

Roll No. ....

Total Pages : 4

**1781/M**

**M-35/2051**

**ENVIRONMENTAL CHEMISTRY**

Paper-401

Semester-IV

Time allowed : 3 Hours] [Maximum Marks : 55

**Note:** The candidates are required to attempt two questions each from section A carrying 8 marks and section B carrying 8½ marks each and the entire Section C consisting of 11 questions carrying 2 marks each.

**SECTION-A**

1. Explain the concept and scope of Environmental Chemistry. 8
2. What do you mean by air pollutants? Discuss in detail the chemistry of air pollutants with suitable examples. 8

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3. (a) Write a note on chemical and photochemical reactions taking place in the atmosphere. 4
- (b) Describe the development mechanism of acid rain. 4
4. (a) Describe various equipments involved in the monitoring of air pollutants. 4
- (b) How to ascertain the path of pesticides in environment? Explain? 4

**SECTION-B**

5. (a) Describe various toxic pollutants present in the environment. Also discuss the threshold values of toxic pollutants and the various methods to minimize them. 4½
- (b) Describe BOD and COD of industrial effluent. 4

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6. Discuss principle, theory and instrumentation of Atomic Absorption Spectroscopy. How is it utilized for the analysis of pollution data? 8½
7. Write notes on the following :
- (a) Various columns used in ion-chromatography. 4½
- (b) FTIR and pollution analysis. 4
8. (a) Describe the analysis of metal pollutants in effluents. 4
- (b) Discuss biochemical effects of Hg, Cd, As and Pb. 4½

- (v) Discuss the role of micro-nutrients in soil.
- (vi) What is meant by coagulation?
- (vii) Explain "Degradation of pesticides."
- (viii) Define Lambert Beer Law.
- (ix) What is the role of detector in Ion-chromatography?
- (x) Discuss the mechanism of scale formation.
- (xi) What do you mean by disinfectants? Explain.

2×11 = 22

### SECTION-C

9. (i) Explain green house effect.
- (ii) What are environmental segments?
- (iii) What is meant by photochemical smog?
- (iv) Describe water standards for drinking water.