



drishti

**February 2025  
(Part-2)**

**Current  
Affairs  
MCQ**  
(Consolidation)

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## Practice Question

**1. Consider the following statements regarding Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC):**

1. BIMSTEC includes both South Asian and Southeast Asian countries.
2. All BIMSTEC member countries share a land border with India.

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

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

**2. Consider the following:**

1. High solar insolation due to its tropical location.
2. Large land availability in arid and semi-arid regions.
3. Presence of abundant lithium reserves for solar panel manufacturing.
4. Government incentives and policies supporting solar adoption.

**Which of the above factors make India suitable for large-scale solar energy generation?**

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

**3. Consider the following sectors in India:**

1. Handloom and handicrafts
2. Film and music industry
3. Software development
4. Advertising and media

**Which of the sectors given above can be classified under the Creative Economy?**

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

**4. Consider the following statements regarding the South Asian Free Trade Area (SAFTA) Agreement:**

1. SAFTA was signed by all the members of the South Asian Association for Regional Cooperation (SAARC) to promote economic integration and trade liberalization.

2. Under SAFTA, India provides duty-free access to all agricultural and processed food products from its neighboring SAARC countries.

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

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

**5. Consider the following statements:**

1. Competitive federalism in India is facilitated through mechanisms like the Ease of Doing Business rankings that encourage states to improve their performance.
2. The Finance Commission plays a vital role in strengthening cooperative federalism by recommending fiscal devolution from the center to states.

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

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

**6. Consider the following defense technology systems:**

1. Dhanush artillery gun system
2. Akash surface-to-air missile
3. Tejas light combat aircraft
4. Submarine INS Arihant

**Which of the above systems are part of India's indigenous defense technology?**

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

**7. Consider the following statements regarding the spread of the Bhakti Movement:**

1. The Bhakti Movement was primarily a north-Indian phenomenon that took root in the medieval period with saints like Tulsidas and Guru Nanak.
2. The movement was characterized by the use of regional languages for devotional poetry, making it more accessible to the masses.

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

- A. 1 only
- B. 2 only

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- C. Both 1 and 2
- D. Neither 1 nor 2

8. Consider the following and select the correct answer using the code below:

1. Public order
2. Economic development
3. Sovereignty and integrity of India
4. Social justice

Which of the above are grounds for imposing reasonable restrictions on fundamental rights in India?

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

9. Consider the following statements regarding Nari Adalat Program:

1. It operates as an alternative grievance redressal mechanism at the gram panchayat level, resolving minor disputes related to domestic violence, dowry, and child custody.
2. It was started on a pilot basis in Assam and Jammu & Kashmir.

Which of the statements given above is/are correct?

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

10. Consider the following statements regarding the Production Linked Incentive (PLI) scheme:

1. Launched in 2020, PIL aims to boost domestic manufacturing, starting with mobile and allied components, electrical components, and medical devices.
2. Both domestic and foreign companies are eligible for financial incentives based on a percentage of their incremental sales over a period of up to five years.

Which of the above statements is/are not correct?

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

11. Regarding Tunisia, consider the following statements:

1. It is the northernmost country in Africa, bordering the Mediterranean Sea, between Algeria and Libya.

2. It is a member of the Organisation of Islami Cooperation, African Union, Non-Aligned Movement, and Group of 77 but is not a member of the United Nations.

Which of the statements given above is/are not correct?

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

12. Which of the following industries can be impacted by the Indian Space Research Organisation (ISRO) space technology?

1. Automotive Industry
2. Healthcare
3. Construction and Infrastructure
4. Electronics Devices

Select the correct answer using the code given below:

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

13. Consider the following statements regarding Sagar Island:

1. It is the largest island in the Sundarbans archipelago.
2. It is classified under the deltaic alluvial soil category and is accessed by crossing the Hooghly River.

Which of the statements given above is/are correct?

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

14. Konda Veduru Bamboo, also known as Green Gold, recently in the news is native to which of the following regions?

- A. Eastern Ghats
- B. North-East India
- C. Western Himalayan Foothills
- D. Kathiawar Region

15. Consider the following statements related to DNA Nanorrafts:

1. They are tiny and flat structures made from DNA strands.
2. They attach to Giant Unilamellar Vesicles.
3. They can alter the structure of synthetic cell membranes.

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**How many of the above statements is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**16. Regarding the Arabian Leopard (*Panthera pardus nimr*), consider the following statements:**

1. It is among the smallest leopard subspecies with pale buff-colored fur with small, closely spaced rosettes.
2. It is categorised as Critically Endangered in the IUCN List.
3. It is exclusively found in Saudi Arabia.

**How many of the statements given above is/are correct?**

- A. Only One
- B. Only Two
- C. All Three
- D. None

**17. Regarding the Democratic Republic of Congo (DRC), consider the following statements:**

1. It is the largest country in Africa.
2. It forms a major part of the world supply of Coltan, which is used to make Tantalum capacitors for electronics due to its high charge retention.

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

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

**18. Consider the following statements regarding the Indian Ocean Conference (IOC):**

1. The IOC was established by the India Foundation in 2016 in Singapore to foster regional cooperation among Indian Ocean Region (IOR) nations.
2. The IOC aligns with India's Security and Growth for All in the Region (SAGAR) vision, focusing on maritime security, economic growth, and regional stability.

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

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. None

**19. Consider the following statements related to the President's Rule:**

1. The proclamation must be approved by both Houses of Parliament within a month.

2. Approving or extending the President's Rule requires a simple majority in Parliament.
3. The proclamation lasts 1 year initially and can be extended up to 3 years with Parliament's approval every year.

**How many of the above statements is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**20. Consider the following statements related to Pradhan Mantri Fasal Bima Yojana (PMFBY):**

1. It relies on actual crop loss assessment to provide compensation to farmers for losses
2. All farmers including sharecroppers and tenant farmers growing the notified crops in the notified areas are eligible for coverage.
3. The government covers the entire premium for farmers in the North-Eastern States, Jammu & Kashmir, and Bihar.

**How many of the above statements is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**21. Consider the following statements:**

1. The Chief Election Commissioner (CEC) and Election Commissioners (ECs) are appointed by the President based on the recommendation of a Selection Committee consisting of the Prime Minister and the Chief Justice of India.
2. The CEC can be removed only in the same manner and on the same grounds as a Supreme Court Judge, while an EC can be removed on the CEC's recommendation.

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

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

**22. Consider the following statements:**

1. A tectonic plate is a massive, irregularly shaped slab of solid rock, generally composed of both continental and oceanic plates.
2. The Arabian Plate is a minor tectonic plate in the Northern and Eastern Hemispheres, moving northward along with the African and Indian plates.

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3. The Eurasian Plate is a major tectonic plate that covers most of Europe, Russia, and parts of Asia, sharing a boundary with the Arabian Plate only.

**How many of the statements given above is/are correct?**

- A. Only One
- B. Only Two
- C. All Three
- D. None

**23. Consider the following statements related to No Money for Terror Conference:**

- 1. It was launched in 2018 by the United States.
- 2. India hosted the 3rd No Money for Terror Conference in 2022.

**Which of the following statements is/are correct?**

- A. Only 1
- B. Only 2
- C. Both 1 and 2
- D. None

**24. Connected to the Atlantic Ocean via the Danish Straits, it is the world's largest brackish inland water body. It includes three major gulfs—the Gulf of Bothnia (north), the Gulf of Finland (east), and the Gulf of Riga (south). Its salinity is lower than the world's oceans due to freshwater inflows and its shallow depth.**

**Which of the following water bodies is best described by above features?**

- A. Black Sea
- B. Caspian Sea
- C. North Sea
- D. Baltic Sea

**25. Lake Chad region spans across which of the following countries?**

- 1. Nigeria
- 2. Cameroon
- 3. Niger
- 4. Morocco

**Select the correct answer using the code given below:**

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

**26. Consider the following statements regarding northeastern states of India:**

- 1. Mizoram attained statehood in 1987 after the signing of the Mizoram Peace Accord with Assam.
- 2. Arunachal Pradesh was known as the North-East Frontier Agency (NEFA) before attaining statehood.

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

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

**27. Consider the following statements:**

- 1. Cassini is jointly launched by the Indian Space Research Organisation and European Space Agency to study Saturn and its moons.
- 2. Saturn consists of seven main rings only.

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

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**28. Regarding Aravallis, consider the following statements:**

- 1. It is the oldest fold mountain range in the world and runs diagonally across Gujarat, Rajasthan, Delhi, and Haryana for about 690 km.
- 2. Its highest peak is Guru Shikhar on Mount Abu (Rajasthan).
- 3. It plays a crucial role in preventing desertification eastwards and recharging groundwater.

**How many of the statements given above is/are correct?**

- A. Only One
- B. Only Two
- C. All Three
- D. None

**29. With reference to the International Thermonuclear Experimental Reactor (ITER) initiative, consider the following statements:**

- 1. The Experimental Advanced Superconducting Tokamak (EAST) is part of the ITER initiative.
- 2. India is a member of ITER, along with 34 other nations.

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

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

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**30. With reference to the Microfinance Institutions (MFIs), consider the following statements:**

1. MFIs are financial companies that provide small loans to people who don't have access to banking facilities.
2. According to RBI guidelines, microfinance loans are collateral-free for households with an annual income of up to ₹3 lakh.

**Which of the statements given above is/are not correct?**

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

**31. Consider the following statements:**

1. It is a soft, silvery-white alkali metal and is also known as white gold.
2. It is the lightest metal and solid element and is classified as both an alkali and a rare metal.
3. It is highly reactive and flammable and must be stored in mineral oil.

**Which of the following metals best matches the above description?**

- A. Lithium
- B. Sodium
- C. Potassium
- D. Rubidium

**32. Regarding the National Commission for Scheduled Tribes (NCST), consider the following statements:**

1. It was established through the 89<sup>th</sup> Constitutional Amendment Act, 2004 amending Article 338 and adding Article 338A to the Constitution.
2. Under Article 338A(5), the NCST monitors constitutional safeguards for STs, addresses tribal rights issues, and advises on socio-economic development.

**Which of the statements given above is/are not correct?**

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

**33. Which of the following best describes a DDoS (Distributed Denial-of-Service) attack?**

- A. A type of cyber-attack that aims to steal sensitive data from an organization's database.

- B. A method of encrypting files on a victim's computer and demanding ransom for decryption.
- C. An attempt to make an online service unavailable by overwhelming it with massive amounts of traffic.
- D. A technique used by hackers to gain unauthorized remote access to a system through phishing.

**34. Consider the following with reference to India-US space cooperation:**

1. NASA-ISRO Synthetic Aperture Radar (NISAR) mission
2. Artemis Accords
3. Megha-Tropiques

**Which of the initiatives given above are jointly undertaken by both countries?**

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

**35. Consider the following statements about the University Grants Commission (UGC):**

1. UGC previously known as the University Grants Committee was formed based on the recommendations of the Sargeant Report, 1944.
2. The UGC is designated as a constitutional body to oversee grants for Central Universities and higher education institutions.
3. The Central Government appoints all members of the UGC.

**How many of the above statements is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**36. Consider the following statements regarding Quantum computing.**

1. The Topological Superconductor used in Quantum chips is a solid state of matter.
2. Quantum computers use binary bits (0s and 1s) for faster computations.

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

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

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**37. Which of the following tiger reserves is home to the world's first scientifically managed teak plantation?**

- A. Kanha Tiger Reserve
- B. Periyar Tiger Reserve
- C. Nagarhole Tiger Reserve
- D. Parambikulam Tiger Reserve

**38. The Climate Risk Index (CRI) 2025, recently seen in the news, is released by which of the following organisations?**

- A. United Nations Environment Programme (UNEP)
- B. Intergovernmental Panel on Climate Change (IPCC)
- C. Germanwatch
- D. World Meteorological Organisation (WMO)

**39. With reference to Inland Waterways Transport in India, consider the following statements:**

1. The Inland Waterways Authority of India (IWAI) was established under the National Waterways Act, 2016.
2. The Inland Vessels Act, 2021, replaced an older legislation and introduced uniform regulations for inland vessels across India.
3. A waterway can be declared a National Waterway only if it is at least 100 km long and serves multiple states.

**How many of the statements given above is/are correct?**

- A. Only One
- B. Only Two
- C. All Three
- D. None

**40. Consider the following statements regarding Neutrinos:**

1. These are referred to as "ghost particles," are electrically neutral and interact very weakly with matter, allowing them to pass through celestial bodies without significant deflection.
2. Big Bang Neutrinos, remnants from the early universe, play a crucial role in cosmological studies and understanding the evolution of the universe.

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

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

**41. Consider the following statements about the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023:**

1. The Selection Committee includes the Prime Minister, Leader of the Opposition in Lok Sabha, and Speaker of Lok Sabha.

2. The Search Committee, led by the Law Minister, shortlists five candidates, but the Selection Committee can consider names beyond this list.

3. Chief Election Commissioner (CEC) and Election Commissioners (ECs) can be reappointed for a second term if approved by the Selection Committee.

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

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

**42. Regarding Maratha Empire, consider the following statements:**

1. Chhatrapati Shivaji Maharaj belonged to Bhogle Clan.
2. Peshwa Baji Rao revived Maratha power after the Third Battle of Panipat (1761).

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

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

**43. Consider the following statements regarding the Solar System:**

1. The asteroid belt lies between the orbits of Mars and Jupiter.
2. Venus is the only planet in the Solar System that rotates in a direction opposite to its orbit around the Sun.

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

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

**44. Consider the following statements regarding the Middle East:**

1. The Bosphorus Strait is a natural strait that connects the Black Sea to the Sea of Marmara.
2. The Gulf Cooperation Council (GCC) includes all the major oil-producing countries of the Middle East, including Iran and Iraq.

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

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

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**45. Consider the following pairs:**

1. Lake Baikal – Russia
2. Lake Titicaca – Africa
3. Great Bear Lake – Canada
4. Lake Tanganyika – South America

**Which of the pairs given above is/are correctly matched?**

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

**46. Consider the following and select the correct answer using the codes given below:**

1. Reshoring: Encouraging domestic production of critical goods.
2. Friendshoring: Shifting supply chains to allied nations.
3. Strategic Reserves: Stockpiling critical minerals and semiconductors.

**Which of the following strategies given above have been adopted by countries to counter China's supply chain dominance?**

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

**47. Consider the following and choose correct answer using the codes given below:**

1. SAARC
2. BIMSTEC
3. SCO
4. ASEAN

**Which of the regional groupings given above include both India and China?**

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

**48. Consider the following statements regarding High-Entropy Alloys (HEAs) used in hydrogen production:**

1. HEAs are composed of multiple elements in near-equal proportions, which enhance their stability and catalytic properties.
2. HEAs are being explored as efficient catalysts for water electrolysis, reducing dependence on expensive platinum-group metals.

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

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

**49. Consider the following statements regarding banking system in India:**

1. The Reserve Bank of India (RBI) is the sole authority to issue currency notes in India, except for one-rupee notes and coins.
2. Regional Rural Banks (RRBs) function under the ownership of the Central Government only.
3. Scheduled Commercial Banks (SCBs) are required to maintain a Cash Reserve Ratio (CRR) and a Statutory Liquidity Ratio (SLR) as per RBI regulations.

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

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

**50. Consider the following statements regarding India's maritime connectivity initiatives:**

1. The Project Mausam is an initiative to revive ancient maritime cultural links with Indian Ocean countries.
2. The Indo-Pacific Oceans Initiative (IPOI) was launched by India to promote maritime security and regional cooperation.

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

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

**51. Consider the following statements regarding the Genetic Engineering Appraisal Committee (GEAC).**

1. Clearance of Genetic Engineering Appraisal Committee is not mandatory for the environmental release of Genetically Modified (GM) crops.
2. It functions under the Ministry of Agriculture and Farmers Welfare.

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

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

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**52. Consider the following statements:**

**Statement-I:** Marine Heatwaves (MHWs) are extreme ocean events with sea surface temperatures rising 3-4°C above average for at least five days.

**Statement-II:** Climate change has increased global ocean temperatures by 3°C over the past century.

**Which one of the following is correct in respect of the above statements?**

- A. Both Statement-I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I.
- B. Both Statement-I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I.
- C. Statement-I is correct, but Statement-II is incorrect.
- D. Statement-I is incorrect, but Statement-II is correct.

**53. Improved Samba Mahsuri, sometimes in news, is related to which of the following?**

- A. A high-yielding variety of wheat
- B. A rice variety resistant to bacterial blight
- C. A newly discovered species of fish
- D. A traditional form of folk dance in South India

**54. Consider the following statements related to Solar Coronal Holes:**

- 1. They are cooler and less dense compared to the surrounding plasma.
- 2. They are most commonly observed during the declining phase of a solar cycle.
- 3. The high-speed solar wind originating from coronal holes interacts with Earth's magnetic field, leading to geomagnetic storms.

**How many of the above statements is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**55. Consider the following statements regarding sea ice:**

- 1. Sea ice is primarily found in the Arctic and Antarctic Oceans.
- 2. Unlike glaciers and icebergs, sea ice forms from the freezing of saltwater.
- 3. Sea ice retains the same salt content as seawater, making it equally saline.

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

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

C. 1 and 3 only

D. 1, 2, and 3

**56. Regarding the Quality of Public Expenditure (QPE) Index, consider the following statements:**

- 1. QPE Index is developed by the NITI Aayog.
- 2. The index is based on five key indicators, including the Capital Outlay to GDP Ratio.
- 3. QPE Index focuses on total expenditure, overlooks the composition of spending and its influence on long-term economic growth.

**How many of the above statement is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**57. Cano Cristales River and Shanay-Timpishka River, recently in the news, are associated with which of the following?**

- A. Colombia and Peru
- B. Brazil and Ecuador
- C. Venezuela and Bolivia
- D. Argentina and Chile

**58. Consider the following statements related to White Rhinos:**

- 1. They are also known as square-lipped rhinoceroses.
- 2. They exhibit semi-social behavior and are territorial, with males marking their territory using dung.
- 3. Their diet consists of short grasses, making them purely herbivorous.

**How many of the above statement is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**59. Consider the following statements regarding Waste-to-Energy (WtE) conversion methods:**

- 1. Incineration and Pyrolysis both involve burning waste at ultra-high temperatures to generate electricity.
- 2. Gasification converts waste into syngas without combustion.
- 3. Anaerobic Digestion and Fermentation are biological processes that produce biogas and ethanol, respectively.

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

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

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**60. Consider the following statements:**

1. Article 101 of the Constitution of India deals with the vacation of seats, disqualifications, and dual membership in Parliament.
2. If an MP remains absent from all meetings of the House for 60 days without permission, their seat will automatically be declared vacant by the House.

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

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

**61. Consider the following statements related to Tea Horse Road:**

1. It is often referred to as the Southern Silk Road, is a network of caravan paths and a crucial trade route that connected China, Tibet, and India for centuries.
2. Tea from various regions of China was transported to Tibet, then carried through the Himalayan passes to Kolkata, where it was traded extensively across Europe and Asia.

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

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

**62. Consider the following statements related to Black Plastic:**

1. It is made from recycled electronic waste and its black color comes from Black Carbon.
2. It contains toxic chemicals like phthalates, flame retardants, and heavy metals such as cadmium, lead, nickel, chromium, and mercury.
3. It is technically recyclable, but waste sorting systems struggle to detect black pigments, making its recycling process challenging.

**How many of the above statement is/are correct?**

- A. Only one
- B. Only two
- C. All three
- D. None

**63. Consider the following statements regarding marine fisheries in India:**

1. Tamil Nadu has the longest coastline among Indian states, making it the largest contributor to marine fish production.

2. Marine fisheries production in India contributes more than 50% of total fish production in India.

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

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

**64. Consider the following statements:**

1. Carbon offsets refer to measures taken to reduce emissions, whereas carbon credits are tradable units representing emission reductions.
2. In India, the carbon market is regulated by the Central Electricity Regulatory Commission (CERC) and the Bureau of Energy Efficiency (BEE).

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

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

**65. Consider the following statements regarding Peatlands:**

**Statement-I:** Peatlands are terrestrial wetland ecosystems characterized by waterlogged conditions that facilitate the complete decomposition of plant material, leading to the accumulation of peat.

**Statement-II:** They store more carbon than any other terrestrial ecosystem, making them crucial for climate regulation.

**Which one of the following is correct in respect of the above statements?**

- A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- C. Statement-I is correct but Statement-II is incorrect
- D. Statement-I is incorrect but Statement-II is correct

**66. Consider the following statements regarding the Indian Coast Guard (ICG):**

1. ICG operates under the Ministry of Home Affairs (MHA).
2. The ICG is responsible for enforcing maritime laws in India's territorial waters and Exclusive Economic Zone (EEZ).

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3. The Indian Coast Guard is the largest coast guard force in the world.

**Which of the statements given above is/are not correct?**

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

**67. Consider the following statements with reference to the Government E-Marketplace (GeM):**

1. GeM is the public procurement portal for Central & State Governments and PSUs.
2. It functions under the National e-Governance Division (MeitY).
3. SWAYATT initiative provides training, registration, and capacity-building to leverage GeM.

**How many of the above statements is/are correct?**

- A. Only one  
B. Only two  
C. All three  
D. None

**68. Consider the following statements:**

**Statement-I:** Spinal Muscular Atrophy (SMA) is a genetical disorder affecting motor neurons in young children.

**Statement-II:** It occurs when someone inherits Survivor Motor Neuron 1 (SMN1) gene mutations from both parents.

**Which one of the following is correct in respect of the above statements?**

- A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I  
B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I  
C. Statement-I is correct but Statement-II is incorrect  
D. Statement-I is incorrect but Statement-II is correct

**69. WASP-121b, recently in the news, is related to which of the following?**

- A. A newly discovered asteroid in the Kuiper Belt  
B. A supermassive black hole in a distant galaxy  
C. An exoplanet with an extreme climate  
D. A potential Earth-like planet in the habitable zone

**70. Consider the following characteristics:**

1. He founded the Abhinav Bharat Society.

2. He played a crucial role in fostering revolutionary activities among Indian students in London.

3. He wrote *The First War of Indian Independence - 1857*.

**Which of the following personalities is best described by above characteristics:**

- A. Bal Gangadhar Tilak  
B. Lala Lajpat Rai  
C. Vinayak Damodar Savarkar  
D. Bipin Chandra Pal

**71. Consider the following battles in medieval Indian history:**

1. First Battle of Tarain (1191)
2. Battle of Khanwa (1527)
3. Battle of Talikota (1565)

**Which of the battles given above did not involve any foreign invader?**

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

**72. Consider the following terms:**

1. DDoS Attack
2. Blockchain Encryption
3. Man-in-the-Middle Attack
4. Quantum Firewall
5. SQL Injection

**Which of the terms given above is/are types of cybersecurity threats?**

- A. 1, 3, and 5 only  
B. 2, 3, and 4 only  
C. 1, 2, and 5 only  
D. 1, 2, 3, 4, and 5

**73. Consider the following statements regarding ethanol blending:**

1. The Government of India has advanced the target year for achieving 20% ethanol blending in petrol to 2025.
2. Ethanol in India is produced solely from sugarcane molasses.
3. Increased ethanol blending can help reduce greenhouse gas emissions.

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

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

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

**74. Which of the following statements is correct with respect to the Capital Adequacy Ratio (CAR)?**

- A. CAR measures a bank's profitability by comparing total revenue to total assets.  
B. A higher CAR indicates a bank has lower capital reserves and is at greater risk of insolvency.  
C. CAR is the ratio of a bank's capital to its risk-weighted assets, ensuring financial stability and risk management.  
D. CAR is determined solely by the bank's net interest income and does not consider risk-weighted assets.

**75. Consider the following statements regarding the Delimitation Commission:**

1. It is a high-powered body with legal authority and civil court powers.
2. It has been constituted six times in India so far.
3. In the *Kishorchandra Chhanganlal Rathod Case, 2024*, the Supreme Court held that an order by the Delimitation Commission could not be reviewed.

**How many of the above statements is / are correct?**

- A. Only one  
B. Only two  
C. All three  
D. None

## Answers

- |         |         |         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1. (A)  | 2. (B)  | 3. (C)  | 4. (A)  | 5. (C)  | 6. (D)  | 7. (B)  | 8. (D)  | 9. (C)  | 10. (D) |
| 11. (B) | 12. (D) | 13. (A) | 14. (A) | 15. (C) | 16. (B) | 17. (B) | 18. (C) | 19. (A) | 20. (B) |
| 21. (B) | 22. (B) | 23. (B) | 24. (D) | 25. (A) | 26. (B) | 27. (B) | 28. (C) | 29. (C) | 30. (D) |
| 31. (A) | 32. (D) | 33. (C) | 34. (A) | 35. (B) | 36. (D) | 37. (D) | 38. (C) | 39. (A) | 40. (C) |
| 41. (C) | 42. (D) | 43. (C) | 44. (A) | 45. (A) | 46. (D) | 47. (C) | 48. (C) | 49. (A) | 50. (C) |
| 51. (D) | 52. (C) | 53. (B) | 54. (C) | 55. (A) | 56. (A) | 57. (A) | 58. (C) | 59. (B) | 60. (A) |
| 61. (C) | 62. (C) | 63. (D) | 64. (C) | 65. (D) | 66. (C) | 67. (B) | 68. (A) | 69. (C) | 70. (C) |
| 71. (B) | 72. (A) | 73. (B) | 74. (C) | 75. (A) |         |         |         |         |         |

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## Explanations

1. (A)

Exp:

- BIMSTEC is a regional organization **formed in 1997**, that seeks to **enhance multifaceted technical and economic cooperation** among the countries situated around the **Bay of Bengal**.
  - ◆ The region is home to around **1.5 billion people** and **has a combined GDP of over USD 3.8 trillion**.
- BIMSTEC includes **Bangladesh, Bhutan, India, Nepal, Sri Lanka (South Asia), and Myanmar, Thailand (Southeast Asia)**. Hence, **statement 1 is correct**.
  - ◆ Thailand does not share a land border with India. Hence, **statement 2 is not correct**

2. (B)

Exp:

- India is located in the tropical region, receiving **high solar insolation (solar radiation per unit area)**, making it ideal for solar energy generation. Hence, **statement 1 is correct**.
- Large tracts of **arid and semi-arid land** (such as in Rajasthan and Gujarat) provide ample space for setting up solar farms. Hence, **statement 2 is correct**.
- India **does not have abundant lithium reserves** required for solar panel manufacturing. Most of its lithium needs are met through imports, though some reserves have been found in Jammu & Kashmir and Karnataka. Hence, **statement 3 is not correct**.
- The Indian government has introduced **several incentives** like the **PM-KUSUM scheme, Solar Park Scheme, and Production-Linked Incentive (PLI)** for solar manufacturing, which encourage solar energy adoption. Hence, **statement 4 is correct**.

3. (C)

Exp:

- The creative economy is an economic system that **uses creativity to create value**, rather than traditional resources like labor, land, and capital. It's **also known as the "orange economy"**.
  - ◆ It includes industries like advertising, design, fashion, film, music, and publishing
- The **Creative Economy in India includes** handloom, handicrafts, cinema, music, publishing, software development (such as video games and animation), and advertising/media industries.
- **While software development itself (e.g., IT services) is not purely a creative sector**, game design, animation, and digital content creation fall under the Creative Economy.
- Hence, **option C is correct**

4. (A)

Exp:

- The **SAFTA Agreement**, signed by **SAARC countries** (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka), aims to **promote trade liberalization and economic cooperation** within South Asia. Hence, **statement 1 is correct**.
- While SAFTA provides **duty-free access** to several products, it does not extend this benefit to all **agricultural and processed food products**. Certain products still face **import tariffs** under SAFTA. Hence, **statement 2 is not correct**.

5. (C)

Exp:

- **Competitive federalism** is a system where states compete to improve governance, economic performance, and public services through reforms and best practices.
- The **Ease of Doing Business rankings** and other similar metrics motivate states to **enhance their business environments by implementing reforms** in areas such as **taxation, labor laws, and infrastructure**.
  - ◆ These improvements help **boost their rankings, attract investment, and foster economic growth**. Thus it **helps in promoting competitive federalism**. Hence, **statement 1 is correct**.
- **Cooperative federalism** is a system where the central and state governments work together to achieve common goals and ensure balanced development.
  - ◆ The **Finance Commission** is crucial for **cooperative federalism**, as it recommends the **devolution of fiscal resources** from the **central government** to the **states** to ensure balanced development. Hence, **statement 2 is correct**.

6. (D)

Exp:

- The **Dhanush artillery gun system** is an indigenous **155mm artillery system**.
- The **Akash surface-to-air missile** is developed by **Defence Research and Development Organisation (DRDO)** as part of India's defense missile system.
- **Tejas, the light combat aircraft**, is developed by **HAL (Hindustan Aeronautics Limited)** and DRDO as part of India's indigenous aircraft program.
- **INS Arihant** is India's first nuclear-powered submarine, developed under the **Advanced Technology Vessel (ATV)** program.
- Hence, **option D is correct**

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## 7. (B)

Exp:

- The Bhakti Movement was **not restricted to north India**. It had a **pan-Indian influence**, with significant contributions from southern India, especially through saints like Alvars and Nayanars. **Hence, statement 1 is not correct.**
- The Bhakti Movement **used regional languages like Tamil, Marathi, Hindi, and Bengali**, making devotional literature more accessible to people of all social strata. **Hence, statement 2 is correct.**

## 8. (D)

Exp:

- Reasonable restrictions on fundamental rights can be imposed on grounds such as **public order, sovereignty and integrity of India, morality, and others** as specified under **Article 19**.
- **Economic development and social justice, while important, are not grounds** for restrictions on fundamental rights under the Indian Constitution.
- **Hence option D is correct.**

## 9. (C)

Exp:

- **Nari Adalat:**
  - ◆ Under the '**Sambal**' sub-scheme of **Mission Shakti**, provides an **alternative grievance redressal mechanism** for women at the **gram panchayat level**, resolving minor disputes (e.g., domestic violence, dowry, child custody) through **negotiation, mediation, and reconciliation**. **Hence, statement 1 is correct.**
  - ◆ **Structure and Functioning:**
    - **Members:** Comprises **7 to 11 members** known as '**Nyaya Sakhis**', nominated by the **gram panchayat**.
    - **Implementation:** Started in 2023 on a pilot basis in 50 gram panchayats each in **Assam and Jammu & Kashmir**, with plans to expand to other states. **Hence, statement 2 is correct.**

## 10. (D)

Exp:

**Production Linked Incentive Scheme (PLI)**

- The PLI scheme was **conceived to scale up domestic manufacturing capability**, accompanied by **higher import substitution** and employment generation.
- **Launched in March 2020**, the scheme **initially targeted three industries:**

- ◆ Mobile and allied Component Manufacturing
- ◆ Electrical Component Manufacturing and
- ◆ Medical Devices.
- ◆ Hence, statement 1 is correct.

- Later, it was **extended to 14 sectors**.
- In the PLI scheme, **domestic and Foreign companies** receive financial rewards for **manufacturing in India**, based on a percentage of their revenue over up to five years. **Hence, statement 2 is correct.**

## 11. (B)

Exp:

**Tunisia:**

- It is the northernmost country in **Africa**, bordering the **Mediterranean Sea**, between **Algeria and Libya**. **Hence, statement 1 is correct.**
- It is a member of the United Nations, **Organisation of Islamic Cooperation**, African Union, Non-Aligned Movement, and Group of 77. **Hence, statement 2 is not correct.**
- The growing **anti-migrant sentiment in Tunisia** has severely impacted **sub-Saharan migrants**.
  - ◆ Tunisia's President Kais Saied labeled **sub-Saharan migrants a "demographic threat" in 2023**, triggering a surge in racially motivated attacks and discrimination.
  - ◆ The **UN Refugee Agency** halted asylum applications due to government pressure, leaving migrants vulnerable.

## 12. (D)

Exp:

**ISRO's Space Tech Impact on Various Industries:**

- **Automotive Industry:** The software and algorithms developed for **Chandrayaan-3's** landing can be adapted to **prevent car collisions**, improving **vehicle safety**.
- **Healthcare:** The **3D LiDAR Camera** can be used for **accurate body measurements** to predict **lifestyle diseases** or for advanced imaging solutions in medical diagnostics.
- **Construction and Infrastructure:** ISRO's **NRCM-204**, a highly corrosion-resistant coating, protects metals from harsh environments, including acidic corrosion.
  - ◆ This can be used in **construction to protect metal structures** and in the automotive industry to prevent vehicle corrosion.
- **Electronics Devices:** ISRO's **Benzoxazine polymer** is suitable for encapsulating **electronic components** and printed circuit boards.

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- ◆ It offers stability across various temperatures and excellent flame-retardant properties.
- **Logistics and Retail:** The LiDAR camera can be used to measure parcels accurately, optimizing packaging and reducing shipping costs.
  - ◆ It can also be utilized for people counting in crowded places like markets and events, aiding in crowd management and safety.
- **Energy and Transportation:** ISRO's cost-effective **Lithium-Ion Battery Technology** can accelerate the adoption of **electric vehicles**, supporting cleaner and more sustainable transportation systems.
- Hence, option D is correct.

13. (A)

Exp:

- **Sagar Island** also known as **Ganga Sagar or Sagardwip**, Sagar Island is located about 120 km from Kolkata and is the **largest in the Sundarbans archipelago**, with a population of around two lakh (2011 Census). Hence, **statement 1 is correct**.
  - ◆ Sagar island is classified as the **sand group category**, it is accessed by crossing the **Muriganga River**. Hence, **statement 2 is not correct**.

14. (A)

Exp:

- **Konda Veduru Bamboo**, also known as **Green Gold** is **native to the Eastern Ghats**, is primarily found in the Godavari river valley, extending across Andhra Pradesh, Telangana, Odisha, and Chhattisgarh.
- The bamboo shoots of this species are a staple food for the Konda Reddi tribe and are known for their nutritional value, being rich in proteins, amino acids, vitamins, and iron.
- Traditionally, it is the women of the tribe who harvest these bamboo shoots, which are a vital part of their diet.
- Hence, option A is correct.

15. (C)

Exp:

- DNA nano-rafts are **tiny, flat structures made from DNA strands**, designed to control the shape and permeability of cell membranes in response to specific chemical signals. Hence, **statement 1 is correct**.
- These nano-rafts **attach to Giant Unilamellar Vesicles (GUVs)**, which are artificial, cell-sized lipid membranes that serve as models for studying biological cell membranes and transport mechanisms. Hence, **statement 2 is correct**.

- By adding “unlocking” DNA strands, the nano-rafts can expand, altering the shape of the membrane in a reversible manner.
  - ◆ This ability enables them to **modify the structure of synthetic cell membranes**, playing a crucial role in cell movement, division, and communication. Hence, **statement 3 is correct**.
- Additionally, they can create temporary channels, facilitating the transport of molecules across the membrane.

16. (B)

Exp:

**Arabian Leopard (*Panthera pardus nimr*):**

- It is among the **smallest leopard subspecies**, with **males weighing 30-40 kg** and **females 25-35 kg**. It has **pale buff-colored fur with small, closely spaced rosettes**. Hence, **statement 1 is correct**.
- It is categorised as **Critically Endangered** in the IUCN List. Hence, **statement 2 is correct**.
- It is native to the **Arabian Peninsula**. It is found in isolated pockets across **Saudi Arabia, Oman, Yemen, and the UAE**. Hence, **statement 3 is not correct**.
  - ◆ The global wild population is estimated to be **100-120 individuals**, with the largest group in **southern Oman**.
  - ◆ A study published on **World Arabian Leopard Day (10<sup>th</sup> February 2025)** confirmed the presence of the **Arabian leopard** in Oman's **Nejd plateau**, contrary to earlier beliefs of local extinction due to **hunting and habitat loss**.

17. (B)

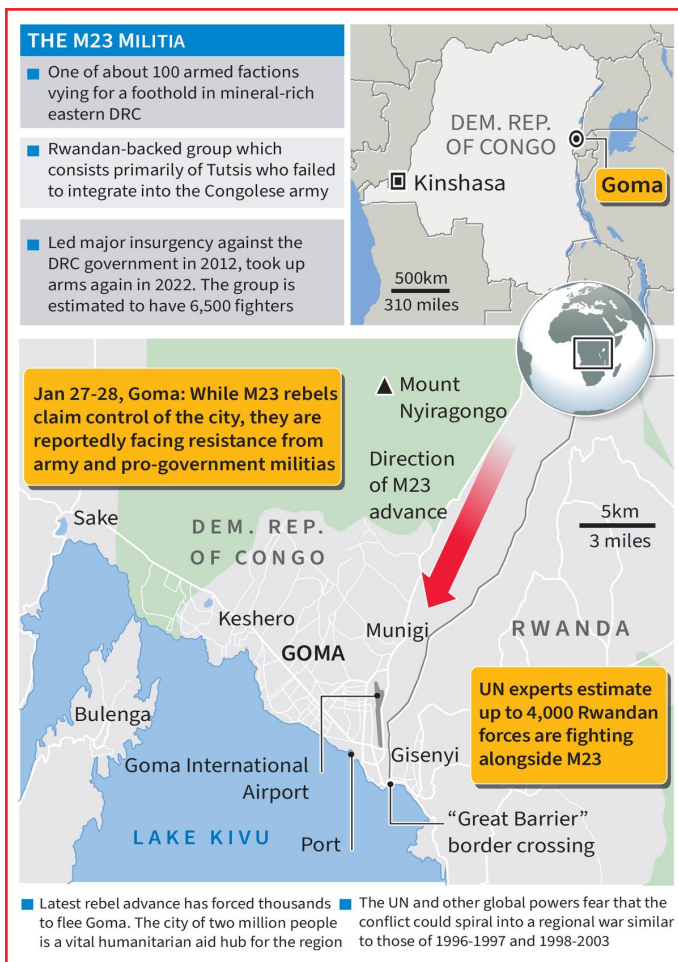
Exp:

**Democratic Republic of Congo (DRC):**

- The DRC is **2<sup>nd</sup> largest country** in Africa and the **11<sup>th</sup> largest** in the world. Hence, **statement 1 is not correct**.
- **Kinshasa**, the capital of the DRC, is **located on the Congo River**, the only river to cross the equator twice in Africa.
- **Katanga Plateau** is considered to be a rich mining region, which supplies cobalt, copper, tin, radium, uranium, and diamonds.
- The DRC supplies **40%** of the world's **Coltan**, used to make **Tantalum** capacitors for electronics due to its **high charge retention**. Hence, **statement 2 is correct**.
- The ongoing conflict in the **Democratic Republic of Congo (DRC)** has escalated with the **M23 militia**, backed by **Rwanda**, capturing the mineral-rich city of **Goma**.

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18. (C)

Exp:

Indian Ocean Conference:

- About:** IOC is an annual summit bringing together **leaders, policymakers, and experts** from the **Indian Ocean Region (IOR)** to discuss **geopolitical, economic, and security** challenges.
  - It was established by the **India Foundation** (India based **think tank**) in **2016** in **Singapore** with participation from **30 countries**. Hence, **statement 1 is correct**.
- Objective:** It aims to unite key states and maritime partners in the IOR to enhance **regional cooperation** under the vision of **Security and Growth for All in the Region (SAGAR)**. Hence, **statement 2 is correct**.

19. (A)

Exp:

- President's Rule, under Article 356 of the Indian Constitution, involves the suspension of a state government and its legislative assembly, placing the state under the direct control of the central government.

- It is imposed when a state government fails to function according to the Constitution, as per Article 355.
- The **proclamation requires approval from both Houses of Parliament within two months** and remains valid until 30 days after the Lok Sabha reconvenes if not approved earlier. Hence, **statement 1 is not correct**.
- Approving or extending the President's Rule requires a **simple majority in Parliament (majority of members present and voting)**. Hence, **statement 2 is correct**.
- Initially **lasting six months**, **President's Rule can be extended for up to three years** with Parliament's approval. Hence, **statement 3 is not correct**.
- Extensions beyond one year are allowed under specific conditions, such as a national emergency or difficulties in holding elections, and extensions beyond three years require constitutional amendments, as seen during the Punjab insurgency

20. (B)

Exp:

Pradhan Mantri Fasal Bima Yojana (PMFBY):

- PMFBY is a central sector scheme that aims to provide financial protection to farmers in case of crop failure due to natural disasters, pests, or diseases.
  - It relies on **actual crop loss assessment to provide compensation to farmers** for losses due to natural calamities, pests, or diseases. Hence, **statement 1 is correct**.
- All farmers **including sharecroppers and tenant farmers** growing the notified crops in the notified areas are eligible for coverage. Hence, **statement 2 is correct**.
  - Farmers' participation is voluntary and non-loanee farmers make up 55% of the total coverage under PMFBY.
- It offers affordable premiums at rates of 2% for Kharif crops, 1.5% for Rabi crops, and 5% for yearly commercial or horticultural crops.
- The government covers the entire premium for farmers in the **North-Eastern States, Jammu & Kashmir, and Himachal Pradesh (not Bihar)**. Hence, **statement 3 is not correct**.

21. (B)

Exp:

- Gyanesh Kumar has been appointed as the **Chief Election Commissioner (CEC)** under the **Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023**.

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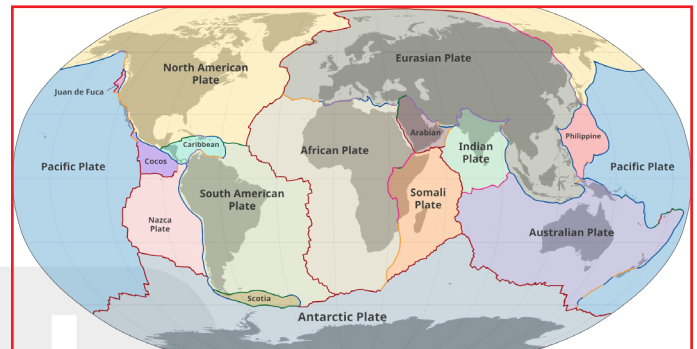
- The CEC and ECs are appointed by the **President** based on the recommendation of a **Selection Committee** consisting of:
  - ◆ Prime Minister (Chairperson).
  - ◆ **Leader of the Opposition (LoP)** (or leader of the largest opposition party) in the **Lok Sabha**.
  - ◆ **Union Cabinet Minister** nominated by the Prime Minister. **Hence, statement 1 is not correct.**
- A Search Committee, led by the **Law Minister** and two **senior secretaries**, shortlists five candidates.
  - ◆ **Section 8** of the Act gives the Selection Committee the power to **consider names beyond the shortlisted five**.
- CEC and ECs receive a **SC judge's salary** and serve for **six years or until age 65**, whichever is earlier.
  - ◆ CEC and ECs **cannot be re-appointed**. If an EC becomes CEC, their total tenure **cannot exceed six years**.
  - ◆ A **CEC or EC** receiving a government pension (**excluding disability pension**) will have their **salary reduced by the amount of the pension received**.
- The CEC can be removed only in the **same manner** and on the **same grounds** as a **SC Judge**, while an EC can be **removed** on the **CEC's recommendation**. **Hence, statement 2 is correct.**
  - ◆ Both can **resign to the President**.

22. (B)

Exp:

- A tectonic plate is a **massive, irregularly shaped slab of solid rock**, generally composed of both **continental and oceanic plates**. **Hence, statement 1 is correct.**
  - ◆ Continental plates form the Earth's landmasses, while oceanic plates lie beneath the ocean floor.
  - ◆ Oceanic plates are composed of denser basaltic rocks and are **subducted beneath continental plates** at convergent boundaries, as continental plates consist of lighter granitic rocks.
- Earth's lithosphere is **divided into 7 major plates** and several **minor plates**.
- The **Arabian Plate is a minor tectonic plate** in the Northern and Eastern Hemispheres, moving northward along with the African and Indian plates. **Hence, statement 2 is correct.**
  - ◆ Its collision with the Eurasian Plate has been a major force in mountain formation, contributing to the rise of the Zagros Mountains, Alborz Mountains, Iranian Plateau, Himalayas, and other ranges in Southern Europe and Southeast Asia.

- ◆ The heavy weight of the Zagros Mountains has caused the surrounding land to sink, forming the Mesopotamian sedimentary basin.
- The **Eurasian Plate is a major tectonic plate** that covers most of Europe, Russia, and parts of Asia, with boundaries shared with the North American, African, Arabian, Indian, and Sunda Plates. **Hence, statement 3 is not correct.**
  - ◆ It has a divergent boundary with the North American Plate in the west and moves at an average rate of 0.25 to 0.5 inches per year, pulling Iceland apart at 2.5 cm per year.



23. (B)

Exp:

- No Money for Terror Conference was launched in **2018 by France**. **Hence, statement 1 is not correct.**
  - ◆ It aims to enhance international cooperation in curbing terror financing.
- The conference focused on global efforts to counter terror financing through 4 key sub-verticals:
  - ◆ Multilateral cooperation
  - ◆ Financing methods for terrorism
  - ◆ Financial inclusion & Risk-based approach
  - ◆ Terrorist Financing & Organized Crime
- The conference was previously held in **Paris, France (2018)**, followed by **Australia (2019)**, and later in **India (2022)**. **Hence, statement 2 is correct.**

24. (D)

Exp:

- The **Baltic Sea**, a part of the **Atlantic Ocean in Northern Europe**, is the world's youngest sea, formed 10,000–15,000 years ago after the last Ice Age.
- It spans 1,600 km in length, 193 km in width, and covers 377,000 sq. km, with an 8,000 km coastline shared by Sweden, Poland, Lithuania, Latvia, Finland, Estonia, Germany, Denmark, and Russia.
- Connected to the **Atlantic via the Danish Straits**, it also links to the White Sea (White Sea Canal) and the North Sea (Kiel Canal).

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- It contains three major gulfs—**Bothnia (north), Finland (east), and Riga (south)**—and is the largest brackish inland water body, **with low salinity due to freshwater inflows and shallow depth.**

- Hence, option D is correct.

25. (A)

Exp:

- **Lake Chad:**
- Situated in **north-west Africa**, the Lake Chad region spans **Nigeria, Cameroon, Niger, and Chad.** It is a dynamic **freshwater body** with human presence dating back to the **Paleolithic era** (2.6 million years ago to 10,000 years ago).
- The **Sao Civilization (5<sup>th</sup> century)** left rich archaeological remains, showcasing expertise in fishing, hunting and farming.
- Lake Chad faces a **humanitarian crisis**, with over 10 million in need due to poverty, climate change, and conflict. **Boko Haram** exploits the instability, worsening the region's challenges.
- Hence, option A is correct.

26. (B)

Exp:

- Mizoram became a **Union Territory in 1972** after an accord with MNF moderates and gained **statehood on 20<sup>th</sup> February 1987** following the **Mizoram Peace Accord (1986)** with the Central government. Hence, **Statement 1 is not correct.**
- **Arunachal Pradesh** formerly the **North-East Frontier Agency (NEFA)**, Arunachal Pradesh became a **Union Territory in 1972** and gained **statehood on 20<sup>th</sup> February 1987**, under the Arunachal Pradesh Act, 1986. Hence, **Statement 2 is correct.**

27. (B)

Exp:

- **Cassini** is launched by the **National Aeronautics and Space Administration** along with the **European Space Agency's Huygens probe** to study **Saturn** and its moons. Hence, **statement 1 is not correct.**
- **Saturn's Rings:** It consists of seven main rings, named in the order of their discovery (D, C, B, A, F, G, E), becoming fainter as they move outward, primarily made of icy snowballs. Hence, **Statement 2 is correct.**
  - ◆ The main rings are A, B, and C, with the A ring easily visible through Earth-based telescopes. The Cassini Division separates the B and A rings.
  - ◆ F Ring located outside the A ring, G and E Rings are much fainter, with the E ring being the largest ring.

28. (C)

Exp:

**Aravallis:**

- It is the **oldest fold mountain range** in the world and runs **diagonally (northeast to southwest)** across **Gujarat, Rajasthan, Delhi, and Haryana** for about **690 km.** Hence, **statement 1 is correct.**
- The **hidden limb** of the Aravallis, extending from **Delhi to Haridwar**, separates the drainage of the **Ganga and Indus rivers.**
- Its highest peak is **Guru Shikhar on Mount Abu** (Rajasthan) at **1,722 metres.** Hence, **statement 2 is correct.**
- It plays a crucial role in **preventing desertification eastwards and recharging groundwater.** Hence, **statement 3 is correct.**
- Haryana's proposed **Aravalli Safari Park**, featuring **wildlife enclosures, hotels, and restaurants**, faces debate over its impact on **ecology, groundwater, and wildlife conservation.**
- **Aravalli Safari Park Project** is envisioned as the **world's largest safari park (approx 10,000 acres)** and aims to support **eco-tourism and compensatory afforestation.**

29. (C)

Exp:

- **Experimental Advanced Superconducting Tokamak (EAST)** is a part of the **International Thermonuclear Experimental Reactor (ITER)** initiative, which will be the **world's largest fusion reactor** when operational by 2035. Hence, **statement 1 is correct.**
  - ◆ The ITER, established in **1985**, is a collaboration of **35 nations** located in **France.** It aims to build the **world's largest tokamak** to demonstrate the feasibility of fusion as a **large-scale, carbon-free energy source.**
  - ◆ Its members include **China, the European Union, India, Japan, Korea, Russia and the US.** Hence, **statement 2 is correct.**

30. (D)

Exp:

**Microfinance Institutions (MFI):**

- **About:**
  - ◆ MFIs are **financial companies** that provide **small loans and other financial services** to people who **don't have access to banking facilities.** Hence, **statement 1 is correct.**
- **Objective:**
  - ◆ It aims to **empower low-income and unemployed individuals** by fostering **self-sufficiency.**

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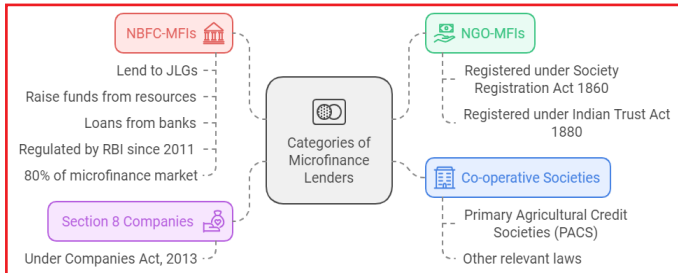


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- ◆ It plays a **crucial role in financial inclusion**, particularly benefiting **marginalized groups**, including women, by promoting **social equity and economic empowerment**.
- **Regulatory Framework:** The RBI regulates MFIs under the **NBFC-MFI framework (2014)**, which covers client protection, borrower safeguards, privacy, and credit pricing.
- **Business Models in Microfinance:** Self-Help Groups (SHGs) and Microfinance Institutions (MFIs)
- **Categories of Microfinance Lenders:**



- **MFIs in India:**
  - ◆ As of 31<sup>st</sup> March 2024, India's microfinance sector comprises **168 MFIs across 29 states, 4 UTs, and 563 districts**, serving **over 3 crore clients** with a loan portfolio of **Rs 4.33 lakh crore**.
- **RBI Guidelines on Microfinance Lending (2022):**
  - ◆ Microfinance loans are **collateral-free for households** with **annual incomes up to Rs 3 lakh**. Hence, **statement 2 is correct**.
  - ◆ Lenders must ensure **flexible repayment policies** and **assess household income**.
  - ◆ The **cap on the number of lenders per borrower is removed**, but loan repayments **cannot exceed 50% of monthly income**.
  - ◆ The requirement for **NBFC-MFIs to maintain 75% of their loan portfolio in microfinance (reduced from 85%)**.
  - ◆ Entities must **report income discrepancies** and **household income details**.
  - ◆ **No prepayment penalties**; late fees apply only to **overdue amounts**.

31. (A)

Exp:

Lithium:

- It is a **soft, silvery-white alkali metal** and is also known as **white gold**.
- It is the **lightest metal and solid element** and is classified as both an **alkali** and a **rare metal**.
- It is mined from **ores of petalite, lepidolite, spodumene**, and also subsurface brines.

- It is **highly reactive and flammable** and must be stored in **mineral oil**.
- It is an essential mineral required for **electric vehicle batteries** and **renewable energy storage**.
- **Recently India and Argentina** signed an MoU for **lithium exploration** and investment opportunities in **Argentina**.
  - ◆ Argentina is known for its **vast lithium reserves** and is part of the '**Lithium Triangle**' along with **Bolivia and Chile**.
  - ◆ **Chile (1<sup>st</sup>), China (2<sup>nd</sup>), and Australia (3<sup>rd</sup>)** have the **largest reserves** of lithium.
  - ◆ In India, the **Salal-Haimna areas (Reasi district of J&K), Koderma and Giridih (Jharkhand), and Mandya (Karnataka)** have lithium reserves.

- Hence, option A is correct.

32. (D)

Exp:

**National Commission for Scheduled Tribes (NCST):**

- In 1992, a statutory National Commission for Scheduled Castes (SCs) and Scheduled Tribes (ST) was established. Later, to address the **distinct needs of STs**, the NCST was **established through the 89<sup>th</sup> Constitutional Amendment Act, 2004 amending Article 338 and adding Article 338A** to the Constitution. Hence, **statement 1 is correct**.
- NCST comprises a **Chairperson** (Cabinet Minister rank), a **Vice-Chairperson** (Minister of State rank), and **three Members** (Secretary rank), all appointed by the **President**.
  - ◆ At least one other Member shall be appointed from amongst **women**.
- The **term of office** for all members is **three years**. A member can be reappointed for a **maximum of two terms**.
- Under **Article 338A(5)**, the NCST monitors **constitutional safeguards for STs**, addresses tribal rights issues, and advises on socio-economic development. Hence, **statement 2 is correct**.

33. (C)

Exp:

- A **DDoS (Distributed Denial-of-Service) attack** is a malicious attempt to **disrupt the normal functioning of a targeted server, service, or network by overwhelming it with excessive internet traffic**. It is a form of cybercrime designed to **prevent users from accessing online services and websites**.
- These attacks leverage **multiple compromised computer systems** to generate attack traffic, often including not only computers but also other networked devices like IoT systems.

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- Unlike other cyberattacks that seek to breach security defenses, DDoS attacks focus on rendering websites and servers inaccessible to legitimate users by overloading their infrastructure.

• Hence, Option C is correct.

34. (A)

Exp:

- **NISAR, or NASA-ISRO Synthetic Aperture Radar**, is a joint NASA-ISRO Earth observation mission. It is a satellite that will **map the Earth's surface** to help scientists understand the planet's processes and climate change.
- The **Artemis Accords** are a set of principles that guide civil space exploration and use. They were **established in 2020 by NASA** and several other countries. The accords are based on the Outer Space Treaty of 1967. **India joined in 2023.**
- **Megha-Tropiques** was a joint **Indo-French satellite mission (not India-US)** that studied the water cycle and energy exchanges in the tropics. The satellite was launched in **2011** and was part of the **Global Precipitation Measurement (GPM) mission.**
- Hence, Option A is correct.

35. (B)

Exp:

**University Grants Commission :**

- **Genesis:** India's first effort to establish a national education system began with the **1944 Sargeant Report**, which recommended creating a **University Grants Committee.** Hence, statement 1 is correct.
  - ◆ Formed in **1945**, the committee initially supervised **Aligarh, Banaras, and Delhi** universities. By **1947**, its scope expanded to include all existing universities.
  - ◆ In **1948**, the **University Education Commission**, led by **Dr. S. Radhakrishnan**, recommended its restructuring based on the **UK model.**
  - ◆ In **1952**, the Union Government designated the **University Grants Commission (UGC)** to oversee grants for Central Universities and higher education institutions.
    - Formally inaugurated by **Maulana Abul Kalam Azad** in 1953, it became a **statutory body** under the "**University Grants Commission Act, 1956**". The head office of the UGC is located in New Delhi. Hence, statement 2 is not correct.
- **Composition:** UGC is made up of a **Chairman, a Vice-Chairman, and 10 other members.** The Central Government appoints **all members** of the UGC. Hence, statement 3 is correct.

- **Key Functions:** Assess universities' financial needs, and allocate and disburse grants for maintenance, development, and other purposes.

- ◆ Recommends improvements in higher education and assists in implementation.

36. (D)

Exp:

- The topoconductor, or topological superconductor, is a special category of material that can create an entirely new state of matter, not a solid, liquid or gas but a topological state. Hence, Statement 1 is not correct.
- Classical computers use **binary bits (0s and 1s)**, quantum computers use **qubits**, which exist in multiple states simultaneously, enabling exponentially faster computations. Hence, Statement 2 is not correct.

37. (D)

Exp:

- **Parambikulam Tiger Reserve** is located in the **Palakkad and Thrissur districts** of Kerala and declared a **Tiger Reserve in 2009** under **Project Tiger.**
- It is a well-preserved ecological area within the **Nelliampathy-Anamalai landscape** of the Southern **Western Ghats** in India.
- It is home to the **world's first scientifically managed teak plantation** and boasts the largest and oldest teak tree, named **Kannimara.**
- The **Parambikulam, Sholayar, and Thekkady** rivers flow through the reserve.
- Hence, option D is correct.

38. (C)

Exp:

- **Climate Risk Index (CRI) 2025:**
  - ◆ **About:** The international environmental think tank '**Germanwatch**' has released the **CRI 2025.**
    - It ranks countries based on their **vulnerability to extreme weather events**, assessing **human and economic losses** caused by climate-induced disasters.
  - ◆ **Frequency:** Released annually since **2006**, covering data from the past **30 years.**
  - ◆ **Methodology & Criteria:** CRI assesses the impacts of extreme weather events on countries across **six key indicators:**
    - **Economic losses, fatalities, and affected people**, both in absolute and relative terms.
  - ◆ **Impact on India:** India ranked **6<sup>th</sup> most affected country (1993-2022)**, accounting for **80,000 fatalities**

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(10% of global) due to extreme weather events and 4.3% of global economic losses (USD 180 billion).

- India has faced **severe floods** (1993, 2013, 2019), **intense heat waves** (~50°C in 1998, 2002, 2003, 2015), and destructive **cyclones** like **Gujarat (1998)**, **Odisha (1999)**, **Hudhud (2014)**, and **Amphan (2020)**.

- Hence, option C is correct.

39. (A)

Exp:

**Inland Waterways Transport:**

- **About:** It refers to the movement of people and goods on navigable waterways such as rivers, canals, lakes, and other inland water bodies.
- **Legislative Framework:**
  - ◆ **Inland Waterways Authority of India Act, 1985:** Led to the formation of Inland Waterways Authority of India (IWAI) in 1986.
    - IWAI is an **autonomous organization** responsible for the **development, maintenance, and regulation** of NWs. Hence, **statement 1 is not correct**.
  - ◆ **National Waterways Act, 2016:** Declared **111 inland waterways** as NWs for **enhanced shipping and navigation**.
  - ◆ **Inland Vessels Act, 2021:** Replaced the Inland Vessels Act, 1917, introduced uniform regulations for inland vessels, ensuring safety, navigation, and compliance across India. Hence, **statement 2 is correct**.
- **Criteria to be as a National Waterway:** A waterway qualifies as a **National Waterway** if it is navigable by propelled vessels, and **50 km long** (except for urban areas and intra-port traffic). Hence, **statement 3 is not correct**.
  - ◆ It should serve **multiple states** or connect a prosperous hinterland or major ports or support strategic navigation for national security or link unserved areas lacking other transport modes.

40. (C)

Exp:

**About Neutrinos:**

- Neutrinos, often called **"ghost particles"**, are electrically neutral, nearly massless subatomic particles that rarely interact with matter. This allows them to **travel vast distances** through stars, planets, and galaxies **without being deflected by magnetic fields**, making them reliable "cosmic messengers." Hence, **statement 1 is correct**.
- **Sources of Neutrinos:**
  - ◆ **Natural Sources:** **Sun** (solar neutrinos), **Nuclear reactions in stars, supernovae, and cosmic rays**.

- ◆ **Artificial Sources:** Nuclear reactors, radioactive decay and particle accelerators.
- ◆ **Big Bang Neutrinos:** Remnants from the early universe, contributing to cosmological studies. Hence, **statement 2 is correct**.

41. (C)

Exp:

**Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023:**

- The **Selection Committee** consists of the **Prime Minister (Chairperson)**, the **Leader of the Opposition** (or leader of the largest opposition party) **in the Lok Sabha**, and a **Union Cabinet Minister** nominated by the Prime Minister. The **Speaker of the Lok Sabha is not a member**. Hence, **Statement 1 is not correct**.
- The **Search Committee**, led by the **Law Minister**, shortlists **five candidates**, but the **Selection Committee has the power to consider names beyond this list** as per **Section 8 of the Act**. Hence, **Statement 2 is correct**.
- **Chief Election Commissioner (CEC)** and **Election Commissioners (ECs)** **cannot be re-appointed**. If an EC becomes CEC, their total tenure **cannot exceed six years**. Hence, **Statement 3 is not correct**.

42. (D)

Exp:

- **Chhatrapati Shivaji Maharaj:** Born on **19<sup>th</sup> February 1630**, at **Shivneri Fort, Pune** was a visionary leader from the **Maratha Bhonsle clan** and the founder of the **Maratha Empire**, known for resisting the **Mughal Empire** and striving for **self-rule**. Hence, **statement 1 is not correct**.
- **Peshwa Madhavrao I (1761–1772)** revived Maratha power after the **Third Battle of Panipat (1761)**. Baji Rao I was peshwa of the Maratha confederacy from 1720 to 1740 during the reign of Shahu (1708–49). Hence, **statement 2 is not correct**.

43. (C)

Exp:

**Solar System:**

- The asteroid belt is a region of space located between the orbits of **Mars and Jupiter**, containing numerous **irregularly shaped asteroids and minor planets**. Hence, **statement 1 is correct**.
- Venus is the only planet in our Solar System that **rotates in a direction opposite to its orbit around the Sun** i.e. spins on its axis clockwise from east to west, meaning it **spins "backward"** compared to most other planets, causing the sun to rise in the west on Venus. Hence, **statement 2 is correct**.

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44. (A)

Exp:

- The **Bosporus Strait**, located in **Turkey**, separates **Europe and Asia** and connects the **Black Sea to the Sea of Marmara**, which in turn connects to the Mediterranean via the **Dardanelles Strait**. Hence, **statement 1 is correct**.
- The **Gulf Cooperation Council (GCC)** is a political and economic alliance of the six Arab states of **Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE)**. **Iran and Iraq are NOT members** of the GCC. Hence, **statement 2 is not correct**.

45. (A)

Exp:

- Lake Baikal is the world's **deepest and oldest freshwater lake**, located in **Russia**. Hence **pair 1 is correctly matched**.
- Lake Titicaca is the highest navigable lake in the world, situated between Peru and Bolivia in **South America**, not in Africa. Hence **pair 2 is not correctly matched**.
- Great Bear Lake is the largest lake entirely in Canada. Hence **pair 3 is correctly matched**.
- Lake Tanganyika is the longest freshwater lake and is located in Africa, not South America. Hence **pair 4 is not correctly matched**.
- Hence, **Option A is correct**.

46. (D)

Exp:

- **Reshoring** (bringing manufacturing back to domestic industries) is being pursued by the **US, EU, and India** for **semiconductors, pharmaceuticals, and rare earths**. Hence, **statement 1 is correct**.
- **Friendshoring** means **relocating supply chains to countries considered political allies**. It is a significant strategy currently employed by both the U.S. and the EU, particularly as a way to reduce dependence on China and mitigate geopolitical risks associated with sourcing from potentially adversarial nations. Hence, **statement 2 is correct**.
- **Strategic Reserves** means building national stockpiles of critical resources like rare earth elements and semiconductors. Japan, the US and the EU are building **strategic reserves of rare earths and semiconductors** to counter **China's dominance** and mitigate supply chain disruptions. Hence, **statement 3 is correct**.

47. (C)

Exp:

- The **South Asian Association for Regional Cooperation (SAARC)** is an intergovernmental organization that was established in 1985 to promote economic growth, social progress, and cultural development in South Asia. It **includes India but not China**.

- **BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation)** is a regional organization that promotes cooperation among seven countries in South and Southeast Asia. It **includes India but not China**.
- The **Shanghai Cooperation Organization (SCO)** is an intergovernmental organization that promotes cooperation and peace among its member states. The SCO was founded in **2001 by China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan**. India joined the SCO as full members in 2017. Hence, it **includes both India and China**.
- The **Association of Southeast Asian Nations (ASEAN)** is an international organization that promotes cooperation and stability in Southeast Asia. It was established in 1967 by Indonesia, Malaysia, Singapore, Thailand, and the Philippines. **India and China are not members of ASEAN**, but they are **considered "dialogue partners"** within the organization, meaning they **participate in discussions and collaborations with ASEAN member states, even though they are not full members**.

- Hence, **Option C is correct**

48. (C)

Exp:

- **Alloys** are metallic substances composed of **2 or more elements**, while **HEAs** are advanced metallic alloys materials with **5 or more elements mixed in equal or similar proportions**. HEAs have superior mechanical, thermal, and catalytic properties. Hence, **statement 1 is correct**.
- HEAs are being studied for **hydrogen evolution reactions (HER)** in **water electrolysis**, offering an alternative to expensive platinum-group metals like **platinum (Pt)** and **iridium (Ir)**. Hence, **statement 2 is correct**.

49. (A)

Exp:

- The Reserve Bank of India (RBI) has the sole authority to issue currency notes in India, with the exception of one-rupee notes and coins which are issued by the Ministry of Finance. Hence, **statement 1 is correct**.
- **Regional Rural Banks (RRBs)** in India are the scheduled commercial banks that conduct banking activities for the rural areas at the state level. They are owned by the **Central Government, State Governments, and Sponsor Banks** (in a ratio of **50:15:35**). Hence, **statement 2 is not correct**.
- Scheduled Commercial Banks (SCBs) in India are required to maintain a Cash Reserve Ratio (CRR) and a Statutory Liquidity Ratio (SLR) as per Reserve Bank of India (RBI) regulations. Hence, **statement 3 is correct**.

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50. (C)

Exp:

- **Project Mausam** is a cultural initiative to **revive ancient maritime cultural links with Indian Ocean countries**. The project is led by the **Ministry of Culture, Government of India**. Hence, **statement 1 is correct**.
  - ◆ The project aims to understand how monsoon winds shaped interactions between countries in the Indian Ocean.
  - ◆ It also aims to rebuild maritime cultural connections with 39 countries that border the Indian Ocean.
- The Indo-Pacific Oceans Initiative (IPOI) is a voluntary agreement that promotes **maritime security and economic cooperation** between countries in the Indo-Pacific region. India launched the IPOI in 2019 at the East Asia Summit in Bangkok. Hence, **statement 2 is correct**.

51. (D)

Exp:

**Genetic Engineering Appraisal Committee.**

- Clearance of Genetic Engineering Appraisal Committee (GEAC) is mandatory for the environmental release of Genetically Modified (GM) crops. Hence, **Statement 1 is not correct**.
- It functions under the **Ministry of Environment, Forest and Climate Change (MoEF&CC)**. Hence, **Statement 2 is not correct**.
- The committee is also responsible for the **appraisal of proposals relating to the release of genetically engineered organisms** and products into the environment including experimental field trials.
- It is chaired by the Special Secretary/Additional Secretary of MoEF&CC and co-chaired by a representative from the Department of Biotechnology (DBT).

52. (C)

Exp:

**Key Facts About Marine Heatwaves (MHWs):**

- **About:** MHWs are **extreme oceanic weather events** characterized by a **sudden rise in sea surface temperature (3-4°C above average) for at least five days**, potentially lasting weeks or longer. Hence, **statement I is correct**.
  - ◆ These events can cover small coastal areas or extend across entire ocean basins.
- **Key Causes of MHWs:** Climate change, driven by **anthropogenic greenhouse gas emissions**, has increased global ocean temperatures by **1.5°C over the past century**. Hence, **statement II is not correct**.
  - ◆ Disruptions in oceanic currents, such as **El Niño**, amplify heat retention, while **Arctic ice loss** exposes more ocean surface to solar radiation, accelerating warming.

- ◆ Unusual weather patterns, shifts in **atmospheric circulation**, and storm activities further trigger MHWs.

● **Impact:**

- ◆ **Ocean Life:** MHWs cause **mass fish deaths** and **habitat destruction**. Higher ocean temperatures lead to **widespread coral bleaching** (e.g., **2005 Caribbean bleaching event**).
  - Rising temperatures wipe out **kelp forests**, promote **invasive species**, and alter **wildlife migration**.
- ◆ **Extreme Weather Events:** MHWs **intensify storms**, leading to stronger hurricanes, cyclones, and severe flooding.
- ◆ **Humans:** They disrupt fisheries and global seafood supply, threatening the livelihoods of coastal communities that rely on coral reefs.
  - Economic losses mount as MHWs force species migration, impacting tourism and fishing industries.

● Statement-I is correct, but Statement-II is incorrect.

● Hence, **option C is correct**.

53. (B)

Exp:

- **Improved Samba Mahsuri (ISM)** is a **bacterial blight-resistant rice variety** developed through molecular marker-assisted selection by ICAR-Indian Institute of Rice Research (ICAR-IIRR) and CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad.
- It possesses three major resistance genes—Xa21, xa13, and xa5—incorporated using molecular marker-based technology, making it highly resistant to bacterial blight disease.
- Additionally, ISM has been confirmed to have a low glycemic index (50.9), making it a healthier rice option.
- As one of India's first biotechnology-derived agricultural products, it has been registered under the **Protection of Plant Varieties and Farmers' Rights Authority**.
- Hence, **option B is correct**.

54. (C)

Exp:

- **Solar Coronal Holes** are large, dark regions on the Sun that are **cooler and less dense than the surrounding plasma**. It was first discovered in the 1970s by X-ray satellites. Hence, **statement 1 is correct**.
- They occur in areas where the Sun's magnetic field is open to interplanetary space, allowing high-speed solar wind (geomagnetic storm) to escape.

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- ◆ Open magnetic field lines are magnetic field lines that do not form closed loops but extend outward into space without returning to their source.
- Coronal holes are most prevalent during the declining phase of a solar cycle and are typically found near the Sun's poles. Hence, statement 2 is correct.
- The high-speed solar wind from coronal holes interacts with Earth's magnetic field, causing geomagnetic storms that can disrupt satellites, GPS, and communication networks. Hence, statement 3 is correct.

55. (A)

Exp:

- Sea ice is free-floating polar ice that expands in winter, melts in summer, and partly persists year-round. It is found mainly in the Arctic Ocean and Antarctica Ocean. Hence, statement 1 is correct.
- Sea ice forms from frozen saltwater, unlike icebergs, glaciers, and ice sheets, which originate on land. Hence, statement 2 is correct.
- As sea ice forms, most of the salt is expelled, making sea ice less salty than seawater. Hence, statement 3 is not correct.

56. (A)

Exp:

- The Reserve Bank of India (RBI) has developed the Quality of Public Expenditure (QPE) Index to assess how efficiently the Centre and state governments allocate public funds. Hence, statement 1 is not correct.
- The index is based on five major indicators: Capital Outlay to GDP Ratio, Revenue Expenditure to Capital Outlay Ratio, Development Expenditure to GDP Ratio, Development Expenditure as Share of Total Government Expenditure, and Interest Payments to Total Expenditure Ratio. Hence, statement 2 is correct.
- Rather than focusing solely on the total expenditure, the QPE Index analyzes the composition of spending and its impact on long-term economic growth and development. Hence, statement 3 is not correct.

57. (A)

Exp:

- Caño Cristales River, Colombia: It is also known as the "River of Five Colors," as it changes its color from yellow, green, black, red, and blue between July and November.
  - ◆ This is due to Rhynchospora clavigera, an aquatic plant that changes its color with sunlight and water conditions.
- Shanay-Timpishka River, Peru: Also known as La Bomba, it is the world's largest thermal and only boiling river (with temperature 45°C to 100°C).

- ◆ It is heated by deep geothermal circulation where rainwater seeps underground, warms, and resurfaces through faults.

- Hence, option A is correct.

58. (C)

Exp:

- The White Rhino, the second-largest land mammal after the elephant, is also known as the square-lipped rhinoceros due to its broad upper lip. Hence, statement 1 is correct.
- It has two subspecies: the Northern White Rhino (Ceratotherium simum cottoni), which is Critically Endangered and survives only in captivity in Kenya, and the Southern White Rhino (Ceratotherium simum simum), classified as Near Threatened, found in South Africa, Namibia, Zimbabwe, and Kenya.
- These rhinos exhibit semi-social and territorial behavior, with males marking their territories using dung, while females roam over larger areas. Hence, statement 2 is correct.
- Southern White Rhinos are more social, often forming larger herds, whereas Northern White Rhinos live in smaller groups.
- Being purely herbivorous, they feed primarily on short grasses. Hence, statement 3 is correct.

59. (B)

Exp:

- In incineration waste is burned at ultra-high temperatures, producing heat that generates steam to spin turbines and create electricity.
  - ◆ Pyrolysis converts waste into clean liquid fuels (bio-oil, syngas, and char) under high temperatures in the absence of oxygen. It does not burn waste but decomposes it thermally. Hence, Statement 1 is not correct.
- In gasification, biomass is processed at high temperatures without combustion to produce syngas, which serves as fuel for electricity generation or industrial use. Hence, statement 2 is correct.
- In anaerobic digestion, microorganisms break down organic waste in an oxygen-free environment, producing biogas rich in methane.
  - ◆ In fermentation organic biomass is fermented and distilled to produce ethanol, an alternative fuel for engines. Hence, statement 3 is correct.

60. (A)

Exp:

- Article 101 of the Constitution of India deals with the vacation of seats, disqualifications, and dual membership in Parliament. Hence, statement 1 is correct.

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- As per **Article 101(4)** of the Constitution, if an **MP remains absent from all meetings of the House for 60 days without permission**, the **House may declare their seat vacant**. A seat is vacated only when the House formally declares it vacant through a vote, **not automatically**. Hence, **statement 2 is not correct**.

- ◆ However, this period excludes days when the House is **prorogued or adjourned for more than 4 consecutive days**.
- ◆ This provision is intended to ensure that MPs actively participate in legislative proceedings.

61. (C)

Exp:

- **Ancient Tea Horse Road** is often referred to as the **Southern Silk Road**, is a network of caravan paths and a crucial trade route that connected **China, Tibet, and India for centuries**. Hence, **statement 1 is correct**.
- It traces its origins to the **Tang Dynasty (618-907 CE)**, when trade between Southwest China, Tibet, and India first flourished. The trade eventually centered around **tea and horses**, leading to the route being named the **"Tea Horse Road"**.
- Tea from various regions of China was transported to Tibet, then carried through the Himalayan passes to Kolkata, where it was traded extensively across Europe and Asia. Hence, **statement 2 is correct**.

62. (C)

Exp:

- Black Plastic is often made from **recycled electronic waste** and its black color comes from a substance called **Black Carbon** (short-lived pollutant, significant contributor to warming). Hence, **statement 1 is correct**.
- Black Plastic contains toxic chemicals like phthalates, flame retardants, and heavy metals such as **cadmium, lead, nickel, chromium, and mercury**. Hence, **statement 2 is correct**.
- Black Plastic is technically recyclable, but waste sorting systems struggle to detect black pigments, making its recycling process challenging. Hence, **statement 3 is correct**.

63. (D)

Exp:

- **Gujarat** (not Tamil Nadu) has the **longest coastline in India** at about **1,600 kilometers**. **Andhra Pradesh** (not Tamil Nadu) is the **largest marine fish producing state in India**. Hence, **statement 1 is not correct**.
- **India's inland fisheries sector** contributes **over 75%** of total fish production, growing from **61 lakh tonnes (2013-14)** to **139 lakh tonnes (2023-24)** at a **CAGR of 8.58%**.

**Marine fisheries contribute around 25%** to India's total fish production. Hence, **statement 2 is not correct**.

64. (C)

Exp:

- **Carbon Offsets** are projects or actions (such as afforestation, renewable energy, and methane capture) that help reduce or remove greenhouse gas emissions to **counterbalance emissions** produced elsewhere.
- ◆ **Carbon Credits** are **tradable certificates**, each representing the reduction or removal of **one metric ton of CO<sub>2</sub>-equivalent emissions**. They are issued under regulatory or voluntary carbon markets and can be bought or sold to meet emission reduction targets. Hence, **statement 1 is correct**.
- In India, the **Central Electricity Regulatory Commission (CERC)** and the **Bureau of Energy Efficiency (BEE)** regulate the carbon market, under the oversight of the **Ministry of Power (MoP)**. Hence, **statement 2 is correct**.

65. (D)

Exp:

- **About Peatlands:**
  - ◆ Peatlands are terrestrial wetland ecosystems characterized by waterlogged conditions that **prevent the complete decomposition of plant material**, leading to the accumulation of peat (type of soil). Hence, **statement I is not correct**.
  - ◆ They **store more carbon than any other terrestrial ecosystem**, making them crucial for climate regulation. Hence, **statement II is correct**.
- **Global Distribution:**
  - ◆ Peatlands cover approximately **4.23 million km<sup>2</sup>** (2.84% of Earth's terrestrial surface) and are found in every climatic zone.
  - ◆ Canada, Russia, Indonesia, the US, and Brazil contain **70%** of global peatlands.
- Hence, option D is correct because Statement-I is incorrect but Statement-II is correct.

66. (C)

Exp:

- **Indian Coast Guard (ICG):**
  - ◆ ICG is a maritime security force responsible for **enforcing maritime laws** and operates under the **Ministry of Defence**. Hence, **statement 1 is not correct**.
  - It was established on **1<sup>st</sup> February 1977** and became an independent armed force on **18<sup>th</sup> August 1978** with the enactment of the **Coast Guard Act, 1978**.

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- ◆ The ICG (Indian Coast Guard) is primarily responsible for enforcing maritime laws within India's territorial waters and Exclusive Economic Zone (EEZ), acting as a maritime law enforcement agency in these areas. Hence, statement 2 is correct.
- ◆ It has jurisdiction over the territorial waters (up to 12 nautical miles (nm)) including contiguous zone (up to 24 nm) and EEZ (up to 200 nm) of India.
- ◆ Also, it is the 4<sup>th</sup> largest Coast Guard in the world. Hence, statement 3 is not correct.

67. (B)

Exp:

- Government E-Marketplace (GeM) is the public procurement portal for Central & State Governments, PSUs, and affiliated entities to procure goods and services. Hence, statement 1 is correct.
- ◆ It serves as India's National Procurement Portal.
- It was established in 2016 under the Directorate General of Supplies and Disposals (DGS&D), Ministry of Commerce and Industry with technical support from the National e-Governance Division (MeitY). Hence, statement 2 is not correct.
- It is a paperless, cashless, and system-driven platform that minimizes human intervention in public procurement.
- SWAYATT (Startups, Women & Youth Advantage through e-Transactions) initiative enhances seller inclusion through training, registration, and capacity-building to leverage GeM. Hence, statement 3 is correct.

68. (A)

Exp:

- Spinal Muscular Atrophy (SMA) is a genetic disorder affecting motor neurons, leading to progressive muscle weakening due to SMN1 (survivor motor neuron 1) gene mutation and protein deficiency.
- It is a common genetic disorder in young children and a leading cause of infant mortality. Hence, statement I is correct.
- ◆ SMA occurs when both parents pass SMN1 gene mutations; they are usually carriers without symptoms. Hence, statement II is correct.
- ◆ SMA does not affect sensory nerves or intellect, but it has been observed that many patients with SMA are highly intelligent.
- ◆ It primarily affects muscles, which don't receive signals from nerve cells.
- Hence, option A is correct because both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I.

69. (C)

Exp:

- WASP-121b (Tylos) is an exoplanet located 900 light-years away, classified as an ultra-hot Jupiter due to its close orbit around the F-type star WASP-121.
- Discovered in 2016, it is 1.87 times the size of Jupiter with 1.18 times its mass and completes an orbit in just 30 Earth hours.
- Astronomers have mapped its 3D atmosphere, revealing extreme climate contrasts due to tidal locking, powerful jet streams, and winds shaping distinct atmospheric flows.
- Its atmosphere consists of iron, sodium, hydrogen, and titanium, with three distinct layers influencing its unique weather patterns.
- Hence, option C is correct.

70. (c)

Exp:

- VD Savarkar was a nationalist, revolutionary, and writer who played a key role in India's independence and shaped nationalist ideology.
- Revolutionary Activities:
  - ◆ Founded Abhinav Bharat Society (Young India Society, 1904): A secret revolutionary group advocating armed resistance against British rule.
  - ◆ Associated with India House & Free India Society: Played a crucial role in fostering revolutionary activities among Indian students in London.
  - ◆ Book on 1857 Revolt (1909): His work, The First War of Indian Independence - 1857, redefined the 1857 uprising as a nationalist struggle.
  - ◆ Imprisonment (1911-1924): Arrested for conspiring against British rule, he was sentenced to 50 years at Kala Pani in Andaman Cellular Jail.
  - ◆ He was released in 1924 after writing a few mercy petitions between 1911 and 1920 for his release.
- Hence, option C is correct.

71. (B)

Exp:

- The First Battle of Tarain was fought in 1191 between the invading Ghurid army led by Muhammad of Ghori (foreign invader) and Prithviraj Chauhan.
- ◆ Prithviraj Chauhan (c. 1166–1192 CE) was a ruler of the Chauhan dynasty, with Ajmer as his capital. He ascended the throne in 1177 CE and ruled over Sapadalaksha, extending from Thanesar to Jahazpur (Mewar). Known for his military prowess, he expanded his kingdom through conquests, including victories over the Chandelas.

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- The **Battle of Khanwa (1527)** was fought between **Babur's Mughal army** and **Rana Sanga's Rajput confederacy** in which **Mughals defeated Rajputs**.

◆ The Battle of Khanwa was crucial for establishing the Mughal Empire in India, as it solidified its hold over North India.

- **Battle of Talikota (1565)** was fought between the **Vijayanagara Empire** (a Hindu kingdom in South India) and a coalition of **Deccan Sultanates (Bijapur, Ahmednagar, Golconda, Bidar, and Berar)** in which Vijayanagara Empire was defeated, leading to its eventual decline. Thus, it **did not involve any foreign invaders**.

- Hence, option B is correct

72. (A)

Exp:

- A **distributed denial-of-service (DDoS) attack** is a **cyberattack** that **disrupts a server or website by flooding it with illegitimate requests**. The goal is to **overwhelm the target's resources and make it inaccessible**.
- **Blockchain encryption** is a combination of **cryptographic techniques and distributed ledger technology** that **protects transactions and data**. It is **not a cybersecurity threat**.
- A **Man-in-the-Middle (MITM) attack** is a **cyberattack** where a hacker secretly intercepts and manipulates communication between two parties to steal sensitive data like **login credentials, credit card details, and banking information**. The attacker **eavesdrops, alters messages, or misleads victims** into taking harmful actions. A common example is **rogue access points**, where attackers create fake WiFi hotspots to intercept user data.
- A **Quantum Firewall** is a network security system that uses **quantum mechanics and quantum-safe cryptography** to protect against cyber threats, including potential **quantum computer-based attacks**. It aims to enhance encryption and prevent unauthorized access in the era of quantum computing.
- **SQL Injection (SQLi)** is a **web security vulnerability** where an attacker manipulates database queries to **access unauthorized data**. This can allow the attacker to **view, modify, or delete sensitive information**, posing a serious threat to web applications.

- Hence, option A is correct.

73. (B)

Exp:

- Ethanol blending in petrol refers to the **mixing of ethanol (a biofuel) with petrol** to reduce fossil fuel consumption, lower carbon emissions, and enhance energy security. The blended fuel is denoted as **E10, E20, etc.**, where the number indicates the percentage of ethanol.

- The **National Policy on Biofuels, 2018**, initially set the target of **20% ethanol blending (E20) in petrol by 2030** to promote renewable energy, reduce fossil fuel dependence, and cut carbon emissions. In **2021, the target was advanced to 2025** to accelerate biofuel adoption and enhance energy security. Hence, **statement 1 is correct**.

- Ethanol in India is **not solely produced from sugarcane molasses**. **National Policy on Biofuels, 2018**, allows ethanol production from **multiple feedstocks**, including **damaged food grains, maize, surplus rice, wheat, and agricultural residues**. Hence, **statement 2 is not correct**.

- Increased **ethanol blending** reduces **GHG emissions** by offsetting **CO<sub>2</sub> through crop cultivation**. The **transport sector**, a major emitter, benefits from ethanol as a **cleaner alternative**. On a **life-cycle basis**, **corn-based ethanol cuts emissions by 40%**, while **cellulosic ethanol reduces them by 88%–108%**, depending on the feedstock. This supports **clean energy transition** and aligns with **global climate goals**. Hence, **statement 3 is correct**.

74. (C)

Exp:

- The **Capital Adequacy Ratio (CAR)** is a key financial metric that measures a bank's financial strength and ability to absorb potential losses, ensuring depositor protection and overall financial stability.
  - ◆ CAR does not measure profitability; it assesses financial strength.
  - ◆ A higher CAR means stronger capital reserves, not a greater risk of insolvency.
  - ◆ CAR is based on risk-weighted assets (RWA), not just net interest income.
- **Tier-1 Capital:** Core capital, including equity, share capital, and retained earnings, used to absorb losses while the bank continues operating.
- **Tier-2 Capital:** Secondary capital, including unaudited reserves and subordinated debt, used when the bank is winding down.
  - ◆ Set by the Basel Accords and enforced by central banks (e.g., RBI in India).
  - ◆ Basel III norms mandate a minimum CAR of 8% globally, while RBI requires 9% for Indian banks.
- Hence, option C is correct.

75. (A)

Exp:

**Delimitation Commission:**

- **About:** Delimitation means the process of **fixing the number of seats and boundaries of territorial constituencies** in each State for the **Lok Sabha and Legislative assemblies**.

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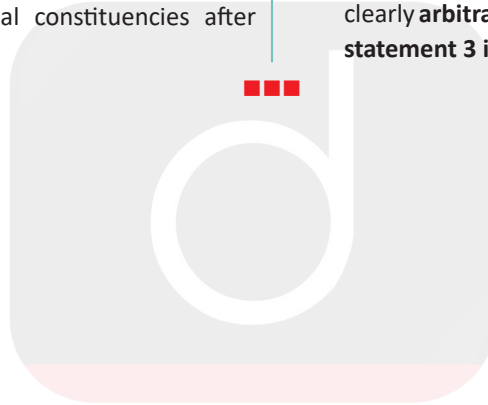
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- ◆ This 'delimitation process' is performed by the '**Delimitation Commission**' that is set up under an **act of Parliament**.
- **Delimitation Commission:**
  - ◆ It is a high-powered body with legal authority and civil court powers. **Hence, statement 1 is correct.**
  - ◆ It includes **two Supreme Court or High Court judges**, one appointed as **chairman** by the central government, and the **Chief Election Commissioner** as an ex-officio member.
  - ◆ Its orders are presented to the **Lok Sabha and State Assemblies** but **cannot be modified**.
  - ◆ It has been set up **four times** till February 2024 i.e., **1952, 1963, 1973 and 2002**. **Hence, statement 2 is not correct.**
- **Constitutional Provisions:**
  - ◆ **Article 82:** It provides for the **readjustment of seats** in the House of the people to the states and the **division of each State** into territorial constituencies after every census.
- ◆ **Article 170:** It provides for the **composition** of Legislative Assemblies.
- **Related Amendments:** Population-based seat allocation favors **high population growth states**, so amendments were made to **prevent imbalances** and **reward population control efforts**.
  - ◆ **42<sup>nd</sup> Amendment Act, 1976:** It **froze** Lok Sabha seat allocation and constituency division at the **1971 level until 2000**.
  - ◆ **84<sup>th</sup> Amendment Act, 2001:** The freeze on readjustment was **extended** for another 25 years **until 2026**.
  - ◆ **87<sup>th</sup> Amendment Act, 2003:** It allowed delimitation based on the **2001 census** without changing the number of seats or constituencies.
- **Judicial Review:** In the **Kishorchandra Chhanganlal Rathod Case, 2024**, the Supreme Court held that an **order** by the Delimitation Commission can be **reviewed** if it is clearly **arbitrary and violates constitutional values**. **Hence, statement 3 is not correct.**



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