

M.Sc. (Botany) Semester - 3 (CBCS) Examination**Nov/Dec-2023 (NEW COURSE)****Plant Anatomy, Embryology & Histological Techniques (Core (New))****Time: 2:30 Hours****Marks: 70****Instructions:**

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

SECTION - I

- Q.1 Write short note on
(a) Describe wood development process (07)
(b) Explain nodal anatomy (07)
- OR**
- Q.1 Explain in details comparative study of secondary growth in dicot root and stem (14)
- Q.2 Answer the following
(a) Describe ABC model for flowering (07)
(b) Describe development of male gametophyte process (07)
- OR**
- Q.2 Define word Embryo sac and describe tetrasporic types of embryo sac development. (14)
- Q.3 Answer the following (any seven) (07)
- (1) Which are the controlling factors of flowering
 - (2) Write full form of MMC and PMC
 - (3) What is sexual incompatibility in plant
 - (4) What is double fertilization?
 - (5) What is the importance of endosperm?
 - (6) Write the two names of vascular bundles present in plant stem.
 - (7) If male plant $16n$ and female plant $14n$ than what are genetic formation found in Zygote and Endosperm?
 - (8) Explain – Root hair

SECTION - II

- Q.1 Explain Ca^{++} dependent homophilic and non-homophilic cell-cell adhesion (14)
- OR**
- Q.1 Write short notes on
(a) Apomixis (07)
(b) Describe process, types and factors affecting on Diffusion (07)
- Q.2 Write short note on:
(a) Mounting for temporary preparation (07)
(b) Write note on theory of Staining. (07)
- OR**
- Q.2 Describe the process of killing, fixing and sectioning for permanent stained preparation (14)
- Q.3 Answer the following (any seven) (07)
- (1) What are insoluble polysaccharides?
 - (2) Explain Active Transport mechanism in cells.
 - (3) Give difference between Dye and Stain
 - (4) Write short note on function of actin and myosin
 - (5) Define Natural and Synthetic dye.
 - (6) What is different between actin and myosin
 - (7) What are insoluble polysaccharides?
 - (8) Give Significance of Killing.
