CBSE TEST PAPER 04

CLASS XI CHEMISTRY (Environmental Chemistry)

General Instruction:

- All questions are compulsory.
- Marks are given alongwith their questions.

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1. What is BOD? [1]

2. What does the amount of BOD signify? [2]

3. Define green chemistry. [1]

4. What are pesticides? [1]

5. What should be the pH of drinking water? [1]

6. What is the effect of excess of SO_4^{2-} ion in drinking water. [1]

7. What is the desirable concentration of fluoride ion $\left(F^-\right)$ in drinking water? [1]

8. What is pneumoconiosis? [2]

9. Discuss the water pollution caused by industrial water? [3]

10. What is an insecticide? [1]

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[ANSWERS]

Ans 01.Biochemical oxygen demand (BOD), also called biological oxygen demand) is the amount of dissolved oxygen needed (i.e., demanded) by aerobic biological organisms to break down organic material present in a given water sample at certain temperature over a specific time period..

Ans 02. The amount of BOD in water is a measure of the amount of organic material in the water, in terms of how much oxygen will be required to break it down biologically. Clean water would have BOD value of less than 5 ppm whereas highly polluted water would have a BOD value of 17 ppm or more.

Ans 03. The branch of chemistry that emphasizes on the processes and products that reduce or eliminate the use and generation of toxic / hazardous substances is called green chemistry.

Ans 04. Pesticides are those chemicals which are used to destroy pests, rats, parasites and fungi.

Ans 05. The pH of drinking water should be between 5.5 and 9.5.

Ans 06. Excess of SO_4^{2-} in drinking water (> 500 ppm) may cause a laxative effect.

Ans 07. 1ppm or 1 mg dm^{-3} is desirable concentration of $\left(F^{-}\right)$ ions in drinking water.

Ans 08. The smaller particulate pollutants are more likely to penetrate into the lungs. These five particles are carcinogens Inhalation of small particles irritates the lung and exposure to such particles for long period of time causes fibrosis of the lung lining. These type of disease is termed as pneumoconiosis.

Ans 09. The compounds of lead, mercury, Cd, Ni, Co, Zn etc which are the products of chemical reactions, carried in the industrial units, pollute water to a large extent and are responsible for many disease. Mercury leads to minimarts disease, lead poisoning leads to many deformities. In addition, these substances adds to the soil and harmfully affect the plant growth and the whole soil biotic system. Both ground water and water bodies are polluted due to chemical reactions known as leaching.

Ans 10. Insecticides are used to control insects and curve disease (for eg. malaria and yellow fever) and protect crops. Eg. DDT.