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**4 SEM TDC BOTH (CBCS) C 10**

**2024**

( May/June )

**BOTANY**

( Core )

Paper : C-10

**( Plant Systematics )**

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

1. (a) Choose the correct answer from the following : 1×3=3

(i) The book, *System a Naturae* was written by Carolus Linnaeus / Bentham and Hooker / John Hutchinson.

(ii) Stem with solid nodes and hollow internodes is called rhizome / culm / pseudostem.

(iii) Presence of gynostemium is characteristic feature of the family Zingiberaceae / Orchidaceae / Euphorbiaceae.

( 2 )

(b) Fill in the blanks :  $1 \times 3 = 3$

(i) The term 'taxon' was first used by \_\_\_\_\_.

(ii) The arrangement of leaves around the stem is called \_\_\_\_\_.

(iii) \_\_\_\_\_ is the largest herbarium in India.

(c) Write short notes on (any three) :  $3 \times 3 = 9$

(i) e-flora

(ii) Biological species concept

(iii) Monotypic genus

(iv) Valid publication

(v) Principles of phylogenetic classification

2. Write notes on the following (any three) :

$4 \times 3 = 12$

(a) Phyllotaxy

(b) Functions of herbarium

(c) Characteristic features of family Orchidaceae

(d) Primitive and advanced characters of angiosperms

(e) Phylogenetic tree

( 3 )

3. Discuss the role of cytology and phytochemistry in solving the taxonomic problems. Give specific examples.  $4+4=8$

Or

Write floral characters and economic importance of the following families :  $4 \times 2 = 8$

(a) Malvaceae

(b) Arecaceae

4. Give an outline of Bentham and Hooker's system of classification and comment on its merits and demerits.  $4+6=10$

Or

Write notes on the following :  $5 \times 2 = 10$

(a) Contribution of Carolus Linnaeus in taxonomy

(b) APG III system of classification

5. What is taxonomic key? Write in brief about single- and multi-access key.  $2+6=8$

Or

Write notes on the following :  $4 \times 2 = 8$

(a) Qualitative and quantitative characters

(b) Polyphyletic origins of angiosperms

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