B.A./B.Sc. (General) 4th Semester

(2055)

## BOTANY

Paper : B Structure Development and Reproduction in Flowering Plants–II

Time Allowed : Three Hours]          [Maximum Marks : 36

**Note :—** Attempt *five* questions in all. Question No. I is compulsory and attempt *four* more questions, selecting *one* question from each unit. Draw well labelled diagrams wherever necessary.

I.   (A)  Fill in the blanks :

(i)   Stone cell is the common name for _____ sclereid.

(ii)  Method in which seeds are shaken vigorously to remove strophiolar plug to break seed dormancy is called _____ .

(iii) In *Nyctanthes* the four inversely oriented vascular bundles are present in _____ region of the stem.

(iv)  In *Vallisneria* and *Ceratophyllum* pollination is through the agency of _____ .          4×1=4

(B) Multiple Choice Questions :

(i) How many vascular bundles are present in the innermost ring lying in the pith of *Boerhaavia diffusa* stem ?

(a) 02

(b) 15-20 or more

(c) 6-14

(d) Nil

(ii) Phenomenon in which bisexual flowers mature at different times to avoid self-pollination is referred to as :

(a) Dicliny

(b) Heterogamy

(c) Herkogamy

(d) Prepotency

(iii) Which of the following theories of Shoot Apex was proposed by Schmidt ?

(a) Apical Cell Theory

(b) Histogen Theory

(c) Tunica Corpus Theory

(d) Mantle Core Concept

(iv) Two commonly used hormones in Parthenocarpy are :

(a) Gibberellins and Ethylene

(b) Ethylene and Auxins

(c) Auxins and Gibberellins

(d) Ethylene and Abscisic Acid                    4×1=4

## UNIT—I

II. With the help of suitable diagrams, differentiate between dicot root and monocot root. 7

III. Discuss various types of special (secretory) tissues in plants. 7

## UNIT—II

IV. Explain the anomalous structure of *Dracaena* stem and also draw its well labelled diagram. 7

V. Write notes on the following methods of vegetative propagation :

    (a) Cutting

    (b) Layering. 3.5×2=7

## UNIT—III

VI. (a) Discuss various contrivances that ensure self–pollination in plants.

    (b) Give characters of flowers pollinated by birds. 4,3

VII. (a) Discuss advantages and disadvantages of cross-pollination.

    (b) Write a note on Autogamy. 4,3

## UNIT—IV

VIII. Write notes on any *two* of the following :—

    (a) Suspended animation.

    (b) Fruit Development and maturation.

    (c) Significance of seed. 3.5×2=7

IX. Discuss briefly various dispersal strategies adopted by seeds. 7