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AC-234476

M.Sc. (Semester-II) Examination, June-2026

(Regular)

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) Asteraceae is characterized by which of the following by:
- (a) Hypanthodium
 - (b) Capitulum
 - (c) Lodicule
 - (d) Verticillaster
- (ii) In the life cycle of an angiosperm which of the following is diploid?
- (a) Megaspore
 - (b) Generative nucleus of pollen
 - (c) Microspore
 - (d) Polar nuclei of central cell
- (iii) Which of the following is the make gametophyte?
- (a) Ovule
 - (b) Microspore
 - (c) Microsporocyte
 - (d) Megaspore

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- (iv) Descriptive taxonomy is another name for:
- (a) Classical taxonomy
 - (b) Numerical taxonomy
 - (c) Chemotaxonomy
 - (d) Experimental taxonomy
- (v) Tapetum is the anther wall layer that surrounds the sporogenous tissue. (T/F)
- (vi) Pollination that takes place with the help of animals is called anemophily. (T/F)
- (vii) Arrange in correct sequence of stages of development:
- (1) Proembryo
 - (2) Mature embryo
 - (3) Heart shaped embryo
 - (4) Globular embryo

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[P.T.O.]



(a) 1, 2, 3, 4

(b) 4, 2, 1, 3

(c) 1, 4, 3, 2

(d) 4, 1, 3, 2

(viii) In a cereal grain, the single cotyledon of the embryo is represented by:

(a) Coleorhiza

(b) Coleoptile

(c) Scutellum

(d) Hypocotyl

(ix) When the original type material is missing in a herbarium, the substitute type specimen to replace the holotype is called_____.

(x) Write the full form of APG system.

(xi) In orchids the labellum is the modified median petal. (T/F)

(xii) What does A,B and C represent in the given name?

Mangifera	Indica	Linn
A	B	C

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 is a Caruncle?
- (ii) What is Parthemocarpy?
- (iii) What is the importance of seed dispersal?
- (iv) Write briefly about Agamospermy.
- (v) What is an effective publication?
- (vi) Write the diagnostic characteristics of family Lamiaceae.

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) What are the advantages and disadvantages of cross pollination?
- (ii) What is numerical taxonomy?
- (iii) Write a brief account of apomixis.
- (iv) What is self-incompatibility?
- (v) Write about the applications of plant tissue culture in crop improvement.
- (vi) Differentiate between composite and ruminant endosperm.
- (vii) Explain briefly embryo-endosperm relationship.

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(6)

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 an embryo sac? Give a detailed account of its types and organisation and the ultrastructure of Polygonum type of embryo sac.
- (ii) What is pollination? Explain the mechanisms and adaptations for pollination in flowering plants.
- (iii) What do you mean by artificial, natural and phylogenetic system of plant classification? Give the outline of Bentham and Hooker's system and also its merits and demerits.
- (iv) Describe the floral characters of family Asteraceae and mention about five economically important plants of the family.
- (v) Describe the process of embryo culture and discuss its significance and applications.

—x—

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