

UNIQUE STUDY POINT

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Class: VI	Subject: Science	Session: 2025-26
Chapter: 11 - Nature's Treasures	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)

1. Which gas is most abundant in the air we breathe?
 - (a) Oxygen
 - (b) Nitrogen
 - (c) Carbon dioxide
 - (d) Argon
2. What percentage of oxygen is present in the air?
 - (a) 78%
 - (b) 21%
 - (c) 1%
 - (d) 50%
3. Which of the following is a renewable resource?
 - (a) Coal
 - (b) Petroleum
 - (c) Natural gas
 - (d) Forests
4. Petrol and diesel are obtained from:
 - (a) Coal
 - (b) Petroleum
 - (c) Natural gas
 - (d) Wood
5. Which of the following is used to generate electricity using wind energy?
 - (a) Solar panels
 - (b) Windmills

- (c) Water turbines
 - (d) Steam engines
6. Rainwater harvesting is a method to:
- (a) Conserve water
 - (b) Purify water
 - (c) Heat water
 - (d) Cool water
7. Which gas do plants need from the air to prepare food?
- (a) Oxygen
 - (b) Nitrogen
 - (c) Carbon dioxide
 - (d) Argon
8. Fossil fuels take _____ to form.
- (a) Few days
 - (b) Few months
 - (c) Few years
 - (d) Millions of years
9. Which of the following rocks is used for roofing?
- (a) Granite
 - (b) Slate
 - (c) Marble
 - (d) Sandstone
10. CNG stands for:
- (a) Compressed Natural Gas
 - (b) Converted Natural Gas
 - (c) Combined Natural Gas
 - (d) Condensed Natural Gas

SECTION B - Short Answer Questions (2 marks each)

11. Why do we need oxygen for survival?
12. Name two uses of energy from the Sun.
13. What is the difference between renewable and non-renewable resources? Give one example of each.
14. Why is soil important for plants?

SECTION C - Short Answer Questions (3 marks each)

15. Explain how fossil fuels are formed. Why are they called non-renewable resources?
16. Describe three ways by which we can conserve water in our daily life.
17. Why should we conserve forests? Give three reasons.

SECTION D - Long Answer Question (5 marks)

18. Explain the composition of air. Why is air considered essential for the survival of living beings? Discuss two human activities that pollute air and suggest ways to reduce air pollution.

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

19. Case Study 1: Bhoomi and Surya visit their grandmother's village in the Western Ghats. They notice that the air is fresh and cool. There are many trees, streams, and diverse plants and animals. Their grandmother explains that forests provide food and shelter to animals and help maintain ecological balance.

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

- (a) Why is the air in the forest fresher than in the city? (1 mark)
- (b) List two products that we get from forests. (1 mark)
- (c) How do forests help in maintaining ecological balance? (2 marks)

20. Case Study 2: Rahul's family uses solar panels to generate electricity for their home. They also have a rainwater harvesting system installed on their rooftop. His father explains that these are sustainable ways to meet their energy and water needs while reducing their dependence on conventional resources.

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

- (a) What is the main source of energy for solar panels? (1 mark)
- (b) State one advantage of using solar energy. (1 mark)
- (c) Explain how rainwater harvesting helps in water conservation. (2 marks)

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SECTION A - Answers to MCQs

1. (b) Nitrogen

Nitrogen constitutes about 78% of the air, making it the most abundant gas in the atmosphere.

2. (b) 21%

Oxygen makes up approximately 21% of the air. It is essential for respiration in most living organisms.

3. (d) Forests

Forests are renewable resources as they can regenerate naturally over time through natural processes.

4. (b) Petroleum

Petrol, diesel, and kerosene are all obtained from petroleum through the refining process.

5. (b) Windmills

Windmills capture wind energy and convert it into electricity. They are commonly seen in windmill farms.

6. (a) Conserve water

Rainwater harvesting is a method to collect and store rainwater for later use, helping in water conservation.

7. (c) Carbon dioxide

Plants use carbon dioxide from the air during photosynthesis to prepare food using sunlight.

8. (d) Millions of years

Fossil fuels like coal, petroleum, and natural gas take millions of years to form from buried organic matter.

9. (b) Slate

Slate is a rock commonly used for roofing purposes due to its flat, layered structure and durability.

10. (a) Compressed Natural Gas

CNG stands for Compressed Natural Gas. It is a cleaner fuel alternative to petrol and diesel for vehicles.

SECTION B - Answers to Short Answer Questions

11. Why do we need oxygen for survival?

We need oxygen for survival because:

- The air we breathe contains oxygen which is essential for our body to perform its functions.
- Our body needs oxygen to break down food and release energy that is required for various life processes.
- Without oxygen, even for a few minutes, our body cannot function properly, and we feel uncomfortable and cannot survive.

12. Name two uses of energy from the Sun.

Two uses of energy from the Sun are:

- **Photosynthesis:** Plants use sunlight to prepare food through the process of photosynthesis.
- **Drying:** Sunlight is used to dry clothes, grains, vegetables, and other items.
- **Solar energy:** Solar panels capture the Sun's energy to generate electricity or heat water.

(Any two uses are acceptable)

13. What is the difference between renewable and non-renewable resources?

Renewable resources: These are natural resources that get renewed, replenished, or restored by natural processes within a reasonable period of time. **Example:** Air, water, forests.

Non-renewable resources: These are natural resources that are found in limited quantities and do not get replenished within a reasonable period of time. Once used, they get exhausted. **Example:** Coal, petroleum, natural gas.

14. Why is soil important for plants?

Soil is important for plants because:

- It provides support and anchorage to plant roots, helping them stand upright.
- Soil contains nutrients that are essential for plant growth and development.
- The spaces between soil particles provide air which is necessary for root respiration.
- Soil holds water that plants absorb through their roots.

(Any two points are acceptable for 2 marks)

SECTION C - Answers to Short Answer Questions

15. Explain how fossil fuels are formed. Why are they called non-renewable resources?

Formation of fossil fuels:

- Fossil fuels like coal, petroleum, and natural gas are formed from the remains of microorganisms, plants, and animals that got buried deep inside the earth millions of years ago.
- Over millions of years, under high temperature and pressure, these remains were converted into fossil fuels.
- This process took an extremely long time - millions of years.

Why they are non-renewable:

- Fossil fuels are called non-renewable resources because they are found in limited quantities.
- They take millions of years to form, so once used, they cannot be replenished within a reasonable period of time.
- If we continue to use them at the current rate, we will soon run out of these resources.

16. Describe three ways by which we can conserve water in our daily life.

Three ways to conserve water in daily life:

1. **Turn off taps when not in use:** We should close taps while brushing teeth, washing hands, or during any activity when water is not actively needed. This prevents unnecessary wastage.
2. **Fix water leakages:** Leaking taps and pipes should be repaired immediately as they waste a significant amount of water over time.
3. **Recycle water:** Water used for washing vegetables, rice, or other activities can be reused for watering plants or cleaning purposes.
4. **Use water harvesting:** Installing rainwater harvesting systems helps collect and store rainwater for later use.
5. **Use water efficiently:** While bathing, washing clothes, or cleaning, we should use only the required

amount of water and avoid wastage.

(Any three methods are acceptable)

17. Why should we conserve forests? Give three reasons.

We should conserve forests because:

1. **Provide habitat and food:** Forests are the natural home for many wild animals, birds, and insects. They provide food and shelter to these organisms and maintain biodiversity.
2. **Maintain ecological balance:** In forests, every living organism depends on others for survival. The diversity of life forms ensures food for every living being and maintains ecological balance.
3. **Soil conservation:** The roots of trees hold the soil together and prevent soil erosion. Fallen leaves decay and enrich the soil with nutrients, making it fertile.
4. **Resource provider:** Forests provide us with various products like timber, fruits, medicinal herbs, and other forest products that are essential for human life.
5. **Take long time to regenerate:** It takes many years to grow a new forest or restore lost forests. Therefore, we must preserve existing forests and use them responsibly.

(Any three reasons are acceptable)

SECTION D - Answer to Long Answer Question

18. Explain the composition of air. Why is air considered essential for survival? Discuss two human activities that pollute air and suggest ways to reduce air pollution.

Composition of air:

- Air is a mixture of various gases that surrounds the Earth.
- The main components of air are:
 - Nitrogen - 78%
 - Oxygen - 21%
 - Argon, carbon dioxide, and other gases - 1%

Why air is essential for survival:

- Air contains oxygen which is essential for respiration in most living organisms.
- Our body needs oxygen to perform its functions. We cannot survive without oxygen even for a few minutes.
- Plants need carbon dioxide from air for photosynthesis to prepare food.
- Air helps in various natural processes like the water cycle, wind formation, and maintaining temperature.

Two human activities that pollute air:

1. **Burning of fossil fuels:** Vehicles and industries burn fossil fuels like petrol, diesel, and coal. When fossil fuels are burnt, smoke and harmful gases like carbon dioxide are released, which pollute the air.
2. **Industrial emissions:** Factories and industries release harmful chemicals, smoke, and gases into the air, causing air pollution.

Ways to reduce air pollution:

- Use public transport, walk, or cycle to nearby places instead of using personal vehicles.
- Use cleaner fuels like CNG (Compressed Natural Gas) and electric vehicles that cause less pollution.
- Plant more trees as they absorb carbon dioxide and release oxygen, helping to purify air.
- Industries should use filters and adopt cleaner technologies to reduce emissions.
- Promote the use of renewable energy sources like solar and wind energy instead of fossil fuels.

(Any two activities and two ways are acceptable)

SECTION E - Answers to Case Study Based Questions

19. Case Study 1 - Answers

(a) Why is the air in the forest fresher than in the city? (1 mark)

The air in the forest is fresher than in the city because there are many trees in the forest. Trees absorb carbon dioxide and release oxygen through photosynthesis. There is also less pollution in forests compared to cities where vehicles and industries emit smoke and harmful gases.

(b) List two products that we get from forests. (1 mark)

- Timber (wood) for furniture and construction
- Fruits, medicinal herbs, and food items
- Rubber, resins, and other forest products

(Any two products are acceptable)

(c) How do forests help in maintaining ecological balance? (2 marks)

Forests help in maintaining ecological balance in the following ways:

- Forests provide food and shelter to a large variety of animals, birds, and insects. In forests, every animal depends on other life forms for survival.
- The diversity of life forms in forests ensures that there is food for every living being, maintaining the food chain and ecological balance.
- Trees in forests absorb carbon dioxide and release oxygen, helping to maintain the balance of gases in the atmosphere.
- Forest vegetation helps in the water cycle and prevents soil erosion, contributing to environmental stability.

20. Case Study 2 - Answers

(a) What is the main source of energy for solar panels? (1 mark)

The main source of energy for solar panels is the Sun. Solar panels capture the Sun's energy (sunlight) and convert it into electricity.

(b) State one advantage of using solar energy. (1 mark)

- Solar energy is a renewable source of energy and will never get exhausted.
- It does not cause pollution and is environment-friendly.
- It reduces dependence on fossil fuels like coal and petroleum.
- It can be used to generate electricity and heat water.

(Any one advantage is acceptable)

(c) Explain how rainwater harvesting helps in water conservation. (2 marks)

Rainwater harvesting helps in water conservation in the following ways:

- In rainwater harvesting systems, rainwater is collected and stored in large tanks or reservoirs for later use. This stored water can be used for various purposes like watering plants, washing, and other household activities.
- By collecting rainwater, we reduce our dependence on freshwater sources like rivers, lakes, and groundwater, thereby conserving these precious resources.
- Rainwater harvesting also helps in recharging groundwater. The collected water seeps into the

ground and increases the groundwater level.

- It is an age-old practice in India and is an effective method to ensure water availability, especially in areas facing water scarcity.

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