

1-Arrange the following ecosystems in the decreasing order of biomass productivity (g per metre square per year).

- | | |
|------------------------|---------------|
| 1. Coral reefs | 2. Open ocean |
| 3. Tropical rainforest | 4. Deserts |

Select the correct answer code:

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

2- Why do exotic species post a threat to an indigenous ecosystem such as in a Lake or an isolated island in the Andamans?

- 1. Such species compete with the local or native species for food.
- 2. They may be predators of local species.
- 3. Such species may cause diseases in native species.

Select the correct answer code:

- a) 1, 2
- b) 1, 3
- c) All of the above**
- d) 2, 3

3- Most of the desert plants bloom during night time because

- a) the desert insects eat away flower during day time.
- b) their blooming is controlled by low temperature.
- c) the desert insects are active during night time.**
- d) they are sensitive to the phase of moon.

4- Consider the following statements regarding maintaining the internal environment by an organism.

- 1. Regulate: Higher plants reduce their metabolic activity and go into a state of 'dormancy'.
- 2. Conform: An overwhelming majority (99 per cent) of animals and nearly all plants cannot maintain a constant internal environment and their body temperature changes with the ambient temperature.

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

5-Consider the following statements.

1. The energy pyramid of an ecosystem is always upright and narrows to the top.

2. The biomass in the upper trophic levels is generally very high as compared to the lower trophic levels.

Which of the above statements is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

6- Consider the following statements regarding Phosphorus and Phosphorus Cycle.

1. Phosphorus occurs as a mineral in phosphate rocks and enters the Phosphorus cycle from erosion and mining activities.

2. Phosphorus is responsible for excessive growth of rooted and free-floating microscopic plants in water bodies.

Which of the above statements is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

7- Consider the following statements regarding Great Indian Bustards (GIB).

1. Great Indian Bustard is often found associated in the same habitat as blackbuck.

2. It is Listed in Schedule I of the Indian Wildlife (Protection) Act, 1972.

Which of the above statements is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

8- Consider the following statements regarding bioremediation techniques.

1. Biosparging: Injection of air under pressure below the water table to increase ground water oxygen concentrations and to enhance the rate of biological degradation of contaminants

2. Bioventing: Introduction of a group of natural microbial strains to treat contaminated soil or water.

Which of the above statements is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

9- Cetacean stranding, commonly known as beaching, is a phenomenon in which whales and dolphins strand themselves on beaches. Which of the following could be the possible reason behind this?

1. Changes in water temperature

2. Irregularities in whales' echolocation

3. Geomagnetic disturbances

Select the correct answer code:

a) 1, 2

b) 2, 3

c) 1, 2, 3

d) 1, 3

10-Consider the following statements.

1. In the aquatic environment, the sediment-characteristics often determine the type of benthic animals that can thrive there.

2. Like humans, plants also have mechanisms to maintain internal temperature.

Which of the above statements is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

11- Sounding rockets of ISRO are useful for

- a) Adding speed to space shuttles
- b) Providing information on space junk
- c) Weather forecasting
- d) Probing the upper atmospheric regions and for space research**

12- Consider the following statements.

- 1. Excessive use of chemical fertilisers makes the soil acidic.
- 2. Plants do not grow well when the soil is either too acidic or too basic.
- 3. Acidic soil should be treated with more organic matter to reduce acidity.

Which of the above statements is/are correct?

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

13- Which of these are the fundamental properties of a superconductor?

- 1. Zero resistance to electrical current
- 2. Ferromagnetism

Select the correct answer code:

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

14- Which of the following are considered as main drivers of antimicrobial resistance?

- 1. Misuse and overuse of antimicrobials
- 2. Lack of access to clean water and hygiene for animals
- 3. Poor infection and disease prevention in health-care facilities

Select the correct answer code:

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

15- Which of the characteristics of Graphene make it so special to the global electronics industry?

- 1. It is only one atom thick.
- 2. It is a carbon material with high conductivity.
- 3. It is the strongest material ever tested.
- 4. It is highly opaque considering its darkness.

Select the correct answer code:

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

16- Consider the following statements regarding Measles.

- 1. Measles is transmitted via droplets from the nose, mouth or throat of infected persons.
- 2. Severe measles is more likely among poorly nourished young children, especially those with insufficient vitamin A.

Select the correct answer code:

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

17- Why are Bacteriophages seen as a possible therapy against multi-drug-resistant strains of many bacteria?

- 1. These are ubiquitous viruses found wherever bacteria exist and can kill bacteria.
- 2. They do not contain any RNA or DNA and thus cannot be infected by bacteria.

Select the correct answer code:

- a) 1 only**
- b) 2 only

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

18- Consider the following statements regarding CRISPR–Cas9.

1. CRISPR technology allows to easily alter DNA sequences and modify gene function.
2. It can be used to correct sickle cell anemia, a genetic blood disorder.
3. Gene editing system does not occur naturally in organisms.

Which of the above statements is/are correct?

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

19- DNA Profiling is used in which of the following areas?

- | | |
|----------------------------|--|
| 1. Criminal investigations | 2. Parentage testing |
| 3. Genealogical research | 4. Study of animal and plant populations |

Select the correct answer code:

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

20- Which of the following human body fluids is the most acidic in nature?

- a) Blood
- b) Gastric Juice**
- c) Saliva
- d) Tears

21. Which of the following statements are correct about UNESCO Global Geoparks:

1. It gives international recognition for sites that promote the importance of protecting the Earth's geodiversity.

2. The UNESCO Global Geopark status does not imply restriction on any economic activity inside the Global Geopark.

3. India does not have any UNESCO Global Geopark.

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

22. Consider the following statements regarding 'Parambikulam Tiger Reserve':

1. Anakkayam Small Hydro Electric Project is proposed in its buffer zone.

2. It has the world's oldest teak tree.

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

23. With reference to RT-PCR Test, consider the following statements:

1. It was invented by Kary Mullis.

2. It uses copies of a segment of DNA to detect viruses.

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

24. 'Putrajaya Vision 2040' has been in the news. Which of the following groupings has adopted this vision?

(a) Asia-Pacific Economic Cooperation (APEC)

(b) Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)

(c) South Asian Association for Regional Cooperation (SAARC)

(d) Association of Southeast Asian Nations (ASEAN)

25. With reference Lilavati Award, consider the following statements:

1. It is an innovative education program to empower women.

2. It is launched by the Ministry of Education.

3. The award has been named after a book written by Baudhayana.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 only

(c) 2 and 3 only

(d) 1, 2 and

ANSWER SHEET

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