

**2021**

**BOTANY — HONOURS**

**Fourth Paper**

**(Group - A)**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

1. Answer **any five** of the following questions :

- |   |     |
|---|-----|
| (a) Define alpha taxonomy and omega taxonomy.                     | 2   |
| (b) Define Lectotype.   | 2   |
| (c) Define taxon. Cite an example.                                | 1+1 |
| (d) Name the largest herbarium in the world. Mention its acronym. | 1+1 |
| (e) What is the alternative name of Umbelliferae?                 | 2   |
| (f) Define numerical taxonomy.                                    | 2   |
| (g) Mention two important roles of Botanic gardens.               | 2   |

2. Answer **any two** of the following questions :

- |  |       |
|--|-------|
| (a) What is cladistics? Define pleiomorphy and apomorphy.  | 1+2+2 |
| (b) Write brief note on 'Rules of Priority'.   | 5     |
| (c) State any three cytological characters used in taxonomic studies. Cite one example where cytological information solved the taxonomic problem. | 3+2   |
| (d) Describe any two types of placentation as found in angiosperms with one example and diagram each.  | 2½+2½ |

3. Name and describe five different types of ovules in angiosperms with diagrams and cite one example each. 3×5

**Or,**

Define natural system of classification. Give an outline idea of the Bentham and Hooker's system of classification. Describe two merits and two demerits of this system. 2+9+2+2

**Please Turn Over**

**T(II)-Botany-H-4A**

( 2 )

4. (a) Compare the reproductive structures of Compositae (Asteraceae), Cucurbitaceae and Labiatae (Lamiaceae).

**Or,**

Define monophyletic, polyphyletic and paraphyletic groups.

- (b) Describe in brief the flower structure of orchid. Mention the botanical name of a medicinally important orchid species.
- (c) Write brief notes on indented and bracketed keys. 5+(4+1)+5
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