

**13**  
**BOTANY (GENERAL)**  
**Paper II**

**Time - 3 hours**

**Full Marks - 75**

Ten questions to be set, five from each group. Candidates are required to answer five questions attempting at least two questions from each group.

**Group A**

**1. Taxonomy**

- i. Classification of angiosperm with reference to Linnaeus, Bentham and Hooker, Engler and Prantl and Hutchinson system.
- ii. Diagonastic feature and economic importance of the following families -  
*Ranunculaceae, Caryophyllaceae, Cucurbitaceae, Convolvulaceae, Scrophulariaceae, Acanthaceae, Lamiaceae, Euphorbiaceae, Musaceae and Cyperaceae,*

**2. Anatomy**

- i. Meristem
- ii. Root stem transitions
- iii. Anomalous Secondary growth  
*Boerhaavia, Nyctanthes, Bignonia, Tinospora, Dracaena*
- iv. Periderm - Structure, origin and function.

**Group B**

**3. Embryology**

- i. Micro and Megasporogenesis
- ii. Micro and Megagametogenesis
- iii. Endosperm
- iv. Embryogeny

**4. Cytogenetics**

- i. Cell Structure
- ii. Cell divisions - Mitosis and Meiosis
- iii. Mendelism
- iv. Morphology of chromosome
- v. DNA and RNA - Structure and replication
- vi. A brief knowledge of Linkage, Crossing over, Polyploidy, Mutation, Genetic code and Genetic engineering.

## Books Recommended

1. Principles of Angiosperm (Taxonomy) by V. H. Heywood
2. Systematic Botany by R. C. Mathur
3. Plant Taxonomy by Eames and MacDaniel
4. Plant Anatomy by B. P. Pandey
5. Embryology of Angiosperm by Bhojwani and Bhatnagar
6. Genetics by M. W. Strickberger
7. Cytology, Genetics and Evolution by P. K. Gupta

## BOTANY(GENERAL)

## Practical

Time - 3 hours

Full Marks - 25

1. Plant discription in semitechnical terms and identification upto family 7 marks
2. Temporary slide preparation, sketches and characteristic feature of given anatomical material. 5 marks
3. Identification and comment upon the given spots 4 marks
  - a. Anatomy 1 mark
  - b. Embryology 1 mark
  - c. Cytology 1 mark
  - d. Morphology 1 mark
4. Practical Record 5 marks
5. Viva-voce 4 marks