

2012
B.A./B.Sc. (General) Third Semester
Botany

Paper – B: Structure, Development and Reproduction in Flowering Plants – I

Time allowed: 3 Hours

Max. Marks: 36

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. (A) Fill in the blanks:

- (i) In some grasses the leaf epidermis bears large cells to help in rolling and unrolling to regulate loss of water. These large cells are known as_____.
- (ii) Woody climber is called _____.
- (iii) Intine layer of pollen grain is made of _____.
- (iv) Double fertilization was discovered by _____.

(4x1)

(B) Multiple choice questions:-

i) Fasciculated fleshy roots for storage of food occur in:

- (a) *Dahlia*
- (b) Carrot
- (c) Radish
- (d) Sugar beet

(ii) In *Nepenthes* the pitcher is modified:

- (a) Leaf lamina
- (b) Leaf base
- (c) Leaf stalk
- (d) Stipules

(iii) Body of ovule consists of mass of parenchymatous cells called:

- (a) Nucellus
- (b) Hilum
- (c) Raphe
- (d) Funicle

(iv) Which of the following is bisporic embryo sac?

- (a) *Fritillaria* type
- (b) *Plumbago* type
- (c) *Penaea* type
- (d) *Allium* type.

(4x1)

P.T.O.

(2)

UNIT-I

- II. Give an illustrated account of the structural and anatomical modifications of roots for respiration. (7)
- III. (a) Explain structural modifications of tap root for storage.
- (b) Give various categories of plants depending upon the longevity (life span). (4, 3)

UNIT -II

- IV. What is phyllotaxy? Discuss its different types with diagrams and examples. (7)
- V. Write notes on any two of the following
- (a) Venation
- (b) Bulb
- (c) Phylloclade (3.5x2)

UNIT- III

- VI. "Flower is a modified shoot". Discuss the statement and also give functions of flower. (7)
- VII. (a) Discuss the structure and function of tapetum.
- (b) Draw T.S. of mature anther. (4, 3)

UNIT -IV

- VIII. Describe the structure of normal type (*Polygonum*) of embryo sac and also discuss the function of each nucleus. (7)
- IX. Describe with the help of suitable diagrams and examples the different types of ovules. (7)