

## 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  $\rightarrow$  Grasshopper  $\rightarrow$  Frog  $\rightarrow$  Snake  $\rightarrow$  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 UV-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 %

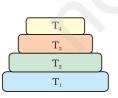


Fig. 15.1

- **17.** In the given Figure 15.1 the various trophic levels are shown in a pyramid. At which trophic level is maximum energy available?
  - (a) T<sub>4</sub> (b) T<sub>2</sub>
- )
  - (c) T<sub>1</sub>
    - (d) T<sub>3</sub>

**18.** What will happen if deer is missing in the food chain given below?

 $\text{Grass} \rightarrow \text{Deer} \rightarrow \text{Tiger}$ 

- (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.

- 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.