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Exam. Code : 107405
Subject Code : 2234

B.Sc. Biotechnology 5th Semester

BIOPHYSICAL & BIOCHEMICAL TECHNIQUES—A

Paper—BT-6

Time Allowed—Three Hours] [Maximum Marks—40

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

SECTION—A

Explain the following briefly :

1. Void volume
2. Swing out rotor
3. Extinction
4. Sedimentation Co-efficient
5. TLC
6. Cation-exchangers
7. Transmittance
8. Molar extinction Co-efficient. 1×8=8

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SECTION—B

1. Describe the applications of analytical centrifugation.
2. Describe ultra centrifugation and give its applications.
3. What is affinity chromatography ? Discuss its principle.
4. Describe briefly the principle and applications of ion-exchange chromatography.
5. Discuss the principle of UV/Visible Spectroscopy and briefly explain their applications in biochemistry.
6. Discuss briefly the HPLC.
7. Explain the principle of fast protein liquid chromatography.
8. What is NMR ? Explain briefly. 4×5=20

SECTION—C

1. What is differential centrifugation ? How does it differ from density gradient centrifugation ? Discuss the importance of differential centrifugation in biochemistry.
2. What is gel-exclusion chromatography ? Explain its principle and applications.
3. Discuss the principle and applications of FPLC.
4. Explain Lambert-Beer's law in detail. 6×2=12

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