

**CBSE Test Paper-05**  
**Chapter 14 Environment Sustainable Development**

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1. Example of overuse of environmental resources are **(1)**
  - a. None
  - b. Both Deforestation and Land degradation and Reforestation and Land upgradation
  - c. Reforestation and Land upgradation
  - d. Deforestation and Land degradation
2. According to Herman Daly steps required for achieving sustainable development are as follows except **(1)**
  - a. Technological progress should be input consuming.
  - b. Rate of depletion of non renewable resources should not exceed the rate of creation of renewable substitutes
  - c. Inefficient arising from pollution should be corrected
  - d. Renewable resources should be extracted on a sustainable basis
3. With the help of which cells, solar energy can be converted into electricity? **(1)**
  - a. Photoaic
  - b. Photovolt
  - c. Photovoltaic
  - d. Photo
4. The CPCB has identified \_\_\_\_ categories of industries which are significant polluters. **(1)**
  - a. 15
  - b. 12
  - c. 13
  - d. 17
5. \_\_\_\_\_ implies that the resource extraction is not above the rate of regeneration of the resources and the waste generated are within the assimilating capacity of the environment. **(1)**
  - a. Absorptive capacity
  - b. Carrying capacity

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- c. Renewable capacity
  - d. Non-renewable capacity
6. In mountainous regions, streams can be found almost everywhere. A large percentage of such streams are perennial. Which plants use the energy of such streams to move small turbines? **(1)**
- a. Hydel
  - b. None of these
  - c. Mini-hydel
  - d. Nuclear
7. Which animals/ birds help in bio composting? **(1)**
- a. Cattles
  - b. Peacock
  - c. Snakes
  - d. Owls
8. When was CPCB set up? **(1)**
- a. 1978
  - b. 1976
  - c. 1972
  - d. 1974
9. How population growth is the cause of depletion of natural resources? **(3)**
10. 'India has abundant natural resources'. Substantiate the statement. **(3)**
11. Account for the current environmental crisis. **(3)**
12. Explain how the opportunity costs of negative environmental impact are high. **(4)**
13. Keeping in view your locality, describe any four strategies of sustainable development. **(4)**
14. Explain the supply-demand reversal of environmental resources. **(4)**
15. What are the functions of the environment? **(4)**

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**Answers**

1. d. Deforestation and Land degradation

**Explanation:** Deforestation is the clearing of trees, transforming a forest into cleared land.

Land degradation is a process in which the value of the biophysical environment is affected by a combination of human-induced processes acting upon the land.

2. a. Technological progress should be input consuming.

**Explanation:** To achieve sustainable development the following needs to be done :

- i. Renewable resources should be extracted in sustainable manner.
- ii. Rate of extraction of non renewable resources should not exceed the rate of creation of renewable substitutes.
- iii. Inefficiencies arising from pollution should be corrected.
- iv. Technological progress should be input efficient.
- v. Limiting the human population.

3. c. Photovoltaic

**Explanation:** With the help of photovoltaic cells, solar energy can be converted into electricity. These cells use special kind of materials to capture solar energy and then convert the energy into electricity. This technology is extremely useful for remote areas and for places where supply of power through grid or power lines is either not possible or proves very costly. This technique is also totally free from pollution.

4. d. 17

**Explanation:** (Central Pollution Control Board) has identified seventeen categories of industries (large and medium scale) as significantly polluting.

5. b. Carrying capacity

**Explanation:** Carrying capacity is the maximum number of individuals of a given species that an area's resources can sustain indefinitely without

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significantly depleting or degrading those resources. Determining the carrying capacities for most organisms is fairly straightforward.

6. c. Mini-hydel

**Explanation:** Mini-hydel Plants: In mountainous regions, streams can be found almost everywhere. A large percentage of such streams are perennial. Mini-hydel plants use the energy of such streams to move small turbines. The turbines generate electricity which can be used locally. Such power plants are more or less environment-friendly as they do not change the land use pattern in areas where they are located; they generate enough power to meet local demands. This means that they can also do away with the need for large scale transmission towers and cables and avoid transmission loss.

7. a. Cattles

**Explanation:** Cow dung is used to produce manure with the help of earth worms.

8. d. 1974

**Explanation:** In order to address two major environmental concerns in India, viz., water and air pollution, the government set up the Central Pollution Control Board (CPCB) in 1974.

9. Population growth is the cause of the depletion of natural resources. More the number of people, more the demand for goods and services needed to satisfy wants. As the population increases, more natural resources are required to produce goods and services and also the demand for land for housing and agriculture increases. Increasing population has led to more extraction of natural resources from the environment thus resulting in depleting these resources.
- One of the largest environmental effects of human population growth is the problem of global warming. Some scientists fear that global warming will lead to rising sea levels and extreme weather conditions in the future. In order to support the growing population, forests are being destroyed at an alarming rate. Humans also continue to put a great demand on the natural resources of our planet. Many non-renewable resources are being depleted due to the unrestrained use of fuel and energy. Many parts of the world also suffer from a shortage of food and water.

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10. India is fortunate enough to have abundant natural resources. It comprises of rich and fertile soil, plenty of rivers and tributaries, green forests, mineral deposits, mountains, etc. The Indo-Gangetic plains are the most fertile, densely populated and cultivated plains in the world. It stretches from the Arabian Sea to the Bay of Bengal. The black soil of the Deccan Plateau is suitable for the cultivation of cotton in the country. India's lush green forests serve as a natural cover for the majority of the population. India holds more than 20 % of the world's total iron ore reserves. There are mountain ranges that facilitate the operation of the mini hydel plants. It also has a vast variety of flora of 15,000 species of plants. The country is also endowed with numerous minerals that are found under the earth's surface like coal, natural gas, copper, diamonds, etc.
11. The current environmental crises include two major global issues, namely, global warming and ozone depletion. Global warming is the result of rising temperature globally due to the emission of greenhouse gases, especially, carbon dioxide. The rise in temperature accelerates the melting of polar ice leading to the rise of water level in the sea. This leads to ecological imbalances.
- Ozone depletion is another major concern that is caused due to the excessive use of chlorofluorocarbon (CFCs) in the air conditioners and refrigerators. As ozone depletes, the possibility of ultraviolet radiations penetrating into earth surface increases, posing a threat to the living organisms. The culminated effect of these two accounts for major concern of environmental crisis in the present time.
12. Opportunity cost is the cost that is foregone when we make a choice or a decision. If a piece of land is to be used for wheat production then the production of say, rice, is to be sacrificed. The loss of rice production is the opportunity cost of producing wheat. In a similar way, the cost of a negative environment is the opportunity cost of huge expenditure incurred on health and searching for new alternatives.
- The negative environmental impact has high opportunity costs as explained below:  
Thus, it is clear that the opportunity costs of negative environmental impacts are high.
- The industrial development in past has polluted and dried up rivers and other aquifers making water an economic good. Also, cleaning up of polluted rivers and replenishing water resources require huge investments.
  - The intensive and extensive extraction of both renewable and non-renewable

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resources has exhausted some of these resources. A Huge amount of funds need to be spent on technology and research to explore new resources.

- iii. The health costs of degraded environmental quality are also rising as a decline in air and water quality has resulted in increased incidence of respiratory and water-borne diseases.
- iv. Global environmental issues such as global warming and ozone depletion also contribute to increased financial commitments for the government.

13. Four strategies of sustainable development in our locality are as under:-

- i. **Use of Eco-Friendly Fuel:-** The fuels such as petrol and diesel emit huge amount of carbon dioxide that add to the Green House impact. In order to control pollution, the use of CNG and LPG should be promoted. These fuels are cleaner and eco-friendly. Also pooling of vehicles in the locality should be promoted.
- ii. **Use of Renewable Resources:-** India being a tropical country is well endowed with sunlight, water and wind energy. These natural resources are renewable and pollution free. Thus, attempts should be made to harness solar and wind energy by employing different technologies and to go for rain water harvesting. It would help in sustainable economic development.
- iii. **Recyclable Products:-** The household waste materials like newspapers, old bottles, used batteries, etc should be accumulated and should be distinguished as bio-degradable and non-biodegradable wastes. The bio-degradable wastes are those wastes that can be decomposed and can be used as manure for organic farming. The non-biodegradable wastes like plastic, etc should be recycled and re-used. Use of polythene bags should be discouraged,
- iv. **Judicious Use of Electricity:-** Electricity is a resource which is used in all households in our locality. It is one such resource which is already in short supply and may not be available to future generations if we do not start using it judiciously. Therefore, the easiest strategy for sustainable development is to use power in an efficient mariner without wasting it. This can be done by using energy efficient equipment.

14. Before the advent of industrial revolution, the rate of resource extraction was less than the rate of regeneration of these resources. But with expanding the population and its growing needs the demand for resources for both production and

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consumption went beyond the rate of regeneration of the resources. This has resulted in a reversal of supply-demand relationship for environmental resources as now there is very high demand for environmental resources and services but their supply is limited due to overuse and misuse.

15. The environment performs the following four dynamic functions:

- a. **Offer Production Resources:** Environment provides us with wide tangible resources like minerals, water and soil. These are the gifts of nature. These resources act as input for converting natural resources into productive and useful things. In other words, the environment provides input for production that enhances human life qualitatively.
- b. **Sustains Life:** Environment provides us with vital ingredients like sun, soil, water and air that are necessary for the survival of life. Absence of these essential elements implies absence of life. It supports biodiversity.
- c. **Assimilates Waste:** The activities of production and consumption generate waste. This waste in the form of garbage is absorbed by the environment automatically.
- d. **Enhances Quality of Life:** Environment includes surroundings such as rivers, oceans, mountains and deserts. It provides scenic beauty that man admires in life and adds to the quality of human life.