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**AB-234476**

**M.Sc. (Semester-II) Examination, June-2025**

**( Backlog )**

**BOTANY**

**( Angiosperms : Taxonomy and  
Embryology )**

***Time Allowed : Three Hours***

***Maximum Marks : 70***

**Note :** This question paper is divided into **four** sections. Attempt questions from **all four** sections as per given direction. Distribution of marks is given in each section.

**SECTION-A**

**( Objective Type Questions )**

**Note :** Attempt **any ten** questions. Each question carries 1 mark.

[10×1=10]

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**( 1 )**

**[P.T.O.]**

1. (i) Synandrous condition of stamen is commonly found in :

- (a) Rosaceae
- (b) Cucurbitaceae
- (c) Malvaceae
- (d) Apocyanaceae

(ii) Which of the following families has trimerous flowers, superior trilocular ovary and axile placentation?

- (a) Cucurbitaceae
- (b) Solanaceae
- (c) Liliaceae
- (d) Rosaceae

(iii) Which of the following are not involved in pollination or fertilisation?

- (a) Stigma
- (b) Anther
- (c) Sepal
- (d) Carpel

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(iv) Where does meiosis occur in Angiosperms?

- (a) Pollen tube
- (b) Endosperm
- (c) Polar nuclei
- (d) Microsporocyte

(v) The maize embryo has the radicle and root cap enclosed in :

- (a) Scutellum
- (b) Coleoptile
- (c) Proembryo
- (d) Coleorhiza

(vi)  $\alpha$  taxonomy is also termed as :

- (a) Classical taxonomy
- (b) Chemotaxonomy
- (c) Numerical taxonomy
- (d) Experimental taxonomy

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[P.T.O.]

(vii) Out of the given systems of classification which one is less phylogenetic and more natural?

- (a) Hutchinson
- (b) Bentham and Hooker
- (c) Takhtajan
- (d) Cronquist

(viii) Double fertilization was discovered by\_\_\_\_\_.

(ix) Pollination that takes place with the help of insects is called\_\_\_\_\_.

(x) Filiform apparatus is present in the\_\_\_\_\_ cells of embryo sac.

(xi) A persistent nucellus in a seed is called perisperm. [True/False]

(xii) A monosporic embryo sac is a 7 celled and 8 nucleate structure. [True/False]

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## SECTION-B

### ( Very Short Answer Type Questions )

**Note:** Attempt any five questions. Each question carries 2 marks. (Word limit : 25-30 words) [5×2=10]

2. (i) What do you mean by the rule of priority?
- (ii) What is Valid publication?
- (iii) What is type specimen?
- (iv) What is an orthotropous ovule?
- (v) What are artificial seeds?
- (vi) What is the significance of double fertilization?

## SECTION-C

### ( Short Answer Type Questions )

**Note:** Attempt any five questions. Each question carries 4 marks. (Word limit : 250 words) [5×4=20]

3. (i) Explain cross pollination due to heterostyly.
- (ii) Differentiate between monocot and dicot embryo.

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- (iii) Explain the applications of polyembryony.
- (iv) What are the advantages and disadvantages of self pollination?
- (v) Explain the importance of cytology in relation to taxonomy.
- (vi) What are the advantages of numerical taxonomy?
- (vii) Describe briefly the economic importance of family Gramineae.

#### SECTION-D

##### ( Essay Type Questions )

**Note:** Attempt any three questions. Each question carries 10 marks. (Word limit : 500 words) [3×10=30]

- 4. (i) What is Apomixis? Give a detailed account of types and the practical application of apomixis.
- (ii) What is incompatibility? Discuss the factors involved in incompatibility and the methods to overcome it.

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- (iii) Explain microsporogenesis and the development of male gametophyte in angiosperms.
- (iv) How does Bentham and Hooker's system of plant classification differ from Takhtajan's system? Explain.
- (v) What is Phytochemistry? Discuss some important sources of taxonomic evidence derived from phytochemistry.

—x—

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