

M.Sc. (Botany) Semester - 3 (CBCS) Examination**Oct/Nov. -2019 - [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.
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SECTION - I

- Q.1 Write short note on
(a) Root Apical Meristem (07)
(b) Heart wood and soft wood (07)

OR

- Q.1 What is Nodal Anatomy? State different Nodal types. (14)

- Q.2 Answer the following
(a) Pollination (07)
(b) Fertilization (07)

OR

- Q.2 Describe the ultrastructure of embryo and explain different types of embryo development. (14)

- Q.3 Answer the following (any seven) (07)

1. Describe the structure of 'root hairs' in short.
2. Explain – Root architect
3. Which are the special types of cells found in plant cells?
4. What is polyembryony?
5. What is the role of endosperm?
6. Which are the controlling factors of flowering
7. What is sexual incompatibility in plant
8. Define the term : Gametophytes

SECTION - II

- Q.1 Explain Embryology in relation to taxonomy (14)

OR

- Q.1 Write short notes on
(a) Actin and myosin (07)
(b) Uniports and symports (07)

- Q.2 Describe the process of killing, fixing and sectioning for permanent stained preparation (14)

OR

- Q.2 Write short note on:
(a) Mounting for temporary preparation (07)
(b) unstained preparation for live cells (07)

- Q.3 Answer the following (any seven) (07)

1. What is Apomixis?
2. What are Ca^{++} dependent homophilic?
3. Define : antiports
4. Explain – whole mounts
5. State the function of IF and associated proteins?
6. Define the term 'diffusion'
7. What are insoluble polysaccharides?
8. Explain Active Transport mechanism in cells.