

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 2328 F-4 Your Roll No.....

Unique Paper Code : 2161403

Name of the Course : B.Sc. (Hons.) Botany

Name of the Paper : Plant Systematics

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt five questions in all.
3. Question No. 1 is compulsory.
4. Attempt all parts of a question together.

1. (a) Fill in the blanks : (2)

(i) _____ is the author of *Pinax Theatri Botanici*.

(ii) The standard size of a herbarium sheet is _____ .

(iii) The system of classification proposed by _____ is considered phylogenetic.

(iv) Advanced characters are also called _____ .

(b) Expand the following : (4)

ICNCP; IAPT; APG; BSI.

P.T.O.

- (c) Define the following : (4)
Taxon; Legitimate name; Heterobathmy; Parallelism.
- (d) Give the alternative names of the following families : (3)
Palmae; Leguminosae; Labiatae.
- (e) Name one national and one international botanical garden. (2)
2. Write short notes on any three of the following : (3×5)
- (i) Principle of priority and its limitations
 - (ii) Roles of a Herbarium
 - (iii) Serology in taxonomy
 - (iv) Sequential keys
 - (v) Concept of primitive flower
3. (i) Give an outline of the system of classification of seed plants proposed by Bentham and Hooker. (7)
- (ii) Explain the merits and demerits of this system. (6)
- (iii) What is a monograph ? Cite an example with the name of the author. (2)
4. Differentiate between any five of the following : (5×3)
- (i) Lectotype and Neotype
 - (ii) Body punched and Edge punched keys
 - (iii) Taxonomic Category and Taxonomic Group

- (iv) Phenogram and Cladogram
 - (v) Homology and Analogy
 - (vi) Synonym and Homonym
 - (vii) Sibling species and Compilospecies
5. (a) Explain how the information on distribution of flavonoids has helped in improving the classification of Centrospermae. (7)
- (b) Interpret *any five* of the following : (5)
- (i) *Rosa x odorata*
 - (ii) *Gossypium tomentosum* Nutt. ex Seem.
 - (iii) *Citrullus lanatus* 'Crimson Sweet'
 - (iv) *x Agropogon lutosus*
 - (v) *Phyllanthus* Linn, emend. Mull.
 - (vi) *Triticum aestivum* Linn., nom. cons.
- (c) Interpret and explain the following : (3)
- (i) *Manglietia insignis* (Wall.) Bl. 1829
Magnolia insignis Wall. 1824
6. (a) Explain the various steps involved in a numerical taxonomic analysis. (9)
- (b) Give an account of the use of molecular evidences in systematic research. (6)

7. (a) Explain the Taxonomic Species Concept. (6)
- (b) Discuss its merits and demerits. (6)
- (c) Write a short note on the contributions of Takhtajan. (3)