

# UNIQUE STUDY POINT

By Sumeet Sahu

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<b>Class:</b> VI	<b>Subject:</b> Science	<b>Session:</b> 2025-26
<b>Chapter:</b> 11 - Nature's Treasures	<b>Time:</b> 1½ Hours	<b>Max. Marks:</b> 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)

1. Which component of air do we need for survival?
  - (a) Nitrogen
  - (b) Oxygen
  - (c) Argon
  - (d) Carbon dioxide
2. Resources created by human beings are called:
  - (a) Natural resources
  - (b) Non-renewable resources
  - (c) Human-made resources
  - (d) Renewable resources
3. Which of the following is the best example of recycling in nature?
  - (a) Burning of wood
  - (b) Fallen leaves enriching the soil
  - (c) Animals eating plants
  - (d) Rain falling on earth
4. Van Mahotsav is celebrated in the month of:
  - (a) January
  - (b) March
  - (c) July
  - (d) October
5. Which state is famous for Bawadi (stepwells)?
  - (a) Kerala
  - (b) Rajasthan

- (c) West Bengal
  - (d) Punjab
6. Solar cookers and solar water heaters use energy from:
- (a) Wind
  - (b) The Sun
  - (c) Water
  - (d) Fossil fuels
7. What do plants release during photosynthesis?
- (a) Carbon dioxide
  - (b) Nitrogen
  - (c) Oxygen
  - (d) Hydrogen
8. Which of the following is mainly used for generating electricity?
- (a) Wood
  - (b) Coal
  - (c) Kerosene
  - (d) LPG
9. Rocks are made up of:
- (a) Soil
  - (b) Minerals
  - (c) Water
  - (d) Air
10. What is the symbol for percentage?
- (a) \$
  - (b) #
  - (c) %
  - (d) &

### SECTION B - Short Answer Questions (2 marks each)

11. Write any two uses of heat and light from the Sun in our daily life.
12. What is rainwater harvesting? Why is it important?
13. What is Van Mahotsav? When is it celebrated and why?
14. State two differences between saline water and freshwater.

### SECTION C - Short Answer Questions (3 marks each)

15. "The Sun is the main source of energy on Earth." Justify this statement with three points.
16. Explain the Chipko movement. What was its purpose and who participated in it?
17. Why is it important to prevent water pollution? Suggest three ways to prevent water pollution.

### SECTION D - Long Answer Question (5 marks)

**18.** Explain the importance of forests as a natural resource. Describe three products we get from forests. Why are forests called the "lungs of the Earth"? Discuss the consequences of large-scale deforestation and suggest three measures to conserve forests.

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

**19. Case Study 1:** Anita's school organized a field trip to a nearby forest. During the trip, their science teacher explained that forests support a large variety of living organisms. Different types of herbs, shrubs, and trees provide food and shelter to animals, birds, and insects. The teacher also explained that in forests, every organism depends on other life forms for survival, and this diversity ensures food for every living being.

**Based on the above case study, answer the following questions:**

- (a) What types of plants are found in forests? (1 mark)
- (b) How do forests support biodiversity? (1 mark)
- (c) Explain the statement: "In forests, every organism depends on other life forms for survival." (2 marks)

**20. Case Study 2:** Rajiv conducted a survey of vehicles in his neighborhood for his school project. He found that most two-wheelers use petrol, while many cars use either petrol or diesel. He also noticed that some vehicles had CNG (Compressed Natural Gas) stickers. His father explained that CNG is a cleaner fuel compared to petrol and diesel. The government is also promoting the use of electric vehicles to reduce pollution.

**Based on the above case study, answer the following questions:**

- (a) Which fuel is commonly used in two-wheelers? (1 mark)
- (b) Why is CNG considered a cleaner fuel than petrol or diesel? (1 mark)
- (c) Apart from using cleaner fuels, suggest two other ways by which we can reduce our dependence on fossil fuels for transportation. (2 marks)

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**SECTION A - Answers to MCQs**

**1. (b) Oxygen**

We need oxygen from the air for our survival. Our body requires oxygen to perform its functions and for respiration.

**2. (c) Human-made resources**

Resources created by human beings to meet their needs are called human-made resources. Examples include furniture, vehicles, and buildings.

**3. (b) Fallen leaves enriching the soil**

When leaves fall from trees, they decay and enrich the soil with nutrients. This soil is then used by new plants to grow, which is an example of recycling in nature.

**4. (c) July**

Van Mahotsav is a week-long forest festival celebrated during the month of July. New plants and trees are planted during this event.

**5. (b) Rajasthan**

Rajasthan is famous for Bawadi, which are stepwells used for traditional water harvesting. In Gujarat, they are called Vav.

**6. (b) The Sun**

Solar cookers and solar water heaters use energy from the Sun. Solar panels capture the Sun's energy and convert it into usable heat or electricity.

**7. (c) Oxygen**

During photosynthesis, plants use carbon dioxide and water in the presence of sunlight to prepare food, and they release oxygen as a by-product.

**8. (b) Coal**

Coal is mainly used for the production of electricity in thermal power plants. It is burned to heat water and produce steam, which drives turbines.

**9. (b) Minerals**

Rocks are made up of minerals. Important metals like aluminum, gold, copper, and iron are extracted from minerals found in rocks.

**10. (c) %**

The symbol for percentage is %. Percentage is the number of parts in 100. For example, 78% means 78 parts out of 100.

**SECTION B - Answers to Short Answer Questions**

**11. Write any two uses of heat and light from the Sun in our daily life.**

Two uses of heat and light from the Sun:

1. **Drying:** We use heat from the Sun to dry clothes, grains, vegetables (like chillies, mangoes), and other items. This helps in preserving food.
2. **Photosynthesis:** Plants use sunlight to prepare food through photosynthesis. This food becomes the basis of the food chain for all living beings.
3. **Generating electricity:** Solar panels capture the Sun's energy and convert it into electricity which can be used for various purposes.
4. **Heating water:** Solar water heaters use sunlight to heat water for bathing and other household purposes.
5. **Cooking:** Solar cookers use the Sun's energy for cooking food.

*(Any two uses are acceptable)*

## 12. What is rainwater harvesting? Why is it important?

**Rainwater harvesting:** Rainwater harvesting is a method of collecting and storing rainwater for later use. In this system, rainwater is collected from rooftops or other surfaces and stored in large tanks or reservoirs.

### Why it is important:

- It helps in conserving water by collecting and storing rainwater that would otherwise be wasted.
- The stored water can be used for various purposes like watering plants, washing, and other household activities.
- It reduces our dependence on freshwater sources like rivers, lakes, and groundwater.
- It helps in recharging groundwater levels when the collected water seeps into the ground.
- It is particularly important in areas facing water scarcity.

## 13. What is Van Mahotsav? When is it celebrated and why?

**Van Mahotsav:** Van Mahotsav is a week-long festival celebrated across India to promote tree plantation and raise awareness about the importance of forests.

**When it is celebrated:** Van Mahotsav is celebrated during the month of July every year.

### Why it is celebrated:

- During Van Mahotsav, new plants and trees are planted across the country.
- The aim of the event is to increase the green cover and make people aware of respecting and protecting forests.
- It helps in encouraging community participation in environmental conservation.
- The festival promotes the planting of trees, which are essential for maintaining ecological balance, preventing soil erosion, and providing oxygen.

## 14. State two differences between saline water and freshwater.

Saline Water	Freshwater
1. Saline water is salty and contains dissolved salts.	1. Freshwater is not salty and has very low salt content.
2. It is found in oceans and seas.	2. It is found in rivers, lakes, ponds, ice sheets, snow, and underground.
3. Saline water is not fit for drinking, cooking, agriculture, or most industrial uses.	3. Freshwater is fit for drinking, cooking, bathing, washing, agriculture, and industrial use.
4. Most of the Earth's water (about two-thirds) is saline water.	4. Only a small fraction of Earth's water is freshwater, and even less is easily accessible.

(Any two differences are acceptable)

## SECTION C - Answers to Short Answer Questions

15. "The Sun is the main source of energy on Earth." Justify this statement with three points.

The Sun is the main source of energy on Earth. This statement can be justified with the following points:

1. **Plants prepare food using sunlight:**

- Plants need sunlight to prepare food through the process of photosynthesis.
- They use carbon dioxide from the air, water from the soil, and sunlight to make glucose (food) and release oxygen.
- Without sunlight, plants cannot prepare food and would not survive.

2. **Animals depend on plants:**

- Animals cannot make their own food and depend on plants for energy.
- Herbivores eat plants directly to get energy.
- Carnivores eat herbivores to get energy.
- Thus, the energy from the Sun is transferred through the food chain from plants to animals.

3. **Humans get food from plants and animals:**

- We get food from both plants (vegetables, fruits, grains) and animals (milk, meat).
- The energy in all our food ultimately comes from the Sun through plants.
- This cycle on Earth is possible due to the Sun, making it the main source of energy for all living beings.

**Additional points:**

- The Sun provides heat and light essential for life on Earth.
- It drives the water cycle, wind formation, and weather patterns.
- Solar energy can be directly used for heating, cooking, and generating electricity.

**Conclusion:** One cannot imagine life on Earth without the Sun. It is the ultimate source of energy that sustains all life forms on our planet.

16. Explain the Chipko movement. What was its purpose and who participated in it?

**The Chipko Movement:**

- The Chipko movement was a famous forest conservation movement that started in the early 1970s in Uttarakhand (which was previously part of Uttar Pradesh).
- The word "Chipko" means "to hug" or "to embrace" in Hindi.

**Purpose of the movement:**

- The main purpose of the Chipko movement was to prevent the cutting of trees and save forests from deforestation.
- It was a response to the large-scale cutting of trees by contractors and industries, which was destroying forests and affecting the livelihoods of local communities.
- The movement aimed to protect the forest ecosystem and raise awareness about the importance of forests.

**Who participated:**

- Local women actively participated in this movement.
- Villagers and common people from the region joined the movement.
- When contractors came to cut trees, these women and villagers would encircle the trees and hug them, physically protecting them from being felled.
- Their peaceful protest made it impossible for the contractors to cut the trees without harming the protesters.

**Impact:**

- The Chipko movement was successful in preventing the cutting of many trees.
- It inspired similar movements in other parts of India and the world.
- It showed how common people can unite to protect the environment.
- It highlighted the importance of forest conservation and the need to respect nature.

**Legacy:** From ancient times, India has had a tradition of respecting, protecting, and preserving forests. The Chipko movement is one of the most famous examples of this tradition in modern times.

17. Why is it important to prevent water pollution? Suggest three ways to prevent water pollution.

**Why it is important to prevent water pollution:**

- **Health hazard:** Polluted water is not fit for consumption by living beings. Drinking or using polluted water can cause serious health problems and diseases.
- **Limited freshwater:** Freshwater is available in limited quantities. Once water sources are polluted, it becomes difficult and expensive to make them usable again.
- **Harm to aquatic life:** Water pollution kills fish and other aquatic organisms, disturbing the ecosystem.
- **Agricultural problems:** Polluted water cannot be used for irrigation, affecting crop production.
- **Unequal access to water:** Not everyone has the same access to clean water. Water pollution makes the situation worse, especially for people who are already struggling to get water.

**Three ways to prevent water pollution:****1. Do not throw trash in water bodies:**

- People should not throw plastic bags, wrappers, and other waste materials into rivers, lakes, and ponds.
- Garbage should be properly disposed of in designated areas and not dumped into water sources.
- Raise awareness about the harmful effects of throwing trash in water.

**2. Proper treatment of household and industrial waste:**

- Household sewage and garbage should be treated before being released into water bodies.
- Industries must use proper waste treatment facilities and should not discharge harmful chemicals and toxic substances directly into rivers and water bodies.
- Government should enforce strict laws against polluting water sources.

**3. Reduce use of chemicals in agriculture:**

- Farmers should minimize the use of chemical fertilizers and pesticides that can seep into water sources and pollute them.
- Organic farming methods should be promoted as they are environment-friendly.
- Rainwater runoff from agricultural fields should be managed to prevent chemicals from reaching water bodies.

**Conclusion:** Water is essential for all life forms. Since freshwater is precious and limited, we must prevent water pollution and keep our water sources clean for present and future generations.

**SECTION D - Answer to Long Answer Question**

18. Explain the importance of forests. Describe three products we get from forests. Why are forests called "lungs of the Earth"? Discuss consequences of deforestation and measures to conserve forests.

**Importance of forests as a natural resource:**

- **Habitat for wildlife:** Forests are the natural home for many wild animals, birds, and insects. They provide food and shelter to these organisms.
- **Maintain biodiversity:** Forests support a large variety of life forms. In forests, every organism depends on others for survival, and this diversity ensures food for every living being.

- **Soil conservation:** Tree roots hold the soil together and prevent soil erosion. Fallen leaves decay and enrich the soil with nutrients.
- **Provide resources:** Forests provide us with timber, fruits, medicinal herbs, and many other products essential for human life.
- **Regulate climate:** Forests help in maintaining the water cycle and regulating temperature and rainfall patterns.

### Three products we get from forests:

1. **Timber (Wood):** We get wood from trees which is used for making furniture, construction of houses and buildings, and as fuel.
2. **Fruits and Food:** Forests provide various fruits, nuts, honey, and other food items for humans and animals.
3. **Medicinal herbs:** Many plants in forests have medicinal properties and are used to prepare medicines for various diseases.
4. **Other products:** Rubber, resins, fibers, and other forest products are obtained from forests.

*(Any three products are acceptable)*

### Why forests are called "lungs of the Earth":

- Trees and plants in forests absorb carbon dioxide from the atmosphere during photosynthesis.
- They release oxygen as a by-product of photosynthesis.
- Just as lungs in our body help us breathe by taking in oxygen and releasing carbon dioxide, forests help the Earth "breathe" by absorbing carbon dioxide and releasing oxygen.
- Forests play a crucial role in maintaining the balance of oxygen and carbon dioxide in the atmosphere.
- Without forests, the amount of carbon dioxide would increase, and oxygen would decrease, making it difficult for living beings to survive.

### Consequences of large-scale deforestation:

- **Loss of habitat:** Animals, birds, and insects lose their natural homes, leading to a decline in wildlife populations and extinction of species.
- **Soil erosion:** Without tree roots to hold the soil, it gets washed away by rain and wind, leading to loss of fertile topsoil.
- **Climate change:** Less trees mean more carbon dioxide in the atmosphere, contributing to global warming and climate change.
- **Reduced rainfall:** Deforestation affects the water cycle, leading to reduced rainfall and drought conditions.
- **Loss of biodiversity:** Many plant and animal species that depend on forests become endangered or extinct.
- **Flooding:** Without forests to absorb water, heavy rains can cause severe flooding in nearby areas.

### Three measures to conserve forests:

1. **Afforestation and reforestation:**
  - Plant more trees through programs like Van Mahotsav.
  - Restore degraded forest areas by planting native tree species.
  - Encourage community participation in tree plantation drives.
2. **Prevent illegal cutting of trees:**
  - Implement and enforce strict laws against unauthorized felling of trees.
  - Create awareness about the importance of forests and consequences of deforestation.
  - Support movements like Chipko movement that protect forests.
3. **Sustainable use of forest resources:**
  - Use forest resources responsibly without overexploiting them.
  - Give forests enough time to regenerate after harvesting.

- Promote the use of alternative materials to reduce dependence on forest products.
- Establish protected areas and wildlife sanctuaries.

**Conclusion:** Forests are invaluable natural resources that must be preserved and protected. It takes many years to grow a new forest, but it can be destroyed in a very short time. Therefore, we must conserve forests and use them responsibly so that they get enough time to regenerate, ensuring their availability for future generations.

## SECTION E - Answers to Case Study Based Questions

### 19. Case Study 1 - Answers

#### (a) What types of plants are found in forests? (1 mark)

Forests have a large variety of plants including:

- Herbs - Small plants with soft stems
- Shrubs - Medium-sized bushy plants
- Trees - Large plants with hard, woody stems

These different types of plants provide food and shelter to various animals, birds, and insects.

#### (b) How do forests support biodiversity? (1 mark)

Forests support biodiversity by:

- Providing food and shelter to a large variety of living organisms including animals, birds, and insects.
- Creating a habitat where different species can coexist and thrive.
- Maintaining the food chain where every organism depends on others for survival.
- The diversity of plant life ensures that there is food available for different types of organisms.

#### (c) Explain the statement: "In forests, every organism depends on other life forms for survival." (2 marks)

This statement means that in forests, there is an interconnected web of life where all organisms are dependent on each other:

- **Plants depend on soil, water, and sunlight:** Trees and plants need soil for nutrients, water for growth, and sunlight for photosynthesis. Decomposers in the soil break down dead matter and provide nutrients to plants.
- **Herbivores depend on plants:** Animals like deer, elephants, and rabbits eat plants, leaves, fruits, and grass for food. Without plants, herbivores cannot survive.
- **Carnivores depend on herbivores:** Animals like tigers, lions, and snakes eat herbivores for food. They depend on herbivores for their survival.
- **Decomposers depend on dead matter:** When plants and animals die, decomposers like bacteria and fungi break them down, returning nutrients to the soil.
- **Food chain:** This creates a food chain where energy flows from plants to herbivores to carnivores. Each organism has a role to play in maintaining the ecosystem.
- **Maintaining balance:** The diversity of life forms ensures food for every living being. If any one species is removed, it affects the entire ecosystem.

**Conclusion:** This interdependence maintains ecological balance in forests. Every organism, whether big or small, plays an important role in the forest ecosystem.

### 20. Case Study 2 - Answers

#### (a) Which fuel is commonly used in two-wheelers? (1 mark)

Petrol is commonly used in two-wheelers like scooters and motorcycles. Some two-wheelers also use CNG

(Compressed Natural Gas), but petrol is the most widely used fuel.

**(b) Why is CNG considered a cleaner fuel than petrol or diesel? (1 mark)**

CNG is considered a cleaner fuel than petrol or diesel because:

- It produces less smoke and harmful gases when burned.
- It emits lower amounts of pollutants like carbon dioxide, carbon monoxide, and particulate matter.
- It burns more completely, resulting in less air pollution.
- It is more environment-friendly compared to petrol and diesel.

**(c) Apart from using cleaner fuels, suggest two other ways by which we can reduce our dependence on fossil fuels for transportation. (2 marks)**

**1. Use public transport, walk, or cycle:**

- Instead of using personal vehicles, we should use public transport like buses, trains, and metro.
- This reduces the total number of vehicles on the road, thereby reducing fuel consumption.
- For short distances, walking or cycling is healthier and does not require any fossil fuels.
- Cycling also helps reduce air pollution and traffic congestion.
- Schools and workplaces can organize carpooling to reduce the number of vehicles.

**2. Use electric vehicles and renewable energy:**

- Electric vehicles run on electricity stored in batteries and do not use petrol or diesel.
- They do not emit smoke or harmful gases, making them environment-friendly.
- The electricity used to charge these vehicles can be generated from renewable sources like solar and wind energy.
- Using solar-powered charging stations can make electric vehicles completely independent of fossil fuels.
- Government is promoting electric vehicles to reduce pollution and dependence on fossil fuels.

**Additional ways:**

- Encourage work-from-home options to reduce daily commuting.
- Develop better public transport infrastructure to make it more convenient.
- Plan urban areas to reduce the need for long-distance travel.
- Research and develop alternative fuels like hydrogen and biofuels.

**Conclusion:** By adopting these measures, we can significantly reduce our dependence on fossil fuels for transportation, help conserve these non-renewable resources, and reduce air pollution for a cleaner and healthier environment.

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