

Exam.Code:0004  
Sub. Code: 0359

2012

B.A./B.Sc. (General) Fourth Semester  
Bio-Chemistry  
Paper – A: Advanced Bio-Chemical Techniques

Time allowed: 3 Hours

Max. Marks: 45

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. Give answer of the following:-

- a) What is homogenization?
- b) What is FITC?
- c) Write the significance of surface tension?
- d) Give the names of two radioactive techniques.
- e) Give the names of Cryopreservation agents?
- f) Use of autoclave in tissue culture.
- g) Extend FISH?
- h) Technique based on electron spin properties.
- i) Write the names two instruments which used protein studies? (9x1)

UNIT - I

II. Write short notes on:-

- a) Cell sorting
- b) Cryopreservation (5,4)

III. a) Application of animal tissue culture.

- b) Role of viscosity in biological system. (4,5)

UNIT - II

IV. a) What is florescence? Write about one fluorescence-based technique in the genetics.

- b) What do mean my FISH? Write the name of various components of FISH techniques? (5,4)

P.T.O.

(2)

- V. a) What are requirements of FIA? Write the methods of direct fluorescent immune assay?  
b) Write the only principle of flow cytometer. (5,4)

**UNIT - III**

- VI. a) What is radioactive material? Write the properties of radioactive decay.  
b) What is the GM counter? How liquid scintillation is better than GM counter. (4,5)
- VII. a) Write about labeling of biochemical compounds.  
b) Mentioned the applications of autoradiography in metabolic pathway studies. (5,4)

**UNIT - IV**

- VIII. a) Describe the various parts of ESR, also write its principle.  
b) What is Mass spectroscopy? Write the structure and applications of MALDI-TOF. (4,5)
- IX. a) Write about the principle and structure of atomic spectroscopy.  
b) Write various applications of atomic spectroscopy. (5,4)

x-x-x