

**B. Sc. (Hons.) Botany / Semester : IV**  
**Title of paper: Plant Systematics (Core)**  
**Unique Code : 32161403**

**Duration : 3 Hours + 1 hour**

**Maximum Marks : 75**

**Instructions for the Candidates:**

Write the following on the first page.

**Date and time of examination DD/MM/YYYY**

**Examination roll number**

**Name of the programme**

**Semester**

**Unique paper code (UPC)**

**Title of the paper**

Attempt **any four** questions. **All questions carry equal marks (18.75)**

1. Herbarium visits are an essential part of taxonomic studies. In what way do you think such visits enhance your understanding of plant taxonomy? Give an account of Flora and Monograph. Explain different types of multi-entry keys.
2. Give a detailed account of basal angiosperms. Discuss whether angiosperms are considered to be monophyletic or polyphyletic in origin? Explain any two theories regarding the possible ancestors of Angiosperms.
3. Define classification. Mention the differences between natural and phylogenetic systems of classification. Outline the Bentham and Hooker's system of classification and enumerate its merits and demerits. Comment on APG IV classification.
4. What is numerical taxonomy? Discuss its principles and procedure. In what way is it different from cladistics ? In what way is a phenogram different from cladogram.
5. 'Systematics is an interdisciplinary science'. Discuss how evidence from palynology has helped in establishing a better understanding of the affinities between plants. How has molecular data helped in establishing relationships among various taxa?
6. Elaborate the principle of typification and explain different types. Following are the four names of a species based on the same type specimen. Which one is the correct name for the species? Justify your answer.

*Cerbera thevetia* L. , 1753

*Cerbera peruviana* Pers. , 1805

*Cascabela peruviana* (Pers.) Raf., 1838

*Cascabela thevetia* (L.) Lippold , 1980



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