

M.Sc. (Envi.) Semester - 2 (CBCS) Examination
May/June-2022 (New Course)
Environmental Chemistry (Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

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

Q.1 Answer the following (Any Seven) (14)

1. What is soil microbiology?
2. Explain NPK in soil.
3. State effect of PAN (Peroxyacetyl Nitrate) on health.
4. What are the advantages and disadvantages of insecticides?
5. Define the BOD.
6. What is coagulation?
7. Discuss Gibbs Free energy.
8. Give name of carcinogens found in air.
9. Define stoichiometry.
10. What is solubility product?

Q.2 Answer the following (Any Two) (14)

1. What are the heavy metals? Discuss biochemical aspect of it.
2. Write a note on Methyl Isocyanide (MIC).
3. Discuss the effect of Carbon monoxide and Ozone.

Q.3 Answer the following (14)

1. Write a note on chemical properties of water (05)
2. Discuss the sedimentation and filtration (05)
3. Explain in details redox potential. (04)

OR

Q.3 Answer the following

1. Describe the dissolved oxygen. (07)
2. Write a note on chemical oxygen demand. (07)

Q.4 Answer the following**a) Any two out of three questions**

1. Explain unsaturated and saturated hydrocarbons. (05)
2. Describe acid base reaction. (05)
3. Discuss the radionuclides. (05)

b) Any one out of two questions

1. Elaborate chemical potential and chemical equilibrium. (04)
2. Write a note on carbonate system. (04)

Q.5 Answer the following (Any Two) (14)

1. Write a note degradation of pesticides in soil.
2. Explain the soil microorganism and their functions in details.
3. Discuss the inorganic and organic compounds of soil
4. Describe the Nitrogen pathways in details.
