

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 **8** marks.
 (3) Question Nos. 2 to 7 carry equal marks.
 (4) Draw well labelled diagram wherever necessary.

1. (A) Fill in the blanks :

- (i) In *Apiaceae* _____ inflorescence is present. ½
 (ii) Phloem is _____ conducting tissue. ½
 (iii) The pollen tube enters into the ovule through _____ is known as Porogamy. ½
 (iv) Phloem wedges are present in secondary wood of _____ stem. ½

(B) Choose the correct alternative (MCQ) :

- (v) The endosperm in angiosperm is :
 (a) Diploid (b) Triploid
 (c) Haploid (d) Tetraploid ½
- (vi) *Ocimum* belongs to family :
 (a) Malvaceae (b) Lamiaceae
 (c) Brassicaceae (d) Solanaceae ½
- (vii) Vessels are the components of :
 (a) Phloem (b) Parenchyma
 (c) Xylem (d) Sclerenchyma ½
- (viii) Which of the following systems of classification is natural ?
 (a) Bentham and Hooker (b) Engler and Prantl
 (c) Linnaeus (d) None of these ½

(C) Answer in **one** sentence :

- (ix) What is the function of tapetum in anther ? 1
 (x) Which family is characterised by syngenesious stamens, inferior ovary and cypsella fruit ? 1
 (xi) Give Botanical name of two plants belonging to Poaceae (Graminae). 1
 (xii) Define open vascular bundle. 1

2. Comment on :

- (a) Valid publication 4
 (b) Principles of nomenclature 4
 (c) Conservation of biodiversity. 4

OR

- (d) Pteridospermian Theory 4
 (e) Importance of biodiversity 4
 (f) Royal Botanical Garden Kolkata. 4

3. Give an account on Bentham and Hooker's system of classification and discuss on its merits and demerits. 12

OR

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

4. Explain :

- (i) Floral structure in Lamiaceae 4
 (j) Systematic position of Solanaceae 4
 (k) Economic importance of Poaceae. 4

OR

- (l) Inflorescence in Asteraceae 4
 (m) Systematic position of Apocynaceae 4
 (n) Economic importance of Verbenaceae. 4

5. Discuss :
- (o) Structure and functions of Parenchyma 4
 - (p) Primary structure of Dicot root. 4
 - (q) Phloem. 4

OR

- (r) Types of meristems 4
 - (s) Structure and functions of xylem 4
 - (t) Collenchyma. 4
6. Comment on :
- (u) Primary structure of Monocot stem 4
 - (v) Internal structure of *Nerium* leaf (only diagram) 4
 - (w) Anomalies in secondary structure in *Bignonia* stem. 4

OR

- (x) Internal structure of *Maize* leaf 4
 - (y) Primary structure in Dicot stem 4
 - (z) Anomalies in secondary structure of *Dracaena* stem. (Diagram only) 4
7. Give detailed account on types of ovules occurring in Angiosperm. 12

OR

What is endosperm ? Explain various types of endosperms that occur in Angiosperm. 12

