

Department of Botany
School of Chemical & Life Sciences
Jamia Hamdard, New Delhi-110062

M.Sc. BOTANY
I SEMESTER EXAMINATION DECEMBER 2025

Paper Name: **Plant Diversity and Systematics of Angiosperms** Paper Code: **MBOCC101**
 Time: **2 ½ hours** Maximum Marks: **60**

Note: This paper has 3 sections A, B, and C.

Section A: Answer all the questions.

Section B: Attempt any **4** Out of **6**; Section C: Attempt any **2** out of **3**.

Abbreviations used:

CLO-Course Learning Outcomes

CLO1: interpret the morphological, anatomical and reproductive features of algae, bryophytes, pteridophytes, gymnosperms and angiosperms (apply);

CLO 2: recognize the origin and evolution of plants and concept, components and aims of plant systematics (understand);

CLO 3: explain the taxonomic hierarchy, interpret the principles and rules of ICN in botanical nomenclature (understand/evaluate); and

CLO 4: classify and predict the relationship among the plants based on molecular data (understand and evaluate).

BLT-Bloom's Taxonomy Levels

1- Remembering, 2-Understanding, 3-Applying, 4-Analyzing, 5-Evaluating, 6-Creating

SECTION A

Very Short Type Question (15 questions)

15 x 1 = 15 marks

Q.No.	Question	Marks	CLO	BTL
1	The phenomenon of two morphologically distinct types of spores: _____	1	1	1
2	The wood of gymnosperms is commonly called _____ wood.	1	1	1
3	Conducting tissue analogous to phloem in mosses: _____	1	1	1
4	The floral formula symbol representing a unisexual flower: _____	1	2	2
5	The Latinized two-word name system introduced by Linnaeus is _____.	1	3	2
6	"The Flora of British India" was authored by	1	2	1
7	The nomenclatural code designed to name clades rather than ranks: _____	1	3	2
8	Explain the author citation " <i>Catharanthus roseus</i> (L.) G. Don."	1	3	2

9	Write down the alternate name of "Apiaceae".	1	3	1
10	Define homoplasy.	1	4	2
11	LUCA stands for.....	1	4	1
12	The branch of taxonomy based on overall similarity is _____.	1	4	1
13	What is the significance of multiple sequence alignment?	1	4	2
14	Cladistics classifies organisms based only on _____ relationships.	1	4	2
15	Primitive ancestral character states in cladistics are called _____.	1	4	2

SECTION B

Short Type Question. (Attempt any **FOUR**)

4 x 5 = 20 marks

Q.No.	Question	Marks	CLO	BTL
1	Describe the economic importance of bryophytes.	5	1	1
2	Briefly explain the coevolution of angiosperms and insects.	5	2	2,3
3	Describe the importance of cytological evidence in angiosperm classification.	5	2	2,3
4	Explain the methodology of constructing a phenogram.	5	3	3
5	Briefly describe various methods of phylogenetic analysis.	5	4	4
6	Discuss the role of chloroplast DNA in resolving plant phylogeny	5	4	5

SECTION C

Long type Question (Attempt any **TWO**)

2 x 12.5 = 25 marks

Q.No.	Question	Marks	CLO	BTL
1	Describe the principles and key rules of botanical nomenclature with emphasis on ranks, types, and valid publication.	12.5	4	2
2	Provide a comparative account of life cycles in Algae, Bryophytes, Pteridophytes and Gymnosperms.	12.5	4	3,4
3	Present a comparative analysis of Pre-Darwinian and Post-Darwinian systems of angiosperm classification.	12.5	1	4,5

END OF QUESTION PAPER