

2022
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. (a) Explain why description and identification are considered an important component of plant taxonomy. 5+5=10
(b) How does phytochemical information contribute to solving taxonomic problems? 4
2. (a) What is taxonomic literature? 4
(b) Discuss the functions of the herbarium. 4
(c) Write a brief note on taxonomic keys. 6

UNIT-II

3. Write the spot identifying morphological characters and a systematic classification of the family 7×2=14
(a) Cucurbitaceae
(b) Zingiberaceae
4. Draw the floral diagram and write the floral formula of the family 7×2=14
(a) Solanaceae
(b) Orchidaceae

UNIT-III

5. (a) What is a genus and a species? 4
(b) Describe the taxonomical species concept. 10
6. (a) Explain why for botanical names to be formally recognized valid publication is mandatory. 4
(b) Discuss the different kinds of type specimens recognized by ICN. 10

UNIT-IV

7. (a) Differentiate between natural and phylogenetic systems of classifications. 4
(b) Write a summary outline of the Bentham and Hooker system of classification up to series. 10
8. (a) What is the difference between Carl Linnaeus and John Hutchinson systems of classification? 3
(b) State the merits and demerits of Engler and Prantl system of classification. 5
(c) Write a brief account of the angiosperm phylogeny group. 6

UNIT-V

9. (a) What is a clade? 2
(b) Differentiate between homology and analogy. Give one example each. 6
(c) Write a note on the evolution of angiosperm. 6
10. (a) Distinguish between character and character states. 4
(b) Explain the process of character weighting and coding in phylogenetic data analysis. 10