



SHIKSHA CLASSES

Sub. : Science
Std. : VIIIth - S.B.

Answer Paper
8. Pollution

Marks : 20

Q.1(A) : Choose the correct alternative

2

1) Which fertilizers when used in excessive amounts cause soil pollution that spreads to neighboring water bodies and cause water pollution too?

Ans : a) Chemical

2) What is the type of pollutants that are present in the industrial effluents that is released in the rivers and sea?

Ans : a) Inorganic

Q.1(B) : Solve any one of the following question

1

1) Consider the relation between the items in the first pair and write the correlation for second pair: Industrialization: Sulphur compounds : : : Lead compounds

Ans : Use of fuels/Transportation

2) Define pollution.

Ans : Contamination of natural environment that will be harmful to ecosystems is called as pollution.

3) Write true or false

More the use of electric appliances more will be the pollution.

Ans : True

Q.2(A) : Give reason (Any One)

2

1) Depletion in the ozone layer take place.

Ans : Depletion in the ozone layer take place because of the following reason

Greenhouse gases such as CO₂, methane, etc. are gases that absorb the heat of the Sun and the Earth and emit it back to the Earth's surface. Thus, these gases prevent a part of the heat rays from escaping into the atmosphere. This cycle is repeated several times to maintain the Earth's temperature to an optimum temperature of 15°C. Therefore, upto a normal level, greenhouse gases help in maintaining the temperature on the Earth.

However, the concentration of these gases has increased because of increased industrialization, which has lead to the heating up of the Earth's surface. As a result, the overall temperature of the Earth has increased, resulting in climatic changes. During the last century, the temperature of the Earth has increased by 0.6°C. This has lead to global warming.

The greenhouse effect can be controlled by reducing the use of fossil fuels. Fossil fuels produce greenhouse gases on burning.

2) Air is homogeneous mixture of different gases.

Ans : Air is a mixture of many gases .we cannot see the gases but by certain methds gases can be seperated form the air .Therefore air is a homogeneous mixture of different gases.

Q.2(B): Solve any two of the following question.

4

1) What is greenhouse effect?

- Ans :** i) Greenhouse effect is the phenomenon due to which global warming and climate change occur.
- ii) The earth receives solar energy in the form of heat from the sun. The surface of earth absorbs this heat and reflects it back to the atmosphere as infrared radiation. Some of this heat energy goes directly into space.

2) Write the source and effects of air pollutant CO,CH₄

Ans : **Source of CO:** Vehicular and industrial smoke.

Effect of CO: Lowered O₂ carrying capacity of blood.

Source of CH₄: Industrial leakage

Effect of CH₄: Poisoning, skin cancer, asthma, respiratory diseases.

3) Write the effect of acid rain.

- Ans :** i) Acidity of soil and water bodies increases due to acid rain
- ii) Erosion of buildings, rusts, bridges, metal idols occurs due to acid rain.
- iii) Heavy metals like mercury and cadmium are absorbed up by plants and thereby enter the food chain indirectly due to acid rain.
- iv) Due to acidification of water in water bodies and pipes, leaching of metal and plastic material occurs in water and thereby serious health problem arise.

4) Write definitions: a) Air pollution. b) Water pollution.

Ans : **a) Air pollution :** Contamination of air by toxic gaseous and particulate pollutants in concentration which is harmful to human beings and his surroundings is called air pollution.

b) Water pollution : When toxic and unwanted substances enter, dissolve or remain suspended in the water bodies deteriorating the quality of water and affecting the aquatic ecosystem, then it is known as water pollution.

Q.3 : Solve any two of the following question.

6

1) What are natural reasons causes for water pollution?

Ans : **The natural causes of the water pollution:**

- 1) If organic pollutants are added to the water there is an overgrowth of weeds such as Eichhornia. The growth of algae also makes the water unsuitable for consumption. These aquatic plants release oxygen during daytime but by night they require oxygen thus depleting the dissolved oxygen level. The natural characters of water are then changed.
- 2) The decomposing matter when added to the water make it polluted and stinking.
- 3) Due to deposition of sludge or eroded soil, the rivers change their path and divert from original flow. The currents are also changed. Deposition of sludge makes the water polluted.
- 4) Due to soil erosion, surrounding the water bodies, the microbes, bacteria, protozoans and the worms and larvae of nematodes enter the water causing severe biological pollution. Many inorganic pollutants are also added to the water. The fungus and bacteria present in the water make it non-potable. Such water spreads water-borne diseases.

2) Suggest four preventive measures for air pollution.

Ans : **The following methods are adopted to control air pollution from the industries:**

- 1) The source discharge is diluted by tall chimneys.

- 2) There are source correction methods like changing the raw material, equipment modification, process modification, etc.
- 3) Effective pollution controlling equipment like dust collectors, electrostatic precipitators, wet scrubbers, etc. should be used.
- 4) There should be ban and control over atomic tests and chemical weapons on the international level.

3) Explain relation between greenhouse effect and global warming.

Ans : Because of greenhouse effect, there is increase in the global temperature. The heat on the earth remains trapped due to envelope of greenhouse gases. The percentage of carbon dioxide and methane is constantly increasing and hence there is increase in the temperature too. Thus the greenhouse effect is directly related to the global warming.

Effects of this relation between greenhouse effect and global warming are as follows:

- 1) The polar ice caps and the glaciers at both the poles are melting due to increased temperature.
- 2) The oceans water is rising due to this melted ice. The sea level rise is causing coastal land submergence. The islands at various regions are threatened of drowning.
- 3) Many species of living organisms are already extinct due to global warming. The rest are also threatened.
- 4) Wild animals are showing weird migrations. Polar bear is endangered.
- 5) The increased temperature of the oceanic water is causing many changes in the tides and currents. This results into increased occurrence of cyclones, hurricanes and cloud bursting. The natural disasters are rising in last decade.
- 6) The agricultural production is decreasing. The regions with less rainfall are facing draughts.

4) Classify the following pollutants into natural and manmade categories. Sewage, dust, pollen grains, chemical fertilizers, vehicular smoke, algae, pesticides, waste of animals and birds.

Ans :

Man-made	Natural
1. Sewage	1. Dust (Natural)
2. Dust (Construction related)	2. Pollen grains
3. Chemical fertilizers	3. Algae
4. Vehicular smoke	4. Waste (Excreta) of animals and
5. Pesticides	

Q.4 : Solve any One of the following question.

5

1) Explain the relationship of soil pollution with air and water pollution.

Ans : If wet waste is dumped at wrong places instead of composting, pathogens grow upon it which are then mixed with water causing water pollution. Insecticides, chemical fertilizers, weedicides are used in agriculture, which causes soil pollution. Excessively sprayed insecticides and weedicides are mixed with air causing air pollution. Similarly excessive use of chemical fertilizers causes water pollution.

Soil pollution occurs due to mixing of human wastes, birds and animals waste. This releases various stinking gases causing air pollution. Same waste may cause water pollution if mixed with water.

2) Following are some statements about pollution which type of pollution do those express?

A) Fog seems to be appearing in Delhi during day hours.

B) Many times, vomiting and dysentery occurs after eating 'pani puri'

C) Problem of sneezing occurs sometimes during visit to garden.

D) Crop does not grow up in some areas.

E) People living in the busy squares face the problems like short breathing and other respiratory problems.

- Ans :** A) Air pollution
B) Water pollution
C) Air pollution
D) Soil pollution
E) Air pollution

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