AU–88

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 diagrams wherever necessary.

1. (A) Fill in the blanks :

(i) *Cotton* is an example of family _____. ½

(ii) Papilionaceous corolla is present in the family _____. ½

(iii) In *Euphorbia* the inflorescence is _____. ½

(iv) The process of development of embryo from the zygote is called _____. ½

(B) Choose correct alternatives (MCQ) :

(v) Capitulum inflorescence is found in family :

(a) Lamiaceae (b) Asteraceae

(c) Apocyanaceae (d) Euphorbiaceae

(vi) Bilabiate corolla is present in :

(a) *Vinca* (b) *Hibiscus*

(c) *Datura* (d) *Ocimum*

(vii) Water conducting tissue is known as :

(a) Xylem (b) Phloem

(c) Sclerenchyma (d) Collenchyma

(viii) In Angiosperm triploid tissue is _____.

(a) Endosperm (b) Ovule

(c) Embryo (d) Nucellus 2

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

(ix) What is meristematic tissue ?

(x) What is megasporogenesis ?

(xi) What are the components of Phloem ?

(xii) Mention the inflorescence of family Lamiaceae. 4

2. Comment on the following :

(a) Bennititalean theory 4

(b) Royal Botanical garden, Kolkata 4

(c) Importance of Biodiversity. 4

OR

(d) Valid publications 4

(e) Concept of Herbarium 4

(f) Rules of Nomenclature. 4

3. Explain

(g) Merits and demerits of Engler and Prantl's system of classification. 6

(h) Economic importance of Apiaceae 6

OR

(i) Floral characters of Papillionaceae. 6

(j) Merits and demerits of Bentham and Hooker's system of classification. 6

4. Comment on :

(k) Diagnostic characters of Poaceae 4

(l) Floral structure of Liliaceae 4

(m) Economic importance of Euphorbiaceae. 4

OR

(n) Economic importance of Solanaceae 4

(o) Systematic position of Verbenaceae 4

(p) Gynostegium in Asclepidiaceae. 4

5. Discuss in brief :

(q) Primary structure in monocot root. 6

(r) Structure and function of Parenchyma. 6

OR

(s) Characteristics of growth rings. 6

(t) Types of meristems. 6

6. Explain :

(u) Normal secondary growth in Dicotyledonous stem 4

(v) Internal structure of *Nerium* leaf 4

(w) Anomalies in secondary structure of *Dracaena* stem. 4

OR

Draw well labelled diagrams only :

(x) T.S. of *Boerhaavia* stem showing primary structure 4

(y) T.S. of *Bignonia* stem showing secondary growth 4

(z) T.S. of *Maize* leaf. 4

7. Comment on the following :

(a) T.S. of anther (only diagram) 4

(b) Nuclear endosperm 4

(c) *Polygonum* type of Embryo sac. 4

OR

(d) Double fertilization and triple fusion 4

(e) Structure of Orthotropous Ovule 4

(f) Cellular Endosperm. 4