

Exam. Code : 107405

Subject Code : 1859

B.Sc. Biotechnology 5th Semester

BIOPHYSICAL & 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

1. Explain the following briefly :—

- (a) Absorbance.
- (b) Centrifugal force.
- (c) Void volume.
- (d) Specific extinction Co-efficient.
- (e) Cation-exchangers.
- (f) Sepharose.
- (g) Partition co-efficient.
- (h) Electromagnetic spectra.

1×8=8

SECTION—B

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

3. Describe the applications of density gradient centrifugation.
4. What is affinity chromatography ? Explain its applications.
5. Describe briefly the principle and applications of ion-exchange chromatography.
6. What is fast protein liquid chromatography ? Give its applications.
7. What is spectroscopy ? Discuss UV spectroscopy.
8. What is double beam spectrophotometer ?
9. What is NMR ? Explain briefly. 4×5=20

SECTION—C

10. Define centrifugation. Describe the analytical centrifugation. Give its applications.
11. What is gel-exclusion chromatography ? Explain its principle and applications.
12. Discuss the principle and applications of HPLC.
13. Explain Lambert-Beer's Law in detail. 6×2=12