

1-Consider the following statements.

1. Cold water corals, in general, have greater amount of zooxanthellae than warm water corals and does not build reef-like structures.
2. Cold-water corals differ from warm water corals because the former does not contain symbiotic algae for photosynthesis and grow more slowly.

Which of the above statements is/are correct?

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

2-Birds Following Army Ants is an example for which of the following types of symbiotic relationship between organisms?

- a) Mutualism
- b) Parasitism
- c) Commensalism
- d) Competition

3-Which of the following are recognised as the Ramsar sites in India?

- | | |
|---------------------------|-----------------|
| 1. Harike Lake | 2. Wular Lake |
| 3. Keoladeo National Park | 4. Chilika Lake |

Select the correct answer code:

- a) 1, 2, 3
- b) 2, 3, 4
- c) 1, 2, 3, 4
- d) 1, 2, 4

4-An ecological pyramid is a diagrammatic presentation to describe trophic levels. How does the knowledge of ecological pyramid can help us in conservation of an ecosystem?

1. It helps us to identify bio-accumulation.
2. It helps us to identify bio-magnification.
3. It helps us to recognize an invasive species.

Select the correct answer code:

- a) 1, 3
- b) 1, 2
- c) 2, 3
- d) 1, 2, 3

5-Consider the following statements regarding Peatlands.

1. Peatlands are wetlands where permanently waterlogged conditions prevent the complete decomposition of dead plant material.
2. Peatlands are highly space-effective carbon stocks and contain more carbon than the entire forest biomass of the world.
3. Peatlands are formed only under tropical climate conditions.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

6-Consider the following statements regarding Vegetative Propagation.

1. Plants raised by vegetative propagation can bear flowers and fruits earlier than those produced from seeds.
2. Vegetative propagation is not possible from the plants that have lost the capacity to produce seeds.
3. Plants produced through vegetative propagation are genetically similar enough to the parent plant.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

7-Consider the following statements regarding Coral bleaching.

1. When corals are stressed by changes in temperature, light or nutrients, they expel the algae living in their tissue, causing them to turn white.

2. Increase in zooplankton levels triggers coral bleaching.

3. Cold water temperatures also cause coral bleaching.

Which of the above statements is/are correct?

a) 1, 2

b) 2, 3

c) 1, 3

d) 1, 2, 3

8-Which of the following best describes an Indicator species?

a) It is a species whose presence, absence or abundance reflects a specific environmental condition.

b) It is a species non-native to the ecosystem under consideration and whose introduction causes or is likely to cause harm.

c) It is a species that has a disproportionately large effect on the communities in which it occurs.

d) It is a species which is introduced to reduce the level of pollution in an ecosystem.

9-Consider the following statements regarding Wetlands.

1. In India, Wetlands are regulated under the Environment(Protection) Rules, 1986.

2. Wetlands International is an independent, not-for-profit, global organisation that works to sustain and restore wetlands and their resources for people and biodiversity.

Which of the above statements is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

10-In which of the following trophic levels, you are likely to find the highest concentration of an organic toxin that has been found in ocean water and the aquatic animals inhabiting it?

a) Aquatic plants

b) Small fishes at lower trophic levels

c) Human being who consumes sea food

d) Large fishes at higher trophic levels

11-How UV radiation is harmful to terrestrial life?

- | | |
|---------------------------------------------|----------------------------------------------------|
| 1. It accelerates ageing of skin in humans. | 2. It can kill phytoplankton in large numbers. |
| 3. Plant proteins are adversely affected by | 4. It may lead to harmful mutation of plant cells. |

UV radiation.

Select the correct answer code:

- a) 1, 4
- b) 2, 3
- c) 1, 2, 4
- d) 1, 2, 3, 4

12-Lime is usually added to soil in order to

- | | |
|--------------------------------|------------------------------------------------------|
| 1. Decrease the soil PH | 2. Improve crop yields |
| 3. Provide a source of calcium | 4. Allow improved water penetration for acidic soils |

and magnesium for plants

Which of the above statements is/are correct?

- a) 2, 3, 4
- b) 2 only
- c) 1, 2, 3
- d) 1, 2, 3, 4

13-Osmosis is a driving force, i.e. assists the mechanism, for which of these diseases?

- a) HIV AIDS
- b) Cholera
- c) Tuberculosis
- d) All of the above

14-Consider the following statements regarding Biofuels.

- 1. The most common kinds of biofuels in use today are ethanol and biodiesel that represent the first generation of biofuel technology.
- 2. Ethanol is renewable and made from different kinds of plant materials.

3. Biodiesel is produced by combining alcohol with new and used vegetable oils and animal fats.
4. Biofuels cannot be used as rocket fuels since they have high viscosity.

Which of the above statements is/are correct?

- a) 1, 2
- b) 2, 3, 4
- c) 1, 2, 3
- d) 1, 2, 3, 4

15-James Webb Space Telescope (JWST) aims to understand which of the following?

1. Search for light from the first stars and galaxies that formed in the Universe after the Big Bang.
2. Study the formation of stars and planetary systems
3. Study planetary systems and the origins of life

Select the correct answer code:

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

16-Scientific interest in gas hydrates is driven mainly by its potential future role as

- a) Energy resource
- b) Shale gas fracking
- c) Aerosol applications in climate change mitigation
- d) Nano-agent in reactor coolant

17-Consider the following statements regarding Block Chain Technology

1. It is a time-stamped series of immutable record of data that is managed by cluster of computers not owned by any single entity.
2. The blockchain network has no central authority.
3. It carries no transaction cost.

Which of the above statements is/are correct?

- a) 1, 2

- b) 1, 3
- c) 3 only
- d) 1, 2, 3

18-Consider the following statements regarding Microbial Fuel Cells (MFCs).

1. These are devices that convert chemical energy to electrical energy by the oxidation of organic molecules by the action of microorganisms.
2. No moving electrons or cathode/anode are required in an MFC.

Which of the above statements is/are correct?

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

19-Consider the following pairs:

1. Grey hydrogen: Hydrogen not produced from fossil fuels
2. Blue hydrogen: Hydrogen generated from fossil fuels with carbon capture and storage options.
3. Green hydrogen: Hydrogen generated entirely from renewable power sources

Which of the above pairs are correctly matched?

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

20-Consider the following statements.

1. Energy produced using various forms of ocean energy such as tidal, wave and ocean thermal energy conversion are considered as Non-Renewable Energy.
2. Osmotic energy is the energy produced from the movement of water across a membrane between a saltwater reservoir and freshwater reservoir.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

21. Indian Navy warship has recently conducted military drill with Which country vessel in the East China Sea.

(a) South Korea

(b) Japan

(c) North Korea

(d) China

22. Consider the following statements regarding foundation stone for Ambedkar Memorial

1. President Ram Nath Kovind laid the foundation stone for Ambedkar Memorial and Cultural Centre in Lucknow.

2. The cultural centre will come up at 5493.52 sq meter nazool land in front of Aishbagh Eidgah in Lucknow and have a 25-ft high statue of Dr Ambedkar.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

23. Consider the following statements regarding malaria-free certification

1. Bangladesh has been awarded a malaria-free certification from WHO – a notable feat for a country that reported 30 million cases of the disease annually in the 1940s.

2. China is the first country in the WHO Western Pacific Region to be awarded a malaria-free certification in more than 3 decades.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

24. Consider the following statements regarding chief minister of Uttarakhand

1. Pushkar Singh Dhami is the Current chief minister of Uttarakhand.

2. He replaced Tirath Singh Rawat, who resigned from the post. Dhami was elected by the state leaders during the legislature party meeting in Dehradun.

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

25. Consider the following statements regarding 7th Indian Ocean Naval Symposium

1. The 7th edition of the Indian Ocean Naval Symposium (IONS), concluded in France
2. Admiral Karambir Singh, Chief of the Naval Staff, Indian Navy, participated in the inaugural session of the event virtually

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

ANSWER SHEET

1	B	10	C	19	B
2	C	11	D	20	B
3	C	12	A	21	A
4	B	13	B	22	C
5	A	14	C	23	B
6	B	15	C	24	C
7	D	16	A	25	C
8	A	17	D		
9	B	18	A		