

QP Code : P24A023

Reg. No : .....

Name : .....

## ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

I SEMESTER M.Sc. (CBCSS-PG) DEGREE EXAMINATION, November 2024

M.Sc BOTANY

**BOT1C03: Angiosperm Anatomy, Angiosperm Embryology, Palynology and Lab Techniques  
2024 Admission Onwards**

Time : 3 Hours

Maximum Weightage : 30

### Part A

Short answer type questions: Answer **any four** questions. Weightage **2** for each question

1. What is oil cells and crystal idioblasts ? [BTL1]
2. Define included phloem with a diagram [BTL2]
3. Give a detailed account of the structure and anatomy of seedling root and cotyledon [BTL1]
4. Explain triple fusion and double fertilization [BTL2]
5. Elaborate on apomixis and its genetic basis [BTL4]
6. Explore the different aspects of aeropalynology in modern trends [BTL1]
7. Give a brief account on vital staining with different examples [BTL2]

(4x2 = 8 Weightage)

### Part B

Short essay-type questions: Answer **any four** questions. Weightage **3** for each question

8. Write a note on leaf trace and branch trace with respect to origin, departure, effect on stele and pith [BTL1]
9. Comment on the development of vascular cambium and cork cambium in root and stem [BTL3]
10. State the role and function of different anther wall layers with the help of diagram [BTL2]
11. Summarize the cytokinesis mechanism in relation to the development of the cell wall [BTL2]
12. Elaborate the major contributions of Erdtman in palynology [BTL1]
13. Write the uses and composition of chrome acetic acid, FAA, Nawaschin's and Carnoy's fluid [BTL5]
14. Describe the different techniques employed for smear preparation [BTL4]

(4x3 = 12 Weightage)

**Turn Over**

### Part C

Essay-type questions: Answer **any two** questions. Weightage **5** for each question

15. Elaborate on the ultra-structure of phloem and xylem [BTL3]
16. Explain the different types of embryo sac development with a neat labelled diagram [BTL4]
17. Give a brief account on different types of pollinating agents with examples [BTL1]
18. Determine the types, differences and similarities between simple and compound microscopes [BTL3]

(2x5 = 10 Weightage)

< \*\*\*\*\* >