

10 PM Current Affairs Quiz Weekly Compilation

For UPSC CSE Prelims

[4th Week] May, 2024

10 PM Compilation May [Fourth Week] 2024

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Art & Culture and Ancient History

Q.1) Consider the following statements:

1. Chalcolithic Age is a part of Stone Age.
2. During the Neolithic Age, humans began to practice agriculture and animal husbandry.
3. The Stone Age period marks the evolution from nomadic hunter-gatherers to more settled communities.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.2) With reference to the National Archives of India (NAI), which of the following statements are correct?

1. It is responsible for preserving and managing historical records of India.
2. It functions under the Ministry of Information and Broadcasting.
3. Official records of the British Raj can be found in NAI.
4. Bharat Archives portal has been launched by the National Archives of India to provide access to its digitized collections.

Select the correct answer using the codes given below:

- a) 1, 2 and 4 only
- b) 1 and 3 only
- c) 2, 3 and 4 only
- d) 1, 3 and 4 only

Modern Indian History

Q.3) 'The Indian War of Independence, 1857' is a book written by:

- a) Chittaranjan Das
- b) Annie Besant
- c) Veer Savarkar
- d) Sardar Vallabhbhai Patel

Geography

Q.4) With reference to the Bhima River, consider the following statements:

1. It is also known as the Chandrabagha River.
2. It is a major tributary of Kaveri River.
3. Ujani Dam is situated on the Bhima River.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.5) Consider the following statements:

1. High atmospheric pressure is needed for the formation of cyclones.
2. The calm center of a tropical cyclone is called vortex.
3. In India, the Western Ghats region is most vulnerable to tropical cyclones.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.6) Consider the following statements:

1. Millets are a group of small-seeded grasses.
2. Millets require cold temperatures for germination and development.
3. Millets are highly adaptable to a variety of soil conditions, from extremely poor to very fertile, and can handle a degree of alkalinity.

Select the correct answer using the codes given below:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.7) Consider the following statements:

1. A jet stream is a slow-moving current of air near the Earth's surface.
2. A weakening of the jet stream causes a prolonged heatwave.

Which of the statement(s) given above is/are correct?

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

Q.8) Which of the following neighboring countries are closest to El-Fasher, the capital of North Darfur, Sudan?

- a) Egypt and Libya
- b) Chad and Libya
- c) Ethiopia and Eritrea
- d) Kenya and Uganda

Q.9) Consider the following statements:

1. Sepik River is the longest river in Papua New Guinea.
2. Papua New Guinea is a landlocked country.
3. Papua New Guinea is located in Southeast Asia.

Which of the statement(s) given above is/are correct?

- a) 1 and 2 only
- b) 1 only
- c) 1 and 3 only
- d) 2 only

Q.10) Consider the following statements:

1. Air turbulence refers to chaotic and unpredictable air currents disrupted from a calmer state by various forces.
2. The major cause of air turbulence experienced by airplanes is due to the changes in air temperature.
3. The development of Cumulonimbus clouds can cause air turbulence.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.11) In which one of the following mountain ranges is Mount Lhotse located?

- a) Andes Mountains
- b) Himalayas
- c) Rockies
- d) Alps

Q.12) With reference to the advancement of the Southwest Monsoon in India, which of the following statements are correct?

1. The differential heating and cooling of land and water influences the onset of the Southwest Monsoon in India.
2. The monsoon advances faster in the Arabian Sea than in the Bay of Bengal.
3. The Deccan Plateau in India receives the first monsoon showers from the Southwest Monsoon.
4. It decreases with increasing distance from the sea.

Select the correct answer using the codes given below:

- a) 1, 2 and 3 only
- b) 1 and 4 only
- c) 1, 3 and 4 only
- d) 1, 2 and 4 only

Q.13) Westerlies are stronger in the Southern Hemisphere than those in the Northern Hemisphere because:

- a) The Southern Hemisphere has more landmass
- b) The Southern Hemisphere has less landmass
- c) The Southern Hemisphere has higher temperatures
- d) The Southern Hemisphere has lower temperatures

Q.14) Consider the following statements:

1. Urban Heat Island (UHI) effect is a phenomenon where rural areas are significantly warmer than urban areas.
2. El Niño is characterised by unusually warm ocean temperatures in parts of the Pacific Ocean while La Nina is the cooling of the water in the Pacific Ocean.
3. Dry heat stress occurs when the temperatures rise but the humidity remains low.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.15) Which of the following countries border the Sea of Japan?

- a) Japan, China, Philippines, and South Korea
- b) Japan, North Korea, South Korea, and Russia
- c) Japan, Taiwan, and the Philippines
- d) Japan, China, and Russia

Q.16) Consider the following:

1. Heavy rainfall from thunderstorms
2. Melting snow and ice
3. Gradual riverbank overflow
4. Collapse of a man-made dam

How many of the above are the common cause of flash floods?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Polity

Q.17) Consider the following statements:

1. Institute of Chartered Accountants of India (ICAI) is a statutory body created by the Chartered Accountants Act of 1949.
2. Institute of Chartered Accountants of India (ICAI) operates under the under the administrative control of the Ministry of Commerce and Industry.
3. ICAI ranks as the largest professional body of chartered accountants globally.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.18) With reference to the National Disaster Response Force (NDRF), consider the following statements:

1. NDRF has been constituted under the National Policy on Disaster Management Act, 2002.
2. It is primarily responsible for coordinating long-term reconstruction efforts after disasters.
3. NDRF is also responsible for distributing relief materials like food and water in the affected region.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.19) Consider the following statements:

1. Ordinary laws are rules that are often framed by the different section of the society and they play an important role in governing the societies.
2. Constitutional principles frame fundamental rights which are of a higher order than ordinary laws that every citizen must obey.
3. Challenging social and economic deprivation and preserving equality of status are at the heart of India's constitutional project.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.20) Consider the following pairs:

Types of Bail-----Specifications

1. Interim Bail----- Granted when police fail to complete investigation
2. Statutory Bail----- Temporary relief until the final decision
3. Anticipatory Bail-----Protection from arrest before it happens

How many of the above pairs are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) All three pairs
- d) None of the pairs

Q.21) Consider the following statements:

1. Operation Vijay was launched by India to liberate Goa from Portuguese rule.
2. Goa was immediately granted statehood after liberation in 1961.

Which of the statement(s) given above is/are correct?

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

Q.22) Consider the following statements:

1. Liberalism is a political and moral philosophy based on individual rights, liberty, and equality before the law.
2. Liberalism has always been a dominant ideology in Indian politics.
3. Raja Ram Mohan Roy was a prominent figure in the Indian liberal tradition.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.23) Consider the following statements:

1. Under Article 324 of the Constitution, the Election Commission of India has significant powers to ensure free and fair elections.
2. The Representation of the People Act (RPA), 1951 provides for the punishments or penalties to the political parties for violating the Model Code of Conduct (MCC).

Which of the statement(s) given above is/are correct?

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

Acts & Policies

Q.24) With reference to the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN) scheme, consider the following statements:

1. The scheme specifically targets Particularly Vulnerable Tribal Groups (PVTGs).
2. Registration for the PM JANMAN Housing scheme requires a job card.
3. Under the scheme, free laptops will be distributed to all PVTGs students.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.25) Consider the following statements:

1. The primary objective of the National Menstrual Hygiene Policy (NMHP) is to ensure access to affordable, safe, and hygienic menstrual products.
2. Although India has made progress in handling menstrual hygiene, the requirements of women in prisons are mostly overlooked.

Which of the statement(s) given above is/are correct?

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

Q.26) Consider the following statements in respect of 'National Programme for Prevention and Control of Deafness':

1. The program aims to prevent and treat hearing impairment and provide medical rehabilitation.
2. The program aims to develop a national network of hearing aid manufacturers.
3. The program includes training in Indian Sign Language (ISL).

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.27) Consider the following statements:

1. Pradhan Mantri Jan Arogya Yojana (PM-JAY) is the world's largest health assurance scheme.
2. India launched the Ayushman Bharat initiative to promote Universal Basic Income (UBI).
3. India has emerged as a leading country in digital public goods.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.28) With reference to the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Scheme, consider the following statements:

1. It aims to ensure that every household has access to a tap with assured water supply and a sewerage connection.
2. Ministry of Housing and Urban Affairs is responsible for the implementation of the AMRUT scheme.
3. AMRUT 2.0 aims to make cities pollution free and plant trees across the cities.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

International Relations/Organizations

Q.29) Consider the following statements:

1. India has not signed the Nuclear Non-Proliferation Treaty (NPT) but it is a signatory to the Comprehensive Test Ban Treaty (CTBT).
2. India has obtained an India-Specific Safeguards Agreement from the International Atomic Energy Agency (IAEA), giving India to place its civilian nuclear facilities under IAEA safeguards.

Which of the statement(s) given above is/are correct?

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

Q.30) Consider the following statements:

1. The International Criminal Court (ICC) addresses serious international crimes committed by nations or group of nations.
2. Israel is a state party to the Rome Statute.
3. Unlike the ICC, the International Court of Justice (ICJ) addresses individual criminal accountability.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.31) With reference to the Europe's AI Convention, consider the following statements:

1. It aims to create new substantive human rights specific to AI.
2. It is a legally binding treaty.
3. The convention establishes a central authority to control all AI applications.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.32) Consider the following statements:

1. Shahid Kalantari and Bandar Abbas ports make up the Chabahar Port.
2. Chabahar Port connects India to the Mediterranean Sea.
3. Chabahar Port enables India to control the Strait of Hormuz.
4. Sanctions imposed on Iran by the United States is the challenge faced by India in the development of Chabahar Port.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Q.33) Consider the following statements:

Statement-I: India has a trade surplus with China.

Statement-II: India mainly imports electronics and electrical items from China.

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

Q.34) With reference to the United Nations Military Gender Advocate of the Year Award, consider the following statements:

1. The award aims to honour a military peacekeeper who has best integrated a gender perspective into peacekeeping activities.
2. Major Radhika Sen, a 2023 recipient of the award, is recognized for her work in negotiating the release of hostages held by rebel groups.

Which of the statement(s) given above is/are correct?

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

Q.35) Consider the following statements:

1. The UN requires that membership seeking nations be "peace-loving" states capable and willing to carry out the obligations of the UN Charter.
2. Membership applications to the UN need a recommendation from the United Nations Security Council (UNSC) without any P5 member casting a veto.
3. The country looking for the UN membership must possess a well-organized army.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.36) Consider the following statements regarding the 'Lahore Declaration of 1999':

1. The Lahore Declaration of 1999 mainly focused on normalizing trade relations between India and Pakistan.
2. The Lahore Declaration was made as a response of the Kargil War of 1999.
3. According to the Lahore Declaration, India and Pakistan agreed to intensify their dialogue process to achieve an early and positive outcome on the agreed bilateral agenda.

Which of the statement(s) given above is/are correct?

- a) 1 and 3 only
- b) 1 only
- c) 3 only
- d) 2 and 3 only

Q.37) 'Colombo Process', seen in the news recently, is related to:

- a) Climate Change Negotiations
- b) International Trade Agreements
- c) Labor Migration
- d) Nuclear Non-Proliferation

Q.38) With reference to the North Atlantic Treaty Organization (NATO), consider the following statements:

1. The principle behind NATO's collective defense strategy is that each member state contributes military forces based on its economic strength.
2. Decisions taken under NATO require a unanimous vote of approval from all member states.

Which of the statement(s) given above is/are correct?

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

Economy

Q.39) Consider the following statements:

1. RuPay is a domestic card payment network launched in India by the Reserve Bank of India (RBI).
2. RuPay cards are categorized as both debit and credit cards.
3. Compared to Visa or Mastercard, a benefit of using RuPay cards is its wider global acceptance.

Which of the statement(s) given above is/are correct?

- a) 1 and 2 only
- b) 2 only
- c) 2 and 3 only
- d) 3 only

Q.40) With reference to the trade deficit, which of the following statement(s) is/are correct?

1. A trade deficit indicates improvement in manufacturing.
2. High level of domestic savings is one of the reasons for the higher trade deficit.
3. A rising trade deficit can lead to currency depreciation.

Select the correct answer using the codes given below:

- a) 1 only
- b) 2 only
- c) 3 only
- d) 2 and 3 only

Q.41) Consider the following statements:

1. India uses ethylene oxide (ETO) as a sterilizing agent to reduce microbial load in finished spice goods.
2. India holds a significant share in the global spice market.
3. Spices Board of India operates under the Ministry of Commerce and Industry.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.42) Which one of the following government bodies is responsible for notifying the Cost Inflation Index (CII) in India?

- a) Reserve Bank of India (RBI)
- b) Ministry of Finance
- c) Central Board of Direct Taxes (CBDT)
- d) Securities and Exchange Board of India (SEBI)

Q.43) Which one of the following best depicts the effect of a 'high base effect' on inflation measurement?

- a) Inflation remains constant despite a significant drop in commodity prices.
- b) Inflation appears lower because the previous year experienced hyperinflation.
- c) Inflation rises steadily over several years without any significant economic changes.
- d) Inflation is unaffected by changes in the base year's price levels.

Q.44) Consider the following statements:

1. Infrastructure Investment Trusts (InvITs) provide short-term financing for infrastructure projects.
2. Government buildings and social infrastructure projects are the main types of assets held by InvITs.
3. InvITs are required to distribute at least 90% of their net cash flow to investors.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.45) Recently, the Reserve Bank of India (RBI) has issued the Framework for Recognising Self-Regulatory Organisation for the FinTech Sector (SRO-FT). In this context, which one of the following statements is correct in relation to SRO-FT?

- a) SROs will increase government revenue from FinTech companies.
- b) SROs will act as a regulator for the entire FinTech industry.
- c) SROs will ensure consumer protection, data security, and compliance with industry standards.
- d) SROs will provide financial support to struggling FinTech startups.

Environment

Q.46) Which one of the following organisms has the capability of sensing electric fields around them?

- a) Caterpillars
- b) Bats
- c) Beetle
- d) Ants

Q.47) Consider the following statements:

1. Eucalyptus trees are native to Australia.
2. Leaves of Eucalyptus tree is used to extract oil.
3. Eucalyptus plantations have a rotation age of two years.

Which of the statements given above are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.48) Consider the following:

1. Reforestation
2. Reintroduction of native species
3. Removal of invasive species
4. Bioremediation

How many of the above methods are used in Eco-restoration?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Science & Technology

Q.49) Consider the following:

1. Reduced noise pollution
2. Lower operational costs
3. Increased traffic congestion
4. On-demand transportation

How many of the above are the benefits of Electric Vertical Take-off and Landing (eVTOL) aircraft?

- a) Only one
- b) Only two
- c) Only three
- d) All four

Q.50) Consider the following statements:

1. AI agents are advanced AI systems that interact in real-time with humans using multiple modes of communication such as text, voice, and images.
2. AI agents can assist medical professionals by providing diagnostic support and real-time patient monitoring.

Which of the statement(s) given above is/are correct?

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

Q.51) Consider the following statements:

1. In astronomy, the 'transient' refers to a celestial object with a fixed position and constant brightness.
2. Active Galactic Nuclei (AGN) are found at the centers of massive galaxies, where supermassive black holes consume surrounding matter.

Which of the statement(s) given above is/are correct?

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

Q.52) Consider the following statements:

1. Copper turns to liquid when heated and can be shaped to the desired shape.
2. The production of steel is the result of repeated heating and cooling of iron with controlled carbon removal.
3. Strain is defined as the material's ability to resist deformation.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.53) Consider the following statements:

1. Microcephaly is a condition characterized by a significantly smaller head size in infants compared to normal.
2. The SASS6 gene is crucial for the formation of centrioles, which are essential for cell division and proper brain development.

Which of the statement(s) given above is/are correct?

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

Q.54) RudraM-II is a type of:

- a) Ballistic Missile
- b) Cruise Missile
- c) Anti-Tank Missile
- d) Anti-Radiation Missile

Q.55) With reference to the Agnibaan SOrTeD (SubOrbital Technological Demonstrator) rocket, consider the following statements:

1. It is India's first semi-cryogenic engine-powered rocket that was entirely designed and manufactured indigenously.
2. It is the world's first single-piece 3D-printed semi-cryogenic rocket engine.
3. It is powered by liquid hydrogen and liquid oxygen.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.56) Consider the following statements:

1. I-STEM initiative aims to promote international collaboration in science and technology.
2. One Nation, One Subscription (ONOS) proposes a centralized model of subscription to scientific journals, making them universally available to all publicly funded institutions.

Which of the statement(s) given above is/are correct?

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

Q.57) Consider the following statements:

1. Crohn's disease and ulcerative colitis are the two main types of Inflammatory Bowel Disease (IBD).
2. IBD is a chronic autoimmune condition where the body's immune system mistakenly attacks cells in the gut, causing ulcers in the mucosa.
3. Children with IBD may not absorb macro and micronutrients properly.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Q.58) Consider the following statements:

1. India has the highest number of tobacco consumers in the world.
2. Tobacco cultivation causes deforestation.
3. The WHO's Framework Convention on Tobacco Control (FCTC) aims to increase government revenue from tobacco taxes.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) All three
- d) None

Answer Key

1 - (b)	2 - (b)	3 - (c)	4 - (c)	5 - (d)	6 - (c)	7 - (b)	8 - (b)	9 - (b)	10 - (c)
11 - (b)	12 - (b)	13 - (b)	14 - (b)	15 - (b)	16 - (b)	17 - (a)	18 - (a)	19 - (b)	20 - (a)
21 - (a)	22 - (b)	23 - (a)	24 - (a)	25 - (c)	26 - (a)	27 - (c)	28 - (a)	29 - (b)	30 - (d)
31 - (a)	32 - (a)	33 - (d)	34 - (a)	35 - (a)	36 - (c)	37 - (c)	38 - (d)	39 - (b)	40 - (c)
41 - (c)	42 - (c)	43 - (b)	44 - (a)	45 - (c)	46 - (a)	47 - (a)	48 - (d)	49 - (c)	50 - (c)
51 - (b)	52 - (b)	53 - (c)	54 - (d)	55 - (b)	56 - (b)	57 - (c)	58 - (a)		

Answers & Explanations

Art & Culture and Ancient History

1. Correct Answer is (B)

- Statement 1 is incorrect. The Chalcolithic Age, also known as the Copper Age, is a transitional period between the Neolithic and the Bronze Age. It is characterized by the use of both stone and copper tools, but it is not considered a part of the Stone Age itself.
- Statements 2 and 3 are correct. The Neolithic Age is marked by the development of agriculture and the domestication of animals, which led to the establishment of settled communities. The Stone Age witnessed a gradual shift from entirely nomadic hunter-gatherer societies to more settled communities with the development of tools and technologies.

Source: [Forum IAS](#)

2. Correct Answer is (B)

- Statements 1 and 3 are correct. National Archives of India (NAI) is responsible for preserving and managing the historical records of India. It serves as the custodian of records of enduring value of the Government of India. The NAI holds a vast corpus of records, including those from the British Raj period. These records are invaluable sources of information for scholars and researchers.
- Statements 2 and 4 are incorrect. The National Archives of India functions as an attached office under the Ministry of Culture. The correct name of the portal launched by the National Archives of India to provide access to its digitized collections is "Abhilekh Patal."

Source: [AIR](#)

Modern Indian History

3. Correct Answer is (C)

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- The Indian War of Independence, 1857 is written by Veer Savarkar. This book provides a detailed account of the 1857 uprising against British rule in India. It was first published in 1909 and was initially written in Marathi. The book was banned by the British authorities due to its revolutionary content and was influential in inspiring Indian nationalists.

Source: [AIR](#)

Geography

4. Correct Answer is (C)

- Statements 1 and 3 are correct. The Bhima River is also referred to as the Chandrabagha River. The Ujani Dam, also known as the Bhima Dam, is situated on the Bhima River.
- Statement 2 is incorrect. The Bhima River is a major tributary of the Krishna River.

Source: [Forum IAS](#)

5. Correct Answer is (D)

- Statements 1, 2 and 3 are incorrect. Cyclones form around a low-pressure area, not a high-pressure area. The low-pressure center is a defining characteristic of cyclones. The calm center of a tropical cyclone is called the eye. The eastern coast of India, particularly the states of Odisha, Andhra Pradesh, Tamil Nadu, and West Bengal, is more vulnerable to tropical cyclones than the Western Ghats region.

Source: [AIR](#)

6. Correct Answer is (C)

- Statements 1 and 3 are correct. Millets are a group of small-seeded grasses that are widely grown around the world as cereal crops or grains for fodder and human food. Millets are highly adaptable to a wide range of soil conditions, including poor and infertile soils, and they can tolerate some degree of soil alkalinity.
- Statement 2 is incorrect. Millets are grown in warm climates and are known for their ability to thrive in hot and dry conditions. They do not require cold temperatures for germination and development.

Source: [Forum IAS](#)

7. Correct Answer is (B)

- Statement 1 is incorrect. Jet streams are fast-moving currents of air found high in the troposphere. Jet streams may start, stop, split into two or more parts, combine into one stream, or flow in various directions including opposite to the direction of the remainder of the jet.
- Statement 2 incorrect. A weakening or stalling of the jet stream can lead to persistent weather patterns, including prolonged heatwaves. When the jet stream becomes weaker or wavier, it can cause high-pressure systems to become stuck over a region, resulting in clear skies and hot temperatures for an extended period.

Source: [The Hindu](#)

8. Correct Answer is (B)

- Chad lies directly to the west of Sudan, and North Darfur shares a border with Chad. Hence, Chad is one of the closest neighboring countries to El-Fasher.
- Libya is located to the northwest of Sudan. While it does not share a direct border with North Darfur, it is geographically closer to El-Fasher compared to other listed countries.

Source: [The Hindu](#)

9. Correct Answer is (B)

- Statement 1 is correct. The Sepik River is the longest river in Papua New Guinea, with a length of around 1,126 kilometers.

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- Statements 2 and 3 are incorrect. Papua New Guinea is not a landlocked country. It has coastlines along the Pacific Ocean, Bismarck Sea, Coral Sea, and other water bodies. Papua New Guinea is part of the Oceania region.

Source: [AIR](#)

10. Correct Answer is (C)

- Statements 1 and 3 are correct. Turbulence is characterized by chaotic and unpredictable air currents that are disrupted from a calmer state by various forces such as wind shear, jet streams, and atmospheric pressure changes. Cumulonimbus clouds, which are associated with thunderstorms, can cause severe turbulence due to the strong updrafts and downdrafts within the cloud. These clouds are known for creating significant turbulence that can affect aircraft. The turbulence caused by these clouds are known as detectable turbulence. Whereas, undetectable or Clear air turbulence (CAT) is particularly hazardous to aircraft because it is invisible to radar and satellite.
- Statement 2 is incorrect. The main cause of turbulence is the mixing and shearing of air masses with different densities and velocities. This is often caused by variations in wind direction and speed, and can occur in various weather conditions, including thunderstorms, jet streams, and wind shear. While temperature variations can contribute to turbulence, changes in air pressure due to altitude are a more significant cause. Climate change affects various atmospheric conditions, including increased temperature differences between different atmospheric layers, jet stream changes, and thunderstorm activity, which lead to more frequent and intense turbulence.

Source: [The Times of India](#)

11. Correct Answer is (B)

- Mount Lhotse is located in the Himalayas, specifically on the border between Tibet and the Khumbu region of Nepal. It is the fourth highest mountain in the world. The name "Lhotse" means "South Peak" in Tibetan, reflecting its position just south of Mount Everest, to which it is connected via the South Col.

Source: [AIR](#)

12. Correct Answer is (B)

- Statements 1 and 4 are correct. The differential heating and cooling of land and water create a low-pressure area over the Indian subcontinent, which attracts the moisture-laden winds from the ocean, leading to the onset of the Southwest Monsoon. The intensity of the monsoon generally decreases with increasing distance from the sea, as the moisture content in the air reduces as it moves inland.
- Statements 2 and 3 are incorrect. The monsoon advances faster in the Bay of Bengal than in the Arabian Sea. The Bay of Bengal branch of the monsoon is generally more active and progresses more rapidly. Kerala, located on the southwestern coast of India, receives the first monsoon showers from the Southwest Monsoon.

Source: [AIR](#)

13. Correct Answer is (B)

- The Southern Hemisphere has a larger proportion of ocean compared to land. Oceans provide a more uniform and unobstructed surface for wind flow, which allows the westerlies to maintain their strength and consistency. In contrast, the Northern Hemisphere has more landmasses, which create friction and disrupt the wind patterns, making the westerlies less strong and more variable.

Source: [The Hindu](#)

14. Correct Answer is (B)

- Statement 1 is incorrect. The Urban Heat Island (UHI) effect is a phenomenon where urban areas are significantly warmer than surrounding rural areas. This is due to factors such as the

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concentration of buildings, roads, and other infrastructure that absorb and re-emit heat more than natural landscapes.

- Statements 2 and 3 are correct. El Niño is characterized by unusually warm ocean temperatures in the eastern tropical Pacific Ocean, while La Niña is characterized by the cooling of the water in the same region. These phenomena are part of the El Niño-Southern Oscillation (ENSO) cycle and have significant impacts on global weather patterns. Dry heat stress occurs when temperatures rise but humidity remains low. This condition is characterized by intense heat and dry air, making it difficult for the body to cool down through sweating, which can lead to dehydration and other severe effects.

Source: [NDTV](#)

15. Correct Answer is (B)

- The Sea of Japan is bordered by the Japanese islands of Hokkaido, Honshu, and Kyushu to the east and south, by North Korea to the west, by South Korea to the southwest. It is bordered by the Russian mainland and the island of Sakhalin (part of Russia) to the north.

Source: [The Hindu](#)

16. Correct Answer is (B)

- **Heavy rainfall from thunderstorms:** This is a common cause of flash floods. Intense rainfall over a short period can overwhelm the drainage capacity of an area, leading to sudden flooding.
- **Melting snow and ice:** Simply, melting of snow and ice are slow processes. This contributes to regular flooding rather than flash floods. Flash floods, on the other hand, are defined by their rapid onset and typically result from very heavy rainfall over a short period.
- **Gradual riverbank overflow:** Gradual overflow does not cause flash floods.
- **Collapse of a man-made dam:** This is a common cause of flash floods. The sudden release of a large volume of water from a dam can result in rapid flooding downstream.

Source: [AIR](#)

Polity

17. Correct Answer is (A)

- Statement 1 correct. The ICAI was established under the Chartered Accountants Act, 1949, which was enacted by the Parliament of India to regulate the profession of Chartered Accountants in India.
- Statements 2 and 3 are incorrect. The ICAI operates under the administrative control of the Ministry of Corporate Affairs. The ICAI is the second largest professional body of Chartered Accountants in the world.

Source: [Forum IAS](#)

18. Correct Answer is (A)

- Statements 1 and 2 are incorrect. The NDRF was constituted under the Disaster Management Act, 2005. The primary mandate of the NDRF is to provide specialized response to natural and man-made disasters, not long-term reconstruction efforts. Long-term reconstruction is coordinated by other agencies.
- Statement 3 is correct. The NDRF is involved in distributing relief materials such as food packets, dry rations, drinking water, and medicines in disaster-affected regions.

Source: [AIR](#)

19. Correct Answer is (B)

- Statement 1 is incorrect. Ordinary laws are enacted by legislative bodies such as the Parliament or State Legislatures, not by different sections of society. These laws govern various aspects of society and are subordinate to constitutional laws.

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- Statements 2 and 3 are correct. Constitutional principles frame fundamental rights, which are considered to be of a higher order than ordinary laws. These rights are enshrined in the Constitution and are meant to protect the basic freedoms and rights of individuals. In India, fundamental rights are outlined in Part III of the Constitution and are enforceable by the judiciary. The Indian Constitution aims to address social and economic inequalities and ensure equality of status and opportunity for all citizens. This is reflected in various provisions, including the Preamble, which emphasizes justice, liberty, equality, and fraternity, and in the Directive Principles of State Policy, which guide the state in promoting social and economic welfare.

Source: [The Hindu](#)

20. Correct Answer is (A)

- **Interim Bail:** This is a temporary relief granted to an accused person until the final decision on regular or anticipatory bail is made. It is not related to the completion of the investigation by the police.
- **Statutory Bail:** Also known as default bail, it is granted when the police fail to complete the investigation within a specified period, as per Section 167(2) of the Criminal Procedure Code (CrPC).
- **Anticipatory Bail:** This type of bail is granted to protect an individual from arrest before it happens, under Section 438 of the CrPC.

Source: [The Hindu](#)

21. Correct Answer is (A)

- Statement 1 is correct. Operation Vijay was the code name for the military action launched by India to liberate Goa, Daman, and Diu from Portuguese rule in December 1961.
- Statement 2 is incorrect. After liberation in 1961, Goa was not immediately granted statehood. Instead, it was administered as a Union Territory along with Daman and Diu. Goa was granted statehood on May 30, 1987.

Source: [AIR](#)

22. Correct Answer is (B)

- Statements 1 and 3 are correct. Liberalism emphasizes the importance of individual freedoms, rights, and equality before the law. Raja Ram Mohan Roy is often regarded as a pioneer of modern Indian liberalism and was instrumental in social reform movements in India.
- Statement 2 is incorrect. While liberalism has played a significant role in India's social and political reforms, it has not always been the dominant ideology in Indian politics. Various other ideologies, including socialism and nationalism, have also been influential.

Source: [The Hindu](#)

23. Correct Answer is (A)

- Statement 1 is correct. Article 324 of the Constitution gives the Election Commission of India (ECI) significant powers of "superintendence, direction, and control" over elections to Parliament, State Legislatures, and the offices of President and Vice President. This includes the power to take necessary actions to ensure free and fair elections.
- Statement 2 is incorrect. The Representation of the People Act (RPA), 1951 does not contain provisions to punish political parties for violating the Model Code of Conduct (MCC). The MCC is a set of guidelines issued by the ECI, but it is not a statutory document. Violations of the MCC do not attract punitive action under the RPA.

Source: [The Hindu](#)

Acts & Policies

24. Correct Answer is (A)

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- Statements 1 and 2 are correct. The PM-JANMAN scheme is specifically designed to uplift the socio-economic status of Particularly Vulnerable Tribal Groups (PVTGs) by providing essential amenities and improving their living conditions. Having a job card is mandatory for PM JANMAN Housing registration.
- Statement 3 is incorrect. While the scheme aims to improve education access, free laptops for all students is not a core feature. Focus is likely on broader infrastructure and access. The PM-JANMAN scheme encompasses a wide range of interventions across various sectors, including: Housing, Drinking water, Sanitation, Education, Health, Livelihood, Connectivity, Legal awareness.

Source: [The Hindu](#)

25. Correct Answer is (C)

- Statements 1 and 2 are correct. The NMHP aims to ensure that women, girls, and persons who menstruate have access to safe, hygienic, and quality menstrual products. The policy focuses on promoting health, well-being, and empowerment by providing access to menstrual hygiene resources and addressing specific needs. Despite progress in menstrual hygiene management in general, the specific needs of women in prisons are often neglected. Reports indicate that women in Indian prisons face significant challenges in accessing sanitary products and maintaining menstrual hygiene due to inadequate facilities and inconsistent implementation of policies.

Source: [The Hindu](#)

26. Correct Answer is (A)

- Statement 1 is correct. The National Programme for Prevention and Control of Deafness (NPPCD) aims to prevent avoidable hearing loss due to disease or injury, provide early identification, diagnosis, and treatment of ear problems, and medically rehabilitate persons of all age groups suffering from deafness. The program also focuses on strengthening inter-sectoral linkages for continuity of the rehabilitation program and developing institutional capacity for ear care services.
- Statements 2 and 3 are incorrect. The program's components focus on manpower training, capacity building, service provision, and awareness generation, but not specifically on developing a network of hearing aid manufacturers. The program does not address the quality of life or include Indian Sign Language (ISL). The program focuses on training healthcare professionals at various levels, including ENT specialists, audiologists, and grassroots workers.

Source: [The Hindu](#)

27. Correct Answer is (C)

- Statements 1 and 3 are correct. PM-JAY provides health insurance coverage to over 50 crore (500 million) Indian citizens, making it the world's largest government-sponsored healthcare program. India has developed several digital public goods, such as Aadhaar, Unified Payments Interface (UPI), and CoWIN, which have been recognized globally for their impact and scalability.
- Statement 2 is incorrect. The Ayushman Bharat initiative was launched to achieve Universal Health Coverage (UHC) and improve healthcare access.

Source: [AIR](#)

28. Correct Answer is (A)

- Statements 1 and 2 are correct. One of the primary objectives of the AMRUT scheme is to ensure that every household has access to a tap with assured water supply and a sewerage connection. The Ministry of Housing and Urban Affairs is responsible for the implementation of the AMRUT scheme.
- Statement 3 is incorrect. AMRUT 2.0 focuses on making cities more sustainable and improving urban infrastructure, its primary goals include universal coverage of water supply through functional taps to all households, recycling/reuse of treated sewage, rejuvenation of water bodies,

and water conservation. The specific focus on making cities pollution-free and planting trees is not the main objective of AMRUT 2.0.

Source: [The Hindu](#)

International Relations/Organizations

29. Correct Answer is (B)

- Statement 1 is incorrect. India has not signed the Nuclear Non-Proliferation Treaty (NPT) and is also not a signatory to the Comprehensive Test Ban Treaty (CTBT).
- Statement 2 is correct. India has obtained an India-Specific Safeguards Agreement from the International Atomic Energy Agency (IAEA), which allows India to place its civilian nuclear facilities under IAEA safeguards.

Source: [The Hindu](#)

30. Correct Answer is (D)

- Statements 1, 2 and 3 are incorrect. The ICC addresses grave international crimes such as genocide, crimes against humanity, war crimes, and the crime of aggression, but it prosecutes individuals, not nations or groups of nations. Israel is not a state party to the Rome Statute. Israel signed the Rome Statute but later withdrew its signature and has not ratified the treaty. The ICJ addresses legal disputes between states and provides advisory opinions on international legal issues, whereas the ICC prosecutes individuals for international crimes.

Source: [The Hindu](#)

31. Correct Answer is (A)

- Statements 1 and 3 are incorrect. Europe's AI Convention does not create new substantive human rights specific to AI. Instead, it ensures that existing human and fundamental rights, which are protected by international and national laws, remain protected during the application of AI systems. The AI Convention does not establish a central authority to control all AI applications. Instead, it requires each party to adopt or maintain measures to ensure that AI activities are consistent with human rights, democracy, and the rule of law, and to establish independent oversight mechanisms within their own jurisdictions.
- Statement 2 is correct. The AI Convention is the first-ever international legally binding treaty aimed at ensuring the respect of human rights, the rule of law, and democracy in the use of AI systems.

Source: [The Hindu](#)

32. Correct Answer is (A)

- Statements 1, 2 and 3 are incorrect. The Chabahar Port comprises two main ports: Shahid Kalantari and Shahid Beheshti. Chabahar Port does not connect India directly to the Mediterranean Sea. It provides access to Afghanistan and Central Asia and is part of the International North-South Transport Corridor (INSTC), which connects India to Russia via Iran, but not directly to the Mediterranean Sea. While Chabahar Port is strategically located near the Strait of Hormuz, it does not enable India to control the Strait. The port provides India with a strategic foothold in the region but does not confer control over the Strait of Hormuz.
- Statement 4 is correct. One of the significant challenges faced by India in the development of Chabahar Port is the sanctions imposed on Iran by the United States, which have affected the progress and investment in the port.

Source: [The Hindu](#)

33. Correct Answer is (D)

- Statement-I is incorrect. India has a significant trade deficit with China, which has been widening rapidly. In FY24, the trade deficit with China reached \$85.1 billion, the highest ever recorded.

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- Statement-II is correct. A majority of India's imports from China are electronics and electrical items. From FY15 to FY24, India imported \$75 billion worth of mobiles/telephones, \$37 billion of automatic data processing units, \$28 billion of semiconductor devices and diodes, and \$27 billion of electronic integrated circuits. India heavily relies on China for these imports.

Source: [The Hindu](#)

34. Correct Answer is (A)

- Statement 1 is correct. The United Nations Military Gender Advocate of the Year Award was created in 2016 by the Office of Military Affairs within the Department for Peace Operations (DPO). It recognizes a military peacekeeper who has best integrated a gender perspective into peacekeeping activities. This aligns with the principles of UN Security Council Resolution 1325 on Women, Peace, and Security.
- Statement 2 is incorrect. Major Radhika Sen, the 2023 recipient of the award, is recognized for her advocacy for women and girls while serving as a peacekeeper with the United Nations Organisation Stabilisation Mission in the Democratic Republic of the Congo (MONUSCO). Her notable contributions include leading mixed-gender engagement patrols, creating Community Alert Networks, and fostering safe spaces for men and women to operate together. Sen is the second Indian peacekeeper to receive this honour, following Major Suman Gawani, who was awarded in 2019 for her service with the UN Mission in South Sudan.

Source: [AIR](#)

35. Correct Answer is (A)

- Statements 1 and 2 are correct. According to Article 4 of the UN Charter, membership in the United Nations is open to all peace-loving states that accept the obligations contained in the Charter and, in the judgment of the Organization, are able and willing to carry out these obligations. For a state to be admitted to the UN, it must first be recommended by the Security Council. This recommendation requires affirmative votes from at least nine of the fifteen members of the Security Council, with none of the five permanent members (P5) casting a veto.
- Statement 3 is incorrect. There is no requirement in the UN Charter that a country must possess a well-organized army to become a member of the United Nations. The primary criteria are that the state must be peace-loving, accept the obligations of the UN Charter, and be able and willing to carry out these obligations.

Source: [The Hindu](#)

36. Correct Answer is (C)

- Statements 1 and 2 are incorrect. The Lahore Declaration primarily focused on establishing a framework for peaceful relations, addressing security concerns, and resolving outstanding issues, including Jammu and Kashmir, through dialogue. While it did mention cooperation in various fields, the primary focus was not specifically on normalizing trade relations. Lahore Declaration was signed on February 21, 1999, before the Kargil War, which began in May 1999. The declaration aimed to promote peace and stability between India and Pakistan following their nuclear tests in 1998. The Kargil War occurred later and was seen as a violation of the spirit of the Lahore Declaration.
- Statement 3 is correct. The Lahore Declaration included a commitment by both India and Pakistan to intensify their dialogue process to achieve an early and positive outcome on the agreed bilateral agenda. This was part of their broader effort to resolve all outstanding issues, including Jammu and Kashmir, and to promote peace and stability in the region.

Source: [AIR](#)

37. Correct Answer is (C)

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- The Colombo Process is a regional consultative forum comprising 12 member states from South and Southeast Asia that are countries of origin for migrant workers. It was established in 2003 in Colombo, Sri Lanka. The founding members were Bangladesh, China, India, Indonesia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam. It provides a non-binding platform for member states to engage in dialogue and cooperation on labour migration issues of common interest. The International Organization for Migration (IOM) provides technical and administrative support as the Secretariat. Recently, India assumed the Chair of Colombo Process for 2024-26, for the first time since its inception.

Source: [AIR](#)

38. Correct Answer is (D)

- Statements 1 and 2 are incorrect. The principle behind NATO's collective defense strategy is not based on each member state contributing military forces according to its economic strength. Instead, it is based on the principle of mutual defense, where an attack against one Ally is considered an attack against all Allies, as enshrined in Article 5 of the North Atlantic Treaty. Each member country decides over its own defense resources and military forces, and the collective defense is based on military forces from individual member countries being placed under NATO's command. NATO decisions are made by consensus, not by a unanimous vote. This means that there is no formal voting process; instead, decisions are reached through discussion and consultation until an agreement acceptable to all member states is achieved.

Source: [AIR](#)

Economy

39. Correct Answer is (B)

- Statements 1 and 3 are incorrect. RuPay is a domestic card payment network in India, but it was launched by the National Payments Corporation of India (NPCI). RuPay cards are primarily designed for domestic use within India and have limited international acceptance compared to Visa or Mastercard, which are widely accepted globally. Recently, Maldives is set to introduce India's RuPay service.
- Statement 2 is correct. RuPay offers both debit and credit cards, as well as prepaid cards.

Source: [AIR](#)

40. Correct Answer is (C)

- Statements 1 and 2 are incorrect. A trade deficit occurs when a country's imports exceed its exports, which does not necessarily indicate an improvement in manufacturing. In fact, it often suggests that the country is importing more goods than it is producing and exporting. A high level of domestic savings reduces the trade deficit because it means the country relies more on domestic capital rather than foreign capital. A trade deficit is more commonly associated with low domestic savings and high consumption of imported goods.
- Statement 3 is correct. A rising trade deficit can put downward pressure on a country's currency because it increases the demand for foreign currencies to pay for imports, leading to a depreciation of the local currency.

Source: [The Hindu](#)

41. Correct Answer is (C)

- Statements 1, 2 and 3 are correct. Ethylene oxide (ETO) is used in India as a sterilizing agent to reduce the microbial load in spices and other food products. It is used to ensure the elimination of pathological microbes and to extend the shelf life of the products. India is the world's leading producer and exporter of spices, holding a significant share in the global spice market. The country exports spices to almost 180 countries and has seen a substantial increase in spice exports over the years. The Spices Board of India operates under the Ministry of Commerce and Industry, Government of India. It is responsible for the development and promotion of Indian spices.

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Source: [The Hindu](#)

42. Correct Answer is (C)

- The CBDT, a part of the Ministry of Finance, is responsible for notifying the CII every year. This index is used for calculating capital gains tax on the sale of assets like property and stocks.

Source: [AIR](#)

43. Correct Answer is (B)

- The base effect refers to the impact of the price levels in the previous year (the base year) on the calculation of the current year's inflation rate. A high base effect occurs when the price levels in the base year were exceptionally high. When the base year had very high inflation or hyperinflation, even a relatively smaller increase in prices in the current year will result in a lower calculated inflation rate compared to the base year. This is because the base for comparison is already elevated due to the high inflation in the previous year.

Source: [The Hindu](#)

44. Correct Answer is (A)

- Statements 1 and 2 are incorrect. InvITs provide long-term financing for infrastructure projects, not short-term financing. They are designed to pool money from various investors to invest in income-generating infrastructure assets, which typically have long gestation periods. The main types of assets held by InvITs include roads and highways, power distribution networks, telecom towers, fiber optic networks, and other infrastructure projects.
- Statement 3 is correct. InvITs are required to distribute at least 90% of their net distributable cash flow to investors. This distribution is typically done through dividends and interest payouts, providing a consistent income stream to investors.

Source: [AIR](#)

45. Correct Answer is (C)

- The primary role of SROs in the FinTech sector, as outlined by the RBI's framework, is to ensure consumer protection, data security, and compliance with industry standards. They are responsible for establishing and enforcing regulatory standards, promoting ethical conduct, resolving disputes, and fostering transparency and accountability among their members.

Source: [The Hindu](#)

Environment

46. Correct Answer is (A)

- Caterpillars have been shown to detect their predators by sensing the static electricity they emit. This ability allows them to respond defensively to electric fields similar to those emitted by their natural predators, such as wasps. While electroreception is known in aquatic and amphibious animals, and since 2013 in arthropods like bumblebees, hoverflies, and spiders, caterpillars are the first land-based creatures found to use this ability to defend against predators.

Source: [The Hindu](#)

47. Correct Answer is (A)

- Statements 1 and 2 are correct. Eucalyptus trees are native to Australia and surrounding islands, with a wide variety of species adapted to different climates. Eucalyptus oil is a valuable essential oil extracted primarily from the leaves of certain Eucalyptus species through processes like steam distillation.
- Statement 3 is incorrect. Eucalyptus plantations have a rotation age of nine years, after which they are cut down.

Source: [The Hindu](#)

48. Correct Answer is (D)

- **Reforestation:** The process of planting trees in areas where forests have been cut down or destroyed. It is widely used to restore forest ecosystems.
- **Reintroduction of native species:** The process of reintroducing species that were native to an area but have been eradicated. This helps in restoring the natural biodiversity and ecological balance.
- **Removal of invasive species:** The practice of removing non-native species that have disrupted the local ecosystem. This helps native species to recover and restores natural ecosystem functions.
- **Bioremediation:** The use of living organisms, such as plants, fungi, or microbes, to detoxify polluted environments. This is used to restore contaminated soils and water bodies.

Source: [Forum IAS](#)

Science & Technology

49. Correct Answer is (C)

- An eVTOL (electric vertical take-off and landing) aircraft is a type of VTOL (vertical take-off and landing) aircraft that utilizes electric power for hovering, takeoff, and vertical landing. These aircraft represent a significant advancement in aerospace technology. It is designed primarily for low-altitude urban air mobility. Increased traffic congestion is not a benefit but rather a potential concern associated with eVTOL operations, especially in urban areas.

Source: [Forum IAS](#)

50. Correct Answer is (C)

- Statements 1 and 2 are correct. AI agents, such as those powered by OpenAI's GPT-4o and Google's Project Astra, are capable of engaging in real-time, multimodal interactions with humans, including text, voice, and images. AI agents can provide real-time analysis, diagnostic support, and patient monitoring, assisting medical professionals in various healthcare tasks.

Source: [Forum IAS](#)

51. Correct Answer is (B)

- Statement 1 is incorrect. A transient in astronomy is a phenomenon that changes brightness or position over time, such as a supernova explosion, a variable star, or a moving asteroid. Transient celestial objects can appear and disappear, or their brightness can change rapidly.
- Statement 2 is correct. Active Galactic Nuclei (AGN) are found at the centers of massive galaxies, where supermassive black holes actively accrete matter, emitting significant amounts of energy across the electromagnetic spectrum. Active Galactic Nuclei (AGN) can be considered transients in some aspects. While they exhibit long-term activity, their luminosity can vary over time. Other types of transients are:
 - Supernovae – They occur when the outer layers of large stars explode while their cores implode due to the exhaustion of fusible elements.
 - Fast Radio Bursts (FRBs) – They can emit more than ten times the energy of the Sun in just a few milliseconds.

Source: [The Hindu](#)

52. Correct Answer is (B)

- Statements 1 and 2 are correct. Copper melts at a temperature of around 1085°C and once it is in a liquid state, it can be cast into molds to form desired shapes. The production of steel involves processes such as basic oxygen steelmaking (BOS) and electric arc furnace (EAF) methods, where iron is repeatedly heated and cooled, and carbon content is controlled to produce steel.
- Statement 3 is incorrect. Strain is defined as the deformation or change in shape of a material in response to an applied stress.

Source: [The Hindu](#)

53. Correct Answer is (C)

- Statements 1 and 2 are correct. Microcephaly is defined as a condition where an infant's head is significantly smaller than expected for their age and sex. This can be due to the brain not developing properly either during pregnancy or after birth. It is often associated with various neurological impairments and developmental delays. The SASS6 gene encodes a protein that is necessary for centriole duplication and proper formation. Centrioles play a critical role in cell division by organizing the mitotic spindle and ensuring accurate chromosome segregation. Mutations in the SASS6 gene can lead to defects in centriole formation, which are associated with conditions like primary microcephaly, highlighting its importance in brain development.

Source: [The Hindu](#)

54. Correct Answer is (D)

- The RudraM-II is an indigenously developed air-to-surface anti-radiation missile designed to target enemy ground radars and communication stations in Suppression of Enemy Air Defence (SEAD) missions.

Source: [The Hindu](#)

55. Correct Answer is (B)

- Statements 1 and 2 are correct. The Agnibaan SOrTeD is India's first semi-cryogenic engine-powered rocket that was entirely designed and manufactured indigenously by Agnikul Cosmos. The Agnilet engine used in the Agnibaan SOrTeD is the world's first single-piece 3D-printed semi-cryogenic rocket engine. It was also launched from India's first privately developed launchpad called 'Dhanush' established by Agnikul at Sriharikota. Agnibaan is a two-stage rocket with a capacity to carry up to 300 kg to a height of 700 km.
- Statement 3 is incorrect. The Agnibaan SOrTeD is powered by a semi-cryogenic engine that uses liquid oxygen (LOX) and kerosene, not liquid hydrogen and liquid oxygen.

Source: [AIR](#)

56. Correct Answer is (B)

- Statement 1 is incorrect. The primary objective of the I-STEM (Indian Science, Technology, and Engineering Facilities Map) initiative is to create a database of R&D resources and facilitate their access to researchers within India.
- Statement 2 is correct. The ONOS initiative proposes a centralized negotiation and payment by the Government of India to journal publishers, allowing all individuals and institutions in the country to access those journals without additional cost.

Source: [The Hindu](#)

57. Correct Answer is (C)

- Statements 1, 2 and 3 are correct. Crohn's disease and ulcerative colitis are the two main types of Inflammatory Bowel Disease (IBD). Crohn's disease can affect any part of the gastrointestinal tract from the mouth to the anus, while ulcerative colitis is limited to the colon or large intestine. While the exact cause of IBD is unknown, it's believed to involve a combination of genetic and environmental factors. In some cases, the immune system gets dysregulated and starts attacking healthy tissues in the gut, leading to inflammation and ulcers. This primarily affects the inner lining (mucosa) of the affected area. Chronic inflammation in IBD can damage the gut lining and hinder nutrient absorption. This can lead to deficiencies in macro and micronutrients, impacting growth and overall health in children with IBD.

Source: [The Hindu](#)

58. Correct Answer is (A)

- Statements 1 and 3 are incorrect. India has the second highest number of tobacco consumers in the world, after China. The WHO's Framework Convention on Tobacco Control (FCTC) aims to

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reduce both the demand and supply of tobacco through various measures. India is a signatory to the framework.

- Statement 2 is correct. Tobacco cultivation depletes soil nutrients rapidly, necessitating more fertilizers, which further degrade soil quality. Processing 1 kg of tobacco requires 5.4 kg of wood, contributing significantly to deforestation.

Source: [The Hindu](#)

