



DCU-1603120202010100 Seat No. \_\_\_\_\_

**M. Sc. (Sem. I) (Remedial) (CBCS) Examination**

**August - 2022**

**Biochemistry**

**IBC-1 : Analytical Techniques**

Time : Hours]

[Total Marks : 70

**1** Answer briefly any seven of the following questions : **14**

- (1) Define term : Tissue Fixation.
- (2) Define term : Stain.
- (3) Define term : Isoelectric point.
- (4) Mention the Role of Glycerol, SDS in loading buffer of PAGE.
- (5) Define term : Chromatography.
- (6) What do you mean by gel permeation ?
- (7) Write any four applications of autoradiography.
- (8) What is Beer - lamberts law ?
- (9) Write about the factors affecting IR band.
- (10) Give the four application of GC-MS.

**2** Answer any two of the following questions : **14**

- (a) Write note on Electron microscopy. Give any four differences between SEM & TEM with diagram.
- (b) Explain cell membrane fraction with any one centrifugation techniques.
- (c) Discuss sample Illumination system of Raman spectroscopy Advantage & Disadvantage of Raman over IR.

**3** (a) Write note on X-ray diffraction for elucidation of 3D structure. **7**

- (b) Difference between normal phase & reverse phase chromatography ? Write note on reverse phase chromatography. **7**

**OR**

- (c) Define ORD. Give fundamental principle and application of ORD.
- (d) Give account on fluorescence microscopy.

- 4 Answer the following questions : 14
- (a) Write note on Confocal Microscopy.
  - (b) Note on FPLC. Difference between FPLC & HPLC.
- 5 Answer the following questions : (Any two) 14
- (a) Give account on principle, applications and instruments of GC-MS.
  - (b) 2-D PAGE with its advantages & disadvantages.
  - (c) Write note on SDS-PAGE.
  - (d) Write about the ion exchange chromatography.
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