

**M.Sc. (Botany) Semester - 2 (CBCS) Examination
May/June-2021 (NEW COURSE)
Analytical Techniques (INTDESC)**

Time: 1:30 Hours

Marks: 42

Instructions:

1. Figure to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

Que. 1 Answer the Following. (Any seven out of ten question.)

(14)

- (1) What is Tissue fixation?
- (2) Draw labelled diagram of TEM.
- (3) What is Elution in chromatography?
- (4) What are the applications of Autoradiography?
- (5) What is Gel Permeation Chromatography?
- (6) Describe the working principle of Ion Exchange Chromatography.
- (7) Define the term 'Chromatography'.
- (8) Explain in short: staining techniques.
- (9) What is application of phase contrast microscope in biological sciences.
- (10) What is centrifugation?

Que. 2 Answer the Following. (Any two out of three)

(14)

- (1) Describe theories of tissue fixation and staining techniques.
- (2) Write about applications of Autoradiography.
- (3) Discuss about Phase contrast microscopy.

Que. 3 Answer the Following. (Any two out of three)

(14)

- (1) Explain the mechanism of Mass spectrometry.
- (2) Neutron and X-Ray diffraction for elucidation of 3D structure.
- (3) Write about Molecular modelling.

Que. 4 Answer the Following. (Any two out of three)

(14)

- (1) Write basic principle of chromatography.
- (2) Write a note on affinity chromatography.
- (3) Write about HPLC and FPLC.

Que. 5 Write any two out of four.

(14)

- (1) Applications of Centrifugation techniques.
- (2) 2D-PAGE and it's uses in protein research.
- (3) Fractionation and Blotting Techniques.
- (4) Basic principles of Electrophoresis.
