PB **5250**

Roll No. _____ Total No. of Pages: 02

M.Sc. (Semester - IV) Examination - June - 2026
Chemistry
PAPER - 4.1
CHEM
Environmental Chemistry
(Common for all Specializations)

Time Allowed: Three Hours **Maximum Marks: 70**
Min. Pass Marks: 28

This question paper contains two sections as under

Section - A **(खण्ड - अ)** **Max. Marks-20**

This section will have 10 questions, having 02 questions from each unit with no internal choice. Answer in about 20 words. All questions will have equal marks. (02×10=20)

Section - B **(खण्ड - ब)** **Max. Marks-50**

This section will have 10 questions, having 02 questions from each unit, one question to be attempted from each unit. Words limit approximately 400-500 words. Questions may have sub divisions. All questions will have equal marks. (10×05=50)

Section-A

1. i) For which type of particulate Matter Venturi Scrubbers are particularly suitable?
   ii) Bag filters are not suitable for which type of particles?
   iii) Name the processes by which pesticides can be biodegradable.
   iv) Name two biodegradable detergents.
   v) Name compounds which are more resistant to decomposition in soil.
   vi) Give two main effect of Mining practices.
   vii) What is Scouring?
   viii) What is the amount of dissolved oxygen required for the oxidation of 1 mg of carbon?
   ix) Why the radio toxicity of alpha radiations is higher than Beta emitters?
   x) Name the techniques by which the dispersion of radioactive isotopes in solution can be detected.

Section-B

Unit-I

2. What is Acid Rain, Give relationship that exists between Acid rain containing SO_2 and Metal corrosion. List general options for the control of Acid Rain.

OR

3. Explain Fabric Filter System and Electrostatic precipitation methods to control the particulate Emission.

Unit-II

4. What are the effects of oil pollution in Marine Water. Explain the Physical and Chemical methods as counter measures against the oil spills.

OR

5. What is Eutrophication? Explain its effects and the measures to control it.

Unit-III

6. What is Soil remediation? Explain.

OR

7. Explain briefly the effect of Urban and Industrial waste on soil pollution.

Unit-IV

8. Write a short note on the classification of Industrial effluents.

OR

9. Explain briefly the principles of Industrial waste treatment.

Unit-V

10. Write a short note on -
    a) Radioactive fallout
    b) Nuclear Reactors

OR

11. Explain briefly Radioactive Ore processing.

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