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3 (Sem-4/CBCS) BOT HC 3

2024

BOTANY

(Honours Core)

Paper : BOT-HC-4036

(Plant Systematics)

Full Marks : 60

Time : Three hours

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

1. Answer the following/Fill in the blank/
Choose the correct answer : 1×7=7
 - (a) Who first used the term 'taxon' ?
 - (b) What type of fruit is developed from an apocarpous gynoecium ?
 - (c) Define phylogenetic tree.
 - (d) What do you understand by 'OTUs' ?
 - (e) '_____' is the conserved name of the family Poaceae.

Contd.

- (f) Name the family where gynobasic style is found.
- (g) The book, *Theories Elementaire de la Botanique* was written by
- (i) Carolus Linnaeus
 - (ii) Theophrastus
 - (iii) Bentham and Hooker
 - (iv) A. P. de Candolle

2. Answer the following : $2 \times 4 = 8$

- (a) Differentiate between taxonomic species concept and biological species concept.
- (b) Describe the androecium of Zingiberaceae.
- (c) Write the difference between monophyly and polyphyly.
- (d) Mention the basic concept of which Linnaeus system of classification was based.

3. Answer **any three** of the following questions : $5 \times 3 = 15$

- (a) What is virtual herbarium ? Discuss the advantages of virtual herbarium.

- (b) Give a brief account on important botanical gardens of India.
- (c) Describe the floral peculiarities of the family Orchidaceae.
- (d) What do you mean by 'typification' ? Write an account on various 'types' used in plant nomenclature.
- (e) Write a note on rules of 'effective and valid publication'.

4. Answer **any three** of the following :

$$10 \times 3 = 30$$

- (a) What is natural system of classification ? Give the detailed outline of Bentham and Hooker system of classification. Mention the merits and demerits of the classification. $1 + 6 + 3 = 10$
- (b) Why is the family Asteraceae regarded as most advanced among dicots ? Describe the characteristic features of in florescence found in Asteraceae. $7 + 3 = 10$

- (c) What is palynology ? Discuss the role of palynology in taxonomy. Give suitable example. $1 + 7 + 2 = 10$

- (d) What is the basic concept behind APG system of classification ? Write a brief note on APG system of classification. Discuss the merits and demerits of it.

1+6+3=10

- (e) Describe different theories regarding the origin and evolution of Angiosperm.

- (f) What is numerical taxonomy ? Describe the principle of numerical taxonomy. Mention the applications of it.

2+6+2=10