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## POLLUTION AND CONSERVATION

### I. Multiple choice questions: Tick (✓) the correct choice.

1. Which of the following are natural resources?  
(a) Air and water only            (b) Land and water only  
(c) Land, water and minerals only  
(d) Land, water soil, sun's energy, plants and animals

Ans. (d)

2. Which of the following is a renewable natural resource?  
(a) Water                                (b) Petroleum  
(c) Coal                                    (d) None of the above

Ans. (a)

3. Fossil fuels are formed from  
(a) minerals present in earth  
(b) plants that lived in the past  
(c) from minerals and sun's energy  
(d) all the above

Ans. (b)

4. Which one of the following is not an alternative source of energy?  
(a) Biogas    (b) Tidal energy    (c) Coal    (d) Hydel energy

Ans. (c)

5. Aerosol means  
(a) water present  
(b) suspended particulate matter  
(c) excess carbon dioxide in air  
(d) none of the above

Ans. (b)

6. Paper is a  
(a) biodegradable material    (b) non-biodegradable material  
(c) conventional energy source  
(d) all the above

Ans. (a)

7. What is responsible for the depletion of ozone?  
(a) Acid rain (b) Chlorofluorocarbons  
(c) Excess carbon dioxide (d) Sulphur dioxide

**Ans.** (b)

8. What can be done to increase soil fertility?  
(a) By crop rotation with leguminous plants  
(b) By following shifting cultivation  
(c) By allowing grazing of grasslands  
(d) By planting trees

**Ans.** (a)

9. Which of the following is a non-biodegradable waste?  
(a) DDT (b) Cotton (c) Domestic sewage (d) Dung

**Ans.** (a)

10. Corbett National Park is located in  
(a) Madhya Pradesh (b) Uttar Pradesh  
(c) Assam (d) Gujarat

**Ans.** (b)

11. A biodegradable material after decomposition produces  
(a) toxic substance (b) non-toxic substances  
(c) microorganism (d) pesticides

**Ans.** (b)

12. Which of the following has direct impact in controlling air pollution?  
(a) Planting more trees (b) Avoiding plastics  
(c) Banning fertilizers (d) Treatment of sewage

**Ans.** (a)

13. Eutrophication is the consequence of  
(a) air pollution (b) soil pollution  
(c) water pollution (d) sound pollution

**Ans.** (c)

14. Following gas is mainly responsible for 'acid rains'  
(a) SO<sub>2</sub> (b) Cl<sub>2</sub> (c) CO<sub>2</sub> (d) O<sub>3</sub>

**Ans.** (a)

15. Greenhouse effect is mainly due to increase in concentration of  
(a) CO (b) NO<sub>2</sub> & SO<sub>2</sub> (c) CO<sub>2</sub> (d) O<sub>3</sub>  
**Ans.** (c)
16. Following is not an example of fossil fuel:  
(a) Natural gas (b) Biogas (c) Coal (d) Crude oil  
**Ans.** (b)
17. Nuclear energy is generated from  
(a) burning of fossil fuels (b) fission of atoms  
(c) chemical reaction (d) volcano  
**Ans.** (b)
18. Conservation of wildlife involves \_\_\_\_\_ of wildlife.  
(a) protection of wildlife (b) preservation of wildlife  
(c) perpetuation of wildlife (d) all the above  
**Ans.** (d)
19. Which of the following should not be encouraged in order to maintain a good environment?  
(a) Killing poisonous snakes  
(b) Using chemical fertilizers and pesticides  
(c) Using potable water for irrigation  
(d) Manufacturing of wooden toys  
**Ans.** (b)
20. Which one of the following is not an alternative source of energy?  
(a) Geothermal energy (b) Nuclear energy  
(c) Compressed Natural Gas (CNG) (d) Biomass  
**Ans.** (c)
21. Which of the following is a renewable natural resource?  
(a) soil (b) petroleum (c) coal (d) minerals  
**Ans.** (d)
22. Soil conservation can be maintained by  
(a) crop rotation (b) deforestation  
(c) by growing same crop year after year (d) overgrazing  
**Ans.** (a)

23. All plants need \_\_\_\_\_ present in the air for photosynthesis

- (a) carbon dioxide                      (b) oxygen  
(c) argon                                      (d) helium

**Ans.** (a)

24. Plants absorb water from the soil and release water vapour in the air through the process called

- (a) excretion                                  (b) digestion  
(c) transpiration                              (d) afforestation

**Ans.** (c)

25. The practice of renewing a forest by large scale planting of seedlings or small trees is called

- (a) deforestation                              (b) afforestation  
(c) depletion                                      (d) degradation

**Ans.** (b)

## II. Fill in the blanks.

1. Coal and oil are .....
2. Water covers ..... of the earth's surface.
3. Land covers ..... of the earth's surface.
4. Flora and fauna constitute ..... natural resources.
5. Two fossil fuels are ..... and .....
6. Resources which cannot be recycled are called ..... resources.
7. Conservation means the ..... and ..... use of resources.
8. To conserve soil, ..... cultivation is practised in hills.
9. Soil fertility can be preserved by adopting .....
10. In crop rotation, ..... plants are grown.
11. Corbett National Park is located in .....
12. Soil erosion in hills can be prevented by .....
13. An example of a biodegradable waste is .....
14. 3R's refer to ....., ....., .....
15. .... reduces the hearing capacity.

16. .... is one of the big problem, human beings are facing on earth.
  17. Maintenance of machines in good condition helps to reduce ..... pollution.
  18. Increase of blood pressure is caused by .....
  19. Polluted air causes .....
  20. Solar equipments are being made for .....
  21. .... is an example of wind power.
  22. Waves and tides of the sea can be used in generating .....
  23. .... billion tons of coal lies under earth.
  24. Wildlife is a ..... source.
  25. .... are materials that have the capacity to get replaced by quick recycling through natural cycles.
  26. Fossil fuels like coal, ..... and natural gas are non-renewable resources.
  27. Growing the same crop year after year in the same soil results in ..... of fertility of the soil.
  28. Large scale planting of seedlings or small trees is called .....
  29. Using less water and preventing water from getting polluted is called ..... of water.
  30. All animals need ..... for the oxidation of food in cells.
- Ans.** 1. Non-renewable resources 2. 4/5th 3. 1/5th 4. Renewable  
5. Coal, Petroleum 6. Non-renewable 7. Wise, Judicious  
8. Terrace 9. Crop rotation 10. Leguminous 11. Uttar Pradesh  
12. Terrace cultivation 13. Agricultural residue 14. Reduce, Reuse, Recycle 15. Noise pollution 16. Water pollution  
17. Noise pollution 18. Noise pollution 19. Acid rain 20. Solar energy 21. Wind mill 22. Hydroelectric power 23. 6000  
24. Renewable 25. Renewable resources 26. Petroleum 27. Rapid decline 28. Afforestation 29. conservation 30. Oxygen.

**III. Write true or false:**

1. Industries are the chief sources of air pollution.

2. CO gas is the most active air pollutant.
3. The most stable environment occurs in oceans.
4. Any unwanted sound, even if it music next door is noise.
5. Pollution and pollutants are one and the same thing.
6. Cattle dung is used in biogas or gobar gas plants.
7. Nuclear energy is generated from thermal power.
8. Wind power is used to draw water from the wells.
9. Hydroelectric power is generated from the kinetic energy of water.
10. The wildlife refers to organisms living in a cage.

Ans. 1. F 2. T 3. T 4. T 5. F 6. T 7. T 8. T 9. T 10. F.

**IV. Find the odd one out, giving reasons:**

1. Air, water, noise, coal.

Ans. **Noise Reason:** Air, water and coal are the sources of energy while noise is the unpleasant sound produced by different sources.

2. Solar energy, biogas, tidal energy, fossil fuels.

Ans. **Fossil fuels Reason:** Solar energy, biogas, tidal energy are the alternate sources of energy while fossil fuels are non-renewable resources of energy.

3. Wood, paper, dung, iron nails.

Ans. **Iron nails Reason:** Wood, paper and dung are biodegradable substances while iron nails are non biodegradable substances.

4. Smokeless *chulhas*, unleaded petrol in vehicles, discharge of domestic wastes into rivers, factories fitted with tall chimneys.

Ans. **Discharge of domestic wastes into rivers Reason:** Smokeless *chulhas*, unleaded petrol in vehicles, factories fitted with tall chimneys are the examples used to prevent environmental pollution while discharge of domestic wastes into rivers is increasing the environmental pollution.

5. Afforestation, deforestation, crop rotation, addition of manure in the soil.

Ans. **Deforestation Reason:** Afforestation, crop rotation, addition of manure in the soil are the methods to improve soil while deforestation is the cause of soil erosion.

**V. Give examples of the following:**

1. Three fossil fuels.

**Ans.** Coal, petroleum and natural gas are the examples of fossil fuels.

2. Two substances used to obtain nuclear energy.

**Ans.** Uranium and plutonium are used to obtain nuclear energy.

3. Three wildlife sanctuaries located in India.

**Ans.** (i) Kaziranga sanctuary in Assam.

(ii) Gir sanctuary in Gujarat.

(iii) Corbett national park in Uttar Pradesh.

These are the wildlife sanctuaries located in India.

4. Two examples each of biodegradable and non-biodegradable wastes.

**Ans.** Paper and wood are biodegradable and plastic and glass are non-biodegradable wastes.

**VI. Name the following:**

1. The natural purifiers of the air.

**Ans.** Plants are the natural purifiers of air.

2. Reduces the efficiency of blood to transport oxygen.

**Ans.** Anaemia is the disease of blood in which blood has less oxygen-carrying capacity.

**VII. Name the following pollutants:**

1. The gas which is mainly responsible for causing acid rains.

**Ans.** Sulphur dioxide is a poisonous gas and responsible for acid rain.

2. The gas that leads to the reduction in the oxygen carrying capacity of blood.

**Ans.** Carbon monoxide acts as a poisonous gas for respiration because it reduces the oxygen-carrying capacity of blood.

**IX. Give reasons for the following.**

1. Water is a renewable resource.

**Ans.** Water is a renewable resource because it can be recycled back on earth by through natural cycle.

2. Nuclear energy is an alternate source of energy.

**Ans.** Alternate sources of energy are renewable sources which can be used effectively. Nuclear energy is such an alternate source of energy. It is stored in the nucleus of certain atoms such as uranium and plutonium. When there is fusion or fission of atoms, it releases large amount of energy in the form of heat and light. This energy is known as nuclear energy.

3. Plastic, glass bottles, polythene bags, etc. are non-biodegradable wastes.

**Ans.** Plastic, glass bottles, polythene bags etc. are non-biodegradable wastes because these are not decomposed by natural or by artificial system and remain as in environment.

4. Fossil fuels are considered to be non-renewable sources of energy.

**Ans.** Fossil fuels are non-renewable sources of energy because they cannot be replaced within a reasonable time span.

**X. Differentiate between the following:**

1. Deforestation and Afforestation

<b>Ans.</b>	<b>Deforestation</b>	<b>Afforestation</b>
	(1) It is removal of forests by human beings.	(1) It is planting of trees on barren land.
	(2) It increases desert area and decrease soil fertility.	(2) It decreases desert area and increase soil fertility.
	(3) Due to it, soil erosion increases.	(3) Due to it, soil erosion decreases.

2. Renewable and Non-renewable natural resources.

<b>Ans.</b>	<b>Renewable resources</b>	<b>Non-renewable resources</b>
	(1) These resources have the ability for recycling and replacement in a short time.	(1) These resources lack ability for recycling and replacement or have a very long recycling time.



<b>Renewable resources</b>	<b>Non-renewable resources</b>
(2) These resources will not be exhausted.	(2) These resources will be exhausted after some years.
(3) Water, air, forests, wildlife, are some natural resources.	(3) Fossil fuels, coal, minerals are some non-renewable resources.

**3. Solar energy and Nuclear energy.**

<b>Ans.</b>	<b>Solar energy</b>	<b>Nuclear energy</b>
	(1) It is produced from sunlight by solar panels.	(1) It is generated by the fusion or fission of atoms.
	(2) It can be used directly to heat water or to glow electric bulb or indirectly as stored in chemical battery.	(2) The energy released in the process is used for generating electricity in a nuclear plant.
	(3) Solar energy has no effect on environment.	(3) Nuclear energy has its effect on environment.

**XI. Answer the following Questions.**

**1.** What is meant by natural resources? Give examples.

**Ans.** These are a number of resources on Earth which are used by human beings to fulfil their needs such as shelter, clothing, food, etc. For their greed, men have cleared a large area of forest for the production of crop plants and domestication of pet animals. In this way, organism-environment balances have been upset and many natural resources are getting depleted.

Thus, the substances present on Earth which can be used by man are called natural resources.

Sun energy, air, water, soil, flora and fauna are all natural resources.

**2.** Why are coal and petroleum non-renewable resources?

**Ans.** Coal and petroleum are the fossil fuels and present in limited

quantity in nature. These resources lack the ability for recycling and replacement. Due to this reason, these resources are called non-renewable resources.

**3.** Explain, how forest is a renewable natural resources.

**Ans.** Forests are exhaustible natural resources and present in limited quantity. These are renewable natural resources because they have the ability for recycling and replacement. But nowadays, indiscriminate use of forests is up setting the ecological balance of environment.

**4.** How is water essential for life?

**Ans.** We cannot imagine life without water. Because 70 percent of body weight is due to water and it is also an important medium for all the biochemical reactions within the body of organisms. Thus, water is essential for life.

**5.** Mention a few uses of forests.

**Ans.** Forests are the renewable resources on Earth and are used in a number of ways:

- (i) They regulate the balance of  $\text{CO}_2$  and  $\text{O}_2$  in the atmosphere.
- (ii) They prevent soil erosion.
- (iii) They provide habitat for wild animals.
- (iv) They are the good sources of raw materials for different industries.

**6.** Write about alternative sources of energy.

**Ans.** The sources of energy which can be used after the depletion of fossil fuels are called alternative sources of energy.

Now a days, scientists are more concern to alternative sources of energy because fossil fuels will last after some years.

India is one of the pioneer countries for the development and utilisation of alternative technologies of energy. Some alternative sources of energy are as follows:

1. Biogas
2. Solar energy
3. Wind energy
4. Hydel energy
5. Nuclear energy.

7. Write a short note on deforestation.

**Ans.** Population of human beings is increasing day-by-day. So, there is competition for food and shelter. To complete the demand of food for increased population, the forests are cut down to clear the land for the production of crops. Thus, the complete or partial removal of trees and vegetation from an area of land by human beings for the purpose of food and shelter is called deforestation. Due to deforestation, there is global climate change that contribute the **green house effect**. Green house effect is the natural phenomenon that maintains the global temperatures. Due to loss of trees, global temperatures are increasing day-by-day. This is the most concerning problem for ecologists.

8. What is meant by conservation of forests? Mention three methods of forest conservation.

**Ans.** The partial and complete removal of trees and vegetation from an area of land by human beings is called deforestation. Due to deforestation, we are facing various problems such as soil erosion, green house effect etc.

Conservation of forest does not mean that we have to stop the use of forests. It means we have to use it wisely and judiciously.

**Methods of forest conservation:**

- (i) **Afforestation** means planting of trees on barren land.
- (ii) **Overgrazing** must be avoided on green land.
- (iii) Use **shifting cultivation** means clear one part of forest and use it for agriculture. After some time when soil fertility is exhausted, abandon the land and clear another pieces of forests.

9. How can you conserve wildlife?

**Ans.** Any living or dead nondomesticated animals living in natural environment is included under wildlife. Wild animals are killed for human greed such as meat, ivory, furs, etc. Due to it killing

of wild animals, some animals are on the edge of extinction. So, we must conserve the destruction of wildlife.

**Conservation of wildlife:**

- (i) There should be proper laws to prevent hunting of wild animals.
- (ii) Wildlife sanctuaries and parks should be protected for wild animals.
- (iii) Illegal trading of wildlife products such as skins, elephant tusks etc. should be checked.
- (iv) Wild animals in sanctuaries should be watched by the forest department to protect them.

**10.** Define pollution and pollutant.

**Ans.** Any undesirable change in the environment which is brought about by human activities and harmful for living organisms is called pollution.

The materials that cause pollution are called pollutants.

**11.** List any three pollutants each of air, water and soil.

**Ans. Pollutants of air.**

- (i) Carbon monoxide
- (ii) Sulphur dioxide
- (iii) Nitrogen oxide

**Pollutants of water.**

- (i) Agricultural wastes fertilizers, insecticides and pesticides.
- (ii) Industrial wastes.
- (iii) Sewage (contains detergent and animal excreta).

**Pollutants of soil.**

- (i) Artificial fertilizers
- (ii) Garbage and wastes like glass and plastic bottles.
- (iii) Pesticides and weed killers.

**12.** How can air pollution be controlled?

**Ans.** Air pollution can be controlled by the following methods:

- (i) Control of industrial wastes and pollutants by law. Shift factories away from residential area.
- (ii) Use car pools by office goers and bicycle for short distance.

- (iii) Install long chimneys with filters in factories.
- (iv) Use CNG and lead free petrol as a fuel for buses and autorickshaws.
- (v) Plantation of more trees and not permitting the cutting of trees.

**13.** What are the chief sources of air pollution in big cities?

**Ans.** Chief sources of air pollution in big cities are petrol-run vehicles and industries.

**14.** List the harmful effects of noise on human health.

**Ans.** Human health is affected by noise pollution in many ways:

- (i) It damage ears and may cause partial deafness.
- (ii) Due to it a person may suffer from high blood pressure, headach, irritation, and sleeplessness.
- (iii) Anyone may go in mental depression.

**15.** What are the ways by which soil pollution can be controlled?

**Ans.** Soil pollution can be controlled by the following ways:

- (i) Use natural manure and compost in place of artificial fertilizers.
- (ii) Garbage and other wastes should be dumped away from residential area and agricultural fields.
- (iii) Nonbiodegradable wastes should be converted into useful products.
- (iv) Use of plastic should be banned.

**16.** What is the utility of hydroelectric power today?

**Ans.** Today, hydroelectric power is the major source of energy. It is an alternative source of energy. It is generated from the kinetic energy of water. Electricity is used in houses to run all the electricity appliances such as electric bulb, cooler, heater, etc.

**17.** What are the economic importance of wildlife?

**Ans.** Wildlife is a renewable source and beneficial to human beings in the following ways:

- (i) Many wild plants are useful for mankinds such as resins, gums, paper, tember, etc.

- (ii) Many wild animals are good sources of trade for their products such as honey, lac, skin, furs, etc.
- (iii) Fresh water and marine water fishes are good sources of food.
- (iv) Many microorganisms are used in industries for the manufacture of different products.

**18.** Name two renewable sources of energy.

**Ans.** Water and wildlife are two renewable sources of energy.

**19.** Differentiate between biodegradable and non-biodegradable pollutants.

<b>Ans.</b>	<b>Biodegradable pollutants</b>	<b>Nonbiodegradable pollutants</b>
	(1) These pollutants can be rapidly decomposed by the action of microorganisms.	(1) These pollutants can be altered or degraded very slowly.
	(2) These pollutants do not accumulate in the environment.	(2) These pollutants accumulate in the environment for a long time.
	(3) These pollutants do not harm the living organisms.	(3) These pollutants may enter in the food chain and harm the living organisms.
	(4) Paper, cloth, wood and faecal matter are some biodegradable pollutants.	(4) Organic compounds, DDT, insecticides, plastic and lead are some non-biodegradable pollutants

**20.** Oxygen in air is a renewable natural resource. Explain why?

**Ans.** Oxygen is a renewable natural resource and it is used by living organisms as a respiratory gas. In turn they produce carbon dioxide. Carbon dioxide is used by green plants in the process of photosynthesis and produce oxygen. Thus, oxygen is replaced by quick recycling through natural cycle.

- 21.** What is the cause of fall in water table in certain areas?  
**Ans.** If the rate of pumping out of ground water is more than the rate at which rain water percolates into Earth then there is fall in water table.
- 22.** How does drip irrigation method help in conserving water?  
**Ans.** Drip irrigation helps in conserving water because water is supplied to the roots drop-by-drop instead of filling the field with water.
- 23.** Cow dung or organic manures are preferred in place of chemical fertilizers. Give reasons.  
**Ans.** Cow dung or organic manures are preferred instead of chemical fertilizers. Chemical fertilizers are the major cause of soil pollution and water pollution. Organic manures prevent the moisture and increase the rate of percolation while chemical fertilizers cannot do it.

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