

Q.3 a) What do you mean by 'Hydrosphere'? Name its varied components. Discuss microbial mediated redox reactions in water. [06]

b) Give an account of inorganic and organic particulate matters. [06]

OR

b) Illustrate the terms 'Pathway of Pollutants'. Write a note on source and sink of NO_x .

Q.4 a) Which method is used for the quantitative determination of atmospheric trace gases? Discuss it in detail with suitable diagram. [06]

b) Explain the analysis of $\text{NO} - \text{NO}_x$ and $\text{CO} - \text{CO}_x$. Discuss its effects. [06]

OR

b) Discuss source of atmospheric pollutants SO_2 and its effect on environment. If SO_2 in 25 liters of air was collected by drawing the sample through 200 mL, 0.02017 M I_2 at pH 1 remaining in solution was back titrated with 42.0 mL, 0.1041 M $\text{Na}_2\text{S}_2\text{O}_3$. Calculate the concentration of SO_2 in unit mg of SO_2 per liter of air. (At.Wt. S=32)

Q.5 a) Give the detailed account on trace components of water. Discuss its analysis and significant effect. [06]

b) Illustrate the source of water pollution. Discuss the significance of BOD, COD and DO. [06]

OR

b) Explain the environmental toxicology. Discuss the effect of pesticide in water and its biochemical effect.

Q.6 a) Illustrate the solid waste management programme and strategies. [06]

b) Why salt analysis of soil is required? How it is done? A sample of soil weighing 1.450gm was dissolved with buffer 10 pH, a few drops of EBT indicator was added and this solution required 31.62ml of 1.538×10^{-2} M EDTA solution to reach the end point. Calculate percentage of Mg in the given soil sample. (Mg = 24) [06]

OR

b) How to measure moisture in soil? Explain various method of analysis.

———— X ————