

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 No. 2 to 7 carry equal marks.
(4) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks :

- (i) The _____ venation is found in Dicot leaves. ½
(ii) Bentham and Hooker's system is type of _____ system of classification. ½
(iii) Wedge shaped phloem is found in the _____ stem. ½
(iv) Umbel inflorescence is diagnostic feature of family _____. ½

(B) Choose the correct alternatives (MCQ) :

- (v) Many pulses of daily use belong to family _____.
(a) Verbenaceae (b) Fabaceae
(c) Lamiaceae (d) Solanaceae ½
- (vi) Royal Botanical Garden in India located at :
(a) Kolkata (b) Banglore
(c) Pune (d) Delhi ½
- (vii) Which is the nutritive layer of anther ?
(a) Epidermis (b) Tapetum
(c) Endothecium (d) None of these ½
- (viii) Medullary vascular bundles are present in the stem of :
(a) *Nerium* (b) *Bignonia*
(c) *Maize* (d) *Boerhaavia* ½

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

- (ix) Mention the special type of inflorescence in Euphorbia. 1
(x) What is herbarium ? 1
(xi) What are the components of Phloem ? 1
(xii) What is chalazogamy ? 1

2. Explain :

- (a) Importance of biodiversity 4
(b) Principles of nomenclature 4
(c) Royal Botanical Garden, Kolkata. 4

OR

- (d) Herbarium 4
(e) Binomial nomenclature 4
(f) Bennettitalean theory of Angiosperm evolution 4
3. Describe Bentham and Hooker system of classification with its merits and demerits. 12
- OR**
- Explain :
- (i) Floral structure of Malvaceae. 6
(j) Economic importance of family Apiaceae. 6
4. Comment on :
- (k) Floral structure in Euphorbiaceae. 4
(l) Economic importance of Poaceae. 4
(m) Systematic Position of Lamiaceae. 4
- OR**
- (n) Economic importance of Solanaceae. 4
(o) Floral diagram of Aselepiadaceae. 4
(p) Inflorescence in Asteraceae 4
5. Discuss on :
- (q) Characteristics of Heartwood and Sapwood. 6
(r) Parenchyma and Collenchyma. 6
- OR**
- (s) Primary structure of Monocot root. 6
(t) Structure and function of Xylem. 6
6. Explain :
- (u) Anomalies in Secondary structure *Bignonia* stem. 4
(v) Primary structure of Monocot stem. 4
(w) Internal structure of *Maize* leaf. 4
- OR**
- (x) Anomalous primary structure in *Boerhaavia* stem. 4
(y) Internal structure of *Nerium* leaf. 4
(z) Anomalies in Secondary structure *Dracaena* stem. 4
7. Comment on :
- (a) Double fertilization and triple fusion. 4
(b) Development of male gametophyte. 4
(c) Anatropous ovule (well labelled diagram only). 4
- OR**
- (d) Nuclear endosperm. 4
(e) Suspended animation. 4
(f) Bisporic embryo sac. 4