Our Environment

1 Mark Questions

1. A food chain always starts with
(a) respiration
(b) photosynthesis
(c) decay
(d) nitrogen fixation
Ans. Photosynthesis.

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2. Ozone layer is damaged by-
(a) methane
(b) carbon-dioxide
(c) Sulphur-dioxide
(d) CFCs
Ans. CFCs.

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3. Which of the following limits the number of trophic levels in a food chain?
(a) water
(b) polluted air
(c) deficient food supply
(d) decrease in energy at higher trophic levels
Ans. Decrease in energy at higher energy levels.

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4. Name the main source of energy in self sustaining ecosystem?
Ans. Sun.

5.Write an aquatic food chain.

Ans. Phytoplankton → Zooplankton → Small fish → large fish

6.Which of the following is non-biodegradable-
(a) paper
(b) wood
(c) cloth
(d) plastic
Ans. Plastic

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7. Which of the following is not a terrestrial ecosystem-

(a) forest
(b) desert
(c) aquarium
(d) grassland
Ans. Aquarium

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8. What will happen if deer is missing in the given food chain?
Grass → Deer → Tiger
(a) the population of tiger decreases and the population of grass increases
(b) the population of grass decreases
(c) tiger will start eating grass
(d) the population of tiger increases
Ans. Population of tiger increases and population of grass increases.

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9. What is trophic level?
Ans. Various levels or steps in a food chain in which transfer of food takes place from one organism to another are called trophic levels.

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10. Write a fresh water food chain?
Ans. Phytoplankton→ zooplankton→ small fish→ large fish

11.The decomposers in an ecosystem-
(a) convert organic material to inorganic forms
(b) convert inorganic material to simpler forms
(c) convert inorganic material into organic compound
(d) do not break down organic compound
Ans. Convert organic material to inorganic forms.

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12. The second trophic level is always of-
(a) herbivores
(b) autotrophs
(c) carnivores
(d) producers
Ans. Herbivores

13.The percentage of solar radiation absorbed by all the green plants for the process of photosynthesis is about-
(a) 1%
(b) 8%
(c) 5%

(d) 10%
Ans. (a) 1%

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14. Which of the following belong to the same trophic level: grasshopper, spider, grass, hawk, and lizard?
Ans. Grasshoppers and spider

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15. What is acid rain?
Ans. Oxides of sulphur and nitrogen when dissolves in rain water form sulphuric acid and nitrous acid or nitric acid. The polluted rain with these acid is called acid rain.

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16. The ecosystem of earth is known as-
(A) biome
(B) community
(C) biosphere
(D) association
Ans. Biosphere

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17. Which of the following constitute a food chain?
(A) Grass, goat and human
(B) Goat, cow and elephant
(C) Grass fish and goat
(D) Grass, wheat and mango
Ans. Grass, goat, human.

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18. Flow of energy in an ecosystem is always-
(A) Unidirectional
(B) bidirectional
(C) multidirectional
(D) no specific direction.
Ans. Unidirectional

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19. Name the main source of energy in any self-sustaining system.
Ans. Sun

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20. Which of the following in not a part of biotic component of an ecosystem: water, algae, fish, bacteria?
Ans. Water

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21. Which of the following limits the of trophic levels in a food chain-
(a) water
(b) polluted
(c) deficient food supply
(d) decrease in energy at higher trophic levels
Ans. Decrease in energy at higher trophic levels.

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22. In natural ecosystems, decomposers include-
(a) only bacteria and fungi
(b) only microscopic animals
(c) herbivores and carnivores
(d) both (b) and (c)
Ans. Only bacteria and fungi

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23. All living organisms of the earth constitute a-
(a) biosphere
(b) biotic community
(c) biome
(d) ecosystem
Ans. Biosphere

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24. What are the various steps of food chains called?
Ans. Trophic levels

25.Which one is not biodegradable: paper, plastic, sewage?
Ans. Plastic

26.Which of the following groups contain only biodegradable items?
(a) Grass, flowers and leather
(b) Grass, wood and plastic
(c) Fruit peels, cake and lime-juice
(d) Cake, wood and grass
Ans. Groups (a), (c) and (d).

27.Which of the following constitute a food chain?
(a) Grass, wheat and mango
(b) Grass, goat and human
(c) Goat, cow and elephant
(d) Grass, fish and goat.
Ans. (b) Grass, goat, human

28.Which of the following are environment-friendly practices?
(a) Carrying cloth-bag to put purchases in while shopping.
(b) Switching off unnecessary lights and fans.
(c) Walking to school instead of getting your mother to drop you on her scooter.
(d) All of the above.
Ans. (d) All of the above.

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29. Construct a food chain composing the following Snake, Hawk, Rats, Plants.
Ans. Plants— Rats — Snake — Hawks

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30. Name the process that is a direct outcome of excessive burning of fossil fuels?
Ans. Global warming is a direct outcome of excessive burning of fossil fuels.

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31. Using Kulhads as disposable cups to serve tea in trains, proved to be a bad idea. Why?
Ans. Making Kulhads on large scales leads to the loss of top soil

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32. Why is plastic not degraded by bacteria?
Ans. Plastic is not degraded by bacteria because they do not have enzymes to degrade plastic

2 Mark Questions

1. Give scientific terms for the following-
(a) the process of eating and being eaten
(b) the relationship between abiotic and biotic component
Ans. (a) Food chain
(b) Ecosystem

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2. What is meant by environment? Name its components.
Ans. The aggregate of all external conditions and their influences affecting the life and the development of an organism in its natural habitat is environment. It has two components-
(1) Abiotic components (non-living): For example- air, water, soil, temperature, etc.
(2) Biotic components (living): For example- Plant, animals and micro-organisms.

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3. What is 10% law? Give an example

Ans. According to 10% law only 10% of energy is available at the next trophic level. For example- If energy available at producer level is 1000J then at next level only 10% of 1000J i.e. 100J is available.

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4. What is artificial ecosystem? Give two examples.
Ans. Man-made ecosystem are called artificial ecosystem. For example- Garden, Aquarium.

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5. Energy transfer is said to be unidirectional whereas biochemical transfer is said to be cyclic. Why?
Ans. The flow of energy is unidirectional because the energy lost as heat to the environment can't be reutilized by plants for photosynthesis. Energy decrease at each trophic level (10% of previous level). Hence it can't be reused again. Whereas, biochemical transfer is cyclic because nutrients utilized by plants and animals are returned to environment after the death of organisms.

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6. Why is there a need to ban the use of polythene bags?
Ans. Polythene bags need to be banned because they are non-biodegradable; micro-organisms are not able to decompose it. So it goes on accumulating on the land and causes land pollution.

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7. What is the significance of food chain?
Ans. Significance of food chain-
(a)It is a means of transfer of food from one trophic level to another.
(b)It provides information about the living components of our ecosystem.
(c)It helps us in understanding the interactions and interdependence among different organisms in an ecosystem.
(d)It is a pathway for the flow of energy in any ecosystem.

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8. How would you dispose the following wastes:
(a) domestic wastes like vegetables peels
(b) industrial wastes
Ans. (a) Domestic wastes like vegetables peels should be disposed off in a pit.
(b) Industrial wastes should be treated first to remove poisonous salts or chemicals and disposed off in water resources like river.

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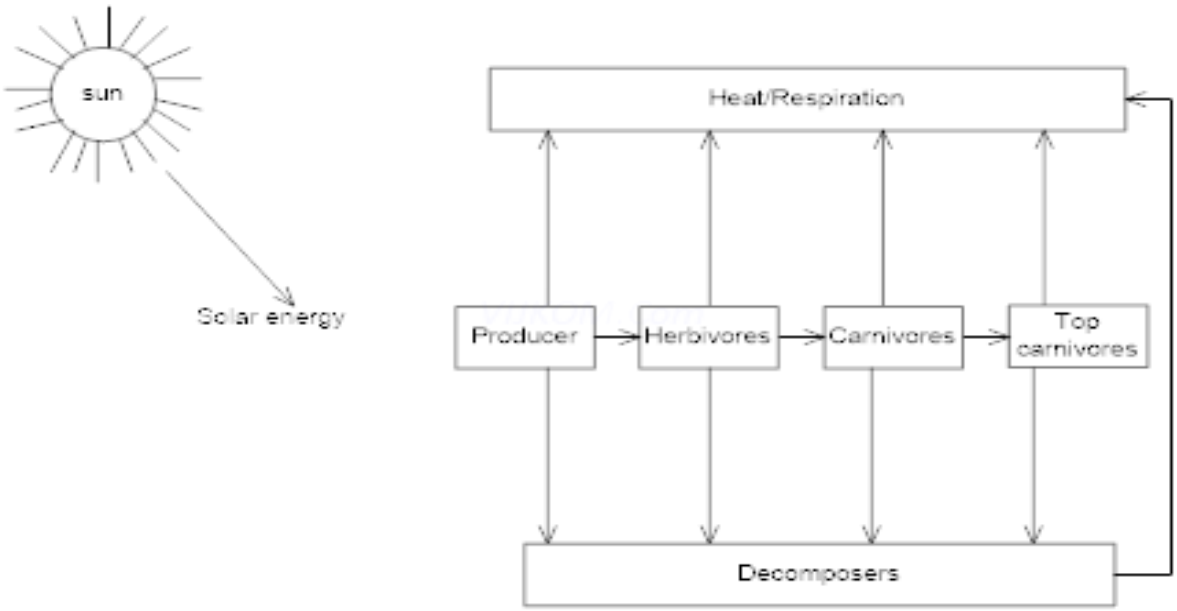
9. Why vegetarian food habit help us in getting more energy?
Ans. A person having vegetarian food habits is closed to the producer level get maximum amount of energy as compare to the organism at higher trophic level because only 10% of energy is available at the successive level than previous level.

10. Write a food chain having two trophic levels.
Ans. Plants→ man

11. Diagrammatically represent the transfer of energy in a food chain.
Ans.



Transfer of energy in a food chain.

12. Consider the following food chains-
(a) Plants→ mice→ snakes→ hawks
(b) Plants→ mice→hawks
If energy available at the producer level in both the food chains is 100J. In which case will hawks get more energy and how much?
Ans. Hawk get more energy in food chain having three trophic levels.

Plants	→ mice	→ hawks
100J	10J	1J

Energy available to hawk is 1J.

13. Why is there a need to ban the use of polythene bags?
Ans. Polythene bags are non- biodegradable, they are not decomposed by micro-organisms hence, cause land pollution.

14. What are the two functions of ecosystem?
Ans. Interactions of any ecosystem refers to its functions these interactions are-

(a)Biogeochemical cycles- The cyclic transfers between the living and non- living components.
(b)Flow of energy- in a food chain, through various steps of eating and being eaten food energy flow from one tropic level to another.

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15. What percentage of solar energy is trapped and utilized by plants?
Ans. Plants utilized only 1% of total sun's energy, which is utilized by plants in the process of photosynthesis.

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16. What are the harmful effects of acid rain?
Ans. (1) Acid rain makes the soil acidic which affects the growth of trees and cereal crops badly.
(2) It makes the water of lakes, ponds, etc acidic which affects the growth of aquatic plants and animals.
(3) Bacteria useful for maintaining soil fertility are killed.
(4) It affects the historical monuments and building badly specially those made up of marble.

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17. Differentiate between abiotic and biotic components of ecosystem.
Ans.

Biotic component	Abiotic component
Living	Nonliving
It includes producers, consumers and decomposers.	It physical and chemical factors like light, water, soil, air, temperature, nutrients, etc.

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18. Give any two methods reducing the problem of waste disposal.
Ans. (a) Use of recycled material.
(b) Separation of biodegradable and non-biodegradable waste during disposal.

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19. Give reason: "Life on earth depends on the sun."
Ans. Sun is the ultimate source of energy on earth. Only plants can convert solar energy into chemical energy (food), which is transferred to different organisms at various trophic levels. Energy stored in fossil fuel is also transferred solar energy because they made up of decomposed plants and animals. Hence, solar energy is utilized and transformed in different form which is utilized by us.

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20. What are trophic levels? Give an example of a food chain and state the different trophic

level in it.
Ans. Each step in a food chain constitutes a trophic level. For example

Grass --------→	Dear -----→	Lion
Trophic level I	Trophic level II	Trophic level III

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21. What is the role of decomposers in the ecosystem?
Ans. They decompose dead remains of plants and animals and their wastes organic products into simple inorganic substances which are released into the atmosphere for reuse by the plants. Thus, they help in recycling of materials.

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22. What is ozone and how does it affects any ecosystem?

Ans. Ozone is a form of oxygen. It has the molecular formula O_3. It is present at a higher level in the atmosphere. It protects the ecosystem from the harmful effects of ultraviolet rays coming from the Sun. UV rays may cause skin cancer, cataract to us.

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23. How can you help in reducing the problems of waste disposal? Give any two methods.
Ans. The following measures can be adopted for reducing the problem of waste disposal:
(i) Reduce the volume of wastes by burning in incinerator.
(ii) Produce compost and biogas from biodegradable waste.

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24. What will happen if we kill all the organisms in one trophic level?
Ans. If we kill all the organisms in one trophic level, the number of individuals in the next trophic level will decrease due to non-availability of food. Also, the number of individuals in the previous trophic levels will increase because there is no one to feed on them. This will cause imbalance in the environment.

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25. Will the impact of removing all the organisms in a trophic level be different for different trophic levels? Can the organisms of any trophic level be removed without causing any damage to the ecosystem?
Ans. Yes, the impact of removing all the organisms of a trophic level will be different for different trophic levels. The effect will be time related. If we remove all the producers, primary consumers will be affected instantly. Secondary consumers will affect after a gap and tertiary consumers after a longer gap.

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26. If all the wastes we generate is biodegradable, will this have no impact on the environment?

Ans. It will have only short term impact on environment, the action of decomposers will slow down and some air/water pollution will be caused. However, in longer term, there will be no impact of biodegradable wastes on the environment.

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27. What are the problems caused by non-biodegradable wastes that we generate?
Ans. (a) Non-biodegradable pesticides and fertilizers run off to water bodies to cause water pollution.
(b)Some of the non-biodegradable pesticides like DDT enter the food chain and cause bio-magnifications in humans and other animals.

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28. What limits the number of trophic levels in a food chain.
Ans. There is a loss of energy as we go from one trophic level to the next, this limits the number of trophic levels in a food chain.

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29. What is the harm of clay cups?
Ans. Clay cups cause depletion of top fertile soil as they are formed from the same.

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30. State one reason to justify the position of man at the apex of most food chains?
Ans. The position of man is at the apex of most food chains as he is an intelligent organism and can take any advantageous position by manipulation.

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31. Which food chains are advantageous in terms of energy?
Ans. The two step chains in which man is close to producer are advantageous. For example, Producer—* Man

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32. If all the wastes we generate is bio-degradable what impact may this have on the environment?
Ans. Cleaner environment without any pollution, more nutrients will be released into the nutrient pool, will help to maintain ecological balance.

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33. Write the harmful effect of ozone depletion.
Ans. i. Cause the skin cancer
ii. Damage to eyes
iii. Immune system

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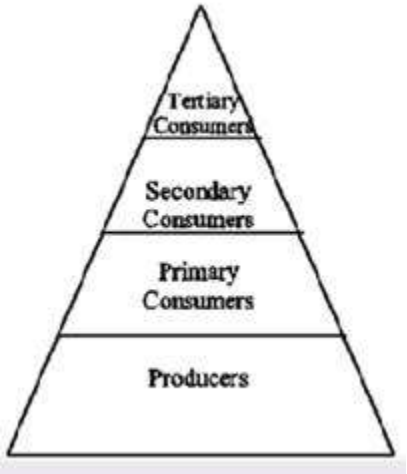
34. Which of the following will have the maximum concentration of harmful chemicals in its body? Peacock, frog, Grass. Snake. Grasshopper
Ans. Out of Grass Grasshopper, Frog, Peacock; Peacock will have maximum concentration of harmful chemicals in its body.

35. Why energy of herbivores never come back to the autographs?
Ans. Energy of herbivorous never comes back to autographs as flow of energy is always unidirectional. So once it passes the trophic level it is no longer available to the previous level.

36. Give the correct sequence of various & trophic levels in a food chain.
Ans.



37. What is biological magnification and give its causes?
Ans. The increased concentration of chemicals at any trophic level is called biological magnification. It occurs due to the excessive use of pesticides which enter our food chain.

38. DDT has entered food chain. Which food habit is safer- vegetarian or non-vegetarian?
Ans. Vegetarian habit is safer. Being closer to producers, less DDT will accumulate in our body Bio magnification leads to higher level of DDT in higher trophic levels.

39. Aquarium requires regular cleaning whereas lakes normally do not. Why?
Ans. Normally a lake has more diverse forms of life and hence a larger number of food chains. This leads to natural cleaning. Thus, the ecosystem is more stable. The aquarium has a very limited number of food chains and unable to sustain itself. Bu, sometimes there is excessive growth of algae in lake. Then it also needs to be cleaned.

40. How will accumulation of bio degradable waste effect our environment?

Ans. Accumulation of bio degradable waste will:
(a) not let minerals return to mineral pool
(b) become site of pest breeding

3 Mark Questions

1. DDT that was sprayed in minute amount on food plants was detected in high concentration in man? How did it happen? Explain.
Ans. This occurs due to biological magnification. When pesticides like DDT are used to protect crops from diseases and pests. These non-biodegradable substances enter the soil. From soil these substances are absorbed by plants along with water and minerals. The food plants when consumed by organisms, they get accumulated at different trophic levels. As the human beings occupy the top position in any food chain, maximum concentration of such harmful chemicals get accumulated in the bodies of man.

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2. Describe how ozone layer is formed?
Ans. Formation of the ozone layer-
(a) During the origin of life Earth, some of underwater micro-organisms were to photosynthesize due to molecular oxygen (O_2) was released in atmosphere.
(b) This oxygen is released to stratosphere where it began to react with ultraviolet radiations from sun to form free oxygen (O).
(c) Free oxygen combines with molecular oxygen (O_2) to form (O_3)

$$O_2 + u.v\ light\ O + O$$

$$2O + 2O_2\ 2O_3\ (ozone)$$

Formation of ozone

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3. What are the major components of environment?

Ans.

Abiotic	Biotic
In ecology and biology, abiotic components are non-living chemical and physical factors in the environment which affect ecosystem.	Biotic describes a living component of an ecosystem; for example, organisms, such as plants and animals.
Water, light, wind, soil, humidity, minerals, gases.	All living things – autotrophs and heterotrophs – plants, animals, fungi, bacteria.
Affect the ability of organisms to survive, reproduce; help determine types and numbers of organisms able to exist in environment; limiting factors restrict growth.	Living things that directly or indirectly affect organisms in environment; organisms, interactions, waste; parasitism, disease, predation.
Individual of a species, population, community, ecosystem, biome, biosphere.	Individual of a species, population, community, ecosystem, biome, biosphere.

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4. Why are the same substances biodegradable and some non-biodegradable?
Ans. The micro-organisms like bacteria and other decomposers organisms (called saprophytes) present in our environment specific in their action. They break down the materials or products made from natural materials (paper) as they have some peculiar enzymes for this process. But as enzymes are specific in their action, these cannot break down many man-made materials likes plastic. These can be acted upon by physical processes but not by biological processes. Therefore, these types of substances persist for long time and cannot be decomposed into simpler substances.

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5. Explain why a food chain consists of few steps only? Write a food chain having five steps.
Ans. Food chains consist of few steps only because in food chain energy decreases at each successive trophic level, due to this energy available at higher trophic level reduce step by step. If a food chain has six or more than six steps, energy is not sufficient for the survival of organism at that trophic level.
Plants →Grasshopper →Insect→ Frog→ Snake

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6. What is the difference between food chain and food web?

Ans.

Food chain	Food web
The sequence of eating and being eaten among the living organisms to transfer food energy.	It is a system of interconnected food chain. The network of food chain develops a relationship between various organisms.
It is having 4-5 population of different species.	It is having numerous population of different species.
It is part of food web.	It contains many food chains.

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7. What is biological magnification? Illustrate with the help of example.
Ans. It is a process of increase in concentration of persistent pollutant per unit weight of the organisms with the rise in trophic level.

Water	→	Phytoplankton	→	Fish	→	Bird
(0.02ppm of harmful chemical)		(5.0ppm)		(240ppm)		(1600ppm)

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8. What are the ill effects of ozone layer depletion?
Ans. Ill effect of ozone depletion.
(1) Human health: –
(a) It cause skin cancer.
(b) Eye diseases like cataracts.
(c) Supresion of the immune system.
(2) Agriculture and plant life: – Growth leaf development of most plant species decrease abundantly on exposure to high concentration of UV radiation which are filtered by ozone layer.
(3) Marine environment: – UV radiation filtered through the depleted ozone layer directly damage.
(a) Photosynthesizing phytoplankton presents in the sea which also help in reducing the global warming.
(b) Young fishes.
(c) Shrimp, crabs larvae and other small animals.
(d) Material degradation: – The lives of many plastics have been found to be shortened due to exposure to UV radiations.

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9. What is the significance of food chains?
Ans. Significance of food chain
(a) It is a means of transfer of food from one trophic level to another.
(b) It provides information about the living component of an ecosystem.

(c) It helps us in understanding the interactions and interdependence amongst different organism in an ecosystem.
(d) It is a pathway for the flow of energy in any ecosystem.

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10. How Garbage pollution can be controlled?
Ans. Pollution of garbage can be controlled by-
(a) Recycling of certain wastes products like plastic and paper.
(b) Making use of biodegradable products as much as we can.
(c) Producing biogas from the organic wastes.
(d) Separation of biodegradable and non-bio-degradable waste during disposal.
(e) Making the compost of biodegradable wastes by burying them under soil.

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11. What are the components of an ecosystem? Explain with examples
Ans. An ecosystem has two major components-
(1) Biotic components- It includes producers (plants), consumers (animals) and decomposers (bacteria and fungi).
(a) Producers- Organisms which are able to photosynthesis are called producers. It includes all green plants.
(b) Consumers- Organisms which depends upon other are called consumers. It is of few types-
(i) Herbivores- Animals which directly depends upon plants.
(ii) Carnivores- These animals eat herbivores.
(iii) Secondary carnivores- Animals which depends upon carnivores.
(iv) Tertiary carnivores- Largest animals which depends upon secondary carnivores.
(a) Decomposers- These organisms depend upon dead plants and animals. They change complex organic substances into simple inorganic substances.
(1) Abiotic components- Non-living components. It include physical and chemical factors such as light, water, soil, air temperature, oxygen, carbon, nitrogen and other nutrients.

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12. Write any three activities which are eco-friendly.
Ans. (a) Making the compost of biodegradable wastes by burying them under soil.
(b) Use of cloth bags instead of polythene bags.
(c) Using CNG in vehicles instead of petrol or diesel.

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13. Energy transfer is said to be unidirectional whereas biochemical transfer is said be cyclic. Why?
Ans. Energy flow is unidirectional because as it transfers from one trophic level to next trophic level, it reduces only 10% is available at Successive level from

previous level. Nutrient flow is cyclic because nutrients returned back into nutrient pool from the dead bodies of plants and animals by the decomposition of micro-organisms from nutrient pool. They are utilized again by plants.

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14. Give difference between produces and consumers. Mention one example of each.
Ans.

Producers	Consumers
They are autotrophs.	They are heterotrophs.
They can convert inorganic Substances into-organic substances.	They cannot convert inorganic substances into organic substances.
It includes green plants and Photosynthetic micro- organisms.	It includes herbivores, primary carnivores, secondary and tertiary carnivores.

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15. There are no predators for tiger or lion. Why?
Ans. Lions and tigers are at the highest trophic level. They are largest animals which feed upon the secondary carnivores like wolves etc. they are not killed and eaten by other animals.

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16. What are the measures to protect ozone depletion?
Ans. Measure to protect ozone layer-
(a)Concern over increasing global ozone depletion led to international restrictions in the use and manufacture of CFCS and halons.
(b) International concern over the seriousness of the problems associated with ozone layer depletion led to the adoption of Vienna convention for the protection of the ozone layers in 1985.
(C) Promotion of an international treaty known as Montreal protocol (1987), to which over 140 countries agreed to the reduction and eventual phasing out of the manufacture and use of most ozone depleting substances.

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17. Describe three biotic component of ecosystem. Also give examples.
Ans. Biotic components of ecosystem are-
(a) Producers- All the green plants have a unique capability to synthesis organic substance such as sugar and starch by the process of photosynthesis. Therefore, they are called producers.
(b) Consumers- These are the living organisms which depend directly or indirectly on plants for their food. Consumers may be herbivore, carnivores, and omnivores.

(c) Decomposers- Decomposers are the organisms which depend upon the dead and decaying organisms their waste material. They form important link between living and non-living components.

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18. What is the role of decomposers in an ecosystem?
Ans. Decomposers decompose all the organic matter trapped in body, body parts and waste of organisms and returned back to environment. Hence, they are the important link between living and non-living components of environments. They play a vital role in biochemical or nutrient cycle and removing the organic garbage from our surroundings. They play an important role in changing our surrounding.

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19. What will happen if we kill all the organisms in one trophic level?
Ans. The food chain would end and ecological balance would be affected-
(a) If the herbivores are killed, then the carnivores would not able be to get food and would die.
(b) If carnivores are killed, then the population of herbivores would increase to unsustainable level.
(c) If producers are killed, then the nutrient cycle in the area would not be completed.

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19. What is Ozone? How does it affect any ecosystem?

Ans. Ozone (O_3) is an isotope of oxygen i.e. it is a molecule formed by three atoms of oxygen. At the higher levels of the atmosphere, ozone performs an essential function. It shields the surface of the earth from ultraviolet (UV) radiations from the sun. These radiations are highly damaging to organisms. Ultraviolet rays can cause skin cancer.

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20. Why are some substances biodegradable and some non-biodegradable?
Ans. Substances which can be acted upon by microorganism (decomposer) are called biodegradable. For example- vegetable wastes, paper, cotton etc. On the other hand, materials which are not acted upon by decomposers are called non-biodegradable. For example- plastic, glass, polyethene etc.

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21. Give any two ways in which biodegradable substances would affect the environment.
(a) They will serve as breeding ground for flies and mosquitoes which are carriers of 3 disease like cholera, malaria etc. Give any two ways in which non-biodegradable substances would affect the environment.
(b) They produce foul smell, thus causing air pollution.

Ans. (a) Excess use of non-biodegradable pesticide and fertilizers run off with rain water to water
bodies cause water pollution.
(b) They may choke the sever system of city or town that may overflow over roads.

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22. What is biological magnification? Will the levels of this magnification be different at different levels of the ecosystem?
Ans. The phenomenon of progressive increase in concentration of certain harmful non-biodegradable chemicals such as DDT at different levels of food chain is called biological magnifications.
The concentration of harmful chemicals will be different at different trophic levels. It will be lowest in the first trophic level and highest in the last trophic level of the food chain.

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23. Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage?
Ans. Ozone layer stops ultraviolet radiations from the Sun from reaching the earth. Ultraviolet rays cause cancer, cataract and damage to the immune system of human beings.
In 1987, United Nations Environment Programme (UNEP) succeeded I forging an agreement between nations to freeze chlorofluorocarbons (CFCs) production to 1986 levels. CFCs are the main cause of ozone layer depletion.

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24. Why some substances are degraded and others not?
Ans. Different components of food are changed to simpler substances by digestive enzymes and these enzymes are very much specific in nature and action. Similarly, substances are broken down by bacteria and saprophytes. They are also very specific in action and break down of the particular substance. Therefore, some substances are biodegradable and other are non-biodegradable.

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25. What will happen if all the carnivores are removed from the earth?
Ans. If all the carnivores are removed from the earth, the population of herbivores will increase. Large population of herbivores will overgraze. As a result, all plants will disappear from the earth surface and ultimately the earth may become a desert. The biosphere will get disturbed which will lead to end of life on earth.

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27. What will happen to grasslands if all the grazers are removed from there?
Ans. If all the grazers are removed from grassland, grass will grow unchecked. It may help the growth of some organisms harmful to the animals and the animals

which feed on the grazers will die of starvation. The biogeochemical cycle will stop and the whole biosphere will get disturbed.

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28. The number of malarial patients in a village increase tremendously, when a large number of frogs were exported from the village. What could be the cause for it? Explain the help of food chain?
Ans. Phytoplankton —*Zooplankton * Mosquito larva—* Frog
In the absence of frog, more mosquito larva survive, giving rise to large number of mosquitoes which cause increase incidence of malaria.

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29. What are decomposers and what is the importance of them in the ecosystem?
Ans. The micro-organisms which break down the complex organic substances into simple inorganic substances e.g. bacteria, fungi. Decomposers decompose the complex substances into simple ones so that plants can use it again.

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30. Why food chains consist of three or four steps only?
Ans. Since so little energy is available for the next level of consumers and for this reason food generally consists of three or four steps. The loss of energy at the each step is so great that very little usable energy remains after four tropic levels.

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31. What will happen if decomposers are not there in the environment?
Ans. If decomposers are not there in the environment, the breakdown of the complex organic substances into simple substances will not take place and natural replenishment of the soil will not take place. So, presence of decomposers is essential for the replenishment of soil and biogeochemical cycle of elements or substances.

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32. Are plants actually producers of energy?
Ans. No, plants are not actually producers of energy, they can trap the energy of sun and can convert solar energy into chemical energy in the form of carbohydrates and other food materials so they are called transducers.

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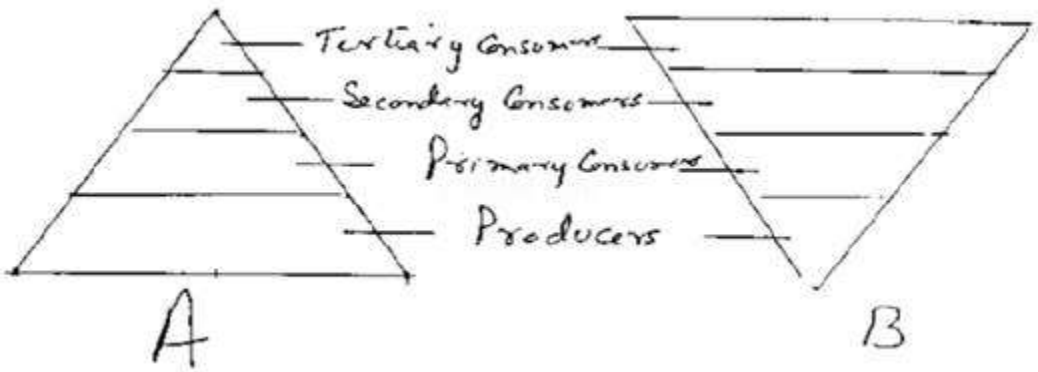
33. Look at the following figures. Choose the correct one and give reason for your Choice.



Ans. Fig. “A” is correct.

• In an ecosystem, the number of individuals at producer level is maximum. This number reduces at each successive level. Therefore, the shape is a pyramid with broader base and tapering apex.

• On an average 10% of the food changes into body mass and is available for the next level of consumers.

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34. It is the responsibility of the government to arrange for the management and disposal of waste. As an individual you have no role to play. Do you agree? Support your answers with two reasons.

Ans. I do not agree. As an individual, I also have the responsibility and can contribute in the following ways:

(i) Cut down waste generation.

(ii) Make compost pit for bio degradable waste.

(iii) Recycle non-biodegradable waste.