

April 2025
B.A./B.Sc.
Fourth Semester
CORE – 10
BOTANY
Course Code: BOC 4.31
(Plant Systematics)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. How do the palynological and phytochemical studies help in solving taxonomic problems? 7+7=14
2. What are taxonomic keys? Explain the different types of taxonomic keys. 2+12=14

UNIT-II

3. Write three important spot identifying morphological characters and draw floral diagram of the family: 7×2=14
 - (a) Magnoliaceae
 - (b) Zingiberaceae
4. Write the systematic position and floral formula of the family: 7×2=14
 - (a) Euphorbiaceae
 - (b) Meliaceae

UNIT-III

5. Write a comparative account on the taxonomical species concept and biological species concept. 14
6. What is a type specimen? What situation leads to rejection of a scientific name? 2+12=14

UNIT-IV

7. Write a note on the contributions of Linnaeus, Adanson, Takhtajan, and Cronquist in plant systematics. 14
8. What is the difference between the classification system of Bentham and Hooker and that of Engler and Prantl? Write a critical account on the Engler and Prantl system of classification. 6+8=14

UNIT-V

9. (a) Explain the following terms with an example. 3×3=9
(i) Parallelism
(ii) Convergence
(iii) Paraphyly
(b) Write a note on the evolution of angiosperm. 5
10. (a) Discuss the process of character weighting and coding in phylogenetic data analysis. 10
(b) Write a note on a phylogenetic tree. 4
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