

(i) Printed Pages : 3

Roll No.

(ii) Questions : 9

Sub. Code :

0	2	5	4
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Exam. Code :

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B.A./B.Sc. (General) 3rd Semester

1128

BOTANY

Paper—(B : Structure Development & Reproduction in Flowering Plants—I)

Time Allowed : Three Hours]

[Maximum Marks : 36

Note :— (1) Attempt five questions in all.

(2) Question No. 1 is compulsory, attempt four more questions, selecting **one** from each unit.

(3) Draw diagram wherever necessary.

1. (A) Fill in the blanks :

(i) Velamen, water absorbing tissue occurs in _____ roots.

(ii) The mode of arrangement of mature leaves on the stem and its branches is called _____.

(iii) The point of attachment of body of the ovule with the funicle is called _____.

(iv) In *Calotropis* all pollen grains of an anther lobe unite in a single sac called _____.

(v) In _____ plant embryo sac is monosporic and 4- nucleated.

(vi) Perennials which produce flowers and fruits every year after attaining a definite stage of maturity are called _____. 6×1=6

(B) Multiple choice questions :

- (i) Plants which require two favorable seasons to complete their life cycle are called :
- (a) Ephemerals (b) Annuals
(c) Biennials (d) Perennials
- (ii) In *Nepenthes* (Pitcher plant) pitcher is modified :
- (a) Leaf base (b) Leaf stalk
(c) Leaf lamina (d) Leaf spine
- (iii) *Solanum tuberosum* (Potato) is :
- (a) Bulb (b) Corm
(c) Rhizome (d) Tuber
- (iv) Body of ovule consists of mass of parenchymatous tissue called :
- (a) Tapetum (b) Nucellus
(c) Placenta (d) Endothecium
- (v) Secondary nucleus in embryo sac is formed as a result of fusion of :
- (a) Two polar nuclei (b) Two antipodals
(c) Two synergids (d) None of these
- (vi) Stipular tendrils are seen in :
- (a) *Gloriosa* (b) *Smilax*
(c) Wild pea (d) Sweet pea.

$$6 \times 1 = 6$$

UNIT-I

2. Explain structural and anatomical modifications in roots for respiration. 6
3. Describe various structural modifications in tap root for storage of food. 6

UNIT-II

4. Give an illustrated account of various aerial stem modifications. 6
5. Give an illustrated account of internal structure of dicot leaf. 6

UNIT-III

6. Write notes on any two of the following :
 - (a) Tapetum
 - (b) Pollen grain
 - (c) Flower is modified shoot. 3,3
7. Describe the pre as well as post pollination development of male gametophyte in angiosperms. 6

UNIT-IV

8. What do you mean by monosporic embryo sac ? Describe the structure of normal type (*Polygonum*) of embryo sac. 6
9. With the help of diagrams describe the various types of ovules. 6