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B.Sc. (Semester-V)
EXAMINATION NOVEMBER 2022
Botany
Classical Taxonomy and Phylogeny

[Duration : Two Hours]

[Mix Marks : 80]

- Instructions:**
1. All questions are **compulsory**; however internal choice is available.
 2. Briefly answer sub question in Question I and II.
 3. Figures to the **right** indicate **maximum** marks to the questions or subquestions.
 4. Draw appropriate labeled diagrams **wherever** necessary.

- I.** Answer **any four** of the following: 16
- a) What is "Adelphy". State its types with examples.
 - b) Differentiate between actinomorphic and zygomorphic flowers.
 - c) Describe the types of anthers based on their attachment to the filament.
 - d) Explain the terms "Stylopodium" and "Gynostegium".
 - e) Enlist the reasons that make "winteraceae" the basal living Angiosperms.
 - f) State the features of Bennettitalean theory of origin of Angiosperms.
- II.** Write short notes on **any four** of the following: 16
- 1) The inflorescence of family "Araceae".
 - 2) Papilionaceous type of corolla.
 - 3) Economic importance of any four plants of Brassicaceae.
 - 4) Diagnostic features of genus "Rhoeo".
 - 5) Concept of homology and analogy.
 - 6) Primitive and advanced characters of Angiosperms.
- III.** A) Give an account of leaf shapes and leaf incisions as seen in Angiosperms. 6
- OR**
- A) Briefly describe the different types of inflorescence. 6
- B) Explain the co-evolution of flowers with respect to insects. 6
- IV.** A) Answer the following with reference to family Cucurbitaceae: 6
- i) Fruit type ii) Synandry iii) Economic importance of any two plants.
- OR**
- A) Assign *Musa paradisiaca* to its respective family and state its: 6
- i) Diagnostic features ii) Description of inflorescence.
- B) Explain the use of cladogram to study plant phylogeny. 6
- V.** A) With reference to a typical Angiospermic flower, explain the terms hypogynous, epigynous, epipetalous and didynamous. 6

OR

- A) Give a detailed account of simple fruits. 6
B) Describe the floral structure of family Verbenaceae. 6

VI. A) Enlist and describe the placentation types. 6

OR

- A) State the economic importance of family Arecaceae. 6
B) Explain the evolution of Angiosperms with respect to xylem. 6