2026

BOTANY

(Major)

Paper : BOT4200204MJ

(Plant Systematics)

Full Marks : 45

Time : 2 hours

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

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1. Answer the following questions : 1×5=5

(a) Define holotype.

(b) What is tautonym?

(c) Pulses belong to _____ sub family.

(d) What is a dichotomous key?

(e) Standard size of a herbarium sheet is –

(i) 29×41 cm

(ii) 29×42 cm

(iii) 28×41 cm

(iv) 28×42 cm

2. Answer the following questions (any *five*) : 2×5=10

(a) What do you mean by effective and valid publication?

(b) Draw a labeled diagram of pollinia.

(c) Mention the floral formula of Euphorbiaceae.

(d) Write a short note on type method.

(e) State any two principles of ICN.

(f) Define specific epithet and holotype.

(g) Mention two palynological characters employed in taxonomy.

(h) State the features of phylogenetic classification.

(i) What is phenogram and cladogram?

(j) Mention one example each from Fabaceae and Poaceae.

3. Answer the following questions (any *four*) : 5×4=20

(a) What is chemotaxonomy? With suitable evidences discuss the importance of chemotaxonomy in solving taxonomic problems.

(b) Explain the roles of botanical garden in conservation and education.

(c) Describe the evolutionary species concept and its significance.

(d) Write a detailed note on effective and valid publication.

(e) Discuss briefly the rules for author citation.

(f) Elaborate the rules for naming interspecific and intergeneric hybrids.

(g) Discuss the classification of Bentham and Hooker. Write its merits and demerits.

(h) Briefly discuss the characteristic features and economic importance of the family Poaceae.

4. Answer the following question (any *one*) : 10

(a) Define and differentiate monophyly, paraphyly and polyphyly. Discuss the concept of convergence and parallelism in plant evolution with example.

(b) Give an account of the family Magnoliaceae with special reference to the floral formula and diagram.

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(c) Describe the concept of characters in taxonomy. Write the process of character coding and state its different types.

(d) Elucidate the major principles of International Code of Nomenclature (ICN). Mention the rules of botanical Nomenclature are as laid down by ICN.

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