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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 : 2×4=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 : 5×3=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 :

10×3=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 inflorescence 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