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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 :  $1 \times 7 = 7$
- (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
- Carolus Linnaeus
  - Theophrastus
  - Bentham and Hooker
  - A. P. de Candolle

2. Answer the following : 2×4=8

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

3. Answer **any three** of the following questions : 5×3=15

- What is virtual herbarium? Discuss the advantages of virtual herbarium.

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

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

- 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. 10×3=30
- Why is the family Asteraceae regarded as most advanced among dicots? Describe the characteristic features of inflorescence found in Asteraceae. 1+6+3=10
- What is palynology? Discuss the role of palynology in taxonomy. Give suitable example. 7+3=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