sansad Ratna Award?

- The Sansad Ratna Award was instituted in 2010 by the Prime Point Foundation and eMagazine PreSense on the suggestion of former President Dr. A.P.J. Abdul Kalam.
- It's a civil-society-led initiative aimed at honoring top-performing Members of Parliament based on objective data: debates participated in, questions raised, private member bills introduced, and overall attendance.
- A total of 17 MPs and 2 parliamentary committees have been honored in 2025.
- Maharashtra emerged strongly, with 7 MPs out of 17 awardees hailing from the state, underscoring its parliamentary activism and influence.

Election Process for Members of Lok Sabha and Rajya Sabha

1. Overview of Indian Parliament

The Indian Parliament consists of two houses:

- Lok Sabha (House of the People) – Lower house
- Rajya Sabha (Council of States) – Upper house

Lok Sabha Election Process

1.1 Composition of Lok Sabha

- **Maximum strength:** 552 members
- 530 from states
- 20 from Union Territories
- 2 may be nominated by the President (from Anglo-Indian community — **Note:** this provision was removed by the 104th Constitutional Amendment in 2019)
- **Actual strength (as of 2024):** 543 elected members

1.2 Eligibility to Become a Member

- Must be a citizen of India
- Must be at least 25 years old
- Must be a registered voter
- Must not hold any office of profit under the government

1.3 Electoral Process

(a) Direct Elections

- Members are elected directly by the people.
- India is divided into 543 parliamentary constituencies.
- Each constituency elects one MP (Member of Parliament).

(b) Voting System

- **System used:** First-Past-The-Post (FPTP).
- The candidate with the highest number of votes wins.
- Elections are conducted using Electronic Voting Machines (EVMs).

1.4 Conduct of Elections

- Election Commission of India (ECI) conducts the elections.
- Held every 5 years or earlier if Lok Sabha is dissolved.
- Conducted in multiple phases (due to the large electorate).

1.5 Filing of Nominations

- Candidates must submit a nomination form with a security deposit.
- Requires 10 proposers (if contesting as independent).

1.6 Model Code of Conduct

- Enforced during election period to ensure free and fair elections.

Rajya Sabha Election Process

2.1 Composition of Rajya Sabha

Maximum strength: 250 members

- 238 elected by states and UTs
- 12 nominated by the President (eminent people in literature, science, art, and social service)
- **Current strength:** 245 members

2.2 Eligibility to Become a Member

- Must be a citizen of India
- Must be at least 30 years old
- Must be mentally sound, not bankrupt, and not criminally convicted

2.3 Electoral Process

(a) Indirect Elections

- Rajya Sabha members are not elected by the public.
- Elected by the elected members of State Legislative Assemblies (MLAs).
- Seats are allotted based on the population of the state.

(b) Proportional Representation System

- **Method used:** Single Transferable Vote (STV) with proportional representation.
- Voters (MLAs) rank candidates in order of preference.
- Ensures minority parties also get representation.

2.4 Term and Tenure

- Members have a 6-year term.
- One-third of members retire every 2 years, and elections are held to fill those seats.

2.5 Nominations by the President

- 12 members are nominated based on their expertise and achievements.

QUESTIONS

6. Consider the following statements regarding the Sansad Ratna Award:

1. The Sansad Ratna Award was instituted in 2010 by the Prime Point Foundation and eMagazine PreSense.
2. The award is given to the Members of Parliament based solely on public opinion and votes.
3. It honors MPs for their performance in debates, questions raised, private member bills introduced, and overall attendance.

Which of the above statements are correct?

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

7. Consider the following statements about the Lok Sabha:

1. The Lok Sabha has a maximum strength of 552 members, with 530 from states and 20 from Union Territories.
2. Lok Sabha members are directly elected by the people from 543 constituencies across India.
3. A candidate for Lok Sabha must be at least 30 years old.

Which of the above statements is/are correct?

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

8. Consider the following statements regarding the election process of the Lok Sabha:

1. Lok Sabha elections are held using the First-Past-The-Post (FPTP) system, where the candidate with the highest number of votes wins.
2. Candidates must be nominated by political parties only to contest Lok Sabha elections.
3. Elections are conducted by the Election Commission of India and are held every 6 years.

Which of the above statements is/are correct?

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

9. Consider the following statements about the Rajya Sabha:

1. Rajya Sabha members are elected through direct elections by the public.
2. The Rajya Sabha has a total of 250 members, with 12 nominated by the President.
3. Rajya Sabha members serve a 6-year term, with one-third of members retiring every 2 years.

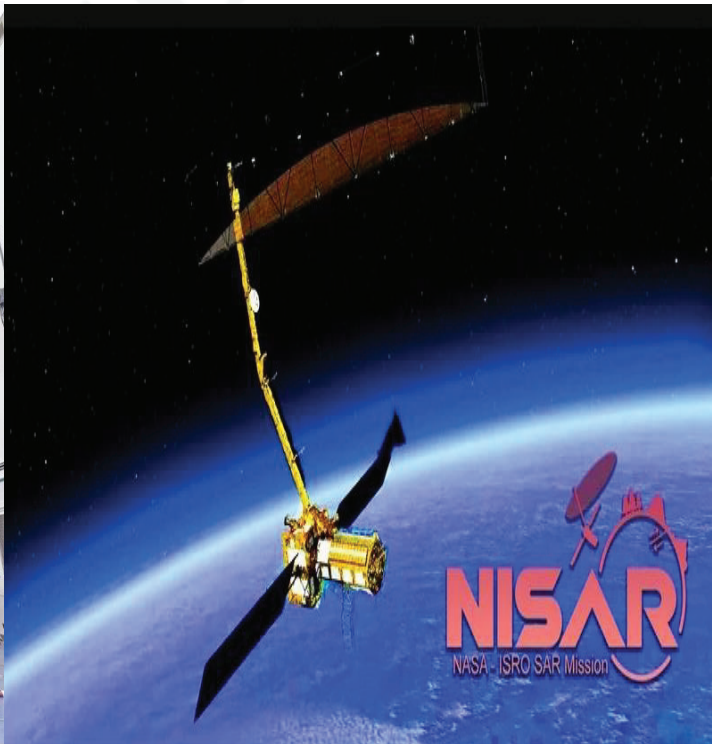
Which of the above statements is/are correct?

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

10. The Parliament in India consists of _____.

- A. President, the Prime Minister, the Vice President
- B. President, the Lok Sabha, the Rajya Sabha
- C. The Lok Sabha, the Rajya Sabha
- D. The Prime Minister, the Lok Sabha, the Rajya Sabha

3. Launch of NASA-ISRO joint satellite NISAR



- The Indian Space Research Organisation (ISRO) and the National Aeronautics and Space Administration (NASA) are set to launch a groundbreaking Earth observation satellite — NISAR (NASA-ISRO Synthetic Aperture Radar).

- Unlike routine Earth observation missions, NISAR is the result of over 15 years of work and marks the first-ever joint satellite development between ISRO and NASA.
- With its advanced radar technology and collaborative framework, it is poised to revolutionize Earth observation science.

Unprecedented Capabilities and Global Impact

- NISAR will be the most powerful Earth observation satellite ever launched, delivering high-resolution data that will benefit studies in climate science, agriculture, forestry, geology, and disaster management.
- At its core, NISAR carries two Synthetic Aperture Radars (SARs) — one operating in the L-band (provided by NASA) and the other in the S-band (developed by ISRO).
- This dual-band radar system enables NISAR to capture complementary sets of images simultaneously, a feat not achievable by separate satellites with independent radars.
- The result is an unmatched ability to monitor Earth's surface under all weather and lighting conditions — day or night, and through clouds, fog, or smoke.

Synthetic Aperture Radar (SAR) Technology

- SARs are special radar systems used to create high-resolution images by simulating the effect of a much larger antenna. These are critical for satellites, which cannot carry massive dish antennas like ground-based radar systems.
- NISAR's 12-meter diameter antenna can produce imagery comparable in quality to what a 20-km-wide ground-based antenna would deliver, according to NASA.
- SAR data allows scientists to measure surface deformation, observe vegetation and forests, assess crop health, and monitor glaciers and ice sheets.

The Power of L-band and S-band Radars

- The L-band SAR uses longer wavelength microwaves that can penetrate dense forests, ice, and sand, making it ideal for observing tree trunk biomass, ground displacement, and subterranean changes.
- It will primarily focus on observing landscapes such as the Amazon rainforest, Antarctica, Greenland, and Alaska.
- The S-band SAR, with shorter wavelengths, is more effective at imaging crop patterns, water bodies, and canopy structures.
- Its primary observation area will be India, and it will aid in monitoring agricultural crops like corn, sugarcane, and soybeans, tracking their growth and maturity stages.
- Together, these two radars offer a three-dimensional and time-synchronized view of Earth that has never been possible before.

Engineering Marvel and Data Powerhouse

- Integrating two SAR systems on a single satellite was a significant engineering challenge, involving complex signal processing without interference between the systems.

- This feat is the main reason for the prolonged development timeline of NISAR.
- Once operational, NISAR is expected to generate an enormous 80 terabytes of data every day — three times more than any other current Earth observation satellite — enabling scientists to detect minute surface changes and track environmental processes over time.

A Strategic Collaboration Between NASA and ISRO

- NISAR is a symbol of deepening strategic cooperation between India and the United States.
- NASA has invested around \$1.16 billion into the project, providing the L-band radar, the antenna, and GPS systems.
- ISRO's contribution of \$90 million includes the S-band radar, the satellite's spacecraft and subsystems, and the launch using its GSLV rocket.
- While NASA initiated the project in 2008, ISRO joined in 2012 after identifying scientific objectives that aligned with its own Earth observation goals.
- The official agreement between the two space agencies was signed in 2014, marking the beginning of joint development efforts.

Wider Implications for Science and Diplomacy

- NISAR's launch aligns with the broader India-US space partnership, which includes India's recent signing of the Artemis Accords — a US-led framework for cooperative lunar exploration.
- It also follows the strategic agreement between NASA and ISRO for human spaceflight collaboration, including the participation of Indian astronaut Shubhanshu Shukla in NASA's Axiom-4 mission to the International Space Station.
- From a scientific perspective, NISAR will support studies in earthquakes, landslides, volcanoes, glacier movements, and climate change monitoring. It will also contribute valuable data to track carbon cycles, deforestation, biomass changes, and urban sprawl.

QUESTIONS

11. Which of the following is/are true about the NISAR satellite?

1. NISAR is a joint satellite mission developed by ISRO and NASA.
2. NISAR will carry two Synthetic Aperture Radars (SARs), both developed by ISRO.
3. NISAR is the first satellite to be equipped with L-band and S-band radars simultaneously for Earth observation.
4. NISAR will primarily focus on observing agricultural crops in the United States.

Select the correct answer using the codes given below:

- A. One statement only
- B. Two statements only
- C. Three statements only
- D. All statements are correct

12. Which of the following is the primary focus area for the L-band Synthetic Aperture Radar (SAR) on the NISAR satellite?
- A. Imaging crop patterns and water bodies
 - B. Observing tree trunk biomass, ground displacement, and subterranean changes
 - C. Monitoring glaciers and ice sheets
 - D. Tracking urban sprawl and carbon cycles
13. Which of the following statements about the NISAR satellite is/are correct?
- 1. NISAR's L-band radar was developed by ISRO, and the S-band radar was provided by NASA.
 - 2. The NISAR satellite will generate around 80 terabytes of data every day, three times more than any other current Earth observation satellite.
 - 3. The primary purpose of NISAR is to monitor only the climate change impacts on Earth.
- Select the correct answer using the codes given below:
- A. 2 only
 - B. 1 and 2 only
 - C. 1 and 3 only
 - D. 1, 2, and 3
14. Which of the following statements about the collaboration between NASA and ISRO on NISAR is true?
- 1. The NISAR project was initiated by NASA in 2008, and ISRO joined the mission in 2012.
 - 2. The NISAR mission is the first-ever joint satellite development between NASA and ISRO.
- Select the correct answer using the codes given below:
- A. 1 only
 - B. 2 only
 - C. Both 1 and 2
 - D. Neither 1 nor 2
15. Which of the following best describes the significance of the NISAR satellite in terms of its radar technology?
- A. It uses a single-band radar system for observing Earth's surface.
 - B. It can monitor Earth's surface under all weather conditions, including day and night, and through obstacles like clouds, fog, and smoke.
 - C. It uses only optical imaging for observing Earth.
 - D. It generates low-resolution data primarily for geological studies.

4. YouTube joins list of platforms banned for children under 16 in Australia



- Australia is poised to enforce the world's first national social media ban for children under the age of 16, with new restrictions set to begin this December.
- Initially announced in November 2024 through the Online Safety Amendment (Social Media Minimum Age) Bill 2024, the law mandates social media companies to take “reasonable steps” to prevent children under 16 from opening or maintaining accounts on their platforms.
- The initiative aims to safeguard young users from harmful content, misinformation, and addictive algorithmic designs.
- Platforms already included in the ban are TikTok, Instagram, Facebook, X (formerly Twitter), and Snapchat. YouTube has now been added to this list after initially being exempted.

YouTube's Inclusion: A Reversal of Initial Exemption

- When the bill was first proposed, YouTube was notably excluded. The government had cited its educational value and popularity among teachers as reasons for the exemption.
- However, pressure from other tech platforms and Australia's internet regulator eventually led to a reversal of this decision.

- A recent survey found that 37% of minors had encountered harmful content on YouTube, the highest among all social media platforms. Citing these findings, eSafety Commissioner Julie Inman Grant recommended the platform be brought under the same restrictions.
- “YouTube has mastered persuasive algorithmic techniques that drive users down rabbit holes of potentially harmful content,” she said, arguing that it functioned similarly to other social media platforms, despite YouTube’s claim to the contrary.

What the Ban on YouTube Entails

- Under the new regulations, teenagers below the age of 16 will still be able to view videos on YouTube but will not be allowed to:
 - Open or maintain an account.
 - Upload videos.
 - Interact (like, comment, or subscribe) on the platform.
- **Social media companies are now required to:**
 - Deactivate all existing underage accounts.
 - Prevent the creation of new ones.
 - Block any workaround methods.
 - Implement robust age verification tools.
- While the enforcement mechanisms are still being developed, the government has said it is awaiting results from tests on age-checking technologies. These results will guide how the ban will be executed.

Tech Companies Face Heavy Penalties for Non-Compliance

- To ensure compliance, the law includes substantial penalties. Platforms that fail to adhere to the age restrictions could face fines up to A\$50 million (approximately US\$32.5 million).
- This creates significant legal and financial pressure on companies like YouTube to cooperate with the new mandates.

YouTube’s Pushback and Possible Legal Action

- YouTube, owned by Google, has strongly criticized the decision, asserting that the platform is primarily a video-sharing service rather than a social media network.
- The company emphasized that three-quarters of Australians aged 13 to 15 use the platform, and 69% of parents find it appropriate for younger viewers.
- YouTube accused the eSafety Commissioner of disregarding government data and hinted at mounting a legal challenge to the decision.
- Though not officially confirmed, local media reported that YouTube has already issued warnings to the government over potential court action.

Government Response: “We Will Not Be Intimidated”

- **Prime Minister Anthony Albanese has stood firmly behind the decision, stating:**
 “Social media is doing social harm to our children, and I want Australian parents to know that we have their backs.”
- Federal Communications Minister Anika Wells added that she would not be “intimidated by legal threats” and emphasized that this initiative is part of a broader strategy to protect children from predatory algorithms and manipulative content.

The Scope of the Ban: What's Still Allowed

- Despite the broad nature of the restrictions, the bill makes key exceptions. Access to educational tools, gaming platforms, and health-related apps—such as Google Classroom—will still be permitted.
- However, YouTube is no longer considered exempt as an educational tool under the current framework.
- Importantly, the bill also assures that government identification (including Digital ID) will not be mandatory for age verification. Social media companies will be required to provide alternative age assurance measures.

Global Context: Part of a Larger Movement

- Australia's move aligns with a broader global trend where countries are increasingly regulating children's digital access.
- Nations such as the UK, France, Germany, Italy, the Netherlands, and Norway have either introduced or are exploring similar age-based restrictions on social media platforms to combat misinformation, exploitation, and mental health impacts.

QUESTIONS

16. Which of the following is true about the new social media restrictions being enforced in Australia?
1. Australia will be the first country to implement a national social media ban for children under the age of 16.
 2. YouTube was initially exempted from the social media ban due to its educational value, but this exemption was reversed after a survey revealed harmful content on the platform.
 3. The law mandates that social media companies must prevent children under the age of 18 from using their platforms.

Which of the above statements are correct?

- A. 2 and 3 only
B. 1 and 3 only
C. 1, 2, and 3
D. 1 and 2 only
17. Which of the following statements is true regarding Australia's geographical features?
1. Australia is the sixth-largest country in the world by total area.
 2. Australia shares land borders with several countries, including Indonesia and New Zealand.
 3. Australia is the world's flattest and driest inhabited continent.
 4. Australia is completely surrounded by the Atlantic Ocean and the Indian Ocean.
- How many of the above statements are correct?

- A. One statement only
B. Two statements only
C. Three statements only
D. All statements are correct

18. Which of the following best describes the Great Barrier Reef in Australia?

1. The Great Barrier Reef is located in the Coral Sea, off the coast of Queensland, Australia.
2. The reef is the largest coral reef system in the world, composed of over 2,900 individual reefs.
3. The Great Barrier Reef has been designated as a World Heritage Site since 1990.

Which of the above statements are correct?

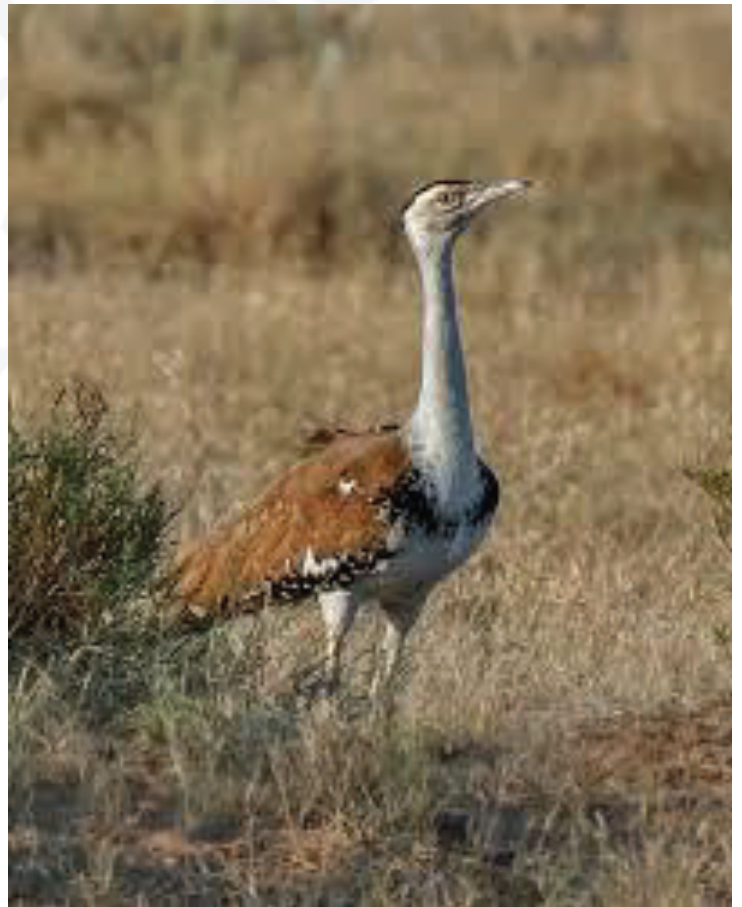
- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

5. Why an SC-appointed panel is batting for ‘power corridors’ for the Great Indian Bustard in Rajasthan and Gujarat

- A Supreme Court-appointed committee has submitted key recommendations aimed at balancing renewable energy expansion with the urgent need to conserve the critically endangered Great Indian Bustard (GIB).
- The committee, formed in March 2024, was tasked with devising an environmentally sensitive strategy to mitigate the threat of power lines to the GIB, whose numbers have dwindled to fewer than 150 in the wild.

The Crisis: Power Lines and GIB Mortality


- The Great Indian Bustard, once found across the Indian subcontinent, is now on the brink of extinction.
- Its sharp population decline is attributed to habitat loss, hunting, egg poaching, and natural low reproduction rates.
- In recent years, however, one of the gravest threats has emerged from above: high-tension power lines cutting across its habitat, particularly in Rajasthan and Gujarat.
- Due to their poor frontal vision and heavy body weight, GIBs are prone to fatal collisions with power lines.



- The Wildlife Institute of India (WII) estimates that even 4-5 deaths annually from electrocution could drive the species to extinction within two decades.

Legal Background: The Supreme Court's Role

- The issue reached the Supreme Court via a long-standing petition filed by retired bureaucrat M K Ranjitsinh.
- In April 2021, the Court had ordered that all overhead power lines in more than 80,000 sq km across Rajasthan and Gujarat be buried underground to protect the GIB.
- However, in March 2024, a three-judge bench led by then Chief Justice D.Y. Chandrachud modified this sweeping directive, acknowledging the need to balance conservation with India's renewable energy goals.
- The Court constituted a seven-member expert committee to assess the feasibility of burying or rerouting lines, and to propose alternative mitigation strategies.

<h2>BIRD ON A WIRE</h2>	
<p>➤ According to the latest population assessment, the largest population of GIB is in Thar area of Rajasthan</p>	<p>Rajasthan, Maharashtra and will be supervised by Wildlife Institute of India (WII)</p>
<p>➤ Desert National Park which extends from Jaisalmer to Jodhpur is home to 170 GIBs</p>	<p>➤ WII team to finalize the size of a GIB hatching facility in Jaisalmer</p>
<p>➤ Five known mortalities in 2017-2018 following electrocution</p>	
<p>➤ Five breeding sites left now</p>	
<p>➤ National conservation GIB breeding programme involves state governments of Gujarat,</p>	

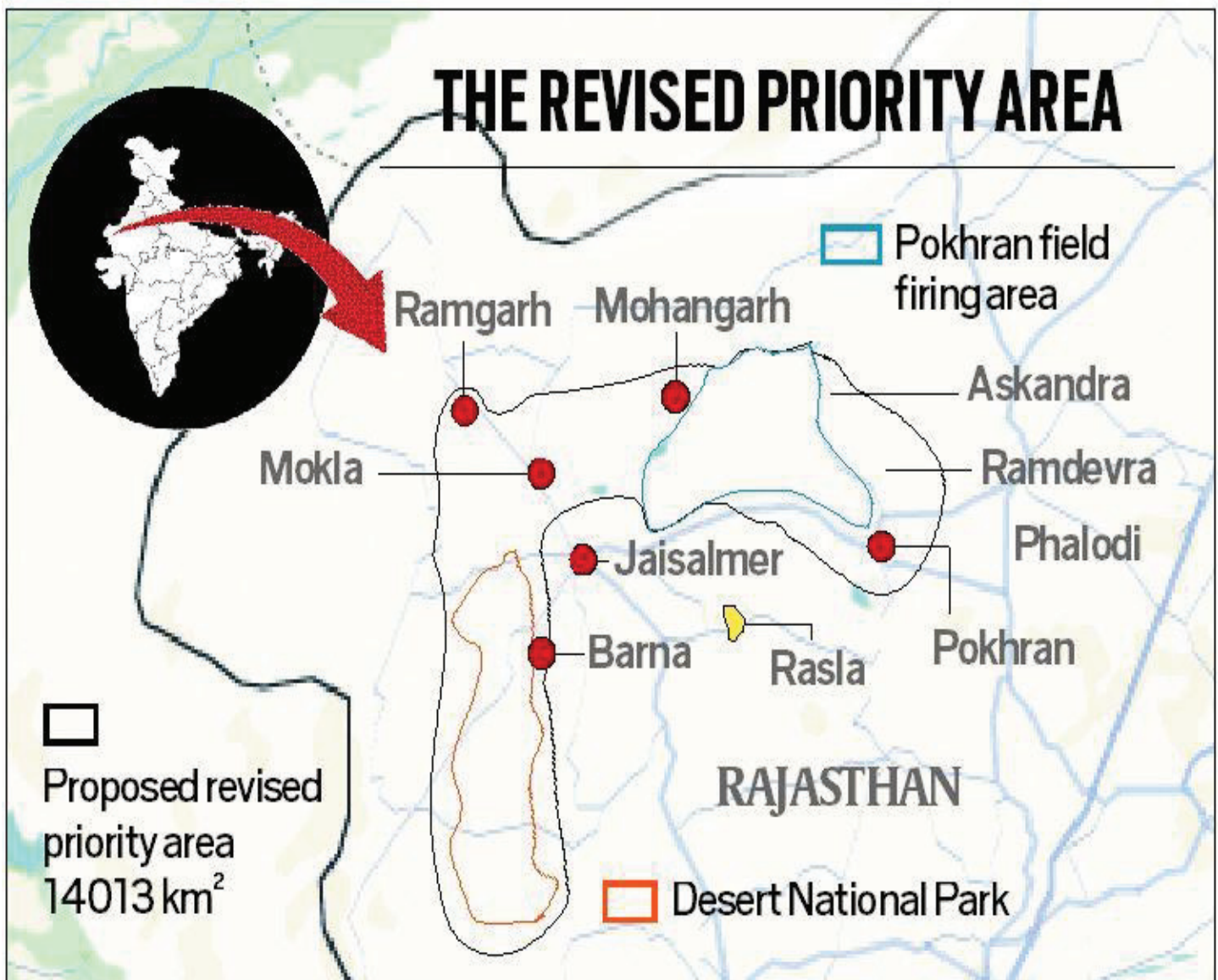
Committee's Mandate and Methodology

- The committee was asked to:
 - Determine the feasibility, scope, and extent of underground and overhead power lines in priority GIB habitats.
 - Propose measures for conserving the GIB while ensuring renewable energy projects could proceed.
 - Consult with key stakeholders, including the Central Electricity Authority, state forest departments, the WII, wildlife experts, the energy sector, and local communities.

Key Recommendations: Dedicated Renewable Power Corridors

Power Corridors in Rajasthan and Gujarat

- The committee's central recommendation is the creation of designated "power corridors" in both Rajasthan and Gujarat.
- These corridors would streamline power transmission infrastructure and reduce the network of crisscrossing lines, thereby lowering collision risks for the GIB.
- **Rajasthan:** A 5-km wide corridor is proposed to the south of the Desert National Park, providing an east-west transmission link while keeping a safe distance from prime GIB habitats. Renewable energy projects are to be sited to the west of the bustard priority area.
- **Gujarat:** Two power corridors are proposed—one for evacuating wind power from the Kutch coastal belt and another for a critical 400 kV high-voltage line in northern Kutch, also within the GIB range.



Rerouting and Undergrounding of Existing Lines

- The committee suggests that select existing overhead lines—especially those near GIB enclosures, past mortality sites, or within priority habitats—should either be rerouted through the new corridors or buried underground.

- **Rajasthan:** 80 km of power lines have been identified for immediate undergrounding.
- **Gujarat:** Certain critical segments are earmarked for undergrounding, insulation, or rerouting, based on their proximity to known GIB habitats.
- These segments will be identified by a joint team comprising state forest departments, the Central Electricity Authority, and WII.

Technical Concerns with Underground Power Lines

- The Centre had previously raised concerns over large-scale undergrounding of high-voltage lines (60 kV and above), citing:
 - Reduced efficiency and increased transmission losses.
 - Safety hazards.
 - Difficulty in maintenance.
- The committee's corridor-based approach addresses these concerns by limiting undergrounding to specific, high-risk stretches while optimizing above-ground infrastructure in other areas.

Revised Priority Areas for GIB Conservation

- The committee has proposed changes to the original classification of GIB habitats:
 - **Rajasthan:** The new priority area is 14,013 sq km—this retains the original 13,163 sq km and adds 850 sq km from the previously identified “additional important areas.” The rest has been excluded due to sparse GIB sightings and its strategic importance for power transmission.
 - **Gujarat:** The priority area has been revised to 740 sq km (up from 500 sq km), while suggesting the exclusion of the fragmented northern zones that are less favorable for GIB conservation.
- These adjustments allow focused conservation efforts in high-density GIB zones while unlocking space for energy infrastructure elsewhere.

Other Mitigation Measures

- Beyond rerouting and undergrounding, the committee also proposed:
 - Insulating high-voltage lines to minimize the risk of electrocution.
 - Stakeholder coordination through joint committees for line identification and planning.
 - Ongoing monitoring and research to ensure conservation goals remain adaptive and evidence-driven.

Next Steps

- The Supreme Court is set to review and deliberate on the committee's recommendations next month.
- If accepted, this approach could serve as a model for balancing conservation with development across biodiversity-rich regions in India.
- The proposed power corridors represent a nuanced shift away from blanket policies toward a more localized, data-driven strategy—offering hope not just for the GIB, but also for India's clean energy future.

QUESTIONS

19. Which of the following recommendations was made by the committee appointed by the Supreme Court for the conservation of the Great Indian Bustard (GIB)?
 1. Creation of designated “power corridors” in Rajasthan and Gujarat to streamline power transmission infrastructure.
 2. Complete undergrounding of all power lines in Rajasthan and Gujarat, irrespective of their proximity to GIB habitats.

3. The establishment of dedicated renewable power corridors to reduce the risk of collisions with power lines.
4. A ban on all renewable energy projects in the GIB's priority habitats.

Select the correct answer using the codes given below:

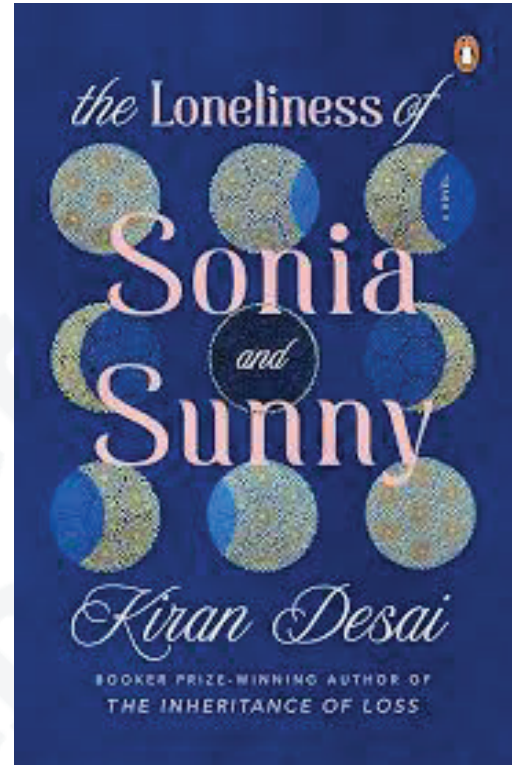
- A. 1 and 3 only
 - B. 2 and 4 only
 - C. 1, 3, and 4 only
 - D. 1 only
- 20.** Which of the following is the main reason for the sharp population decline of the Great Indian Bustard (GIB)?
- A. High tension power lines and collisions
 - B. Limited food supply and predation
 - C. Global climate change and habitat fragmentation
 - D. Habitat loss, hunting, and egg poaching
- 21.** What is the significance of the “power corridors” proposed for Rajasthan and Gujarat in relation to the Great Indian Bustard (GIB)?
- A. These corridors will help in the migration of the GIB to different habitats across India.
 - B. The corridors will serve as controlled areas for GIB breeding and nesting.
 - C. The corridors are aimed at accommodating new mining projects within the GIB habitats.
 - D. These corridors aim to create safe zones for the GIB by rerouting power lines and reducing collision risks.
- 22.** Consider the following statements regarding Great Indian Bustard:
1. Great Indian Bustard is considered the flagship grassland species, representing the health of the grassland ecology.
 2. It is one of the heaviest flying birds.
 3. In India, Rajasthan is home to a greater number of Great Indian Bustard.
 4. It is critically endangered according to IUCN.
- How many of the above statements are correct?
- A. One statement only
 - B. Two statements only
 - C. Three statements only
 - D. All statements are correct

6. Kiran Desai's Return to the Booker Prize Scene

- Kiran Desai's third novel, *The Loneliness of Sonia and Sunny*, has been longlisted for the prestigious 2025 Booker Prize.
- This marks her first appearance on the Booker list since winning the award in 2006 for *The Inheritance of Loss*.
- *The Loneliness of Sonia and Sunny* is Desai's first novel in nearly two decades, making it a highly anticipated release. The book is set for publication on September 23, 2025.

Plot and Themes of the Novel

- Desai's new work spans over 650 pages, making it the longest novel on this year's longlist.
- The novel follows the parallel journeys of two Indian protagonists: one living in New York and the other who has recently returned to India.
- The story delves into their struggles with personal history, family, identity, and belonging in an ever-changing world.
- The novel is described as a globe-spanning love story and a generational family saga that explores complex themes such as memory, language, and the immigrant experience.



Notable Achievements and Significance

- Should Desai win the Booker Prize again this year, she will become the fifth double Booker winner in the award's 56-year history. Other double winners include Peter Carey, JM Coetzee, Margaret Atwood, and Hilary Mantel. Desai's mother, Anita Desai, has also been shortlisted for the Booker Prize three times, adding to the family's literary legacy.
- Desai's debut novel, *Hullabaloo in the Guava Orchard* (1998), was translated into more than 22 languages and earned her international acclaim.

The 2025 Booker Prize Longlist

Diverse International Representation

- The 2025 Booker Prize longlist consists of 13 novels, with authors hailing from diverse global backgrounds.
- This includes authors from countries like India, Malaysia, Ukraine, Trinidad and Tobago, Albania, Hungary, the UK, the US, and Canada.
- Two debut novels, *Endling* by Maria Reva and *Misinterpretation* by Ledia Xhoga, are also part of the list.

Notable Authors on the Longlist

- Desai joins three other Booker nominees on this list: Tash Aw (who was longlisted in 2005 and 2013), Andrew Miller (shortlisted in 2001), and David Szalay (shortlisted in 2016).

- The other authors on the list are debutants, many of whom have already received recognition in other prestigious awards.
- For instance, Claire Adam won the Desmond Elliott Prize in 2019, while Natasha Brown received the Betty Trask Award in 2022.

The 2025 Booker Prize Longlist

- | | |
|--|--|
| <ul style="list-style-type: none"> • Love Forms – Claire Adam (Faber) • The South – Tash Aw (4th Estate) • Universality – Natasha Brown (Faber) • One Boat – Jonathan Buckley (Fitzcarraldo Editions) • Flashlight – Susan Choi (Jonathan Cape) • The Loneliness of Sonia and Sunny – Kiran Desai (Hamish Hamilton) • Audition – Katie Kitamura (Fern Press) | <ul style="list-style-type: none"> • The Rest of Our Lives – Ben Markovits (Faber) • The Land in Winter – Andrew Miller (Sceptre) • Endling – Maria Reva (Virago/Little, Brown) • Flesh – David Szalay (Jonathan Cape) • Seascraper – Benjamin Wood (Viking) • Misinterpretation – Ledia Xhoga (Daunt Books Originals) |
|--|--|

Booker Prize

- The Booker Prize is among the world's most prestigious literary awards, recognizing outstanding English-language fiction published in the UK or Ireland. With a rigorous judging process, longlist and shortlist stages, and high public and literary visibility, it consistently shapes global reading trends and literary recognition.
- The 2024 winner: *Orbital* by Samantha Harvey (announced 12 Nov 2024).
- The 2025 longlist was revealed on 29 July 2025 shortlist coming 23 September, with the winner announced 10 November 2025.



What is the Booker Prize?

- The Booker Prize (formerly the “Man Booker Prize”) is awarded annually to the best work of long-form fiction written in English and published in the UK or Ireland between October 1 of the previous year and September 30 of the award year.
- Open to authors of any nationality, the prize was originally limited to Commonwealth, Irish, or Zimbabwean writers, but expanded in 1993 to include anyone writing in English.
- The winner receives £50,000, while each of the shortlisted six authors receives £2,500.
- The prize is supported by Crankstart, and its thousands of submissions are evaluated by a panel of five judges who select a longlist (typically 12–13 titles), then shortlist six, before choosing the winner.

History & Legacy

- The Booker Prize was established in 1969 by Booker McConnell to promote quality fiction. The first winner was P. H. Newby for *Something to Answer For*.

- Notable winners include Salman Rushdie (Midnight's Children, 1981), Peter Carey (1988 & 2001), Hilary Mantel (2009 & 2012), J.M. Coetzee, Margaret Atwood, Arundhati Roy (The God of Small Things, 1997).
- In 2019, the prize was renamed back to simply "Booker Prize" after the Man Group ended sponsorship, making it more inclusive and global in scope.

QUESTIONS

23. Which of the following is/are true about the Booker Prize?

1. It is awarded to the best work of non-fiction published in the UK or Ireland.
2. The prize is open to authors of any nationality, but the initial eligibility was limited to Commonwealth and Irish writers.
3. The winner of the Booker Prize receives £25,000, while shortlisted authors receive £1,000 each.
4. The prize was renamed the "Booker Prize" in 2019 to reflect its more inclusive scope.

Select the correct answer using the codes given below:

- A. 2 and 4 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 4 only

24. Which of the following Booker Prize winners have won the award more than once?

1. Peter Carey
2. Margaret Atwood
3. J.M. Coetzee
4. Kiran Desai

Select the correct answer using the codes given below:

- A. 1, 3, and 4 only
- B. 2 and 3 only
- C. 1, 2, and 3 only
- D. 1 and 2 only

25. Which of the following statements is/are true?

1. Geetanjali Shree is the first Indian author to win the International Booker Prize.
2. Arundhati Roy was the first Indian to win the Booker Prize.

Select the correct answer using the codes given below:

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

7. EU and US agree trade deal, with 15% tariffs for European exports to America



Historic Agreement Ends Months-Long Dispute

- The United States and European Union have agreed on a new trade deal, ending months of tense negotiations and tariff threats between two of the world's largest economic powers.
- The deal was finalized after high-stakes talks between U.S. President Donald Trump and European Commission President Ursula von der Leyen at Trump's Turnberry golf resort in Scotland.
- Under the agreement, all EU goods exported to the U.S. will now face a 15% tariff—half of the 30% Trump had previously threatened to impose. In return, the EU will open its markets to certain American products with zero tariffs, signaling a partial trade liberalization on both sides.

Mutual Praise and Political Messaging

- Both Trump and von der Leyen hailed the agreement as a diplomatic and economic success.
- Trump described it as a “good deal for everybody,” emphasizing that it would bring the two allies “closer together.”
- Von der Leyen echoed this sentiment, calling it a “huge deal” and praising Trump's “personal commitment and leadership.”
- However, von der Leyen also noted the deal is a framework agreement, meaning further technical details will be hashed out in the coming weeks.
- Approval from EU member states is still required, and ambassadors will convene shortly for a debriefing from the Commission.

Tariff Details and Sectoral Exemptions

- The 15% U.S. tariff applies broadly to EU goods, but exemptions have been granted for key sectors.
- Some aircraft components, chemicals, and agricultural products will not be subject to tariffs.

- Notably, there is no change to the existing 50% U.S. tariffs on global steel and aluminum, which continue to apply to EU exports in those categories.
- France secured a partial win, with its spirits industry receiving exemptions, though full protections for wine and beer have not yet been agreed.
- France and the Netherlands are pushing for further exemptions for their alcohol sectors, an issue still under negotiation.

Economic and Strategic Implications

- While the 15% tariff represents a compromise, it still increases trade costs compared to the previous regime.
- Nonetheless, many EU leaders see the deal as preferable to a full-blown trade war.
- EU trade with the U.S. totaled \$976 billion last year, with a significant surplus in Europe's favor—\$606 billion in exports to the U.S. compared to \$370 billion in U.S. exports to the EU.
- President Trump has long criticized this trade imbalance, arguing it reflects unfair trade practices and lost U.S. competitiveness.
- The new tariffs are expected to generate approximately \$90 billion in annual revenue for the U.S. government based on last year's trade volume.

Massive EU Investment in the U.S.

- In a major concession to the U.S., von der Leyen announced that the EU would commit to \$600 billion in investment in the U.S. over the next three years, including purchases of American military equipment.
- Additionally, the EU will invest \$750 billion in U.S. energy exports, especially in liquefied natural gas (LNG), oil, and nuclear fuels.
- This energy shift is framed as a strategy to reduce Europe's dependence on Russian energy, aligning with broader geopolitical goals in the wake of Russia's aggression and energy blackmail in past years.

Comparison with Other U.S. Trade Deals

- Trump's administration has been active on the global trade front, and this deal adds to a growing list of bilateral agreements.
- Previous tariff deals have been struck with the UK (10% tariff), Japan (15%), Indonesia, the Philippines, and Vietnam.
- Trump's ambition for "90 deals in 90 days" has not been realized, but the EU agreement marks the largest trade deal in history by volume.
- In contrast to the EU's 15% tariff, the UK managed a lower rate, likely due to its smaller trade volume and willingness to align more closely with U.S. demands.

Next Steps and Unfinished Business

- Although the broad outlines of the deal are agreed upon, several key areas remain unresolved, including full tariff treatment of alcohol and ongoing discussions about semiconductors.
- A separate agreement on technology goods may follow soon.
- The deal must also be ratified by all 27 EU member states, a process that could take weeks or months.
- Resistance could emerge from sectors or countries that feel disproportionately affected.

US Imposes 25% Tariffs on India

- India has taken note of a statement by the United States President Donald Trump on bilateral trade after he announced 25 per cent tariffs on India starting from 1st August.
- The Ministry of Commerce and Industry said that the government will take all steps necessary to secure national interest, as has been the case with other trade agreements, including the latest Comprehensive Economic and Trade Agreement with the United Kingdom.

- The Ministry said that India and the United States have been engaged in negotiations on concluding a fair, balanced and mutually beneficial bilateral trade agreement over the last few months.
- It added that the Government attached the utmost importance to protecting and promoting the welfare of farmers, entrepreneurs, and Micro, Small and Medium Enterprises.

QUESTIONS

26. Which of the following is/are a key feature of the trade deal between the United States and the European Union?

1. The deal resulted in a 30% tariff on all EU goods exported to the U.S.
2. A 15% tariff was agreed upon for all EU goods, marking a compromise from the previously threatened 30% tariff.
3. The deal was aimed at imposing tariffs on the steel and aluminum sectors only.
4. The EU agreed to invest \$600 billion in U.S. military equipment and energy exports.

Select the correct answer using the codes given below:

- A. 1 and 2 only
- B. 2 and 4 only
- C. 1, 2, and 3 only
- D. 2 and 3 only

27. Which of the following are the key characteristic of the European Union (EU)?

1. The EU is a federal entity that has the same powers as individual sovereign states.
2. The EU operates as a sui generis political entity, blending elements of both a federation and a confederation.
3. The EU has a single currency, the euro, used by 15 of its member states.
4. The EU was officially established through the Maastricht Treaty, which came into force in 1993.

Select the correct answer using the codes given below:

- A. 1, 2, and 4 only
- B. 2 and 4 only
- C. 3 and 4 only
- D. 1 and 3 only

28. Which of the following statements is/are true?

1. In 2020, the United Kingdom became the only member state to leave the EU.
2. In 2012, the EU was awarded the Nobel Peace Prize.

Select the correct answer using the codes given below:

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

29. Which of the following regions is NOT represented in the EU's economic and monetary union (Eurozone)?
- A. Greece
 - B. Portugal
 - C. United Kingdom
 - D. Finland
30. Which of the following countries is NOT a member of the European Union (EU)?
- A. France
 - B. Germany
 - C. Switzerland
 - D. Italy

8.8 Magnitude Earthquake Sends Tsunami Into Coasts Of Russia, Japan, US



- A powerful 8.8 magnitude earthquake struck Russia's Far East, triggering tsunami waves across the Pacific, including in Japan, Hawaii, and Alaska.

- While no major damage has been reported, authorities warned that the tsunami threat could persist for over a day.
- In Kamchatka, Russia, ports were flooded and residents evacuated inland. Northern Japan saw waves up to 60 cm, prompting evacuations amid memories of the 2011 disaster.
- Hawaii experienced heavy traffic as people fled coastal areas. Minor injuries were reported in Russia and Japan, but no issues were detected at Japan's nuclear plants.

Tsunami

- A tsunami is a series of ocean waves caused by the displacement of a large volume of water, typically due to an underwater earthquake, volcanic eruption, landslide, or even a meteorite impact.

What is a Tsunami?

- The word “tsunami” is Japanese: tsu (harbor) + nami (wave) — meaning “harbor wave.”
- Tsunamis are not tidal waves; they are not caused by tides.
- They can travel across entire ocean basins at speeds up to 800 km/h (500 mph).

Causes of Tsunamis

1. Underwater Earthquakes (Most Common Cause – ~80%)

- Especially those with magnitude > 7.5 on the Richter scale.
- Occur along subduction zones where tectonic plates collide.

2. Volcanic Eruptions

- Sudden collapse or eruption of volcanoes near or under the ocean.

3. Landslides

- Either submarine landslides or coastal cliffs collapsing into the ocean.

4. Meteorite Impacts

- Rare but potentially very destructive.

How Tsunamis Form

- Sudden displacement of water (due to causes above).
- Series of waves generated in all directions from the disturbance point.
- Waves have long wavelengths (up to 200 km) and small amplitudes in Deep Ocean.
- As they reach shallow coastal areas, wave height increases dramatically.

Warning Signs of a Tsunami

- Strong earthquake felt near the coast.
- Sudden withdrawal of sea (drawback effect).
- Roaring ocean sound.
- Unusual behavior in animals or birds.

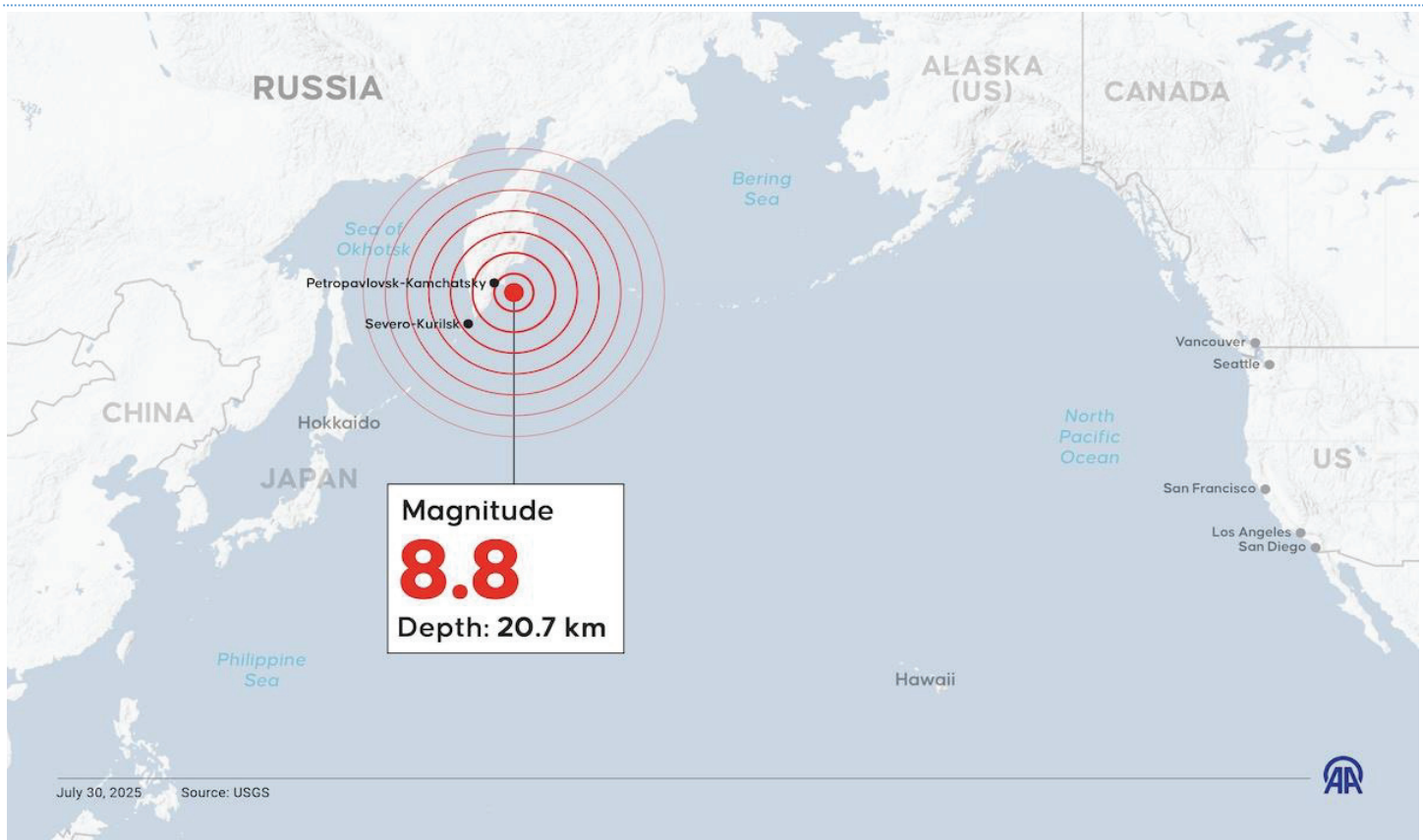
Tsunami Warning Systems

- DART (Deep-ocean Assessment and Reporting of Tsunamis): Buoys that detect tsunami waves.
- PTWC (Pacific Tsunami Warning Center) and other regional centers issue warnings.
- Coastal sirens, SMS alerts, and public announcements are used.

Major Tsunami-Prone Areas

- Pacific Ring of Fire (most active zone)
- Indian Ocean (e.g., 2004 tsunami)
- Mediterranean Sea
- Caribbean Sea

Earthquake



1. Tectonic Plate Boundaries

- Earthquakes mostly occur near tectonic plate boundaries, where plates interact in different ways:

a. Convergent Boundaries (Colliding Plates)

- Plates move toward each other.
- One plate subducts beneath the other (e.g., Pacific Plate under Eurasian Plate).
- **Result:** Very powerful earthquakes, often with tsunamis.
- **Example:** Japan, Himalayas.

b. Divergent Boundaries (Spreading Plates)

- Plates move away from each other.
- Creates rift valleys or mid-ocean ridges.
- **Result:** Moderate earthquakes.
- **Example:** Mid-Atlantic Ridge, East African Rift.

c. Transform Boundaries (Sliding Plates)

- Plates slide past each other horizontally.

- **Result:** Sudden and shallow earthquakes.
- **Example:** San Andreas Fault in California.

2. Geological Features

a. Fault Lines

- A crack in Earth's crust where movement has occurred.
- Earthquakes occur when stress is released along these lines.
- **Major faults:** San Andreas (USA), North Anatolian (Turkey), Alpine Fault (New Zealand).

b. Rock Type and Soil Conditions

- Hard rocks transfer seismic waves farther.
- Soft, loose soils (like clay or sand) amplify ground shaking and increase damage.
- **Liquefaction:** Saturated soil loses strength during shaking.

3. Geographical Location

- Countries near plate boundaries are most vulnerable.
- **Ring of Fire (Pacific Ocean):** World's most earthquake-prone region.
- Intraplate earthquakes can also occur but are rarer (e.g., New Madrid Seismic Zone, USA).

4. Depth of the Focus (Hypocenter)

- **Shallow focus (< 70 km):** More destructive, felt over a wide area.
- **Intermediate focus (70–300 km):** Moderate shaking.
- **Deep focus (> 300 km):** Less damage, waves dissipate.

5. Stress Accumulation and Release

- Tectonic stress builds up slowly over years.
- When rocks can't hold the stress, they suddenly slip—causing an earthquake.
- This release creates seismic waves felt as ground shaking.

QUESTIONS

31. Which of the following is/are NOT common cause of tsunamis?

1. Underwater Earthquakes
2. Volcanic Eruptions
3. Landslides
4. Solar flares

Select the correct answer using the codes given below:

- A. 1, 2, and 3 only
- B. 2, 3, and 4 only
- C. 1 and 4 only
- D. 4 only

- 32.** What is the main reason tsunamis cause large waves as they approach the coastline?
- A. The ocean water deepens near the coast, causing a rise in water levels.
 - B. The waves' wavelengths decrease and their amplitude increases as the waves enter shallow water.
 - C. The waves lose their energy as they approach the coast, leading to smaller waves.
 - D. The displacement of water is less significant near the coast, causing smaller waves.
- 33.** Which tectonic plate boundary is most likely to result in powerful earthquakes and tsunamis?
- A. Convergent Boundaries
 - B. Divergent Boundaries
 - C. Transform Boundaries
 - D. Intraplate Boundaries
- 34.** Which of the following statements about the formation of tsunamis is/are correct?
- 1. Tsunamis are caused only by earthquakes above a magnitude of 5.
 - 2. Tsunamis are typically triggered by sudden displacement of water caused by underwater earthquakes, volcanic eruptions, or landslides.
 - 3. Tsunami waves have long wavelengths and high amplitude in deep ocean water.
 - 4. Tsunamis are caused by tidal waves generated by the moon's gravity.
- Select the correct answer using the codes given below:
- A. 2 only
 - B. 2 and 3 only
 - C. 2 and 4 only
 - D. 1, 2, and 3 only
- 35.** The 2004 Tsunami made people realize that mangroves can serve as a reliable safety hedge against coastal calamities. How do mangroves function as a safety hedge?
- A. The mangrove swamps separate the human settlements from the sea by a wide zone in which people neither live nor venture out
 - B. The mangroves provide both food and medicines which people are in need of after any natural disaster
 - C. The mangrove trees are tall with dense canopies and serve as an excellent shelter during a cyclone or tsunami
 - D. The mangrove trees do not get uprooted by storms and tides because of their extensive roots.

ANSWER KEY AND EXPLANATION

1. **C** Statement 1 is correct as Rajaraja Chola I expanded the empire and successfully conducted naval expeditions to Southeast Asia. Statement 2 is incorrect because Rajendra Chola I expanded the empire's boundaries significantly, including successful maritime expeditions to Southeast Asia. Statement 3 is correct, as the Cholas pioneered the Dravidian style of architecture, exemplified in the Brihadeeswarar Temple. Statement 4 is correct because the Cholas promoted Tamil culture and language, particularly in Southeast Asia, where they spread Indian art, religion, and ideas. Therefore, the correct answer is (c) 1, 3, and 4 only.
2. **C** Statement 1 is correct. Rajendra Chola I constructed the Gangaikonda Cholapuram temple after his victory over the Pala kingdom of Bengal. Statement 2 is incorrect. The Gangaikonda Cholapuram temple features softer lines and curves compared to the Brihadeeswarar temple in Thanjavur, showcasing a balance of power and grace. Statement 3 is correct, as the Cholagangam water tank symbolizes Rajendra Chola's victory and the empire's strength. Therefore, the correct answer is (c) 1 and 3 only.
3. **A** Statement 1 is incorrect. Aadi Thiruvathirai is not specifically focused on Rajendra Chola I's birthday, but rather celebrates his achievements and contributions. Statement 2 is correct. Aadi Thiruvathirai is linked to Lord Shiva's birth star, which is believed to be Rajendra Chola I's star. Statement 3 is incorrect. The festival has both religious and cultural significance, as it marks the achievements of Rajendra Chola I and celebrates the Chola dynasty's legacy. Therefore, the correct answer is (a) 2 only.
4. **B** Statement 1 is correct. The Chola Empire developed a blue-water navy, allowing them to control overseas trade and expand their influence across Southeast Asia. Statement 2 is incorrect. The Chola navy was highly influential in expanding the empire's territorial reach and controlling maritime trade. Statement 3 is correct. The Chola navy conducted successful naval campaigns in Sri Lanka, Southeast Asia, and the Maldives. Therefore, the correct answer is (b) 1 and 3 only.
5. **B** Question Explanation: Rajendra Chola I's reign (1014-1044 AD) marked the greatest territorial expansion of the Chola Empire, including successful naval expeditions to Southeast Asia, which solidified its position as a maritime power.
6. **A** Statement 1 is correct. The Sansad Ratna Award was instituted in 2010 by the Prime Point Foundation and eMagazine PreSense. Statement 2 is incorrect. The award is based on objective criteria such as debates, questions, bills, and attendance, not public opinion or votes. Statement 3 is correct. The award honors MPs for their performance in debates, questions, bills, and attendance. Thus, the correct answer is (a) 1 and 3 only.
7. **A** Statement 1 is incorrect. "The maximum strength of the Lok Sabha, according to the Indian Constitution, is 552 members, which includes representatives from states, union territories, and two nominated members from the Anglo-Indian community. However, this provision for the nomination of two members from the Anglo-Indian community was abolished by the 104th Constitutional Amendment in 2020. As a result, the current maximum strength of the Lok Sabha stands at 550 members". The current strength of the Lok Sabha is 543, with all seats filled by elected representatives. Statement 2 is correct. Lok Sabha members are directly elected by the people from 543 constituencies across India. Statement 3 is incorrect. A candidate for Lok Sabha must be at least 25 years old, not 30. Thus, the correct answer is (a) 2 only.

8. B Statement 1 is correct. Lok Sabha elections use the First-Past-The-Post (FPTP) system. Statement 2 is incorrect. Candidates can contest either as a party candidate or as an independent. Statement 3 is incorrect. Lok Sabha elections are held every 5 years, not 6 years. Thus, the correct answer is (b) 1 only.

9. B Statement 1 is incorrect. Rajya Sabha members are elected indirectly by the elected members of State Legislative Assemblies (MLAs). Statement 2 is correct. The Rajya Sabha has 250 members, with 12 nominated by the President.

Statement 3 is correct. Rajya Sabha members serve a 6-year term, and one-third of members retire every 2 years. Thus, the correct answer is (d) 2 and 3 only.

10. B The Parliament of India is a bicameral legislature, which consists of three components: The President of India: The President is the head of the Parliament and acts as its constitutional figurehead. The President's role in Parliament is ceremonial but significant, such as giving assent to bills passed by both houses and summoning or proroguing sessions. The Lok Sabha (House of the People): The Lok Sabha is the lower house of Parliament, with 545 members (currently). It is directly elected by the people through general elections and holds more significant legislative power than the Rajya Sabha, including control over financial matters. The Rajya Sabha (Council of States): The Rajya Sabha is the upper house of Parliament. It has 250 members, with some being elected by the members of State Legislative Assemblies and others nominated by the President. The Rajya Sabha serves as a revising chamber and checks the legislation passed by the Lok Sabha. Thus, the Parliament of India consists of the President, the Lok Sabha, and the Rajya Sabha.

11. B Statement 1 is correct: NISAR is a joint satellite mission developed by ISRO and NASA. Statement 2 is incorrect: NASA provided the L-band radar, and ISRO developed the S-band radar, so not both SARs were developed by ISRO. Statement 3 is correct: NISAR is the first satellite to carry both L-band and S-band radars simultaneously for Earth observation. Statement 4 is incorrect: NISAR focuses on observing agricultural crops in India, not the United States. Thus, the correct answer is (b) 1 and 3 only.

12. B The L-band SAR uses longer wavelength microwaves, which are particularly useful for penetrating dense forests, ice, and sand. Its primary focus includes tree trunk biomass, ground displacement, and subterranean changes. It will observe landscapes such as the Amazon rainforest, Antarctica, and Greenland. Thus, the correct answer is (b) Observing tree trunk biomass, ground displacement, and subterranean changes.

13. A Statement 1 is incorrect: The L-band radar is provided by NASA, while ISRO developed the S-band radar. Statement 2 is correct: NISAR is expected to generate around 80 terabytes of data every day, which is three times more than any other Earth observation satellite. Statement 3 is incorrect: NISAR's purpose is much broader, supporting studies in earthquakes, landslides, volcanoes, and more, in addition to climate change. Thus, the correct answer is (a) 2 only.

14. C Statement 1 is correct: The NISAR project was initiated by NASA in 2008, and ISRO joined in 2012. Statement 2 is correct: NISAR marks the first-ever joint satellite development between NASA and ISRO. Thus, the correct answer is (c) 1 and 2.

- 15. B** NISAR is equipped with a dual-band radar system (L-band and S-band) that enables it to monitor Earth's surface under all weather conditions (including day, night, and through clouds, fog, or smoke). This capability is not achievable by separate satellites with independent radars. Thus, the correct answer is (b) It can monitor Earth's surface under all weather conditions, including day and night, and through obstacles like clouds, fog, and smoke.
- 16. D** Statement 1 is correct. Australia is set to enforce the world's first national social media ban for children under the age of 16. Statement 2 is correct. YouTube was initially excluded, but after a survey revealed harmful content, the government reversed its decision. Statement 3 is incorrect. The law specifically applies to children under 16, not 18. Thus, the correct answer is (d) 1 and 2 only.
- 17. B** Statement 1 is correct: Australia is the sixth-largest country in the world, with an area of 7,688,287 km². Statement 2 is incorrect: Australia does not share land borders with other countries. It has maritime borders with countries like Indonesia, East Timor, and Papua New Guinea. Statement 3 is correct: Australia is the world's flattest and driest inhabited continent. Statement 4 is incorrect: Australia is surrounded by the Indian and Pacific Oceans, not the Atlantic Ocean. Thus, the correct answer is (b) 1 and 3 only.
- 18. A** Statement 1 is correct. The Great Barrier Reef is indeed located in the Coral Sea, off the coast of Queensland. Statement 2 is correct. It is the largest coral reef system, composed of over 2,900 individual reefs. Statement 3 is incorrect. The Great Barrier Reef was designated as a World Heritage Site in 1981, not 1990. Thus, the correct answer is (a) 1 and 2 only.
- 19. A** Statement 1 is correct: The committee recommended the creation of designated "power corridors" in Rajasthan and Gujarat. Statement 2 is incorrect: The committee did not recommend the complete undergrounding of all power lines; instead, it focused on specific high-risk areas. Statement 3 is correct: The creation of dedicated renewable power corridors is a key recommendation to minimize collision risks. Statement 4 is incorrect: The committee did not propose a ban on renewable energy projects but suggested their siting in specific areas away from GIB habitats. Thus, the correct answer is (a) 1 and 3 only.
- 20. D** The primary reasons for the sharp population decline of the Great Indian Bustard include habitat loss, hunting, and egg poaching. The threat from high-tension power lines is a significant recent factor, but it's not the primary cause of the decline. Thus, the correct answer is (d) Habitat loss, hunting, and egg poaching.
- 21. D** The power corridors are designed to reduce the collision risks posed by power lines to the Great Indian Bustard by rerouting them or placing them in areas that are less likely to overlap with GIB habitats. They aim to provide safe passage for power transmission while protecting GIB populations. Thus, the correct answer is (d). These corridors aim to create safe zones for the GIB by rerouting power lines and reducing collision risks.
- 22. D** Statement 1: Correct: The Great Indian Bustard (GIB) is often referred to as the flagship grassland species, as it is a key indicator of the health of the grassland ecosystem. Its presence, or absence, reflects the condition of the grasslands. Statement 2: Correct: The Great Indian Bustard is one of the heaviest flying birds in the world. It can weigh up to 15 kg (33 lbs) and has a large, bulky body which makes it quite heavy for flight. Statement 3: Correct: Rajasthan is indeed home to the greatest number of Great Indian Bustards in India, with significant populations found in the Desert National Park and other parts of the state. Statement 4: Correct: The Great Indian Bustard is listed as critically endangered by the International Union for Conservation of Nature (IUCN), primarily due to habitat

loss, hunting, and the increasing threat of power lines in its habitat. Thus, all four statements are correct, making the correct answer d) 1, 2, 3, and 4.

- 23. A** Statement 1 is incorrect: The Booker Prize is awarded to fiction (not non-fiction). Statement 2 is correct: The prize was initially limited to Commonwealth and Irish writers, but was expanded in 1993 to include all English-language authors. Statement 3 is incorrect: The winner receives £50,000, while shortlisted authors receive £2,500. Statement 4 is correct: The prize was renamed the Booker Prize in 2019 to make it more inclusive and global. Thus, the correct answer is (a) 2 and 4 only.
- 24. C** Peter Carey has won the Booker Prize twice (in 1988 and 2001). Margaret Atwood has won the Booker Prize twice (in 2000 and 2019). J.M. Coetzee has won the Booker Prize twice (in 1983 and 1999). Kiran Desai won the Booker Prize once, in 2006, for “The Inheritance of Loss.” Thus, the correct answer is (c) 1, 2, and 3 only.
- 25. C** Statement 1 is correct: Geetanjali Shree is the first Indian author to win the International Booker Prize. She won the prestigious award in 2022 for her novel *Tomb of Sand*, which was originally written in Hindi as *Ret Samadhi*. The book was translated into English by Daisy Rockwell. On 26 May 2022, *Tomb of Sand* won the International Booker Prize, becoming the first book in Hindi and the first from an Indian writer to receive the accolade. Statement 2 is correct: Arundhati Roy was the first Indian to win the Prestigious Booker prize. She was awarded the Booker Prize in 1997 for her first novel *The God of Small Things*.
- 26. B** Statement 1 is incorrect: The deal resulted in a 15% tariff, not 30%. Statement 2 is correct: The 15% tariff was a compromise from the initially threatened 30%. Statement 3 is incorrect: The tariffs were applied broadly, not just to the steel and aluminum sectors. Statement 4 is correct: The EU agreed to invest \$600 billion in U.S. military equipment and energy exports. Thus, the correct answer is (b) 2 and 4 only.
- 27. B** Statement 1 is incorrect: The EU is not a federal entity; it is a sui generis political entity with some characteristics of both a federation and a confederation. Statement 2 is correct: The EU is indeed a sui generis entity, blending elements of both a federation and a confederation. Statement 3 is incorrect: The euro is used by 20 EU member states, not 15. Statement 4 is correct: The EU was officially established when the Maastricht Treaty came into force in 1993. Its beginnings can be traced to the Inner Six states (Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany). Thus, the correct answer is (b) 2 and 4 only.
- 28. C** Statement 1 is correct: In 2020, the United Kingdom became the only member state to leave the EU; ten countries are aspiring or negotiating to join it. Statement 2 is correct: In 2012, the EU was awarded the Nobel Peace Prize.
- 29. C** Greece, Portugal, and Finland are part of the Eurozone, as they have adopted the euro as their currency. United Kingdom is not part of the Eurozone as it did not adopt the euro, even before Brexit. Thus, the correct answer is (c) United Kingdom.
- 30. C** France, Germany, and Italy are founding members of the EU. Switzerland is not a member of the EU, although it has agreements with the EU on various issues, such as trade. Thus, the correct answer is (c) Switzerland.
- 31. D** Underwater Earthquakes, Volcanic Eruptions, and Landslides are all common causes of tsunamis, as detailed in the passage. Solar flares are not mentioned as a cause of tsunamis. Thus, the correct answer is (d) 4 only.

- 32. B** Tsunamis have long wavelengths and small amplitudes in deep water. As they approach the shallow coastal areas, the water depth decreases, causing the waves to increase in height significantly due to the conservation of energy. Thus, the correct answer is (b) The waves' wavelengths decrease and their amplitude increases as the waves enter shallow water.
- 33. A** Convergent boundaries occur when tectonic plates collide, often causing subduction where one plate slides under another. These boundaries are associated with the most powerful earthquakes and tsunamis, such as those seen in Japan. Thus, the correct answer is (a) Convergent Boundaries.
- 34. A** Statement 1 is incorrect: Tsunamis can be triggered by earthquakes with magnitudes greater than 7.5 (not 5). Statement 2 is correct: Tsunamis are triggered by sudden displacement of water due to underwater earthquakes, volcanic eruptions, or landslides. Statement 3 is incorrect: Tsunami waves have long wavelengths and small amplitudes in deep water. As they approach the coast, their amplitude increases. Statement 4 is incorrect: Tsunamis are not caused by tidal waves; they are caused by displacement of large volumes of water. Thus, the correct answer is (b) 2 only.
- 35. D** Mangrove trees have extensive root systems that are highly effective at anchoring them to the soil. This makes them resilient to storms and tidal surges, preventing them from being uprooted during extreme weather events. Their roots also trap sediment, stabilize coastlines, and reduce erosion, making them crucial in mitigating the effects of storm surges, tsunamis, and high tides. Their dense root systems form a natural barrier against waves, significantly reducing the energy and force of incoming water during a tsunami or cyclone. Thus, option d correctly explains how mangroves function as a safety hedge against coastal calamities.