

SECOND YEAR B.Sc. DEGREE EXAMINATION, APRIL/MAY 2005**Part III—Botany (Subsidiary)****Paper II—TAXONOMY, ANATOMY, EMBRYOLOGY, ENVIRONMENTAL BIOLOGY,
ECONOMIC BOTANY, GENETICS AND PLANT BREEDING**

Time : Three Hours

Maximum : 50 Marks

*Draw diagrams only when specified.***I. Write notes on any ten of the following :**

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|--------------------------|----------------------|
| 1 Dendrochronology. | 2 Allele. |
| 3 Ditheous condition. | 4 Legume. |
| 5 Epipetalous condition. | 6 Antipodals. |
| 7 Triple fusion. | 8 Pod. |
| 9 Gynoecium. | 10 Perennials. |
| 11 Exarch xylem. | 12 Casparian strips. |
| 13 Incomplete dominance. | 14 Parthenocarpy. |
| 15 Staminodes. | |

(10 × 1 = 10 marks)

II. Answer any seven of the following :

- 16 What are the physiological adaptations of hydrophytes ?
- 17 Explain Histogen theory.
- 18 What are guard cells ?
- 19 Define parenchyma.
- 20 What are puses ? Write the botanical name and the major nutrient component in green gram.
- 21 Distinguish between test cross and back cross.
- 22 Explain about the non-essential whorls.
- 23 What is polyploidy ?
- 24 Give an illustration of the fruit in Graminae.
- 25 Explain the gynoecium of Apocyanaceae.
- 26 Mention the botanical names of any two economically important plants belonging to the family Verbenaceae.
- 27 Define heart wood.

(7 × 2 = 14 marks)

III. Answer any *four* of the following :

- 28 Explain the various cell types of the water conducting complex tissue.
- 29 Discuss briefly the causes and consequences of soil pollution.
- 30 Compare the floral characters of Caesalpinaceae with Mimosaceae.
- 31 Give an illustrative account on the digestive gland in *Drosera*.
- 32 Explain plant succession in the Xerosere.
- 33 What are the different types of anthers found in angiosperms ? Explain with illustrations.
- 34 Distinguish between microsporogenesis and microgametogenesis.
- 35 Discuss the importance of herbaria in taxonomical studies.

(4 × 4 = 16 marks)

IV. Answer any *one* of the following :

- 36 With the help of diagrams explain normal secondary thickening in a dicot root.
- 37 Give a brief account on the modern trends in systematic botany.
- 38 With suitable sketches explain the inheritance of fruit colour in summer squashes.

(1 × 10 = 10 marks)