

Total No. of Questions : 3]

SEAT No. :

P1879

[4936]-402

[Total No. of Pages : 2

M.Sc.

BIOTECHNOLOGY

**BT - 402 : Advanced Biochemical and Biophysical Techniques
(2013 Pattern) (Semester-IV) (Credit System)**

Time : 3Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat labelled diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

Q1) Answer the following(any four):

[20]

- a) Explain the principle of HPLC and detectors used in it.
- b) Give the safety aspects of use of radioisotopes.
- c) Explain principle and instrumentation required for the x-ray crystallography.
- d) Write a short note on FISH technique.
- e) Comment on resolving power of microscope.
- f) Explain why liquid scintillation counter is more efficient than GM counter?

Q2) Answer the following (any four):

[20]

- a) Enlist the applications of infra red spectroscopy.
- b) Discuss Radioimmuno assay with its applications.
- c) What are the components of MALDI-TOF-MS? Write the function of any four components in brief.
- d) Write a short note on immunofluorescence.
- e) Explain the technique of protein separation based on pI value.
- f) Describe the principle and working of flow cytometry.

P.T.O.

Q3) Answer the following(any one):

[10]

- a) Discuss the principle, working and applications of affinity chromatography.
- b) Explain the principle, working and applications of scanning electron microscopy(SEM).

