



BIOLOGY

BOOKS - U-LIKE BIOLOGY (HINGLISH)

OUR ENVIRONMENT

NCERT Questions

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



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2. What is the role of decomposition in the ecosystem ?



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3. Why are some substances biodegradable and some non-biodegradable ?



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4. Give any two ways in which biodegradable substances would affect the environment.



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5. Give any two ways in which non-biodegradable substances would affect the environment.



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6. What is ozone and how does it affect any ecosystem ?



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7. How can you help in reducing the problem of waste disposal ? Give any two methods.



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1. Which of the following groups contain only biodegradable items?

- A. Grass, wood and plastic
- B. Fruit peels, cake and lime-juice
- C. Cake, wood and grass
- D. Groups (a), (c) and (d).

Answer:



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2. Which of the following constitute a food chain ?

A. Grass, goat and human

B. Goat, cow and elephant

C. Grass, fish and goat

D. b Grass, goat and human

Answer:



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3. Which of the following are environment-friendly practices ?

A. Switching off unnecessary lights and fans

B. Walking to school instead of getting your mother to drop you on her scooter.

C. All of the above.

D. (d) All of the above.

Answer:



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4. What will happen if we kill all the organisms in one trophic level ?



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5. 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?



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6. What is biological magnification ? Will the levels of this magnification be different at different levels of the ecosystem?



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7. What are the problems caused by non-biodegradable wastes that we generate ?



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



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9. Why is damage to the ozone layer a cause for concern ? What steps are being taken to limit this damage ?



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Case Based Source Based Integrated Questions

1. Enzymes are specific in their action, specific enzymes are needed for the break-down of a particular substance. That is why we will not get any energy if we try to eat coal! Because of this, many human-made materials like plastics will not be broken down by the action of bacteria or other saprophytes. These materials will be acted upon by physical processes like heat and pressure, but under the ambient conditions found in our environment, these

persist for a long time.

Substances that are broken down by biological processes are said to be biodegradable.

Substances that are not broken down in this manner are said to be non-biodegradable.

These substances may be inert and simply persist in the environment for a long time or may harm the various members of the ecosystem.

Why are enzymes specific in their action ?



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Why will we not derive any energy if we eat coal, even though it releases lot of energy ?



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Give one difference between biodegradable and non biodegradable substances.



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5. Organisms depend on the producers either directly or indirectly for their sustenance ?

These organisms which consume the food produced, either directly from producers or indirectly by feeding on other consumers are the consumers. Consumers can be classed variously as herbivores, carnivores, omnivores and parasites.

The microorganisms, comprising bacteria and fungi, break-down the dead remains and waste products of organisms. These microorganisms are the decomposers as they break-down the complex organic substances into simple inorganic substances that go into the soil and are used up once more by the plants.

Why do all organisms depend on producers for their substances ?



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The microorganisms, comprising bacteria and fungi, break-down the dead remains and waste products of organisms. These microorganisms are the decomposers as they break-down the complex organic substances into simple inorganic substances that go into the soil and are used up once more by the plants.

Give one example each of a herbivore, carnivore, omnivore and a parasite.



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inorganic substances that go into the soil and are used up once more by the plants.

What happens to the body/or a body part on death of the organism ?



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The microorganisms, comprising bacteria and fungi, break-down the dead remains and waste products of organisms. These microorganisms are the decomposers as they break-down the complex organic substances into simple inorganic substances that go into the soil and are used up once more by the plants.

What do you infer about ecosystem from this information from the passage ?

9. The length and complexity of food chains vary greatly. Each organism is generally eaten by two or more other kinds of organisms which in turn are eaten by several other organisms. The energy that is captured by the autotrophs does not revert back to the solar input and the energy which passes to the herbivores does not come back to autotrophs. As it moves progressively through the various trophic levels it is no longer available to the previous level.

One of the reasons is the use of several pesticides and other chemicals to protect our crops from diseases and pests. These chemicals are either washed down into the soil or into the water bodies. From the soil, these are absorbed by the plants along with water and minerals, and from the water bodies these are taken up by aquatic plants and animals.

From the information given, figure out what according to you is more appropriate - Food chain or Food web ?

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What according to you would be the pyramid of energy life?



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Chemicals are used as pesticides. How does this impact the environment ?



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crops from diseases and pests. These chemicals are either washed down into the soil or into the water bodies. From the soil, these are absorbed by the plants along with water and minerals, and from the water bodies these are taken up by aquatic plants and animals.

What is the alternative to above mentioned problem?



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13. Ozone (O_3) is a molecule formed by three atoms of oxygen. While O_2 , which we normally refer to as oxygen, is essential for all aerobic forms of life. Ozone, is a deadly poison.

The amount of ozone in the atmosphere began to drop sharply in the 1980s. This decrease has been linked to synthetic chemicals like chlorofluorocarbons (CFCs) which are used as refrigerants and in fire extinguishers. In 1987, the United Nations Environment Programme (UNEP) succeeded in forging an agreement to freeze CFC

production at 1986 levels.

Where is O_3 present ?



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What is its role in our environment ?



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Why is UV radiation harmful ?

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forging an agreement to freeze CFC production at 1986 levels.

In current scenario of COVID-19 pandemic, globally, what has been the impact of the lockdown in many countries on the ozone hole ?



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17. Human body is made up of five important components, of which water is the main component. Food as well as potable water are

essential for every human being. The food is obtained from plants through agriculture. Pesticides are being used extensively for a high yield in the fields. These pesticides are absorbed by the plants from the soil along with water and minerals and from the water bodies these pesticides are taken up by the aquatic animals and plants. As these chemicals are not biodegradable, they get accumulated progressively at each trophic level. The maximum concentration of these chemicals gets accumulated in our bodies and greatly affects the health of our mind and body.

Why is the maximum concentration of pesticides found in human beings?



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absorbed by the plants from the soil along with water and minerals and from the water bodies these pesticides are taken up by the aquatic animals and plants. As these chemicals are not biodegradable, they get accumulated progressively at each trophic level. The maximum concentration of these chemicals gets accumulated in our bodies and greatly affects the health of our mind and body.

Give one method which could be applied to reduce our intake of pesticides through food to some extent.

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are not biodegradable, they get accumulated progressively at each trophic level. The maximum concentration of these chemicals gets accumulated in our bodies and greatly affects the health of our mind and body.

Various steps in a food chain represent :

- A. Food web
- B. Trophic level
- C. Ecosystem
- D. Biomagnification

Answer:



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aquatic animals and plants. As these chemicals are not biodegradable, they get accumulated progressively at each trophic level. The maximum concentration of these chemicals gets accumulated in our bodies and greatly affects the health of our mind and body.

With regard to various food chains operating in an ecosystem, man is a

A. Consumer

B. Producer

C. Producer and consumer

D. Producer and decomposer.

Answer:



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Multiple Choice Questions One Mark Each

1. Which of the following is not abiotic component of an ecosystem?

A. Rainfall

B. Plants

C. Animals

D. Human beings

Answer:



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2. Which of the following is not biodegradable

?

A. Grass

B. Plastic bag

C. Paper

D. Wood

Answer:



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3. The average value for the amount of organic matter that is present at each step and reaches the next level of consumers is

A. 0.01

B. 0.2

C. 0.05

D. 0.1

Answer:



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4. As human beings occupy the top level in any food chain, the maximum concentration of

insecticides get accumulated in our bodies.

This phenomenon is known as

A. pollution

B. eutrophication

C. biological magnification.

D. none of these.

Answer:



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5. 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.

Answer:



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

A. Pond

B. Crop field

C. Lake

D. Forest

Answer:



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

A. carnivores

B. herbivores

C. decomposers

D. producers

Answer:



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8. In a 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. 5kJ

B. 50kJ

C. 500 kJ

D. 5000 kJ

Answer:



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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.

Answer:



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10. Depletion of ozone is mainly due to

A. chlorofluorocarbon compounds.

B. carbon monoxide

C. methane

D. pesticides

Answer:



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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)

Answer:



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12. Flow of energy in an ecosystem is always

A. unidirectional.

B. bidirectional

C. multidirectional

D. no specific direction

Answer:



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13. Which of the following groups does not 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

Answer:



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14. Which of the following are environmental-friendly practices ?

A. Carrying the cloth bags to put purchases

in while shopping

B. Switching off unnecessary lights.

C. Walking to school instead of getting your mother to drop you on her scooter.

D. All of the above.

Answer:



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15. 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

Answer:



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

A. Decrease in energy at higher levels

B. Deficient food supply

C. Polluted air

D. Water

Answer:



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17. 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)

Answer:



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18. Which of the following statements 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.

Answer:



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19. In the figure given along side, the various trophic levels are shown in a pyramid. At which trophic level is maximum energy available ?



A. T_4

B. T_2

C. T_1

D. T_3

Answer:



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

A. decomposers

B. producers

C. herbivores

D. carnivores

Answer:



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21. 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)

Answer:



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22. The decomposers in an ecosystem

A. convert inorganic material to simpler form

B. convert organic material to simpler forms

C. convert inorganic materials into organic compounds

D. do not breakdown organic compounds.

Answer:



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23. Disposable plastic plates should not be used because

A. they are made of material with light weight.

B. they are made of toxic material.

C. they are made of biodegradable materials

D. they are made of non-biodegradable materials.

Answer:



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24. 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.

Answer:



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25. 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

Answer:



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26. The microorganisms comprising bacteria and fungi are classified as

- A. producers.
- B. decomposers
- C. tertiary consumers
- D. primary consumers

Answer:



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27. Very little useable energy remains after

- A. two trophic levels
- B. three trophic levels
- C. four trophic levels.
- D. five trophic levels.

Answer:



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28. Concentration of harmful chemicals in a food chain is maximum in the

- A. first level.
- B. second level.
- C. third level.
- D. top level.

Answer:



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29. Food web is constituted by

A. relationship between the organisms and the environment.

B. relationship between plants and animals.

C. various interlinked food chains in an ecosystem.

D. relationship between animals and environment.

Answer:



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30. Substances that are broken down by biological processes are said to be biodegradable. This is due to

A. high pressure.

B. high temperature

C. consumption by primary and secondary consumers.

D. enzyme action.

Answer:



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31. The most appropriate definition of a natural resource is that it is a substance commodity that is

A. present only on land.

B. a gift of nature which is very useful to mankind.

C. a man-made substance placed in nature.

D. available only in the forest.

Answer:



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32. Which one of the following is a green house gas ?

A. Nitrogen dioxide

B. Carbon dioxide

C. Sulphur dioxide

D. Carbon monoxide

Answer:



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33. When green plants are eaten by primary consumer :

A. great deal of energy is transferred.

B. great deal of energy is lost.

C. there is not net loss of energy.

D. there is no transfer of energy.

Answer:



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34. Choose the incorrect statement :

(i) Solar energy is eco-friendly. (ii) Diesel is eco-friendly.

(iii) Kerosene is eco-friendly.

(iv) LPG is eco-friendly.

A. (i) and (ii)

B. (i) and (iv)

C. (i) and (iii)

D. (i) and (iii)

Answer:



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35. Which one of the following represent correct food chain ?

A. Tree → Crow → Tiger

B. Deer → Jackal → Tiger

C. Zooplankton → Fish

D. Grass → Grasshopper → Frog →
Snake

Answer:



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36. Consumers can be classified as following:

(i) Herbivore (ii) Carnivore

(iii) Secondary carnivore (iv) Saprotrophs

Amongst the options given, which ones feed on another animal :

A. (ii) and (iii)

B. (i) and (iii)

C. (iii) and (iv)

D. (ii) and (iv)

Answer:



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37. 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.

Answer:



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38. Amongst the following, which one is not a man made ecosystem :

A. Nilgiris

B. Garden

C. Kitchen Garden

D. Rice field

Answer:



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39. Select the correct option for components of an ecosystem

(i) Grass, Air, Rabbit

(ii) Soil, Sun, Tiger

(iii) TV antenna, Road, Bird

(iv) Sky, Aeroplane, Bird

A. (i) and (ii)

B. (i) and (iii)

C. (i) and (iv)

D. (ii) and (iii)

Answer:



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40. Given below are a few statements related to biodiversity. Pick those that correctly describe the concept of biodiversity.

(i) Biodiversity refers to the different species of flora and fauna present in an area.

(ii) Biodiversity refers to only the flora of a given area.

(iii) Biodiversity is greater in a forest.

(iv) Biodiversity refers to the total number of individuals of a particular species living in an area.

A. (i) and (ii)

B. (ii) and (iv)

C. (i) and (iii)

D. (i) and (iii)

Answer:



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41. Following are not an example of an ecosystem :

A. Desert

B. Garden

C. Fish in a Bowl

D. Ocean bed

Answer:



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True Or False

1. Substances that are not broken down by biological processes are said to be biodegradable .



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2. Some organisms like plants and animals , but not microorganisms , interact with each other and their physical surroundings.



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3. In an ecosystem energy flow is bidirectional



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4. At higher levels of atmosphere , a layer of methane protects the earth's surface from harmful UV radiations from the sun.



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5. Chemicals used as pesticides or fertilisers are retained even in our food grains as wheat , rice and fruits and vegetables.



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Fill In The Blanks

1. The physical and biological world where we live in is called our _____.



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2. Each level of food chain where transfer of energy takes place is _____.



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3. _____ are the physical factors like temperature, rainfall, wind, soil etc., of an ecosystem.



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4. Organisms which depend on the producers directly or indirectly for food are called _____



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5. Man made substances like glass, plastic etc., are _____



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6. The microorganisms like bacteria and fungi play a key role in break down of complex

organic molecules into simple inorganic substances which can be recycled. They are called _____



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7. The _____ capture sun's energy and convert it into chemical energy.



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8. _____ can be taken as the average value for the amount of organic matter present at each step that reaches the next level of consumers.



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9. The phenomenon by which chemicals get progressively accumulated as we move higher up in a food chain is called _____



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Assertion Reason Questions

1. Assertion (A): All green plants and certain blue-green algae can produce food by photosynthesis.

Reason (R) : Presence of chlorophyll in these organisms, enable them to do so.

A. Both (A) and (R) are true and (R) is correct explanation of the assertion.

B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.

C. (A) is true but (R) is false

D. (A) is false but (R) is true.

Answer:



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2. Assertion (A) : All consumers depend on producers either directly or indirectly for their nutrition.

Reason (R) : Consumers are heterotrophs.

- A. Both (A) and (R) are true and (R) is correct explanation of the assertion.
- B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.
- C. (A) is true but (R) is false
- D. (A) is false but (R) is true.

Answer:



View Text Solution

3. Assertion (A) : Food chains can be as long as any number of trophic levels.

Reason (R) : There are number of organisms interdependent an each other.

A. Both (A) and (R) are true and (R) is correct explanation of the assertion.

B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.

C. (A) is true but (R) is false

D. (A) is false but (R) is true.

Answer:



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4. Assertion (A) : The disposal of waste we generate is causing serious environmental problems.

Reason (R) : We should reduce the waste generated.

A. Both (A) and (R) are true and (R) is correct explanation of the assertion.

B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.

C. (A) is true but (R) is false

D. (A) is false but (R) is true.

Answer:



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Very Short Answer Questions

1. Mention one negative effect of our affluent life style on the environment.



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2. Why has there been huge hue and cry against the use of CFCs ?



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3. Name the radiations from the sun that are absorbed by ozone layer. Mention one harmful effect caused by them.



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4. What is meant by non-biodegradable waste? Identify biodegradable waste from the following: Empty packet of chips, empty bottle of mineral water, empty paper box of sweets, empty tin of a cold drink.





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5. Select from the following substances which have posed a threat to the environment :

Aerosols, consumers, bacteria, CFCs.



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6. State two methods to get rid of non-biodegradable wastes.



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7. Construct an aquatic food chain ending with shark.



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8. How do autotrophs obtain CO_2 and N_2 to make their food ?



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9. Why is ozone layer getting depleted at the higher levels of the atmosphere ?



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10. What advantage over an aquatic organism does a terrestrial organism have with regard to obtaining oxygen for respiration ?



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11. What is meant by the term Environment ?



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12. Which of the following are biodegradable ?

Wool, glass, silver foil, leather.



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13. Which of the following are biodegradable ?

Leather shoe, earthen pot, silver spoon, jute

bags



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14. Which of the following are biodegradable ?

Tomato leaves, aluminium wire, synthetic fibre,

wool,



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15. Which of the following belonging to a food

chain is likely to have maximum concentration

of harmful chemicals in its body ?

Kingfisher, zooplankton, fish, phytoplankton.



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16. Which of the following belonging to a food chain is likely to have maximum concentration of harmful chemicals in its body ?

Peacock, frog, snake, grasshopper.



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17. Which of the following belong to the same trophic level ?

Grasshopper, frog, grass, lizard.



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18. Which of the following belong to the same trophic level ?

Goat, grass, crow, squirrel.



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19. Rearrange the following according to their ascending trophic level in a food chain.

Hawk, grass, snake, rabbit



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20. If a harmful chemical enters a food chain comprising fishes, phytoplanktons and birds, which of the organisms is likely to have minimum concentration of the harmful chemical in the body?



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21. In the following food chain 20 J of energy was available to the hawks. How much would have been present in the plants ?

Plants → Rats → Snakes → Hawks



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22. Give the technical terms for the graphic representation of the trophic structures in a food chain.



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23. State one difference between autotrophs and heterotrophs.



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24. During heavy rains in a village, rain water carried excessive nitrogen compounds to a pond. How will it affect the growth of fish in the pond in the long run ?



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25. Which food habits give us more energy?

Vegetarian or non-vegetarian.



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26. In comparing the two ecosystems A and B, it is observed that A has only first and second order consumers, while B has third, fourth and fifth order consumers. Which of the two would be more stable ?



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27. Give an example of an organism that acts as prey as well as predator in a food chain.



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28. What are phytoplanktons ?



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29. What are zooplanktons ?



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30. In a certain study conducted on occurrence of DDT along food chains in an ecosystem, the concentration of DDT in grass was found to be 0.5 ppm (parts per million) in sheep it was 2 ppm and in man it was 10 ppm. Why was the concentration of DDT maximum in case of man ?





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31. Explain how does making of kulhads affect our environment ?



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32. Define a food web. State its significance for ecosystem.



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33. Which food chains are advantageous in terms of energy ? Support your answer giving one example .



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34. Why we say that energy flow in the biosphere is unidirectional ?



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35. The term producer for plants is misnomer.

Explain why?



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36. Name two natural ecosystems.



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Short Answer Questions

1. State one important function of ozone layer in the atmosphere. How is it formed there? Which compounds are responsible for the depletion of ozone layer ? How do these compounds enter into the atmosphere ?



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2. What are decomposers ? Write the role of decomposers in the environment.



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3. Given below is a food chain :

Grass → Grasshopper → Frog → Snake
→ Peacock.

What will happen to the members of different trophic levels in the food chain, if all the frogs of that area are removed ?



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4. Differentiate between autotrophs , heterotrophs and decomposers and give one

example of each.



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5. What is meant by garbage management ?



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6. Suggest four methods to manage the garbage.



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7. What is an ecosystem ? List its two main components.



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8. We do not clean ponds or lakes, but an aquarium needs to be cleaned regularly. Explain.



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9. Distinguish between biodegradable and non-biodegradable substances. List two effects of each of them on the environment.



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10. Distinguish between producers and decomposers.



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11. Classify the following as producers and decomposers :

Green plants , Bacteria , Fungi , Blue-green algae.



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12. Why are bacteria and fungi called decomposers ? List any two advantages of decomposers.



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13. Name the process by which autotrophs prepare their own food.



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14. List the three events which occur during the process.



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15. State two sources from which plants obtain nitrogen for the synthesis of proteins and other compounds.



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16. State two differences between autotrophic nutrition and heterotrophic nutrition.



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17. Give one example of each of these nutrition.



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18. What is environmental pollution ?



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19. Distinguish between biodegradable and non-biodegradable pollutants.



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20. Choose the biodegradable pollutants from the list given below :

Sewage, DDT, radioactive waste, agricultural waste.



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21. How would you dispose the waste ?

Domestic wastes like vegetable peels.





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22. How would you dispose the waste ?

Industrial wastes like metallic cans.



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23. How would you dispose the waste ?

Plastic materials.



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24. What is ten per cent law ? Explain with an example how energy flows through different trophic levels.



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25. "Vegetarian food habits can sustain a larger number of people." Justify the statement in terms of food chain.



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26. What is food chain ? How does the study of food chain in an area or habitat help us ? Give an example of four-step food chain operating in a large lake.



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27. The flow of energy between various components of the environment has been extensively studied. Give an outline of the findings.





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28. From the following group of organisms create a food chain which is the most advantageous for Human beings in terms of energy.



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29. State the possible disadvantage if the cereal plant is growing in soil rich in

pesticides.



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30. Construct a food web using the organisms mentioned above.



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31. Write two harmful effects of using plastic bags on the environment . Suggest alternatives to the usage of plastic bags .



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32. List any two practices that can be followed to dispose off the waste produced in our homes .



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33. What is meant by trophic level in a food chain ? Construct a terrestrial food chain with

four trophic levels. The energy flow in a food chain is always unidirectional. Why ?



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34. Complete the following flow chart based on ecosystem and its components.



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