

B.Sc. Part—II Semester—III Examination

BOTANY

(Angiosperm Systematics, Anatomy and Embryology)

Time : Three Hours]

[Maximum Marks : 80

- Note** :—(1) There are **SEVEN** questions in all.
(2) Question No. **1** is compulsory and carries **EIGHT** marks.
(3) Question No. **2** to **7** carry equal marks.
(4) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks :—

- (i) Epicalyx is the characteristic feature of family $\frac{1}{2}$
(ii) Xylem is conducting Tissue. $\frac{1}{2}$
(iii) Verticillaster Inflorescence is the characteristic of family $\frac{1}{2}$
(iv) The Nutritive layer of Antherwall is $\frac{1}{2}$

(B) Choose the correct alternatives (MCQ) :

- (v) Common type of Ovule in Angiosperms is ; $\frac{1}{2}$
(a) Orthotropus
(b) Anatropus
(c) Circinotropus
(d) Campylotropus
(vi) The scattered vascular bundle is the characteristic of $\frac{1}{2}$
(a) Monocot root
(b) Dicot Stem
(c) Monocot Stem
(d) Dicot Root

- (vii) Pollinia is the characteristic of Genus ½
- (a) *Calatropis procera*
 - (b) *Ocimum sanctum*
 - (c) *Brassica compestris*
 - (d) *Lantana camara*

- (viii) Spiklet inflorescence is the characteristic of Family ½
- (a) Liliaceae
 - (b) Poaceae
 - (c) Brassicaceae
 - (d) Malvaceae

(C) Answer in one sentence :

- (ix) What is Inflorescence ? 1
- (x) What is placentation ? 1
- (xi) What are the elements of xylem ? 1
- (xii) What is Tissue ? 1

2. Explain the following :-

- (a) Pteridospermean theory. 4
- (b) Taxonomic Ranks. 4
- (c) Royal Botanical Garden, Kolkata. 4

OR

- (d) Ex-Situ conservation. 4
- (e) Importance of Biodiversity. 4
- (f) Concept and significance of Herbarium. 4

3. Explain the following :

- (g) Economic importance of Leguminosae. 6
- (h) Floral structure of Malvaceae. 6

OR

- (i) Economic importance of Brassicaceae. 6
- (j) Merits and Demerits of Bentham and Hooker's System. 6

4. Explain the following :
- (k) Systematic position of Asclepiadeceae. 4
 - (l) Floral structure of Verbenaceae. 4
 - (m) Economic importance of Poaceae. 4
- OR**
- (n) Economic importance of Liliaceae. 4
 - (o) Floral Structure of Apocynaceae. 4
 - (p) Systematic Position of Lamiaceae. 4
5. Explain the following : -
- (q) Sclerenchyma. 4
 - (r) Xylem. 4
 - (s) Characteristic features of Meristematic Tissue. 4
- OR**
- (t) Parenchyma. 4
 - (u) Primary structure of Monocot Root. 4
 - (v) Phloem. 4
6. Explain the following :
- (w) Primary structure of Dicot stem. 4
 - (x) Anamolous secondary growth in *Draceana* stem. 4
 - (y) Internal structure of Maize Leaf. 4
- OR**
- (z) Draw well labelled diagram only
Diagrammatic diagram secondary growth in *Bignonia* stem. 4
 - (a) T.S. of Nerium Leaf. 4
 - (b) T.S. of Primary structure of *Boerhavia* stem. 4
7. (c) Describe Double fertilization and Triple Fusion in Angiosperms. 12
- OR**
- Explain the following :
- (d) Development of male gametophyte in Angiosperms. 6
 - (e) Types of Endosperm (any **TWO**). 6

