FACULTY OF SCIENCE
Subject : Biochemistry
Paper – III : Bio Analytical Techniques

Time : 3 Hours
Max. Marks: 80

Note : Answer all questions from Part–A and Part–B. Each question carries 4 marks in Part–A and 12 marks in Part – B.

PART – A (8 x 4 = 32 Marks)
(Short Answer Type)

1. Principle of AAS
2. Beer Lambert’s Law
3. Applications of ion-exchange chromatography
4. Principle of HPLC
5. Pulse field gel electrophoresis
6. Types of rotors
7. Phosphor – imaging
8. GM counter

PART – B (4 x 12 = 48 Marks)
(Essay Answer Type)

9. (a) Discuss the instrumentation, principle and applications of fluorescence spectroscopy.
   OR

   (b) Write a note on:
       (i) Difference between NMR and ESR spectroscopy
       (ii) Principle and applications of circular dichroism

10. (a) Discuss about:
     (i) N-terminal sequencing of proteins
     (ii) Principle and applications of gel filtration chromatography
     OR

     (b) Give an account on:
        (i) Principle and applications of GC
        (ii) Applications of affinity chromatography

11. (a) Explain the principle, applications and instrumentation of ultra centrifugation.
    OR

    (b) Write a note on:
        (i) Zymography
        (ii) Southern blotting

12. (a) With suitable examples discuss about, the biologically useful isotopes.
    OR

    (b) Give an account on:
        (i) Safe disposal and radioactive waste
        (ii) Mesel son and Stahl expt

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