Chapter - 9
The Living Organisms and their Surroundings

Multiple Choice Questions:

1. Which of the following cannot be called a habitat?
(a) A desert with camels
(b) A pond with fishes
(c) A jungle with wild animals
(d) Cultivated land with grazing cattle
Solution:
(d): Cultivated land with grazing cattle
Habitat is the natural environment where an organism lives. Habitat provides an organism everything it needs to survive i.e., food, shelter and proper climatic conditions.
Cultivated land is not the actual place where grazing cattle live.

2. Following are some features of plants.
(i) They lose a lot of water through transpiration.
(ii) Their leaves are always broad and flat.
(iii) They lose very little water through transpiration.
(iv) Their roots grow very deep into the soil.
Which of the combination of above features are typical of desert plants?
(a) (i) and (ii)
(b) (ii) and (iv)
(c) (ii) and (iii)
(d) (iii) and (iv)
Solution:
(d): (iii) and (iv)
Leaves of the desert plants are very small or reduced to spines to reduce water loss through transpiration and roots of these plants grow deep into soil for absorbing water. Hence, desert plants are adapted to live in hot and dry conditions of desert.

3. Boojho comes across an animal having a stream-lined and slippery body. What is the habitat of the animal?
(a) Water
(b) Desert
(c) Grassland
(d) Mountain
Solution:
(a): Water
Water animals have streamlined body shape which reduces resistance while swimming in water and slippery body helps easily flow in the water which prevents damaging of body.

4. Which of the following are characteristics of living beings?
(i) Respiration
(ii) Reproduction
(iii) Adaptation
(iv) Excretion
Choose the correct answer from the options below.
(a) (i), (ii) and (iv) only
(b) (i) and (ii) only
(c) (ii) and (iv) only
(d) (i), (ii), (iii) and (iv)
Solution:
(d): (i), (ii), (iii) and (iv)
Respiration, reproduction, adaptation, excretion are all characteristics of living beings which is necessary for all living organisms.

5. Earthworms breathe through their
(a) skin
(b) gills
(c) lungs
(d) stomata
Solution:
(a): skin
Breathing occurs in earthworms through moist body surface. Earthworms lack specialized breathing organs.
Gills are generally present in aquatic animals for respiration (e.g. fish).
Lungs are present in land animals (e.g. mammals) for respiration.
Exchange of gases in plants takes place through stomata.

6. Which of the following is not an example of response to stimulus?
(a) Watering in mouth when we see delicious food items.
(b) Closing of leaves of Mimosa plant when touched.
(c) Shutting our eyes when an object is suddenly thrown in our direction.
(d) A chick hatching out of an egg.
Solution:
(d) A chick hatching out of an egg.

7. Which of the following is correct for respiration in plants?
(a) Respiration takes place only during day time.

(b) Respiration takes place only during night.
(c) Respiration takes place both during day and night.
(d) Respiration takes place only when plants are not making food.
Solution:
(c): Respiration takes place both during day and night.
The process in which organic substances are broken down to simpler products with the release of energy is termed as respiration. It takes place both during day and night.

8. Which of the following is an incorrect statement about excretion?
(a) Excretion takes place in plants.
(b) Excretion takes place both in plants and animals.
(c) Excretion is the process of getting rid of excess water only.
(d) Secretion is one method of excretion.
Solution:
(c): Excretion is the process of getting rid of excess water only.
Excretion is the elimination of waste products which include water, carbon dioxide and nitrogenous compounds in the form of urine, sweat and exhaled air.

9. Choose the set that represents only the biotic components of a habitat.
(a) Tiger, Deer, Grass, Soil
(b) Rocks, Soil, Plants, Air
(c) Sand, Turtle, Crab, Rocks
(d) Aquatic plant, Fish, Frog, Insect
Solution:
(d): Aquatic plant, Fish, Frog, Insect
Aquatic plant, fish, frog, insect are biotic components or living components of environment whereas soil, rocks, air and sand are the non-living components or abiotic components.

10. Which one of the following is not associated with reproduction?
(a) A new leaf coming out of a tree branch.
(b) A dog giving birth to puppy.
(c) A seed growing into a plant.
(d) Chick hatching from an egg.
Solution:
(a): A new leaf coming out of a tree branch.
Reproduction is a biological process by which an organism produces young ones of its own kind.
A new leaf coming out of a tree branch is vegetative growth in plants; it is not related to

reproduction.
A dog, a seed and an egg produce puppy, grow into plant and chick respectively are associated with reproduction.

11. Choose the odd one out from below with respect to reproduction.
(a) Eggs of hen
(b) Seeds of plants
(c) Buds of potato
(d) Roots of mango tree
Solution:
(d): Roots of mango tree
Roots of mango tree have no role in reproduction.
Eggs of hen and seeds of plants are products of reproduction.
Buds of potato are vegetative reproductive parts that can form new plants.

12. Although organisms die, their kind continues to live on earth. Which characteristic of living organisms makes this possible?
(a) Respiration
(b) Reproduction
(c) Excretion
(d) Movement
Solution:
(b): Reproduction
Reproduction is one of the most important characteristic of the living organisms by which their kind continues to live on earth. Reproduction is a biological process by which an organism produces young ones of its own kind.

13. If you happen to go to a desert, what changes do you expect to observe in the urine you excrete? You would
(i) excrete small amount of urine
(ii) excrete large amount of urine
(iii) excrete concentrated urine
(iv) excrete very dilute urine
Which of the above would hold true?
(a) (i) and (iii)
(b) (ii) and (iv)
(c) (i) and (iv)
(d) (i) and (ii)
Solution:

(a): (i) and (iii)
Excreting small amount of concentrated urine helps to conserve water in the body. Humans adapt to desert environment by excreting small amount of water.

Very Short Answer Questions:

14. Unscramble the given words below to get the correct word using the clues given against them.
(a) SATPADAOINT: Specific features or certain habits which enable a living being to live in its surroundings
(b) RETECOXNI: Waste products are removed by this process
(c) LUMISIT: All livings things respond to these
(d) ROUCDPRENTOI: Because of this we find organisms of the same kind
Solution:
Here are the correct words:
(a) ADAPTATIONS
(b) EXCRETION
(c) STIMULI
(d) REPRODUCTION

15. Using the following words, write the habitat of each animal given in Fig. 9.1 (a to d).
[Grassland, Mountain, Desert, Pond, River]

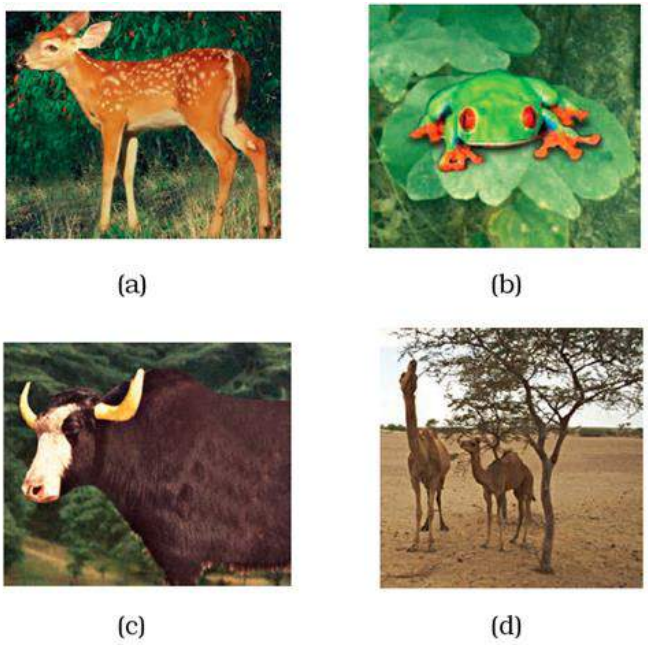

Fig. 9.1

Solution:
(a) Deer - Grassland
(b) Frog - It is red-eyed tree frog that lives in tropical rain forest (not in a pond).
(c) Yak - Mountain
(d) Camel - Desert

16. Classify the following habitats into terrestrial and aquatic types.
[Grassland, Pond, Ocean, Rice field]
Solution:
Terrestrial habitats – Grassland, Rice field
Aquatic habitats – Pond, Ocean

17. Why is reproduction important for organisms?
Solution:
Reproduction is very important for living organisms as it helps them to produce young ones of their own kind and maintains the continuity of their species.

18. Fill in the blanks.
(a) Saline water, hot air and sand are _____ components of a habitat.
(b) The habitat of plants and animals that live _____ in is called the aquatic habitat.
(c) ____ enables a plant or an animal to live in its surroundings.
(d) Plants and animals that live on land are said to live in _____ habitats.
Solution:
(a) Abiotic (non-living)
(b) Water
(c) Adaptations
(d) Terrestrial

<u>Short Answer Questions:</u>

19. Paheli has a rose plant in her garden. How can she increase the number of rose plants in the garden?
Solution:
Paheli can increase the number of rose plants in the garden by plant propagation method i.e., planting stem cuttings of rose plant. About 20-30 cm long pieces of one year old stems are cut and their lower ends are planted in the soil.

20. Why do desert snakes burrow deep into the sand during the day?

Solution:
Desert snakes burrow deep into the sand during the day because the deeper layers of sand are cooler, and to stay away from heat of the desert during day time.

21. Write the adaptation in aquatic plants due to which
(a) Submerged leaves can bend in the flowing water.
(b) Leaves can float on the surface of water.
Solution:
(a) Submerged leaves are long narrow and ribbon which can easily bend in flowing water and withstand water currents without getting damaged e.g., tape grass.
(b) Leaves are long, hollow and light which help the leaves to float over water surface.

22. Mention one adaptation present in the following animals.
(a) In camels to keep their bodies away from the heat of sand.
(b) In frogs to enable them to swim.
(c) In dolphins and whales to breathe in air when they swim near the surface of water.
Solution:
(a) Camels which have long legs help them to keep the upper part of the body away from the heat of the sand.
(b) Frogs which have webbed feet enables frog to swim in water.
(c) Dolphins and whales which have blow holes help them to breathe in air when they arise to the surface of water.

23. Some desert plants have very small leaves whereas some others have only spines. How does this benefit the plants?
Solution:
Desert plants have good adaptability to conditions like water scarcity hence they tend to conserve water. Small leaves and spiny plants are modifications of leaves which help the surface of leaf lamina, in preventing water loss during transpiration.

24. What are the specific features present in a deer that helps it to detect the presence of predators like lion?
Solution:
Specific features present in deer that help them to detect the presence of predators like lion are:
(i) Deer's have long ears which help to hear and recognize the movement of predators.
(ii) Eyes on the sides of its head which allow it to look in all directions.

25. Read the features of plants given below.
(a) Thick waxy stem
(b) Short roots
(c) Cone shaped plants
(d) Sloping branches
(e) Small or spine-like leaves
(f) Hollow stem
Choose the type of plant for every feature given in a, b, c, d, e and f from the list given below.
Aquatic plant, Desert plant, Mountainous plant
Solution:
(a) Thick waxy stem - Desert plant
(b) Short roots - Aquatic plant
(c) Cone shaped plants - Mountainous plant
(d) Sloping branches - Mountainous plant
(e) Small or spine-like leaves - Desert plant
(f) Hollow stem - Aquatic plant

Long Answer Questions:

26. Like many animals although a car also moves still it is not considered as a living organism. Give 2-3 reasons.
Solution:
Car is not considered as a living organism because of the following reasons:

- Car is not made up of cells. All living organisms are made up of cells. Cell is the smallest unit of living organism which an important part of life.
- Car does not show response to stimuli. Living organisms have the ability to sense their surroundings and respond to environmental stimuli such as, light, temperature, pollutants, water etc.
- Car does not show irreversible and permanent growth. Growth is an increase in the size of organisms. In living organisms growth is permanent and irreversible.

27. What are the adaptive features of a lion that helps it in hunting?
Solution:
Adaptive features of a lion that help it in hunting are as follows:

- It has strong paws, sharp teeth and long claws which helps it to catch and kill the prey.
- Lion has brown body colour which helps it to hide itself in the dry grassland for avoiding detection by its prey.

- Lion has its eyes placed in front which allows it to know the exact location and movements of its prey.