

Solutions

DATE : 28th Oct- 3rd Nov

1. Answer: (b) 1 and 3 only

Explanation: The Konark Sun Temple was constructed in the 13th century by King Narasimhadeva I of the Eastern Ganga Dynasty. It is designed as a colossal stone chariot with twelve pairs (24) of intricately carved wheels, not seven on each side. The temple was primarily constructed using Khondalite stones, allowing artisans to create highly detailed carvings.

2. Answer: (d) 2 and 3 only

Explanation: The Konark Wheel has 24 spokes, not 12. It symbolizes the passage of time and was used as a sundial at the Konark Temple, representing ancient astronomical knowledge. The wheel's 24-spoke design was adapted on India's national flag, symbolizing justice, equality, and continuity.

3. Answer: (a) 1 and 3 only

Explanation: The Pradhan Mantri MUDRA Yojana (PMMY) provides loans to small-scale enterprises across manufacturing, trading, and services. The Tarun loan category has a limit of ₹10 lakh, not ₹5 lakh. The MUDRA card provides working capital on an overdraft basis, enabling flexible financing for small entrepreneurs.

4. Answer: (d) None

Explanation: All statements are incorrect. The Fast Patrol Vessels (FPVs) are built with over 60% indigenous components, aligning with India's self-reliance goals. These FPVs are designed primarily for coastal patrolling within the Indian Exclusive Economic Zone (EEZ), not for high-seas beyond the EEZ. They have a top speed of 27 knots, enabling medium-range operations, not limited to short-distance missions.

5. Answer: (a) 1 only

Explanation: The transponders in the Vessel Communication and Support System were developed by ISRO, not NSIL. The Nabhmitra Application provides real-time updates on weather, sea conditions, and cyclone data, enhancing navigation safety for fishermen.

6. Answer: (a) Only one

Explanation: Only Statement 3 is correct. Dholavira's advanced water management system included reservoirs, step wells, and public baths. Dholavira is the fifth largest Indus Valley site, not the largest, and has public and ceremonial areas. It is located between seasonal streams, not perennial rivers.

7. Answer: (b) 1 and 3 only

Explanation: The Ayushman Vaya Vandana Card provides ₹5 lakh in annual health coverage for citizens aged 70 and above. It was introduced under the Ministry of Health and Family Welfare, not the Ministry of Finance. Enrollment is through the PM-JAY portal or Ayushman app.

8. Answer: (a) 1 only

Explanation: Bandhavgarh Tiger Reserve is situated between the Vindhyan and Satpura ranges. Bamboo forests are found on the lower slopes, while tropical moist deciduous forests and sal trees cover the upper slopes.

9. Answer: (a) 1 and 3 only

Explanation: Maitri Dwar is located at Petrapole Land Port in North 24 Parganas, West Bengal, on the India-Bangladesh border. It facilitates both passenger and cargo traffic, enhancing India-Bangladesh land trade.

10. Answer: (a) 1 and 2 only

Explanation: The Pradhan Mantri Matsya Sampada Yojana aims to boost fish production and double fishermen's income. It includes the

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Vessel Communication and Support System for fishermen's safety. The scheme supports both inland and marine fisheries, not exclusively inland.

11. Correct Answer: b)

The TASL-Airbus facility in Vadodara is India's first private sector-led plant focused on manufacturing military aircraft, specifically the C295 model for the Indian Air Force. This aligns with the "Make in India, Make for the World" initiative and strengthens defense manufacturing within the private sector. The production of 56 C295 aircraft will include 16 manufactured in Spain and 40 domestically in Vadodara, boosting India's defense capabilities and reducing reliance on imports. This facility is designed for multipurpose aircraft production, contributing to India's future as a global defense and aviation hub, in addition to creating jobs and aiding MSMEs with local parts sourcing.

12. Correct Answer: c)

Statement 1 is correct as turmeric is widely known for its anti-inflammatory and antioxidant properties, although high doses can lead to adverse effects, thus requiring regulated dosage.

Statement 2 is also correct; lemon's vitamin C content and immunity-boosting benefits indeed vary by cultivar and variety.

Statement 3 is correct, as Ashwagandha is celebrated in Ayurveda for reducing stress and enhancing mental focus.

Statement 4 is incorrect because Giloy is primarily known for its immunity-boosting properties and fever reduction, rather than for hair or liver health, which are benefits more commonly associated with Bhringaraj.

13. Correct Answer: d)

The Prime Minister recently expanded health coverage to all senior citizens aged 70 years and above as a major addition to the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), providing health coverage to all senior citizens regardless of their income.

About Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY):

Launch year: 2018, as a flagship scheme focused on accessible healthcare for India's vulnerable families.

Objective: Provides health insurance coverage of up to ₹5 lakhs per family annually for secondary and tertiary hospital care.

Coverage: Currently covers 55 crore individuals across 12.34 crore families nationwide.

Key features include universal health access, health and wellness centers for primary care, expanded senior citizen coverage for individuals aged 70+, and financial protection to reduce out-of-pocket healthcare expenses for low-income families.

14. Correct Answer: d)

Statement 1 is incorrect because MIDH is a Centrally Sponsored Scheme (CSS), not a fully Central Sector Scheme. As a CSS, it is funded jointly by the central and state governments, with different sharing ratios based on the scheme's component and region.

Statement 2 is incorrect because MIDH is implemented under the Ministry of Agriculture and Farmers Welfare, not the Ministry of Rural Development.

Statement 3 is also incorrect as the Coconut Development Board operates beyond just southern states, covering other regions where coconut cultivation is feasible. The board functions across different states to promote coconut farming, and its reach is not limited to any specific climatic region.

15. Correct Answer: c)

The FPVs are equipped with a Controllable Pitch Propeller-based propulsion system, allowing precise speed control and high maneuverability.

These vessels have over 60% indigenous content, supporting India's self-reliance in defense manufacturing.

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Their maximum speed is 27 knots, not 35 knots.

The vessels were built by Goa Shipyard Ltd. (GSL), not Hindustan Shipyard Ltd.

These FPVs play crucial roles in safeguarding India's maritime interests, including coastal patrol, anti-smuggling operations, search and rescue missions, and protection of India's Exclusive Economic Zone (EEZ), marking a significant boost to India's maritime security framework.

16. **Correct Answer: a)**

Statement 1 is incorrect because hydroponics is a soil-free method; instead, it uses nutrient-rich water solutions to grow plants, eliminating the need for soil.

Statement 2 is also incorrect, as hydroponics is often used in controlled indoor environments rather than outdoors. This setup allows for precise control of light, temperature, and nutrients, essential in spaces where outdoor conditions are unfavorable.

Statement 3 is correct; hydroponics offers significant control over nutrient levels, water, and growth conditions, leading to higher yields even in limited spaces. The controlled environment reduces risks of pests and diseases, and maximizes efficiency, making it ideal for urban agriculture or areas with limited agricultural land.

17. **Correct Answer: a)**

Statement 1 is incorrect because PR-126 is known for requiring less water compared to traditional varieties, making it suitable for water-scarce areas and contributing to sustainable agriculture.

Statement 2 is correct as PR-126 is a short-duration variety, maturing in around 125 days (and sometimes as quickly as 110 days), thus reducing overall water consumption.

Statement 3 is incorrect because PR-126 has a reported reduction in Out Turn Ratio (OTR) of about 4-5% compared to other varieties, causing rice millers some concern. This lower OTR translates to a yield reduction of around 5 kg per quintal, attributed to factors like hybridization and early harvesting practices.

The variety's shorter growth duration aligns well with sustainable practices by conserving water, though challenges in milling yield affect its acceptance among millers.

18. **Correct Answer: a)**

Statement 1 is incorrect as the CTBTO operates independently of the United Nations Security Council, although it collaborates with various international organizations. Its verification and monitoring efforts are self-managed under its own mandate.

Statement 2 is correct; the Provisional Technical Secretariat (PTS) is indeed tasked with establishing the International Monitoring System (IMS) to detect nuclear explosions worldwide.

Statement 3 is incorrect because the CTBTO's funding comes from mandatory contributions by member states, not voluntary donations. This funding model supports the development and maintenance of its verification infrastructure, ensuring operational continuity as it prepares for the CTBT's full implementation.

19. **Correct Answer: c)**

The C-295 is recognized for its versatility as a tactical airlifter with specialized capabilities such as short take-off and landing (STOL) on unprepared airstrips, making it suitable for varied and challenging terrains. The C-295 focuses on tactical missions, often at low altitudes and low speeds, maximizing agility and efficiency in critical operations. Its dual turboprop engines also contribute to its low-speed performance, making it ideal for tactical deployments rather than high-speed or commercial flights.

20. **Correct Answer: b)**

The correct matches for each IMS technology and its purpose are as follows:

A (Seismic) – 3: Seismic technology detects ground shockwaves and vibrations, making it effective for monitoring underground nuclear explosions.

B (Hydroacoustic) – 1: Hydroacoustic technology identifies underwater nuclear explosions by monitoring sound waves that travel through water.

C (Infrasound) – 2: Infrasound technology is designed to detect low-frequency sounds in the atmosphere, useful for identifying atmospheric nuclear tests.

D (Radionuclide) – 4: Radionuclide technology confirms nuclear tests by detecting radioactive particles in the air, which are direct indicators of nuclear explosions.

21. Correct Answer: a) They often have no clear party dominance, making them highly competitive.

Explanation:

Swing states are critical because they do not have consistent party dominance and can swing between parties from one election to another. This makes them highly competitive, as the outcome can determine the winner of the electoral college. Candidates focus their campaigns heavily on these states, appealing to a range of demographics and issues to gain support. A small change in voter preferences can lead to

22. Correct Answer: d) It contains one of the world's largest collections of Late Cretaceous dinosaur eggs.

Explanation:

The Dinosaur Fossil Park in Balasinor is significant due to its vast collection of Late Cretaceous dinosaur fossils, especially eggs, which make it one of the largest dinosaur egg hatcheries globally. The site has provided essential insights into dinosaur behavior, reproduction, and the ecosystem during the Late Cretaceous period, including the discovery of the unique *Rajasaurus narmadensis* species.

23. Correct Answer: c) They can withstand extreme environmental conditions, including high radiation and temperatures.

Explanation:

Tardigrades are remarkable for their ability to survive extreme environmental conditions, such as high radiation, extreme temperatures, dehydration, and even the vacuum of space. Their ability to endure from 150°C to nearly

absolute zero and survive without water for decades is due to their cryptobiotic state and cellular mechanisms that protect their DNA from damage.

24. Correct Answer: a) Decreases satellite weight by minimizing chemical fuel dependency

Explanation:

Electric propulsion in ISRO's TDS-1 significantly reduces the satellite's weight by minimizing the need for heavy chemical fuels. This is achieved by using ionized gas propulsion, which uses less mass than traditional chemical propulsion. The lighter satellite can carry additional payloads and instruments, enhancing its operational capabilities while maintaining efficiency in fuel usage.

25. Correct Answer: c) To address animal health risks in low- and middle-income countries

Explanation:

The G20 Pandemic Fund focuses on enhancing pandemic preparedness in low- and middle-income countries, specifically addressing zoonotic diseases, which are infections that spread from animals to humans. By targeting animal health risks, the fund aims to prevent outbreaks similar to COVID-19, improve early detection, and expand vaccine production capabilities.

26. Correct Answer: b) 2, 3, and 4 only

Explanation:

Digital arrest scams target a broad range of individuals, not just those with cybercrime histories, so statement 1 is incorrect. Scammers use video calls to add credibility (statement 2), pressure victims with threats of immediate arrest (statement 3), and often cite false legal provisions to induce fear (statement 4), making the scam more convincing and manipulative.

27. Correct Answer: b) Only two

Explanation:

Swing states allocate all their electoral votes to the winning candidate regardless of the margin (statement 1 is correct). Candidates target specific demographics within swing states to influence voting (statement 2 is correct). However, swing states do not have stable political inclinations and can vary between

- elections (statement 3 is incorrect), which makes only two of these statements correct.
28. **Correct Answer: d) None of the above**
Explanation:
 The electric propulsion system in TDS-1 uses ionized gases like Argon, not just compressed gas release (statement 1 is incorrect). TDS-1 is not a communication satellite but a technology demonstrator for electric propulsion (statement 2 is incorrect). The propulsion system relies on ionization rather than chemical reactions (statement 3 is incorrect).
29. **Correct Answer: d) None of the above**
Explanation:
 Zoonotic diseases affect both domesticated and wild animals (statement 1 is incorrect). Mosquito-borne diseases, such as dengue and Zika, are classified as zoonotic (statement 2 is incorrect). Climate change significantly influences zoonotic disease transmission by altering ecosystems and vector ranges (statement 3 is incorrect).
30. **Correct Answer: b) It helps repair DNA double-strand breaks caused by radiation.**
Explanation:
 The TRID1 protein is vital for the tardigrade's survival in radiation-rich environments by repairing DNA double-strand breaks—one of the most severe forms of DNA damage. This protein's ability to quickly activate and mend breaks helps maintain genetic integrity, enabling the organism to survive in extreme conditions such as radiation exposure in space or nuclear sites.
31. **Answer: (d)**
 The Abhay class Anti-Submarine Warfare Shallow Water Craft (ASW SWC) is specifically designed for anti-submarine warfare in shallow coastal waters. Unlike high-seas or long-range naval vessels, it is optimized for low-intensity maritime operations and mine-laying closer to the coast, enhancing India's coastal defense capabilities.
32. **2. Answer: (c)**
 Pampa Valley and Angel Valley are historically significant for India's "Grow More Food" campaign, initiated in 1947-48 to improve food production and provide resettlement for post-war veterans. This campaign was critical for addressing food security and boosting agricultural output during the post-war period.
33. **3. Answer: (a)**
 The Bharatiya Antariksh Station (BAS) is designed for short-duration scientific research missions in space, typically lasting 15–20 days. Unlike the International Space Station, it is not intended for continuous human presence or storage purposes but focuses on advancing India's space research through specialized missions.
34. **4. Answer: (d)**
 The All India Council for Technical Education (AICTE) accredits technical programs and sets guidelines for establishing technical institutions across India. However, it does not regulate arts and humanities, which fall under the purview of the University Grants Commission (UGC). AICTE's mandate remains focused on technical and management education.
35. **5. Answer: (a)**
 Statement 2 is correct: Coking coal produces valuable by-products like coke oven gas, tar, and ammonia sulphate, which support various industries. Coking coal is high in carbon content, suitable for blast furnaces, especially in steelmaking. India, however, relies on imports for coking coal due to limited domestic reserves, emphasizing its dependency for industrial needs.
36. **6. Answer: (d)**
 All statements are incorrect:
- The Periyar and Mullayar rivers flow through the Periyar Tiger Reserve, not the Kabini.
 - Indigenous communities gather resources under regulated practices, though not strictly conservation rules.
 - The reserve contains a rich diversity of native plant species, critical for biodiversity conservation.
37. **7. Answer: (c)**
 The Srijan Center for Generative AI, launched by IndiaAI and Meta, aims to train developers in using open-source AI models to solve real-world challenges, especially in sectors like healthcare, mobility, and education. The center encourages collaborative innovation rather than

focusing on proprietary models, promoting open-source development.

38. **8. Answer: (b)**

Statements 2 and 3 are correct:

- The National Mission for Manuscripts (NMM) includes preventive and curative conservation efforts, protecting a vast collection of manuscripts.
- NMM's collection represents diverse languages and themes, making it one of the largest manuscript repositories globally.
- However, not all manuscripts are fully digitized or accessible online, highlighting ongoing work in digitization.

39. **9. Answer: (b)**

Statements 1 and 3 are correct:

- Srijan collaborates with both national and international institutions, including AICTE, to expand Generative AI research.
- The center focuses on healthcare, mobility, and education, not exclusively on healthcare.
- AICTE's involvement supports the center's objective of nurturing young developers and expanding India's AI capabilities.

40. **10. Answer: (b)**

Statements 1 and 3 are correct:

- The ISRO-DBT agreement includes research on space radiation's effects on astronaut health and explores algae for sustainable food and biofuel.
- Statement 2 is incorrect as the BioE3 initiative is focused on space bio-manufacturing rather than deep-sea environments, aligning with health and biotechnology goals for space missions.

41. **Answer: B**

Explanation: The Durgesh Aranya Zoological Park in Himachal Pradesh, located in Kangra's Dehra constituency, will be India's first zoo certified by the IGBC, emphasizing sustainable and eco-friendly infrastructure. It aligns with global environmental standards, promotes eco-tourism, and conserves habitats for species like Asiatic lions and gharials.

42. **Answer: A**

Explanation: The Kanda Express transports onions from Nashik to Delhi-NCR, part of the government's strategy to stabilize domestic onion prices by releasing buffer stocks. This initiative is focused on the domestic market rather than promoting exports to neighboring countries.

43. **Answer: B**

Explanation: Aarambh 6.0 is an orientation program for young civil servants, focused on "Jan Bhagidari" (public participation). It enhances governance by involving citizens in feedback mechanisms and grievance redressal, improving public service responsiveness and accountability.

44. **Answer: B**

Explanation: BRICS, founded in 2009, includes Brazil, Russia, India, and China, with South Africa joining in 2010. Although associated with the New Development Bank headquartered in Shanghai, BRICS itself lacks a permanent headquarters. Membership expansion requires unanimous approval from existing members during annual summits.

45. **Answer: B**

Explanation: The "Mummy-Papa, Vote Do" campaign by the Election Commission in Jharkhand targets both rural and urban areas. Over 1.7 million children write letters to encourage their parents to vote, aiming for higher voter participation. It does not focus exclusively on urban areas.

46. **Answer: B**

Explanation: DANA involves low-pressure systems over the Mediterranean, leading to heavy rainfall. It forms when cold air interacts with warm, moist sea air. Climate change has intensified these events, making them more severe due to warmer sea temperatures and increased moisture.

47. **Answer: A**

Explanation: Sambhar Lake is India's largest inland saline lake and a Ramsar site, not a

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UNESCO World Heritage Site. It supports migratory birds and contributes significantly to India's salt production, strengthening Rajasthan's salt industry.

48. **Answer: A**

Explanation: India aims to eliminate TB by 2025, earlier than the global 2030 target. However, TB-related healthcare costs remain high for many households, and multi-drug-resistant TB cases persist, underscoring the need for improved treatment strategies.

49. **Answer: B**

Explanation: Avian botulism is a bacterial disease caused by *Clostridium botulinum*, not a virus. Toxins form in low-oxygen conditions and can spread via environmental factors like warm water and organic matter. This explains the recent outbreaks in certain wetland regions.

50. **Answer: D**

Explanation: India's forex reserves consist of foreign currency assets, gold, SDRs, and the Reserve Tranche Position with the IMF. These reserves stabilize the rupee, manage exchange rates, and attract foreign investment, supporting trade and economic confidence. All three statements are correct.



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