

**M. Sc DEGREE END SEMESTER EXAMINATION - JULY 2021****SEMESTER 2 : BOTANY****COURSE : 16P2BOTT07 : PLANT ANATOMY, PRINCIPLES OF ANGIOSPERM SYSTEMATICS AND MORPHOLOGY***(For Regular - 2020 Admission and Supplementary 2019/2018/2017/2016 Admissions)*

Time : Three Hours

Max. Marks: 75

**PART A****Answer any 8 (2 marks each)**

1. What are colleter's?
2. What is heartwood? How does it differ from hardwood?
3. Why annual rings are not so distinguishable in the woods of Kerala?
4. Write a critical account on floral anatomy.
5. What are multi lacunar nodes?
6. What do you understand by receptacular theory?
7. What are hydrophytes? Give two examples.
8. Define taxon.
9. What is a Subspecies?
10. What are apomorphic characters?
11. What is the role of floral anatomy in solving taxonomic problems? Give an example.
12. What is cladogram?

**(2 x 8 = 16)****PART B****Answer any 7 (5 marks each)**

13. Compare and write critical notes on resin ducts and laticifers.
14. Why sapwood is so called? Explain its structural difference with heartwood.
15. How does vegetative shoot apex of angiosperm differ from that of gymnosperm?
16. Compare the features of artificial and natural system of classifications. Give examples for each.
17. Compare monophyly and paraphyly with an example.
18. Explain role of chromosome structure in solving taxonomic problems. Give examples.
19. What is typification? Explain different types?
20. Explain the various DNA markers used for barcoding in plants.
21. Explain special type of inflorescences. Draw labelled diagrams and provide examples for each.
22. Explain the functions of essential and non-essential parts of a typical angiosperm flower.

**(5 x 7 = 35)****PART C****Answer any 2 (12 marks each)**

23. What are laticifers? Explain the structure of bark and distribution pattern of laticifers in Rubber plant.

OR

24. Write an essay on various types of woods with their properties.
25. Write an essay on major phylogenetic concepts and terminologies that are in use in modern taxonomy.

OR

26. Explain different views or concepts about 'Species' in taxonomy.

**(12 x 2 = 24)**