

M.Sc. (Envi.) Semester - 2 (CBCS) Examination**March/April - 2024****Environmental Chemistry (Core)****Time: 02:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q.1 Answer the following (Any Seven) (14)**
- (1) Explain stoichiometry.
 - (2) What is chemical potential?
 - (3) State the names of unsaturated hydrocarbons.
 - (4) What is the difference between DO and BOD?
 - (5) Define coagulation.
 - (6) What is the significance of BOD?
 - (7) What is the importance of NPK in soil?
 - (8) Give the names of organic compounds of soil.
 - (9) Write a full form of MIC.
 - (10) State the effect of lead on the environment.
- Q.2 Answer the following (Any Two) (14)**
- (1) Write a note on pesticides and insecticides.
 - (2) Describe carcinogens in the air.
 - (3) Explain the effect of carbon monoxide and PAN.
- Q.3 Answer the following**
- (1) Explain the sedimentation in water. (05)
 - (2) Describe the concept of Chemical Oxygen Demand. (05)
 - (3) Write a note on redox potential. (04)
- OR**
- Q.3 Answer the following**
- (1) Discuss the filtration in water treatment. (07)
 - (2) Describe the chemistry of water. (07)
- Q.4 Answer the following**
- (A) Any two out of three questions**
- (1) Write a note on Gibbs energy. (05)
 - (2) Explain saturated hydrocarbons with examples. (05)
 - (3) Discuss the fundamental environmental chemistry. (05)
- (B) Any one out of two questions**
- (1) Write a note on radionuclides. (04)
 - (2) Discuss the acid-base reaction in short. (04)
- Q.5 Answer the following (Any Two) (14)**
- (1) Describe the soil microorganism and their functions in detail.
 - (2) Write a detailed note on inorganic and organic compounds of soil.
 - (3) Explain the nitrogen pathway.
 - (4) Discuss the degradation of weedicides in soil.
