

Q1. Consider the following statements regarding Carbon Credits under Article 6.4 of the Paris Agreement:

1. A carbon credit is a tradable certificate representing the verified reduction, avoidance, or removal of one metric tonne of carbon dioxide (CO₂) or its greenhouse gas equivalent.
2. Carbon credits issued under Article 6.4 are supervised by a dedicated United Nations body to ensure environmental integrity and prevent double-counting.

Which of the above statements are correct?

- (A) 1 only
(B) 2 only
(C) Both 1 and 2
(D) Neither 1 nor 2

Answer: (C)

Explanation

- **Statement 1 is correct.** A **carbon credit** represents the verified reduction, avoidance, or removal of **one metric tonne of carbon dioxide (CO₂)** or its equivalent amount of other greenhouse gases. These credits can be traded in carbon markets to encourage emission reductions.
- **Statement 2 is correct.** Credits generated under **Article 6.4 of the Paris Agreement** are administered under the **Article 6.4 Supervisory Body** established by the United Nations. The mechanism applies robust accounting rules and scientific methodologies to ensure **high environmental integrity**, avoid **double-counting**, and promote credible climate mitigation.

Q 2. Consider the following geographical features:

1. High Tatras
2. Danubian Lowland
3. Slovak Ore Mountains
4. Beskid Ranges

Which of the above geographical features are located within the sovereign territory of Slovakia?

- (A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1 and 4 only
(D) 1, 2, 3 and 4

Answer: (D)

Explanation

- **High Tatras** are part of the **Central Western Carpathians** and contain **Gerlachovský Peak (2,655 m)**, the highest point in Slovakia.

- **Danubian Lowland** occupies southern Slovakia and is among the country's most fertile agricultural plains.
- **Slovak Ore Mountains** form part of the **Inner Western Carpathians** and are historically renowned for their rich mineral resources.
- **Beskid Ranges** belong to the **Outer Western Carpathians** and extend along Slovakia's northern borders with Poland and the Czech Republic.

Hence, **all four geographical features are located within Slovakia.**

Q 3. Match the following Research Institutes with their respective locations:

Column I (Research Institute)

Column II (Location)

- | | |
|--|--------------|
| 1. National Soybean Research Institute | A. Bharatpur |
| 2. Indian Institute of Groundnut Research | B. Indore |
| 3. Indian Institute of Rapeseed and Mustard Research | C. Junagadh |

Select the correct answer using the code given below:

- (A) 1–B, 2–C, 3–A
(B) 1–A, 2–B, 3–C
(C) 1–C, 2–A, 3–B
(D) 1–B, 2–A, 3–C

Answer: (A)

Explanation

- **1 → B: ICAR–National Soybean Research Institute (NSRI)** is located at **Indore, Madhya Pradesh**, the country's major soybean-producing region.
- **2 → C: ICAR–Indian Institute of Groundnut Research (IIGR)** is situated at **Junagadh, Gujarat**, a leading groundnut-growing region.
- **3 → A: ICAR–Indian Institute of Rapeseed and Mustard Research (IIMR)** is located at **Bharatpur, Rajasthan**, reflecting the state's importance in mustard cultivation.

Hence, the correct matching is **1–B, 2–C, 3–A.**

Q 4. Consider the following statements regarding the Rann of Kachchh:

Statement I: The Rann of Kachchh in Gujarat serves as one of the most important nesting and breeding grounds for both Greater and Lesser Flamingos in India.

Statement II: The hypersaline mudflats and shallow wetlands of the Rann isolate nesting colonies from terrestrial predators while supporting abundant populations of carotenoid-rich algae and other microorganisms.

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, but 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.

Answer: (A)

Explanation

- **Statement I is correct.** The **Rann of Kachchh**, popularly known as "**Flamingo City**," is the largest and one of the most significant natural breeding grounds for **Greater and Lesser Flamingos** in the Indian subcontinent.
- **Statement II is correct.** The **hypersaline mudflats and shallow wetlands** create ideal breeding conditions by isolating nesting colonies from terrestrial predators. These nutrient-rich waters also support **blue-green algae, diatoms, and small crustaceans**, which constitute the flamingos' primary food source and contribute to their characteristic pink coloration.
- Therefore, **Statement II correctly explains Statement I.**

Q 5. Consider the following statements regarding the SEHAT Mission:

1. The mission promotes the bio-fortification of crops to enhance their iron, zinc, and other micronutrient content.
2. It supports research on food-based interventions that can help prevent or manage non-communicable diseases such as diabetes and cancer.
3. The mission encourages the cultivation and consumption of climate-resilient millets such as Kodo, Kutki, and Ragi.

How many of the above statements are correct?

- (A) Only one
- (B) Only two
- (C) All three
- (D) None

Answer: (C)

Explanation

- **Statement 1 is correct.** The SEHAT Mission promotes **bio-fortification** by developing crop varieties naturally enriched with essential micronutrients such as **iron and zinc**, thereby addressing hidden hunger.
- **Statement 2 is correct.** The mission supports research on **food-based solutions** for preventing and managing **non-communicable diseases (NCDs)**, including diabetes, hypertension, and cancer.

- **Statement 3 is correct.** The initiative promotes **nutrient-rich and climate-resilient millets**, including **Kodo, Kutki, and Ragi**, to improve nutritional security while supporting sustainable agriculture.

Q 6. In the context of atmospheric forecasting and disaster management, how do ‘Andhi’ storms differ fundamentally from tropical cyclones?

- (A) Andhi storms originate over warm oceans and follow predictable linear tracks, allowing forecasts several days in advance.
- (B) Andhi storms are highly localized convective systems that develop rapidly over land, providing only a narrow nowcasting window.
- (C) Andhi storms are sustained by latent heat released over warm oceans, whereas tropical cyclones develop under dry atmospheric conditions.
- (D) Andhi storms occur uniformly throughout the year, while tropical cyclones are confined exclusively to the winter season.

Answer: (B)

Explanation

- **Andhi storms** are **localized convective dust storms** that develop rapidly over land, particularly across the **Indo-Gangetic Plains**, due to localized atmospheric instability.
- Unlike **tropical cyclones**, which form over **warm ocean waters** and can be tracked several days before landfall, Andhi storms emerge suddenly in scattered locations and generally provide only a **few hours of forecasting lead time**.
- Consequently, meteorologists rely on **real-time nowcasting** rather than long-range forecasting to issue timely warnings and reduce disaster impacts.

Q7. Consider the following statements about the Indian Grey Hornbill:

1. It is a medium-sized arboreal bird endemic to the Indian subcontinent.
2. The species is largely confined to undisturbed tropical evergreen forests with dense canopies.
3. It is classified as **Least Concern (LC)** under the IUCN Red List.

Which one of the following is correct?

- A. All three statements are correct.
- B. There is no correct statement.
- C. There are two correct statements that include statement 3.
- D. There is only one correct statement.

Answer: C

Explanation

Statement 1 is correct: The Indian Grey Hornbill (*Ocyrceros birostris*) is a medium-sized arboreal hornbill endemic to the Indian subcontinent and is distributed across India, Nepal, Pakistan, and Bangladesh.

Statement 2 is incorrect: The species is highly adaptable and is commonly found in open deciduous forests, thorn forests, riverine woodlands, agricultural landscapes, villages, and urban parks. It is not restricted to dense evergreen forests.

Statement 3 is correct: Owing to its wide distribution, ecological adaptability, and stable population, the Indian Grey Hornbill is listed as **Least Concern (LC)** on the IUCN Red List.

Q8. Consider the following statements about the Korku community:

1. The Korku are a Scheduled Tribe belonging to the Munda ethnolinguistic group.
2. They inhabit regions that are geographically associated with the Gond tribal population.
3. They are recognized as a Particularly Vulnerable Tribal Group (PVTG).

Which one of the following is correct?

- A. All three statements are correct.
- B. There is no correct statement.
- C. There is only one correct statement.
- D. There are two correct statements that include statement 3.

Answer: C

Explanation

Statement 1 is correct: The Korku are a Scheduled Tribe of Central India and belong to the Munda branch of the Austroasiatic linguistic family.

Statement 2 is correct: They inhabit areas of Madhya Pradesh and Maharashtra where they live in close proximity to the Gond tribe, resulting in long-standing cultural interaction.

Statement 3 is incorrect: Although the Korku are recognized as a Scheduled Tribe, they are **not** notified as a Particularly Vulnerable Tribal Group (PVTG).

Q9. Consider the following statements about Cyclosporiasis:

1. It is an intestinal disease caused by a microscopic single-celled protozoan parasite.
2. The infection spreads rapidly through direct person-to-person contact.
3. Consumption of contaminated fresh fruits and vegetables is a major mode of transmission.

Which one of the following is correct?

- A. There are two correct statements that include statement 3.
- B. There is no correct statement.
- C. All three statements are correct.
- D. There is only one correct statement.

Answer: A

Explanation

Statement 1 is correct: Cyclosporiasis is a foodborne intestinal infection caused by *Cyclospora cayetanensis*, a microscopic protozoan parasite.

Statement 2 is incorrect: Direct human-to-human transmission is uncommon because the parasite excreted in feces requires several days to weeks in the environment to become infectious.

Statement 3 is correct: Infection mainly occurs through the consumption of contaminated fresh produce such as leafy vegetables, herbs, berries, and peas contaminated via the fecal-oral route.

Q 10. The ICMR-IRIS framework, recently introduced under the Draft National Health Research Policy, is primarily intended to:

- A. Monitor mutation patterns of antimicrobial-resistant pathogens.
- B. Assess health researchers based on clinical translation and policy impact.
- C. Measure equity in rural healthcare delivery.
- D. Standardize governance protocols for medical diagnostic data.

Answer: B

Explanation

The **ICMR Impact of Research and Innovation Scale (ICMR-IRIS)** is an evaluation framework proposed under the Draft National Health Research Policy, 2026.

It shifts the assessment of researchers beyond publication counts and journal impact factors by emphasizing:

- Translation of research into clinical applications.
- Contribution to public health policy.
- Development of affordable indigenous healthcare technologies.
- Tangible improvements in national healthcare outcomes.

The framework seeks to align publicly funded research with India's healthcare priorities.

Q 11. Consider the following statements regarding the National Investment Policy for Urea-2026 (NIPU-2026):

1. The policy aims to promote the establishment and revival of natural gas-based urea manufacturing plants.
2. It succeeds the earlier New Investment Policy (NIP)-2012.

Which of the above statements are correct?

- A. 1 only
- B. 2 only

- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: C

Explanation

Statement 1 is correct: NIPU-2026 seeks to expand India's domestic urea production by encouraging investment in modern natural gas-based fertilizer plants.

Statement 2 is correct: The policy replaces the New Investment Policy (NIP)-2012 after the earlier investment window concluded in 2019 and aims to substantially enhance indigenous urea production capacity.

Q 12. Consider the following statements regarding the geographical profile of the Gandak River:

1. The Gandak is one of the largest left-bank tributaries of the Ganga River.
2. The river enters the Indian plains through the state of West Bengal.

Which of the above statements are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Explanation

Statement 1 is correct: The Gandak River, also known as the **Narayani** or **Sapt Gandaki**, is a major transboundary Himalayan river and one of the largest left-bank tributaries of the Ganga.

Statement 2 is incorrect: The river enters the Indian plains near **Triveni** and flows into **Bihar** (briefly forming part of the Bihar–Uttar Pradesh boundary), not West Bengal. It eventually joins the Ganga near **Hajipur**. The river also deposits enormous quantities of Himalayan sediments, forming an extensive megafan across northwestern Bihar.

Q 13. From a technical perspective, why does 5G network slicing provide reliable connectivity even during periods of heavy network congestion?

- A. It transfers cellular towers into geostationary orbit to avoid terrestrial interference.
- B. It uses software-defined virtualization to create isolated end-to-end virtual networks on shared physical infrastructure.
- C. It reduces the processing speed of all connected devices to conserve network resources.
- D. It converts digital data packets into analog signals to reduce bandwidth consumption.

Answer: B

Explanation

Unlike conventional 4G networks, where all users compete for the same network resources, **5G network slicing** enables operators to partition a single physical network into multiple independent virtual networks using **Software-Defined Networking (SDN)** and **Network Functions Virtualization (NFV)**.

Each network slice is assigned dedicated bandwidth, processing capability, and latency characteristics. As these slices operate independently, congestion affecting one slice does not degrade the performance of another, ensuring consistent quality of service for different applications on the same physical infrastructure.

Q 14. Consider the following statements regarding the 'Nirbhay Raho' Initiative:

1. It is a grassroots capacity-building programme financed through the Union Government's non-lapsable **Nirbhaya Fund**.
2. The Ministry of Women and Child Development is the nodal ministry responsible for implementing the initiative.
3. The programme adopts a cascading **Training of Trainers (ToT)** approach to strengthen legal awareness and survivor-centric response mechanisms at the grassroots level.

Which of the statements given above are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1, 2 and 3
- D. 1 and 3 only

Answer: D

Explanation

Statement 1 is correct: The **Nirbhay Raho Initiative** is funded through the Union Government's **Nirbhaya Fund** and focuses on strengthening women's safety by building institutional capacity within rural local governance systems.

Statement 2 is incorrect: The initiative is implemented under the **Ministry of Panchayati Raj**, which serves as the nodal ministry. The programme leverages Panchayati Raj Institutions to enhance gender-sensitive governance and improve community-level safety mechanisms.

Statement 3 is correct: The initiative follows a cascading **Training of Trainers (ToT)** model, under which master trainers train local officials and community leaders. The programme covers legal awareness, gender sensitization, cyber safety, domestic violence laws, victim compensation, and survivor-centred response systems at the village and block levels.