

M. Sc. DEGREE (C.S.S.) EXAMINATION, APRIL 2017**(Supplementary – 2015 Admission)****SEMESTER III – (BOTANY)****BO3C09TM - PLANT ANATOMY, MICROTECHNIQUE AND DEVELOPMENTAL BIOLOGY****Time: Three Hours****Maximum Marks: 75****PART A****I. Answer any five questions. Each question carries 3 marks.**

1. What is the significance of whole mounts?
2. What is obturator? What is its significance?
3. Give the chemical combination of FAA.
4. What are homeotic genes?
5. Differentiate lenticels and complementary cells.
6. Write a note on types of trichomes in angiosperms.
7. What is caruncle? Give its anatomic significance.

(5x3=15)**PART B****II. Answer any six questions. Each questions carries 5 marks**

8. Comment on the properties of a typical mounting media used in anatomic specimen preparation.
9. Explain the steps in safranin – fast green double staining for permanent slide preparation?
10. What are the types of ergasticnon - nitrogenous waste products found in angiosperm plants?
11. Comment on pollen viability in angiosperms.
12. Floral anatomy has significance in angiosperms taxonomy. Explain.
13. Explain the potential value of apomixes in agriculture?
14. Bring out the anatomical differences between plants with Kranz anatomy and plants with CAM adaptation.
15. Distinguish morphogenesis and organogenesis in vegetative growth of angiosperms.
16. Write a note on endosperm formation in angiosperms.

(6x5=30)**PART C****III. Answer any two questions. Each question carries 15 marks.**

17. Palynology is useful in resolving taxonomic discrepancies. Justify the statement.
18. Write an essay on stages of development in primary and secondary meristem and theories of apical organization.
19. Explain the techniques involved in the specimen prepared for transmission electron microscope.
20. Write an essay on anatomic features useful in explaining taxonomic affinity in angiosperms.

(2x15=30)