

2013

BOTANY

(Major)

Paper : 4.2

(Plant Taxonomy)

Full Marks : 60

Time : 2½ hours

*The figures in the margin indicate full marks
for the questions*

1. Answer the following :

1×7=7

- (a) What is meant by tautonym?
- (b) Define the term 'monochlamydeae'.
- (c) Name two major publications of Sir Joseph Dalton Hooker.
- (d) What are operational taxonomic units (OTU)?
- (e) Differentiate between phenetics and cladistics.
- (f) What do you understand by gynobasic style?
- (g) Mention the primitive characteristics of Magnoliaceae.

2. Answer the following :

2×4=8

(a) Write a brief note on the principles of the Angiosperm Phylogeny Group's (APG) approach to classifications.

(b) List the guiding principles of International Code of Botanical Nomenclature (ICBN).

(c) Describe the stamens of Cucurbitaceae.

(d) Describe the uniqueness of spikelet of Poaceae.

3. Answer any *three* of the following :

5×3=15

(a) What is the concept of species in plant taxonomy?

(b) How is cluster analysis used in numerical taxonomy to make classifications?

(c) State the principles of Biocode.

(d) Discuss the special features of floral morphology of Orchidaceae.

(e) Describe the inflorescence and range of floral structures in Euphorbiaceae.

4. Answer any *three* of the following : $10 \times 3 = 30$
- (a) Describe the aims, objectives and principles of plant taxonomy. 10
- (b) Write the salient features of the system of classification proposed by Takhtajan. State the merits and demerits of the system. $8+2=10$
- (c) Explain in brief the principles of priority of botanical nomenclature. Discuss the various limitations to its application. $6+4=10$
- (d) Describe the role of phytochemistry in the classification and determination of interrelationships. 10
- (e) Compare between the floral characters exhibited by Apiaceae and Asteraceae. Which of the two families is more advanced? Give reasons. $8+2=10$
- (f) Give the most important features of the family Arecaceae and discuss its phylogenetic relationships. $8+2=10$

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