



MCC, Department of Botany

**Paper 4a Combined Practical
MYCOLOGY, PLANT PATHOLOGY, BRYOLOGY, PTERIDOLOGY
AND GYMNOSPERMOLOGY PRACTICAL**

M. Sc. va. (Candidates admitted from academic year 2008-2009)

Core Practical

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Mycology

Study of occurrence, and vegetative and reproductive stages of available fungi belonging to various classes mentioned in theory.

Laboratory techniques in mycology : Preparation of culture media. Preparation of culture slants and plates.

Isolation of soil fungi, aquatic fungi and coprophilous fungi. Growth of fungi using baits.

Sporangial and spore discharge mechanism of fungi with particular reference to *Pilobolus*.

Plant Pathology

Study of the vegetative and reproductive structures of the causal organisms and symptoms produced on the host plants of the following:

1. Damping off of mustard - *Pythium*.
2. White rust of Cruciferae - *Albugo*.
3. Club root of Cruciferae - *Plasmodiophora*
4. Leaf curl of peach - *Taphrina*.
5. Loose smut of wheat - *Ustilago*.
6. Black rust of wheat - *Puccinia*.
7. Red rot of sugarcane - *Colletotrichum*.
8. Leaf spot of brinjal - *Alternaria*.
9. Tikka disease of groundnut - *Cercospora*.
10. Blight of rice - *Xanthomonas oryzae*.
11. Citrus canker - *Xanthomonas citrii*.
12. Vein clearing of bhendi - Virus.
13. Mosaic of *Phaseolus* - Virus.
14. Little leaf of brinjal - Mycoplasma.

Bryology

Study of habit, habitat distribution, external and internal structure of gametophytes of selected species.

Sporophytes and reproductive structures of the following:

Riccia, *Reboulia*, *Dumortiera*, *Marchantia*, *Blyttia* (*Pallavicinia*), *Anthoceros*, *Sphagnum*, and *Polytrichum*.

Knowledge of common bryophytes of Tambaram and neighbourhood.

Pteridology

Vegetative and reproductive studies of the following living members: *Psilotum*, *Lycopodium*, *Selaginella*, *Isoetes*, *Equisetum*, *Ophioglossum*, *Gleichenia*, *Marsilea*,

Study and identification of fossil slides or photographs of *Rhynia*, *Zosterophyllum*, *Lepidodendron*, *Calamites*.

Gymnospermology

Vegetative and reproductive studies of the following living gymnosperms: *Cycas*, *Ginkgo*, *Pinus*, *Araucaria* and *Gnetum*.

Study and identification of fossil slides or photographs of *Lyginopteris*, *Medullosa*, *Williamsonia* and *Pentaxylon*..