

M.Sc. DEGREE EXAMINATION, APRIL 2015.

SECOND SEMESTER

Botany

Paper IV — TOOLS AND TECHNIQUES IN PLANT SCIENCE

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Phase contrast microscopy
2. Density-gradient centrifugation
3. TLC
4. Partition chromatography
5. PAGE
6. Capillary electrophoresis
7. GM Counter
8. UV-Visible spectrophotometer

PART B — (4 × 15 = 60 marks)

Answer ALL essay questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Discuss the principles and applications of fluorescence microscopy.
- Or
10. Mention the processing and advantages of microtomy and double staining of plant sections.
 11. Describe different stationary and mobile phases implemented in plant sciences to separate various compounds.
- Or
12. Write briefly on principles, procedure and applications of Gas-Liquid chromatography.

13. Give an account on the separation of proteins through SDS-PAGE.

Or

14. How the novel proteins can be identified by using 2D gels?

15. Discuss the principles and applications of mass spectroscopy.

Or

16. Write an account on the types of isotopes and detection and measurement of radioactivity.

