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24-BO-21

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
JUNE - JULY 2024**

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 five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 Write an essay on leaf growth and differentiation. (15 Marks)

OR

Explain the following (**any two**) - (15 Marks)

- i) Plant development meristems.
- ii) Organization of root apical meristem.
- iii) Merits and Demerits of theories of SAM.

Q. 2 Write explanatory note on (**any two**) - (15 Marks)

- i) Cell fates and lineages.
- ii) Tissue differentiation.
- iii) Annual rings.

OR

Give an account on the origin, structure and function of cambium in Angiosperms. (15 Marks)

Q. 3 Write short note on (**any two**) - (15 Marks)

- i) Structure of Anther.
- ii) Flower as modified shoot.
- iii) Role of Tapetum.

OR

Describe the homeotic mutants in Arabidopsis and Antirrhinum. (15 Marks)

P.T.O.

Q. 4 Explain megasporogenesis and development of embryo sac in detail. (15 Marks)

OR

Describe (**any two**) - (15 Marks)

- i) Pollen - Stigma interaction.
- ii) Parthenocarpy.
- iii) Pollen tube growth and guidance.

Q. 5 Write an account on sporophytic and gametophytic self-incompatibility found in angiospermic plants. (15 Marks)

OR

Explain the following (**any two**) - (15 Marks)

- i) Dynamics of fruit growth and maturation.
- ii) Triple fusion and endosperm formation.
- iii) Apomixis and its significance.

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