

Q1: With reference to Chemosynthesis consider the following statements:

1. It generally occurs in fresh water ecosystems such as rivers and lakes.
2. It is primarily done by some green plants and algae.
3. Even though it is an example of primary productivity, there are no food chains because of chemosynthesis.

How many of the statements given above are correct?

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

Q2: Consider the following pairs:

Term	Definition
1. Ecotone:	Functional role of organism in an ecosystem
2. Ecoline:	A gradual change from one ecosystem to another
3. Ecosystem:	All the places on Earth where life exists

How many of the pairs given above are correct?

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

Q3: How many of the following substances can cause biomagnification?

1. Mercury
2. DDT
3. Sulphur dioxide
4. Polychlorinated biphenyls

Select the correct answer from the code given below.

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

Q4: It is a UNESCO World Heritage Site. It is a complex of 10 artificial seasonal lagoons. It is a mosaic of dry grasslands, woodlands, woodland swamps and wetlands. It is home to species such as painted storks, nilgai and Siberian crane. Which of the following Ramsar sites is being described in the passage given above?

- (a) Ashtamudi wetland
- (b) Loktak lake
- (c) Chilika lake
- (d) Keoladeo National Park

Q5: Which of the following is not a criteria for identifying Ramsar sites, wetlands of international importance?

- (a) If it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions
- (b) If it is integral to traditional knowledge system of local communities and provide vital food and medicinal resources.
- (c) If it regularly supports 1% of the individuals in a population of one species or subspecies of waterbirds.
- (d) If it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

Q6: In an ecological succession, the entire sequence of communities that successively change in a given area is called sere. In the successive seral stages, which of the following parameters witness an increase?

1. Number of species
2. Number of organisms
3. Total biomass

How many of the statements given above are correct?

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

Q7: How many of the following are primary consumers?

1. Copepods
2. Sea Urchins
3. Dinoflagellates
4. Diatoms

These are algae and are primary producer.

Select the correct answer from the code given below.

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

Q8: Consider the following:

1. Weathering of rocks
2. Shell formation
3. Decomposition in the absence of oxygen

How many of the above contribute to carbon cycle on the planet Earth?

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

Q9: Which of the following are examples of mutualistic association:

1. Mycorrhizae
2. Corals
3. Lichens

Select the correct answer from code given below.

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

Q10: Which of the following biomes are only found in the northern hemisphere?

- (a) Tropical Grassland
- (b) Temperate Grassland
- ✓ (c) Boreal Forest
- (d) Temperate forest

Q11. Consider the following statements Regarding the 'carrying capacity' of an Ecosystem:

1. It refers to the largest population size that an ecosystem can sustainably support without degrading the ecosystem.
2. It only depends upon abiotic components in the ecosystem.
3. The carrying capacity is different for each species in a given habitat

How many of the statements given above are correct?

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

Q12. Which of the following is/are the functions played by raptors or birds of prey in an ecosystem?

1. They are apex predators keeping population of prey species under check.
2. They are indicator species which give insights into the presence of certain chemicals in an ecosystem.
3. They help in controlling animal diseases from spreading within an ecosystem.

Select the correct answer using the code given below.

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

Q13. In which of the following biogeochemical cycles, the impact of anthropogenic activity has raised the concerns of harmful algal bloom?

1. Sulphur Cycle
2. Nitrogen Cycle
3. Phosphorous Cycle

Select the correct answer from the code given below.

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

Q14. Consider the following statements about ecotones:

1. Ecotones often exhibit higher biodiversity because they contain species from each of the adjacent ecosystems along with unique species that specialize in transitional areas.
2. Ecotones can exhibit higher biodiversity due to the 'edge effect,' where the ecological conditions of adjacent ecosystems create diverse habitats within the ecotone itself.

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

Q15. As per Wetlands (Conservation and Management) Rules, 2017, which of the following activities are prohibited within wetlands?

1. discharge of untreated wastes
2. poaching
3. any construction of a permanent nature except for boat jetties
4. setting up of any industry
5. expansion of existing industries

Select the correct answer from the code given below.

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

Q16. When cattle trample on grass, the grass and insects are crushed. This can be best described as

- (a) Commensalism
- (b) Parasitism
- ☒ (c) Amensalism
- (d) Predation

Q17. How many of the following are adaptation strategies of polar mammals to survive in such harsh conditions?

1. Organisms with larger body size
2. Organisms with larger ears and limbs
3. Thick blubber of fat

Select the correct answer from the code given below.

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

Q18. With reference to the Chaparral biome (Mediterranean biome), consider the following statements:

1. It is **only** located in the regions around the Mediterranean sea.
2. It is known for high rainfall in summer but dryness in winter.
3. It is well known for the cultivation of citrus fruits.

correct

How many of the statements given above are correct?

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

Q19. How many of the following statements are correct about Ramsar sites of India?

1. **Chilka lake** of Odisha is the largest Ramsar site in India.
- ☒ 2. Kolleru lake of Andhra Pradesh is situated between the Krishna and Godavari river.
- ☒ 3. Wular lake of J&K is the largest freshwater lake in India.

Select the correct answer from the code given below.

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

Q20. Prey species have evolved various defenses to lessen the impact of predation. In this context consider the following:

1. Camouflage of insects
2. Distasteful taste of some butterflies
3. Evasive maneuvers of antelopes

How many of the following can be considered as an appropriate adaptation to defend against predators?

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

Q21. Consider the following:

Statement I: The Sulphur cycle is a good example of a sedimentary biogeochemical cycle.

Statement II: Atmosphere has no role in Sulphur cycle as Sulphur and Sulphur based compounds are solid at room temperature and pressure.

Select the correct answer from the code given below.

- (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.

Q22. Gahirmatha beach is known as the largest known Olive Ridley sea turtle nesting beach in the world, with half a million nesting annually. It is part of which of the following Ramsar sites?

- ☒ (a) Bhitarkanika Mangroves
(b) Chilka Lake
(c) Hirakud Reservoir
(d) Sunderbans

Q23. With reference to species interaction, consider the following pairs:

Type of Interaction	Example
1. Parasitism:	Releasing chemical substances by the black walnut tree that suppresses the growth of other plants near it
2. Commensalism:	An epiphytic plant growing on the trunk of a tree
3. Mutualism:	The nitrogen-fixing bacteria Rhizobium found in the root nodules of leguminous plants

How many of the pairs given above are correct?

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

Q24. Due to climate change, coral bleaching events have become a recurrent feature of late. In this context, which of the following factors can cause coral bleaching?

1. Increased exposure to ultraviolet (UV) radiation
2. Sediments such as sand covering the coral
3. Entry of excess nutrients such as ammonia and nitrate fertilizers into coral reefs
4. Excess stormwater from rains entering the coral reefs
5. Salinity Changes

Select the correct answer using the code given below.

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

Q25. This biome is characterized by wide open spaces with relatively flat terrain. It's known for its tall grasses and absence of large trees, except near water sources like rivers and lakes. The soil is typically fertile and rich in nutrients, making it ideal for agriculture, particularly grain and livestock farming. It is also home to many rodents and small mammals due to the abundance of grasses.

Which of the following biomes is described above?

(a) Tundra

✓ (b) Temperate Grassland

(c) Temperate Forest

(d) Tropical Savanna

because **Prairie** is known for its livestock farming

Only for nagendraiput9753@gmail.com