

1058

B.A./B.Sc. (General)-4<sup>th</sup> 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.

- \* - \* - \*

I. Write short notes on the following: -

- (a) Sonication
- (b) Surface Tension
- (c) Cell Sorting
- (d) Biological hazards of Radiation (3+2+2+2)

**UNIT - I**

II. Write applications of the following techniques to the biological system:

- (a) Homogenisation
- (b) Ultrafiltration (5+4)

III. Write notes on the following: -

- (a) Animal Cell Culture
- (b) Cryopreservation (5+4)

**UNIT - II**

IV. Write principle and application of Fluorescence Activated Cell Sorting (FACS).

(9)

V. Explain the following: -

- (a) Membrane Fluidity
- (b) Biochemical Probe (5+4)

**UNIT - III**

VI. Write notes on the following: -

- (a) Autoradiography
- (b) Radioimmunoassay (5+4)

VII. Discuss the following techniques: -

- (a) Liquid scintillation counting and Gamma counter
- (b) Use of radioactive tracer in the study of enzyme reaction mechanisms. (5+4)

**UNIT-IV**

VIII. Discuss the theory of application of atomic spectrometry.

(9)

IX. Discuss the theory and application of mass spectrometry.

(9)

- \* - \* - \*