

## The Living Organisms & their Surrounding

### IN TEXT QUESTIONS

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**Q.1.** Do the features of a lion help it in any way to survive?

**Ans.** Yes, its light brown colour helps it to hide in dry grasslands when it hunts for prey. The eyes in front of the face allow it to have a correct idea about the location of its prey.

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**Q.2.** Do plants also respire?

**Ans.** Yes, the plants do respire. Exchange of gases in plants mainly takes place through their leaves. The leaves intake air through tiny pores in them and use the oxygen. They give out carbon dioxide to the air.

**Q.3.** Do plants also respond to stimuli?

**Ans.** Yes, in some plants like *Mimosa pudica*, commonly known as 'touch-me-not' leaves close or fold when someone touches them. These are some examples of responses of plants towards changes in their surrounding.

### EXERCISES

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**Q.1. What is a habitat?**

**Ans.** The surroundings where organisms live is called habitat. The organisms depend on their habitat for food, water, air, shelter and other needs, e.g. Habitat of a camel is a desert.

**Q.2. How are cactus adapted to survive in a desert?**

**Ans.** To survive in a desert, a cactus has the following adaptations:

- (i) Leaves modified into spine or absent to prevent water loss through transpiration.
- (ii) Stem is modified to perform photosynthesis and covered with a thick waxy layer to retain water.
- (iii) The root system of cactus is well developed and grows deep for absorbing water.

**Q.3. Fill up the blanks.**

(a) The presence of specific features which enables a plant or an animal to live in a particular habitat, is called .....

(b) The habitats of the plants and animals that live on land are called ..... habitat.

(c) The habitats of plants and animals that live in water are called ..... habitat.

(d) Soil, water and air are the ..... factors of a habitat.

(e) Changes in our surroundings that make us respond to them, are called .....

**Ans.** (a) The presence of specific features which enables a plant or an animal to live in a particular habitat, is called **adaptation**.

(b) The habitats of the plants and animals that live on land are called **terrestrial** habitat.

(c) The habitats of plants and animals that live in water are called **aquatic** habitat.

(d) Soil, water and air are the **a biotic** factors of a habitat.

(e) Changes in our surroundings that make us respond to them, are called **stimuli**.

**Q.4. Which of the things in the following list are non-living? Plough, Mushroom, Sewing machine, Radio, Boat, Water hyacinth, Earthworm.**

**Ans.** Non-living things do not need food, air or water. Thus, in the given list plough, sewing machine, radio and boats are non-living.

**Q.5. Give an example of a non-living thing which shows any two characteristics of living things.**

**Ans.** Cloud is an example of non-living thing which shows following two characteristics of living things:

(i) It increases or decreases in size.

(ii) It shows movements.

(Another example can be a car-move from one place to another and also requires energy, i.e. petrol).

**Q.6. Which of the non-living things listed below, were once part of a living thing?**

**Butter, Leather, Soil, Wool, Electric bulb, C king oil, Apple, Rubber.**

**Ans.** Following are the non-living things from the list which were once part of living things:

Butter	—	obtained from milk from dairy animal
Leather	—	from animal skin
Wool	—	from hair of sheep or goat
Cooking oil	—	seeds of plants
Apple	—	fruit from apple tree
Rubber	—	latex of rubber tree

**Q.7. List the common characteristics of the living things.**

**Ans.** Living things have following common characteristics:

- |                    |                  |
|--------------------|------------------|
| (i) Growth         | (ii) Movement    |
| (iii) Reproduction | (iv) Respiration |
| (v) Adaptation     | (vi) Excretion   |

**Q.8. Explain why speed is important for survival in the grasslands for animals that live there.**

**Hint There are few trees or place for animals to hide in grasslands habitats.**

**Ans.** In grasslands, there are limited number of trees and places for animals to hide. When the enemy attacks an animal, it has to run fast, so as to reach a safe place. If it fails, it has to lose its life. So, speed in such places as grasslands is very important for the survival of animals.



# NCERT

## Exemplar

(Problems-Solutions)

### MULTIPLE CHOICE QUESTIONS

**Q 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

**Ans.** (d) Cultivated land with grazing cattle cannot be called a habitat. Cattle does not live in the cultivated land. They came there for feeding.

**Q 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)

**Ans.** (d) A typical desert plant have some characteristic features like they lose very little water through transpiration and their roots grow very deep into the soil for absorbing water.

**Q 3.** Boojho comes across an animal having a streamlined and slippery body. What is the habitat of the animal?

- (a) Water
- (b) Desert
- (c) Grassland
- (d) Mountain

**Ans.** (a) An animal having a streamlined and slippery body is adapted to live In water, i.e. aquatic habitat. These features help the animal in swimming.

**Q 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)

**Ans.** (d) The following are the characteristics of living being:

- (i) respiration
- (ii) reproduction
- (iii) adaptation
- (iv) excretion

**Q 5.** Earthworms breathe through their

- (a) skin
- (b) gills
- (c) lungs
- (d) stomata

**Ans.** (a) Earthworms breathe through their skin. Fishes respire through their gills, humans with lungs and plants exchange gases through stomata on leaves.

**Q 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 pudica plant when touched
- (c) Shutting our eyes when an object is suddenly thrown in our direction
- (d) A chick hatching out of an egg

**Ans.** (d) A chick hatching out of an egg is not an example of response to stimulus. It is a natural phenomenon which requires particular time period and temperature to occur.

**Q 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

**Ans.** (c) Respiration takes place both during day and night in plants whereas photosynthesis occurs only during day.

**Q 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.

**Ans.** (c) Excretion is the process of getting rid of not only excess water, but all the wastes produced inside the body of the organism.

**Q 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

**Ans.** (d) The set that represents biotic components of a habitat are aquatic plant, fish, frog and insect. All of them are living.

**Q 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.

**Ans.** (a) A new leaf coming out of a tree branch is not associated with reproduction. It is associated with growth.

**Q 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

**Ans.** (d) The odd one from the given question with-respect to reproduction is roots of mango tree because roots are not formed after reproduction whereas eggs of hen, seeds of plants and buds of potato appear after reproduction.

**Q 12.** Although organisms die, their kind continue to live on earth. Which characteristic of living organisms makes this possible?

- (a) Respiration (b) Reproduction  
(c) Excretion (d) Movement

**Ans.** (b) Reproduction is the characteristic of living organisms which allow their kind to continue living on earth, although the organisms die.

**Q 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)

**Ans.** (a) If we would go to a desert, we would excrete small amount and concentrated urine. This will help conserve water in body.

#### VERY SHORT ANSWER TYPE QUESTIONS

**Q 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 living things respond to these  
(d) ROUCDPRENTOI Because of this we find organisms of the same kind

**Ans.** The correct words are as follows:

- (a) Adaptations (b) Excretion  
(c) Stimuli (d) Reproduction

**Q 15.** Using the following words, write the habitat of each animal given in Figure (a to d).

Grassland, Mountain, Desert, Pond, River

(a)



(c)

(b)



(d)



- Ans.** (a) The picture is of a deer which lives in grassland.  
 (b) The picture is of a frog which lives in pond.  
 (c) The picture is of a yak which lives in mountain.  
 (d) The picture is of a camel which lives in desert.

**Q 16. Classify the following habitats into terrestrial and aquatic types**  
**Grassland, pond, ocean, rice field**

- Ans.** The habitats can be classified as  
 Terrestrial habitats — grassland and rice field  
 Aquatic habitats — pond and ocean

**Q 17. Why is reproduction important for organisms?**

- Ans.** Reproduction is important for organism as it leads to the production of more individuals of an organism of its own kind. This helps in continuity of life on earth.

#### SHORT ANSWER TYPE QUESTIONS

**Q 18. Paheli has a rose plant in her garden. How can she increase the number of rose plants in the garden?**

- Ans.** Paheli can increase the numbers of rose plants in the garden by planting stem-cutting of the rose plant. This will lead to reproduction.

**Q 19. Why do desert snakes burrow deep into the sand during the day?**

- Ans.** Snakes in the desert burrow deep into the sand during the day time because the deeper layers of sand are cooler which allow them to stay away from heat of the desert that persists through the day-time.

**Q 20. 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.**

- Ans.** The adaptations are (a) leaves of aquatic plants are narrow and ribbon-like which allow them to bend in the flowing water.  
 (b) stems/stalks of leaves of aquatic plants are long, hollow and light which allow them to float on the surface of water.

**Q 21. 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.**

- Ans.** (a) Camels have long legs to keep their bodies away from the heat of sand.  
 (b) Frogs have webbed feet that enable them to swim.  
 (c) Dolphins and whales have blow holes which help them to breathe in air when they swim near the surface of water.

**Q 22. Some desert plants have very small leaves whereas some others have only spines. How does this benefit the plants?**

**Ans.** Desert plants have very small leaves or spines as adaptations to dry conditions. Because of these modifications, the surface of lamina is reduced thereby reducing water loss by transpiration, as there is scarcity of water in desert habitat.

**Q 23. What are the specific features present in a deer that help it to detect the presence of predators like lion?**

**Ans.** Deer have following specific features that help it to detect the presence of predators like lion:

- (i) Long ears to hear movement of predators.
- (ii) Eyes on the sides of its head which allow it to look in all directions.

### LONG ANSWER TYPE QUESTIONS

**Q 24. Like many animals although a car also moves it is not considered as a living organism. Give two or three reasons.**

**Ans.** A moving car though moves is not considered as a living organism because of the following reasons:

- (i) Living organisms have the ability to move on their own whereas a car moves by the burning of fuels like diesel and petrol.
- (ii) Like all living organisms, a car does not show any other living characteristics like respiration, digestion, reproduction or growth.

**Q 25. What are the adaptive features of a lion that helps it in hunting?**

**Ans.** Following adaptations of a lion that helps it in hunting:

- (i) Brown body of lion colour helps it to hide in dry land avoiding detection by its prey.
- (ii) Eyes placed in front allow it to know the exact location and movements of its prey.
- (iii) Powerful paws and long claws help it to catch and kill the prey.