



Code No. : 019

**FACULTY OF SCIENCE**  
**M.Sc. I Semester Examination, Nov./Dec. 2012**  
**BIO-CHEMISTRY**  
**Paper – IV (Biophysical and Miscellaneous Methods)**

Time: 3 Hours]

[Max. Marks: 80

**SECTION – A**  
**(Short Answer Type)**

**Note** : Answer **all** questions.

**(8×4=32 Marks)**

1. Beer-Lamberts law
2. Colorimeter
3. Density gradient centrifugation
4. Relative centrifugal force
5. GM Counter
6. Methods of radioactive disposal
7. Polarimetry
8. Fluorescence microscopy.

**SECTION – B**  
**(Essay Type Questions)**

**Note** : Answer **all** questions.

**(4×12=48 Marks)**

9. a) Write a note on principle, construction and applications of atomic absorption spectrophotometer.

OR

- b) Discuss the principle and applications of spectrofluorometry.



10. a) Write a note on differential centrifugation and its applications.

OR

- b) Give an account on :
- i) Methods of cell disruption.
  - ii) Preparative ultracentrifuge.

11. a) Describe the application of radioisotopes in biochemical analysis.

OR

- b) Write a note on
- i) Radiation hazards
  - ii) Half-life and decay of radioactivity.

12. a) Describe the design, principle and applications of electron microscopy.

OR

- b) Give an account on :
- i) Flow cytometry
  - ii) Phase contrast microscopy.