

**B.Sc. DEGREE END SEMESTER EXAMINATION - MARCH/APRIL 2019****SEMESTER – 4: BOTANY (COMPLEMENTARY COURSE FOR ZOOLOGY)****COURSE: 15U4CPBOT4, ANATOMY AND APPLIED BOTANY**

(Common for Regular 2017 admission and improvement 2016/ supplementary 2016/2015 admission)

Time: Three Hours

Max. Marks: 60

**PART A**I. Answer **All** questions; each question carries **1** mark.

1. What are pits?
2. Mention two functions of mitochondria.
3. Define bicollateral vascular bundles.
4. What are pneumatophores?
5. What is meant by quarantine measures?
6. Mention the significance of anther culture.
7. What is mount layering?
8. Define somatic embryogenesis.

(1 x 8 = 8)

**PART B**II. Answer **ANY SIX** questions; each question carries **2** marks.

9. Distinguish between cystoliths and raphides.
10. Explain the role of cambium in budding.
11. What are growth rings?
12. Explain polyembryony.
13. State any four anatomical adaptations found in hydrophytes.
14. What are secretory tissues? Give examples.
15. Define radial vascular bundles. Where is it found?
16. Differentiate between heart wood and sap wood.
17. What are lysosomes? What is its function?
18. Mention the sterilization methods adopted in tissue culture.

(2 x 6 = 12)

**PART C**III. Answer **ANY FOUR** questions; each question carries **4** marks.

19. What are complex tissues? Explain any one complex tissue in plants.
20. State the differences between the anatomy of a dicot and monocot stem.
21. Give an account on non-living inclusions in plant cell.
22. What are meristematic tissues? Classify them based on origin and position.
23. Define tissue culture? What are its applications?
24. Explain plant introduction as a method of plant improvement.

(4 x 4 = 16)

**PART D**

IV. Answer **ANY TWO** questions; each question carries **12** marks.

25. Give an account on the morphological and anatomical adaptations of *Nerium* with diagrams.

**OR**

26. Describe in detail the different types of hybridization and the steps involved in the process.

27. Explain with diagrams the anomalous secondary thickening in *Bignonia* stem.

**OR**

28. Explain with illustrations the different types of budding and grafting methods in horticulture.

(12 x 2 = 24)

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