

BOTANY Paper-B

(Structure Development and Reproduction in Flowering Plants-I)

Time Allowed : 3 Hours

Maximum Marks : 36

Note : Attempt five questions in all. Q. No. 1 is compulsory. Attempt one question from each Unit i.e. Unit-I, II, III and Unit-IV.

1. (a) Biennials are
- (b) Monocarpic and polycarpic plants are
- (c) Orthotrichous arrangement of leaves is
- (d) Major difference between simple and compound leaf is
- (e) Triple fusion is
- (f) Function of synergids is
- (g) Pneumatophores are :
 - (i) +ve geotropic respiratory roots.
 - (ii) -ve geotropic respiratory roots.
 - (iii) Both (i) and (ii)
 - (iv) None of the above.
- (h) Decussate type of phyllotaxy represents :
 - (i) Opposite type of leaf arrangements.
 - (ii) Alternate type of leaf arrangements.
 - (iii) Both opposite and alternate type of leaf arrangements.
 - (iv) Whorl type of leaf arrangements.
- (i) Kidney shaped stomatas can be seen in :
 - (i) Dicot plants.
 - (ii) Monocot plants.
 - (iii) Both in dicot and monocot plants.
 - (iv) Gymnosperms.
- (j) Flowers are :
 - (i) Modified Root.
 - (ii) Modified Shoot.
 - (iii) Modified Stem.
 - (iv) Modified Leaves.

(k) In flowering plants endosperms are usually :

- (i) Haploid.
- (ii) Diploid.
- (iii) Triploid.
- (iv) Tetraploid.

(l) Radial type of vascular arrangements can be seen in :

- (i) Root.
- (ii) Stem.
- (iii) Leaves.
- (iv) Flowers.

1×12=12

UNIT-I

- 2. Describe the tap root system and its various types. 6
- 3. Explain with the help of illustrations, the structure anatomical features of storage roots. 6

UNIT-II

- 4. Write an account of various modifications of underground stems. 6
- 5. (a) Write a short note on Leaf Venations.
- (b) Draw T.S. of Monocot Leaf. 2×3=6

UNIT-III

- 6. (a) Draw T.S. of Young anther.
- (b) Why flower is a modified shoot? 2×3=6
- 7. Explain with the help of diagrams, the various steps in the development of male gametophyte in angiosperms. 6

UNIT-IV

- 8. (a) What is double fertilization? Write its significance also.
- (b) Draw structure of mature anatropous ovule. 2×3=6
- 9. Discuss the various kinds of embryo sacs in angiosperms. 6