

Form 2 Chapter 4 Interdependence among Living Organisms and the Environment
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Paper 1

Answer **all** questions. Each question is followed by four options, **A, B, C and D**. For each question, choose **one** answer only.

- The population in the same habitat is
 - a group of organism of the same species
 - a group of organisms of different species
 - a group of animals of the same species
 - all the organisms and the non living things

- The study of the relationship of the interdependence between organisms with the environment is known as
 - ecosystem
 - ecology
 - habitat
 - community

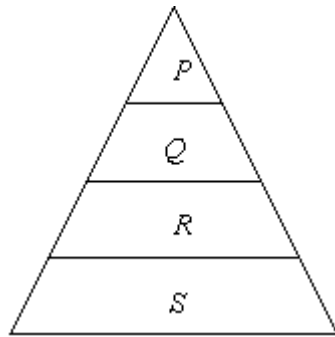
- The energy from the Sun is changed to chemical energy by
 - producer
 - secondary consumer
 - primary consumer
 - decomposer

- A type of woodlice lives in a tree trunk. When the contents of the alimentary canals of the woodlice were analysed, it was found that they had fluid from the tree. Gradually the tree wilted. The woodlice can be classified as a
 - predator
 - host
 - producer
 - parasite

- Which of the following shows a prey-predator relationship?
 - Cheetah - lion
 - Sea anemone - hermit crab
 - Eagle - snake

D Lice - human

6.



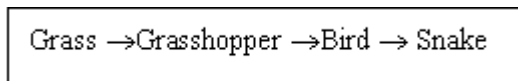
Which of the following represents *P*, *Q*, *R* and *S* in the pyramid of numbers in the above figure?

- | | <i>P</i> | <i>Q</i> | <i>R</i> | <i>S</i> |
|---|----------|-------------|-------------|-------------|
| A | Frog | Leaf | Snake | Caterpillar |
| B | Leaf | Caterpillar | Frog | Snake |
| C | Snake | Frog | Caterpillar | Leaf |
| D | Leaf | Caterpillar | Snake | Frog |

7. Which of the following is an example of commensalism?

- A Bird's nest fern and tree
- B Sea anemone and hermit crab
- C *Rafflesia* and a tree
- D Tapeworm and human

8.

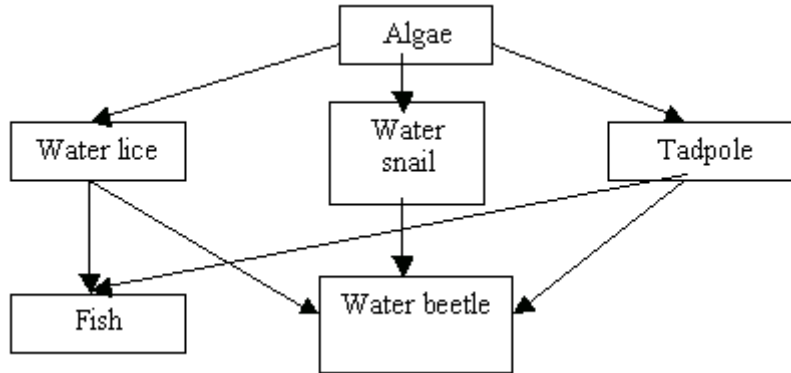


The above figure shows a food chain in a grass field. What happens if the field is sprayed with an insecticide?

- A The number of snakes increases
 - B The number of grasshoppers increases
 - C The number of birds increases
 - D The number of grass plants increases
9. A type of bird can be found on the back of a buffalo. It eats the ticks found on the body of the buffalo. The relationship between the bird and the buffalo is known as
- A parasitism
 - B mutualism

- C prey-predator
- D competition

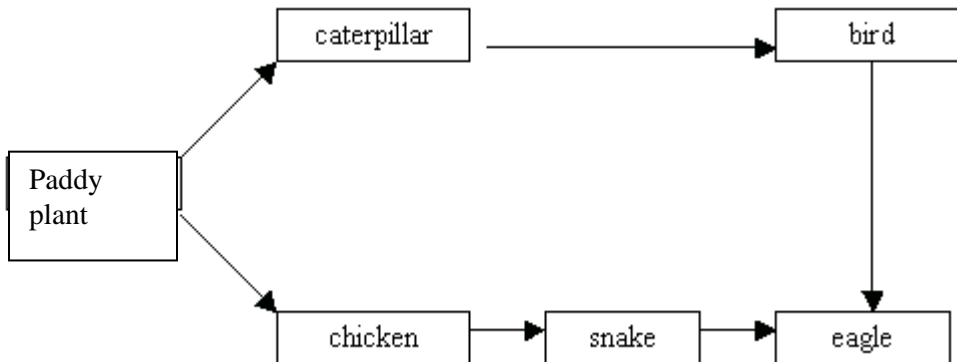
10.



The above figure represents a food web in a pond. How many food chains are there in the food web?

- A 3
- B 4
- C 5
- D 6

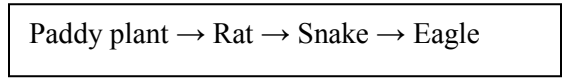
11.



The figure above shows a food web. The secondary consumers are

- A eagle only
- B bird only
- C snake only
- D bird and snake

12.



The figure above shows a food chain. Which of the following are consumers?

- I Rat
- II Eagle
- III Snake
- A I and II only
- B I and III only
- C II and III only

D I, II and III

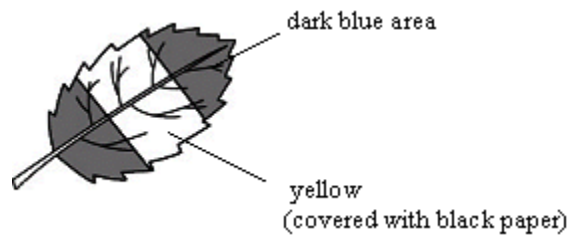
13. Which of the following shows a **disadvantage** of biological control?

- A It pollutes the environment
- B It increases the population of the predator
- C It does not kill other animals except the pest
- D It destroys the pest in a natural way

14. What are the substances needed in the process of photosynthesis?

- I Water
 - II Carbon dioxide
 - III Heat
- A I and II only
 - B I and III only
 - C II and III only
 - D I, II and III

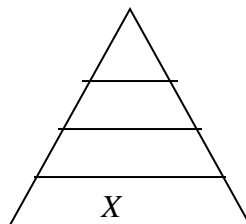
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An experiment is carried out and it is observed that the part that is exposed to sunlight becomes dark blue when tested with iodine solution. What is the conclusion of the experiment?

- A Photosynthesis requires water
- B Photosynthesis requires sunlight
- C Photosynthesis requires carbon dioxide
- D Photosynthesis requires chlorophyll

16.

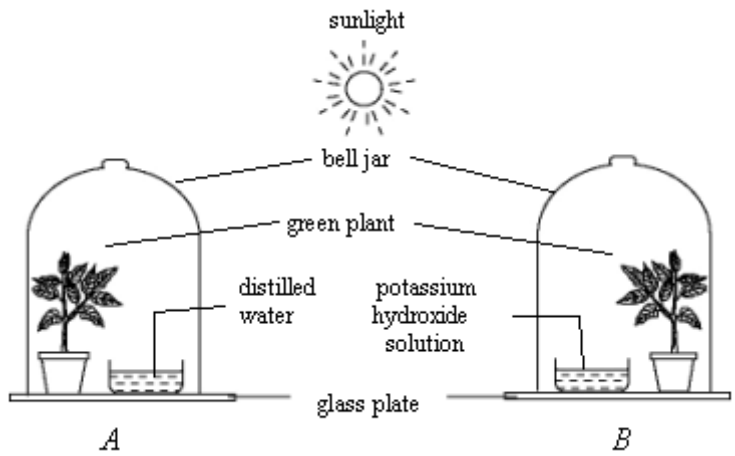


Which of the following represents X in the pyramid of numbers in the figure above?

- A Tertiary consumer
- B Producer
- C Secondary consumer
- D Primary consumer

17. Which of the following processes releases oxygen?
- A Combustion
 - B Respiration
 - C Photosynthesis
 - D Decay
18. Examples of biological control include the use of
- I fish to control the population of mosquito larva in a pond
 - II owls to control the population of rats in oil palm plantation
 - III birds to control the population of the grasshoppers in a fruit orchard
- A I only
 - B I and II only
 - C II and III only
 - D I, II, and III
19. Which of the following are required in the process of photosynthesis?
- I Oxygen
 - II Chlorophyll
 - III Carbon dioxide
- A I only
 - B I and II only
 - C II and III only
 - D I, II, and III
20. The gas released during combustion can cause
- A global warming
 - B acid rain
 - C the decrease in pH value of soil
 - D the depletion of ozone layer

Paper 2
 Answer the question.



The above experiment is carried out to study the role of carbon dioxide in photosynthesis. Both plants are kept in the dark for two days before the experiment.

(a) Why are the plants kept in the dark for two days before the experiment?

(b) What is the function of potassium hydroxide solution?

(c) State the variables involved in this experiment.

Manipulated variable	
Responding variable	
Constant variable	

(d) State the hypothesis in this experiment.

(e) Which plant will undergo photosynthesis?

(f) Circle the others substances needed for the process of photosynthesis.

Chlorophyll	Water	Oxygen
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Answers:

Paper 1

1	A	11	D
2	B	12	D
3	A	13	B
4	D	14	A
5	C	15	B
6	C	16	B
7	A	17	C
8	D	18	B
9	B	19	C
10	C	20	A

Paper 2

- (a) To remove all the starch in the leaves
- (b) To absorb carbon dioxide
- (c) (i) The presence of carbon dioxide
(ii) The presence of starch in the leaves
(iii) Type of plants
- (d) Green plants require carbon dioxide to make starch / food
- (e) Plant A
- (f) Chlorophyll and water