

ASSIGNMENT 3

Class X

SUBJECT-BIOLOGY

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MCQs

Chapter 15: Our Environment

1. Which of the following is biodegradable?

- (a) Plastic mugs
- (b) Leather belts
- (c) Silver foil
- (d) Iron nails

2. Which of the following is non- biodegradable?

- (a) Wool
- (b) Nylon
- (c) Animal bones
- (d) Tea leaves

3. Which one of the following will undergo fastest bio-degradation?

- (a) Mango seed
- (b) Wood
- (c) Mango peel
- (d) Mango pulp

4. An ecosystem is represented in the figure given above. This ecosystem will be self- sustaining if

- (a) the type of organisms represented by B are eliminated.
- (b) materials cycle between the organisms labelled A and the organisms labelled B.
- (c) the organisms labelled A outnumber the organisms labelled B.
- (d) the organisms labelled A are equal in number to the organisms labelled B.

5. In an ecosystem, herbivores represent

- (a) producers
- (b) primary consumers
- (c) secondary consumers
- (d) decomposers

6. Trophic level in an ecosystem represents

- (a) oxygen level
- (b) water level

(c) energy level

(d) salt level

7. A food chain comprising birds, green plants, fish and man.

The concentration of harmful chemical entering the food chain will be maximum in

(a) green plants

(b) man

(c) birds

(d) fish

8. First link in any food chain is usually green plants because

(a) they are widely distributed

(b) they are fixed at one place in the soil

(c) they alone have the capacity to synthesize food using sunlight

(d) there are more herbivores than carnivores

9. Which of the following statements about food chain and energy flow through ecosystem is false?

(a) Food webs include two or more food chains.

(b) All organisms that are not producers are consumers.

(c) A single organism can feed at several trophic levels.

(d) Detritivores feed at all trophic levels except the producer level.

(e) The lower the trophic level at which an organism feeds, the more energy available.

10. Which of the following is a logical sequence of food chain

(a) producer → consumer → decomposer

(b) producer → decomposer → consumer

(c) consumer → producer → decomposer

(d) decomposer → producer → consumer

11. Which of the following is an autotroph?

(a) Lion

(b) Insect

(c) Tree

(d) Mushroom

12. In the garden ecosystem, which of the following are producers?

- (a) Insects
- (b) Snakes
- (c) Grasses
- (d) Rabbits

13. Which one of the following is an artificial ecosystem?

- (a) Pond
- (b) Crop field
- (c) Lake
- (d) Forest

14. 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 nonliving objects

15. Excessive exposure of humans to UV-rays results in

- (i) damage to immune system
  - (ii) damage to lungs
  - (iii) skin cancer
  - (iv) peptic ulcer
- (a) (i) and (ii)
  - (b) (ii) and (iv)
  - (c) (i) and (iii)
  - (d) (iii) and (iv)

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

- (a) Grass, lion, rabbit
- (b) Plankton, man, fish, grasshopper
- (c) Wolf, grass, snake, tiger
- (d) Frog, snake, eagle, grass, grasshopper

17. If a grasshopper 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

18. Excessive exposure to ultraviolet radiation causes

- (a) inflammation of liver
- (b) cancer of skin
- (c) damage to the lungs
- (d) jaundice

19. Which one of the following is an artificial ecosystem?

- (a) Lake
- (b) Forest
- (c) Pond
- (d) Crop field

20. Acid rain is caused by the oxides of

- (a) carbon
- (b) nitrogen only
- (c) Sulphur only
- (d) Sulphur and nitrogen

21. Which of the following is biodegradable?

- (a) Aluminium can
- (b) Polythene bag
- (c) Cow dung
- (d) DDT

22. Which of the following is an abiotic component of an ecosystem?

- (a) Humus
- (b) Bacteria
- (c) Plants
- (d) Fungi

23. Which one of the following pairs belong to the category of primary consumers?

- (a) Eagle and snake
- (b) Grasshoppers & cattle
- (c) Snake and frog
- (d) Water beetles & fish

24. Which of the following chemicals causes depletion of the ozone layer?

- (a) Carbon tetrachloride
- (b) Methane
- (c) Chloro fluoro carbon
- (d) Carbon monoxide

25. In a food chain, the third trophic level is always occupied by

- (a) herbivore
- (b) carnivore
- (c) decomposer
- (d) producer

26. The depletion of the ozone layer causes

- (a) global warming
- (b) earthquakes
- (c) increased UV radiations
- (d) acid rain

27. In the given food chain if the amount of energy at the fourth trophic level is 4 kJ, what will be the energy available at the producer level?

Grass → Grasshopper → Frog → Snake

- (a) 4 kJ
- (b) 40 kJ
- (c) 400 kJ
- (d) 4000 kJ

28. What will happen if all the deer are killed in the given food chain?

Grass → Deer → Lion

- (a) The population of grass decreases.

- (b) The population of lions increases.
- (c) The population of lions remains unchanged.
- (d) The population of lions decreases and grass increases.

29. Which of the two in the following sets belong to the same trophic level?

- (a) Grass; Grasshopper
- (b) Goat; Spider
- (c) Hawk; Rat
- (d) Frog; Lizard

Direction (Q30 to Q34): In the following Questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- (b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the Reason is true.

30. Assertion: Vegetarian food habit is more beneficial to organisms.

Reason: Only 10% energy is available as food from one trophic level to next.

31. Assertion: Accumulation of harmful chemicals is maximum in case of organisms at higher trophic level.

Reason: Food chain normally do not go beyond 3 or 4 trophic level.

32. Assertion: Ozone layer is getting depleted at upper atmosphere which is a cause of concern.

Reason: CFC reacts with ozone and breaks it.

33. Assertion: Autotrophs can produce food on its own.

Reason: Green plants can absorb 1% energy of sunlight that fall on the leaves.

34. Assertion: Biodegradable waste and non-biodegradable waste should be discarded separately,

Reason: Biodegradable waste are not harmful.

35. A food chain comprises of frog, snake, grass and grasshopper. The organisms at third trophic level is \_\_\_\_\_

36. In an ecosystem, various organisms are linked forming interconnections such a condition is termed as \_\_\_\_.

37. Ultraviolet radiation from sunlight causes a reaction which produces \_\_\_\_\_ .

38. Burning of waste substances usually at high temperature of over 1000° C to convert them into ashes is called \_\_\_\_\_ .

39. Animal dung is \_\_\_\_\_ waste.
40. Accumulation of non-biodegradable pesticides in the food chain in increasing amount at each higher trophic level is known as \_\_\_\_\_ .
41. Depletion of ozone is mainly due to \_\_\_\_\_ .
42. Organisms which synthesise carbohydrates from inorganic compounds using radiant energy are called \_\_\_\_\_
43. Flow of energy in an ecosystem is always \_\_\_\_\_ .
44. Decomposers get their energy directly from autotrophs. [True/False]
45. Ozone layer presents harmful infrared radiation. [True/False]
46. Factors such as light, temperature, pressure and humidity are considered as biotic components. [True/False]
47. Food chains generally consist of three or four organisms. [True/False]
48. Disposal of waste means recycling of wastes. [True/False]
49. The disposal of wastes by putting it in low-lying areas of ground and covering it with earth is called landfill. [True/False]
50. Direction: Match Column I with Column II.
- | Column I               | Column II             |
|------------------------|-----------------------|
| 1. Producers           | (i) Suspended         |
| 2. Primary consumers   | (ii) Group of colours |
| 3. Secondary consumers | (iii) Scattering      |
| 4. Decomposers         | (iv) Changing         |
51. We often use the word environment. What does it mean?
52. Why is it necessary to conserve our environment?
53. Select two non-biodegradable substances from the following wastes generated in a kitchen: spoiled food, paper bags, milk bags, vegetable peels, tin cans, used tea leaves.
54. Why should biodegradable and non- biodegradable wastes be discarded in two separate dustbins?
55. How should we dispose waste?
56. Why is plastic called non-biodegradable?
57. What is biodegradable plastic?
58. Name few biodegradable substances you generate.
59. List two natural ecosystems.
60. List two biotic components of a biosphere.

61. Name any two man-made ecosystems.
62. Why are green plants called producers?
63. What will be the amount of energy available to the organism of the 2nd trophic level of a food chain, if the energy available at the first trophic level is 10,000 joules?
64. The first trophic level in a food chain is always a green plant. Why?
65. Which of the following are always at the second trophic level of the food chains?  
Carnivores, Autotrophs, Herbivores
66. The following organisms form a food chain. Which of these will have the highest concentration of non-biodegradable chemicals? Name the phenomenon associated with it.  
Insects, Hawk, Grass, Snake, Frog.
67. List two criteria of measuring the biodiversity of an area.
68. Name two decomposers operating in our ecosystem.
69. In a food chain, 10,000 joules of energy are available to the producer. How much energy will be available to the secondary consumer to transfer it to the tertiary consumer?
70. Consider the following food chain which occurs in a forest: Grass → Deer → Lion  
If 10000 J of solar energy is available to the grass, how much energy would be available to the deer to transfer it to the lion?
71. In the following food chain, 100 J of energy is available to the lion. How much energy was available to the producer? Plants → Deer → Lion
72. Which of the following belong to the first trophic level of a food chain?  
Grass, Grasshopper, Plants, Rat, Tiger
73. What are the various steps in a food chain called?
74. Give an example to illustrate that indiscriminate use of pesticides may result in the degradation of the environment.
75. When plants are eaten by primary consumers, a great deal of energy is lost as heat to the environment and some amount goes in carrying out various life processes. State the average percentage of energy lost in this manner.
76. Write the full name of the group of compounds mainly responsible for the depletion of ozone layer.
77. What is a consumer?
78. What happens to Sun's energy that fall on green plants?
79. How much energy one trophic level gets from another?



80. What happens when a harmful chemical enters a food chain?
81. Why does energy available at each trophic level diminish progressively?
82. Define Ozone hole.
83. Write the name and formula of a molecule made up of three atoms of oxygen.
84. Why did United Nations act to control the production of chlorofluorocarbons (CFCs) used in refrigerators?
85. Which disease is caused in human beings due to depletion of ozone layer in the atmosphere?
86. What is the full form of CFC and UNEP?
87. Some time back, Kulhadas, that is disposable cups made up of clay, were suggested as an alternative. Why Kulhads are not being used in trains now?
88. Fill in the Blanks:
  1. Those waste materials which can be broken down to non-poisonous substances in nature in due course of time by the action of micro-organisms are called ..... wastes.
  2. The waste materials which cannot be broken down into harmless substances in nature are called ..... .
  3. .... is the ultimate source of energy.
  4. In 1987 ..... succeeded in forging an agreement to freeze CFC production at 1986 levels.
  5. Ozone at the higher levels of atmosphere is a product of UV radiation acting on ..... molecule.
  6. .... can be classified as herbivores, carnivores, omnivores and parasites.

Answers:

1. biodegradable
2. non-biodegradable wastes
3. Sun
4. United Nations Environment Programme (UNEP)
5. oxygen (O<sub>2</sub>)
6. Consumers