



BIOLOGY

BOOKS - ZEN BIOLOGY (KANNADA ENGLISH)

OUR ENVIRONMENT

Questions Section In Text Questions

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



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



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



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



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5. What is the role of decomposers in the ecosystem?



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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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Questions Section Textual Exercises

1. 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

Answer:



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

A. Carrying cloth-bags to put purchases 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

Answer:



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



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5. Is the impact of removing all the organisms in a trophic level 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? Would the levels of this magnification be different at different levels of the ecosystem?



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



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8. If all the waste we generate is biodegradable, would 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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Zen Additional Questions Section Multiple
Choice Questions

1. A balanced aquarium is best described as

A. a biome

B. an ecosystem

C. a community

D. a biosphere

Answer: A::C



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2. All the members of a species inhabiting in a given location form a

A. population

B. community

C. biome

D. biological unit

Answer: C



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3. Ozone layer is essential because it absorbs most of the

A. infrared radiations

B. heat

C. solar radiation

D. ultraviolet radiation

Answer: A::D



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4. Decrease in number of trees may cause

A. increase in rainfall

B. decrease in rainfall

C. decrease in temperature

D. conservation of nutrients in soil

Answer: A::B::C::D



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5. Which of the following is a non-biodegradable waste?

A. Cowdung

B. Manure

C. Plastice

D. Kitchen waste

Answer: A::C



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6. Acid rain is due to

A. combustion of fossil fueis

B. oxides of sulphur and nitrogen

C. all slick

D. nuclear wastes

Answer: A::D



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7. Biotic components of an ecosystem consist of

A. producers

B. consumers

C. decomposers

D. all of these

Answer: A::B::C::D



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8. Which of the following does not form a part of particulate matter ?

A. Dust

B. Fly

C. Aerosols

D. Nitric oxide

Answer:



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9. Select the most dangerous pollutant from the following .

A. CO

B. SO_2

C. NO_2

D. CO_2

Answer: C



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10. Ecosystem consists of

A. a population

B. a population and its non-living
environment

C. a biotic community

D. a biotic community and its non living environment

Answer: A::B::C::D



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11. A functional aspect of an ecosystem is

A. producers consumers and abiotic environment

B. regulation of populations

C. light temperature oxygen and carbon dioxide

D. both a and c

Answer: A::B::C::D



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12. Threat for the existence of a human being is

A. low forest area

B. high population and pollution

C. deforestation

D. high population

Answer: A::D



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13. Animals found in an ecosystem are together called

A. consumer organisms

B. carnivorous organisms

C. micro -consumer organisms

D. producer organisms

Answer: A::C



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14. Animas, plants, and bacteria are

A. blotic components

B. abiotic components

C. newable components

D. non-renewable components

Answer: B::C



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15. Which of the following constitute(s) a food chain?

A. rass, wheat, and mango

B. Grass, goat, and human

C. Goat, cow, and elephant

D. Grass, fish, and goat

Answer: A::D



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16. Which organisms can make organic compounds like sugar and starch from inorganic substances under sunlight?

A. Blue-green algae

B. Mushrooms

C. ants

D. Both a and c

Answer: A::B::C::D



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17. Which of the following rays emitted from the Sun are absorbed by ozone layer?

A. Xrays

B. Infrared

C. Visible light

D. Ultraviolet

Answer: A



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

A. Carrying cloth bags for 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

Answer: A::B::C::D



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19. Which one of the following undergoes fastest biodegradation ?

A. Mango peel

B. Mango seed

C. Mango pulp

D. Wood

Answer: A



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20. Flow of energy in an ecosystem is always

A. unidirectional

B. bidirectional

C. multidirectional

D. in no specific direction

Answer: A::C::D



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21. Which of the following is eco-friendly?

A. Thermal power plant

B. Hydropower plant

C. Biogas plant

D. Nuclear power station

Answer: A::B



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22. Observe the food chain given below:

Grass → Grass hopper → Frog → Snake
→ Eagle .

If the energy available at first trophic level is 5000 J. then the amount of energy available for snake is

A. 500 J

B. 5 J

C. 0.5 J

D. 50 J

Answer:



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

A. Pond

B. Crop field

C. Lake

D. Forest

Answer: C::D



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

A. carnivores

B. herbivores

C. decomposers

D. producers

Answer: A::C



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25. 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: A::B::C::D



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26. 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

Answer: A::B::C



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27. Depletion of ozone is mainly due to

A. chlorofluorocarbon compounds

B. carbon monoxide

C. methane

D. pesticides

Answer: A::B::C::D



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

A. decomposers

B. producers

C. herbivores

D. carnivores

Answer: C::D



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29. In an ecosystem, the 10% 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

Answer: A::C



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30. 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: B::D



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31. 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: A::D



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

A. Decrease in energy at higher trophic levels

B. Deficient food supply

C. Polluted air

D. Water

Answer: A::C::D



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33. 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: A::D



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34. The percentage of solar radiation absorbed by all the green plants for the process of photosynthesis is about

A. 0.01

B. 0.05

C. 0.08

D. 0.1

Answer: A



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35. What happens 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 starts eating grass
- D. The population of tiger decreases and the amount of grass increases

Answer: A::C::D



36. If a grasshopper is eaten by a frog. the energy transfer is from

A. producer to decomposer

B. producer to primary consumer

C. Primary consumer to secondary consumer

D. secondary consumer to primary consumer

Answer: A::C::D



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Zen Additional Questions Section Very Short Answer Vsa Type Questions

1. Name two abiotic components of an ecosystem.



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2. Consider a food chain of the following: Fish, Crab, Plankton, Shark. Arrange the above chain in a proper order of trophic level.



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3. (i) What is meant by 'non-biodegradable' waste?

(ii) Identify the biodegradable wastes from the following Empty packet of chips, empty plastic

bottle of mineral water, empty paper box of sweets, empty tin can of a cool drink.



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4. How does the ozone layer of the atmosphere protect the humans on earth?



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5. Consider a food chain consisting of Wheat, rat, snakes, peacock What would happen if all

the snakes are killed?



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6. Choose one consumer each that belongs to the second and third trophic levels from the organisms given below: Eagle, frog, tiger, rabbit, fox.



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7. Pesticides added to a field are seen in increased amounts in the crop and in the birds that feed on them. What is this phenomenon called? (Or) State the scientific term used for progressive accumulation of harmful chemicals at each trophic level of a food chain.



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8. Choose any three biodegradable wastes from the following Cowdung. DDT plastic, radioactive waste, vegetable peel, agricultural wastes



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9. What happens during the first step of ozone formation in the atmosphere?



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10. Why are non-biodegradable substances not broken down by microbes?



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11. Decomposers are referred to as "nature's cleansers". Why?



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12. Why are green plants called producers ?





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13. Define ecosystem.



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14. Which chemical is used in fire extinguishers? How is it harmful?



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15. Why is a food chain having two steps, the most advantageous in terms of energy ?



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16. Identify which one of the following would have a hazardous impact if it persists in the environment for a long time. Banana peel, animal bones, husk of wheat, DDT.



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17. List two ways by which biodegradable substances would affect the environment.



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18. Select from the following the substances which pose a threat to the environment .
Aerosols, Consumers, bacteria, CFCs.



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19. State any two practices which can help In the protection of our environment.



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20. What percentage of energy of sunlight is captured by green plants when it falls on their leaves? (Or) Mention the percentage of the solar energy trapped or utilized by plants.



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21. Flow of energy is unidirectional Name the first two components of the environment involved in this flow of energy from the sun.



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



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23. What percentage of energy available at the producer level is transferred to the successive trophic level in a food chain?



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24. Why should biodegradable and non-biodegradable wastes be discarded in two separate dustbins?



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25. Why has the Indian Government banned the use of polythene bags?



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26. State two advantages of paper bags over plastic bags during shopping



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27. Name one natural and one man-made ecosystem.



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28. In a food chain why does the maximum amount of pesticides get accumulated in human body?



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29. Reuse of plastic products is better than recycle method. Why ?



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30. Micro-organisms like bacteria are called decomposers. Why?



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1. Consider the food chain:

Grass → deer → lion. What happens if all the

(a) lions are removed ?

(b) deer are removed?



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2. Industrialization Is one of the main causes of deterioration of environment. List any four reasons in favour of this statement.





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



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4. Explain biological magnification with an example.



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5. Write the appropriate names of the trophic levels X and Z in the figure given below.



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6. Differentiate between producers and consumers in a food chain. Give one example of each.



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7. List the disadvantages of using fossil fuels.



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8. List the advantages of 'reduce and reuse' to save environment .



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9. A food chain in a polluted aquatic ecosystem is given. Observe it and answer the

following questions.

Fresh water → Algae → Fishes → Birds.

(i) Which organisms are disturbed more due to biomagnification ? Why ?

(ii) This ecosystem will be destroyed gradually due to biomagnification. Why?



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10. A student places a piece of cucumber a glass piece a banana peel and a plastic pen in a pit and closes it. What changes can be

observed in these materials after a month ?

Given scientific reason for these changes ?



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Zen Additional Questions Section Short Answer Sa Type 2 Questions

1. It is often advised to stop our vehicles' engine at a red-light signal and also to drive car / vehicles at constant speed. Based on the above statement, answer the following

questions.

Which type of fuel is used in vehicles? Is it renewable or non-renewable?



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2. It is often advised to stop our vehicles' engine at a red-light signal and also to drive car / vehicles at constant speed. Based on the above statement, answer the following questions.

How can you contribute towards saving these fuels at your level?



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3. Number of vultures is decreasing remarkably nowadays, which is a matter of concern. vultures belong to which category of animals?



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4. Number of vultures is decreasing remarkably nowadays, which is a matter of concern.

What is their role in nature to maintain ecological balance?



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5. Newspaper and media report about the alarming increase in pesticides level in packed food items. Some states have even banned

these food items . What are the sources of these pesticides in these food items?



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6. Newspaper and media report about the alarming increase in pesticides level in packed food items Some states have even banned these food items . What are the sources of these pesticides in these food items?



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7. Ozone depletion/Ozone hole is a cause of concern nowadays.

As students what steps do you advise to reduce ozone depletion ?



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8. Ozone depletion/Ozone hole is a cause of concern nowadays.

As students what steps do you advise to reduce ozone depletion ?



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9. Plastic production is increasing day by day in spite of the fact that plastic is harmful for the environment. Based on the above statement, answer the following.

What are the harmful effects of plastic usage?



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10. Plastic production is increasing day by day in spite of the fact that plastic is harmful for

the environment. Based on the above statement, answer the following.

In our day-to-day situations what are the alternatives that we can use instead of plastics?



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11. Plastic producton is increasing day by day in spite of the fact that plastic is harmful for the environment. Based on the above

statement, answer the following.

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12. Plastic producton is increasing day by day in spite of the fact that plastic is harmful for the environment. Based on the above statement, answer the following.

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



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Zen Additional Questions Section Long Answer La Questions

1. Indicate the flow of energy In an ecosystem.
ny s t unidirectional? Justify.

OR

As energy moves progressively through various trophic levels of food chain it is no longer available to the previous level . Give reasons .



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2. What are decomposers? What would be the consequence of their absence in an ecosystem?



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3. What are the by-products of fertilizer industries? How do they affect the environment ?



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



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