

Solutions

DATE : 6th Jan- 12th Jan

1. Answer: c) Smt. Rukmini Devi Arundale

Explanation:

- **AWBI Establishment:** Set up in 1962 under the *Prevention of Cruelty to Animals Act, 1960*.
- **First Chairperson:** Smt. Rukmini Devi Arundale, a renowned activist, and parliamentarian.
- **Contribution:** She played a pivotal role in framing animal welfare policies and promoting ethical treatment of animals in India.

2. Answer: d) 1, 3, and 4 only

Explanation:

- **Feature 1:** ICEGATE provides *real-time tracking* of customs clearance processes.
- **Feature 3:** Supports *integration with international customs systems* to enhance data sharing.
- **Feature 4:** Offers *mobile app support* for documentation, simplifying processes for traders.
- **Feature 2:** Not included, as ICEGATE does not support *automatic error correction* in trade data.

3. Answer: c) Foundation for Environmental Education (FEE)

Explanation:

- **Origin:** Blue Flag Certification was initiated in France (1985) and went global in 2001.
- **Awarding Body:** *Foundation for Environmental Education (FEE)*, based in Denmark.
- **Aim:** Encourages *sustainable practices* and *environmental conservation*.
- **Key Criteria:** High standards of *water quality, safety, education, and environmental management*.

4. Answer: b) Only two

Explanation:

- **Statement 1:** Incorrect, as the Genome India Project is funded by the *Department of Biotechnology, Ministry of Science and Technology*.
- **Statement 2:** Correct, with data stored at the *Indian Biological Data Centre*.
- **Statement 3:** Correct, as the project studies *genetic disorders* in Indian populations.
- **Key Features:**
 - Decodes India's *genetic diversity*.
 - Uses large-scale *genome sequencing*.
 - Identifies *rare genetic variations* in Indian ethnic groups.

5. Answer: b) Only two

Explanation:

- **Statement 1:** Correct, as the *Global Gender Gap Report* highlights gender disparities across nations.
- **Statement 2:** Correct, as the *Energy Transition Index* assesses sustainability in energy systems.

- **Statements 3 & 4:** Incorrect, as the *Global Environment Report* and *Global Trade Index* are not published by the World Economic Forum (WEF).

6. Answer: a) 2 and 3 only

Explanation:

- **Statement 1:** Incorrect, as the report is *biannual*, not annual.
- **Statement 2:** Correct, as it emphasizes the growing demand for *sustainability-related jobs*.
- **Statement 3:** Correct, identifying the *gig economy* as a key driver of employment growth.
- **Key Focus:**
 - Analyzes labor market trends.
 - Addresses occupational disruptions caused by *technological and societal changes*.

7. Answer: a) Only one

Explanation:

- **Statement 1:** Correct, as the Z-Morh Tunnel ensures *all-weather connectivity* on the NH1 Srinagar-Leh Highway.
- **Statement 2:** Correct, bypassing avalanche-prone stretches for *uninterrupted civilian and military movement*.
- **Statement 3:** Incorrect, as it is unrelated to the *Act East Policy*.
- **Significance:** Enhances *strategic access* to Ladakh and supports logistics.

8. Answer: b) Only two

Explanation:

- **Statement 1:** Incorrect, as AWBI operates under the *Ministry of Fisheries, Animal Husbandry, and Dairying*.
- **Statements 2 & 3:** Correct, as AWBI promotes *legal training* on animal cruelty and conducts *inspections* of slaughterhouses and zoos.
- **Functions:**
 - Advises on *animal welfare issues*.
 - Provides *grants* to animal welfare organizations.

9. Answer: b) Both Statement I and Statement II are correct, but Statement II is not the correct explanation for Statement I.

Explanation:

- **Statement I:** Correct, as Blue Flag Certification emphasizes the use of *renewable energy*.
- **Statement II:** Correct, as limiting visitors reduces *environmental impact*.
- **Relation:** These criteria are separate and not cause-effect linked.
- **Key Focus:** Promotes *sustainability* and *eco-tourism*.

10. Answer: c) Statement I is incorrect, but Statement II is correct

Explanation:

- **Statement I:** Incorrect, as technology adoption is projected to create *as many jobs as it eliminates*, albeit requiring new skills.
- **Statement II:** Correct, as the report highlights the importance of *reskilling and upskilling* to manage technological disruptions.
- **Key Findings:**

- Focuses on *sustainability jobs* and the *gig economy*.
- Aims to prepare the workforce for *technological advancements*.

11. Answer: b) Only two

Explanation:

- **Statement 1:** Incorrect. AnemiaPhone requires a *small blood sample* obtained via a finger prick; it is not a *non-invasive* method.
- **Statement 2:** Correct. Provides *immediate results*, enabling healthcare workers to make *on-the-spot clinical decisions*.
- **Statement 3:** Correct. Integrates with *digital platforms*, allowing data upload to *clinical databases* for analysis.
- **Features:** Portable, cost-effective, and rapid tool for anemia detection developed by *Cornell University researchers*.

12. Answer: a) Only one

Explanation:

- **Statement 1:** Correct. The recalculation includes *estuaries, bays, and inlets*, ensuring more accurate coastline measurement.
- **Statement 2:** Correct. Gujarat has the *longest coastline* after recalculation.
- **Statement 3:** Incorrect. The recalculation was conducted by the *Ministry of Home Affairs*, guided by the *National Maritime Security Coordinator*.
- **Significance:** India's coastline length increased from *7,516 km* to *11,098 km*, reflecting updated parameters.

13. Answer: c) 1 and 3 only

Explanation:

- **Statement 1:** Correct. Celebrates the migration of flamingos to *Pulicat Lake* and *Nelapattu Bird Sanctuary*.
- **Statement 2:** Incorrect. Pulicat Lake is India's *second-largest* brackish water lake (after *Chilika Lake* in Odisha).
- **Statement 3:** Correct. *Nelapattu Bird Sanctuary* is the *largest breeding site* for *spot-billed pelicans* in Southeast Asia.
- **Significance:** Focuses on *avian biodiversity* and local cultural heritage.

14. Answer: c) 1 and 2 only

Explanation:

- **Statement 1:** Correct. Focuses on *indigenous AI capabilities* that are inclusive and sustainable.
- **Statement 2:** Correct. Supports the deployment of *AI in healthcare* and underserved rural areas.
- **Statement 3:** Incorrect. Global dominance in AI compute infrastructure is not an *explicit goal*.
- **Features:** Collaboration between *Microsoft* and *IndiaAI* emphasizes *training, innovation, and responsible AI development*.

15. Answer: b) Only two

Explanation:

- **Statement 1:** Correct. Supports *biodiversity* by creating habitats for various species.
- **Statement 2:** Correct. Enhances *groundwater recharge* through dense planting.
- **Statement 3:** Incorrect. Soil preparation under the Miyawaki Technique may involve *fertilizers*, which do not necessarily reduce the *carbon footprint*.
- **Significance:** Developed by *Akira Miyawaki*, promotes *urban reforestation* and restores ecological balance.

16. Answer: a) Only one

Explanation:

- **Statement 1:** Correct. Integrates *AI solutions* in healthcare, education, and agriculture.
- **Statement 2:** Incorrect. No policy mandates *data sharing* across all government agencies.
- **Statement 3:** Correct. Includes *AI research grants* for academia-industry collaboration.
- **Features:** Launched under *Digital India Corporation*, focuses on *responsible AI adoption* and building AI infrastructure.

17. Answer: d) 1 and 3 only

Explanation:

- **Statement 1:** Correct. Recognized as an *indigenous breed* by the *National Bureau of Animal Genetic Resources (NBAGR)*.
- **Statement 2:** Incorrect. Primarily used as a *shepherd dog* to guard livestock, not agricultural crops.
- **Statement 3:** Correct. Resilient to *extreme cold* and *high-altitude conditions*.
- **Features:** Found in the *Himalayan region*, known for intelligence and guarding skills.

18. Answer: d) 1 and 3 only

Explanation:

- **Statement 1:** Correct. Provides *AI-based language translation tools* for all *22 scheduled Indian languages*.
- **Statement 2:** Incorrect. Implemented by the *Ministry of Electronics and Information Technology (MeitY)*, not the Ministry of Education.
- **Statement 3:** Correct. Aims to make *digital services accessible* to non-English-speaking populations.
- **Significance:** Launched in *2022*, fosters *multilingual communication* through AI and NLP tools.

19. Answer: a) Only one

Explanation:

- **Statement 1:** Incorrect. 96% of Pulicat Lake lies in *Andhra Pradesh*, not Tamil Nadu.
- **Statement 2:** Correct. Supports *fisheries* and is crucial for local livelihoods.
- **Statement 3:** Incorrect. Pulicat Lake is not a *Ramsar site*.
- **Significance:** India's *second-largest brackish water lake* after Chilika Lake.

20. Answer: c) It weakens during Sudden Stratospheric Warming, causing the vortex to wobble.

Explanation:

- **Polar Vortex:** A low-pressure area of *cold air* over the poles, stabilized by the *jet stream*.
- **Impact of Sudden Stratospheric Warming (SSW):** Weakens the *jet stream*, causing the vortex to *split or wobble*.
- **Result:** Cold Arctic air moves southward, leading to *extreme weather* in mid-latitudes.
- **Significance:** Disruptions cause prolonged *cold spells, storms, and increased heating demands*.

21. Answer: b) Only two

Explanation:

- **Statement 1:** Correct. Saint Narahari Tirtha was a *disciple of Madhvacharya* and a key propagator of *Dvaita philosophy*.

- **Statement 2:** Correct. He composed devotional songs in *Kannada* under the pen name *Raghukulatilaka*.
- **Statement 3:** Incorrect. He did not establish the first Vaishnavite educational institution in Kalinga.

22. Answer: a) 1 and 2

Explanation:

- **Statement 1:** Correct. Consumers can *demand green power* from their Discoms under these rules.
- **Statement 2:** Correct. Consumers using green power are eligible for *green certificates*.
- **Statement 3:** Incorrect. Open access is not limited to commercial and industrial users; it includes *small consumers* with reduced limits.
- **Significance:** Promotes *renewable energy adoption* and reduces emissions.

23. Answer: d) It is India's first cable-stayed rail bridge

Explanation:

- **Anji Khad Bridge:** Located in *Reasi district, Jammu and Kashmir*.
- **Significance:** India's *first cable-stayed rail bridge*, a major engineering milestone.
- **Features:**
 - Spans the *Anji River Valley* at a height of 331 meters.
 - Built with *96 cables* supporting its structure.

24. Answer: a) Sahel region

Explanation:

- Burkina Faso is located in the *Sahel region*, characterized by *semi-arid landscapes*.
- **Climate:** Transitional zone between the *Sahara Desert* and *savannah*.
- **Landscape:** Includes dry plains and grasslands.

25. Answer: c) Only three

Explanation:

- **Statement 1:** Correct. Compensation is provided to victims of *hazardous chemical exposure*.
- **Statement 2:** Correct. Funds are invested in *public financial institutions* for liquidity.
- **Statement 3:** Incorrect. No mandate requires SPCBs to allocate *10% of funds* for awareness programs.
- **Statement 4:** Correct. Applicable to cases under the *Public Liability Insurance Act, 1991*.
- **Significance:** Enhances *environmental restoration efforts* and fund disbursement.

26. Answer: b) Post-transcriptional regulation of gene expression

Explanation:

- **MicroRNAs (miRNAs):** Small, *non-coding RNA molecules*.
- **Function:** Regulate *gene expression* at the *post-transcriptional level*.
- **Mechanism:** Bind to complementary *mRNA sequences*, suppressing protein production.
- **Applications:** Used in *cancer research* and *genetic disorder diagnostics*.

27. Answer: d) Real-time acoustic signal detection and communication with surface

Explanation:

- **Sonobuoys:** Expendable devices used for *anti-submarine warfare*.
- **Features:**
 - Equipped with *hydrophones* to detect underwater acoustic signals.
 - Transmit data in *real-time* to surface platforms.
- **Significance:** Enhance *undersea domain awareness (UDA)* and submarine tracking.

28. Answer: c) Gravitational interactions during close encounters or mergers of galaxies

Explanation:

- **Tidal Tails:** Formed by *gravitational interactions* during galaxy mergers.
- **Process:** Strips *stars and gas* from outer regions of galaxies, creating thin streams.
- **Significance:** Provides evidence of *galactic evolution* and past mergers.

29. Answer: a) Both Statement-I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I

Explanation:

- **Statement I:** Correct. Sonobuoys enhance *undersea domain awareness (UDA)*.
- **Statement II:** Correct. Designed to *detect, track, and classify underwater objects* like submarines and torpedoes.
- **Relation:** Statement II explains the critical role of Sonobuoys in achieving UDA.

30. Answer: b) Only two

Explanation:

- **Statement 1:** Correct. Burkina Faso is a *landlocked country* in West Africa.
- **Statement 2:** Incorrect. The *Niger River* does not form its northern border.
- **Statement 3:** Correct. The landscape is predominantly *savannahs and plateaus*.
- **Geography:** Includes semi-arid regions in the *Sahel zone*.

31. Answer: c) Statement-I is correct, but Statement-II is incorrect

Explanation:

- **Statement I:** Correct. The *Harappan script* remains *undeciphered* with no confirmed linguistic connections.
- **Statement II:** Incorrect. The script appears not only on seals but also on *pottery, clay impressions, and copper tablets*.
- **Motifs:** Includes animal motifs like *unicorns, bulls, and mythical creatures*, along with human and symbolic figures.

32. Answer: a) 2 only

Explanation:

- **Statement 1:** Incorrect. The National Anthem was first sung in *1911* during the Calcutta Session of the Indian National Congress, not in 1927.
- **Statement 2:** Correct. The Anthem has *five stanzas*, but only the *first stanza* is officially recognized.
- **Statement 3:** Incorrect. The word "*India*" does not appear in the original *Bangla composition* by Rabindranath Tagore.

33. Answer: c) It serves as a tiger corridor connecting Tadoba-Andhari Tiger Reserve

Explanation:

- **Ecological Significance:** The sanctuary forms a *tiger corridor* linking the *Tadoba-Andhari Tiger Reserve* with other forested areas.
- **Location:** Situated in Maharashtra, bounded by the *Wainganga River* and the *Gose Khurd Dam*.
- **Biodiversity:** Home to *tigers, leopards, Indian gaur, sloth bears*, and various bird and reptile species.

34. Answer: b) Only two

Explanation:

- **Statement 1:** Correct. Artesian aquifers require an *overlying impermeable layer* to create pressure.
- **Statement 2:** Incorrect. Artesian water does not always *gush out with high force*; flow depends on the *piezometric surface*.
- **Statement 3:** Correct. Artesian conditions reveal *subsurface hydrogeological structures*, aiding geological studies.

35. Answer: d) 2 and 3

Explanation:

- **Statement 1:** Incorrect. Individual singing of the National Anthem is permitted; it does not need to be in a group setting.
- **Statement 2:** Correct. The Anthem can be played *instrumentally* without accompanying vocals.
- **Statement 3:** Correct. The tempo must adhere to the officially prescribed *52-second duration*.

36. Answer: c) Only three

Explanation:

- **Statement 1:** Incorrect. The *BHARATPOL* portal focuses on *international cooperation*, not coordination between state police.
- **Statement 2:** Correct. Provides a *centralized platform* for INTERPOL-related operations.
- **Statement 3:** Correct. Supports *color-coded notices* like *Red* and *Blue Notices*.
- **Statement 4:** Correct. Enhances efficiency in handling *transnational crimes* like *cybercrime* and *human trafficking*.

37. Answer: a) Allowing only academic professionals to apply for the post of VC

Explanation:

- The UGC Draft Regulations 2025 allow *professionals from academia, industry, public administration, and policymaking* to apply for the post of Vice-Chancellor (VC).
- Encourages *diverse representation* and inclusivity for SC, ST, OBC, and economically weaker sections (EWS).

38. Answer: b) 1 and 3

Explanation:

- **Statement 1:** Correct. The scheme aims to reduce India's *dependency on imports* of specialty steel.
- **Statement 2:** Incorrect. It does not mandate the use of *100% indigenous raw materials*.
- **Statement 3:** Correct. Covers categories like *Alloy Steel Products* and *Electrical Steel*.
- **Significance:** Strengthens India's position as a *global steel powerhouse*.

39. Answer: b) Only two

Explanation:

- **Statement 1:** Correct. Uses *Biofloc technology* for organic fish farming, minimizing environmental pollution.
- **Statement 2:** Correct. Part of the *Pradhan Mantri Matsya Sampada Yojana (PMMSY)*.
- **Statement 3:** Incorrect. Focuses on *sustainable practices*, not intensive aquaculture.

40. Answer: b) 1 and 3

Explanation:

- **Statement 1:** Correct. The sanctuary is home to *tigers, leopards*, and other wildlife.
- **Statement 2:** Incorrect. It is not a recognized *Ramsar wetland site*.
- **Statement 3:** Correct. Provides habitat for species like *Indian gaur* and *wild dogs*.
- **Significance:** Plays a key role in *tiger conservation*.

41. Answer: b) Ministry of External Affairs

Explanation:

- **Ministry Involved:** The *Ministry of External Affairs* organizes *Pravasi Bharatiya Divas (PBD)*.
- **Purpose:** To celebrate the *achievements of the Indian diaspora* and strengthen ties with them.
- **Significance:** Recognizes the contributions of *Non-Resident Indians (NRIs)* to India's development.
- **Frequency:** Initially an *annual event*, revised to a *biennial celebration* in 2015.

42. Answer: c) Statement-I is correct but Statement-II is incorrect

Explanation:

- **Statement I:** Correct. The Draft Rules aim to balance *regulation with innovation*, reducing compliance burdens for *startups and MSMEs*.
- **Statement II:** Incorrect. Compliance requirements vary based on the *scale and sensitivity* of data handled.
- **Objective:** Protect *personal data* while fostering *digital trust* and innovation.

43. Answer: a) Leatherback Turtle

Explanation:

- **Species Found:** The *Leatherback Turtle*, a *globally endangered species*, is found on Little Nicobar Island.
- **Significance of Island:**
 - A *biodiversity hotspot* critical for turtle conservation.
 - Home to *spiritually significant sites* managed by local communities.
- **Global Context:** The *Leatherback Turtle* is the largest sea turtle species.

44. Answer: d) It provides evidence of coexistence with Denisovans during the Pleistocene epoch

Explanation:

- **Homo juluensis:** A newly identified human species that coexisted with *Denisovans* during the *Pleistocene epoch*.
- **Key Features:**
 - Lived in *Eastern Asia*.
 - Used stone tools for *hunting and survival*.
- **Significance:** Highlights the *complex evolution* of ancient human relatives and their *interactions*.

45. Answer: c) All three

Explanation:

- **Statement 1:** Correct. POEM-4 included *cowpea seed germination*, marking ISRO's first *agricultural experiment in space*.
- **Statement 2:** Correct. It marked the debut of *India's space robotic arm*.
- **Statement 3:** Correct. Demonstrated *modular payload designs* for sustainable space exploration.
- **Significance:** Advances *space technology* and explores *extraterrestrial agriculture*.

46. Answer: d) All four

Explanation:

- **Statement 1:** Correct. Promotes partnerships between India and its *diaspora for national development*.
- **Statement 2:** Correct. *Pravasi Bharatiya Samman Awards* are conferred during PBD celebrations.
- **Statement 3:** Correct. Initially *annual*, revised to a *biennial celebration* in 2015.
- **Statement 4:** Correct. Enhances *India's soft power* globally by engaging with the diaspora.

47. Answer: b) Fake profits are shown to victims on fabricated online trading platforms

Explanation:

- **Pig-Butchering Scam:** A *cybercrime* where scammers build trust by showing *fake profits* on fabricated trading platforms.
- **How It Works:**
 - Victims are lured through *social media or dating apps*.
 - Scammers convince victims to invest in *fraudulent trading apps*.
 - Victims lose their money when they attempt withdrawals.
- **Global Impact:** Often associated with *cryptocurrency fraud* and *money laundering*.

48. Answer: b) 2 only

Explanation:

- **Statement 1:** Incorrect. *Homo juluensis* is not a direct ancestor of *modern Homo sapiens*.
- **Statement 2:** Correct. Likely interbred with *Denisovans*, sharing genetic material.
- **Statement 3:** Incorrect. Their tool usage was for *hunting* and survival, not advanced agricultural practices.
- **Significance:** Provides insights into *human evolution* in *Eastern Asia*.

49. Answer: c) All three

Explanation:

- **Statement 1:** Correct. Enhances *regional connectivity* in Jammu and Kashmir.
- **Statement 2:** Correct. Supports *defense logistics* in sensitive border areas.
- **Statement 3:** Correct. Facilitates *eco-tourism* by improving access to remote locations.
- **Strategic Importance:** Critical for development under the *Udhampur-Srinagar-Baramulla Railway Link* project.

50. Answer: a) 1 and 3 only

Explanation:

- **Statement 1:** Correct. The *Southern Nicobarese* are classified as a *Particularly Vulnerable Tribal Group (PVTG)*.
- **Statement 2:** Incorrect. They rely on *sustainable resource use*, not shifting cultivation.
- **Statement 3:** Correct. Their traditions emphasize *sustainable practices* in harmony with nature.
- **Cultural Significance:** Integral to conserving *biodiversity* in the Nicobar Islands.