SUBSIDIARY COURSE

PAPER—I (THEORY) **Full Marks—75**

Time—3 hours.

(Microbiology, Thallophyta, Bryophyta, Pteridophyta, Gymnosperms, Cytolgy, Genetics and Economic Botany.)

Microbiology :—

A general account of bacteria, viruses and their economic importance. Role of microbes in fermentation and nitrogen fixation.

2 Structure, function and diagnostic features of Algae, Fungi and Lichens based on the types wherever mentioned. The developmental cycles on comparative bases should reflect evolutionary sequence. The students should be acquainted with economic importance of these groups.

THALLOPHYTA : ALGAE (NOSTOC, OEDOGONIUM, CHARA, VAUCHERIA, FUCUS AND BATRACHOSPERMUM, FUNGI (AIBUGO, PEZIZA, PUCCINIA.)

3 LICHENS General account and Economic importance.

4 Structure and life history of following types :—
BRYOPHYTA—MARCHANTIA, ANTHOCEROS AND SPHAGNUM,
PTERIDOPHYTA—SELAGINELIA, EQUISETUM AND MARSILEA.. GYMNOSPERMS PINUS.

5 Cytology, Genetics and Plant breeding.

(a) Structure of the cell as seen under Electron Microscope.

(b) Mitosis and Meiosis.

(c) Structure of Chromosome, crossing over, mutation.

(d) Nature, Structure and replication of genetic material (DNA).

6 Economic Botany Botany of undernoted plants belonging to the following groups.

(a) Cereal—Wheat, Maize and Rice.

(b) Oils—Mustard Groundnut, Linseed.

(c) Sugars—Sugarcane.

(d) Spices—Coriander Chilli, Turmeric.

(e) Beverages—Tea.

(f) Drugs—Rauwolfia.

(g) Fibres—Cotton, and Jute.

PART—I (Subsidiary Course)

Botany (Practical)

Time—3 hours, Full Marks—25

1 Morphological and Structural details of Alage, Fungi and Bryophytes included in the Syllabus and their temporary stained Microscopic slide preparation. 6

2 Morphological and Anatomical study of Petridophytes/ Gymnosperms included in the Syllabus and their microscopic preparation (Temporary/Permanent). 8

3 To Identify and Comment upon sports. 6

4 Class record. 5