

Total number of printed pages—4

63 (FY)SEM-3/MAJ/BOTMAJ2024

2024

BOTANY

Paper : BOTMAJ2024

(Plant Taxonomy)

Full Marks : 50

Pass Marks : 20

Time : Two hours

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

1. Choose the correct answer : $1 \times 5 = 5$

(a) _____ is the largest and oldest botanical garden in India.

(i) Lloyd's Botanical Garden

(ii) Indian Botanical Garden

(iii) Hyderabad Botanical Garden

(iv) Malabar Botanical Garden

(b) The substitute for the newly collected specimen when the original type material is missing in a herbarium is entitled as

(i) Holotype

(ii) Neotype

(iii) Lectotype

(iv) Isotype

(c) The taxonomic literature that includes all the information related to a particular genus or plant family is termed as :

(i) Monograph

(ii) Record

(iii) Flora

(iv) Journal

(d) A phylogeny refers to ?

(i) Structural similarities

(ii) Functional similarities

(iii) Histological relationship

(iv) Evolutionary relationship

(e) The primary advantage of Bentham and Hookers classification is

(i) It is a system whose basis is on evolutionary relationship

(ii) It is a natural system of classification, covered all groups of plants

(iii) Deemed to be the phylogenetic aspect as well

(iv) The taxa description is based on the actual examination of the specimens

2. Answer the following questions : **(any five)**
2×5=10

(a) Write one Indian and International herbarium each.

(b) Write the major contributions of Armen Takhtajan in taxonomy ?

(c) Differentiate between isotype and Lectotype.

(d) Give the difference between monophyly and paraphyly.

(e) What is botanical nomenclature ? Give example.

(f) What is virtual herbarium ? Write its importance.

(g) What are roles of Botanical gardens ?

3. Answer the following questions : **(any five)**
5×5=25

- (a) Write the principles of ICN.
- (b) Briefly discuss the APG-IV classification.
- (c) Write notes on biological species concept.
- (d) Explain Principle of Priority, citing an appropriate examples.
- (e) Mention the primitive characters of Angiosperm.
- (f) Discuss the merits and demerits of Engler and Prantl system of classification.
- (g) Differentiate between Flora and monographs.
- (h) Write a note on cytology and molecular data used as taxonomic evidence.

4. Answer the following questions : **(any one)**
10×1=10

- (a) Give the outline of Bentham and Hooker plant classification. Mention its merits and demerits. 5+5=10
- (b) What are botanical keys? Mention the significance of botanical key in taxonomy. Discuss its types. 2+4+4=10