

AR - 541

Third Semester B. Sc. (Part - II) Examination

BOTANY

(Angiosperm Systematics, Anatomy and Embryology)

P. Pages : 7

Time : Three Hours]

[Max. 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 diagram wherever necessary.

1. (A) Fill in the blanks :—

- (i) Double fertilization is the characteristic feature of _____ $\frac{1}{2}$
- (ii) _____ is the nutritive layer of Anther. $\frac{1}{2}$
- (iii) Medullary vascular bundles are present in stem of _____ $\frac{1}{2}$
- (iv) Brassicaceae is characterized by _____ corolla. $\frac{1}{2}$

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P.T.O.

(B) Choose the correct alternatives (MCQ)

(v) Verticillaster inflorescence is found in family.

(a) Malvaceae

(b) Lamiaceae

(c) Verbenaceae

(d) Euphorbiaceae.

$\frac{1}{2}$

(vi) Bentham and Hooker's system of classification is _____.

(a) Phylogenetic

(b) Artificial

(c) Natural

(d) None of these.

$\frac{1}{2}$

(vii) Scattered vascular bundles are present in which of the following stem.

(a) Monocot

(b) Dicot

(c) Gymnosperm

(d) Pteridophyte.

$\frac{1}{2}$

(viii) In which type of ovule-micropyle, chalaza and funicle lie on straight line ?

(a) Anatropous ovule

(b) Orthotropous ovule

(c) Amphitropous ovule

(d) Campylotropous ovule.

$\frac{1}{2}$

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

(ix) What is the function of xylem ? 1

(x) What is herbarium ? 1

(xi) What is the role of endosperm ? 1

(xii) What is binomial nomenclature ? 1

2. Comment on following :

(a) Bennetitalean theory of evolution. 4

- (b) Principles of Nomenclature. 4
(c) Royal Botanical Garden, Kolkata. 4

OR

- (d) Typification. 4
(e) Importance of Biodiversity. 4
(f) Significance of herbarium. 4

3. Discuss in detail the Bentham and Hooker's system of classification and add note on its merits and demerits. 12

OR

- (i) Economic importance of Fabaceae. 6
(j) Floral structure in Brassicaceae. 6

4. Comment on :

- (k) Floral structure in Asclepiadaceae. 4

- (l) Systematic position of Apocynaceae. 4
(m) Economic importance of Lamiaceae. 4

OR

- (n) Systematic position of Asteraceae. 4
(o) Economic importance of poaceae. 4
(p) Inflorescence in Euphorbiaceae. 4

5. Explain :

- (q) Complex tissues. 6
(r) Primary structure of Monocot root. 6

OR

- (s) Secondary growth in dicot root. 6
(t) Structure and function of sclerenchyma. 6

6. Discuss on :

- (u) Internal structure of **Nerium** leaf (only diagram) 4
- (v) Anomalies in secondary structure in **Bignonia** stem, 4
- (w) Primary structure of Monocot stem. 4

OR

- (x) Primary structure of dicot stem. 4
- (y) Anomalies in secondary structure of **Dracaena** stem. 4
- (z) Internal structure of **Boerhaavia** primary stem. (Only diagram) 4

7. Explain :

- (a) Anatroplus ovule. 4
- (b) Monosporic type of Embryo sac. 4
- (c) Suspended animation. 4

OR

- | | |
|-------------------------|---|
| (d) Male gametophyte. | 4 |
| (e) Orthotropous ovule. | 4 |
| (f) Nuclear endosperm. | 4 |



