CHAPTER 15

Our Environment

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

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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)

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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?

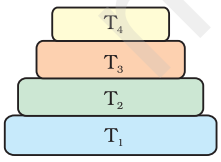

Fig. 15.1

(a) T_4
(b) T_2
(c) T_1
(d) T_3

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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 Questions

22. Why is improper disposal of waste a curse to environment?

23. Write the common food chain of a pond ecosystem.

24. What are the advantages of cloth bags over plastic bags during shopping?

25. Why are crop fields known as artificial ecosystems?

26. Differentiate between biodegradable and non-biodegradable substances. Cite examples.

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27. 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

28. Explain the role of decomposers in the environment?

29. 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

30. We do not clean ponds or lakes, but an aquarium needs to be cleaned. Why?

Long Answer Questions

31. Indicate the flow of energy in an ecosystem. Why is it unidirectional? Justify.

32. What are decomposers? What will be the consequence of their absence in an ecosystem?

33. Suggest any four activities in daily life which are eco-friendly.

34. Give two differences between food chain and food web.

35. Name the wastes which are generated in your house daily. What measures would you take for their disposal?

36. Suggest suitable mechanism (s) for waste management in fertiliser industries.

37. What are the by-products of fertiliser industries? How do they affect the environment?

38. Explain some harmful effects of agricultural practices on the environment.

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