

Sr. no. of paper	:	8551	C	Roll no.:
Unique Paper Code	:	216501		
Name of the Paper	:	BTHT-507 : Plant Systematics and Evolution		
Name of the Course	:	B. Sc. (Hons) Botany		
Semester	:	V		
Duration	:	3 Hours		
Maximum Marks	:	75 Marks		

Instructions for Candidates

Question no. 1 is compulsory. In addition, attempt any four. All questions carry equal marks. All parts of a question should be attempted together.

1. (a) Expand the following :
DC., ICN, Hook. f., IAPT, nom. cons., ICNCP 3
- (b) Name the authors who earned the following titles:
(i) Father of Taxonomy
(ii) Father of Genus Concept
(iii) Father of Botany 3
- (c) Mention alternative name and type genus of the following families:
Graminae, Umbelliferae, Cruciferae, Labiatae 4
- (d) What is the standard size of herbarium sheet and of annotation label? 1
- (e) Indicate the significance of the date May 1, 1753 in plant systematics. 1
- (f) Name an angiosperm family characterized by presence of pollinia. 1
- (g) Where are the following located:
(i) Royal Botanical Garden
(ii) National Botanical Research Institute. 2

2. Write short notes on any three:
- (a) Rejection of names
 - (b) Biological species concept
 - (c) Principle of Priority and its Limitations
 - (d) Polyclaves
 - (e) Are Angiosperms Monophyletic or Polyphyletic ? 3X5=15
3. Differentiate between any three:
- (a) Phenogram and Cladogram
 - (b) Apomorphy and Plesiomorphy
 - (c) Phenetic and Phylogenetic classification
 - (d) Ranaian and Englerian concept of Primitive angiosperm 3x5=15
4. (a) Describe the system of classification given by Takhtajan. Discuss its merits and demerits. 10
- (b) Discuss the basic requirements in handling the special groups of plants in the process of specimen preparation. 5
5. (a) Interpret any five of the following:
- (i) *Rosa floribunda* 'Blessings'
 - (ii) *Phyllanthus* Linn. emend. Mull.
 - (iii) *X Agropogon lutosus*
 - (iv) *Capparis lasiantha* R. Br. ex DC.
 - (v) *Stellaria media* (L.) Vill.
 - (vi) *Delphinium viscosum* Hook. f. et Thompson 5
- (b) Write Principle and Procedure of Numerical Taxonomy. 10

6. (a) Discuss role of Phytochemistry with examples in solving plant taxonomic problems. 10
- (b) Discuss the age and place of origin of Angiosperms. 5
7. (a) Illustrate the following using suitable branching diagrams :
Synapomorphy, Symplesiomorphy, Paraphyly 3
- (b) Explain the use of computer in plant systematics. 5
- (c) Name the authors who have used the following group names in their classification (any seven):
- | | | |
|---------------------|-----------------------|---|
| (i) Ordines anomali | (vi) Heteromerae | |
| (ii) Monandria | (vii) Archichlamydeae | |
| (iii) Centrospermae | (viii) Gamopetalae | |
| (iv) Magnoliopsida | (ix) Embryophyta | 7 |
| (v) Hamamelididae | | |