

1206

FIRST YEAR B.Sc.

PRACTICALS:

The practical exercises have been divided into following two groups based on the theory papers as detailed below:

Group-I Algae, Fungi, Lichens, Microbiology and Plant Pathology.

Group-II Bryophytes, Pteridophytes, Gymnosperms and Palaeobotany.

GROUP I

Microscopic preparations and study of following algal materials: *Nostoc*, *Oscillatoria*, *Chlamydomonas*, *Volvox*, *Coleochaete*, *Hydrodictyon*, *Vaucheria*, *Chara*, *Ectocarpus* and *Polysiphonia*.

Study of different types of Lichen specimens.

Microscopic preparation and study of following fungal materials : *Albugo*, *Phyllactinia*, *Peziza*, *Penicillium*, *Ustilago*, *Agaricus*, *Puccinia* and *Alternaria*.

Study of some locally available materials showing plant diseases caused by Viruses, Mycoplasma, Bacteria and Fungi in field/ laboratory. Yellow vein mosaic of Bhindi, Little leaf of *Solanum melongena* (Brinjal), Citrus canker, Green ear disease of bajra, Rust and Smut of wheat and White rust of crucifers.

GROUP II

Study of external and internal morphology and microscopic preparations of following Bryophytes : *Riccia*, *Marchantia*, *Plagiochasma*, *Anthoceros*, *Sphagnum* and *Polytrichum*.

Microscopic examination of fossil slide specimens/ photographs: *Rhynia* and *Williamsonia*.

Temporary, double stained microscopic preparations and study of stem/ rhizome, anatomy of following pteridophytes: *Ptilotum*, *Lycopodium*, *Selaginella*, *Equisetum* and *Marsilea*. Study of temporary, single stained microscopic preparation of the following : Cone of *Lycopodium*, *Selaginella* and *Equisetum*. Petiole, Root and Sporocarp of *Marsilea* ; Rhizophore of *Selaginella*.

Temporary, double stained microscopic preparations of T.S., T.L.S. and R.L.S. of stem of Pinus and Ephedra and T.S. Leaflet and Rachis of Cycas and needle of Pinus, T.S. of normal and coralloid roots of Cycas. Microscopic preparations of male cone of Pinus and male and female cones of Ephedra. Study of male cone and megasporophyll of Cycas.

BOOKS SUGGESTED

Alexopoulos, C.J.: Introductory Mycology, John Wiley and Sons, N.Y. 1978.

Bendre, A. and Kumar, A.: A Test Book of Practical Botany, Rastogi Publication, Meerut.

Ghemawat, M.S., Kapoor, J.N. and Narayan, H.A.: A Text Book of Algae, Ramesh Book

Depot, Jaipur, 1976.

Gupta, M.N.: A Class Book of Gymnosperms, 1978.

Parihar, N.S.: An Introduction to Embryophyta, Vol. I, Pteridophyta, Vol.II, Central Book Depot, Allahabad, 1969.

Sharma, P.D.: Fungi, Rastogi Publications, Meerut, 1989.

Sharma, P.D.: Microbiology and Plant Pathology, Rastogi and Co. Meerut, 1989.

Vashishtha, B.R.: Botany for Degree Students (Algae, Fungi, Bryophyta and Gymnosperms), S. Chand and Co., New Delhi, 1976.

Singhvi, V., Pandey, P.C. and Jain, D.K.: A Text Book of Botany, Rastogi and Co., Meerut.

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BOTANY PRACTICAL EXAMINATION

MARKS DIVIDATION

duration 5 hours (in one day)

Max.marks 50

- Q.1 A double stained section of plant part either of pteridophytes or Gymnosperms glycerine mount. 06
- Q.2 Minor preparation of pteridophytes or Gymnosperms (not. Coverd in Q.1) 04
- Q.3 Preparation and mounting or the parts of :
- a) A bryophyte 04
 - b) A fungus 04
 - c) An Alga 03
 - d) Bacteria 03
- Q.4 Spot : eight
one from each group (Algae, Lichen, Bryophytes, fungi, fossil, pteridophytes and gymnosperms.), one phytopathological specimen for comments 12
- Q.5 viva-voce 07
- Q.6 Practical records 07