COURSES OF STUDY FOR **GENERIC ELECTIVE** 'B. **Sc. Hons**' PROGRAMME IN

"**BOTANY**"

SEMESTER I **GENERIC ELECTIVE** **1 Paper**

Total 100 x 1 = 100 Marks

I. GENERIC ELECTIVE (GE 1): (Credits: Theory-04, Practicals-02)

- All Four Generic Papers (One paper to be studied in each semester) of Botany to be studied by the Students of **Other than Botany Honours.**
- Students of **Botany Honours** must Refer Content from the **Syllabus of Opted Generic Elective Subject**.

Marks : 75 (ESE: 3Hrs) + 25 (Pr 3Hrs)=100

Pass Marks: Th ESE = 30 + Pr ESE =10

Instruction to Question Setter for

End Semester Examination (ESE):

*There will be **two** group of questions. **Group A is compulsory** and will contain two questions. **Question No.1 will be very short answer type** consisting of ten questions of 1 mark each. **Question No.2 will be short answer type** of 5 marks. **Group B will contain descriptive type** six questions offifteen marks each, out of which any four are to answer.*

***Note:** There may be subdivisions in each question asked in Theory Examinations.*

BIODIVERSITY **Theory: 60 Lectures**

Unit 1: Microbes

Viruses − Discovery, general structure, replication (general account), DNA virus (T-phage); Lytic and lysogenic cycle, RNA virus (TMV); Economic importance; Bacteria − Discovery, General characteristics and cell structure; Reproduction − vegetative, asexual and recombination (conjugation, transformation and transduction); Economic importance.

(10 lectures)

Unit 2: Algae

General characteristics; Ecology and distribution; Range of thallus organization and reproduction; Classification of algae; Morphology and life-cycles of the following: Nostoc, Chlamydomonas, Oedogonium, Vaucheria, Fucus, Polysiphonia. Economic importance of algae.

(12 lectures)

Unit 3: Fungi

Introduction- General characteristics, ecology and significance, range of thallus organization, cell wall composition, nutrition, reproduction and classification; True Fungi- General characteristics, ecology and significance, life cycle of Rhizopus (Zygomycota) Penicillium,Alternaria (Ascomycota), Puccinia, Agaricus (Basidiomycota);

Symbiotic Associations-Lichens: General account, reproduction and significance; Mycorrhiza: ectomycorrhiza and endomycorrhiza and their significance

(12 lectures)

Unit 4: Introduction to Archegoniate

Unifying features of archegoniates, Transition to land habit, Alternation of generations.

(2 lectures)

Unit 5: Bryophytes

General characteristics, adaptations to land habit, Classification, Range of thallus organization.Classification (up to family), morphology, anatomy and reproduction of Marchantia and Funaria.(Developmental details not to be included).Ecology and economic importance ofbryophytes with special mention of Sphagnum.

(10 lectures)

Unit 6: Pteridophytes

General characteristics, classification, Early land plants (Cooksonia and Rhynia). Classification (up to family), morphology, anatomy and reproduction of Selaginella, Equisetum and Pteris.(Developmental details not to be included).Heterospory and seed habit, stelar evolution.Ecological and economical importance of Pteridophytes.

(8 lectures)

Unit 4: Gymnosperms

General characteristics; Classification (up to family), morphology, anatomy and reproduction of Cycas and Pinus (Developmental details not to be included). Ecological and economical importance.

(6 lectures)
