

Solutions

DATE : 7th – 13th Oct

1) Answer:(c) Rise in Government Health Expenditure (GHE)

Explanation:

- The rise in **Government Health Expenditure (GHE)** has reduced the burden on individuals to pay for healthcare directly from their pockets.
- GHE increased from **29% in 2014-15 to 48% in 2021-22**, leading to a significant reduction in OOPE.
- Public spending on healthcare includes **government-funded insurance schemes** like PM-JAY (Ayushman Bharat), which reduce the need for personal spending.

2) Answer: (d) To decentralize governance and make administrative services more accessible

Explanation:

- **Co-Districts** in Assam are being established to make **governance more accessible** to remote areas by bringing administrative services closer to people.
- It aims to reduce the load on existing district offices and improve the delivery of **services such as ration cards, disaster management, and land revenue**.
- This initiative will enhance **decentralization** and ensure that services reach citizens efficiently.

3) Answer: (b) Road safety sensors

Explanation:

- The **polymer nanocomposite** developed by CeNS generates energy through **pressure** and can be used in **self-powered road safety sensors**.
- These sensors alert vehicles approaching **dangerous turns or high-risk areas**, improving safety on roads by **real-time signaling**.

4) Answer: (c) Tax incentives for manufacturers producing eco-friendly products

Explanation:

- The revised **Ecomark Scheme** promotes:
- **Energy-efficient products**
- **Circular economy** through recycled materials
- **Accurate labeling** to avoid misleading sustainability claims
- However, the scheme does **not provide tax incentives**; instead, it focuses on **certification and environmental standards**.

5) Answer: (d) Delay in conducting the census in the Northeast

Explanation:

- The **elephant census report** was delayed because of challenges in conducting the survey in **Northeast India**.
- This **regional delay** affected the data compilation and prevented the timely release of the full report.

6) Answer: (b) Only two

Explanation:

- **Statement 1** is correct: The MOU aims to reduce **dependence on China** by promoting bilateral cooperation on **critical minerals**.
- **Statement 2** is correct: It involves **recycling, processing, and recovery** of these minerals.
- **Statement 3** is incorrect: The MOU focuses on **critical minerals and semiconductors**, not **pharmaceuticals**.

7) Answer: (a) 1 and 2 only

Explanation:

- **Statement 1** is correct: The scheme mandates **accurate labeling** to promote transparency.

An Institute for Civil Services

- **Statement 2** is correct: It encourages **resource-efficient and eco-friendly production**.
- **Statement 3** is incorrect: The scheme is managed by the **Central Pollution Control Board (CPCB)** and **Bureau of Indian Standards (BIS)**, not **NITI Aayog**.

8) Answer: (a) Only one

Explanation:

- **Statement 1** is correct: The **genetic mark-recapture method** uses DNA from **dung samples** to identify elephants.
- **Statement 2** is correct: Synchronizing the **elephant and tiger census** ensures better management at a **landscape level**.
- **Statement 3** is incorrect: The older **direct count method** was less accurate compared to new methods like **genetic sampling**.

9) Answer: (d) 1 and 2 only

Explanation:

- **Statement 1** is correct: The **LiFE mission**, launched in **2021**, promotes **sustainable living**.
- **Statement 2** is correct: The **revised Ecomark Scheme** aligns with the **LiFE mission** by encouraging **eco-friendly products**.
- **Statement 3** is incorrect: Ecomark certification is **voluntary**, not mandatory, for consumer products.

10) Answer: (b) 1 and 3 only

Explanation:

- **Statement 1** is correct: The nanocomposite's **flexibility and durability** make it ideal for **smart sensors**.
- **Statement 2** is incorrect: It generates electricity through the **piezoelectric effect**, not the photoelectric effect.
- **Statement 3** is correct: The energy harvested can **power small devices**, enabling **self-powered applications**.

11) Answer: (b) Only two

Explanation:

- Halari donkeys are native to the **Halar region**, not Kutch.
- They are used by **Bharwad and Rabari pastoralists** during migration.
- Known for **resilience** and ability to **carry heavy loads**.

12) Answer: c) Original literary tradition not borrowed from another speech community

Explanation:

- The requirement for an **original literary tradition** was removed.
- The revision emphasizes **epigraphical, inscriptional, and knowledge texts**.

13) Answer: d) Godavari River

Explanation:

- **Godavari River** flows through the sanctuary, along with **Dayyam Vagu stream**, dividing the sanctuary.

14) Answer: b) 2 only

Explanation:

- Large-scale production is required for **cost-effectiveness**.
- SMRs are not yet **widely used** and have high **initial regulatory costs**.

15) Answer: b) 2 only

Explanation:

- The 2024 criteria allow the use of **epigraphical and inscriptional evidence**.
- A language does not need to be **distinct from its modern form**, and **Sanskrit texts** are not a requirement.

16) Answer: d) None of the above

Explanation:

- The site is in **Chamarajanagar district, Karnataka**, not Gujarat.
- It contains **megalithic burial structures**, not stone temples.
- Discovered in **1961** by **C. Krishnamurti** of ASI.

17) Answer: c) 1 only

Explanation:

- SMRs provide **low-carbon electricity** and can be paired with **renewable energy** systems.
- They use **less fuel** than traditional reactors, contrary to statements 2 and 3.

18) Answer: a) Only one

Explanation:

- The sanctuary is in **Telangana**, not Chhattisgarh.
- It was declared a sanctuary in **1952**, before the Wildlife Protection Act.
- **Dayyam Vagu stream** divides the sanctuary.

19) Answer: b) Diego Garcia

Explanation:

- **Diego Garcia** is the largest island and holds a **US military base**.
- It is central to the **sovereignty dispute** between the **UK and Mauritius**.

20) Answer: a) 2 only

Explanation:

- India's membership aligns its **medical device regulations** with global standards.
- India is **not a founding member**.
- Membership does not grant **automatic export rights** without further scrutiny.

21) Answer: c) To attract new players to the mutual fund industry and offer less risky investment opportunities for retail investors

Explanation:

- The MF Lite framework promotes **passively managed mutual fund schemes** that involve lower risk and cost.
- It aims to **attract new players** by reducing entry barriers and providing **diversified, low-risk options** for retail investors.

22) Answer: c) To support new technologies like the New Generation Launch Vehicle (NGLV)

Explanation:

- The third launch pad will **facilitate new launch technologies** like the NGLV and improve capabilities for **heavier payloads** to LEO and GTO.
- It also ensures **backup** for critical GSLV missions.

23) Answer: d) Cancer and diabetes

Explanation:

- Their research on microRNA revealed its role in **regulating protein production** and how disruptions can contribute to diseases like **cancer and diabetes**.
- This has led to new possibilities for **targeted therapies** in oncology and endocrinology.

24) Answer: d) None of the above

Explanation:

- The "Free to Think" report is published by **Scholars at Risk (SAR)**, which monitors **global academic freedom** and threats to free expression, student protests, and political interference in education.

25) Answer: b) Department of Pension & Pensioners' Welfare

Explanation:

- Launched in **2015** by the **Department of Pension & Pensioners' Welfare (DOPPW)**, it encourages **retired government employees** to share their experiences through the Anubhav Portal.

26) Answer: b) Only two

Explanation:

- **Statement 1** is correct: It supports **household contacts** of TB patients.
- **Statement 2** is correct: It provides **food baskets** to boost immunity and reduce expenses.
- **Statement 3** is incorrect: The initiative **complements** the Ni-Kshay Poshan Yojana rather than replacing it.

27) Answer: d) 1 and 3 only

Explanation:

- **Statement 1** is correct: The third launch pad will serve as a **backup** for GSLV missions.
- **Statement 3** is correct: It will include **integrated stage testing facilities** to streamline operations.
- **Statement 2** is incorrect: The third launch pad will use **horizontal integration** for the NGLV, not vertical integration.

28) Answer: a) 1 and 2 only

Explanation:

- **Statement 1** is correct: MicroRNAs have influenced **genetic evolution** over millions of years.
- **Statement 2** is correct: Abnormal microRNA activity is associated with **developmental disorders**.
- **Statement 3** is incorrect: MicroRNAs regulate genes throughout the **entire lifespan**, not just during embryonic development.

29) Answer: a) Only one

Explanation:

- **Statement 2** is incorrect: The scheme is now **extended to CPSUs and Public Sector Banks**, not restricted to Central Government employees.

30) Answer: c) Coal

Explanation:

- **Birbhum** is known for **coal mining**, with significant mines like **Gangaramchak** and **Bhadulia** used for energy production by **WBPDC**.

31) Answer: c) Desert and grassland ecosystems of the Little Rann of Kutch and Great Rann of Kutch

Explanation:

- The Indian Wild Ass is primarily found in the **arid and semi-arid** regions of the **Little Rann of Kutch and Great Rann of Kutch** in Gujarat.
- These ecosystems provide the ideal environment for the species to thrive in **dry and open grassland conditions**.

32) Answer: a) 1 and 2 only

Explanation:

- **Statement 1** is correct: Trachoma spreads through **direct contact** with infected eye/nasal discharges or via **flies**.
- **Statement 2** is correct: Advanced cases cause **trichiasis**, where eyelashes turn inward and scrape the cornea, leading to blindness.
- **Statement 3** is incorrect: Trachoma is caused by the bacterium **Chlamydia trachomatis** and treated with **antibiotics**, not antivirals.

33) Answer: d) Listed as Vulnerable on the IUCN Red List

Explanation:

- The Red Panda is classified as **Endangered** on the IUCN Red List, not Vulnerable.
- It is also listed under **Appendix I of CITES** and **Schedule I** of India's Wildlife Protection Act, providing the highest protection.

34) Answer: b) Only two

Explanation:

- **Statement 1** is correct: The **MACE Observatory** is the highest imaging Cherenkov telescope, located at **Hanle, Ladakh**.
- **Statement 2** is incorrect: MACE studies **gamma rays**, not cosmic rays via radio waves.
- **Statement 3** is correct: It was indigenously developed by **BARC** with support from Indian institutions.

35) Answer: d) Eastern Himalayas

Explanation:

- Nearly **50% of the Red Panda's habitat** lies in the **Eastern Himalayas**, spanning parts of **India, Bhutan, China, Nepal, and Myanmar**.
- It prefers **temperate forests** rich in bamboo, its primary food source.

36) Answer: d) Neither 1 nor 2

Explanation:

- **Statement 1** is incorrect: Charon's surface contains **water ice and ammonia** but also **carbon dioxide** and **hydrogen peroxide**.
- **Statement 2** is incorrect: Charon is located in the **Kuiper Belt**, beyond **Neptune's orbit**, not Uranus's orbit.

37) Answer: c) 1 and 3 only

Explanation:

- **Statement 1** is correct: The zoo plays a key role in **breeding red pandas** in captivity.
- **Statement 2** is incorrect: The zoo focuses on **alpine species**, not tropical ones.
- **Statement 3** is correct: It is recognized by **WAZA** for its conservation efforts.

38) Answer: c) WHO 2021–2030 Neglected Tropical Disease Roadmap

Explanation:

- The **WHO 2021–2030 NTD Roadmap** sets targets to eliminate **20 neglected tropical diseases**, including Trachoma, through improved **sanitation and healthcare**.

39) Answer: b) Due to the close size and mass ratio between Pluto and Charon

Explanation:

- Pluto and Charon are referred to as a **double dwarf planet system** due to their **close size and mass ratio**.
- Both bodies orbit a **common point in space**, unlike typical moon-planet systems.

40) Answer: a) Only one

Explanation:

- **Statement 1** is correct: The Indian Wild Ass helps **disperse seeds**, promoting vegetation growth.
- **Statement 2** is incorrect: It inhabits **desert and grassland ecosystems**, not forests.
- **Statement 3** is correct: Its grazing creates **pathways**, enhancing **habitat diversity**.

41) Answer: b) Increased per-transaction limit from ₹5,000 to ₹10,000

Explanation:

- The **per-transaction limit** for UPI123Pay has been raised from ₹5,000 to **₹10,000** to allow **higher-value transactions** for users without smartphones or internet access.
- UPI123Pay offers transaction methods like **IVR, missed calls, and sound-based payments**, aiming to enhance **financial inclusion**.

42) Answer: d) Garhwal Himalayas

Explanation:

- **Chaukhamba** is a prominent massif in the **Garhwal Himalayas** in Uttarakhand.
- It is part of the **Gangotri Group of peaks** and is located at the **head of the Gangotri Glacier**, contributing to the regional geography.

43) Answer: d) Protein design and prediction

Explanation:

- The **2024 Nobel Prize in Chemistry** was awarded to **David Baker, Demis Hassabis, and John Jumper** for their work in **protein design and prediction**.
- They developed **AI-based methods** to predict protein structures, advancing **drug discovery, biotechnology**, and other scientific fields.

44) Answer: b) Metal oxides and silicon dioxide

Explanation:

- **Slag**, a byproduct of **steel production**, contains **metal oxides and silicon dioxide**.
- It is used in **construction and environmental projects**, contributing to sustainable practices by repurposing industrial waste.

45) Answer: a) Only one

Explanation:

- **Statement 1** is incorrect: The SSNs will be **indigenously constructed**, although some foreign components or technology may be used.

- **Statement 2** is correct: SSNs are used for **stealth, long-range surveillance**, and offensive missions.
- **Statement 3** is correct: SSNs enhance **India's naval capabilities**, especially in **underwater warfare** and deterrence in the Indian Ocean region.

46) Answer: c) Lothal

Explanation:

- The NMHC is being built in **Lothal**, an ancient maritime center in Gujarat, to **showcase India's maritime history and legacy**.
- Lothal was historically a significant **trade and shipping hub**, making it an ideal location for the complex.

47) Answer: d) Hydraulic fracturing

Explanation:

- **Hydraulic fracturing** (fracking) involves injecting water, sand, and chemicals at **high pressure** to crack open rocks and release shale gas.
- This technique is widely used because shale gas is trapped in **low-permeability rock formations**.

48) Answer: a) Only one

Explanation:

- **Statement 1** is correct: Rising temperatures are increasing **plant cover** on the Antarctic Peninsula.
- **Statement 2** is correct: Invasive species could **threaten native flora and fauna**.
- **Statement 3** is incorrect: Increased plant cover reduces the **albedo effect**, leading to **higher temperatures**, not lower.

49) Answer: d) Repairing DNA damage induced by Topoisomerase 1 inhibitors

Explanation:

- **TDP1** is a **DNA repair enzyme** that fixes damage caused by **Top1 inhibitors** used in chemotherapy.
- Research suggests combining **CDK1 inhibitors** with Top1 inhibitors can block DNA repair, **enhancing cancer treatment** by disrupting cancer cell survival.

50) Answer: d) 2 and 3 only

Explanation:

- **Statement 1** is incorrect: The NMHC is under the **Ministry of Ports, Shipping, and Waterways**, not the Ministry of Culture.
- **Statement 2** is correct: It will feature **coastal state pavilions** to represent India's maritime diversity.
- **Statement 3** is correct: **Tata Projects Ltd** is managing the construction of the complex.