SEMESTER-I  Course: S.BOT.1.01  PLANT DIVERSITY- I

LEARNING OBJECTIVES
The students will be able to-

- Understand the morphology, structure and importance of the organisms.
- State the meaning of scientific terms.
- Differentiate between various groups of Bacteria, Algae, Fungi, Lichens and Bryophyte.

UNIT I : MICROBIOLOGY AND ALGAE: MICROBIOLOGY: Bacteria: Size, shape, arrangement, cell structure, Growth and reproduction, Significance of bacteria. Viruses: Size, shape, structure, Significance; ALGAE: General characters of Algae, Pigments in Algae, Classification of algae into 4 major classes - Cyanophyta, Chlorophyta, Phaeophyta and Rhodophyta, General characters of these classes, Economic importance of Algae, Type studies: Distribution, life cycle and systematic position of Nostoc, Zygnema.

UNIT II: FUNGI: General characters of Fungi, Classification: Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes, General characters of these classes: Mode of nutrition in Fungi, Economic importance of Fungi, Type studies: Distribution, lifecycle and systematic position of Rhizopus, Agaricus.

UNIT III: BRYOPHYTA: General characters, Classification: Hepataceae, Anthocerotaceae and Musci, General characters of these classes, Type studies: Distribution, life cycle and systematic position of Riccia. Economic importance of Bryophytes

Practicals- Course: S. BOT PR 1.01

1. Gram staining of Bacteria.
2. Study of Economically important Algae and Fungi.
4. Study of stages in the life cycle of Rhizopus and Agaricus.
5. Study of the life cycle of Riccia.

CIA- multiple choice questions / test / assignments / puzzles / quizzes / field study report.

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SEMESTER-I Course: S.BOT.1.02 ANGIOSPERMS-I

LEARNING OBJECTIVES
The students will be able to-

- Understand the morphology, Structure and functions of various parts of plants.
- Learn the taxonomical terminology and understand the meaning of the same.
- Learn anatomical structure and functions of various tissues.

UNIT I: MORPHOLOGY OF ANGIOSPERMS: Root, Stem, Leaf, Inflorescence and Flower.

UNIT II: ANGIOSPERMS TAXONOMY: Introduction to Systems of Classification – Artificial, Natural and Phylogenetic, Bentham and Hooker’s system of classification, Study of following families, Malvaceae, Leguminosae, Asteraceae, Euphorbiaceae, Amaryllidaceae and Liliaceae.

UNIT III - ANATOMY- PRIMARY STRUCTURES: Tissue systems in plants: Epidermal tissue system: Epidermal outgrowths, stomata (dicot and monocot); Mechanical tissue system: Collenchyma, Sclerenchyma and Lignified tissues; Vascular tissue system: Xylem and Phloem; Study of Primary structures: Dicot and monocot root, stem and leaf.

Practicals Course: S.BOT PR1.02

1. Study of morphological characters of root, stem, leaf, inflorescence and flower.
2. Primary structure of typical dicot and monocot root, stem and leaf.
3. Study of epidermal outgrowths and stomata.
4. Study of families prescribed in theory (any one plant species available from each family).
5. Field excursion.

CIA- multiple choice questions / test / assignments / puzzles / quizzes / field study report.

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