

M.Sc. (Botany) Semester - 3 (CBCS) Examination
OCT/NOV-2025 (AS PER SYLLABUS YEAR JUNE-2024)

Plant Anatomy, Embryology & Histological Techniques (Core (New-23))

Time: 2:30 Hours

Marks:70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1 Answer the following (any seven out of eight – 02 marks each) (14)

- 1) Describe the structure of 'root hairs' in short.
- 2) What is Vascular bundle?
- 3) Which are the controlling factors of flowering
- 4) Discuss squash method of mounting
- 5) What is the role of endosperm?
- 6) What is polyembryony?
- 7) If male plant $8n$ and female plant $10n$ than what are genetic formation found in Zygote and Endosperm?
- 8) Short note on structure of pollen grain.

Que.2 Answer the following (any two) (14)

- 1) Heart wood and soft wood.
- 2) Write a detailed note on Secretory ducts. Describe their types and functions.
- 3) Describe theories of RAM with any appropriate figures.

Que.3 Answer the following (any two) (14)

- 1) Describe ABC model for flowering development.
- 2) Describe development of female gametophyte.
- 3) Write any seven-embryo sac development

Que.4 Answer the following (14)

- 1) Explain Apomixis
- 2) Describe Palynology
- 3) Pollen biotechnology in agriculture

Que.5 Answer the following. (14)

- 1) Explain whole mount, smear, peel, squash, and different sectioning methods used in plant anatomical studies.
- 2) Sectioning and staining for permanent preparation
- 3) Different techniques for staining for callose.
