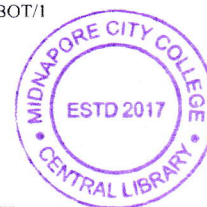


PG (CBCS)  
M.Sc. Semester-IV Examination, 2026  
BOTANY  
PAPER: BOT 405A  
(ANGIOSPERM TAXONOMY AND MOLECULAR SYSTEMATICS:  
MOLECULAR SYSTEMATICS)



Full Marks: 40

Time: 2 Hours

The figures in the right-hand margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

A. Answer any **FOUR** of the following questions:

2×4=8

1. Differentiate between cladogram and phylogram.
2. Differentiate OTUs & taxa.
3. Name two dye yielding plants
4. Differentiate between molecular taxonomy and phenetics.
5. Differentiate between primer and marker.
6. What is neo-adansonian taxonomy?

B. Answer any **FOUR** of the following questions:

4×4=16

7. Write down the different types of methods in building phylogenetic tree.
8. Classify the parasitic plants. Schematically represent the evolutionary trends in parasitic plants. 2+2
9. Write down the characteristics features of an appropriate molecular marker utilised in plant systematics.
10. Differentiate between phylocode and biocodes.
11. Write down the physiological adaptive features of mangrove plants. Name two true mangrove plants and two mangrove associate plants found in West Bengal. 2+2
12. Differentiate between endangered and threatened plants. Give one example each.

C. Answer any **TWO** of the following questions:

8×2=16

13. Differentiate between primary and secondary metabolites. Write down the role of phytochemistry in deciphering taxonomic position. 3+5
14. Differentiate between two-state and multistate coding. Write down the principles and applications of Numerical taxonomy. 4+4
15. Describe in brief the method of identifying different IUCN categories. Why DNA sequencing required for phylogenetic analysis. 6+2
16. Write down the role of molecular systematics in identification of medicinal and aromatic plants.

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