

63/1 (SEM-4) BOT HC 4106 (CC 10)

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BOTANY

Paper : CC-10

(Plant Systematics)

Full Marks : 60

Time : 3 hours

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

1. Choose the correct answer : 1×5=5

(a) One of the best methods for understanding general relationship of plants is

- (i) cytotaxonomy
- (ii) experimental taxonomy
- (iii) numerical taxonomy
- (iv) chemotaxonomy

(b) *Malus malus* is

- (i) tautonym
- (ii) autonym
- (iii) synonym
- (iv) homonym

(2)

(c) Arrange the following in correct order :

1. Class
2. Kingdom
3. Phylum
4. Order
5. Genus
6. Family
7. Species

(i) 6, 2, 4, 1, 5, 7, 3

(ii) 7, 1, 3, 4, 5, 6, 2

(iii) 1, 2, 3, 4, 5, 6, 7

(iv) 2, 3, 1, 4, 6, 5, 7

(d) Indian Botanical Garden is situated in

(i) Lucknow

(ii) Kolkata

(iii) Bangalore

(iv) Dehradun

(e) Family tree is represented by

(i) cladogram

(ii) key

(iii) herbarium

(iv) arboretum

(3)

2. Answer the following questions : 2×5=10

(a) What are the Operational Taxonomic Units (OTU)?

(b) What is taxon? Give an example.

(c) Write on the importance of E-flora.

(d) What is APG?

(e) Differentiate between homology and analogy in plants.

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

5×5=25

(a) Describe briefly about neo-Adansonian principles.

(b) Write a note on phylogenetic tree.

(c) What is the concept of species in plant taxonomy?

(d) Discuss the objective and importance of plant taxonomy.

(e) Distinguish the Phenetic classification and the Phyletic classification.

(f) Mention the principles of botanical nomenclature.

(g) What is taxonomic key? Name the types of taxonomic keys you have studied.

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

10×2=20

- (a) What is herbarium? Discuss the role of herbaria in teaching and learning process of plant taxonomy. 3+7=10
- (b) Give a comparison of Bentham and Hooker's and Engler and Prantl's systems of classification. 10
- (c) What is chemotaxonomy? Write the role of chemotaxonomy in solving taxonomic problems. 3+7=10

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