UNIQUE STUDY POINT

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Class: VI	**Subject:** Science	**Session:** 2025-26
Chapter: 02 - Diversity in the Living World	**Time:** 1½ Hours	**Max. Marks:** 40

General Instructions:

1. All questions are compulsory.
2. This question paper contains 20 questions divided into five sections A, B, C, D and E.
3. Section A contains 10 MCQs of 1 mark each.
4. Section B contains 4 questions of 2 marks each.
5. Section C contains 3 questions of 3 marks each.
6. Section D contains 1 question of 5 marks.
7. Section E contains 2 Case Study Based questions of 4 marks each.

SECTION A - Multiple Choice Questions (1 mark each)

Q.1 Which of the following plants has taproots?

(a) Grass

(b) Wheat

(c) Mustard

(d) Maize

Q.2 The number of cotyledons in a monocot seed is:

(a) One

(b) Two

(c) Three

(d) Four

Q.3 Which plant is found in mountainous regions with heavy snowfall?

(a) Cactus

(b) Lotus

(c) Deodar

(d) Mangrove

Q.4 Fish use which body part for swimming?

(a) Legs

(b) Wings

(c) Fins

(d) Tail

Q.5 Sacred groves are important for:

(a) Conserving biodiversity

(b) Agriculture

(c) Building houses
(d) Mining

Q.6 Rhododendrons in Shola forests of Nilgiris have smaller leaves to:
(a) Store water
(b) Survive heavy winds
(c) Attract insects
(d) Photosynthesis

Q.7 Which scientist is known as the 'Birdman of India'?
(a) Janaki Ammal
(b) Salim Ali
(c) C.V. Raman
(d) Homi Bhabha

Q.8 Plants that creep along the ground are called:
(a) Climbers
(b) Creepers
(c) Herbs
(d) Shrubs

Q.9 Project Tiger was initiated in India in:
(a) 1973
(b) 1980
(c) 1990
(d) 2000

Q.10 Which of the following is an aquatic habitat?
(a) Desert
(b) Forest
(c) Ocean
(d) Mountain

SECTION B - Short Answer Questions (2 marks each)

Q.11 What are cotyledons? How are dicots different from monocots based on cotyledons?

Q.12 Why does a camel have long legs and wide hooves? Explain.

Q.13 What is the difference between a taproot and a fibrous root system? Give one example of each.

Q.14 What is the importance of grouping plants and animals?

SECTION C - Short Answer Questions (3 marks each)

Q.15 Describe how cactus plants are adapted to survive in desert conditions.

Q.16 Explain the difference between herbs, shrubs, and trees with one example of each.

Q.17 What are sacred groves? How do they help in conserving biodiversity?

SECTION D - Long Answer Question (5 marks)

Q.18 What is habitat? Explain the difference between terrestrial and aquatic habitats with suitable examples. Why is it important to protect the habitats of plants and animals?

SECTION E - Case Study Based Questions (4 marks each)

Q.19 Case Study 1:

Salim Ali, known as the 'Birdman of India', travelled across India to observe diversity in birds. He prepared a list of birds and documented their travel routes and habitats. He recorded the regions with high diversity of birds and took measures to conserve these regions. Keoladeo National Park in Bharatpur, Rajasthan and Ranganathittu Bird Sanctuary in Mandya, Karnataka are examples of regions he preserved.

Based on the above information, answer the following questions:

(a) Who is known as the 'Birdman of India'? (1 mark)

(b) Name two bird sanctuaries preserved by Salim Ali. (1 mark)

(c) Why is it important to conserve regions with high bird diversity? (2 marks)

Q.20 Case Study 2:

During a visit to Rajasthan, students observed camels in the hot desert. They noticed that these camels had long legs with wide hooves, one hump each, and did not drink water for many days. The guide explained that camels have special adaptations to survive in desert conditions, including their ability to store food in humps and conserve water by producing very little urine.

Based on the above information, answer the following questions:

(a) How do long legs and wide hooves help camels in the desert? (1 mark)

(b) What is stored in the hump of a camel? (1 mark)

(c) Explain how camels conserve water in desert conditions. (2 marks)

DETAILED ANSWER KEY - PAPER 02

SECTION A - Answers to MCQs

Ans.1 (c) Mustard

Explanation: Mustard is a dicot plant and has a taproot system. Grass, wheat, and maize are monocots with fibrous root systems.

Ans.2 (a) One

Explanation: Monocot seeds have one cotyledon (a single thin structure), while dicot seeds have two cotyledons.

Ans.3 (c) Deodar

Explanation: Deodar trees are found in mountainous regions with heavy snowfall. Their conical shape and sloping branches help snow slide off easily.

Ans.4 (c) Fins

Explanation: Fish use fins for swimming in water. Their streamlined body and fins help them move efficiently through water.

Ans.5 (a) Conserving biodiversity

Explanation: Sacred groves are undisturbed patches of forests protected by local communities. They are home to various plants and animals and help conserve biodiversity.

Ans.6 (b) Survive heavy winds

Explanation: Rhododendrons in Shola forests have shorter height and smaller leaves to survive through the heavy winds on mountain tops.

Ans.7 (b) Salim Ali

Explanation: Salim Ali (1896-1987) is known as the 'Birdman of India'. He travelled across India to observe diversity in birds and wrote a landmark series of 10 books on birds of the Indian Subcontinent.

Ans.8 (b) Creepers

Explanation: Plants that creep along the ground are called creepers. Climbers are plants with weak stems that need support to grow upward.

Ans.9 (a) 1973

Explanation: Project Tiger was initiated in 1973 to protect the declining population of the Bengal Tiger in India.

Ans.10 (c) Ocean

Explanation: Ocean is an aquatic habitat where plants and animals live in water. Desert, forest, and mountain are terrestrial habitats where organisms live on land.

SECTION B - Answers to Short Answer Questions

Ans.11 Cotyledons and difference between dicots and monocots:

Cotyledons: The parts of a seed are called cotyledons. They are the first leaves that appear when a seed

germinates and provide nutrition to the developing seedling.

Difference:
• Dicot plants have seeds with two cotyledons (Example: Chickpea)
• Monocot plants have seeds with one cotyledon (Example: Maize)

Ans.12 Adaptations of camel's legs and hooves:

Camels have long legs and wide hooves as adaptations to desert conditions. The long legs keep the camel's body away from the hot sand, and the wide hooves prevent the camel from sinking into the soft sand, making it easier to walk on sandy deserts.

Ans.13 Difference between taproot and fibrous root:

Taproot system: The root system consists of one main root (taproot) with small side roots arising from it. Example: Mustard plant.

Fibrous root system: The roots appear as a bunch of similar-sized thin roots arising from the base of the stem. There is no main root. Example: Common grass.

Ans.14 Importance of grouping:

Grouping of plants and animals is important because:
• It makes it easier to understand and study plants and animals based on their similarities and differences
• It helps in organizing our knowledge systematically
• It aids in identifying and classifying organisms
• It helps us understand relationships between different organisms

SECTION C - Answers to Short Answer Questions

Ans.15 Adaptations of cactus plants:

Cactus plants have several adaptations to survive in desert conditions:

1. Thick and fleshy stems: Cactus plants have thick and fleshy stems that can store water. This helps them survive in hot desert conditions where water is scarce.

2. Reduced or absent leaves: Cactus plants have reduced leaves or spines instead of normal leaves. This reduces water loss through transpiration.

3. Deep roots: Some cacti have deep root systems that can reach underground water sources, while others have widespread shallow roots to absorb water quickly when it rains.

Ans.16 Difference between herbs, shrubs, and trees:

Herbs:
• Small plants with soft and green stems
• Tender and weak stems
• Short in height
• Example: Tomato, mint

Shrubs:
• Medium-sized plants
• Have many hard, woody stems
• Branches start close to the ground
• Example: Rose, hibiscus

Trees:
• Tall plants
• Have hard, thick, brown, and woody stems
• Branches start higher up on the stem
• Example: Mango, neem

Ans.17 Sacred groves and biodiversity conservation:

Sacred groves: Sacred groves are undisturbed patches of forests that vary in size from small to very large. They are found all over India and are protected by local communities.

Conservation of biodiversity:
• Sacred groves are home to different kinds of plants and animals, including numerous medicinal plants
• They are protected by the local community, and no one is allowed to harm any animals or cut trees in these groves
• This traditional protection helps preserve biodiversity as a community-protected treasure
• They serve as gene pools and refuges for many species

SECTION D - Answer to Long Answer Question

Ans.18 Habitat and its importance:

Habitat: The place where plants and animals live is called their habitat. The habitat provides them with food, water, air, shelter, and other needs for their survival. Many types of plants and animals may share the same habitat.

Terrestrial habitats:
• Places where plants and animals live on land
• Examples: Forests, deserts, grasslands, mountains
• Animals like goats, lions, elephants, and trees like mango and neem live in terrestrial habitats
• Organisms in terrestrial habitats are adapted to live on land with features like legs for movement, leaves for photosynthesis, etc.

Aquatic habitats:
• Places where plants and animals live in water
• Examples: Ponds, lakes, rivers, oceans
• Animals like fish, whales, dolphins, and plants like lotus and water lilies live in aquatic habitats
• Organisms in aquatic habitats are adapted to live in water with features like fins for swimming, streamlined bodies, etc.

Importance of protecting habitats:
• Damage to habitats results in loss of homes, food, and other resources for plants and animals
• Loss of habitat leads to loss of biodiversity
• Many species become endangered or extinct when their habitats are destroyed
• Protecting habitats ensures that plants and animals can survive and thrive
• It maintains ecological balance and helps preserve the planet's biodiversity

SECTION E - Answers to Case Study Based Questions

Ans.19 Case Study 1:

(a) Salim Ali is known as the 'Birdman of India'.

(b) Two bird sanctuaries preserved by Salim Ali are:
1. Keoladeo National Park in Bharatpur, Rajasthan

2. Ranganathittu Bird Sanctuary in Mandya, Karnataka

(c) Importance of conserving regions with high bird diversity:
• Birds are an important part of biodiversity and play crucial roles in ecosystems
• They help in seed dispersal, pollination, and controlling insect populations
• Conserving bird habitats helps maintain ecological balance
• Many bird species are indicators of environmental health
• Protecting these regions ensures that future generations can observe and study diverse bird species

Ans.20 Case Study 2:

(a) Long legs and wide hooves help camels in the desert by keeping their body away from the hot sand and preventing them from sinking into the soft sand, making it easier to walk on sandy deserts.

(b) Food is stored in the hump of a camel. This stored food helps camels survive during times of scarcity when food is not easily available.

(c) Camels conserve water in desert conditions through multiple adaptations:
• They excrete very small amounts of urine, minimizing water loss
• Their dung is dry, which means less water is lost through excretion
• They do not sweat, which prevents water loss through perspiration
• These adaptations allow camels to conserve water and survive for many days without drinking water, making them well-suited for desert life

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