24U3126 (Pages: 2) Name : .....

Reg. No : .....

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

CC24UBOT3MN200 - PLANT ANATOMY & ANALYTICAL TECHNIQUES

(Botany - Minor Course)

(2024 Admission - Regular)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. Explain hydathodes. [Level:2] [CO1]
2. Explain the significance of plant anatomy in taxonomy. [Level:2] [CO1]
3. Summarize the structural peculiarity of Boerhaavia stem. [Level:2] [CO2]
4. Explain the difference between sapwood and heartwood. [Level:2] [CO2]
5. Explain fluorescent spectroscopy and its working principle. [Level:2] [CO3]
6. Summarize the role of radiation sources used in UV and Visible regions. [Level:2] [CO3]
7. Describe the different components of conventional microscope. [Level:2] [CO3]
8. Interpret the role of electron guns in electron microscopes. [Level:2] [CO3]
9. Explain the application of mass spectroscopy in pharmaceutical inducstry, environmental science and measuring molecular weight. [Level:2] [CO4]
10. Summarize the role of stationary and mobile phases in chromatography. [Level:2] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11. Explain the structure and function of sclerenchyma. [Level:2] [CO1]
12. Explain the organisation of shoot apex. [Level:2] [CO1]
13. Explain the secondary growth in stelar region in dicot root. [Level:2] [CO2]
14. Explain the anatomical adaptations in hydrophytes. [Level:2] [CO2]

15. Describe the preparation of buffer and its uses in biological studies. [Level:2] [CO3]

16. Explain the role of IR spectroscopy in food industry, material science, forensic science and drug discovery. [Level:2] [CO3]

17. Explain zonal centrifugation. [Level:2] [CO4]

18. Explain the principles and applications of liquid chromatography. [Level:2] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19. Explain the different types of defects in wood. [Level:2] [CO2]

20. Explain centrifugation, its principles, applications and types of rotors used. [Level:2] [CO4]

(1 × 10 = 10 Marks)

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