Code No.: 8644

FACULTY OF SCIENCE

M.Sc. I Semester Examination, May/June 2012

BIOCHEMISTRY

Paper IV

(Biophysical and Miscellaneous Methods)

Time : 3 Hours] [Max. Marks : 80

Answer **all** questions.

Section A — (Marks : 8 × 4 = 32)

(Short Answer type)

1. Electromagnetic spectrum
2. Monochromator
3. Differential centrifugation
4. Wall effect of a particle inside the rotor tube
5. Radioactive Isotopes
6. Write about tracer techniques?
7. Dark field polarization fluorescence
8. Fluorescence microscopy.

Section B — (Marks : 4 × 12 = 48)

(Essay type questions)

9. (a) Write the principle construction of UV-visible spectrophotometer and its applications in biological research.

Or

(b) Explain spectrofluorimetry and its applications.

10. (a) Write about density gradient centrifugation and its applications.

Or

(b) Explain Molecular weight determination of macromolecules using analytical ultracentrifuge. Add a note on preparative ultracentrifuge.

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11. (a) Write about the applications of radioactive isotopes in biomedical research.

Or

(b) Write about radiation hazards and various methods of radioactive disposal.

12. (a) Write about principle, design and applications of Electron microscope.

Or

(b) Write about Confocal and Atomic Force Microscopy. What are the applications of Confocal microscopy in biological research?
