

Solutions

DATE : 25th Nov- 30th Nov

1) Answer: b) Only two

Explanation:

- **Statement 1 is correct:** The Act proposed a federal government structure where powers were distributed between the Centre and provinces. However, the federal aspect was never implemented due to opposition from princely states.
- **Statement 2 is correct:** Provincial autonomy allowed provinces to govern specified subjects independently. Elected legislatures gained control over provincial subjects, but governors retained significant discretionary powers.
- **Statement 3 is incorrect:** The judiciary under the Act was not independent. While the Federal Court was established, it was under British oversight, limiting its autonomy.

2) Answer: d) None

Explanation:

- **Statement 1 is incorrect:** The OPCW is an independent international organization, not part of the United Nations, though it collaborates with it.
- **Statement 2 is incorrect:** Its mission extends beyond destruction verification to include preventing chemical weapons' re-emergence and ensuring compliance with the Chemical Weapons Convention.
- **Statement 3 is incorrect:** The Hague Award recognizes individuals and organizations advancing disarmament, not member states.

3) Answer: c) Improving public health decision-making through pathogen genomic surveillance.

Explanation:

- The IPSN's core focus is using genomic surveillance to monitor the evolution and spread of pathogens, aiding public health decisions.
- It ensures equitable access to genomic tools, especially for low- and middle-income countries, while promoting collaboration to address global health challenges.

4) Answer: a) Antibiotic residues from treatments like mastitis control.

Explanation:

- Antibiotics used to treat mastitis in dairy animals can remain in milk if withdrawal periods are not observed.
- Other factors like improper veterinary practices and mixing milk from treated and untreated animals also contribute but are secondary.

5) Answer: a) 1 and 2 only

Explanation:

- **Statement 1 is correct:** The Periyar originates in the Sivagiri Hills and empties into the Arabian Sea.
- **Statement 2 is correct:** It powers the Idukki Dam, one of Kerala's largest hydroelectric projects.
- **Statement 3 is incorrect:** The Periyar flows into the Arabian Sea, not the Bay of Bengal.

6) Answer: c) The ICC exclusively represents the organic chemical industry in India.

Explanation:

- The ICC represents diverse industries, including petrochemicals, fertilizers, pesticides, plastics, and more.
- It promotes sustainability and safety through initiatives like Responsible Care (RC) and Nicer Globe.

7) Answer: d) None

Explanation:

- **Statement 1 is incorrect:** The NRI evaluates economies on four pillars: Technology, People, Governance, and Impact.
- **Statement 2 is incorrect:** India ranked 2nd, not 1st, among lower-middle-income countries, with Vietnam leading.
- **Statement 3 is incorrect:** The Portulans Institute, not the ITU, publishes the NRI.

8) Answer: b) It is designed for high-altitude and rugged terrains.

Explanation:

- The Sabal-20 Drone's tandem rotor design and vertical take-off technology allow it to operate in challenging environments.
- It is suitable for delivering critical supplies in inaccessible areas, not urban, maritime, or recreational uses.

9) Answer: d) None

Explanation:

- **Statement 1 is incorrect:** The superconductor is made by twisting two layers of tungsten diselenide (tWSe₂), not molybdenum disulfide.
- **Statement 2 is incorrect:** Its superconducting state is achieved near absolute zero (-272.93°C), far from room temperature.
- **Statement 3 is incorrect:** Its superconductivity is driven by strong electron-electron interactions, not weak ones.

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10) Answer: b) 2 only

Explanation:

- **Statement 1 is incorrect:** While hosted by WHO, IPSN's funding comes from multiple sources, including Gates Foundation, The Rockefeller Foundation, and others.
- **Statement 2 is correct:** IPSN ensures equitable genomic tool access and tracks pathogen evolution to improve global health decisions.
- **Statement 3 is incorrect:** The network addresses various pathogens, including avian flu and others, making its scope broad.

11) Answer: a) Only one

Explanation:

- **Statement 1:** Correct. The platform focuses on modern warfare and emerging military trends.
- **Statement 2:** Incorrect. It does not replace physical training but complements it by decongesting physical sessions.
- **Statement 3:** Incorrect. Registration is accessible throughout an officer's career, not limited to senior officers.

12) Answer: d) 2 and 3 only

Explanation:

- **Statement 1:** Incorrect. Lothal is the southernmost Indus Valley Civilization site.
- **Statement 2:** Correct. It was known for its bead-making industry and maritime trade links.
- **Statement 3:** Correct. Its dockyard connected it to ancient trade routes.
- **Statement 4:** Incorrect. Lothal is on UNESCO's tentative list, not a recognized World Heritage Site.

13) Answer: d) None

Explanation:

- **Statement 1:** Incorrect. The CRS functions under the Ministry of Civil Aviation, not Railways.
- **Statement 2:** Incorrect. CRS ensures rail safety, not operational efficiency.
- **Statement 3:** Incorrect. CRS is headquartered in Lucknow, Uttar Pradesh.

14) Answer: a) 1 and 3 only

Explanation:

- **Statement 1:** Correct. ISKCON was founded in New York City.
- **Statement 2:** Incorrect. It follows Gaudiya Vaishnavism, not Advaita Vedanta.
- **Statement 3:** Correct. ISKCON is actively involved in social initiatives like free food distribution and eco-village projects.

15) Answer: a) It is India's first vertical-lift railway sea bridge.

Explanation:

- The New Pamban Bridge features a vertical lift for navigational clearance, connecting Rameswaram to Tamil Nadu's mainland.

16) Answer: b) Danish Straits

Explanation:

- The Baltic Sea connects to the Atlantic Ocean via the Danish Straits, which are critical for global maritime trade.

17) Answer: b) 3 only

Explanation:

- **Statement 1:** Incorrect. The campaign focuses on high-burden states, not those with the lowest child marriage rates.
- **Statement 2:** Incorrect. It aims to reduce child marriage rates to below 5% by 2029, not 2025.
- **Statement 3:** Correct. It includes a public portal for reporting and monitoring cases.

18) Answer: c) Both 1 and 2

Explanation:

- **Statement 1:** Correct. SAREX-24 involved the largest maritime simulations to date.
- **Statement 2:** Correct. It aimed to strengthen collaborative engagement with regional and friendly nations.

19) Answer: b) Only two

Explanation:

- **Statement 1:** Correct. AQCS provides certifications for exports.
- **Statement 2:** Correct. It regulates livestock imports under the Livestock Importation Act.
- **Statement 3:** Incorrect. AQCS functions under the Ministry of Animal Husbandry, not Health.

20) Answer: c) Norway

Explanation:

- Norway does not border the Baltic Sea. Countries like Denmark, Poland, and Lithuania border the Baltic Sea.

21) Answer: b) Uttar Pradesh

Explanation:

- Uttar Pradesh contributed **16.21%** to India's total milk production in 2023-24, making it the top milk-producing state.
- **Other contributors:** Rajasthan (14.51%), Madhya Pradesh (8.91%), and Gujarat (7.65%).

22) Answer: b) Ability to sequester more carbon than all the world's forests combined

Explanation:

- Peatlands store **more carbon than all forests combined**, even though they cover only 3% of the Earth's land surface.
- When degraded due to drainage or fires, they release CO₂ and methane, exacerbating climate change.

23) Answer: a) 2 only

Explanation:

- **Statement 1:** Incorrect. The crane breeds in **Central Asia** and winters in **India**, not the other way around.
- **Statement 2:** Correct. It is culturally significant in Gujarat and Rajasthan.
- **Statement 3:** Incorrect. It is classified as **Least Concern** by IUCN.

24) Answer: d) Bantu peoples from East Africa

Explanation:

- The Siddi tribe is descended from **Bantu peoples** brought to India through the **slave trade** and as soldiers or sailors.
- They are primarily found in **Karnataka, Gujarat, and Goa** today.

25) Answer: c) 3 only

Explanation:

- The Song River is a **seasonal river**, not perennial, and originates in the **Lesser Himalayas** near Mussoorie, not the Shivalik Hills.
- It serves as a **seasonal feeder** to the Ganga River system.

26) Answer: c) Only three

Explanation:

- **Statement 1:** Correct. Adopted by WIPO.
- **Statement 2:** Incorrect. It allows filing multiple designs in one application.
- **Statement 3:** Correct. Encourages electronic systems.
- **Statement 4:** Correct. India signed the treaty to boost design protection.

27) Answer: a) Only one

Explanation:

- **Statement 1:** Correct. PAN 2.0 introduces a centralized data vault for security.
- **Statement 2:** Incorrect. Grievance redressal will be centralized.
- **Statement 3:** Incorrect. Existing PAN cards will remain valid.

28) Answer: b) Only two

Explanation:

- **Statement 1:** Correct. India accounts for **24%** of global milk production.
- **Statement 2:** Incorrect. India ranks **second in egg production**, not first.
- **Statement 3:** Correct. India's **per capita milk availability** (459 grams/day) exceeds the global average (323 grams/day).

29) Answer: d) Statement-I is incorrect but Statement-II is correct

Explanation:

- **Statement-I:** Incorrect. Peatlands emit less than 10% of global CO₂ emissions.
- **Statement-II:** Correct. Human activities are the primary cause of peatland degradation.

30) Answer: a) 3 only

Explanation:

- **Statement 1:** Incorrect. Primary microplastics are intentionally manufactured (e.g., microbeads).
- **Statement 2:** Incorrect. Secondary microplastics result from the degradation of larger plastics.
- **Statement 3:** Correct. Microplastics are used in **drug delivery systems** due to their ability to absorb and release chemicals.

31) Answer: d) 1, 2, and 3

Explanation:

- **Statement 1:** Correct. NMNF promotes chemical-free farming.
- **Statement 2:** Correct. It aims to establish 10,000 Bio-input Resource Centres.
- **Statement 3:** Correct. Geo-tagged monitoring is enabled through an online portal.

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32) Answer: a) 2 and 3 only

Explanation:

- **Statement 1:** Incorrect. GMP was launched at COP29, focusing on developing and emerging economies.
- **Statement 2:** Correct. GMP involves institutions like the World Bank.
- **Statement 3:** Correct. GMP targets high-emission sectors like steel and cement.

33) Answer: d) None of the above

Explanation:

- **Statement 1:** Incorrect. Gamma rays are blocked by Earth's atmosphere.
- **Statement 2:** Incorrect. Gamma rays are invisible; Cherenkov radiation produces faint blue light.
- **Statement 3:** Incorrect. Gamma rays are produced by various phenomena like pulsars and black holes, not only nuclear reactions.

34) Answer: b) 3 and 4 only

Explanation:

- **Statement 1:** Incorrect. It is a Central Sector Scheme under the Ministry of Education.
- **Statement 2:** Incorrect. It focuses on government HEIs and R&D institutions.
- **Statement 3:** Correct. It benefits students in tier-2 and tier-3 cities.
- **Statement 4:** Correct. It aligns with NEP 2020 and ANRF.

35) Answer: b) Only two

Explanation:

- **Statement 1:** Incorrect. The Act maintains the status quo as of August 15, 1947.
- **Statement 2:** Correct. It prohibits conversion of religious sites.
- **Statement 3:** Correct. The Ayodhya dispute is excluded.

36) Answer: a) Only one

Explanation:

- **Statement 1:** Correct. It is the highest Cherenkov telescope, located in Hanle, Ladakh.
- **Statement 2:** Incorrect. It detects high-energy gamma rays, not low-energy.
- **Statement 3:** Incorrect. It is indigenously developed, not entirely dependent on international collaborations.

37) Answer: c) RESOURCESAT Series

Explanation:

- The RESOURCESAT Series, with sensors like LISS-3 and AWiFS, effectively tracks stubble burning.

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

Explanation:

- **Statement-I:** Correct. SIM integrates state innovation ecosystems with NITI Aayog's framework.
- **Statement-II:** Incorrect. Bilateral collaborations are part of AIM's international initiatives, not SIM.

39) Answer: a) To promote harmony, sustainability, and the philosophy of Gross National Happiness.

Explanation:

- Gelephu Mindfulness City embodies Bhutan's philosophy of **Gross National Happiness**, integrating sustainability and cultural values.

40) Answer: b) 2, 3, and 4 only

Explanation:

- **Statement 1:** Incorrect. Space junk consists of man-made debris, not natural materials.
- **Statements 2, 3, and 4:** Correct. Space debris releases pollutants, disrupts climate patterns, and alters cloud formation and chemistry.

41) Answer: c) United Nations Environment Programme (UNEP)

Explanation:

- The **Climate Change Performance Index (CCPI)** is published by **Germanwatch**, **NewClimate Institute**, and **Climate Action Network**.
- UNEP, while extensively involved in climate initiatives globally, does not directly contribute to the publication of the CCPI.

42) Answer: b) 2 and 3 only

Explanation:

- **Statement 1:** Incorrect. The Paris Agreement operates on a **cooperative and non-binding framework**, not on legally binding enforcement for non-compliance.
- **Statement 2:** Correct. It adopts the principle of "**common but differentiated responsibilities**", acknowledging different capacities of nations.
- **Statement 3:** Correct. Developed nations are required to provide **financial and technological support** to developing countries under the agreement.

43) Answer: a) Only one

Explanation:

- **Statement 1:** Incorrect. Natural uranium contains only **0.7% U-235** and **99.3% U-238**, not a higher percentage of U-235.
- **Statement 2:** Correct. Low-enriched uranium (LEU) has **3-5% U-235**, suitable for nuclear reactors.
- **Statement 3:** Incorrect. Plutonium-239 is produced in nuclear reactors via **neutron absorption** by U-238, not during uranium enrichment.

44) Answer: c) Reduced oxygen levels in the air at high elevations

Explanation:

- High-Altitude Sickness is primarily caused by **reduced oxygen levels** at elevations above 8,000 feet (2,400 meters).
- **Key Features:**
 - Low oxygen leads to **hypoxia**, resulting in symptoms like headache, nausea, and fatigue.
 - Types include **HAPE (Pulmonary Edema)** and **HACE (Cerebral Edema)**.
- **Other Factors:** Rapid ascent and lack of acclimatization exacerbate risks.

45) Answer: d) Statement-I is incorrect but Statement-II is correct

Explanation:

- **Statement-I:** Incorrect. India's "medium" rating for climate policy is due to **challenges in implementation**, not delays in renewable energy targets.
- **Statement-II:** Correct. India's high performance is attributed to:
 - **Rapid solar power expansion.**
 - Introduction of **energy efficiency standards.**
 - Deployment of **electric vehicles.**

India's Performance in CCPI 2025:

- **Overall Rank:** 10th globally.
- **Category Ratings:**
 - GHG Emissions: High
 - Energy Use: High
 - Climate Policy: Medium
 - Renewable Energy: Low



46) Answer: d) 1, 2, and 3

Explanation:

- **Statement 1:** Correct. The STARS program is funded by the **World Bank** and implemented by the **Ministry of Education**.
- **Statement 2:** Correct. It is carved out from the **Samagra Shiksha scheme** to focus on quality enhancement.
- **Statement 3:** Correct. It emphasizes **skill-based education** and quality-based learning outcomes in schools.

About STARS Program:

- Launched in October 2020 and implemented in six states: Himachal Pradesh, Maharashtra, Odisha, Rajasthan, Madhya Pradesh, and Kerala.
- Aligned with the objectives of the **National Education Policy (NEP) 2020**.

47) Answer: b) 2 and 3 only

Explanation:

- **Statement 1:** Incorrect. Ashtamudi is the **second-largest lake in Kerala** (after Vembanad Lake).
- **Statement 2:** Correct. It connects to the **Arabian Sea** through the Neendakara estuary.
- **Statement 3:** Correct. It was designated a **Ramsar Wetland of International Importance** in 2002.

About Ashtamudi Lake:

- Located in Kollam district, Kerala, and fed by the **Kallada River**.
- Significant for its rich **biodiversity** and livelihood support for local fishers.

48) Answer: a) Only one

Explanation:

- **Statement 1:** Incorrect. Ranthambore is located at the confluence of the **Aravallis and Vindhya**s, not Satpura.
- **Statement 2:** Incorrect. Other large carnivores, such as leopards and striped hyenas, are also found in the reserve.
- **Statement 3:** Correct. Marsh crocodiles inhabit the reserve's water bodies like Padam Talab and Raj Bagh Talab.

About Ranthambore Tiger Reserve:

- Located in Rajasthan near Sawai Madhopur.
- Known for Bengal tigers, leopards, sloth bears, and over 250 bird species.

49) **Answer:** d) The process involves spinning uranium gas at high speeds to increase U-235 concentration.

Explanation:

- **Correct Process:** Uranium enrichment involves spinning uranium hexafluoride gas at high speeds in a centrifuge to increase the concentration of U-235.
- **Common Uses:**
 - Low-enriched uranium (LEU) is used in nuclear reactors.
 - Highly enriched uranium (HEU) can be used for nuclear weapons.

International Concerns: Centrifugal technology has dual-use potential, raising fears of proliferation.

50) **Answer:** b) Only two

Explanation:

- **Statement 1:** Incorrect. The Paris Agreement does not mandate legally binding emission targets; it operates on a **voluntary and cooperative basis**.
- **Statement 2:** Correct. Countries are required to submit updated **Nationally Determined Contributions (NDCs)** every five years.
- **Statement 3:** Correct. The agreement aims to limit the global temperature rise to **well below 2°C**, with efforts to cap it at **1.5°C**.

About the Paris Agreement:

- Adopted in 2015 to combat climate change.
- Emphasizes climate action through financial and technological support for developing nations.



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