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HISTORY
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Public finance in India

1. With reference to the government's revenue receipts, consider the following statements:
1. Tax revenue includes all income earned by the government through direct and indirect taxes.
2. Dividends from Public Sector Undertakings (PSUs) and interest on loans are classified as non-tax revenue.
3. Grants received by the central government are always internal in nature.

Which of the statements given above is/are correct?

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

Answer: A. 1 and 2 only

Explanation:

- Tax revenue includes all direct and indirect taxes collected by the government.
- Profits/dividends from PSUs and interest from loans are part of **non-tax revenue**.
- Grants received by the **Central Government** are **external**, not internal. Internal grants are relevant for **state governments**.

Source: Indian Economy (NCERT)

2. Which of the following are classified as **Non-Tax Revenue Receipts** of the Government of India?
1. Fees and fines collected by government departments
2. Interest received on loans given to state governments
3. Income from stamp printing and coin minting
4. Income tax collected from individuals

Select the correct answer using the code below:

A. 1, 2 and 3 only
B. 1 and 4 only
C. 2, 3 and 4 only
D. 1, 2, 3 and 4

Answer: A. 1, 2 and 3 only

Explanation:

- Fees and fines are part of non-tax revenue.
- **I**nterest from internal lending is a non-tax revenue.
- Income from fiscal services like coin minting and stamp printing is non-tax revenue.
- Income tax is a **direct tax** and thus part of **tax revenue**, not non-tax revenue.

Source: Indian Economy (NCERT)

3. With reference to **Revenue Expenditure** in government budgeting, consider the following statements:
1. Revenue expenditure is of a consumptive nature and does not result in the creation of productive assets.
2. Salaries, pensions, subsidies, and interest payments are all components of revenue expenditure.
3. Capital grants given to state governments are included under revenue expenditure.

Which of the statements given above is/are correct?

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

Answer: A. 1 and 2 only

Explanation:

- Revenue expenditure is consumptive and does not create productive assets.
- Items like salaries, pensions, subsidies, and interest payments are typical examples of revenue expenditure.
- **Capital grants**, by definition, are considered **capital expenditure**, not revenue expenditure. Only **non-capital grants** are part of revenue expenditure.

Source: Indian Economy (NCERT)

4. With reference to **Capital Receipts** in the Union Government's financial accounts, consider the following statements:

1. Capital receipts include all non-revenue receipts that may be used for investment or development purposes.
2. Borrowings from institutions like the World Bank and IMF are classified as capital receipts.
3. Interest received on loans given by the government is a capital receipt.

Which of the statements given above is/are correct?

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

Answer: A. 1 and 2 only

Explanation:

- Capital receipts are non-revenue receipts meant for investment/development but may be diverted to meet revenue needs.
- External borrowings from institutions like the **World Bank**, **IMF**, etc., are part of capital receipts.
- **Interest received** on loans is part of **revenue receipts**, not capital receipts. Only the **loan principal recovery** is a capital receipt.

Source: Indian Economy (NCERT)

5. Consider the following statements:

1. A **Surplus Budget** occurs when the government's estimated revenue exceeds its estimated expenditure in a financial year.
2. **Zero-Based Budgeting** requires all expenditures to be re-justified each time a budget is prepared, regardless of previous allocations.
3. **Sunset Budgeting** is a budgeting technique where every budget is automatically dissolved at the end of the financial year.

Which of the statements given above is/are correct?

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

Answer: A. 1 and 2 only

Explanation:

- Surplus budget refers to revenues exceeding expenditures.
- Zero-Based Budgeting involves re-evaluating all expenses from scratch each time.

- Sunset Budgeting refers to schemes **ending after a prescribed time**, not **entire budgets** dissolving annually.

Source: Indian Economy (NCERT)

6. Consider the following statements:
1. Expansionary fiscal policy is used to stimulate economic activity during periods of recession by increasing government spending or reducing taxes.
2. Contractionary fiscal policy is aimed at curbing inflation by withdrawing money from the market through increased taxation or reduced government expenditure.
3. Both expansionary and contractionary fiscal policies are implemented by the Reserve Bank of India.

Which of the statements given above is/are correct?
A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3

Answer: A. 1 and 2 only
Explanation:
- Expansionary fiscal policy boosts demand during a downturn through higher spending or lower taxes.
- Contractionary policy addresses inflation through spending cuts or tax hikes.
- Fiscal policies are implemented by the **government**, not the **RBI**. The RBI implements **monetary policy**.

Source: Indian Economy (NCERT)

7. Which of the following statements correctly describes *Deficit Financing* in the context of India's fiscal policy?
1. It involves borrowing from the Reserve Bank of India.
2. It is undertaken only when the government has surplus revenue.
3. It may involve issuance of treasury bills and use of cash balances.

Select the correct answer using the code given below:
A. 1 and 2 only
B. 1 and 3 only
C. 2 and 3 only
D. 1, 2 and 3

Answer: B. 1 and 3 only
Explanation:
- Borrowing from the RBI is a key component of deficit financing.
- Deficit financing is done when there is a **shortfall**, not surplus.
- Treasury bills and accumulated cash balances are tools of deficit financing.

Source: Indian Economy (NCERT)

8. Which of the following best describes the implications of a **high Revenue Deficit**?
A. It indicates the government is investing in infrastructure and asset creation.
B. It implies the government is dis-saving and using past savings to meet current expenses.
C. It shows surplus in the revenue account of the budget.
D. It reflects an increase in tax revenues exceeding non-tax revenues.

Answer: B.

Explanation:

- A **high revenue deficit** means the government is spending more than its revenue income on **day-to-day operations**, not asset creation.
- It often leads to **dis-saving** and increased borrowing **for consumption**, not investment.

Source: Indian Economy (NCERT)

9. Which of the following components are included in the calculation of **Gross Fiscal Deficit (GFD)**?

1. Total government expenditure
2. Revenue receipts
3. Capital receipts that do not create debt (e.g., loan recovery, PSU disinvestment)

Select the correct answer using the code given below:

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

Answer: D. 1, 2 and 3

Explanation:

- GFD = **Total Expenditure** – (**Revenue Receipts + Non-debt creating Capital Receipts**)
- Hence, all three components are relevant to the formula.

Source: Indian Economy (NCERT)

10. With reference to types of fiscal deficit, consider the following statements:

1. A **structural deficit** occurs due to temporary economic downturns such as recessions.
2. A **cyclical deficit** emerges even when the economy is at full employment.

Which of the statements given above is/are **correct**?

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

Answer: D

Explanation:

- Structural deficit is **independent** of economic cycles; it persists even during **upswings**.
- Cyclical deficit occurs when the economy is **not at full potential**, e.g., during a **recession**.

Source: Indian Economy (NCERT)

Environment and Ecology

Q. With reference to Habitat and Environment, consider the following statements:

1. A habitat always contains life, whereas the environment does not necessarily have life.
2. All habitats are environments, but all environments are not habitats.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Correct Answer: (c)

Explanation:

- **Statement 1:** Correct. A habitat is a specific place where a particular species lives, so it always contains life. The environment includes all external factors (biotic and abiotic), and may or may not contain life.
- **Statement 2:** Correct. Every habitat is part of an environment, but an environment can include non-living components or areas without life, so not all environments are habitats.

Source- Shankar IAS

Q. Which of the following best describes an ecosystem?

(a) An ecosystem is a functional unit where living organisms interact only among themselves without involving the physical environment.

(b) An ecosystem can be of any size, includes specific and limited species, and involves interaction between biotic and abiotic components through nutrient cycles and energy flows.

(c) An ecosystem consists only of living organisms and does not depend on abiotic factors like soil or climate.

(d) An ecosystem is a large geographical area that has no interdependence between species and physical components.

Correct Answer: (b)

Explanation: Option (b) accurately describes an ecosystem as a functional unit where living organisms (biotic components) interact with each other and with non-living elements (abiotic components) like soil, water, and climate.

Source- Shankar IAS

Q. Which of the following characteristic features is correctly paired with its vegetation type?

(a) Sloping branches and needle-like leaves — Taiga vegetation

(b) Deep roots — Tundra vegetation

(c) Waxy stem and thick leaves — Tropical vegetation

(d) Canopy — Desert vegetation

Correct Answer: (a)

Explanation:

(a) Correct – Taiga trees have sloping branches and needle-like leaves to handle snow and reduce water loss.

(b) Wrong – Deep roots are found in desert plants, not tundra.

(c) Wrong – Waxy stems and thick leaves are desert plant features, not tropical.

(d) Wrong – Canopy is typical of tropical forests, deserts lack dense canopy.

Source- Shankar IAS

Q. Which of the following best describes natural selection as proposed by Darwin and Wallace?

(a) It is the process by which organisms acquire new genes through mutation alone.

(b) It is the evolutionary force that selects beneficial genetic variations, enabling better adaptation to the environment.

(c) It refers to sudden large-scale changes in species caused by geographic isolation.

(d) It means all members of a species survive equally regardless of genetic traits.

Correct Answer: (b)

Explanation: Natural selection is the mechanism by which individuals with advantageous genetic traits are more likely to survive, reproduce, and pass those traits to their offspring. It acts on existing genetic variations and favors adaptations that improve an organism's fitness in its environment
Source- Shankar IAS

Q. Consider the following statements about Ecotone:
1. An ecotone is a transition zone between two different biomes or ecosystems.
2. Mangrove forests represent an ecotone between marine and terrestrial ecosystems.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Correct Answer: (c)
Explanation: An ecotone is indeed a transitional area where two distinct ecosystems or biomes meet and integrate. Mangrove forests are classic examples of ecotones as they lie between marine (saltwater) and terrestrial (land) ecosystems, exhibiting characteristics of both.
Source- Shankar IAS

Q. Consider the following statements about Edge Effect and Edge Species:
1. Edge effect refers to changes in population or community structures at the boundary of two habitats (ecotone).
2. Edge effect is more prominent in aquatic ecosystems than terrestrial ecosystems.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Correct Answer: (a)
Explanation: Edge effect occurs at the boundary of two habitats (ecotones) where species diversity and population density often increase. It is more prominent in terrestrial ecosystems than in aquatic ones. Hence, only statement 1 is correct.
Source- Shankar IAS

Q. Which term best describes both the physical space an organism occupies and its functional role in the community?
(a) Habitat
(b) Ecological niche
(c) Ecotone
(d) Home range

Correct Answer: (b)
Explanation:
- Ecological niche refers to the organism's role and space in its community.
- Habitat is simply where an organism lives.
- Ecotone is a transition zone between ecosystems.

- Home range is the area an animal uses regularly, often larger than its habitat.

Source- Shankar IAS

Q. Consider the following statements about ecological succession:

1. Ecological succession is the gradual replacement of one community by another over time.
2. The pioneer community is the first to colonize a new area during succession.
3. The climax community is unstable and short-lived.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) All 1, 2 and 3

Correct Answer: (a)
Explanation: Statements 1 and 2 are correct. Ecological succession is a gradual, directional process where one biological community replaces another. The pioneer community consists of the first organisms to colonize a new or disturbed area. Statement 3 is incorrect because the climax community is stable, mature, and long-lasting, representing the final stage of succession
Source- Shankar IAS

Q. Lichens, which can initiate ecological succession on bare rock, are a symbiotic association of:

(a) fungi and mosses
(b) algae and fungi
(c) algae and bacteria
(d) bacteria and fungi

Correct Answer: (b)
Explanation: Lichens are a classic example of mutualism, where algae (which perform photosynthesis) and fungi (which provide structure and absorb moisture/nutrients) live together. They are pioneer species that help break down bare rock into soil, initiating primary succession.
Source- Shankar IAS

Q. "Saprotrophs" are best classified under which of the following groups?

(a) Secondary consumers
(b) Decomposers
(c) Producers
(d) Consumers

Correct Answer: (b) Decomposers
Explanation: Saprotrophs like fungi and bacteria break down dead organic matter, making nutrients available for reuse in the ecosystem.
Source- Shankar IAS

Function of Ecosystem

1. With reference to the **Pyramid of Numbers in ecosystems**, consider the following statements:
1. The Pyramid of Numbers in a forest ecosystem is typically inverted due to a small number of large producers.
2. The Pyramid of Numbers always accurately represents the biomass and energy flow at each trophic level.

Which of the statements given above is/are correct?

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

Answer: A. 1 only
Explanation:

- In a forest ecosystem, a few large trees (producers) support a greater number of herbivores (e.g., birds), followed by more parasites and hyperparasites, forming an inverted pyramid of numbers.
- The pyramid of numbers does not account for the biomass or size of organisms at each trophic level, and thus does not always accurately represent the energy or mass flow within an ecosystem.

Source: Environment (NCERT)

2. Consider the following statements:
Assertion (A): In a forest ecosystem, the pyramid of numbers is generally inverted.
Reason (R): A few large-sized trees support a greater number of herbivores, parasites, and hyperparasites at successive trophic levels.
For the Assertion (A) and Reason (R) below, choose the correct alternative from the following.
a) Both A and R are true, and R is the correct explanation of A
b) Both A and R are true, but R is not the correct explanation of A
c) A is true, but R is false
d) A is false, but R is true

Answer: a) Both A and R are true, and R is the correct explanation of A
Explanation:

- In **forest ecosystems**, the **pyramid of numbers is inverted** because **a small number of large-sized producers (trees)** support a **greater number of herbivores (like birds), parasites, and hyperparasites** at higher trophic levels.
- Thus, **both the assertion and reason are correct**, and the **reason appropriately explains** why the pyramid is inverted in forest ecosystems.

Source: Environment (NCERT)

3. Consider the following statements regarding the **Pyramid of Biomass**:
1. The pyramid of biomass in terrestrial ecosystems is generally upright, with maximum biomass at the producer level.
2. In most of the aquatic ecosystems, the pyramid of biomass is inverted.
3. The pyramid of biomass is measured by counting the number of individuals at each trophic level.

How many of the statements above statements is/are **correct**?
a) 1 only
b) 2 only

c) 3 only
d) None

Answer: b) 1 and 2 only
Explanation:

- In terrestrial ecosystems, producers like trees and grasses have maximum biomass, making the pyramid upright.
- In aquatic ecosystems, fast-reproducing phytoplankton have less standing biomass than primary consumers (like zooplankton), leading to an inverted pyramid.
- Pyramid of biomass is based on **dry weight (biomass)**, not the **number of individuals** — that's the pyramid of numbers.

Source: Environment (NCERT)

3. Consider the following statements:
Statement I: The pyramid of energy is always upright, regardless of the ecosystem type.
Statement II: This is because at each trophic level, a portion of energy is lost as heat and only a small fraction is passed on to the next level.
Which one of the following is correct?
a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I
b) Both Statement I and Statement II are correct but Statement II is not the correct explanation of Statement I
c) Statement I is correct but Statement II is incorrect
d) Statement I is incorrect but Statement II is correct

Answer: a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I
Explanation:

- The energy pyramid is always upright in all ecosystems (terrestrial or aquatic) because energy flow follows the laws of thermodynamics.
- Due to losses at each trophic level (mainly as heat through respiration), only a small fraction of energy is transferred upward.
- Since Statement II correctly **explains** Statement I based on energy flow dynamics, **option (a)** is correct.

Source: Environment (NCERT)

4. With reference to **Bioaccumulation and Biomagnification,** consider the following statements:
1. Bioaccumulation refers to the increase in concentration of a pollutant from the environment to the first organism in a food chain.
2. Biomagnification refers to the increase in concentration of a pollutant as it moves up successive trophic levels in a food chain.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

Answer: C. Both 1 and 2
Explanation:

- Bioaccumulation is the process by which pollutants from the environment accumulate in the first organism of a food chain.
- Biomagnification is the process where the concentration of pollutants increases at each successive trophic level in a food chain (e.g., DDT in birds of prey).

Source: Environment (NCERT)

5. With reference to **types of biotic interactions among species**, consider the following statements:
1. In mutualism, both interacting species derive benefit from the relationship.
2. In amensalism, one species is harmed while the other remains unaffected.
3. Competition results in mutual benefit to both the interacting species.
4. In commensalism, one species benefits and the other remains unaffected.

Which of the statements given above are correct?
A. 1, 2 and 4 only
B. 1, 3 and 4 only
C. 2, 3 and 4 only
D. 1, 2, 3 and 4

Answer: A. 1, 2 and 4 only
Explanation:
- Mutualism involves mutual benefit (+/+) to both species.
- Amensalism is a (–/0) interaction where one species is harmed, and the other is unaffected.
- Competition is a (–/–) interaction; both species are harmed due to resource scarcity.
- Commensalism is a (+/0) interaction where one species benefits, and the other is unaffected.

Source: Environment (NCERT)

6. **Which of the following best describes Amensalism?**
a) One species benefits while the other remains unaffected
b) Both species are harmed due to the interaction
c) One species is harmed while the other remains unaffected
d) Both species benefit from the interaction

Answer: c) One species is harmed while the other remains unaffected
Explanation:
- **Amensalism** is a **(–/0)** interaction where **one species is harmed** and the **other is neither harmed nor benefited**.
- *Example:* A large tree shading a smaller plant, thus stunting its growth; the tree remains unaffected.

Source: Environment (NCERT)

7. Ecological succession is typically characterised by:
1. Increased biological productivity
2. Increased niche specialization
3. Simpler food webs
4. Shift of nutrients from reservoirs to organisms

Select the correct answer using the code below:
(a) 1 and 2 only
(b) 1, 2 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Answer: (b) 1, 2 and 4 only

Explanation:

- The following characteristics are observed during ecological succession:
  - **Productivity rises as more plants grow,** increasing biomass and energy flow in the system.
  - **Organisms begin to occupy more specific ecological roles**, reducing competition and enhancing ecosystem stability.
  - **Succession leads to more complex food webs** with multiple trophic levels and interactions, not simpler ones.
  - **Nutrients that were earlier in the soil, rocks, or atmosphere are increasingly cycled** through living organisms (biotic components) as the ecosystem matures.

Source: Environment (NCERT)

8. With reference to the **Carbon Cycle in nature**, consider the following statements:

1. The carbon cycle includes both short-term exchanges through processes like photosynthesis and respiration.
2. Carbon stored in deep ocean sediments and fossil fuels is permanently locked and cannot re-enter the atmosphere.

Which of the statements given above is/are correct?

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

Answer: A. 1 only

Explanation:

- The carbon cycle includes both short-term exchanges through processes like photosynthesis and respiration, and long-term storage in sediments and fossil fuels.
- Carbon stored in sediments and fossil fuels can return to the atmosphere — through erosion, geological uplift, and combustion (burning of fossil fuels), releasing CO_2 back into the atmosphere.

Source: Environment (NCERT)

9. With reference to the **Nitrogen Cycle,** consider the following statements:

1. Atmospheric nitrogen must be converted to usable forms like ammonia or nitrate before plants can absorb it.
2. Denitrifying bacteria help in converting nitrates and nitrites back into elemental nitrogen.
3. Human-induced nitrogen fixation has become a major source of nitrogen pollution.

Which of the statements given above are correct?

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

Answer: D. 1, 2 and 3

Explanation:

- Plants cannot absorb elemental nitrogen (N_2) directly; it must first be converted into ammonia, nitrates, or nitrites through processes like biological or atmospheric nitrogen fixation.

- Denitrifying bacteria such as Pseudomonas convert nitrates and nitrites into elemental nitrogen (N_2), which escapes into the atmosphere, completing the nitrogen cycle.
- Human activity, especially industrial nitrogen fixation (e.g. fertilizers), has exceeded natural fixation and caused environmental issues like eutrophication, acid rain, and harmful algal blooms.

Source: Environment (NCERT)

10. With reference to **sedimentary and biogeochemical cycles in ecosystems**, consider the following statements:

1. In a sedimentary cycle, elements like phosphorus and calcium do not pass through the atmosphere rather move through erosion.
2. Unlike energy, nutrients are recycled continuously through ecosystems and are not permanently lost.

Which of the statements given above is/are correct?

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

Answer: C. Both 1 and 2

Explanation:

- Sedimentary cycles (e.g., phosphorus, calcium) **do not involve the atmosphere** and primarily occur through **geological processes** like erosion, sedimentation, volcanic activity, and biological processes such as excreta of marine birds.
- Unlike energy (which is lost as heat), **nutrients are recycled indefinitely** within the ecosystem through the **biogeochemical cycles**.

Source: Environment (NCERT)

Terrestrial ecosystem

1. With reference to the Tundra biome, consider the following statements:

1. The alpine tundra exhibits greater diurnal temperature variation than the arctic tundra.
2. Tundra vegetation is characterized by shallow root systems and short stature due to permafrost and low soil fertility.
3. Large-bodied mammals in the tundra are an example of Gloger's Rule.
4. In the southern hemisphere, tundra regions are more extensive than in the northern hemisphere due to larger landmass near the South Pole.

Which of the above statements is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1, 2 and 3 only
(d) 1, 2 and 4 only

Answer: (a) 1 and 2 only

Explanation:

- Alpine tundra, being at high altitudes at various latitudes, experiences strong day-night temperature swings, unlike the more consistently cold Arctic tundra.
- Permafrost prevents deep root penetration, and low nutrients support only low-growing vegetation.
- The large body size and small appendages (ears/tail) are in line with **Bergmann's and Allen's Rules**, not Gloger's Rule, which relates to pigmentation.

- Tundra is **less extensive** in the Southern Hemisphere because of the dominance of oceans around Antarctica.

Source: Environment(N.C.E.R.T)

2. With reference to forest ecosystems, consider the following statements:

1. Boreal forest soils are acidic and nutrient-rich due to slow decomposition and accumulation of organic litter.
2. Temperate evergreen forests are commonly found in regions with warm, wet summers and dry, cold winters.
3. Boreal forests exhibit lower biological productivity and community stability.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) 2 and 3 only

Answer: (c) 3 only

Explanation:

- Boreal soils are **acidic and nutrient-poor**, not nutrient-rich. This is due to leaching and slow decomposition of coniferous litter.
- Temperate evergreen forests occur in **Mediterranean-type climates** with **warm, dry summers** and **cool, moist winters**, not the reverse.
- Boreal forests have low productivity and stability due to harsh climates and poor soil quality.

Source: Environment(N.C.E.R.T)

3. Consider the following statements:

Statement-I: Tropical rainforests exhibit poor soil fertility, yet support rich biodiversity and dense vegetation.

Statement-II: Rapid nutrient cycling in the litter layer compensates for the naturally nutrient-poor red latosol soils.

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) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I

Explanation:

- Despite poor soil fertility (due to leaching and red latosols), tropical rainforests support dense and diverse life forms.
- Rapid decomposition and nutrient recycling in the litter layer enable high productivity and compensate for soil poverty.

Source: Environment(N.C.E.R.T)

4. Consider the following statements:

Statement-I: Tropical seasonal forests are adapted to pronounced dry and wet periods, and are typically found in regions like Southeast Asia and Central America.
Statement-II: Subtropical rainforests experience sharp temperature differences between summer and winter and are dominated by deciduous species.
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: (c) Statement-I is correct, but Statement-II is incorrect
Explanation:

- Tropical seasonal (monsoon) forests are indeed characterized by distinct dry and wet seasons and occur in regions such as Southeast Asia, Central/South America, and parts of India.
- Subtropical rainforests have **less temperature variation** between seasons and are dominated by **evergreen broad-leaved** species, not deciduous. They also support epiphytes and tropical-type fauna.

Source: Environment(N.C.E.R.T)

5. Consider the following statements:
1. Tropical Wet Evergreen forests are characterized by a multi-tiered structure with distinct layers of shrubs, short trees, and tall evergreen trees.
2. Tropical Wet Evergreen forests are found only in the Western Ghats and northeastern India.
3. Tropical Semi-Evergreen forests contain species from both wet evergreen and moist deciduous forest types.
4. Ferns and orchids are commonly found growing epiphytically in Tropical Wet Evergreen forests.

How many of the above statements are correct?
(a) Only two
(b) Only three
(c) All four
(d) Only one

Answer: (b) Only three
Explanation:

- Wet evergreen forests have a clear vertical stratification (tiered pattern).
- They are **not only** found in the Western Ghats and NE India, but also in **Andaman and Nicobar Islands.**
- Semi-evergreen forests are defined by a mix of **wet evergreen and moist deciduous** species.
- Ferns and orchids are common epiphytes in wet evergreen forests.

Source: Environment(N.C.E.R.T)

6. Match the following forest types with their commonly associated tree species:

Forest Type	**Common Trees**
1. Tropical Moist Deciduous	A. Sal, Teak, Mango, Bamboo, Rosewood
2. Littoral and Swamp Forest	B. Mangrove species with aerial roots, Sundari tree

3. Tropical Dry Deciduous C. Sal, Acacia varieties, Bamboo

How many of the above pairs are correctly matched?
(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (c) All three
Explanation:

- Moist deciduous forests are dominated by sal, teak, mango, bamboo, and rosewood.
- Littoral and swamp forests are characterized by mangrove species like Sundari and trees with aerial (pneumatophore) roots.
- Dry deciduous forests commonly have sal, acacia species, and bamboo.

Source: Environment(N.C.E.R.T)

7. Which one of the following Indian forest types is being described below?
This forest type is found in the eastern Himalayan region and in parts of the Nilgiri Hills and Kerala. It features a three-layered structure with coniferous trees at the top, deciduous trees like oak in the middle, and rhododendron and champa in the lower layer. It occurs in areas receiving a minimum of 2000 mm annual rainfall.
(a) Tropical Wet Evergreen Forest
(b) Montane Wet Temperate Forest
(c) Tropical Semi-Evergreen Forest
(d) Subtropical Broadleaf Forest

Answer: (b) Montane Wet Temperate Forest
Explanation:
Montane wet temperate forests are primarily found in two distinct regions of India:

- **Northern Region**: These forests occur east of Nepal, extending into Arunachal Pradesh, where they receive a minimum of **2000 mm of annual rainfall**.
- The forest exhibits a clear **three-tier structure**: The **upper canopy** comprises mostly **coniferous species**, the **middle layer** features **deciduous trees** such as **oak** and the **lower layer** is dominated by **rhododendron** and **champa**, along with a rich variety of **ground flora**.
- **Southern Region**: These forests are found in the **Nilgiri Hills** and the **higher elevations of Kerala**.
- Compared to the North, the **southern montane forests are relatively less dense** but still support rhododendrons and diverse undergrowth.

Source: Environment(N.C.E.R.T)

8. Consider the following statements:
1. Moist Alpine Scrub forests are typically found at elevations lower than those of Dry Alpine Scrub forests.
2. Himalayan Dry Temperate Forests are dominated solely by coniferous species without the presence of broad-leaved species.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only

Explanation:

- Moist Alpine Scrub forests occur all along the Himalayas and on higher hills near the Myanmar border. They are found at lower elevations than dry alpine scrub and include rhododendron, birch, mosses, and ferns.
- Himalayan Dry Temperate Forests are **not solely** coniferous; they also include broad-leaved trees like **oak, maple, and ash** along with conifers.

Source: Environment(N.C.E.R.T)

9. Match the following **grassland types in India** with their respective regions:

Grassland Type	**Region**
1. Semi-arid Zone	A. Ganga alluvial plains of Northern India
2. Dry Sub-humid Zone	B. Peninsular India (excluding Nilgiri Hills)
3. Moist Sub-humid Zone	C. Northern Gujarat, Rajasthan, Western Uttar Pradesh, Delhi, Punjab
4. Humid Montane Regions	D. Assam, Manipur, West Bengal, Himachal Pradesh, J&K, etc.

How many of the above pairs are correctly matched?
(a) Only one
(b) Only two
(c) Only three
(d) All four

Answer: (d) All four

Explanation:

- Semi-arid zone covers North Gujarat, Rajasthan (except Aravallis), W. UP, Delhi, and Punjab.
- Dry sub-humid zone covers **all of peninsular India** except the Nilgiris.
- Moist sub-humid zone includes the **Ganga alluvial plains** with level, low-lying topography.
- Humid montane grasslands found in NE states and Himalayan foothills, shaped by shifting cultivation and grazing.

Source: Environment(N.C.E.R.T)

10. Consider the following statements regarding the **Desert Ecosystem:**

1. Some desert plants perform photosynthesis through their stems due to absence or reduction of leaves.
2. Desert animals conserve water by producing dilute urine and being active primarily during the day.
3. In deserts, perennial plants like creosote bush and cactus are common, while annuals complete their life cycle only during the short rainy season.

Which of the statements given above are correct?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) All three

Answer: (b) 1 and 3 only

Explanation:

- Many desert plants reduce water loss by minimizing leaves and conducting photosynthesis through **chlorophyll-rich stems**.
- Desert animals **conserve water by excreting concentrated urine**, not dilute. They are mostly **nocturnal**, not active during the day.
- Creosote bush and cactus are perennial desert plants, while **annuals bloom and reproduce during brief rainy seasons** only.

Source: Environment(N.C.E.R.T)

Aquatic Ecosystem

1. Consider the following statements **regarding aquatic organisms**:

1. Neuston includes both organisms that live on top of the air-water interface and those just beneath it.
2. Nekton comprises mostly microscopic organisms whose movement is governed by water currents.
3. Benthos are organisms that live at the bottom of water bodies and are found in almost all aquatic ecosystems.

How many of the above statements are correct?

A. Only one
B. Only two
C. All three
D. None

Answer: B. Only two

Explanation:

- Neuston includes organisms that live at or near the air-water interface. Some live on top (like water striders), while others live just beneath (like beetles and back-swimmers).
- **T**his describes **plankton**, not nekton. Nekton are strong swimmers, ranging from insects to whales, and are capable of overcoming water currents.
- Benthos refers to organisms that live at the bottom of aquatic ecosystems. They are indeed found in almost all such ecosystems.

Source: Environment (N.C.E.R.T)

2. **Which of the following statements regarding factors limiting productivity in aquatic ecosystems is/are correct?**

1. The photic zone is the upper layer of water where light penetrates and photosynthesis occurs.
2. Dissolved oxygen levels in water decrease with an increase in temperature.
3. Winterkill occurs due to oxygen depletion under ice-covered water bodies where photosynthesis stops.

Select the correct answer using the code given below:

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

- The **photic zone** is the **lighted upper layer** of aquatic ecosystems where **photosynthesis** takes place.

- **Temperature rise reduces oxygen solubility**, and also increases decomposer activity, leading to **lower dissolved oxygen** in water.
- **Winterkill** happens when **snow and ice block sunlight**, stopping **photosynthesis**, but **respiration continues**, depleting oxygen and leading to **fish deaths**.

Source: Environment (N.C.E.R.T)

3. **Which of the following statements about oligotrophic and eutrophic lakes is/are correct?**

1. Oligotrophic lakes are deeper, have better water quality, and support more plant and animal species than eutrophic lakes.
2. Eutrophic lakes are characterized by high nutrient flux but low oxygen levels in the bottom layer.

Select the correct answer using the code given below:

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2
Explanation:

- Oligotrophic lakes are **deeper**, have **good water quality**, and contain **many** plant and animal species.
- Eutrophic lakes show **high nutrient flux** (due to eutrophication) but **lack oxygen** in the hypolimnion (bottom layer).

Source: Environment (N.C.E.R.T)

4. Consider the following statements:

Statement I: Eutrophication leads to decreased biodiversity and transformation of aquatic ecosystems into terrestrial ones over time.
Statement II: This occurs because algal blooms restrict sunlight, deplete oxygen, and create detritus layers that shallow the water body and allow terrestrial plant colonization.
Codes:
(a) Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I
(b) Both Statement I and Statement II are correct, but Statement II is not the correct explanation of Statement I
(c) Statement I is correct, but Statement II is incorrect
(d) Statement I is incorrect, but Statement II is correct

Answer: (a) Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I
Explanation:

- Eutrophication causes biodiversity loss and gradual conversion of aquatic habitats into marshlands or terrestrial ecosystems.
- Algal blooms block sunlight, reduce oxygen through decomposition, and promote detritus accumulation, ultimately allowing land plants to take over.

Source: Environment (N.C.E.R.T)

5. **Consider the following statements regarding Red Tide:**

1. Red Tide occurs due to a natural oceanic cycle and is not influenced by human-induced nutrient pollution.
2. Red Tide refers to harmful algal blooms that can discolor water and release toxins harmful to marine and human life.

Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (b) 2 only
Explanation:

- Red tides **can** be influenced by **human-induced factors**, especially **nutrient runoff** from agriculture, sewage, and industry.
- Red tide is a type of **harmful algal bloom** that discolours water and can produce **toxins** affecting marine life and humans.

Source: Environment (N.C.E.R.T)

6. Consider the following statements regarding wetlands as per the Ramsar Convention:
1. Coral reefs and oases are included under the natural category of wetlands.
2. Rice paddies and fishponds are excluded from Ramsar's definition of wetlands as they are artificial.
3. Wetlands are required to hold water throughout the year to be recognised under the Ramsar Convention.

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 only
Explanation:

- The Ramsar Convention **includes coral reefs, oases, estuaries, deltas, mangroves, and coastal areas** under the **natural wetlands** category.
- **Rice paddies and fishponds**, though **human-made**, are explicitly **included in Ramsar's definition** of wetlands.
- A wetland **need not hold water year-round**. Even **seasonal or intermittent presence of water** (e.g., during growing seasons) qualifies under Ramsar's broad definition.

Source: Environment (N.C.E.R.T)

7. The following description best refers to which Ramsar site in India?
It is one of South India's largest brackish water wetlands, located on the Coromandel Coast. Characterised by salt marshes, mudflats, and shallow waters, it supports endangered species like the black-headed ibis and greater flamingo. It serves as a migratory stopover along the East Asian–Australasian Flyway and plays a role in flood control and groundwater recharge.
(a) Point Calimere Wildlife Sanctuary
(b) Kazhuveli Sanctuary
(c) Vembanad Kol Wetland
(d) Pichavaram Mangroves

Answer: (b) Kazhuveli Sanctuary
Explanation:

- **Kazhuveli Sanctuary** matches all elements of the description:
    - **Brackish water wetland**

- **Located on the Coromandel Coast**
- **Supports endangered waterbirds**
- **Migratory stopover (East Asian–Australasian Flyway)**
- **Provides ecosystem services like flood control and groundwater recharge**

Source: Environment (N.C.E.R.T)

8. **Consider the following statements regarding Estuary Ecosystems:**

1. Estuaries are classified solely based on salinity and are unaffected by geomorphological or hydrological factors.
2. Estuaries act as transition zones between riverine and marine ecosystems and serve as natural sediment traps, aiding delta formation.
3. Despite tidal influence, estuaries exhibit minimal wave action making them ideal nurseries for many aquatic species.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- Estuaries are **not classified solely on salinity**. They are categorised by **geomorphological features** (like coastal topography) and **water circulation patterns** as well (e.g., fjords, bar-built estuaries, tectonic estuaries, etc.).
- Estuaries **serve as transition zones** and **act as sediment traps**, promoting **delta formation** where river sediments settle as freshwater meets seawater.
- Estuaries typically have **very little wave action** due to their semi-enclosed nature, making them **safe, calm environments ideal for juvenile aquatic species** — hence often referred to as **natural nurseries**.

Source: Environment (N.C.E.R.T)

8. Consider the following statements:

Statement I: Mangrove forests are highly adapted to saline and waterlogged conditions, using specialized structures like pneumatophores and prop roots for respiration and support.

Statement II: These adaptations allow mangroves to thrive in high-altitude inland freshwater wetlands and alpine lakes, far from coastal tidal influence.

Which one of the following is correct?

(a) Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I
(b) Both Statement I and Statement II are correct, but Statement II is not the correct explanation of Statement I
(c) Statement I is correct, but Statement II is incorrect
(d) Statement I is incorrect, but Statement II is correct

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

Explanation:

- Mangroves are **highly adapted** to **saline**, **tidal**, and **anaerobic** (oxygen-poor) soil conditions through structures like **pneumatophores**, **prop roots**, and **salt-secreting leaves**.

- Mangroves are **littoral tropical and subtropical coastal plants**, and they **do not grow in inland freshwater or alpine lakes**. Their habitat is limited to **tidal estuaries, creeks, and deltaic mudflats**.

Source: Environment (N.C.E.R.T)

9. Consider the following statements regarding Blue Economy 2.0:

1. Blue Economy 2.0 focuses only on the development of maritime trade and port infrastructure, excluding ecological restoration.
2. The initiative promotes sustainable aquaculture, coastal ecosystem restoration, and a multi-sectoral approach integrating technology and climate resilience.

Which of the above statements is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (b) 2 only
Explanation:

- Blue Economy 2.0 is **not limited** to trade or port infrastructure. It **includes ecological restoration**, particularly of **mangroves and coral reefs**, along with climate-proofing measures.
- It emphasizes **sustainable aquaculture**, **restoration of coastal ecosystems**, and a **tech-integrated, multi-sectoral strategy** aligned with broader national goals like **Vision 2025** and **Deep Ocean Mission**.

Source: Environment (N.C.E.R.T)

10. **Consider the following statements regarding Environmental Flow (e-Flow):**

1. Environmental flow refers only to the quantity of water required to support aquatic ecosystems.
2. E-flow helps maintain the ecological integrity of river systems and supports livelihoods dependent on them.

Which of the above statements is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (b) 2 only
Explanation:

- Environmental flow refers not just to **quantity**, but also includes the **timing and quality** of water flow necessary to sustain **freshwater ecosystems** and **human livelihoods**.
- E-flow plays a crucial role in **maintaining ecological balance**, supporting **biodiversity**, and **ensuring sustainable livelihoods**, especially where water resources are **heavily used or contested**.

Source: Environment (N.C.E.R.T)

ENVIRONMENTAL POLLUTION

1. Which of the following pairs of air pollutants and their sources are correctly matched?

1. Carbon Monoxide (CO) – Incomplete combustion of petrol and diesel
2. Carbon Dioxide (CO_2) – Burning of fossil fuels like coal and oil

3. Chlorofluorocarbons (CFCs) – Emissions from air conditioning and refrigeration units

Select the correct answer using the code given below:

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

- **CO** is produced by the **incomplete combustion** of carbon-based fuels like **petrol, diesel, and wood**.
- **CO_2** is emitted primarily from **burning coal, oil, and natural gas** – key human activities causing greenhouse emissions.
- **CFCs** are released from **air conditioners and refrigerators**, especially older models – they damage the ozone layer.

Source: Environment (N.C.E.R.T)

2. **Consider the following statements regarding Sulphur Dioxide (SO_2) emissions:**

1. Ships and locomotives using fossil fuels are the primary sources of SO_2 emissions globally.
2. Extraction and processing of metal ores release significant amounts of SO_2.
3. Fossil fuel-based power plants are the largest contributors to SO_2 emissions, as per the Environmental Protection Agency (EPA).

Which of the above statements is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

Answer: (b) 2 and 3 only

Explanation:

- While ships and locomotives do emit SO_2, they are **not** the *primary* global source.
- Smelting and metal extraction processes emit SO_2, though they are not the largest source.
- According to the **EPA**, **fossil fuel-based power plants** (especially coal-fired) are the **largest** source of SO_2 emissions.

Source: Environment (N.C.E.R.T)

3. **Which of the following substances are commonly used in cloud seeding to induce artificial rainfall for air pollution mitigation?**

(a) Silver iodide and potassium iodide
(b) Silver nitrate and potassium iodide
(c) Silver iodide and potassium nitrate
(d) Silver nitrate and potassium chloride

Answer: (a) Silver iodide and potassium iodide

Explanation:

- **Cloud seeding** is a weather modification technique used to stimulate rainfall by introducing certain substances into clouds to encourage the formation of raindrops.

- The **most commonly used chemicals** are **Silver Iodide (AgI)** and **Potassium Iodide (KI)** because their crystalline structure closely resembles that of natural ice. This allows them to act as **nuclei** around which moisture condenses, forming raindrops.
- This method is also used for **reducing air pollution** by washing out suspended particulate matter from the atmosphere.
- **Other chemicals** like dry ice (solid CO_2) or liquid propane may also be used, but **silver iodide and potassium iodide remain the most widely preferred** due to their high efficiency in ice crystal formation.

Source: Environment (N.C.E.R.T)

4. Consider the following statements regarding Biochar:

1. Biochar is produced by heating agricultural and organic waste at high temperatures in the presence of oxygen.
2. Biochar application in agriculture can help reduce nitrous oxide emissions and improve water retention in nutrient-poor soils.
3. In the construction sector, biochar can serve as a carbon sink by being integrated into building materials.

Which of the above statements is/are correct?

(a) 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (b) 2 and 3 only

Explanation:

- Biochar is produced by **heating crop residue or organic waste at 400–600°C** in a **low-oxygen (pyrolysis) environment**, *not in the presence of oxygen*.
- Applying biochar in agriculture improves **water retention**, especially in **semi-arid and nutrient-poor soils**, and **reduces nitrous oxide (N_2O) emissions** by **30–50%**.
- Biochar can be **integrated into building materials** to create a **low-carbon construction alternative**, thus serving as a **long-term carbon sink**.

Source: Environment (N.C.E.R.T)

5. Hydrofluorocarbons (HFCs) are used in which of the following applications?

1. As propellants in aerosol products
2. As blowing agents in foam manufacturing
3. As fire suppression agents
4. As refrigerants and lubricants in cooling systems

How many of the above applications involve the use of HFCs?

(a) Only one
(b) Only two
(c) Only three
(d) All four

Answer: (d) All four

Explanation:

- **Aerosols** –HFCs are used as propellants in aerosol sprays like deodorants, medical inhalers, etc.
- **Foam agents** –HFCs act as blowing agents in the production of insulating foams.
- **Fire retardants** – Some HFCs are used in fire suppression systems (e.g., HFC-227ea).

- **Lubricants** –HFCs are used in refrigeration and air-conditioning systems, where they function alongside specific lubricants to ensure compressor efficiency.

Source: Environment (N.C.E.R.T)

6. Consider the following statements regarding Mercury Pollution:

1. Mercury emitted into the atmosphere can travel long distances across continents before settling back to the earth.
2. Methylmercury is primarily formed in the human body through digestion of elemental mercury.
3. Artisanal and small-scale gold mining is the largest source of anthropogenic mercury emissions globally.
4. Natural re-emission of mercury from land and water surfaces contributes to the current levels of atmospheric mercury.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) Only three
(d) All four

Answer: (c) Only three

Explanation:

- Mercury can **travel thousands of miles** in the atmosphere before being deposited via rainfall or as dry particles.
- **Methylmercury** is formed in the **environment**, especially in **aquatic systems** by the action of **microorganisms**, *not* in the human body.
- According to the **UNEP Global Mercury Assessment 2018**, **artisanal and small-scale gold mining (ASGM)** contributes the **largest share (37.7%)** of human-caused emissions.
- Mercury previously deposited can be **re-emitted** from land, water, and other surfaces, adding to current atmospheric levels.

Source: Environment (N.C.E.R.T)

7. Consider the following statements regarding plastic pellets (nurdles):

1. Nurdles are microplastic raw materials used in plastic manufacturing processes such as moulding and extrusion.
2. Nurdle pollution primarily results from public littering along coastlines.

Which of the above statements is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only

Explanation:

- Nurdles are pre-formed plastic pellets, commonly made of polyethylene, polypropylene, and other plastics. They serve as raw materials in plastic manufacturing, including moulding and extrusion processes.
- Nurdle pollution is not caused by citizen littering but results from leaks during production, transport, storage, or recycling of plastic pellets.

Source: Environment (N.C.E.R.T)

8. Which of the following are classified as secondary air pollutants?

1. Tropospheric Ozone (O_3)
2. Sulfur dioxide (SO_2)
3. Ammonium Sulphate
4. Photochemical Smog
5. Carbon monoxide (CO)

Select the correct answer using the code given below:

(a) 1, 2 and 3 only
(b) 1, 3 and 4 only
(c) 2, 4 and 5 only
(d) 1, 2, 3 and 5 only

Answer: (b) 1, 3 and 4 only
Explanation:

- **Tropospheric Ozone (O_3)** –*Secondary pollutant*, formed by reactions involving NOx and VOCs in the presence of sunlight.
- **Sulfur Dioxide (SO_2)** –*Primary pollutant*, emitted directly from sources like coal combustion.
- **Ammonium Sulphate** – *Secondary pollutant*, formed from SO_2 and NH_3 reacting in the atmosphere.
- **Photochemical Smog** – *Secondary pollutant*, formed through sunlight-driven reactions involving NOx and VOCs.
- **Carbon Monoxide (CO)** – *Primary pollutant*, emitted directly from incomplete combustion.

Source: Environment (N.C.E.R.T)

9. **According to the WHO Air Quality Guidelines and general understanding of air pollutants, consider the following statements:**

1. The 24-hour mean concentration of PM2.5 should not exceed 15 µg/m^3, and the annual mean should not exceed 5 µg/m^3.
2. The highest levels of ozone pollution are generally observed during cloudy and rainy weather conditions.
3. Excessive ozone in the air can act as a trigger for asthma attacks.

Which of the above statements are correct?

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2 and 3

Answer: (a) 1 and 3 only
Explanation:

- As per the **WHO Air Quality Guidelines 2021:**
  - **The annual mean PM2.5 limit is 5 µg/m^3**
  - **The 24-hour mean should not exceed 15 µg/m^3**
- Ozone pollution peaks during hot, sunny days, especially in summer. It is formed by **photochemical reactions** involving sunlight, not during cloudy or rainy weather.
- **Ozone is a known respiratory irritant** and can worsen asthma or trigger asthmatic episodes, especially in sensitive individuals**.**

Source: Environment (N.C.E.R.T)

10. Consider the following statements regarding Flue Gas Desulphurisation (FGD):

1. FGD is a pollution control technology used to remove sulfur dioxide from flue gases emitted primarily by coal-based thermal power plants.

2. Flue gas contains only carbon dioxide and water vapour and is considered non-polluting.
3. Sulphur dioxide in flue gas contributes to both particulate matter pollution and respiratory illnesses.

Which of the above statements is/are correct?

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (b) 1 and 3 only
Explanation:

- **FGD** is indeed used to remove **sulfur dioxide (SO_2)** from flue gases, especially in **coal-based thermal power plants (TPPs)** and **waste incineration units**.
- Flue gas contains not just **CO_2 and water vapour**, but also **CO, SO_2, NOx, particulate matter**, and **trace pollutants**, many of which are harmful. So it is *not* non-polluting.
- **SO_2** in the atmosphere forms **sulphate aerosols**, which worsen **PM pollution** and cause **respiratory illnesses**.

Source: Environment (N.C.E.R.T)

Environmental Pollution - 2

1. Consider the following statements regarding **Indoor Air Pollution**:

1. In rural areas, burning of traditional fuels like firewood, charcoal, and cow dung is a major source of indoor air pollution.
2. Radon is a naturally occurring gas from soil, which is primarily emitted from carpets and wooden furniture.
3. Formaldehyde is mainly released from carpets, particle boards, and insulation foam.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two
Explanation:

- Rural indoor pollution is mostly due to biofuels like firewood, charcoal, and cow dung burned in enclosed kitchens.
- Radon is **not** emitted from carpets or furniture — it is a naturally occurring gas released from soil and can accumulate indoors due to poor ventilation.
- Formaldehyde mainly comes from carpets, particle boards, and insulation foam.

Source: Environment (N.C.E.R.T)

2. **Consider the following statements regarding *fly ash*, a byproduct from coal-based thermal power plants:**

1. It can be utilised in the manufacturing of building materials such as bricks.
2. It can partially replace Portland cement in concrete production.
3. It consists only of silicon dioxide and calcium oxide and is free from toxic substances.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- Fly ash is commonly used in making bricks, blocks, and tiles due to its pozzolanic properties.
- It can replace a portion of Portland cement in concrete, improving workability and durability.
- Fly ash is not made up of only silicon dioxide (SiO_2) and calcium oxide (CaO); it also contains other oxides and can have toxic elements like arsenic, lead, and mercury, depending on the coal source and combustion process.

Source: Environment (N.C.E.R.T)

3. With reference to the **National Ambient Air Quality Standards (NAAQS)** in India, consider the following statements:

1. They are established by the Central Pollution Control Board (CPCB) under the Air (Prevention and Control of Pollution) Act.
2. $PM_{2.5}$ and PM_{10} are among the pollutants covered under NAAQS.
3. The National Air Monitoring Programme (NAMP) monitors only sulphur dioxide, nitrogen dioxide, and carbon monoxide levels.

How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two
Explanation:

- The CPCB is empowered under the Air (Prevention and Control of Pollution) Act to set air quality standards, including NAAQS.
- NAAQS covers particulate matter with a size less than 2.5 microns ($PM_{2.5}$) and less than 10 microns (PM_{10}), along with other pollutants like SO_2, NO_2, CO, lead, arsenic, etc.
- The NAMP monitors a **range** of pollutants, including SO_2, NO_2, SPM, RSPM, and more — not just SO_2, NO_2, and CO.

Source: Environment (N.C.E.R.T)

4. Consider the following statements regarding the **Air Quality Index (AQI)** in India:

1. $PM_{2.5}$, PM_{10}, nitrogen dioxide, ozone, and carbon monoxide are among the pollutants measured under AQI.
2. The 'Poor' category in India's AQI corresponds to an index value range of 201300.

Which of the statements given above is/are **correct**?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2
Explanation:

- AQI in India measures multiple pollutants, including $PM_{2.5}$, PM_{10}, NO_2, O_3, CO, and others like SO_2, NH_3, Pb, and benzene.
- The 'Poor' category covers AQI values from **201 to 300**, indicating breathing discomfort on prolonged exposure.

Source: Environment (N.C.E.R.T)

5. With reference to the *"BhuNeer"* portal, recently launched by the Government of India, consider the following statements:

1. It has been developed by the Central Ground Water Authority in collaboration with the National Informatics Centre.
2. It replaces the earlier NOCAP system for groundwater regulation.
3. It issues No Objection Certificates (NOCs) integrated with QR codes.

Which of the statements given above is/are **correct**?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3

Explanation:

- The "BhuNeer" portal, launched during India Water Week 2024, is developed by CGWA and NIC to regulate and manage groundwater resources.
- It replaces the NOCAP system, offers PAN-based single ID, and issues QRcoded NOCs to enhance transparency and efficiency.

Source: Environment (N.C.E.R.T)

6. Consider the following statements regarding the **World Air Quality Report 2024**:

1. The report is published annually by the Swiss organisation IQAir.
2. In 2024, India ranked as the third most polluted country in the world.
3. Byrnihat was the most polluted city in the world in 2024.

Which of the statements given above is/are **correct**?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1 and 3 only

Answer: (d) 1 and 3 only

Explanation:

- The World Air Quality Report is published every year by **IQAir**, a Swiss organisation.
- In 2024, India ranked **fifth**, not third. (It was third in 2023.)
- Byrnihat (on the Assam-Meghalaya border) was recorded as the most polluted city globally in 2024.

Source: Environment (N.C.E.R.T)

7. The *Keeling Curve* is related to which of the following?

(a) Concentration of carbon dioxide in Earth's atmosphere
(b) Concentration of lead and nitrates in groundwater
(c) Increase in tropospheric ozone concentration
(d) Variation in global mean sea level

Answer: (a) Concentration of carbon dioxide in Earth's atmosphere
Explanation:

- The **Keeling Curve** is a graph showing the concentration of **CO_2 in Earth's atmosphere** since 1958, based on continuous measurements taken at the **Mauna Loa Observatory** in Hawaii by Dr. Charles David Keeling.
- It is considered a reliable measure of CO_2 in the middle troposphere and has been instrumental in raising awareness about **global warming** and climate change.
- The curve shows both a long-term upward trend (due to fossil fuel burning) and seasonal fluctuations (due to plant growth and decay cycles).

8. Consider the following statements regarding **Hydroxymethanesulphonate (HMS)**:
1. HMS is a secondary aerosol formed through reactions between formaldehyde and sulfur dioxide in the presence of liquid water within aerosol particles.
2. HMS formation is favoured in warm, humid tropical climates where high temperatures accelerate ammonium volatilisation.
3. Increased $PM_{2.5}$ levels associated with HMS can affect both air quality and climate processes.

How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two
Explanation:

- HMS forms via reactions between **formaldehyde and SO_2** in liquid water within aerosols, even when water is supercooled.
- HMS formation is **not** favoured in warm tropical climates — it is more likely in **cold conditions** where ammonium volatilisation is reduced, stabilising sulfite ions.
- HMS contributes to **$PM_{2.5}$ pollution**, impacting **air quality**, influencing **cloud formation**, and affecting **climate radiative properties**.

9. Which of the following statements regarding **water quality indicators** are **correct**?
1. Dissolved Oxygen (DO) content below 4.0 mg/L is considered highly polluted and unsuitable for aquatic life.
2. Biochemical Oxygen Demand (BOD) measures the amount of oxygen required to oxidise both biodegradable and nonbiodegradable matter in water.
3. Chemical Oxygen Demand (COD) is considered a better measure than BOD for total pollution load, as it accounts for both biodegradable and nonbiodegradable organic matter.
4. Higher BOD values indicate higher dissolved oxygen content in water.

Select the answer using the code given below:
(a) 1 and 3 only
(b) 1, 2 and 3 only
(c) 2, 3 and 4 only
(d) 1 and 4 only

Answer: (a) 1 and 3 only
Explanation:

- DO below 4.0 mg/L is considered highly polluted and harmful for aquatic life.
- BOD measures oxygen needed to decompose **biodegradable** matter only, not nonbiodegradable matter.
- COD includes oxygen demand for both biodegradable and nonbiodegradable organic matter, making it a more comprehensive pollution measure.
- Higher BOD means **lower** DO content, as more oxygen is consumed by decomposition.

Source: Environment (N.C.E.R.T)

10. Which of the following are forms of dissolved nitrogen found in groundwater?

1. Nitrate (NO_3^-)
2. Ammonium (NH_4^+)
3. Ammonia (NH_3)
4. Nitrite (NO_2^-)
5. Nitrogen dioxide (NO_2)

Select the correct answer using the code given below:

(a) 1, 2 and 3 only
(b) 1, 2, 3 and 4 only
(c) 1, 3, 4 and 5 only
(d) 1, 2, 3, 4 and 5
(e) 2, 3 and 5 only

Answer: (b) 1, 2, 3 and 4

Explanation:

- Forms of dissolved nitrogen in groundwater include **nitrate (NO_3^-), ammonium (NH_4^+), ammonia (NH_3), nitrite (NO_2^-), nitrogen gas (N_2), nitrous oxide (N_2O), and organic nitrogen.**
- **Nitrogen dioxide (NO_2)** is a gaseous air pollutant, **not** typically a dissolved nitrogen form in groundwater.

Source: Environment (N.C.E.R.T)

Environmental Pollution- 3

1. Consider the following statements regarding India's first E-Waste Recycling Park:

1. It will be developed at Holambi Kalan, Delhi.
2. The facility will have a processing capacity of up to 1 lakh metric tonnes of e-waste annually.
3. It aims to create over 1,000 green jobs along with skilling centres for informal recyclers.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- The E-Waste Recycling Park is planned at *Holambi Kalan* in north-west Delhi and will be set up under a **Public-Private Partnership (PPP)** model.
- The annual processing capacity is **51,000 metric tonnes** of e-waste, not 1 lakh metric tonnes.

- The project aims to create **over 1,000 green jobs** and also includes **skilling/training centres** for informal recyclers.

Source: Environment (N.C.E.R.T)

2. **Match the types of solid waste with their primary sources/examples:**

Type of Solid Waste	**Primary Source/Example**
A. Municipal Solid Waste (MSW)	1. Phones, laptops, appliances
B. Biomedical Waste	2. Household, commercial, market waste
C. Electronic Waste (E-waste)	3. Single-use plastics, packaging material
D. Construction & Demolition Waste	4. Debris, bricks, tiles

How many of the above pairs are correctly matched?
(a) Only two
(b) Only three
(c) All four
(d) None

Answer: (b) Only three
Explanation:

- Solid waste refers **to any unwanted or discarded material that is not in a liquid or gaseous state.**
- The solid waste includes a **wide range of materials generated from various sources such as households, industries, commercial establishments, construction sites, and institutions.**
- **Types of Solid Waste:**
  - **Municipal Solid Waste (MSW)** – Household, commercial, market waste.
  - **Biomedical Waste** – Hospitals, clinics (requires special handling).
  - **Electronic Waste (E-waste)** – Phones, laptops, appliances.
  - **Construction & Demolition (C&D) Waste** – Debris, bricks, tiles.
  - **Industrial Waste** – By-products from factories, often hazardous.
  - **Plastic Waste** – Single-use plastics, packaging material.

Source: Environment (N.C.E.R.T)

3. **R2 Standard, recently in news, is related to:**
(a) International guidelines for reducing carbon emissions from shipping
(b) A global standard for the safe recycling and refurbishing of electronic waste
(c) ISO norms for improving energy efficiency in manufacturing industries
(d) Certification for sustainable packaging in the retail sector

Answer: (b) A global standard for the safe recycling and refurbishing of electronic waste
Explanation:

- The **R2 Standard** (Responsible Recycling) was originally developed to prevent **misuse and improper recycling of e-waste**.

- Defined by SERI as "the premier global environmental, worker health and safety standard" for **electronics refurbishing and recycling**.
- It aims to ensure **safe reuse, refurbishment, and recycling**, prevent illegal landfill dumping and unsafe labor practices, and promote a secondary market for consumer electronics.

Source: Environment (N.C.E.R.T)

4. **Consider the following statements regarding the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2025:**

1. These rules, issued under the Environment (Protection) Act, 1986, will come into effect from April 1, 2026.
2. They set a recycling target for non-ferrous metal products, starting at 10% in 2026-27 and increasing to 75% by 2032-33.
3. The validity of an EPR certificate under these rules is five years from the date of its generation.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- The rules are issued under the **Environment (Protection) Act, 1986** and will come into force from **April 1, 2026**.
- Recycling targets for products made of non-ferrous metals will start at **10% in 2026-27** and progressively increase to **75% by 2032-33**.
- The validity of an EPR certificate is **two years** from the end of the financial year in which it was generated, **not five years**.

Source: Environment (N.C.E.R.T)

5. **Consider the following statements regarding plastic pellets (nurdles):**

1. Pellets as small pre-formed masses of moulding material having relatively uniform dimensions within a batch.
2. Nurdles are typically composed of polyethene, polypropylene, polystyrene, and polyvinyl chloride.
3. Plastic pellet pollution is primarily caused by littering by citizens.

How many of the above statements are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- The International Organisation for Standardisation (ISO) defines pellets as small pre-formed masses of moulding material having relatively uniform dimensions within a batch.
- Nurdles are usually made from **polyethene, polypropylene, polystyrene, and polyvinyl chloride**.
- Pellet pollution mainly comes from leaks during **production, transportation, storage, and recycling**, **not from citizen littering**.

Source: Environment (N.C.E.R.T)

6. **Consider the following:**
Statement I: PBAT (Polybutylene Adipate Terephthalate) is a biodegradable polymer that decomposes into non-toxic byproducts under industrial composting conditions.
Statement II: PBAT is unsuitable for food packaging because it contains harmful chemical additives.
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 of Statement I.
(b) Both Statement I and Statement II are correct, but Statement II is not the correct explanation of Statement I.
(c) Statement I is correct, but Statement II is incorrect.
(d) Statement I is incorrect, but Statement II is correct.

Answer: (c) Statement I is correct, but Statement II is incorrect
Explanation:

- PBAT is **biodegradable** and breaks down into CO_2, water, and biomass under industrial composting conditions.
- PBAT is **chemical-free** and safe for food packaging, making it suitable for eco-friendly applications in the food industry.

Source: Environment (N.C.E.R.T)

7. **Consider the following statements regarding Carbon Tax:**
1. A carbon tax is a type of Pigouvian tax aimed at reducing greenhouse gas emissions.
2. The cap-and-trade system is a form of carbon tax where the government sets a limit on emissions and allows trading of permits.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only
Explanation:

- A carbon tax is indeed a **Pigouvian tax** designed to discourage excessive greenhouse gas emissions by making them financially costly.
- The **cap-and-trade system** is a **market-based mechanism** for controlling emissions, but it is **not** considered a carbon tax. Instead, it's an alternative approach to emission reduction.

Source: Environment (N.C.E.R.T)

8. Microbeads, often discussed in the context of environmental pollution, are of concern because:
(a) They can accumulate in marine ecosystems, causing harm to aquatic life.
(b) They are widely used as a colouring agent in packaged food products.
(c) They are known to cause respiratory infections in humans when inhaled.
(d) They are essential components of synthetic fertilizers.

Answer: (a) They can accumulate in marine ecosystems, causing harm to aquatic life
Explanation:

- Microbeads are tiny plastic particles (less than 5 mm) used in cosmetics, toothpaste, face scrubs, and personal care products.

- When washed down drains, they pass through sewage treatment plants and enter rivers, lakes, and oceans.
- They persist in the environment, are ingested by fish and other marine organisms, and can enter the food chain.
- Main concern: Marine ecosystem damage and potential health impacts due to bioaccumulation of toxins attached to microplastics.

Source: Environment (N.C.E.R.T)

9. **With reference to perfluoroalkyl and polyfluoroalkyl substances (PFAS), often called "forever chemicals", consider the following statements:**

1. They can be detected in drinking water, food items, and packaging materials.
2. They degrade rapidly in the natural environment.
3. Continuous exposure to them can result in their accumulation in the tissues of living organisms.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (c) 1 and 3 only

Explanation:

- PFAS are found **widely** in drinking water, food, and packaging due to their extensive use in consumer goods.
- PFAS are **highly persistent** and do **not degrade easily** in the environment, hence called "forever chemicals."
- Long-term exposure leads to **bioaccumulation** in animal and human tissues, potentially causing health issues.

Source: Environment (N.C.E.R.T)

10. Consider the following statements regarding Bioremediation:

1. In-situ bioremediation treats contaminated soil and groundwater directly at the site using methods such as bioventing and biosparging.
2. Ex-situ bioremediation is always preferred over in-situ bioremediation because it avoids excavation and reduces labour costs.
3. Marine oil spill bioremediation often uses indigenous oil-degrading microorganisms such as *Alcanivorax* to break down oil pollutants.
4. Bioremediation can help in the removal of toxic heavy metals like lead, cadmium, and chromium using microorganisms and algae.

How many of the above statements are correct?

(a) Only two
(b) Only three
(c) All four
(d) Only one

Answer: (b) Only three

Explanation:

- In-situ bioremediation indeed treats pollutants **at the contamination site** using methods like **bioventing** and **biosparging**.

- Ex-situ bioremediation **requires excavation and transport**, so it usually involves more labour and higher costs compared to in-situ.
- Marine oil spill bioremediation uses **indigenous microorganisms** such as *Alcanivorax* to degrade oil.
- Certain microorganisms and algae (e.g., *Pseudomonas putida*, *Chlorella vulgaris*) can remove **toxic heavy metals** through processes like adsorption and detoxification.

Source: Environment (N.C.E.R.T)

BIODIVERSITY AND INDIAN BIODIVERSITY DIVERSE LANDSCAPE

1. Consider the following statements regarding the **measurement of biodiversity**:

1. **Alpha diversity** refers to the species richness within a particular ecosystem.
2. **Beta diversity** measures the overall diversity for the different ecosystems within a region.

Which of the statements given above is/are **correct**?

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

Answer: A. 1 only
Explanation:

- Alpha diversity indeed refers to diversity within a specific ecosystem or area, expressed as species richness.
- Beta diversity is a comparison of diversity between ecosystems, usually measured as the change in amount of species between the ecosystems.
- Gamma diversity measures the overall diversity for the different ecosystems within a region.

Source: Environment (N.C.E.R.T)

2. With reference to biodiversity conservation, consider the following:

1. National parks
2. Sanctuaries
3. Biosphere reserves
4. Reserved forests
5. Seed banks

How many of the above are examples of **in-situ conservation**?

A. Only two
B. Only three
C. Only four
D. All five

Answer: C. Only four
Explanation:

- **In-situ conservation**: Protecting species within their natural habitats — includes **National parks, Sanctuaries, Biosphere reserves, Reserved forests, Protected forests**.
- **Ex-situ conservation**: Protecting species outside their natural habitats. Seed banks, botanical, horticultural and recreational gardens are important centres for ex-situ.

Source: Environment (N.C.E.R.T)

3. With reference to the **IUCN classification of conservation priority**, consider the following pairs:

IUCN Category	Key Criteria

1. Near Threatened (NT) – Does not qualify for threatened categories now, but likely to in near future.
2. Vulnerable (VU) – Reduction in population > 50% over the last 10 years or < 10,000 mature individuals.
3. Least Concern (LC) – Widespread and abundant taxa.
4. Extinct in the Wild (EW) – Survives only in cultivation, captivity, or naturalized populations outside past range.

How many of the above pairs are **correctly matched**?

A. Only one
B. Only two
C. Only three
D. All four

Answer: D. All four
Explanation:

- NT is evaluated against criteria but does not yet qualify for threatened categories; close to qualifying in near future.
- VU criteria include >50% population reduction in last 10 years OR <10,000 mature individuals.
- LC covers widespread and abundant species that do not fit threatened categories.
- EW species survive only in cultivation, captivity, or as naturalized populations outside their historical range.

Source: Environment (N.C.E.R.T)

4. Consider the following statements regarding Biodiversity Credits:

1. They are tradeable financial instruments designed to reward positive biodiversity outcomes and attract private investment in conservation.
2. They are tradeable instruments issued only by government agencies to fund biodiversity conservation projects.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only
Explanation:

- Biodiversity Credits are verifiable, quantifiable, and tradeable instruments rewarding nature-positive outcomes, functioning as innovative financing tools to draw private investments.
- Issuance is not limited to government agencies — NGOs, landowners, and companies can also generate credits.

Source: Environment (N.C.E.R.T)

5. Consider the following statements regarding **biogeographic realms**:

1. A biogeographic realm is a continent or subcontinent-sized area with broadly similar flora and fauna.
2. The entire Indian subcontinent falls under the Malayan Realm.

Which of the statements given above is/are **correct**?

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

Answer: A. 1 only

Explanation:

- Realms are large spatial regions with similar biota, generally continent/subcontinent in size.
- India has **two realms** — the Himalayan region under the **Palearctic Realm** and the rest of the subcontinent under the **Malayan Realm**.

Source: Environment (N.C.E.R.T)

6. Consider the following statements regarding **Biodiversity Leakage**:

1. It refers to the displacement of nature-damaging human activities due to the protection or restoration of land areas.
2. It occurs when conservation in one area causes environmental harm in another.
3. It can result from shifting deforestation, agriculture, or industrial activities into unprotected regions.
4. If a forest is protected, logging companies may shift operations to another vulnerable area — this is an example of biodiversity leakage.

How many of the above statements are **correct**?

A. Only two
B. Only three
C. All four
D. None

Answer: C. All four

Explanation:

- **B**iodiversity leakage means displacement of nature-damaging activities due to protection/restoration of land.
- It occurs when conservation in one place leads to environmental harm in another.
- Common causes include shifting deforestation, agriculture, or industrial operations into unprotected regions.
- The example of logging companies moving from a protected forest to a vulnerable area is a textbook case of biodiversity leakage.

Source: Environment (N.C.E.R.T)

7. With reference to the **biomes of India**, consider the following:

1. Tropical Humid Forests
2. Tropical Dry or Deciduous Forests (including Monsoon Forests)
3. Warm Deserts and Semi-deserts
4. Temperate Grasslands
5. Alpine Meadows

How many of the above are recognised as **biomes of India**?

A. Only three
B. Only four
C. All five
D. None

Answer: B. Only four

Explanation:

- A biome refers to a major community of plants and animals that inhabit regions with specific climate patterns.
- It encompasses the interactions among animals, vegetation, and soil within that environment. The species found in a biome are adapted to its particular conditions.
- In India, the five main biomes are:
    - Tropical Humid Forests
    - Tropical Dry or Deciduous Forests (including Monsoon Forests)
    - Warm Deserts and Semi-deserts
    - Coniferous Forests
    - Alpine Meadows.
- Temperate Grasslands are not a biome found in India.

Source: Environment (N.C.E.R.T)

8. Consider the following pairs regarding Biogeographic Zones of India:

No.	Biogeographic Zone	Description
1.	**Trans-Himalayas**	Covers high-altitude cold desert in Ladakh & Lahaul-Spiti
2.	**Himalayas**	Covers the entire Himalayan chain from NW to NE India
3.	**Desert**	Covers arid region west of Aravalli includes salty desert of Gujarat & sand desert of Rajasthan .
4.	**Semi-arid**	Covers coastal region along western coastline

Which of the above pairs is/are correctly matched?

A. 1 and 2 only
B. 1, 2 and 3 only
C. 2 and 4 only
D. All four

Explanation:

- **Trans-Himalayas-**
    - This zone is an **extension of the Tibetan plateau**, covering **Ladakh (J&K)** and **Lahaul-Spiti (Himachal Pradesh)**.
    - Characterised by **high-altitude cold deserts**, sparse vegetation, and unique fauna like the snow leopard and Tibetan wild ass.
- **Himalayas**
    - Includes the **entire Himalayan mountain chain**, stretching from the north-west to the north-east.
    - Contains **diverse biotic provinces** such as temperate forests, alpine meadows, and snow-covered peaks.
- **Desert**- It refers to the **extremely arid area west of the Aravalli hills**, which includes:
    - The **salty desert** of Gujarat (Rann of Kutch)
    - The **sand desert** of Rajasthan (Thar Desert)
- **Semi-arid**

- The Semi-arid zone lies **between the desert and the Deccan plateau**, including the **Aravalli hill range**.
- Vegetation is mostly thorn forests and scrublands.

- **Source: Environment (N.C.E.R.T)**

9. Consider the following statements
Statement I:
Pteridophytes possess vascular bundles and have well-differentiated plant bodies consisting of roots, stems, and leaves.
Statement II:
Pteridophytes are considered vascular cryptogams, including plants such as club mosses, horse-tails, and ferns.
Options:
(a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I.
(b) Both Statement I and Statement II are correct but Statement II is not the correct explanation of Statement I.
(c) Statement I is correct but Statement II is incorrect.
(d) Statement I is incorrect but Statement II is correct.

Answer: (a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I
Explanation:

- Pteridophytes have well-differentiated roots, stems, and leaves, and contain vascular bundles.
- They are vascular cryptogams (plants with vascular tissues but without seeds), and this classification includes club mosses, horse-tails, and ferns.
- Statement II explains Statement I because the presence of vascular bundles and differentiated organs is why they are grouped as vascular cryptogams.

Source: Environment (N.C.E.R.T)

10. Match the following Himalayan regions with their characteristic flora:

Region	**Characteristic flora**
A. Himalayan foothills	1. Oaks, magnolias, laurels, birches with moss and ferns; orchids and epiphytes dominant
B. Western Himalayas (high altitude)	2. Sal, silk-cotton trees, giant bamboos, tall grassy meadows
C. Eastern Himalayas	3. Rhododendrons, dwarf hill bamboo, birch mixed with alpine pastures

How many of the above pairs is/are correctly matched?
(a) 1 only
(b) 2 only
(c) All the three
(d) None

Answer: (c) All the three
Explanation:

- Foothills have monsoon evergreen/semi-evergreen forests, sal, silk-cotton, giant bamboos, and grassy meadows in the Tarai.
- Western Himalayas (high altitude) have rhododendrons, dwarf hill bamboo, birch, and alpine pastures.
- Eastern Himalayas have oaks, magnolias, laurels, birches with moss, orchids, and other epiphytes due to high humidity and rainfall.

Source: Environment (N.C.E.R.T)

ANIMAL DIVERSITY OF INDIA

1. Consider the following statements regarding the Schedules of the Wildlife (Protection) Act, 1972:

1. Animals listed in Schedule 1 and Part II of Schedule 2 are given absolute protection, and offences under these attract the highest penalties.
2. Schedule 5 contains animals called "vermin" which can be legally hunted.
3. Plants listed in Schedule 6 can be cultivated and traded freely after registration with the State Forest Department.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- Schedule 1 and Part II of Schedule 2 provide absolute protection and the highest penalties.
- Schedule 5 animals (vermin) like rats, mice, crows, and flying fox can be hunted.
- Schedule 6 plants cannot be cultivated, collected, extracted, or traded — it is prohibited, not permitted after registration.

Source: Environment

2. Consider the following statements regarding **Cheetahs**:

1. The Asiatic Cheetah is found only in Iran.
2. Cheetahs naturally occur in tropical rainforests as well as semi-desert regions.

How many of the above statements is/are correct?

(a) Only one
(b) Both
(c) None
(d) Cannot be determined from the information given

Answer: (a) Only one

Explanation:

- The Asiatic Cheetah survives only in Iran.
- Cheetahs are absent in tropical rainforests.
- They are found in open grassy habitats, dry forests, savanna woodlands, and semi-deserts.
- It is **Critically Endangered.**

Source: Environment

3. Consider the following statements about the **Asian Giant Tortoise:**

1. It is the largest tortoise species in mainland Asia.
2. It is listed as Endangered by the IUCN.
3. Its natural habitat includes tropical and subtropical mountainous evergreen forests of Southeast Asia

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- It is indeed the largest tortoise species in mainland Asia.
- It is listed as **Critically Endangered by the IUCN**.
- It inhabits tropical and subtropical mountainous evergreen forests in Southeast Asia, including parts of India, Bangladesh, Myanmar, and Thailand.

Source: Environment

4. Consider the following statements regarding the **Dugong (Sea Cow):**

1. In India, Dugongs are found only in the Gulf of Mannar and the Palk Bay region.
2. They are herbivorous marine mammals that feed primarily on seagrass.
3. The conservation status of Dugong is critically endangered.

How many of the above statements is/are correct?

Options:

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- In India, Dugongs are found not only in the **Gulf of Mannar and Palk Bay** but also around the Andaman & Nicobar Islands and Lakshadweep.
- Dugongs are **strictly herbivorous**, feeding mainly on seagrass meadows.
- The Dugong is classified as **Vulnerable** on the IUCN Red List.

Source: Environment

5. Consider the following statements about **Kharai camels:**

1. They are the only breed of camel in India that can swim in the sea and feed on mangroves.
2. They are found in the coastal regions of Gujarat and are classified as *Critically Endangered* in the IUCN Red List.
3. Their grazing activity contributes to mangrove forest regeneration through pollination.

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 2 only
(c) 1, 2 and 3
(d) 1 only

Answer: (a) 1 and 3 only

Explanation:

- Kharai camels are indeed the only breed in India that can swim in seawater and feed on mangroves, thanks to their adaptation to both desert and coastal ecosystems.
- They are **Endangered (not Critically Endangered)** as per the IUCN Red List.
- Their grazing helps pollinate and thus regenerate mangrove forests, playing a key ecological role.

Source: Environment

6. Consider the following statements regarding the *Himalayan Musk Deer*:

1. The Himalayan Musk Deer is endemic to India
2. Males possess a musk gland used in perfumes, medicine, and cosmetics.
3. It is listed under Schedule I of the Wildlife Protection Act, 1972, and classified as *Endangered* by the IUCN.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (b) 2 and 3 only

Explanation:

- The Himalayan Musk Deer is not endemic to India; it is found in Nepal, Bhutan, Pakistan, China, and multiple Indian states (including Kashmir, Ladakh, Sikkim, and Arunachal Pradesh).
- Males indeed have a musk gland located between the genitals and the umbilicus and possess long, curved canine teeth.
- It is under *Schedule I* of the Wildlife Protection Act, 1972, and is classified as *Endangered* on the IUCN Red List.

Source: Environment

7. Consider the following statements about the *Greater One-Horned Rhinoceros*:

1. It is the largest of all Asian rhino species and is primarily found in the Terai floodplains of India and Nepal.
2. In India, more than two-thirds of its global population occurs in Kaziranga National Park, Assam.
3. It is listed as Endangered in the IUCN Red List and under Appendix II of CITES.
4. It can swim well and is capable of feeding underwater.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) Only three
(d) All four

Answer: (c) Only three

Explanation:

- It is the largest Asian rhino, found in the Terai floodplains of India & Nepal.
- Over 70% of the global population is in Kaziranga NP.
- IUCN status is **Vulnerable, not Endangered,** and it is under **CITES Appendix I**, not Appendix II.
- They are strong swimmers and can feed underwater.

Source: Environment

8. With reference to the *Golden Langur*, consider the following statements:

1. In India, it is confined to a narrow forest belt in western Assam between the Manas River and the Sankosh River.
2. It inhabits moist evergreen, riverine, dipterocarp, and moist deciduous forests.
3. It is classified as Vulnerable on the IUCN Red List.

How many of the statements given above are correct?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two

Explanation:

- The Indian population is indeed restricted to western Assam between the Manas and Sankosh rivers.
- They occupy **moist evergreen, riverine, dipterocarp, and moist deciduous** forests.
- IUCN status is **Endangered, not Vulnerable**.

Source: Environment

9. Consider the following:

1. **National Chambal Sanctuary (NCS)**
2. **Katerniaghat Sanctuary**
3. **Chitwan National Park**
4. **Son River Sanctuary**
5. **Satkosia Gorge Sanctuary**
6. **Sri Lankamalleswara Wildlife Sanctuary**

In how many of the above sanctuaries do Gharial primarily survive?

a) 2 only
b) 3 only
c) 5 only
d) All 6

Answer: (c) 5 only

Explanation:

- The Gharial primarily survives in five key sanctuaries: **National Chambal Sanctuary (NCS), Katerniaghat Sanctuary, Chitwan National Park, Son River Sanctuary and Satkosia Gorge Sanctuary.**

Source: Environment

10. Consider the following statements about the *White-Winged Duck*:

1. In India, it is found exclusively in Assam's Kaziranga National Park.
2. It is the state bird of Assam
3. It is listed as Vulnerable in the IUCN Red List.

How many of the statements given above are correct?

a) Only 1
b) Only 2
c) All three
d) None

Answer: (b) Only 2

Explanation:

- In India, its primary populations are in **Assam's Nameri National Park and Dihing Patkai National Park, with smaller groups in Arunachal Pradesh** — not exclusively in Kaziranga NP.
- This elusive bird is the **state bird of Assam, India.**
- Conservation status under IUCN is **Endangered status**

Source: Environment

Protected areas of India

1. Consider the following pairs:

Sanctuary / Reserve / Park	**Key Feature**
1. Sharavathi Lion-Tailed Macaque Wildlife Sanctuary	Located in the Karnataka
2. Tsarap Chu Conservation Reserve	Located in Himachal Pradesh
3. Indravati National Park	Located in Chhattisgarh
4. Tadoba Andhari Tiger Reserve	Located in Maharashtra

How many of the above pairs are correctly matched?

A. 1 only
B. 2 only
C. 3 only
D. All 4

Answer: D. All 4

Explanation:

- **Sharavathi Lion-Tailed Macaque Wildlife Sanctuary (Karnataka)** is located in the Western Ghats and is a critical habitat for the endangered Lion-Tailed Macaque.
- **Tsarap Chu Conservation Reserve (Himachal Pradesh)** covers 1,585 sq km, making it India's largest conservation reserve, and supports snow leopard populations.
- **Indravati National Park is located in Chhattisgarh**. It hosts one of the last wild buffalo populations in India.
- **Tadoba Andhari Tiger Reserve** is both the oldest and largest national park in **Maharashtra**

Source: Environment (Factly)

2. Consider the following statements about Kuldiha Wildlife Sanctuary:

1. It is located in the Mayurbhanj district of Odisha.
2. It forms part of the Similipal–Kuldiha–Hadgarh Elephant Reserve.
3. Teak (Tectona grandis) is the dominant tree species in its forests.

Which of the statements given above is/are correct?

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

Answer: B. 2 only

Explanation:

- Kuldiha is in Balasore district, not Mayurbhanj.
- It is part of the Similipal–Kuldiha–Hadgarh Elephant Reserve.
- Sal, not Teak, is the dominant tree species.

Source: Environment (Factly)

3. Consider the following protected areas:

1. Tadoba-Andhari
2. Phawngpui
3. Kawal
4. Kalakkad – Mundanthurai

Which of the above are declared Tiger Reserves?

a. 1, 3 and 2 only
b. 1, 3 and 4 only
c. 2, 3 and 4 only
d. 1, 2, 3 and 4

Answer: (b) 1, 3 and 4 only

Explanation:

- **The Andhari Wildlife Sanctuary was formed in the year 1986** and was **amalgamated with the park in 1995 to establish the present Tadoba Andheri Tiger Reserve.**
- **Phawngpui National Park is located in Mizoram.** It is named after Phawngpui Mountain, the highest peak in Mizoram, and is also popularly known as Phawngpui Blue Mountain National Park.
- **Kawal Tiger Reserve is situated in Telangana along the Godavari River, forming part of the Deccan Peninsula-Central Highlands. It was declared Tiger Reserve in 2012.**
- **Kalakkad – Mundanthurai is the southernmost Tiger Reserve in India.** It is located in Tirunelveli and Kanyakumari districts of Tamil Nadu and is part of the Agasthyamalai Biosphere Reserve. It was declared a Tiger Reserve in 1988.

Source: Environment (Factly)

4. With reference to certain protected areas in India, consider the following pairs of location and associated geographical feature:

1. Nokrek Biosphere Reserve – Garo Hills
2. Loktak Lake – Barail Range
3. Namdapha National Park – Dafla Hills

How many of the above pairs are correctly matched?

(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (a) Only one

Explanation:

- **Nokrek Biosphere Reserve-** Located in Meghalaya's West Garo Hills, East Garo Hills, and South Garo Hills districts. Known for being a habitat of the red panda and rich biodiversity.
- **Loktak Lake-** Loktak Lake is in Manipur's Bishnupur district, famous for phumdis (floating vegetation). It is not associated with the Barail Range — that range is in parts of Assam and Nagaland.

- **Namdapha National Park –** Namdapha National Park is in Changlang district, Arunachal Pradesh in the Eastern Himalayas and Patkai hills region. The Dafla Hills are located in western Arunachal Pradesh along the Arunachal–Assam border.

Source: Environment (Factly)

5. Consider the following statements about Ranthambore National Park:

1. It is located at the junction of the Aravalli and Vindhya hill ranges in Rajasthan.
2. The park is bounded by the Chambal River to the north and the Banas River to the south.
3. "Dhok" (Anogeissus pendula) is the most prevalent plant species in its forests.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (c) 1 and 3 only
Explanation:

- **Ranthambore lies at the junction of the Aravalli and Vindhya hill ranges in** Rajasthan's Sawai Madhopur district.
- It is bounded by the Banas River to the north and the Chambal River to the south, not the other way around.
- "Dhok" (Anogeissus pendula) is indeed the dominant plant species.

Source: Environment (Factly)

6. Consider the following Pairs:

Protected area	**River flowing through it**
1. Phawngpui National Park	**Kolodyne River**
2. Sri Lankamalleswara Wildlife Sanctuary	**Pennar River**
3. Anamudi Shola National Park	**Pambar rivers**
4. Indravati National Park	**Indravati River**

How many of the above pairs is/are correctly matched?

(a) 1 only
(b) 2 only
(c) 3 only
(d) All four

Answer: (d) All 4
Explanation:

- Phawngpui NP (Mizoram) – Kolodyne River
- Sri Lankamalleswara WLS (Andhra Pradesh) – Pennar River
- Anamudi Shola NP (Kerala) – Pambar River
- Indravati NP (Chhattisgarh) – Indravati River

Source: Environment (Factly)

7. In which one of the following National Parks of India can you experience a range of climates from tropical and subtropical to temperate and even arctic conditions?

(a) Khangchendzonga National Park
(b) Nanda Devi National Park

(c) Neora Valley National Park
(d) Namdapha National Park

Answer: (d) Namdapha National Park
Explanation:

- Namdapha National Park (Arunachal Pradesh) spans altitudes from about 200 metres to over 4,500 metres, creating a unique climate gradient — tropical forests in the lowlands, subtropical and temperate zones in the mid-altitudes, and alpine/arctic conditions at the highest reaches.

- The park lies in the Eastern Himalayas and is known for its incredible biodiversity, including four big cat species — tiger, leopard, snow leopard, and clouded leopard.

Source: Environment (Factly)

8. Consider the following statements about *Kaziranga Tiger Reserve*:
1. It is in the floodplain of the Brahmaputra River in Assam.
2. The Diffalu River flows through the core area of the reserve.
3. It connects with Orang and Nameri Tiger Reserves through river island corridors.
4. It has the highest tiger density in the world.

How many of the above statements are correct?
(a) 1 only
(b) 2 only
(c) 3 only
(d) All four

Answer: (c) 3 only
Explanation:

- Kaziranga lies in the floodplain of the Brahmaputra in Assam.
- The Diffalu River, a Brahmaputra tributary, flows through the core tiger habitat.
- It has corridor connectivity via Brahmaputra island systems to Orang and Nameri Tiger Reserves.
- Kaziranga has the third-highest tiger density in the world, not the highest.

Source: Environment (Factly)

9. Consider the following:
It is located in Jharkhand. It is India's first and only wolf sanctuary, dedicated to the conservation of the Indian grey wolf. The sanctuary is home to many species of wild animals including spotted deer, wild boar, hyena, bear and wolf.
The above description is about:
a) Mahuadanr Wolf Sanctuary
b) Betla National Park
c) Palkot Wildlife Sanctuary
d) Topchanchi Wildlife Sanctuary

Answer: (a) Mahuadanr Wolf Sanctuary
Explanation:

- Mahuadanr Wolf Sanctuary, located in the Latehar district of Jharkhand.
- It was declared a sanctuary in 1976 and is India's first and only sanctuary dedicated to conserving the Indian grey wolf (*Canis lupus pallipes*).

- It forms an integral part of the Palamau Tiger Reserve and is home to diverse wildlife, including spotted deer, wild boar, hyena, bear, and wolf.

Source: Environment (Factly)

10. Consider the following statements about *Dehing Patkai National Park*:

1. It is India's largest stretch of lowland rainforest, also known as the "Amazon of the East."
2. It was declared a National Park in 2004 and later designated as an Elephant Reserve under Project Elephant in 2021.

Which of the statements given above is/are correct?

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

Answer: A. 1 only

Explanation:

- Dehing Patkai is indeed the largest lowland rainforest in India and is popularly called the "Amazon of the East."
- In 2004, it was declared a *Wildlife Sanctuary*, not a National Park. It was officially notified as a *National Park in 2021*. It was also declared as an *Elephant Reserve* earlier, under Project Elephant, highlighting its importance for elephant conservation.

Source: Environment (Factly)

Protected areas in India (Part 2)

1. With reference to **Debrigarh Wildlife Sanctuary,** consider the following statements:

1. It is located near the Hirakud Dam on the Mahanadi River in Odisha.
2. Its predominant vegetation type is tropical evergreen forest.
3. Tigers, sloth bears, and spotted deer are found in this sanctuary.

Which of the statements given above are correct?

(a) 1 and 3 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 3 only

Explanation:

- Debrigarh Wildlife Sanctuary lies in Bargarh district, Odisha, near the Hirakud Dam on the Mahanadi River.
- Its vegetation is *dry deciduous mixed forest*, not a tropical evergreen.
- The sanctuary's fauna includes tigers, sloth bears, leopards, hyenas, spotted deer, sambar, gaur, nilgai, bison, and langurs.

Source: Environment (Factly)

2. With reference to **Ramadevara Betta Vulture Sanctuary**, consider the following statements:

1. It is India's first and only vulture sanctuary, located in Karnataka.
2. It was declared an Eco-Sensitive Zone (ESZ) in 2017.

3. Only the Indian Long-Billed Vulture is found here.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

- The Ramadevara Betta Vulture Sanctuary, located in the Ramadevara Betta Hill Range, Ramanagara, Karnataka, was established in 2012 and is India's first and only vulture sanctuary.
- It was declared an Eco-Sensitive Zone (ESZ) in 2017 to safeguard endangered vultures.
- Apart from the Indian Long-Billed Vulture (*Gyps indicus*), the sanctuary also hosts the Egyptian Vulture (*Neophron percnopterus*) and the White-Backed Vulture (*Gyps bengalensis*).

Source: Environment (Factly)

3. With reference to Sagareshwar Wildlife Sanctuary, consider the following statements:

1. It is India's first man-made wildlife sanctuary where most wildlife species have been artificially introduced.
2. It is characterised by southern dry mixed deciduous and southern thorn forest vegetation.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2

Explanation:

- **It was** located in Sangli district, Maharashtra, Sagareshwar is India's first man-made wildlife sanctuary, with most wildlife species introduced artificially.
- The vegetation consists of ***southern dry mixed deciduous*** **and** ***southern thorn forests*****.**

Source: Environment (Factly)

4. **Consider the following:**

It is located in Jagdalpur, within the Bastar District of Chhattisgarh. It is named after a Kolab River that flows centrally through. It is known for Tirathgarh Falls, limestone caves such as Kotumsar, Kailash, and Dandak, and rich biodiversity including the Bastar Hill Myna.

The above description is about:

(a) Barnawapara Wildlife Sanctuary
(b) Indravati National Park
(c) Kanger Valley National Park
(d) Achanakmar Tiger Reserve

Answer: (c) Kanger Valley National Park

Explanation:

- Kanger Valley National Park is located in Jagdalpur, Bastar District, Chhattisgarh, and derives its name from the Kanger River. The river, a tributary of the Kolab, ultimately joins the Godavari River.
- The park features varied topography—low flatlands, plateaus, deep gorges, and valleys—and is known for the scenic 150 ft Tirathgarh Falls.

- It houses over 15 limestone caves, including Kotumsar, Kailash, and Dandak.
- The mixed moist deciduous forests here are dominated by sal, teak, and bamboo, and the park supports diverse wildlife, including the state bird of Chhattisgarh, the Bastar Hill Myna.

Source: Environment (Factly)

5. Consider the following statements about **Anamudi Shola National Park**:

1. It is located in the **Idukki district of Kerala** near Munnar and forms part of the **Western Ghats**, a UNESCO World Heritage Site.
2. It serves as a **critical watershed area** for rivers like the Periyar and Pambar.
3. It is primarily covered by **tropical dry deciduous forests** and is home to species like the Nilgiri tahr and lion-tailed macaque.

How many of the above statements are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two
Explanation:

- Anamudi Shola National Park is indeed located in the Idukki district of Kerala near Munnar, within the Western Ghats, which are a UNESCO World Heritage Site.
- The park acts as a vital watershed for rivers such as the Periyar and Pambar.
- The park is dominated by **tropical montane forests, shola forests, and grasslands**, not tropical dry deciduous forests. It does host the Nilgiri tahr and lion-tailed macaque.

Source: Environment (Factly)

6. **Consider the following pairs:**

Sanctuary / Reserve / Park	Location
1. Sakkarakottai Bird Sanctuary	Tamil Nadu
2. Khecheopalri Lake	Sikkim
3. Udhwa Lake Bird Sanctuary	Jharkhand
4. Therthangal Bird Sanctuary	Karnataka

How many of the above pairs are correctly matched?
A. 1 only
B. 2 only
C. 3 only
D. All 4

Answer: B (2 and 3 only)
Explanation:

- The Sakkarakottai Bird Sanctuary is situated in the Ramanathapuram district of Tamil Nadu.
- The Therthangal Bird Sanctuary is also located in the **Ramanathapuram district of Tamil Nadu.**
- Khecheopalri Lake is located near Khecheopalri village in West Sikkim.

- The Udhwa Lake Bird Sanctuary is located in the **Sahibganj district of Jharkhand.**

Source: Environment (Factly)

7. Consider the following statements about **Shendurney Wildlife Sanctuary**:
1. It is located in **Kerala** and forms part of the **Agasthyamala Biosphere Reserve**.
2. The sanctuary is named after a rare tree species, *Chenkurinji* (*Gluta travancorica*), which is endemic to the region.
3. Its vegetation is dominated exclusively by **tropical dry deciduous forests**.

How many of the above statements are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

Answer: (b) Only two
Explanation:
- Shendurney Wildlife Sanctuary is in Kollam district, Kerala, and is part of the Agasthyamala Biosphere Reserve.
- The sanctuary's name comes from the endemic tree species *Chenkurinji* (*Gluta travancorica*).
- The dominant vegetation consists of tropical evergreen, semi-evergreen, and moist deciduous forests, not exclusively tropical dry deciduous forests.

Source: Environment (Factly)

8. With reference to **Ratapani Tiger Reserve,** consider the following statements:
1. It is located in the Vindhyachal Mountain Ranges in Madhya Pradesh.
2. It includes the Bhimbetka rock shelters, a UNESCO World Heritage Site.
3. The Narmada River forms its western boundary, while the Kolar River flows along its northern side.

How many of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) All 3
(d) None

Answer: (b) 2 only
Explanation:
- It is located in the Vindhyachal Mountain Ranges in Madhya Pradesh.
- It includes Bhimbetka rock shelters, a UNESCO World Heritage Site.
- The sanctuary runs parallel to the Narmada on its **northern** side, and the **Kolar River forms the western boundary**, not the northern boundary.

Source: Environment (Factly)

9. With reference to *Guru Ghasidas–Tamor Pingla Tiger Reserve*, consider the following statements:
1. It is part of the Chota Nagpur Plateau and shares a contiguous landscape with Sanjay Dubri Tiger Reserve in Madhya Pradesh.
2. Sal is the dominant species in its dry thorn forest vegetation.
3. It is the third-largest tiger reserve in India by area.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (b) 1 and 3 only
Explanation:

- It lies partly in the Chota Nagpur Plateau (and Baghelkhand Plateau) and forms a contiguous landscape with Sanjay Dubri TR.
- While Sal is abundant, the reserve's vegetation is **sub-tropical and deciduous forests**, not dry thorn forest.
- With an area of **2,829.38 sq. km**, it is the **third-largest tiger reserve** in India.

Source: Environment (Factly)

10.Which one of the following National Parks lies entirely within the *temperate alpine* zone?
(a) Manas National Park
(b) Namdapha National Park
(c) Neora Valley National Park
(d) Valley of Flowers National Park

Answer: (d) Valley of Flowers National Park
Explanation:

- **Valley of Flowers National Park** (Uttarakhand) lies entirely in the **temperate alpine zone** of the Himalayas, at elevations generally above **3,200 m**. This altitude supports alpine meadows, endemic flora, and no tropical/subtropical vegetation.
- **Manas National Park** (Assam) — Mostly tropical and subtropical grasslands/forests.
- **Namdapha National Park** (Arunachal Pradesh) — Has a wide altitudinal range from tropical evergreen forests to alpine meadows, but not entirely in the alpine zone.
- **Neora Valley National Park** (West Bengal) — Contains sub-tropical, temperate, and alpine vegetation, but not fully alpine.

Source: Environment (Factly)

PROTECTED AREA NETWORK

1. With reference to **National Parks (NPs) in India**, consider the following statements:
1. A National Park can be declared by both the Central Government and the State Governments.
2. The boundaries of a National Park can be altered only by a resolution passed in the State Legislature.
3. Grazing of livestock and private land rights are permitted in National Parks, subject to regulation by the Chief Wildlife Warden.
4. A National Park can be downgraded to the status of a Wildlife Sanctuary with the approval of the State Government.

How many of the statements given above is/are **correct**?
(a) One only
(b) Two only
(c) Three only
(d) All four

Answer: (b) 1 and 2 only

Explanation:

- Under the Wildlife (Protection) Act, 1972, **both the Central and State Governments** have the power to declare an area as a National Park.
- Once the boundaries of a National Park are fixed, they **cannot be altered except by a resolution passed by the State Legislature**.
- **No grazing of livestock or private tenurial rights** are allowed in National Parks. These are strictly prohibited, unlike in some Wildlife Sanctuaries.
- A National Park **cannot be downgraded** to the status of a Sanctuary.

Source: Environment (N.C.E.R.T)

2. With reference to **Wildlife Sanctuaries (WLS) in India**, consider the following statements:

1. Wildlife Sanctuaries can be established by the State Government under the provisions of the Wildlife (Protection) Act, 1972.
2. Certain human activities, such as timber harvesting and the collection of minor forest produce, may be permitted inside Wildlife Sanctuaries.
3. The boundaries of Wildlife Sanctuaries are well-defined and cannot be altered without a resolution passed by the State Legislature.

Which of the statements given above is/are **correct**?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation:

- Wildlife Sanctuaries are indeed declared by the **State Government** under the Wildlife (Protection) Act, 1972.
- Certain activities like **grazing, timber harvesting, and minor forest produce collection** may be allowed if they do not adversely affect the wildlife.
- Unlike National Parks, the **boundaries of Wildlife Sanctuaries are not rigidly fixed,** and controlled biotic interference is allowed.

Source: Environment (N.C.E.R.T)

3. With reference to **Biosphere Reserves (BRs)**, consider the following statements:

1. Biosphere Reserves are part of UNESCO's Man and Biosphere (MAB) Programme, launched in 1971.
2. They are designated directly by UNESCO without any role of national governments.

Which of the statements given above is/are **correct**?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only

Explanation:

- Biosphere Reserves are indeed part of UNESCO's **Man and Biosphere (MAB) Programme** initiated in 1971.
- National Governments **nominate** sites; UNESCO only recognises them, it does not unilaterally declare them.

Source: Environment (N.C.E.R.T)

4. With reference to **Conservation Reserves** in India, consider the following statements:

1. Conservation Reserves are areas adjacent to National Parks or Wildlife Sanctuaries, created to protect landscapes and habitats.
2. They were introduced under the Wildlife (Protection) Amendment Act, 2002.
3. The declaration of a Conservation Reserve requires prior consultation with local communities.

4. They are managed by the National Board for Wildlife (NBWL).

Which of the statements given above is/are **correct**?

(a) 1, 2 and 3 only
(b) 2 and 4 only
(c) 1 and 3 only
(d) 1, 2, 3 and 4

Answer: (a) 1, 2 and 3 only
Explanation:

- Conservation Reserves act as buffer or connector zones **adjacent to National Parks or Sanctuaries**, protecting landscapes, seascapes, and habitats.
- They were indeed created under the **Wildlife (Protection) Amendment Act, 2002**.
- State Governments must **consult local communities** before declaring an area as a Conservation Reserve.
- They are **managed by a Conservation Reserve Management Committee (CRMC)**, not by the NBWL.

Source: Environment (N.C.E.R.T)

5. With reference to **Community Reserves** in India, consider the following statements:

1. They were introduced under the Wildlife (Protection) Amendment Act of 2002.
2. Any private land or community land can be notified as a Community Reserve, with the consent of the concerned individuals or community.
3. A Community Reserve is managed through a Community Reserve Management Committee.
4. Change in land use pattern within a Community Reserve can be made at the sole discretion of the State Government.

How many of the above statements are **correct**?

(a) Only one
(b) Only two
(c) Only three
(d) All four

Answer: (c) Only three
Explanation:

- Community Reserves were indeed created under the **Wildlife (Protection) Amendment Act, 2002**.
- Notification can be done for **private or community land**, provided the community or individuals agree.
- They are managed by a **Community Reserve Management Committee**.
- Land use changes require **resolution of the Committee + approval of the State Government**, not a unilateral decision of the State Government.

Source: Environment (N.C.E.R.T)

6. With reference to **Community Reserves** in India, consider the following statements:

1. Community Reserves are declared on private or community land with the consent of the concerned individuals or community.
2. They were introduced under the Wildlife (Protection) Amendment Act, 2002.
3. Any change in land use pattern within a Community Reserve requires a resolution passed by the Community Reserve Management Committee and approval of the State Government.

Which of the statements given above is/are **correct**?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3
Explanation:

- Private or community land can be declared as a Community Reserve, but only with the consent of the community/owners.
- They were indeed introduced under the **Wildlife (Protection) Amendment Act, 2002**.
- Land use changes are strictly regulated — requiring **both community resolution + state approval**.

Source: Environment (N.C.E.R.T)

7. With reference to the *World Network of Biosphere Reserves (WNBR)*, consider the following statements:
1. Biosphere Reserves are admitted into the World Network by the International Coordinating Council (ICC) of UNESCO's Man and Biosphere (MAB) Programme on the request of the concerned country.
2. Once included, a Biosphere Reserve cannot be delisted from the World Network.
3. The World Network of Biosphere Reserves was created in 1977 as the primary achievement of the MAB Programme.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (c) 1 and 3 only
Explanation:
- Admission is by ICC of the MAB Programme on request of the participating country, subject to the criteria.
- Delisting *is possible* (though exceptional) if obligations for conservation and sustainable development are violated.
- The **World Network of Biosphere Reserves was established in 1977**, and remains the major achievement of UNESCO's MAB Programme.

Source: Environment (N.C.E.R.T)

8. With reference to *Biodiversity Hotspots*, consider the following statements:
1. To qualify as a biodiversity hotspot, a region must have at least 1,500 species of vascular plants as endemics and must have lost at least 70% of its original habitat.
2. There are 36 biodiversity hotspots in the world.
3. Among the world's "hottest hotspots", Indo-Burma and Western Ghats/Sri Lanka are included.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3
Explanation:
- A biodiversity hotspot must meet **two criteria** — ≥1,500 vascular plant species as endemics **and** ≥70% habitat loss.
- There are **36 biodiversity hotspots worldwide,** covering only about 2.4% of Earth's land surface, yet they harbour more than half of all endemic plant species and nearly 43% of endemic bird, mammal, reptile, and amphibian species.
- Among the **8 "hottest hotspots"** identified globally, **Indo-Burma** and **Western Ghats/Sri Lanka** are included, along with Madagascar, the Philippines, Sundaland, Brazil's Atlantic Forest, the Caribbean, and the Eastern Arc/Coastal Forests of Tanzania-Kenya.

Source: Environment (N.C.E.R.T)

9. With reference to the **UNESCO Man and the Biosphere (MAB) Programme**, consider the following statements:
1. The MAB Programme was launched in the early 1970s to improve the relationship between people and their environment through an interdisciplinary approach.

2. Its governing body is the International Coordinating Council, which works in collaboration with the larger MAB community.
3. The implementation of MAB's agenda on the ground is carried out exclusively by national governments through their respective environment ministries.

Which of the statements given above is/are **correct**?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- MAB was launched in the **early 1970s**, with an interdisciplinary agenda combining natural sciences, social sciences, economics, and education.
- The **International Coordinating Council (ICC)** defines the programme's agenda in consultation with the broader MAB community.
- Implementation is not **exclusively by national governments**; it relies on the **World Network of Biosphere Reserves**, thematic networks, partnerships, and participatory decision-making involving communities, researchers, and institutions.

Source: Environment (N.C.E.R.T)

10. With reference to the **structure and zoning of Biosphere Reserves (BRs)**, consider the following statements:
1. The **Core Zone** of a Biosphere Reserve is strictly protected, free from human pressures, and only non-intrusive research and monitoring activities are permitted.
2. The **Buffer Zone** surrounds the core and allows activities such as limited tourism, grazing, fishing, and value addition to resources, provided they do not adversely affect the core zone.
3. The **Transition Zone** is the innermost part of a Biosphere Reserve, where settlements and croplands are located, and conservation is strictly enforced.

Which of the statements given above is/are **correct**?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- The **Core Zone** is strictly protected and free from human pressures. Only minimal research and monitoring that do not disturb ecological processes are permitted.
- The **Buffer Zone** surrounds the core and acts as a cushion. Activities like **tourism, fishing, grazing, restoration, and value addition** are permitted in regulated forms.
- The **Transition Zone** is the **outermost part**, not the innermost. It includes **settlements, croplands, managed forests, and economic activities**, where humans and nature coexist.

Source: Environment (N.C.E.R.T)

Environmental laws and legislation

1. Which of the following is a key feature of the Wild Life (Protection) Amendment Bill, 2022?
a) The Bill completely removes all schedules for specially protected animals.
b) The Bill reduces the total number of schedules from six to four.
c) The Bill allows unrestricted trade of invasive alien species.
d) The Bill prohibits the central government from designating a Management Authority under CITES.

Answer: b) The Bill reduces the total number of schedules from six to four.
Explanation:

- The Bill seeks to reduce the total number of schedules from six to four by rationalizing the protection categories.
- This includes reducing the number of schedules for specially protected animals and removing the schedule for vermin species.
- Additionally, a new schedule is inserted for specimens listed under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

Source: Environment (Forum IAS factly)

2. Under the Wild Life (Protection) Amendment Bill, 2022, which of the following is TRUE regarding invasive alien species?
a) The Bill empowers the central government to regulate or prohibit the import, trade, possession, or proliferation of invasive alien species.
b) The Bill allows for the unrestricted introduction of invasive alien species if they do not threaten biodiversity.
c) The Bill excludes the regulation of invasive species introduced before 2022.
d) The Bill places no responsibilities on the central government concerning invasive alien species.

Answer: a) The Bill empowers the central government to regulate or prohibit the import, trade, possession, or proliferation of invasive alien species.
Explanation:

- The Bill gives the central government the authority to regulate or prohibit the import, trade, possession, or proliferation of invasive alien species, which are species not native to India and whose introduction could harm wildlife or their habitats.

Source: Environment (Forum IAS factly)

3. **Consider the following statements regarding the Environment (Protection) Act, 1986:**
1. The Environment (Protection) Act of 1986 was enacted in response to the Bhopal Gas Tragedy and focuses on minimizing pollution and safeguarding the environment.
2. The Act grants the state governments the power to set emission standards for industries and control pollution from all sources.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only
Explanation:

- The Environment (Protection) Act, 1986, was indeed enacted after the Bhopal Gas Tragedy, with the primary objective of controlling and reducing pollution from all sources and protecting the environment.
- While the Act does grant the **central** government the authority to control pollution and set standards for emissions and discharges, it does not provide this power to the state governments.
- The central government has the overarching authority in regulating pollution under this Act.

Source: Environment (Forum IAS factly)

4. **Consider the following statements regarding the Indian Forest Act, 1927:**
1. The Indian Forest Act, 1927, categorizes forests into Reserved Forest, Protected Forest, and Village Forest, and lays down specific guidelines for their conservation.
2. The Act allows for unrestricted access to forests for local communities and does not impose penalties for the unauthorized use of forest resources.
3. The Act defines forest offenses and prescribes penalties for violations, particularly for activities in Reserved Forests to ensure environmental protection.

Which of the statements given above is/are correct?
(a) 1 and 3 only
(b) 1 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 3 only
Explanation:

- The Indian Forest Act, 1927, categorizes forests into three types and lays down guidelines for their protection and management.
- The Act restricts access to forests, especially Reserved Forests, and imposes penalties for unauthorized activities such as cutting trees or grazing animals without permission.
- The Act defines forest offenses and imposes penalties, particularly in Reserved Forests, to ensure the conservation of forest resources and prevent exploitation.

Source: Environment (Forum IAS factly)

5. **Consider the following statements regarding The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006:**
1. The Act grants legal recognition to the rights of traditional forest-dwelling communities, including those living in National Parks and Wildlife Sanctuaries.
2. The Act provides "Title Rights," which grant up to 4 acres of forest land to traditional forest-dwelling communities, but no new land can be granted.
3. The recognition process involves the Gram Sabha passing a resolution, which is then screened and approved by screening committees at the sub-division and district levels.

How many of the statements given above is/are correct?
(a) One only
(b) Two only
(c) All Three
(d) None

Answer: (c) All three
Explanation:

- The Act grants legal recognition to the rights of Scheduled Tribes and other traditional forest-dwelling communities, **including those in National Parks, Sanctuaries, Reserve Forests, and Protected Forests**, for the purpose of preserving the environment and ensuring their rights.
- "Title Rights" allow these communities to hold legal title to forest land (up to 4 acres) they have been cultivating, but no new lands are granted.
- The recognition process involves the Gram Sabha recommending the rights to be recognized, followed by screening and approval at the sub-division and district levels by screening committees. These committees also hear appeals.

Source: Environment (Forum IAS factly)

6. **Consider the following statements regarding The Biological Diversity Act, 2002:**
1. The Biological Diversity Act, 2002, was enacted to conserve biological resources, promote sustainable use, and ensure fair sharing of benefits with local communities.
2. The Act prohibits the transfer of research results or claims of intellectual property rights on inventions based on biological resources obtained from India without prior approval from the National Biodiversity Authority (NBA).
3. The Act establishes a two-tier structure for regulating access to biological resources.
4. The Act mandates that any grievances related to benefit sharing or orders by the NBA or State Biodiversity Boards be taken to the National Green Tribunal (NGT).

Which of the statements given above is/are correct?
(a) 1, 2, and 4 only
(b) 2 and 3 only

(c) 1, 2, and 3 only
(d) 1, 2, 3, and 4

Answer: (a) 1, 2, and 4 only
Explanation:

- The Act aims to conserve biological resources, promote their sustainable use, and ensure that the benefits arising from their use are fairly shared with local communities.
- The Act prohibits the transfer of research results and claims of intellectual property rights on inventions based on biological resources from India without the approval of the NBA.
- The Act establishes a **three-tier structure**, not a two-tier one, which includes the National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs), and Biodiversity Management Committees (BMCs) at the local level.
- Grievances related to benefit sharing or orders issued by the NBA or State Biodiversity Boards can be taken to the National Green Tribunal (NGT).

Source: Environment (Forum IAS factly)

7. **Consider the following statements regarding the Coastal Regulation Zone (CRZ) Rules, 2019:**
1. The CRZ Rules, 2019, were mandated under the Environment Protection Act, 1986.
2. The CRZ Rules allow permanent construction for tourism facilities in the No Development Zone (NDZ) in CRZ-III areas, with the exception of temporary facilities for tourism purposes.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only
Explanation:

- The CRZ Rules, 2019, indeed set different NDZs for CRZ-III areas based on population density, with CRZ-III(A) having a reduced NDZ of 50 meters and CRZ-III(B) having an NDZ of 200 meters.
- The CRZ Rules permit **temporary** tourism facilities in the No Development Zone (NDZ) of CRZ-III areas, not permanent constructions.

Source: Environment (Forum IAS factly)

8. **Consider the following statements regarding the Bio-Medical Waste Rules, 2016:**
1. The Bio-Medical Waste Rules, 2016, require pre-treatment of laboratory waste, blood samples, and microbiological waste through disinfection at the healthcare site.
2. The Rules mandate that all healthcare workers undergo regular immunization and training to handle bio-medical waste appropriately.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2
Explanation:

- The Bio-Medical Waste Rules, 2016, require pre-treatment of laboratory waste, blood samples, and microbiological waste on-site, using disinfection methods as per WHO or NACO guidelines.
- The Rules emphasize regular training and immunization for all healthcare workers to ensure they can safely handle and dispose of bio-medical waste.

Source: Environment (Forum IAS factly)

9. Consider the following statements regarding the National Green Tribunal (NGT) Act, 2010:

1. The NGT Act aims to provide effective and expeditious disposal of environmental cases, with a specific time frame of six months for appeals.
2. The NGT has jurisdiction over civil cases related to environmental issues, but its orders can only be challenged in the High Courts, not the Supreme Court.
3. The NGT has a Principal Bench in New Delhi, and its chairperson is a retired judge of the Supreme Court of India.

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2, and 3

Answer: (a) 1 and 3 only

Explanation:

- The NGT Act, 2010, was formulated to ensure effective and expeditious disposal of environmental cases, with appeals being disposed of within six months.
- The NGT's orders can be challenged in the Supreme Court within 90 days, not the High Courts.
- The NGT has a Principal Bench in New Delhi, and its chairperson is a retired judge of the Supreme Court of India.

Source: Environment (Forum IAS factly)

10. Consider the following statements regarding the Compensatory Afforestation Fund Act (CAMPA Act), 2016:

1. The CAMPA Act, 2016, establishes both a National and State Compensatory Afforestation Fund, with the National Fund receiving 90% and the State Fund receiving 10% of the total funds collected for afforestation.
2. The funds under the CAMPA Act are utilized for afforestation, wildlife protection, and the development of forest infrastructure, aiming to regenerate the forest ecosystem.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (b) 2 only

Explanation:

- The National Fund receives 10%, while the State Fund gets 90% of the funds collected for compensatory afforestation.
- The funds collected under the CAMPA Act are utilized for afforestation, forest regeneration, wildlife protection, and the development of infrastructure for the forest ecosystem.

Source: Environment (Forum IAS factly)

Environmental laws and legislation

1. With reference to **Biodiversity Management Committees (BMCs) in India**, consider the following:

1. They play a central role in achieving the objectives of the Nagoya Protocol on Access and Benefit Sharing.
2. Biodiversity Management Committees (BMCs) are empowered to regulate access to biological resources within their jurisdiction.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: **(c) Both 1 and 2**

Explanation

- The **Nagoya Protocol (2010)** under the Convention on Biological Diversity (CBD) deals with **Access to Genetic Resources and the Fair and Equitable Sharing of Benefits (ABS)**.
- In India, the **Biological Diversity Act, 2002** operationalizes this through a **three-tier structure**:
  - **National Biodiversity Authority (NBA)**
  - **State Biodiversity Boards (SBBs)**
  - **Biodiversity Management Committees (BMCs)** at the local body level.
- **BMCs** are the grassroot institutions that prepare **People's Biodiversity Registers (PBRs)**, maintain records of local biological resources, and ensure **equitable benefit-sharing with local communities**.
- As per **Section 41 of the Biological Diversity Act, 2002**, every local body must constitute a **Biodiversity Management Committee (BMC)**.
- Functions include:
  - Documenting local biodiversity (People's Biodiversity Register).
  - Regulating access to local biological resources for commercial purposes.
  - Levying **collection fees/charges** for access to these resources.
- The **2014 ABS Guidelines** explicitly empower BMCs to collect **benefit-sharing fees** from companies or individuals accessing local resources.

Source: Environment (Forum Factly)

2. Under the provisions of Indian wildlife protection laws, consider the following assertions:

1. Ownership of all wild animals vests solely with the Government.
2. Once a species is notified as protected, it enjoys the same degree of legal protection whether it is inside a protected area or outside it.
3. Mere fear that a protected wild animal might endanger human life is a legally valid reason for its capture or killing.

Which of the above statements is/are correct?

(a) 1 and 2
(b) 2 only
(c) 1 and 3
(d) 3 only

Answer: **(a) 1 and 2**

Explanation

- Under the **Wildlife (Protection) Act, 1972**, all wild animals specified in the Schedules are considered the **property of the State (Government)**.
- Even if a wild animal enters private land, it is not the property of the landowner.
- Legal protection to a species under the Schedules of the **Wildlife (Protection) Act, 1972** applies **throughout the territory of India**, irrespective of whether the animal is in a **protected area (like National Parks, Sanctuaries, Tiger Reserves)** or outside (e.g., in villages, farms, cities).
- The Act permits **capture or killing** of a wild animal only when it has become a "danger to human life" (i.e., an actual threat, not just apprehension).
- Example: A man-eating tiger or a rogue elephant may be declared as such by the Chief Wildlife Warden and then killed or captured. Mere fear is not enough.

Source: Environment (Forum Factly)

3. **With reference to the Plastic Waste Management (Amendment) Rules, 2024, consider the following statements:**

1. Local bodies are now mandated to conduct annual assessments of plastic waste, including waste in dumpsites, and project future generation for the next five years.
2. The amended rules provide for a centralized online portal for registration of Producers, Importers, Brand Owners, and manufacturers of compostable or biodegradable plastics.
3. Under the new provisions, Producers and Brand Owners are solely responsible for setting up plastic waste collection and disposal infrastructure in their jurisdiction.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

Answer: **(a) 1 and 2 only**
Explanation:

- Local bodies have been given this new mandate in the PWM Rules 2024.
- A **centralized online portal** has been introduced for registration, with **"default registration" if not processed within 30 days.**
- Responsibility for infrastructure now rests with **local bodies**, not producers. Producers/importers/brand owners only have EPR obligations, and they may engage with local bodies voluntarily.

Source: Environment (Forum Factly)

4. **With reference to the Hazardous and Other Wastes (Management & Transboundary Movement) Amendment Rules, 2019, consider the following statements:**

1. Import of solid plastic waste has been completely prohibited, including in Special Economic Zones (SEZs) and Export Oriented Units (EOUs).
2. Defective electrical and electronic assemblies manufactured in India and exported abroad can now be re-imported within one year without prior permission from the Ministry of Environment, Forest and Climate Change.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: **(c) Both 1 and 2**
Explanation:

- The 2019 amendment made it clear that **solid plastic waste cannot be imported into India**.
- Earlier, some relaxation was available in **Special Economic Zones (SEZs)** and **Export Oriented Units (EOUs)**, but the amendment **removed these exemptions**.
- This was done to reduce plastic pollution and align with the principles of sustainable development.
- The 2019 rules allowed **Indian exporters of electrical/electronic assemblies** to bring back defective goods (within **1 year of export**) **without seeking fresh permission** from the Ministry of Environment, Forest and Climate Change (MoEFCC).
- This was introduced as an **ease of doing business measure** to support Indian manufacturers and exporters, ensuring they could repair/reprocess items without cumbersome approvals.

Source: Environment (Forum Factly)

5. Under the provisions of the Environment (Protection) Act, 1986, which of the following bodies was constituted for regulating and controlling groundwater development and management in India?
(a) Central Water Commission
(b) Central Ground Water Board
(c) Central Ground Water Authority
(d) National Water Development Agency

Answer: (c) Central Ground Water Authority
Explanation

- The **Environment (Protection) Act, 1986** empowers the Central Government to take necessary measures for protecting and improving environmental quality.
- Using **Section 3(3)** of the Act, the Government constituted the **Central Ground Water Authority (CGWA)** in **1997** through a Gazette Notification.
- **Role of CGWA:**

- Regulates and controls groundwater development and management in India.
- Issues guidelines for extraction of groundwater by industries, infrastructure projects, and domestic users.
- Has the power to issue directions, regulate drilling, and take punitive actions against illegal extraction.

Source: Environment (Forum Factly)

6. **With reference to the Wetlands (Conservation and Management) Rules, 2017, consider the following statements:**

1. The Rules decentralize wetland management by mandating the establishment of a State Wetlands Authority (SWA) in every State and Union Territory.
2. The National Wetland Committee (NWC), headed by the Secretary of MoEFCC, replaced the earlier Central Wetlands Regulatory Authority.
3. The Rules permit industrial development and waste disposal activities in notified wetlands, provided that such activities are approved by the State Wetlands Authority under the principle of "wise use."

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (b) 1 and 2 only
Explanation

- The **2017 Rules decentralised wetland management** from a central authority to **State Wetland Authorities (SWAs)** in each State/UT, chaired by the State Environment Minister.
- SWAs are responsible for preparing wetland inventories, regulating activities, and applying the principle of "wise use."
- The **Central Wetlands Regulatory Authority** (under the 2010 Rules) was **replaced** by the **National Wetland Committee (NWC)**.
- The NWC, headed by the Secretary, MoEFCC, serves mainly as an **advisory body** to review Ramsar sites management and support SWAs.
- The Rules explicitly **prohibit activities** such as:
  - encroachment,
  - setting up/expansion of industries,
  - waste disposal,
  - discharge of untreated effluents.
- These cannot be permitted even under "wise use."

Source: Environment (Forum Factly)

7. Under the **Solid Waste Management Rules, 2016** in India, which of the following statements is correct?
(a) Waste generators must segregate waste into five categories.
(b) The Rules apply only to notified urban local bodies, notified towns, and industrial townships.
(c) The Rules provide detailed criteria for the identification of landfill and waste processing sites.
(d) Waste generated in one district cannot be transported to another district.

Answer: (c) The Rules provide detailed criteria for the identification of landfill and waste processing sites.
Explanation:

- The **Solid Waste Management Rules, 2016** (notified under the Environment Protection Act, 1986), brought major changes in waste management in India. Let's analyse the options:
- Waste generators are required to segregate waste into **three categories**: **Biodegradable, Non-biodegradable and Domestic hazardous waste** (Not five categories).
- The Rules are **much wider in scope**. They apply not only to urban local bodies and industrial townships, but also to **villages, census towns, special economic zones, places of pilgrimage, airports, railway stations, defence establishments, and every waste generator**.

- The Rules indeed prescribe **exact and elaborate criteria** for selecting landfill sites and waste processing facilities. They emphasise scientific principles to minimise environmental damage and public health risks.
- There is **no prohibition** on transporting waste from one district to another. In fact, regional facilities for waste processing and disposal are encouraged for efficiency.

Source: Environment (Forum Factly)

8. With reference to India's legal framework, consider the following Central Acts:
1. Import and Export (Control) Act, 1947
2. Mining and Mineral Development (Regulation) Act, 1957
3. Customs Act, 1962
4. Indian Forest Act, 1927

Which of the above Acts have a significant role in **biodiversity conservation and protection of natural resources**?
(a) 1 and 3 only
(b) 2, 3 and 4 only
(c) 1, 2, 3 and 4
(d) None of the above

Answer: (c) 1, 2, 3 and 4
Explanation:
- **Import and Export (Control) Act, 1947:** Relevant because it controls the trade in endangered species of flora and fauna. For example, restrictions on export of sandalwood, ivory, rare medicinal plants, etc.
- **Mining and Mineral Development (Regulation) Act, 1957:** Regulates mining activities, which directly impact ecosystems, forests, and biodiversity. It provides for restrictions in ecologically sensitive areas. It ensures that mining is subject to environmental safeguards.
- **Customs Act, 1962:** Direct role in biodiversity conservation by empowering authorities to check illegal import/export of wildlife species, ivory, exotic animals, plants, skins, etc. It works in harmony with CITES (Convention on International Trade in Endangered Species).
- **Indian Forest Act, 1927:** Core legislation for declaring reserved forests, protected forests, and regulating forest produce. Central to biodiversity conservation as it governs protection, use, and management of forests.

Source: Environment (Forum Factly)

9. With reference to **Eco-Sensitive Zones (ESZs)** in India, consider the following statements:
1. Eco-Sensitive Zones are notified under the provisions of the **Environment (Protection) Act, 1986**, not under the Wildlife (Protection) Act, 1972.
2. The purpose of declaring ESZs is to regulate certain human activities around Protected Areas, not to impose a blanket ban; activities like agriculture and allied practices are usually permitted.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2
Explanation:
- ESZs are **not** declared under the Wildlife (Protection) Act, 1972.
- They are **notified under Section 3 of the Environment (Protection) Act, 1986**, with guidelines issued by the Ministry of Environment, Forest and Climate Change (MoEFCC).
- The purpose of ESZs is **not to completely prohibit** human activities.
- Instead, they aim to **regulate and restrict** activities that may have adverse impacts on the Protected Area.
- Agriculture, horticulture, rainwater harvesting, organic farming, and other traditional activities are **permitted**.

- Mining, polluting industries, construction, hydroelectric projects, and other high-impact activities are **prohibited/restricted**.

Source: Environment (Forum Factly)

10. Consider the following statements:
1. Under the Biological Diversity Act, 2002, **all offences are cognizable and non-bailable**, and appeals relating to benefit sharing must be taken to the **National Green Tribunal (NGT)**.
2. The Act establishes a **three-tier institutional mechanism** to regulate access to biological resources and ensure equitable benefit sharing.
3. The Act **completely prohibits** the use of Indian biological resources for research, commercial utilisation, or intellectual property claims, with no exemptions provided.

How many statements above is/ are correct?
a) Only one
b) Only two
c) All three
d) None

Answer: (B) (Only two)
Explanation:
- All offences under the Act are cognizable and non-bailable.
- Appeals related to benefit sharing or NBA/SBB orders go to the **NGT**, which also deals with Water Act, Air Act, Forest (Conservation) Act, Environment Protection Act, etc.
- The Act provides a **three-tier structure**: **NBA** (national level), **SBBs** (state level) and **BMCs** (local level)
- These ensure conservation, sustainable use, and equitable benefit sharing.
- The Act does not *completely prohibit* access. It **regulates access with prior approval**, but exempts:
  - Commodities normally traded,
  - Traditional uses,
  - Farmers, livestock keepers, vaids, hakims,
  - Approved collaborative research projects.

Source: Environment (Forum Factly)

Environment Conventions and Protocols

1. With reference to the **Ramsar Convention on Wetlands,** consider the following statements:
1. The Ramsar Convention is the only global treaty that focuses exclusively on the conservation and sustainable use of wetlands.
2. It was signed in the Iranian city of Ramsar in 1971.
3. Under the Convention, only natural ecosystems like mangroves, estuaries, and coral reefs are recognized as wetlands, while human-made water bodies are excluded.

Which of the above statements is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation
- Ramsar is the **only international treaty** that deals specifically with wetlands.
- It was signed in **1971 at Ramsar (Iran)**.
- February 2 is celebrated as **World Wetlands Day**.
- The Convention includes **both natural and human-made wetlands** – e.g., mangroves, estuaries, coral reefs **and** rice paddies, fishponds, and reservoirs.

Source: Environment (Factly Forum IAS)

2. **Consider the following statements regarding the Stockholm Convention:**
1. The Convention aims to eliminate or restrict the production and use of Persistent Organic Pollutants (POPs) worldwide.
2. Under the Convention, Parties are legally bound not to produce or use the chemicals listed in its annexes, which currently include pesticides, industrial chemicals, and unintentional by-products.

Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2
Explanation:
- The Stockholm Convention entered into force in 2004 and its main objective is to reduce/eliminate Persistent Organic Pollutants (POPs) globally.
- Parties must not produce/use chemicals listed in the Annexes. Currently 34 POPs are listed (17 pesticides, 15 industrial chemicals, 7 unintentional by-products).

Source: Environment (Factly Forum IAS)

3. With reference to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), consider the following statements:
1. CITES was adopted in 1973.
2. Appendix I species under CITES are those not threatened with extinction but may become so without trade controls.
3. The CITES Secretariat is administered by the United Nations Environment Programme (UNEP).

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3
Answer: (c) 1 and 3 only
Explanation:
- CITES was adopted in 1973, enforced in 1975, and has 184 members.
- Appendix I = species threatened with extinction (highest protection, no commercial trade).
- The Secretariat is under UNEP and located in Geneva, Switzerland.

Source: Environment (Factly Forum IAS)

4. With reference to the Convention on the Conservation of Migratory Species (CMS), consider the following statements:
1. The CMS is the only global UN-based intergovernmental treaty dedicated exclusively to the conservation of migratory species and their habitats.
2. Under CMS, Appendix I lists species with an 'unfavourable conservation status' while Appendix II lists endangered migratory species that require strict prohibitions on their take.

Which of the statements given above is/are correct?
Options:
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only
Explanation

- CMS (1979, Bonn) is the only UN-based global treaty focused exclusively on terrestrial, aquatic, and avian migratory species.
- The order of Appendices is as:
    - Appendix I → Endangered migratory species (strict protection, prohibition of take).
    - Appendix II → Species with unfavourable conservation status, needing range-wide conservation agreements.

Source: Environment (Factly Forum IAS)

5. Consider the following:

1. Vienna Convention
2. Montreal Protocol
3. Stockholm Convention
4. Rotterdam Convention

How many of the above conventions is/ are related tothe protection of the Ozone Layer?

a) One only
b) Two Only
c) Three only
d) All four

Answer: B (1 and 2 only)

Explanation:

- **Vienna Convention (1985):** Framework treaty for protecting the ozone layer, under which the Montreal Protocol was later adopted.
- **Montreal Protocol (1987):** International agreement under the Vienna Convention to phase out ozone-depleting substances (ODS) like CFCs, halons, etc.
- **Stockholm Convention (2004):** Concerned with Persistent Organic Pollutants (POPs) – toxic chemicals harmful to human health and environment, not directly about ozone.
- **Rotterdam Convention (1998):** Focuses on Prior Informed Consent (PIC) for trade in hazardous chemicals and pesticides, not ozone protection.

Source: Environment (Factly Forum IAS)

6. With reference to the United Nations Convention to Combat Desertification (UNCCD), consider the following statements:

1. The UNCCD is a legally binding agreement adopted in 1994 that specifically focuses on arid, semi-arid, and dry sub-humid areas.
2. It is one of the three Rio Conventions, along with the Convention on Biological Diversity (UNCBD) and the UN Framework Convention on Climate Change (UNFCCC).
3. The permanent Secretariat of the UNCCD is headquartered in Nairobi, Kenya.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only

Explanation

- UNCCD was adopted in 1994, effective in 1996, and focuses on drylands (arid, semi-arid, dry sub-humid).
- It is one of the three Rio Conventions, along with UNCBD & UNFCCC.
- Its secretariat is in Bonn, Germany, not Nairobi (that's for UNEP).

Source: Environment (Factly Forum IAS)

7. With reference to the Convention on Biological Diversity (CBD), consider the following statements:

1. The CBD is a legally binding treaty with objectives that include conservation, sustainable use, and equitable benefit-sharing of genetic resources.

2. The CBD Secretariat is headquartered in Montreal, Canada, and functions under the United Nations Environment Programme (UNEP).

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2

Explanation

- CBD entered into force in 1993, with 3 objectives – conservation, sustainable use, and equitable benefit-sharing.
- Its secretariat is in Montreal, Canada, and operates under UNEP.

Source: Environment (Factly Forum IAS)

8. With reference to the Basel Convention, consider the following statements:

1. The Basel Convention, adopted in 1989 and enforced in 1992.
2. The Convention primarily focuses on promoting the transfer of hazardous waste from developed to developing countries for recycling purposes.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only

Explanation

- It was adopted in 1989 (Basel, Switzerland); entered into force in 1992.
- The objective is to regulate and reduce the transboundary movement of hazardous wastes.
- The Convention's focus is on preventing hazardous waste transfer (especially from developed to less developed), not promoting it.

Source: Environment (Factly Forum IAS)

9. With reference to the initiative called The Economics of Ecosystems and Biodiversity (TEEB), consider the following statements:

1. It is hosted by UNEP, IMF, and the World Economic Forum.
2. It is a global initiative that highlights the economic value of biodiversity.
3. It provides approaches that help decision-makers recognize, demonstrate, and capture the value of ecosystems and biodiversity.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (c) 2 and 3 only

Explanation

- TEEB is hosted by UNEP (United Nations Environment Programme), not by IMF or World Economic Forum.
- It is a global initiative to draw attention to the economic benefits of biodiversity.
- TEEB presents an approach for decision-makers to recognize, demonstrate, and capture the value of ecosystems.

Source: Environment (Factly Forum IAS)

10. With reference to the Global Tiger Forum (GTF), consider the following statements:

1. It is the only intergovernmental international body dedicated exclusively to tiger conservation.

2. It was established in 1993 following recommendations from an international symposium on Tiger Conservation held in New Delhi.
3. The headquarters of the GTF is located in Geneva, Switzerland.

How many of the statements given above is/are correct?

(a) One Only
(b) Two Only
(c) Three Only
(d) None

Answer: (b) 1 and 2 only
Explanation:

- GTF is the **only intergovernmental body** for **global tiger conservation.**
- It was f**ormed in 1993,** based on recommendations from the New Delhi Tiger Conservation Symposium.
- Its **headquarters are in New Delhi, India, not Geneva.**

Source: Environment (Factly Forum IAS)

Environment Conventions and Protocolos

1. Global Environment Outlook is published by

a) UNEP
b) UNCCC
c) WWF
d) UN-REDD

Answer: a) UNEP
Explanation:

- **The following important Reports are published by UNEP:**
  - Emission Gap Report,
  - Global Environment Outlook,
  - Frontiers,
  - Invest into Healthy Planet

Source: Environment (Forum IAS Factly)

2. Consider the following statements with respect to the Aichi Biodiversity Targets:

1. They were adopted under the Convention on Biological Diversity (CBD) at Nagoya in 2010.
2. They provided a 10-year strategic plan (2011–2020) with 20 global biodiversity targets.
3. The targets included measurable and legally binding commitments on countries to reduce biodiversity loss.

Which of the above statements is/are correct?

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

Answer: A (1 and 2 only)
Explanation:

- The Aichi Targets were indeed adopted under the CBD at Nagoya in 2010.
- They laid out a 10-year Strategic Plan (2011–2020) with 20 biodiversity targets grouped under five strategic goals.
- The targets were aspirational in nature, with no legally binding commitments.

Source: Environment (Forum IAS Factly)

3. With reference to the Coalition Against Wildlife Trafficking (CAWT), consider the following statements:

1. It is a voluntary public–private coalition of governments, NGOs, and corporations working together to eliminate illegal trade in wildlife and wildlife products.
2. Conservation International, WildAid, and the Wildlife Conservation Society are among the organizations that have joined CAWT.

Which of the above statements is/are correct?

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

Answer: C. Both 1 and 2

Explanation:

- CAWT is a unique voluntary public–private coalition seeking to abolish wildlife trafficking, with membership open to governments, NGOs, and corporations.
- Several global organizations, including Conservation International, Save the Tiger Fund, Smithsonian Institution, Traffic International, WildAid, Wildlife Conservation Society, and American Forest & Paper Association, are part of the coalition.

Source: Environment (Forum IAS Factly)

4. **With reference to the International Tropical Timber Organisation (ITTO) and its governing body, consider the following statements:**

1. The International Tropical Timber Council (ITTC) is the governing body of ITTO.
2. ITTO was established under the International Tropical Timber Agreement (ITTA) 1992.
3. India is a member of ITTO.

Which of the statements given above is/are correct?

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

Answer: C. 1 and 3 only

Explanation:

- ITTC is indeed the governing body and meets annually.
- ITTO was established under **ITTA 1983**, negotiated under **UNCTAD**, not ITTA 1992/UNEP.
- ITTO members collectively manage ~80% of the world's tropical forests and 90% of global tropical timber trade; India is also a member.

Source: Environment (Forum IAS Factly)

5. Consider the following statements:

Statement I: TRAFFIC is a leading NGO established in 1976 to monitor wildlife trade and ensure that it does not pose a threat to conservation of nature.

Statement II: It is a joint programme of the World Wildlife Fund (WWF) and the International Union for Conservation of Nature (IUCN), with headquarters in Cambridge, United Kingdom.

Which one of the following is correct?

A. Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I.
B. Both Statement I and Statement II are correct, but Statement II is not the correct explanation of Statement I.
C. Statement I is correct, but Statement II is incorrect.
D. Statement I is incorrect, but Statement II is correct.

Answer: A. Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I**.**

Explanation:

- TRAFFIC is a global NGO working on wildlife trade since 1976 to reduce threats to biodiversity.

- TRAFFIC is a joint WWF–IUCN initiative headquartered at Cambridge.

Source: Environment (Forum IAS Factly)

6. With reference to the United Nations Forum on Forests (UNFF), consider the following statements:

1. The UNFF was established in 2000 by the UN Economic and Social Council (ECOSOC) to promote sustainable forest management and conservation.
2. The forum alternates between technical discussions in even years and policy-level dialogues in odd years.
3. UNFF has universal membership, including all UN Member States and specialised forest-related agencies.
4. India is not a member of the UNFF.

Which of the statements given above is/are correct?

A. 1 and 2 only
B. 1, 3 and 4 only
C. 1 and 3 only
D. 2 and 4 only

Answer: C. 1 and 3 only

Explanation:

- The UNFF was indeed established in 2000 by ECOSOC.
- The forum alternates between technical discussions in odd years and policy-level dialogues in even years.
- Membership is universal, covering all UN Member States and specialised forest-related bodies.
- India is not only a member but also a **founding member** and plays an active role.

Source: Environment (Forum IAS Factly)

7. The UN-REDD+ Programme, if properly designed and effectively implemented, can significantly contribute to which of the following?

1. Protection of biodiversity
2. Enhancing resilience of forest ecosystems
3. sustainable employment

Select the correct answer using the code given below:

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

Answer: D. 1, 2 and 3

Explanation:

- REDD+ (Reducing Emissions from Deforestation and forest Degradation, plus conservation, sustainable management of forests and enhancement of forest carbon stocks) primarily aims at climate mitigation through forest management.
- **Biodiversity protection** and **ecosystem resilience** are natural co-benefits of REDD+.
- Its implementation provides livelihood opportunities, sustainable employment, and better resource security, thus indirectly contributing to poverty alleviation and SDGs.

Source: Environment (Forum IAS Factly)

8. With reference to the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, consider the following statements:

1. It is a legally binding agreement adopted in 2010 under the Convention on Biological Diversity (CBD).
2. The Protocol provides a legal framework to ensure fair and equitable sharing of benefits arising out of the utilization of genetic resources and associated traditional knowledge.
3. It entered into force in 2014.
4. The Protocol applies to all genetic resources, including those outside the scope of the Convention on Biological Diversity.

How many of the statements given above is/are correct?

A. One only
B. Two only
C. Three only
D. All Four

Answer: A. 1, 2 and 3 only
Explanation:

- The Nagoya Protocol is legally binding and was adopted at Nagoya, Japan in 2010 under CBD.
- It provides a transparent legal framework for access to genetic resources and traditional knowledge, ensuring fair and equitable benefit-sharing.
- It came into force on **12 October 2014**, after the 50th ratification.
- It applies only to genetic resources and traditional knowledge **covered under CBD**, not beyond its scope.

Source: Environment (Forum IAS Factly)

9. Consider the following statements:
Statement I: The Convention on Biological Diversity (CBD) is the most comprehensive binding international agreement in the field of nature conservation and sustainable use of natural resources.
Statement II: The CBD was opened for signature at the UN Conference on Environment and Development (Earth Summit) in Rio de Janeiro in 1992 and currently has 196 contracting parties.
Which one of the following is correct?
A. Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I.
B. Both Statement I and Statement II are correct, but Statement II is not the correct explanation of Statement I.
C. Statement I is correct, but Statement II is incorrect.
D. Statement I is incorrect, but Statement II is correct.

Answer: A. Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I.
Explanation:

- CBD is the most comprehensive legally binding agreement on biodiversity, covering ecosystems, species, and genetic resources.
- It was opened for signature at the 1992 Rio Earth Summit, and 196 countries are currently parties to it.
- Since the historical origin (Rio Summit) explains why it is the most comprehensive global agreement, Statement II provides the **correct explanation** of Statement I.

Source: Environment (Forum IAS Factly)

10. Consider the following statements about the initiative "The Economics of Ecosystems and Biodiversity (TEEB)":
1. It is a global initiative hosted by the United Nations Environment Programme (UNEP).
2. It seeks to highlight the economic value of biodiversity and ecosystem services.
3. It provides tools and approaches to help policymakers recognize, demonstrate, and capture the value of biodiversity in decision-making.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (c) 2 and 3 only
Explanation:

- TEEB is hosted by UNEP alone, not IMF or World Economic Forum.
- It is a global initiative drawing attention to the economic benefits of biodiversity.
- It equips policymakers with approaches to recognize, demonstrate, and capture ecosystem and biodiversity value in policy and planning.

Source: Environment (Forum IAS Factly)

International laws and the Convention-III

1. Consider the following statements about the ***International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)***:

1. It was adopted by the Food and Agriculture Organisation (FAO) Conference in 2001.
2. Its core objective is to ensure access and benefit sharing of plant genetic materials among farmers, scientists, and breeders.
3. India is not a signatory to it.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer:(d) 1, 2 and 3 only
Explanation:

- The **ITPGRFA (also called the "Seed Treaty") was adopted in 2001 under the FAO** to conserve and sustainably use plant genetic resources for food and agriculture.
- **Objectives of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA):**
  - **Recognition of Farmers' Role:** Acknowledges the invaluable contribution of farmers in conserving and enriching crop diversity.
  - **Access and Benefit Sharing (ABS):** Establishes a global framework to provide equitable access to plant genetic resources for farmers, plant breeders, and scientists, while ensuring fair sharing of benefits arising from their use.
  - **Conservation and Sustainability:** Aims to conserve and promote the sustainable use of plant genetic resources for food and agriculture, in harmony with the objectives of the Convention on Biological Diversity (CBD).
- **India is a contracting party to this treaty.**

Source: Environment (Factly Forum IAS)

2. With reference to the **International Union for Conservation of Nature and Natural Resources (IUCN)** and the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**, consider the following statements:

1. IUCN is an organ of the United Nations, whereas CITES is an international agreement between governments.
2. IUCN runs thousands of field projects across the world for better management of natural environments.
3. CITES is legally binding on its member states, but it does not substitute or override national laws.

Which of the statements given above is/are correct?

a) 1 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3

Answer: b) 2 and 3 only
Explanation

- IUCN is **not an organ of the United Nations**. It is an **independent international organization**, headquartered in Gland, Switzerland.

- While it works closely with the UN and other multilateral organizations, it is not part of the UN system. On the other hand, **CITES** is indeed an **international agreement between governments**, adopted in 1973 and effective since 1975.
- IUCN is well known for its **field projects worldwide** that focus on biodiversity conservation, protected areas, species monitoring, and ecosystem management. It also manages the **IUCN Red List of Threatened Species**.
- CITES is a **legally binding treaty** on its member countries, but it does **not replace national laws**. Instead, it requires parties to enact their own domestic legislation to regulate wildlife trade in accordance with the convention.

Source: Environment (Factly Forum IAS)

3. With reference to the **Vienna Convention for the Protection of the Ozone Layer**, consider the following statements:

1. The Convention entered into force in 1988.
2. It does not impose legally binding reduction targets for ozone-depleting substances.
3. The legally binding commitments regarding reduction of CFCs were later provided under the Montreal Protocol.

Which of the statements given above is/are correct?

a) 1 only
b) 1 and 2 only
c) 2 and 3 only
d) 1, 2 and 3

Answer: d) 1, 2 and 3

Explanation:

- The Vienna Convention for the Protection of the Ozone Layer was **adopted in 1985** and came into force in **1988**.
- Today, it has **universal ratification with 197 parties**, making it one of the most widely ratified environmental treaties.
- The Convention provides the **framework for international cooperation** to protect the ozone layer. However, it is **not legally binding in terms of specific reduction targets**.
- It sets out principles and obligations for research, monitoring, and information exchange, but leaves concrete commitments to subsequent agreements.
- The **Montreal Protocol (1987)** was adopted as a **protocol to the Vienna Convention**. Unlike the Convention, the Montreal Protocol sets **legally binding reduction and phase-out targets** for ozone-depleting substances like **CFCs, halons, and other chemicals**.

Source: Environment (Factly Forum IAS)

4. **Consider the following statements about the International Big Cat Alliance (IBCA):**

1. It is a coalition launched by India in 2023
2. It aims to conserve seven species of big cats, including Tiger, Lion, Leopard, Snow Leopard, Puma, Jaguar, and Cheetah.
3. The Depository of the IBCA Framework Agreement is the Ministry of Environment, Forest and Climate Change (MoEFCC).
4. India hosts the Secretariat of the IBCA.

Which of the above statements is/are **correct**?

(a) 1, 2 and 4 only
(b) 1 and 3 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

Answer: (a) 1, 2 and 4 only

Explanation:

- The IBCA was launched in 2023 during the 50th anniversary of Project Tiger. It covers **seven big cats**: Tiger, Lion, Leopard, Snow Leopard, Puma, Jaguar, and Cheetah.

- Its governance model is **inspired by the ISA**, with an Assembly, Standing Committee, and Secretariat. A Director-General is appointed by MoEFCC.
- The **Depository of the Framework Agreement** is the **Ministry of External Affairs (MEA)**, not MoEFCC.
- India hosts the **Secretariat** of IBCA, making it the permanent headquarters.

Source: Environment (Factly Forum IAS)

5. **With reference to *Agenda 21*, consider the following statements:**

1. It is a comprehensive global action plan adopted for achieving sustainable development.
2. It was launched at the *Earth Summit* (United Nations Conference on Environment and Development) held in Rio de Janeiro in 1992.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2
Explanation:

- *Agenda 21* is a **non-binding global action plan for sustainable development**, adopted by 178 countries. It emphasizes integrating environment and development concerns to ensure sustainability in the 21st century (hence the name *Agenda 21*).
- It originated at the **Earth Summit (UNCED)** held in **Rio de Janeiro, Brazil, in 1992**, not at the Johannesburg Summit of 2002 (that summit was the *World Summit on Sustainable Development*, which reviewed the progress of Agenda 21).

Source: Environment (Factly Forum IAS)

6. **With reference to the Minamata Convention on Mercury, consider the following statements:**

1. It bans the opening of new mercury mines and calls for the phase-out of existing ones.
2. It regulates emissions and releases of mercury to water only.
3. It addresses health issues and the disposal of mercury waste.
4. The Global Environment Facility (GEF) serves as part of its financial mechanism.

Which of the statements given above is/are correct?
(a) 1, 2 and 4 only
(b) 2 and 3 only
(c) 1, 3 and 4
(d) 1, 2, 3 and 4 only

Answer: (c) 1, 3 and 4
Explanation:

- The Convention bans **new mercury mines** and requires **phase-out of existing ones**.
- It provides **control measures on emissions** to air and **releases to land and water**.
- It addresses **health issues, waste disposal, and contaminated sites**.
- The **Global Environment Facility (GEF)**, along with the **Specific International Programme**, is part of the **financial mechanism**.

Source: Environment (Factly Forum IAS)

7. **With reference to the Rotterdam Convention, consider the following statements:**

1. It establishes legally binding obligations on Parties to implement the **Prior Informed Consent (PIC) procedure** in international trade of certain hazardous chemicals.
2. It was originally based on a **voluntary PIC procedure** initiated by UNEP and FAO in 1989.
3. The Convention covers all hazardous chemicals including radioactive substances and ozone-depleting substances.

Which of the statements given above is/are **correct**?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- The Rotterdam Convention creates **legally binding obligations** for implementing the PIC procedure to regulate trade in banned or severely restricted pesticides and industrial chemicals.
- It was **built on the voluntary PIC procedure** jointly run by UNEP and FAO since 1989 (which ended in 2006).
- The Convention does **not** cover *all* hazardous chemicals. It is limited to pesticides and industrial chemicals that have been banned or severely restricted for health/environmental reasons.
- **Radioactive substances and ozone-depleting substances are not covered** (they are dealt with under other treaties like IAEA conventions and the Montreal Protocol).

Source: Environment (Factly Forum IAS)

8. **With reference to the outcomes of COP29 of the UNFCCC, consider the following statements:**
1. The New Collective Quantified Goal (NCQG) on Climate Finance aims to provide USD 300 billion annually to developing countries by 2035, with developed countries taking the lead.
2. India endorsed the COP29 Declaration on Reducing Methane from Organic Waste, which targets methane emissions from the waste sector.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only
Explanation:

- COP29 adopted the **NCQG on Climate Finance**, tripling the earlier $100 billion goal to **$300 billion per year by 2035**, led by developed countries.
- While over 30 countries endorsed the **COP29 Declaration on Reducing Methane from Organic Waste**, **India did not sign** it (India is also not part of the Global Methane Pledge).

Source: Environment (Factly Forum IAS)

9. **With reference to the International Whaling Commission (IWC), consider the following statements:**
1. The IWC was established under the International Convention for the Regulation of Whaling, 1946.
2. The IWC regulates three types of whaling: commercial, aboriginal subsistence, and special permit (scientific) whaling.
3. The governance of special permit (scientific) whaling falls exclusively under the Commission, and all countries are legally bound to follow its decisions.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- The IWC was set up in **1946** under the International Convention for the Regulation of Whaling with the aim of regulating whaling and conserving whale stocks.
- Whaling is categorized into **three types** under the Convention: commercial, aboriginal subsistence, and special permit (scientific).

- Special permit whaling is governed by **national governments**, not the Commission. Currently, no governments are engaged in this type of whaling.

Source: Environment (Factly Forum IAS)

10. **With reference to the *Global Climate Change Alliance (GCCA)*, consider the following statements:**
1. It is an initiative of the European Union.
2. It provides technical and financial assistance to developing countries for integrating climate change into their development policies and budgets.
3. It is coordinated jointly by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:
- The *Global Climate Change Alliance (GCCA)* is indeed an **initiative of the European Union (EU)** launched in 2007.
- It aims to support **vulnerable developing countries**, particularly Least Developed Countries (LDCs) and Small Island Developing States (SIDS), by providing **technical and financial assistance** to mainstream climate change into their policies and budgets.
- The GCCA is **not coordinated by WRI or WBCSD**. It is managed by the **European Commission**, not external organizations.

Source: Environment (Factly Forum IAS)

Conservation Projects

1. With reference to **Project Tiger**, consider the following statements:
1. It was launched in 1973 as a Centrally Sponsored Scheme of the Ministry of Environment, Forest and Climate Change.
2. The programme is administered by the Wildlife Institute of India (WII).
3. One of its objectives is to preserve areas of biological importance as part of India's natural heritage.

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (b)
Explanation
- Project Tiger was launched in **1973** as a **Centrally Sponsored Scheme (CSS)** of the **MoEF&CC**.
- The programme is **administered by the National Tiger Conservation Authority (NTCA)**, **not** the Wildlife Institute of India (WII).
- An important objective is the **preservation of areas of biological importance as natural heritage**, representing ecosystem diversity in tiger habitats.

Source: Environment(Factly Forum IAS)

2. **Consider the following statements regarding the Rhisotope Project:**
1. It is a conservation initiative launched in South Africa in 2021 to combat rhino poaching.
2. The project involves inserting radioactive isotopes into rhino horns so that they can be detected at borders using radiation scanners.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c)
Explanation:

- **It** began in **South Africa in 2021** by the University of the Witwatersrand with IAEA support.
- Radioisotopes make rhino horns traceable via Radiation Portal Monitors (RPMs).

Source: Environment(Factly Forum IAS)

3. With reference to the **Sea Turtle Conservation Project (1999)**, consider the following statements:
1. The project was launched by the Ministry of Environment & Forests in collaboration with UNDP, with the Wildlife Institute of India as the implementing agency.
2. The project is implemented in 10 coastal States of India with special emphasis on Odisha.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2
Explanation:

- The Sea Turtle Conservation Project was launched in **November 1999** by the **Ministry of Environment & Forests (MoEF)** in collaboration with **UNDP**, with the **Wildlife Institute of India (WII), Dehradun** as the implementing agency.
- The project is implemented in **10 coastal States of India**, with **special focus on Odisha**, since Odisha is the largest nesting ground for Olive Ridley turtles.

Source: Environment(Factly Forum IAS)

4.With reference to **Project Lion (2020)**, consider the following statements:
1. The project focuses on securing the future of Asiatic lions through landscape ecology–based conservation.
2. It seeks to establish India as a global hub for big cat health research and treatment.
3. The project is being implemented by the CITES.

Which of the statements given above is/are correct?
(a) 1 only
(b)1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

Answer: (b)
Explanation:

- Project Lion emphasises landscape ecology, habitat restoration, and disease management and aims to make India a hub for big cat health research.
- Implementation is led by the **State Government of Gujarat along with other stakeholders**, and other stakeholders like the Central Zoo Authority.

Source: Environment(Factly Forum IAS)

5. With reference to **Project Snow leopard(2020)**, consider the following statements:
1. The project was launched in 2009 by the Ministry of Environment, Forest and Climate Change.
2. The project is implemented in the Himalayan states, including Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh only.

Which of the statements given above is/are correct?
a) One only
b) Two only

c) Both 1 and 2
d) Neither 1 nor 2

Answer: c
Explanation:

- *Project Snow Leopard* was launched in **2009** by the Ministry of Environment, Forest and Climate Change – MoEFCC to safeguard snow leopards and their habitats.
- The project is implemented **in 5 states**. This includes: **Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh**.

6. **Consider the following statements regarding Project Elephant:**
1. Project Elephant was launched as a Centrally Sponsored Scheme in 1992.
2. The objectives of Project Elephant include securing elephant corridors, mitigating human–elephant conflict, and ensuring veterinary care for both wild and captive elephants.
3. At present, Project Elephant is being implemented in only those states which have elephant populations in the wild.

Which of the statements given above is/are **correct**?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- Project Elephant was launched in 1992 as a **Centrally Sponsored Scheme** of the Ministry of Environment and Forests.
- It provides both financial and technical support to States/UTs for protecting wild Asian elephants.
- The objectives indeed include conservation of elephant habitats and corridors, mitigation of man–elephant conflict, protection from poaching, veterinary care (both wild and captive elephants), and promoting research.
- Project Elephant is **not limited to states that have wild elephants**. It also extends to States/UTs where there are captive elephants and facilities like rescue centres (e.g., Haryana, Punjab, Gujarat).

Source: Environment(Factly Forum IAS)

7. **With reference to Indian Rhino Vision 2020, consider the following statements:**
1. The project aimed to increase the wild population of the Greater One-Horned Rhino to at least 3,000 individuals across seven protected areas of Assam by 2020.
2. Under the project, rhinos were translocated from Kaziranga National Park and Pabitora Wildlife Sanctuary to Manas National Park.
3. Indian Rhino Vision 2020 was implemented solely by the Assam Forest Department without the involvement of any international partners.

Which of the statements given above is/are **correct**?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- IRV 2020 was launched in **2005**, with the goal of achieving a **wild population of at least 3,000 greater one-horned rhinos across seven protected areas of Assam by 2020**.
- Rhinos were indeed **moved from Kaziranga National Park and Pabitora Wildlife Sanctuary to Manas National Park**, which had lost its rhinos earlier due to poaching.

- The project was a **collaborative effort**, not limited to the Assam Forest Department. Partners included the **International Rhino Foundation (IRF)**, **World Wide Fund for Nature (WWF)**, **Bodoland Territorial Council**, and the **US Fish & Wildlife Service**.

Source: Environment(Factly Forum IAS)

8. **With reference to Project Dolphin, consider the following statements:**
1. Project Dolphin launched in 2022.
2. The project is being funded by the Ministry of Environment, Forest and Climate Change.
3. Project Dolphin covers both freshwater and marine dolphin species and not just the Gangetic river dolphin.

How many of the statements given above is/are **correct**?
(a) One only
(b)Two only
(c) All three
(d) None

Answer: (b)
Explanation:
- **Project Dolphin** is a flagship conservation initiative that focuses on the protection of both riverine and marine dolphin species. It is **designed as a 10-year programme and was first announced in 2020.**
- The project is **funded by MoEFCC** and executed through the **Wildlife Institute of India**.
- Project Dolphin aims to conserve **both riverine (Gangetic dolphin, India's National Aquatic Animal) and marine/oceanic dolphins**, not just freshwater species.

Source: Environment(Factly Forum IAS)

9. **With reference to the Crocodile Conservation Project in India, consider the following statements:**
1. The Crocodile Conservation Project was launched in 1975.
2. The project focused only on the Mugger crocodile conservation.
3. Under the project, crocodile eggs were collected from the wild, incubated in controlled hatcheries, and the juveniles were reared and released back into protected habitats.

Which of the statements given above is/are **correct**?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (c) 1 and 3 only
Explanation:
- The Crocodile Conservation Project was launched in **1975** with support from **UNDP/FAO**, following the recommendations of **Dr. H.R. Bustard**, an FAO expert.
- The programme started in **Odisha (1975)** with **Gharial and Saltwater crocodile conservation**, followed later by the Mugger crocodile programme.
- The project adopted a **rear-and-release strategy** – collecting eggs from wild nests, incubating and hatching them in controlled hatcheries, rearing juveniles, and releasing them back into protected natural habitats.

Source: Environment(Factly Forum IAS)

10. **Consider the following statements regarding Project Cheetah:**
1. India is the first country in the world to introduce cheetahs through a translocation programme from Africa.
2. The project also has socio-economic objectives, such as enhancing livelihood opportunities for local communities through eco-tourism.
3. The Cheetah Reintroduction Project in India formally commenced in 2023.

How many of the statements given above is/are **correct**?
(a) **One only**

(b) **Two only**
(c) **All three**
(d) None

Answer: (b) Two only
Explanation:

- India became the **first country in the world** to reintroduce cheetahs through a **translocation project from Namibia and South Africa**.
- Beyond ecology, the project aims to **enhance eco-tourism and provide livelihood opportunities** for local communities near release sites.
- The Cheetah Reintroduction Project in India was formally **launched on 17 September 2022** with the objective of reviving the cheetah population, a species that had been declared extinct in the country in 1952.

Source: Environment(Factly Forum IAS)

Climate Change

1. Consider the following statements:
Statement I: The greenhouse effect is a naturally occurring phenomenon that maintains the Earth's surface temperature suitable for life.
Statement II: In the absence of the natural greenhouse effect, the average temperature of the Earth's surface would be around –19°C, making the planet frozen and lifeless.
Choose the correct answer using the options given below:
(a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I.
(b) Both Statement I and Statement II are correct but Statement II is not the correct explanation of Statement I.
(c) Statement I is correct but Statement II is incorrect.
(d) Statement I is incorrect but Statement II is correct.

Answer: (a) Both Statement I and Statement II are correct and Statement II is the correct explanation of Statement I.
Explanation:

- The greenhouse effect keeps Earth's lower atmosphere warm, ensuring temperatures suitable for living organisms.
- Without it, Earth's average temperature would be **–19°C instead of the current 15°C**, leading to a frozen, lifeless planet.
- Hence, **Statement II correctly explains Statement I**.

Source: Environment (Factly Forum IAS)

2. **Consider the following statements regarding Earth's energy balance:**
1. The Sun emits energy in short wavelengths because of its high temperature.
2. Around 30% of the incoming solar energy is directly reflected back into space by the atmosphere, clouds, and Earth's surface.
3. The Earth re-emits absorbed energy as infrared radiation with longer wavelengths compared to incoming solar radiation.

Which of the above statements is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only

(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3
Explanation:

- The **Sun**, being extremely hot, emits energy primarily in **shortwave radiation** (visible and ultraviolet), which penetrates the atmosphere.
- About **30% of solar radiation** is reflected back to space due to the combined effect of **atmosphere, clouds, and Earth's surface (albedo effect)**.
- The **Earth**, being cooler than the Sun, re-radiates energy in the form of **longwave infrared radiation**, which has longer wavelengths than incoming solar energy.

Source: Environment (Factly Forum IAS)

3. Which of the following are considered greenhouse gases (GHGs) in Earth's atmosphere?

1. Carbon dioxide (CO_2)
2. Methane (CH_4)
3. Nitrous oxide (N_2O)
4. Ozone (O_3)
5. Water vapor (H_2O)

Select the correct answer using the code given below:
(a) 1, 2 and 3 only
(b) 1, 2, 3 and 4 only
(c) 2, 3, 4 and 5 only
(d) 1, 2, 3, 4 and 5

Answer: (d) 1, 2, 3, 4 and 5
Explanation:

- Major greenhouse gases include carbon dioxide, methane, nitrous oxide, ozone, and water vapour, all of which trap heat in Earth's lower atmosphere and contribute to the greenhouse effect.
- While gases like nitrogen (N_2) and oxygen (O_2) dominate the atmosphere, they are not greenhouse gases since they do not absorb significant infrared radiation.

Source: Environment (Factly Forum IAS)

4. With reference to fluorinated gases, consider the following statements:

1. Hydrofluorocarbons (HFCs) were introduced as substitutes for ozone-depleting substances, and they also eliminate global warming risks.
2. Perfluorocarbons (PFCs) are naturally occurring gases released mainly from volcanic eruptions.
3. Fluorinated gases are among the most potent and longest-lasting greenhouse gases released by human activities.

How many of the above statements is/are correct?
(a) One only
(b) Two only
(c) Three only
(d) None

Answer: (a) One only
Explanation:

- HFCs do not harm the ozone layer, but they do contribute significantly to global warming due to their high GWPs.
- PFCs are synthetic gases produced as industrial by-products, not natural or volcanic.
- Fluorinated gases are indeed the most potent and longest-lasting greenhouse gases emitted by human activities.

Source: Environment (Factly Forum IAS)

5. With reference to Black Carbon (BC), consider the following statements:

1. Black carbon is a greenhouse gas that remains in the atmosphere for several decades.
2. Black carbon increases Earth's albedo when deposited on snow and ice, thereby reducing warming.
3. Black carbon is a short-lived pollutant that strongly absorbs sunlight, warms the atmosphere directly, and accelerates the melting of snow and glaciers.

Which of the above statements is/are correct?

(a) 1 and 2only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

Answer: (c) 3 only

Explanation:

- Black carbon is not a greenhouse gas, it is a particulate pollutant (soot). Unlike CO_2, it has a short lifetime (days to weeks), not decades.
- Deposition of black carbon reduces albedo (snow becomes darker), which increases warming and accelerates melting.
- BC is a short-lived pollutant, the strongest absorber of sunlight, warms the air directly, and accelerates glacier and snow melt.

Source: Environment (Factly Forum IAS)

6. With reference to Brown Carbon (BrC), consider the following statements:

1. Brown carbon refers to light-absorbing organic matter present in atmospheric aerosols, often originating from sources like biomass burning and agricultural fires.
2. Unlike black carbon, which is particulate soot from incomplete combustion, brown carbon primarily consists of light-absorbing organic substances such as humic-like matter and tarry materials.

Which of the above statements is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (c) Both 1 and 2

Explanation:

- Brown carbon is a light-absorbing organic component of aerosols, with biomass burning and agricultural fires as major sources.
- Unlike black carbon (soot, dust), brown carbon consists of organic aerosols like humic-like substances, tarry combustion products, and bioaerosols.

Source: Environment (Factly Forum IAS)

7. What is Greenhouse Gas Protocol?

(a) It is an international accounting tool for government and business leaders to understand, quantify and manage greenhouse gas emissions
(b) It is an initiative of the United Nations to offer financial incentives to developing countries to reduce greenhouse gas emissions and to adopt eco-friendly technologies
(c) It is an inter-governmental agreement ratified by all the member countries of the United Nations to reduce greenhouse gas emissions to specified levels by the year 2022
(d) It is one of the multilateral REDD+ initiatives hosted by the World Bank

Answer: (a) It is an international accounting and reporting standard that provides methods and guidance for governments and businesses to measure and manage greenhouse gas emissions.
Explanation:

- The Greenhouse Gas Protocol (GHG Protocol) was developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).
- It is widely used as the global standard framework to measure and manage GHG emissions across private and public sector organizations.
- It is not a UN treaty, REDD+ initiative, or financial incentive mechanism.

Source: Environment (Factly Forum IAS)

8. With reference to Global Warming Potential (GWP), consider the following statements:
1. Global Warming Potential (GWP) measures the amount of energy a greenhouse gas absorbs over a specific period of time, usually 100 years, compared to carbon dioxide.
2. A greenhouse gas with a higher GWP absorbs less energy per unit mass than one with a lower GWP.

Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (a) 1 only
Explanation:

- GWP is a comparative measure of how much energy a gas traps in the atmosphere over a chosen time horizon (usually 100 years) relative to CO_2.
- Gases with higher GWP absorb *more* energy per unit mass than those with lower GWP, hence contributing more to global warming.

Source: Environment (Factly Forum IAS)

8.**With reference to the Greenhouse Gas Emission Intensity (GEI) Targets Rules, 2025, consider the following statements:**
1. The GEI Targets Rules, 2025, establish India's first compliance-based domestic carbon market under the Carbon Credit Trading Scheme (CCTS), 2023.
2. The rules apply to high-emission sectors such as aluminium, cement, chlor-alkali, and pulp & paper, covering both Carbon Dioxide (CO_2) and Perfluorocarbons (PFCs).
3. Obligated entities that fail to meet targets will be charged twice the average traded carbon price, which will be determined by the Central Pollution Control Board (CPCB).

Which of the above statements is/are correct?
(a) 1 and 2 only
(b) 2 only

(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (a) 1 and 2 only
Explanation:

- The GEI Targets Rules, 2025 create India's first compliance-based carbon market under the **Carbon Credit Trading Scheme (CCTS), 2023**.
- The rules apply to **aluminium, cement, chlor-alkali, and pulp & paper sectors**, covering **CO_2 and PFCs (CF_4, C_2F_6, C_4F_{10}, C_6F_{14})**.
- Non-compliant entities pay **twice the average traded carbon price**, but the price is determined by the **Bureau of Energy Efficiency (BEE)**, while **CPCB collects the compensation**.

Source: Environment (Factly Forum IAS)

9. **Which of the following gases are commonly released during the combustion of coal in thermal power plants?**
1. Carbon dioxide
2. Oxides of nitrogen
3. Oxides of sulphur

Select the correct answer using the code given below:
(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer:(d) 1, 2 and 3
Explanation:

- **Carbon dioxide (CO_2):** Produced in large quantities as coal is carbon-rich and undergoes complete combustion.
- **Oxides of Nitrogen (NOx):** High combustion temperatures in thermal power plants lead to the formation of nitrogen oxides.
- **Oxides of Sulphur (SO_2, SO_3):** Coal contains sulfur impurities, which produce sulfur oxides when burned.

Source: Environment (Factly Forum IAS)

10. **In the context of mitigating the impending global warming due to anthropogenic emissions of carbon dioxide, which of the following can be the potential sites for carbon sequestration?**
1. Abandoned and uneconomic coal seams
2. Depleted oil and gas reservoirs
3. Subterranean deep saline formations

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Answer: (d) 1, 2 and 3
Explanation:

- **Abandoned coal seams** → Can store CO_2 in micropores of coal; sometimes methane recovery is also possible.

- **Depleted oil and gas reservoirs** → Suitable for injecting CO_2 because of existing geological traps and proven sealing capacity.
- **Deep saline formations** → Among the largest potential reservoirs for long-term CO_2 storage, due to their vast porous rock structures saturated with brine.

Source: Environment (Factly Forum IAS)

Climate Change Organisations

1. **With reference to the United Nations Framework Convention on Climate Change (UNFCCC), which of the following statements is/are correct?**

1. It was adopted in 1992 to address global climate change through international cooperation.
2. It legally binds all member countries to reduce greenhouse gas emissions to specific targets.
3. The Conference of the Parties (COP) is the supreme decision-making body of the UNFCCC.

Select the correct answer using the code given below.

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

Correct Answer: B (1 and 3 only)

Explanation:

- **Statement 1: Correct.** The UNFCCC was adopted in 1992 to promote international cooperation to combat climate change by limiting global temperature rise and addressing its impacts.
- **Statement 2: Incorrect.** The UNFCCC itself does not legally bind countries to specific emission reduction targets; binding commitments were introduced under the Kyoto Protocol for certain countries.
- **Statement 3: Correct.** The Conference of the Parties (COP) is the supreme decision-making body of the UNFCCC, meeting annually to review progress and make decisions.

Source- Shankar IAS

2. **With reference to the Kyoto Protocol, which of the following statements is/are correct?**

1. It is an international treaty that commits state parties to reduce greenhouse gas emissions based on the principle of common but differentiated responsibilities.
2. It includes mechanisms like Clean Development Mechanism (CDM) and Joint Implementation (JI) to assist countries in meeting their emission targets.
3. It was extended beyond its initial commitment period (2008–2012) through the Doha Amendment.

Select the correct answer using the code given below.

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

Correct Answer: D (1, 2, and 3)

Explanation:

- **Statement 1: Correct.** The Kyoto Protocol, adopted in 1997, commits state parties to reduce greenhouse gas emissions based on the principle of common but differentiated responsibilities, recognizing that developed countries have greater responsibility.

· **Statement 2: Correct.** It includes flexible mechanisms like the Clean Development Mechanism (CDM) and Joint Implementation (JI) to help countries meet emission targets.
· **Statement 3: Correct.** The Doha Amendment extended the Kyoto Protocol's commitment period beyond 2012 to 2020.

3. **With reference to REDD and REDD+, which of the following statements is/are correct?**
4. REDD stands for Reducing Emissions from Deforestation and Forest Degradation.
5. REDD+ includes conservation, sustainable management of forests, and enhancement of forest carbon stocks.
6. It is exclusively managed by the Intergovernmental Panel on Climate Change (IPCC).

Select the correct answer using the code given below.

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

Correct Answer: B (1 and 2 only)

Explanation:

· **Statement 1: Correct.** REDD stands for Reducing Emissions from Deforestation and Forest Degradation, aimed at reducing emissions from forest loss.
· **Statement 2: Correct.** REDD+ expands on REDD by including conservation, sustainable forest management, and enhancement of forest carbon stocks.
· **Statement 3: Incorrect.** REDD+ is not exclusively managed by the IPCC; it is a UNFCCC initiative, with support from other organizations like the Forest Carbon Partnership Facility.

4. **With reference to the Intergovernmental Panel on Climate Change (IPCC), which of the following statements is/are correct?**

1. The IPCC was established to provide scientific assessments on climate change, its impacts, and mitigation strategies.
2. It directly implements climate change policies and enforces emission reduction targets.

Select the correct answer using the code given below.

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

Correct Answer: A (1 only)

Explanation:

· **Statement 1: Correct.** The IPCC was established in 1988 to provide scientific assessments on climate change, its impacts, risks, and mitigation strategies, informing policymakers.
· **Statement 2: Incorrect.** The IPCC does not implement policies or enforce emission reduction targets; it provides scientific data and recommendations.

5. **With reference to the Global Environment Facility (GEF), which of the following statements is/are correct?**

1. It serves as a financial mechanism for several environmental conventions, including the UNFCCC and the Convention on Biological Diversity.
2. It exclusively funds projects related to renewable energy development in developed countries.

Select the correct answer using the code given below.

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

Correct Answer: A (1 only)

Explanation:

- **Statement 1: Correct.** The GEF serves as a financial mechanism for multiple environmental conventions, including the UNFCCC and the Convention on Biological Diversity, funding projects in developing countries.
- **Statement 2: Incorrect.** The GEF does not exclusively fund renewable energy projects in developed countries; it focuses on global environmental issues, primarily in developing nations.

6. **With reference to Climate Smart Agriculture, which of the following statements is/are correct?**

1. It aims to increase agricultural productivity while reducing greenhouse gas emissions.
2. It promotes practices like crop rotation and integrated pest management to enhance resilience to climate change.

Select the correct answer using the code given below.

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

Correct Answer: A (1 only)

Explanation:

- **Statement 1: Correct.** The GEF serves as a financial mechanism for multiple environmental conventions, including the UNFCCC and the Convention on Biological Diversity, funding projects in developing countries.
- **Statement 2: Incorrect.** The GEF does not exclusively fund renewable energy projects in developed countries; it focuses on global environmental issues, primarily in developing nations

7. **Which of the following are mechanisms or initiatives under the UNFCCC to address climate change?**

1. Clean Development Mechanism (CDM)
2. Joint Implementation (JI)
3. Emissions Trading
4. Carbon Sequestration

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2, and 3 only
C. 2, 3, and 4 only
D. 1, 2, 3, and 4

Correct Answer: B (1, 2, and 3 only)

Explanation:

- **Statement 1: Correct.** The Clean Development Mechanism (CDM) allows developed countries to invest in emission reduction projects in developing countries to meet their targets.
- **Statement 2: Correct.** Joint Implementation (JI) enables developed countries to undertake emission reduction projects in other developed countries (page 260).
- **Statement 3: Correct.** Emissions Trading allows countries to trade emission allowances to meet their reduction targets under the Kyoto Protocol (page 260).
- **Statement 4: Incorrect.** Carbon Sequestration is a process, not a specific UNFCCC mechanism, though it is supported by initiatives like REDD+ (page 227).

8. **Which of the following are key features of the Green Economy as promoted by international climate change organizations?**

1. Low carbon and resource-efficient economic growth
2. Social inclusiveness and poverty reduction
3. Increased dependence on fossil fuels
4. Creation of green jobs and sustainable infrastructure

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2, and 4 only
C. 2, 3, and 4 only
D. 1, 3, and 4 only

Correct Answer: B (1, 2, and 4 only)

Explanation:

- **Statement 1: Correct.** A Green Economy promotes low-carbon and resource-efficient economic growth.
- **Statement 2: Correct.** It emphasizes social inclusiveness and poverty reduction as key components.
- **Statement 3: Incorrect.** A Green Economy aims to reduce dependence on fossil fuels, not increase it.
- **Statement 4: Correct.** It focuses on creating green jobs and developing sustainable infrastructure.

9. **Which of the following are objectives of the Climate Finance Architecture under international climate change frameworks?**

1. Mobilizing funds for mitigation and adaptation projects
2. Supporting capacity building in developing countries
3. Promoting technology transfer for climate resilience
4. Enforcing mandatory emission cuts for countries

Select the correct answer using the code given below.

A. 1 and 3 only
B. 1, 2, and 3 only
C. 2, 3, and 4 only
D. 1, 2, 3, and 4

Correct Answer: B (1, 2, and 3 only)

Explanation:

- **Statement 1: Correct.** The Climate Finance Architecture mobilizes funds for mitigation and adaptation projects in developing countries.
- **Statement 2: Correct.** It supports capacity building in developing countries to enhance climate resilience.
- **Statement 3: Correct.** It promotes technology transfer to support climate adaptation and mitigation.
- **Statement 4: Incorrect.** The Climate Finance Architecture does not enforce mandatory emission cuts; it facilitates voluntary commitments and support.

10. **Under the UNFCCC, the term 'climate forcing' refers to the perturbation in the Earth's energy balance caused by which of the following?**
    a) Natural variations in solar radiation
    b) Anthropogenic greenhouse gases and aerosols
    c) Volcanic eruptions and orbital changes
    d) Oceanic currents and atmospheric circulation patterns

Correct Answer: B (Anthropogenic greenhouse gases and aerosols)
Explanation: Climate forcing, measures the change in Earth's energy balance due to human-induced factors like greenhouse gases and aerosols, distinct from natural forcings; this concept is integral to IPCC assessments and UNFCCC discussions on radiative forcing.

Structure Relief and Physiographic Divisions Of India

1. **Consider the following statements regarding the geological structure of India:**
1. The Peninsular Plateau is primarily composed of ancient crystalline igneous and metamorphic rocks formed during the Precambrian era.
2. The Himalayan mountains are young fold mountains formed by the collision of the Indian Plate with the Eurasian Plate.
3. The Indo-Gangetic Plain is a geosynclinal depression filled with sediments eroded from the Himalayas and the Peninsular Plateau.

Which of the statements given above are correct?
A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3

Correct Answer: D
Explanation:
Statement 1: Correct. The Peninsular Plateau is made of ancient rocks like gneisses and granites from the Precambrian era, forming one of the oldest landmasses.
Statement 2: Correct. The Himalayas are young fold mountains resulting from the tectonic collision between the Indian and Eurasian Plates.
Statement 3: Correct. The Indo-Gangetic Plain is a depositional basin filled with sediments eroded from the Himalayas and Peninsular Plateau.

2. **In the context of the Himalayan physiographic divisions, consider the following statements:**
1. The Great Himalayas, or Himadri, have an average elevation above 6,000 meters and contain India's highest peaks.

2. The Shiwalik range is composed of unconsolidated sediments, making it prone to erosion and landslides.
3. The Trans-Himalayan zone, including the Karakoram range, is primarily formed of volcanic rocks.

Which of the statements given above are correct?

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

Correct Answer: A
Explanation:
Statement 1: Correct. The Himadri or Great Himalayas average over 6,000 meters, hosting peaks like Everest and Kanchenjunga.
Statement 2: Correct. The Shiwaliks, the outermost range, consist of loose sediments like sandstone, leading to frequent erosion and landslides.
Statement 3: Incorrect. The Trans-Himalayas, including Karakoram, are mainly composed of sedimentary and metamorphic rocks from the Tethys geosyncline, not primarily volcanic rocks.

3. **With reference to the Peninsular Plateau of India, consider the following statements:**

1. The Deccan Plateau slopes eastward, leading major rivers to drain into the Bay of Bengal.
2. The Aravalli range forms the northwestern boundary of the Central Highlands.
3. The Chotanagpur Plateau is known for its rich coal and iron ore deposits.

Which of the statements given above are correct?

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

Correct Answer: D
Explanation:
Statement 1: Correct. The Deccan Plateau tilts eastward, causing rivers like Godavari and Krishna to flow into the Bay of Bengal.
Statement 2: Correct. The Aravalli range marks the northwestern boundary of the Central Highlands, separating them from the Thar Desert.
Statement 3: Correct. The Chotanagpur Plateau is a mineral-rich region, known for significant coal and iron ore deposits.

4. **Consider the following statements about the Northern Plains of India:**

1. The Bhabar zone consists of coarse pebbles where rivers disappear into the subsurface.
2. The Bangar region is more fertile than the Khadar due to older alluvium deposits.

Which of the statements given above is/are correct?

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

Correct Answer: A
Explanation:
Statement 1: Correct. The Bhabar is a narrow (8-16 km) zone of coarse gravel where Himalayan rivers lose velocity and percolate underground.

Statement 2: Incorrect. The Khadar, with newer alluvium from annual flooding, is more fertile than the older, less frequently replenished Bangar alluvium.

5. **Consider the following statements about the Indian Desert:**
1. The Thar Desert features crescent-shaped barchan dunes due to wind action.
2. The Luni River is the only significant river, draining into the Rann of Kutch.

Which of the statements given above is/are correct?

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

Correct Answer: C
Explanation:
Statement 1: Correct. The Thar Desert is characterized by barchan (crescent-shaped) dunes formed by wind action in arid conditions.
Statement 2: Correct. The Luni River is the only major river in the Thar, originating in the Aravallis and draining into the Rann of Kutch.

6. **Consider the following statements about India's Coastal Plains:**
1. The Eastern Coastal Plain is wider due to deltaic deposition by rivers like the Krishna and Kaveri.
2. The Western Coastal Plain is characterized by submerged coastlines forming backwaters and lagoons.

Which of the statements given above is/are correct?

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

Correct Answer: C
Explanation:
Statement 1: Correct. The Eastern Coastal Plain is broader (80-100 km) due to extensive delta formation by rivers like Krishna and Kaveri.
Statement 2: Correct. The Western Coastal Plain, narrower in width, features submerged coastlines with lagoons and backwaters, notably in Kerala.

7. **Which of the following factors influence the physiographic characteristics of the Himalayan region?**
1. Tectonic collision between the Indian and Eurasian Plates.
2. Glacial and fluvial erosion forming deep valleys and gorges.
3. Deposition of sediments from the Peninsular Plateau.
4. Formation of longitudinal valleys like the Dun valleys.
5. Basaltic lava flows from volcanic activity.

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2 and 4 only
C. 3 and 5 only
D. 1, 3 and 4 only

Correct Answer: B
Explanation:
Statement 1: Correct. The Himalayas formed due to the collision of the Indian and Eurasian Plates.
Statement 2: Correct. Glacial and river erosion have shaped deep valleys and gorges in the Himalayas.
Statement 3: Incorrect. Sediments from the Peninsular Plateau primarily contribute to the Indo-Gangetic Plain, not the Himalayas.
Statement 4: Correct. Longitudinal valleys like the Dun and Kashmir valleys are key Himalayan features.
Statement 5: Incorrect. Basaltic lava flows are associated with the Deccan Plateau, not the Himalayas.

8. **How does the Peninsular Plateau differ from the Indo-Gangetic Plains in terms of physiographic features?**

1. The Peninsular Plateau has rugged topography, while the Indo-Gangetic Plains are flat and depositional.
2. Rivers in the Peninsular Plateau are seasonal, unlike the perennial rivers of the Indo-Gangetic Plains.
3. The Peninsular Plateau is rich in mineral deposits, while the Indo-Gangetic Plains are fertile for agriculture.
4. The Peninsular Plateau is tectonically more active than the Indo-Gangetic Plains.

Select the correct answer using the code given below:

A. 1 and 3 only
B. 2 and 4 only
C. 1, 2 and 3 only
D. 1, 2, 3 and 4

Correct Answer: C
Explanation:
Statement 1: Correct. The Peninsular Plateau is rugged with hills and plateaus, while the Plains are flat due to alluvial deposition.
Statement 2: Correct. Peninsular rivers like Godavari are seasonal, unlike the perennial Himalayan rivers in the Plains.
Statement 3: Correct. The Plateau has minerals like coal and iron, while the Plains are agriculturally fertile.
Statement 4: Incorrect. The Peninsular Plateau is tectonically stable, unlike the seismically active Himalayas.

9. **Which of the following statements describe the physiographic features of India's island territories?**

1. The Andaman and Nicobar Islands are tectonic in origin, linked to the Arakan Yoma range.
2. The Lakshadweep Islands are coral atolls formed on submerged volcanic ridges.
3. The Andaman Islands support tropical rainforests, while Lakshadweep has coral-based vegetation.
4. The Andaman and Nicobar Islands are separated from the mainland by the Andaman Sea.

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2 and 3 only
C. 3 and 4 only
D. 2 and 4 only

Correct Answer: B
Explanation:
Statement 1: Correct. The Andaman and Nicobar Islands are tectonic, extensions of the Arakan Yoma range.
Statement 2: Correct. Lakshadweep Islands are coral atolls formed on submerged volcanic ridges.
Statement 3: Correct. Andamans have dense rainforests, while Lakshadweep has sparse, coral-based vegetation like coconut palms.

Statement 4: Incorrect. The Andaman and Nicobar Islands are separated from each other by the Ten Degree Channel, not from the mainland by the Andaman Sea alone.

10. **Which of the following physiographic divisions of India is the oldest, composed primarily of Archaean rocks and tectonically stable?**
    A. The Himalayas
    B. The Indo-Gangetic Plain
    C. The Peninsular Plateau
    D. The Coastal Plains

Correct Answer: C
Explanation:
The Peninsular Plateau, formed of Archaean rocks like gneisses and granites, is the oldest and most tectonically stable division, unlike the young Himalayas or depositional Plains and Coastal Plains.

Drainage System of India

1. **Consider the following statements regarding the Indus River System:**
1. The Indus originates near Lake Mansarovar in Tibet and flows through India before entering Pakistan.
2. The Jhelum and Chenab are its major tributaries, joining it directly in Pakistan.
3. The Sutlej River forms the headwaters of the Indus, originating from the Rakshastal Lake.
   Which of the statements given above are correct?
   A. 1 and 2 only
   B. 2 and 3 only
   C. 1 and 3 only
   D. 1, 2 and 3

Correct Answer: A
Explanation:
Statement 1: Correct. The Indus originates near Lake Mansarovar in Tibet, flows through Ladakh in India, and then enters Pakistan.
Statement 2: Correct. The Jhelum and Chenab are major left-bank tributaries that join the Indus directly in Pakistan.
Statement 3: Incorrect. The Sutlej is a tributary of the Indus, not its headwater; it originates from Rakshastal Lake but joins the Indus later.

2. **In the context of the Ganga River System, consider the following statements:**
1. The Ganga is formed by the confluence of the Bhagirathi and Alaknanda rivers at Devprayag.
2. The Yamuna, the largest tributary of the Ganga, originates from the Gangotri Glacier.
3. The Son River, a right-bank tributary, drains a significant portion of the Peninsular Plateau.
   Which of the statements given above are correct?
   A. 1 and 2 only
   B. 1 and 3 only
   C. 2 and 3 only
   D. 1, 2 and 3

Correct Answer: B

Explanation:

Statement 1: Correct. The Ganga is formed by the confluence of the Bhagirathi and Alaknanda at Devprayag in Uttarakhand.

Statement 2: Incorrect. The Yamuna originates from the Yamunotri Glacier, not the Gangotri Glacier, which is the source of the Bhagirathi.

Statement 3: Correct. The Son, a right-bank tributary, drains parts of the Peninsular Plateau, including the Chotanagpur region.

3. **With reference to the Brahmaputra River System, consider the following statements:**

1. The Brahmaputra, known as Tsangpo in Tibet, enters India through a narrow gorge in Arunachal Pradesh.
2. The Dibang and Lohit are major left-bank tributaries joining the Brahmaputra in Assam.
3. The Brahmaputra forms the world's largest river island, Majuli, in Assam.

Which of the statements given above are correct?

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

Correct Answer: B

Explanation:

Statement 1: Correct. The Brahmaputra, called Tsangpo in Tibet, enters India through a gorge in Arunachal Pradesh.

Statement 2: Incorrect. The Dibang and Lohit are right-bank tributaries of the Brahmaputra, not left-bank.

Statement 3: Correct. The Brahmaputra forms Majuli, the world's largest river island, in Assam, though it is shrinking due to erosion.

4. **Consider the following statements about the Peninsular river systems:**

1. The Godavari, the largest Peninsular river, originates in the Western Ghats near Nashik.
2. The Krishna River forms a large delta on the eastern coast before draining into the Arabian Sea.

Which of the statements given above is/are correct?

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

Correct Answer: A

Explanation:

Statement 1: Correct. The Godavari originates in the Western Ghats near Nashik, Maharashtra, and is the largest Peninsular river.

Statement 2: Incorrect. The Krishna forms a delta on the eastern coast but drains into the Bay of Bengal, not the Arabian Sea.

5. **Consider the following statements about the Narmada River:**

1. The Narmada flows through a rift valley between the Vindhyas and Satpuras, forming a linear basin.
2. The Narmada is one of the few major rivers in India that flows eastward into the Bay of Bengal.

Which of the statements given above is/are correct?

A. 1 only

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

Correct Answer: A
Explanation:
Statement 1: Correct. The Narmada flows through a rift valley between the Vindhyas and Satpuras, creating a linear basin.
Statement 2: Incorrect. The Narmada flows westward and drains into the Arabian Sea, not eastward into the Bay of Bengal.

6. **Consider the following statements about the drainage patterns in India:**
1. The rivers of the Himalayan system typically exhibit dendritic drainage patterns due to uniform terrain.
2. The rivers of the Peninsular Plateau often show radial drainage patterns in regions like the Chotanagpur Plateau.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

Correct Answer: C
Explanation:
Statement 1: Correct. Himalayan rivers like the Ganga and its tributaries show dendritic (tree-like) drainage due to relatively uniform terrain.
Statement 2: Correct. Peninsular rivers, especially in areas like the Chotanagpur Plateau, exhibit radial drainage due to domed uplands.

7. **Which of the following factors influence the drainage characteristics of Indian rivers?**
1. Tectonic activity shaping rift valleys for rivers like the Narmada and Tapti.
2. Seasonal monsoon rainfall affecting the flow of Peninsular rivers.
3. Glacial melt contributing to the perennial nature of Himalayan rivers.
4. Coral reef formations influencing river mouths in coastal plains.
5. Erosion of ancient Gondwana rocks in the Peninsular region.

Select the correct answer using the code given below.
A. 1 and 2 only
B. 1, 2 and 3 only
C. 3 and 4 only
D. 1, 2, 3 and 5 only

Correct Answer: B
Explanation:
Statement 1: Correct. Tectonic activity has created rift valleys for rivers like Narmada and Tapti, shaping their drainage.
Statement 2: Correct. Monsoon rainfall causes seasonal flow in Peninsular rivers like Godavari and Krishna.
Statement 3: Correct. Glacial melt ensures the perennial flow of Himalayan rivers like the Ganga and Brahmaputra.
Statement 4: Incorrect. Coral reefs do not significantly influence river mouths in India's coastal plains.

Statement 5: Incorrect. While Gondwana rocks form the Peninsular Plateau, their erosion does not directly shape drainage patterns.

8. **Which of the following statements describe the characteristics of the east-flowing Peninsular rivers?**

1. East-flowing rivers like the Mahanadi and Godavari form extensive deltas due to gentle slopes and high sediment load.
2. These rivers have larger catchment areas compared to west-flowing rivers like the Narmada and Tapti.
3. Most east-flowing rivers originate in the Western Ghats and are monsoon-dependent.
4. East-flowing rivers generally have shorter courses than Himalayan rivers due to the stable Peninsular terrain.

Select the correct answer using the code given below.

A. 1 and 3 only
B. 1, 2 and 4 only
C. 2 and 3 only
D. 1, 2, 3 and 4

Correct Answer: B

Explanation:

Statement 1: Correct. East-flowing rivers like Mahanadi and Godavari form large deltas due to gentle slopes and sediment deposition.

Statement 2: Correct. East-flowing rivers have larger catchment areas compared to the shorter west-flowing rivers like Narmada.

Statement 3: Incorrect. While many originate in the Western Ghats, some like the Mahanadi originate in the Central Highlands.

Statement 4: Correct. Peninsular rivers have shorter courses than Himalayan rivers due to the stable, less dissected terrain.

9. **Which of the following statements highlight the significance of India's river systems in specific contexts?**

1. The Ganga-Brahmaputra delta is one of the most fertile regions, supporting dense agricultural activity.
2. The Indus Water Treaty governs the sharing of Indus system waters between India and Pakistan.
3. The Kaveri River dispute primarily involves water sharing between Karnataka and Tamil Nadu.
4. The Brahmaputra River is a major source of hydropower due to its steep gradient in the Himalayan region.

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2 and 3 only
C. 3 and 4 only
D. 1, 2, 3 and 4

Correct Answer: D

Explanation:

Statement 1: Correct. The Ganga-Brahmaputra delta is highly fertile, supporting intensive agriculture in West Bengal and Bangladesh.

Statement 2: Correct. The Indus Water Treaty (1960) allocates waters of the Indus and its tributaries between India and Pakistan.

Statement 3: Correct. The Kaveri dispute is a major inter-state issue between Karnataka and Tamil Nadu

over water sharing.

Statement 4: Correct. The Brahmaputra's steep gradient in the Himalayas makes it a significant source for hydropower projects.

10. **Which of the following rivers is the only major west-flowing Peninsular river that forms an estuary instead of a delta?**
    A. Godavari
    B. Krishna
    C. Narmada
    D. Kaveri

Correct Answer: C

Explanation:

The Narmada River, flowing westward through a rift valley, forms an estuary at its mouth in the Arabian Sea due to its steep gradient and low sediment load, unlike the delta-forming east-flowing rivers like Godavari and Krishna.

Weather Climate and Season in India

1. **Consider the following statements regarding the Indian monsoon:**
1. The southwest monsoon is primarily driven by the differential heating of the Indian landmass and the Indian Ocean.
2. The Inter-Tropical Convergence Zone (ITCZ) shifts northward during the summer, facilitating monsoon rainfall over India.
3. The Tibetan Plateau's heating creates a high-pressure system that strengthens the monsoon winds.

Which of the statements given above are correct?

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

Correct Answer: A

Explanation:

Statement 1: Correct. The southwest monsoon results from differential heating between the warmer Indian landmass and the cooler Indian Ocean, creating a low-pressure system over land.

Statement 2: Correct. The northward shift of the ITCZ during summer brings moisture-laden winds to India, triggering monsoon rainfall.

Statement 3: Incorrect. The Tibetan Plateau's heating creates a low-pressure system, not a high-pressure system, which enhances monsoon circulation.

2. **In the context of India's climatic zones, consider the following statements:**
1. The Tropical Wet Evergreen climate is found in the Western Ghats and parts of Northeast India, characterized by heavy rainfall exceeding 250 cm annually.
2. The Tropical Dry climate, prevalent in parts of Rajasthan, experiences high temperatures and scanty rainfall due to rain shadow effects.
3. The Subtropical Humid climate of the Himalayan foothills is marked by cold winters and minimal seasonal temperature variation.

Which of the statements given above are correct?

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

Correct Answer: A
Explanation:
Statement 1: Correct. The Tropical Wet Evergreen climate, found in the Western Ghats and Northeast India, receives over 250 cm of rainfall annually, supporting dense forests.
Statement 2: Correct. The Tropical Dry climate in Rajasthan, a rain shadow region, has high temperatures and low rainfall (less than 50 cm).
Statement 3: Incorrect. The Subtropical Humid climate in the Himalayan foothills has cold winters but significant seasonal temperature variation, not minimal.

3. **With reference to the El Niño and La Niña phenomena affecting India's climate, consider the following statements:**
1. El Niño weakens the trade winds, leading to reduced monsoon rainfall in India.
2. La Niña strengthens the monsoon by enhancing moisture flow from the Pacific Ocean.
3. The Indian Ocean Dipole (IOD) has no significant impact on monsoon variability during El Niño years.

Which of the statements given above are correct?
A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3

Correct Answer: A
Explanation:
Statement 1: Correct. El Niño weakens trade winds, reducing monsoon rainfall in India by disrupting moisture flow.
Statement 2: Correct. La Niña strengthens monsoon rainfall by enhancing moisture-laden winds from the Pacific.
Statement 3: Incorrect. The Indian Ocean Dipole significantly influences monsoon variability, often mitigating or exacerbating El Niño's effects.

4. **Consider the following statements about the retreating monsoon in India:**
1. The retreating monsoon occurs when the ITCZ shifts southward, leading to the withdrawal of southwest monsoon winds.
2. Tamil Nadu receives significant rainfall during the retreating monsoon due to cyclonic activity in the Bay of Bengal.

Which of the statements given above is/are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

Correct Answer: C
Explanation:
Statement 1: Correct. The retreating monsoon begins as the ITCZ shifts south, causing the southwest

monsoon winds to withdraw, typically from September to October.
Statement 2: Correct. Tamil Nadu receives heavy rainfall during the retreating monsoon (October–December) due to cyclonic disturbances in the Bay of Bengal.

5. **Consider the following statements about the factors influencing India's climate:**
1. The Himalayan mountain range acts as a barrier, preventing cold Siberian winds from entering India.
2. The Thar Desert's aridity is primarily due to its location in the rain shadow of the Western Ghats.

Which of the statements given above is/are correct?

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

Correct Answer: A
Explanation:
Statement 1: Correct. The Himalayas block cold Siberian winds, contributing to milder winters in northern India.
Statement 2: Incorrect. The Thar Desert's aridity is due to its location in the rain shadow of the Aravalli range, not the Western Ghats.

6. **Consider the following statements about jet streams and India's weather:**
1. The Subtropical Westerly Jet Stream influences India's winter weather by bringing western disturbances.
2. The Easterly Jet Stream is active during the southwest monsoon, aiding the onset of rainfall.

Which of the statements given above is/are correct?

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

Correct Answer: C
Explanation:
Statement 1: Correct. The Subtropical Westerly Jet Stream drives western disturbances, causing winter rainfall in northwest India.
Statement 2: Correct. The Easterly Jet Stream, active during summer, strengthens the southwest monsoon, facilitating rainfall across India.

7. **Which of the following factors influence the seasonal weather patterns in India?**
1. Differential heating between the Indian landmass and surrounding oceans.
2. Movement of the Inter-Tropical Convergence Zone (ITCZ) across the subcontinent.
3. Volcanic eruptions in the Andaman and Nicobar Islands altering monsoon patterns.
4. Western disturbances causing rainfall in northwest India during winter.
5. Monsoon trough fluctuations affecting rainfall distribution.

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2, 4 and 5 only
C. 3 and 4 only
D. 1, 3 and 5 only

Correct Answer: B

Explanation:

Statement 1: Correct. Differential heating drives the monsoon by creating a low-pressure system over land.

Statement 2: Correct. The ITCZ's movement triggers the onset and retreat of the monsoon.

Statement 3: Incorrect. Volcanic eruptions in the Andaman and Nicobar Islands do not significantly affect India's monsoon patterns.

Statement 4: Correct. Western disturbances bring winter rainfall to northwest India.

Statement 5: Correct. Monsoon trough fluctuations influence rainfall distribution across India.

8. **Which of the following statements describe the characteristics of India's monsoon rainfall?**

1. The southwest monsoon contributes about 70–90% of India's annual rainfall.
2. The onset of the monsoon typically begins in Kerala by early June due to moisture-laden winds from the Arabian Sea.
3. The monsoon break phase is caused by the northward shift of the monsoon trough, reducing rainfall in northern India.
4. The Western Ghats receive orographic rainfall due to the ascent of moist air from the Arabian Sea.

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2 and 4 only
C. 2 and 3 only
D. 1, 3 and 4 only

Correct Answer: B

Explanation:

Statement 1: Correct. The southwest monsoon accounts for 70–90% of India's annual rainfall.

Statement 2: Correct. The monsoon typically begins in Kerala by early June, driven by Arabian Sea winds.

Statement 3: Incorrect. The monsoon break occurs due to the southward shift or weakening of the monsoon trough, not northward.

Statement 4: Correct. The Western Ghats receive heavy orographic rainfall as moist air rises over the mountains.

9. **Which of the following statements highlight the regional variations in India's climate?**

1. The coastal plains of Tamil Nadu receive significant rainfall during the northeast monsoon due to cyclonic activity.
2. The Gangetic Plain experiences a hot and dry pre-monsoon season due to intense solar heating.
3. The Northeast region has a cold desert climate similar to Ladakh due to high altitude.
4. The Deccan Plateau has a semi-arid climate with moderate rainfall during the southwest monsoon.

Select the correct answer using the code given below.

A. 1 and 2 only
B. 1, 2 and 4 only
C. 3 and 4 only
D. 2 and 3 only

Correct Answer: B

Explanation:

Statement 1: Correct. Tamil Nadu's coastal plains receive heavy rainfall during the northeast monsoon due to cyclones in the Bay of Bengal.

Statement 2: Correct. The Gangetic Plain experiences hot and dry conditions in the pre-monsoon season due

to intense solar heating.

Statement 3: Incorrect. The Northeast has a humid subtropical climate with heavy rainfall, unlike Ladakh's cold desert climate.

Statement 4: Correct. The Deccan Plateau has a semi-arid climate with moderate monsoon rainfall.

10. **Which of the following phenomena is primarily responsible for the heavy orographic rainfall in the Western Ghats during the southwest monsoon?**
    A. El Niño
    B. Western Disturbances
    C. Monsoon Trough
    D. Ascent of Moisture-Laden Winds

Correct Answer: D

Explanation:

The heavy orographic rainfall in the Western Ghats is caused by the ascent of moisture-laden southwest monsoon winds, which rise over the mountains, cool, and condense to produce rainfall.