

PRACTICALS

The practical exercises have been divided into following two groups :

Group-I : Taxonomy, Embryology and Economic Botany.

Group-II : Anatomy, Cytology and Statistics.

GROUP-I

(A) TAXONOMY

1. Ranunculaceae : *Ranunculus*, *Delphinium*
2. Brassicaceae : *Brassica*, *Raphanus*, *Iberis*
3. Papaveraceae : *Argemone*, *Papaver*.
4. Capparidaceae : *Capparis*, *Cleome*.
5. Caryophyllaceae: *Stellaria*, *Spergula*, *Viscaria*, *Dianthus* (Single), *Gypsophylla*.
6. Malvaceae : *Hibiscus*, *Althea*
7. Rutaceae : *Citrus*, *Ruta*, *Murraya*
8. Leguminosae : *Pisum*, *Crotalaria*, *Cassia*, *Caesalpinia*, *Bauhinia*, *Tamarindus*, *Acacia*, *Prosopis*, *Mimosa*.
9. Myrtaceae : *Callistemon*, *Eucalyptus*

10. Cucurbitaceae : *Citrullus*, *Cucumis*
11. Apiaceae : *Coriandrum*, *Foeniculum*
12. Rubiaceae : *Hamelia*
13. Asteraceae : *Helianthus*, *Tridax*, *Launaea*, *Ageratum*.
14. Primulaceae : *Anagallis*.
15. Apocynceae : *Catharanthus*, *Nerium*, *Thevetia*.
16. Asclepiadaceae : *Calotropis*, *Leptadacenia*, *Cryptostegia*
17. Solanaceae : *Solanum*, *Nicotiana*, *Petunia*.
18. Acanthaceae : *Barleria*, *Adhatoda*, *Justicia*, *Peristrophe*.
19. Lamiaceae : *Ocimum*, *Salvia*
20. Euphorbiaceae : *Euphorbia*, *Ricinus*
21. Poaceae : *Triticum*.

The above list of plants is only suggestive and can be replaced depending on local availability.

(B) EMBRYOLOGY SLIDES :

1. Placentation : Types
2. Ovules : Types

3. T.S. Anther
4. L.S. Mature Seed : Maize/Gram/Pea
5. L.S. bud with anther and gynoecium.
6. Pollinium whole mount.
7. V.S. Cyathium.
8. V.S. *Ficus* inflorescence.

(C) ECONOMIC BOTANY AND ETHNOBOTANY

All plants as prescribed in theory paper.

GROUP-II

(A) ANATOMY

1. Stem : *Boerhaavia, Achyranthes, Bignonia, Chenopodium, Leptadaenia, Nyctanthes, Salvadora, Dracaena, Triticum, Mirabilis, Aristolochia, Amaranthus, Chenopodium.*
2. Root : *Tinospora, Ficus.*

(B) CYTOLOGY

Smear preparation of root tips and onion bud for different stages of mitosis and meiosis.

(C) STATISTICS

Mean, Mode, Median, Standard Deviation. Monohybrid and Dihybrid crosses and test cross.

(D) EMASCULATION

MARKING SCHEME

There shall be a practical examination of five hours duration and the distribution of marks shall be as follows:

	Students	
	Regular	Ex
1. An angiosperm material for anatomical study with (i) double stained, (ii) labelled cellular sector diagram, (iii) identification and (iv) special (anatomical/ecological) character (2.5 marks each (i) to (iv)).	10	13
2. Economic/ Ethnobotany.	5	6
3. Description in semi-technical language of given twig, (i) with diagrams, (ii) description and (iii) identification with characters.	12	14
4. Embryology	05	05
5. Smear preparation for two stages of cell division.	05	05
6. Genetic Exercise Or Emasculation technique.	05	06
7. Statistical Exercise.	05	06
8. Spots five (At least one from each paper)	10	10