

Roll No.

--	--	--	--	--	--	--	--

25-BO-21

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION  
MAY - JUNE 2025**

**BOTANY**

Paper - I

**[Plant Development and Reproduction]**

*[Max. Marks : 75]*

*[Time : 3:00 Hrs.]*

*[Min. Marks : 26]*

**Note :** Candidate should write his/her Roll Number at the prescribed space on the question paper.  
Student should not write anything on question paper.  
Attempt all five questions. Each question carries an internal choice.  
Each question carries **15 marks**.

**Q. 1** Discuss the various theories of shoot apical meristem.

**OR**

Describe the anatomy of nodal region in higher plants with well labelled diagram. What are the evolutionary significances of nodal anatomy ?

**Q. 2** Describe the structure and development of xylem. What are the functions of Xylem ?

**OR**

Explain the followings -

- i) Secretory ducts and Laticifers.
- ii) Annual ring.
- iii) Anomalous secondary growth in Dracaena stem.

**Q. 3** Discuss the development of male gametophyte and micro sporogenesis in Angiosperm with the help of suitable diagram.

**OR**

Explain the followings -

- i) Pollen Embryo.
- ii) Male sterility in Plants.
- iii) Genetics of Floral Organ differentiation.

P.T.O.

**Q. 4** Write an essay on Pollen pistil interaction.

**OR**

Discuss the followings -

- i) Self and cross pollination.
- ii) Tenuinucellate and Crassinucellate ovule.
- iii) Monosporic embryo sac with well labelled diagram.

**Q. 5** Discuss double fertilization and its significance.

**OR**

Describe the development of embryo in Dicot plants with well labelled diagram. How it differs from embryo in Monocot plants.

—————○—————