B.Sc. Part–II Semester–III Examination
BOTANY
ANGIOSPERM SYSTEMATICS, ANATOMY AND EMBRYOLOGY

Time : Three Hours] [Maximum Marks : 80

N.B. :— (1) There are **SEVEN** questions in all.
(2) Q. No. **1** is compulsory and carries 8 marks.
(3) Question Nos. **2** to **7** carry equal marks.
(4) Draw well labelled diagrams wherever necessary.

1. (A) Fill in the blanks :
(i) Phloem is _____ conducting tissue. ½
(ii) Cruciform corolla is present in the family _____. ½
(iii) Apiaceae is characterised by the _____ inflorescence. ½
(iv) The entry of pollen tube through micropyle os ovule is called as _____. ½

(B) Choose correct alternatives (MCQ) :
(v) Polygonum type of embryo sac is : ½
(a) Bisporic (b) Tetrasporic
(c) Monosporic (d) Asporic
(vi) Wedge shaped secondary phloem is found is stem of : ½
(a) Bignonia Stem (b) Dracaena Stem
(c) Boerhaavia (d) Sunflower Stem
(vii) Syngenisious stamens are found in family : ½
(a) Lamiaceae (b) Brassicaceae
(c) Asteraceae (d) Apolynaceae
(viii) Sclerenchyma perform the function of : ½
(a) Storage of food (b) Mechanical support
(c) Conduction of Water (d) Photosynthesis

(C) Answer in one sentence : 4
(ix) What are didynamous stamens ?
(x) What are conjoint vascular bundles ?
(xi) ICBN stands for _____.
(xii) Mention the type of fruit in family Asteraceae _____.

2. Explain the following :
(a) Bennititalean theory 4
(b) Royal Botanical Garden, Kolkata 4
(c) In-situ conservation 4

OR

(d) Importance of Biodiversity 4

(e) Concept and significance of Herbarium 4

(f) Rules of Nomenclature. 4

3. Describe the Bentham and Hooker's system of classification and add a note on its merit. 12

OR

Explain :

(g) Economic importance of leguminosae 6

(h) Floral structure of Apiaceae 6

4. Explain the following :

(i) Systematic position of fam. Solanaceae 4

(j) Economic importance of Lamiaceae 4

(k) Floral structure of Asteraceae 4

OR

(l) Economic importance of Poaceae 4

(m) Cyathium inflorescence in *Euphorbia* 4

(n) Systematic position of Apocyanaceae 4

5. Comment on :

(o) Phloem 4

(p) Sclerenchyma 4

(q) Sap wood and Heart wood 4

OR

(r) Xylem 4

(s) Primary structure in monocot root 4

(t) Parenchyma. 4

6. Explain the following :

(u) T.S. of primary structure of monocot stem. 6

(v) Anomalies in primary structure in *Boerhaavia* stem. 6

OR

(w) T.S. of *Nerium* Leaf 6

(x) Anomalies in secondary growth in *Bignonia* stem. 6

7. Explain the following :

(y) Polygonum type of embryo sac 4

(z) Anatropous ovule 4

(a) Cellular endosperm 4

OR

(b) Development of male gametophyte 4

(c) Double fertilization and triple fusion 4

(d) T.S. of anther (only diagram). 525