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Diversity in the Living World

A. Multiple Choice Questions.

- Who invited Dr. Radhu and Maniram chacha in school?
a. Teacher b. Parents c. Principle d. Students
- What type of venation do the leaves of a hibiscus plant have?
a. Parallel b. Reticulate c. Spiral d. None
- A _____ plant has a taproot and its leaves have reticulate venation.
a. Terrestrial b. Sadabahar c. Aquatic d. None
- _____ plant has fibrous roots and parallel venation in its leaves.
a. Chana b. Bajra c. Wheat d. Maize
- All types of animals are use for moving one place to another place.
a. Legs b. Wings c. Fins d. All
- Janaki Ammal was an Indian
a. Botanist b. Doctor c. Teacher d. Musician
- Salim Ali is known as the _____ of India.
a. Tiger-man b. Forest-man c. Bird-man d. Elephant-man
- 'Project Tiger' was initiated in 1973
a. 1969 b. 1973 c. 1983 d. 1999
- The 'Cheetah Reintroduction Project' was initiated in
a. 2020 b. 2012 c. 2022 d. 2002
- Which of the following are characteristics of living beings?
a. Respiration b. Excretion c. Adaptation d. Reproduction

B. Fill in the Blanks.

Sacred groves	venation	fibrous	Group	Aquatic animals
food, shelter	Deodar	reticulate	Chirp	locomotion

- Dr. Raghu informed them that each bird has a unique _____.
- Trees provide _____ and _____ to some animals.
- A _____ pattern of veins on both sides of a thick middle vein.
- _____ them on the basis of common features.
- The pattern of veins on the leaf is called _____.

6. Animals use different _____ for moving from one place to another.
7. _____ have streamlined bodies for movement in water.
8. _____ tree have conical shape and flexible and sloping branches. Deodar
9. Common grass have _____ root.
10. _____ are community-protected undisturbed patches of forests.

C. State true or false.

1. The nature walk happened after a heavy rain.
2. Roots hold the plant firmly in the soil.
3. Rhododendrons in the Nilgiris are typically shorter with smaller leaves.
4. All plants have colourful flowers.
5. In trees, branches arise from the upper part of stem.
6. All plants with parallel venation have dicotyledonous seeds.

D. Short answer the following questions.

1. What is diversity?

Ans. _____

2. What does Dr. Raghu ask the students to notice in the park?

Ans. _____

3. What are the variation show in the plants?

Ans. _____

4. Which states are declared as Protected areas the Great Indian Bustards?

Ans. _____

5. How do plants adapt to survive in deserts?

Ans. _____

E. Long answer the following questions.

1. What are the students observing though nature walk?

Ans. _____

2. How plants and animals are dependent on each other?

Ans. _____

3. What would happen if the habitat of plants and animals are damaged?

Ans. _____

4. What is the importance of grouping?

Ans. _____

5. What is the role of plants in an ecosystem?

Ans. _____

F. Give reason.

1. Why mountain trees have conical shape and flexible and sloping? branches.

Ans. _____

2. Why does the biodiversity of a region vary from that of another?

Ans. _____

3. The populations of the Bengal Tiger, Cheetah, and Great Indian Bustard have declined in India. Why?

Ans. _____

G. Match the Following.

A	B	Ans.
1. Mimicking bird calls skill	i. Veins	1. ___
2. Weak stems that need support	ii. Camels	2. ___
3. Thin lines on the leaves	iii. Cactus	3. ___
4. The main root	iv. Maniram Chacha	4. ___
5. Thick and fleshy stems in the deserts	v. Climbers	5. ___
6. Long legs and wide hooves help for walk	vi. Taproot	6. ___

H. Give One-Word Answers.

1. Short and high sound a bird makes - _____
2. The variety of all living things and their interactions. - _____
3. The method of arranging things into groups based on their common features - _____
4. Some plants creep along the ground - _____
5. The plants and animals that live on land - _____
6. The plants and animals that live in water - _____

I. Define the following terms.

1. Adaptations:- _____
2. Habitat:- _____
3. Amphibians:- _____
4. Venation:- _____

K. Difference

1. Dicot plants and Monocot plants

Dicot plants	Monocot plants

2. Cold desert camel and Hot desert camel

Cold desert camel	Hot desert camel

3. Tree, shrub and herb

Tree	Shrub	Herb

4. Climbers and Creepers

Climbers	Creepers

5. Reticulate venation and Parallel venation

Reticulate venation	Parallel venation

6. Terrestrial Habitats and Aquatic Habitats

Dicot plants	Monocot plants

Answer**A. Multiple Choice Questions**

- | | | |
|----------------|-------------|------------------|
| 1. Principle | 5. All | 9. 2022 |
| 2. Reticulate | 6. Botanist | 10. Reproduction |
| 3. Terrestrial | 7. Bird-man | |
| 4. Maize | 8. 1973 | |

B. Fill in the Blanks

- | | | |
|------------------|--------------------|-------------------|
| 1. Chirp | 5. venation | 9. fibrous |
| 2. food, shelter | 6. locomotion | 10. Sacred groves |
| 3. reticulate | 7. Aquatic animals | |
| 4. Group | 8. Deodar | |

C. State true or false

- | | | |
|----------|----------|----------|
| 1. False | 3. True | 5. True |
| 2. True | 4. False | 6. False |

D. Short answer the following questions

- Diversity refers to the variety of all living things and their interactions.
- Dr. Raghu asks the students to notice the different types of plants, animals, and their interactions in the park.
- The variations shown in plants include their size, shape, color, leaves, roots, and flowers.
- The Great Indian Bustard is protected in Gujarat, Rajasthan, and Madhya Pradesh.
- Plants adapt to survive in deserts by having thick, fleshy stems to store water, deep roots to reach underground water sources, and reduced leaf size to minimize water loss.

E. Long answer the following questions

- During the nature walk, the students observed various plants and animals, their habitats, interactions, and adaptations. They noticed different types of trees, shrubs, herbs, climbers, and creepers, as well as animals like birds, insects, and reptiles.
- Plants and animals are interdependent on each other. Plants provide food, shelter, and oxygen for animals, while animals help in pollination, seed dispersal, and nutrient cycling. They form a complex food chain and ecosystem.
- If the habitat of plants and animals is damaged, it can lead to loss of biodiversity, disruption of ecosystems, and negative impacts on the environment and human well-being.
- Grouping is important for organizing and classifying organisms based on their common features. It helps in understanding relationships, identifying patterns, and studying the diversity of life.
- Plants play a crucial role in an ecosystem by producing food through photosynthesis, providing oxygen, absorbing carbon dioxide, and maintaining soil health. They also serve as habitats for various organisms and contribute to the overall biodiversity of the ecosystem.

F. Give reason

- Mountain trees have conical shape and flexible sloping branches to shed snow easily and withstand strong winds.
- The biodiversity of a region varies from that of another due to factors such as climate, geography, altitude, and human activities. Different environmental conditions support different types of plants and animals.
- The populations of the Bengal Tiger, Cheetah, and Great Indian Bustard have declined in India due to habitat loss, poaching, and human-wildlife conflict.

G.

- | | | | | | |
|-------|------|------|-------|--------|-------|
| 1. iv | 2. v | 3. i | 4. vi | 5. iii | 6. ii |
|-------|------|------|-------|--------|-------|

H. Give One-Word Answers

- | | | |
|-----------------|-------------|----------------|
| 1. Chirp | 3. Grouping | 5. Terrestrial |
| 2. Biodiversity | 4. Creepers | 6. Aquatic |

I. Define the following terms

1. Changes in an organism's structure, behavior, or physiology that enable it to survive and reproduce in its environment.
2. The natural environment where an organism lives and interacts with other organisms.
3. Animals that can live both on land and in water, such as frogs, toads, and salamanders.
4. The pattern of veins in a leaf.

H. Difference

1. Dicot Plants and Monocot Plants
 - Dicot plants: Plants with seeds that have two cotyledons (seed leaves).
 - Examples: Beans, peas, roses, sunflowers, and oak trees.
 - Monocot plants: Plants with seeds that have one cotyledon.
 - Examples: Grasses, corn, wheat, lilies, and orchids.
2. Cold Desert Camel and Hot Desert Camel
 - Cold Desert Camel: Adapted to survive in cold desert environments.
 - Characteristics: Thicker fur, shorter legs, and wider hooves for better traction on snow and ice.
 - Hot Desert Camel: Adapted to survive in hot desert environments.
 - Characteristics: Long eyelashes to protect from sand, a hump to store fat and water, and wide, flat feet to distribute weight and prevent sinking in sand.
3. Tree, Shrub, and Herb
 - Tree: A tall, woody plant with a single main trunk and branches.
 - Examples: Oak, maple, pine, and banyan.
 - Shrub: A woody plant with multiple stems arising from the base.
 - Examples: Rose, hibiscus, azalea, and lavender.
 - Herb: A non-woody plant with a short life cycle.
 - Examples: Grass, dandelion, basil, and parsley.
4. Climbers and Creepers
 - Climbers: Some plants with weak stems need support to climb called climbers.
 - Examples: Ivy, morning glory, and pea plants.
 - Creepers: Plants that spread along the ground.
 - Examples: Strawberries, ground ivy, and creeping thyme.
5. Reticulate Venation and Parallel Venation
 - Reticulate venation: A network of veins in a leaf.
 - Examples: Dicot plants like roses and sunflowers.
 - Parallel venation: Veins running parallel to each other in a leaf.
 - Examples: Monocot plants like grasses and lilies.
6. Terrestrial Habitats and Aquatic Habitats
 - Terrestrial Habitats: Land-based environments.
 - Examples: Forests, grasslands, deserts, and mountains.
 - Aquatic Habitats: Water-based environments.
 - Examples: Oceans, lakes, rivers, ponds, and swamps.