

## Multiple Choice Questions

1. Which one of the following is an artificial ecosystem?
  - (a) Pond
  - (b) Crop field
  - (c) Lake
  - (d) Forest
  
2. In a food chain, the third trophic level is always occupied by
  - (a) carnivores
  - (b) herbivores
  - (c) decomposers
  - (d) producers
  
3. An ecosystem includes
  - (a) all living organisms
  - (b) non-living objects
  - (c) both living organisms and non-living objects
  - (d) sometimes living organisms and sometimes non-living objects
  
4. In the given food chain, suppose the amount of energy at fourth trophic level is 5 kJ, what will be the energy available at the producer level?  
Grass → Grasshopper → Frog → Snake → Hawk
  - (a) 5 k J
  - (b) 50 k J
  - (c) 500 k J
  - (d) 5000 k J
  
5. Accumulation of non-biodegradable pesticides in the food chain in increasing amount at

each higher trophic level is known as

- (a) eutrophication
- (b) pollution
- (c) biomagnification
- (d) accumulation

6. Depletion of ozone is mainly due to

- (a) chlorofluorocarbon compounds
- (b) carbon monoxide
- (c) methane
- (d) pesticides

7. Organisms which synthesise carbohydrates from inorganic compounds using radiant energy are called

- (a) decomposers
- (b) producers
- (c) herbivores
- (d) carnivores

8. In an ecosystem, the 10% of energy available for transfer from one trophic level to the next is in the form of

- (a) heat energy
- (b) light energy
- (c) chemical energy
- (d) mechanical energy

9. Organisms of a higher trophic level which feed on several types of organisms belonging to a lower trophic level constitute the

- (a) food web
- (b) ecological pyramid

- (c) ecosystem
- (d) food chain

10. Flow of energy in an ecosystem is always

- (a) unidirectional
- (b) bidirectional
- (c) multi directional
- (d) no specific direction

11. Excessive exposure of humans to U V-rays results in

- (i) damage to immune system
- (ii) damage to lungs
- (iii) skin cancer
- (iv) peptic ulcers

- (a) (i) and (ii)
- (b) (ii) and (iv)
- (c) (i) and (iii)
- (d) (iii) and (iv)

12. In the following groups of materials, which group (s) contains only non-biodegradable items?

- (i) Wood, paper, leather
- (ii) Polythene, detergent, PVC
- (iii) Plastic, detergent, grass
- (iv) Plastic, bakelite, DDT

- (a) (iii)
- (b) (iv)
- (c) (i) and (iii)
- (d) (ii) and (iv)

13. Which of the following limits the number of trophic levels in a food chain?

- (a) Decrease in energy at higher trophic levels
- (b) Dufficient food supply
- (c) Polluted air
- (d) Water

14. Which of the statement is incorrect?

- (a) All green plants and blue green algae are producers
- (b) Green plants get their food from organic compounds
- (c) Producers prepare their own food from inorganic compounds
- (d) Plants convert solar energy into chemical energy

15. Which group of organisms are not constituents of a food chain?

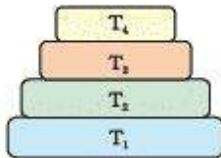
- (i) Grass, lion, rabbit, wolf
  - (ii) Plankton, man, fish, grasshopper
  - (iii) Wolf, grass, snake, tiger
  - (iv) Frog, snake, eagle, grass, grasshopper
- (a) (i) and (iii)
  - (b) (iii) and (iv)
  - (c) (ii) and (iii)
  - (d) (i) and (iv)

16. The percentage of solar radiation absorbed by all the green plants for the process of photosynthesis is about

- (a) 1 %
- (b) 5 %
- (c) 8 %
- (d) 10 %



17. In the given Figure 15.1 the various trophic levels are shown in a pyramid. At which trophic level is maximum energy available?



**Fig. 15.1**

- (a)  $T_4$
  - (b)  $T_2$
  - (c)  $T_1$
  - (d)  $T_3$
18. What will happen if deer is missing in the food chain given below?  
Grass → Deer → Tiger
- (a) The population of tiger increases
  - (b) The population of grass decreases
  - (c) Tiger will start eating grass
  - (d) The population of tiger decreases and the population of grass increases
19. The decomposers in an ecosystem
- (a) convert inorganic material, to simpler forms
  - (b) convert organic material to inorganic forms
  - (c) convert inorganic materials into organic compounds
  - (d) do not breakdown organic compounds
20. If a grass hopper is eaten by a frog, then the energy transfer will be from
- (a) producer to decomposer
  - (b) producer to primary consumer
  - (c) primary consumer to secondary consumer
  - (d) secondary consumer to primary consumer

21. Disposable plastic plates should not be used because

- (a) they are made of materials with light weight
- (b) they are made of toxic materials
- (c) they are made of biodegradable materials
- (d) they are made of non-biodegradable materials

## Short Answer Type Questions

1. Why is improper disposal of waste a curse to environment?
2. Write the common food chain of a pond ecosystem.
3. What are the advantages of cloth bags over plastic bags during shopping?
4. Why are crop fields known as artificial ecosystems?
5. Differentiate between biodegradable and non-biodegradable substances. Cite examples.
6. Suggest one word for each of the following statements/ definitions
  - (a) The physical and biological world where we live in
  - (b) Each level of food chain where transfer of energy takes place
  - (c) The physical factors like temperature, rainfall, wind and soil of an ecosystem
  - (d) Organisms which depend on the producers either directly or indirectly for food
7. Explain the role of decomposers in the environment?
8. Select the mis-matched pair in the following and correct it.
  - (a) Biomagnification — Accumulation of chemicals at the successive trophic levels of a food chain
  - (b) Ecosystem — Biotic components of environment
  - (c) Aquarium — A man-made ecosystem
  - (d) Parasites — Organisms which obtain food from other living organisms
9. We do not clean ponds or lakes, but an aquarium needs to be cleaned. Why?

## Long Answer Type Questions