

Exam. Code : 107405

Subject Code : 2293

**B.Sc. (Biotechnology) 5th Semester
BIOPHYSICAL AND BIOCHEMICAL
TECHNIQUES—A**

Paper—BT-6

Time Allowed—3 Hours] [Maximum Marks—40

Note :—Attempt all the questions of Section A, FIVE questions from Section B and TWO questions from Section C.

SECTION—A

Explain the following briefly :—

1. Partition Co-efficient.
2. Swinging-bucket rotor.
3. Sedimentation Co-efficient.
4. Ammonium sulphate precipitation.
5. Retention time.
6. Molar Extinction co-efficient
7. Transmittance.
8. Specific activity. 1×8=8

SECTION—B

1. Discuss briefly different types of rotors of a centrifugation machine.

2. What is analytical centrifugation ? Explain its theory and applications.
3. What is gel-exclusion chromatography ? Explain its applications.
4. Differentiate between ion-exchange and affinity chromatography.
5. What is gas liquid chromatography ? Give its applications.
6. Discuss briefly that how fast protein liquid chromatography is helpful in the purification of proteins.
7. What is Lambert-Beer's Law ?
8. Write a note on double beam spectroscopy.

4×5=20

SECTION—C

1. Define centrifugation. Describe the differential and density gradient centrifugation.
2. Discuss the principle and applications of paper and thin layer chromatography.
3. Discuss the principle and applications of HPLC.
4. What is spectroscopy ? Discuss visible spectroscopy.

6×2=12