

2071
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. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Write in very brief on the following:-

- a) Viscosity.
- b) Surface tension?
- c) Write the names of two cell culture techniques.
- d) Cell sorting.
- e) Cryopreservation agents?
- f) Liquid scintillation counting.
- g) Extend MALDI.
- h) Gama rays.
- i) Radio isotopes

(9x1)

UNIT - I

II. Write short notes on:-

- a) Animal culture?
- b) Difference between osmosis and diffusion

(5,4)

- III. a) Write the principles of cryopreservation.
b) Cell counting.

(5,4)

UNIT - II

- IV. a) What are fluorescence immunoassays? Write the methods of direct fluorescent immune assay.
b) What is FISH technique? Write outline of procedure/ experiment.
- V. a) Write the method of fluorescence activated cell sorting. Write its application in the biological sample.
b) Write the principles of cell sorting methods.

(4,5)

(5,4)

P.T.O.

UNIT - III

- VI. a) What is radioactive tracer? Write the different applications of tracer elements.
b) Write a short note on liquid scintillation counting for the measurement of radioactivity. (5, 4)

- VII. a) What is GM counter? How it measure the amount radioactivity in sample?
b) Write about the autoradiography. Also mentioned uses in metabolic pathways. (4, 5)

UNIT -IV

- VIII. a) Write the application of atomic spectroscopy.
b) What is the principle of MALDI? Write about instrumentation of MALDI-TOF. (4,5)
- IX. a) Write physical basis of Nuclear magnetic resonance.
b) What is the ionization source in mass spectroscopy, write about the Electrospray ionization (ESI) (5,4)