

Roll No:

--	--	--	--	--	--	--	--	--	--

The Assam Royal Global University, Guwahati

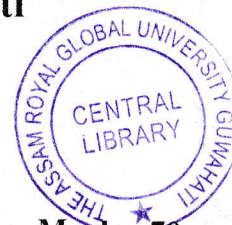
Royal School of Life Sciences

B.Sc. Botany 4th Semester

Special Supplementary Examination, September 2023

Course Title: Plant Systematics

Course Code : BOT142C401



Time: 3 Hours

Maximum Marks: 70

Note: Attempt all questions as per instructions given.

The figures in the right-hand margin indicate marks.

Section – A

1. Attempt **all** questions. (Maximum word limit 50) 2 x 8
- Name the highest and lowest taxon in a model hierarchical system.
 - What are the main aims of taxonomy?
 - Why is Carolus Linnaeus system known as sexual system of classification?
 - Define OTU.
 - Write the distinguishing characters of the family Solanaceae.
 - Write the floral formula and floral diagram of family Verbenaceae.
 - Differentiate between homology and analogy.
 - Define clade.

Section – B

2. Attempt **any one** of the following: 12 x 1
- Describe various 'types' mentioned in the plant nomenclature.
 - How cytological data are helpful in solving taxonomic problems? Discuss.
3. Attempt **any two** of the following: 7 x 2
- Write in brief the principles followed by Takhtajan in his system of classification.
 - Give a brief idea on numerical taxonomy.
 - Explain the concepts and references up to APG III system of classification in brief.
4. Attempt **any two** of the following: 7 x 2
- Write the range of floral characters of the family Orchidaceae. Mention the botanical names of three plants belonging to this family.
 - Point out the advanced characters found in the family Asteraceae. Write the floral formula of ray and disc florets.
 - Write the general characters of family Lamiaceae. Mention its phylogeny.
5. Attempt **any two** of the following: 7 x 2
- Discuss different concepts on the origin of angiosperms.
 - Give brief concept of – 3+4
 - Parallelism and Convergence
 - Monophyly, Paraphyly and Polyphyly.
 - Define cladogram. Differentiate between cladogram and phylogenetic tree with illustration. 1+6