MCC-003-1142004 Seat No. _____

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

April/May – 2018

Botany : Paper - BOT-210

(Analytical Techniques) (New Course)

Faculty Code : 003
Subject Code : 1142004

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All questions are compulsory.
(2) Draw neat and labelled diagram where required.

1 Answer the following : (any seven) **14**

(1) Define interference and retardation.
(2) What is phosphorescence ?
(3) What is spectroscopy ?
(4) Give applications of NMR.
(5) Explain Planck's Quantum theory.
(6) Define the world Ionization.
(7) Write the name of anion and cation exchangers.
(8) Write the principle of GC-MS and applications.
(9) What is PI ? Write its significance.
(10) Write the step for southern blotting and its application.

2 Answer the following : (any two) **14**

(1) Write note on staining techniques.
(2) Write note on Fluorescence microscopy.
(3) Write note on Scanning electron microscopy.

3 Answer the following : **14**

(1) Give significance of infrared spectrophotometer.
(2) Explain use of Electromagnetic radiation in spectroscopy.

OR

3 (1) Write note on mass spectrometry.
(2) Write note on nuclear magnetic resonance.

4 Answer the following : **14**

(1) Write the short note on FP-LC.

(2) Ion exchange chromatography for protein separation.

5 Answer the following : (any two) **14**

(1) Write note on 2D electrophoresis and its applications.

(2) Explain western blotting technqiue with its applications.

(3) Write a note on Isoelectric focusing.

(4) Describe the principle, procedure and application of Gel Filtration Chromatography.
