Roll No. | | | | | | | | | | | | **Total No. of Pages: 02**

Total No. of Questions: 09

B.Sc (BT) (Sem. – 4)

ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY

Subject Code: BSBT407-18

M Code: 77696

Date of Examination : 20-12-2022

Time: 3 Hrs. **Max. Marks: 60**

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer the following:

   a) What is the principle of adsorption chromatography?

   b) What is a radiotracer?

   c) What is the role of an optical system in an ultracentrifuge?

   d) What is a calomel electrode in pH meter?

   e) How does the pore size of gel effect electrophoretic mobility?

   f) What is 2D electrophoresis?

   g) What is polarizability?

   h) What is a chemical shift?

   i) What is Beer's law?

   j) What is bathochromic shift?

SECTION-B

2. Discuss the technique of affinity chromatography.
3. Explain the procedure of GM counting.
4. Discuss the method of sedimentation equilibrium centrifugation.
5. Describe the technique of dark field microscopy.
6. Discuss the implications of Raman Spectra for a simple molecule.

SECTION-C

7. Explain the technique of Agarose gel electrophoresis for nucleic acids.
8. Discuss the principle and working of liquid Scintillation Counter.
9. Discuss the instrumentation for Scanning Electron Microscope.