



DBZ-003-1142004 Seat No. _____

M. Sc. (Sem. II) (CBCS) (W.E.F. 2016) Examination

July - 2022

Botany : BOT-210

(Analytical Techniques)

Faculty Code : 003

Subject Code : 1142004

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 Answer the following : (any seven) 2×7=14**
- (a) Explain Beer-Lambert law and its limitations.
 - (b) What is phosphorescence ? Explain.
 - (c) Write the name of stationary phase used in gel permeation chromatography.
 - (d) Write the principle of GC-MS and its applications.
 - (e) Enlist the different cell fractionation methods.
 - (f) Write a difference between coagulant and non-coagulant fixatives.
 - (g) What is PI ? Write its significance.
 - (h) Define absorption and emission.
 - (i) What is ionization ?
 - (j) Explain Planck's Quantum theory.
- 2 Briefly describe the following : (any two) 7×2=14**
- (a) Autoradiography
 - (b) Tissue fixation and staining.
 - (c) Fluorescence Microscopy.
- 3 Answer the following 2×2=14**
- (a) Briefly explain NMR technique and application
 - (b) Write the principle and application of UV-Visible spectroscopy.

OR

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- 3** Answer the following : **7×2=14**
- (a) Describe Mass Spectrometry.
 - (b) Briefly describe Ion exchange chromatography and its application.
- 4** Answer the following : **7×2=14**
- (a) Describe the LC-MS technique and its application.
 - (b) Describe the principle, procedure and application of Gel Filtration Chromatography.
- 5** Write the short note on following : (any **two**) **7×2=14**
- (a) Types of centrifugations and its application.
 - (b) 2D electrophoresis.
 - (c) Southern blotting technique and its applications.
 - (d) SDS-PAGE
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