FACULTY OF SCIENCE

M. Sc. I – Semester (CBCS / Non-CBCS) Examination, December 2013

Subject: Biochemistry

Paper – III (103): Bioanalytical 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)

Write a note on the following:
1. Molar extinction coefficient
2. Atomic absorption spectroscopy
3. Principle of TLC
4. Peptide mapping
5. Zonal electrophoresis
6. Types of rotors
7. Autoradiography
8. Meselson and Stahl experiment

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

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

(b) Give an account on principle and applications of
   (i) CD
   (ii) Mass spectroscopy

10.(a) Explain the principle, instrumentation and applications of GC.

(b) Describe the principle and applications of:
   (i) Affinity chromatography
   (ii) RP-HPLC

11.(a) Give an account on:
   (i) Ultracentrifugation
   (ii) DNA - Foot printing

(b) Write a note on
   (i) Zymography
   (ii) IEF
   (iii) Northern Blotting

12.(a) Explain the following:
   (i) GM counter
   (ii) Disposal of radioactive waste

(b) Give an account on the following:
   (i) Phosphor-imaging
   (ii) Isotopes used for labeling proteins & nucleic acids

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