

**B. Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2025****SEMESTER 4 : COMPLEMENTARY BOTANY FOR ZOOLOGY****COURSE : 19U4CPBOT4 : ANATOMY AND APPLIED BOTANY***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 60

**PART A****Answer All (1 mark each)**

1. What is clonal selection?
2. Write any two functions of xylem parenchyma.
3. What is radial vascular bundle?
4. Name a commonly used tissue culture medium.
5. Name a plant that exhibits parthenocarpy.
6. What is vivipary?
7. Define alburnum.
8. Write any two major characteristics of vascular bundles in monocot stem.

**(1 x 8 = 8)****PART B****Answer any 6 (2 marks each)**

9. What is the role of cambium in grafting?
10. Differentiate ray and fusiform initials.
11. Compare spontaneous and induced mutations.
12. What are the objectives of hybridization?
13. What is somatic embryogenesis?
14. Differentiate hard wood and soft wood.
15. Explain various adaptations of stem of hydrophytes.
16. Differentiate endarch and exarch protoxylem.

**(2 x 6 = 12)****PART C****Answer any 4 (5 marks each)**

17. Discuss the applications of androgenesis.
18. Discuss various objectives of plant breeding.
19. Explain the role of cambium in wound healing and budding.
20. With the help of diagram explain the structure of bordered pit.
21. Compare stem and root using anatomical characters.
22. Compare wedge grafting with approach grafting.

**(5 x 4 = 20)****PART D****Answer any 2 (10 marks each)**

23. Discuss the significance, procedure, and achievements of plant hybridization.
24. With the help of suitable diagrams explain the secondary thickening process in dicot stem.
25. With the help of suitable labelled diagrams write a comparative account of the anatomy of dicot and monocot leaf.
26. "Polyploidy breeding is a special method of plant breeding". Discuss it.

**(10 x 2 = 20)**