

NEHRU MEMORIAL COLLEGE (AUTONOMOUS)

NATIONALLY ACCREDITED WITH "A" GRADE BY NAAC

PUTHANAMPATTI, TRICHY - 621007

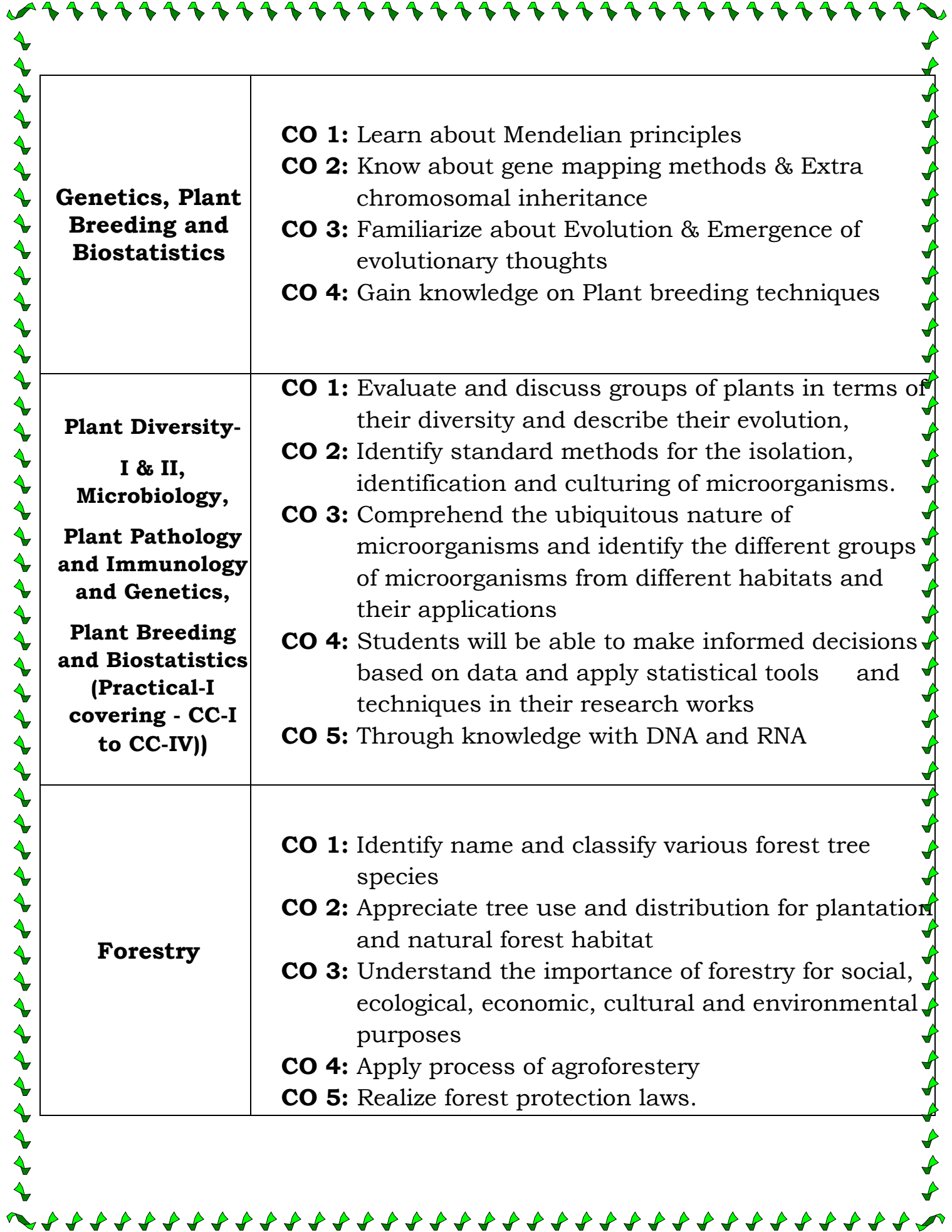


DEPARTMENT OF BOTANY

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COURSE OUTCOME (COS)

Name of the Course	Course Outcomes
Plant Diversity - I (Algae, Fungi, Lichens & Bryophytes)	<p>CO 1: To learn about the morphology, structure, pigmentation , food reserves and methods of algae</p> <p>CO 2: To differentiate between various groups of Algae, Fungi, and Bryophytes</p> <p>CO 3: To familiarize with the morphological and systematic knowledge about Bryophytes</p> <p>CO 4: Explain the diversity and complexity of plant kingdom</p> <p>CO 5: Realize the significance of lower group of plants.</p>
Plant Diversity - II (Pteridophytes, Gymnosperms and Paleobotany)	<p>CO 1: Learn about the general characters and classification by K.R. Sporne, stellar evolution in</p> <p>CO 2: Pteridophytes, heterospory and origin of seed habit.</p> <p>CO 3: Know about the structure, life history and Economic importance of Gymnosperms.</p> <p>CO 4: Studied the methods of fossilization and fossil plants</p> <p>CO 5: Realize their significance of gymnosperm</p>
Microbiology, Plant Pathology and Immunology	<p>CO 1: Learn about classification, characteristics, ultra structure of Prokaryotic and Eukaryotic</p> <p>CO 2: Know about organisms and causal factor responsible for plant diseases & methods of studying plant diseases</p> <p>CO 3: Gain knowledge on Host parasite interaction process</p> <p>CO 4: Gain Knowledge in plant diseases.</p> <p>CO 5: Demonstrate about the immune system and importance</p>



Mushroom cultivation and vermiculture

- CO 1:** Understand the mushroom characteristics and their importance. Comprehend the lifecycles of various classes of fungi
- CO 2:** Discuss on the principles and methods involved in different stages of mushrooms
- CO 3:** Knows the most important kinds of substrata for mushroom cultivation, belonging to the wastes of agricultural
- CO 4:** To prepare media for the mushroom cultivation from these wastes;
- CO 5:** Apply their knowledge in cultivating various tropical and subtropical mushrooms and their role in human welfare.

Developmental Botany

- CO 1:** Have a clear idea of developmental process in plants
- CO 2:** Proper knowledge on flower arrangement.
- CO 3:** Learn morphogenesis and organogenesis in plants
- CO 4:** Have a better understanding on fertilization and post-fertilization processes
- CO 5:** Have enriched knowledge on the fruit, seed, embryo and endosperm development

Cell and Molecular Biology

- CO 1:** Explain the structure of organelles
- CO 2:** Identify the special types of chromosomes
- CO 3:** Describe the pattern of regulation gene expression in prokaryotes and eukaryotes
- CO 4:** To describe linkage, crossing over and mutations.
- CO 5:** Through knowledge with DNA, RNA and protein synthesis

**PLANT
BIOCHEMISTR
Y**

- CO 1:** Learn the Biochemical nature of cell.
- CO 2:** Describe the catabolic and anabolic pathway of primary metabolites of the plants
- CO 3:** Acquire knowledge on properties, and nature of protein and method of isolating and characterizing
- CO 4:** Illustrate the mechanism of enzyme action and interpret the plots of enzyme kinetics
- CO 5:** Understand the secondary metabolites and its biosynthesis

**Developmental
Botany, Plant
cell and
Molecular
biology, Plant
Biochemistry
(Practical -II
covering - CC-
VI to CC-VIII))**

- CO 1:** Evaluate and discuss groups of plants in terms of their diversity and describe their Evolution, phylogeny.
- CO 2:** Acquire practical knowledge on identification of various groups of plants
- CO 3:** Analyze the biochemical components of any plant samples
- CO 4:** Understand in-depth knowledge on Electrophoretic techniques
- CO 5:** Familiar with Chromatographic and Spectrophometric techniques

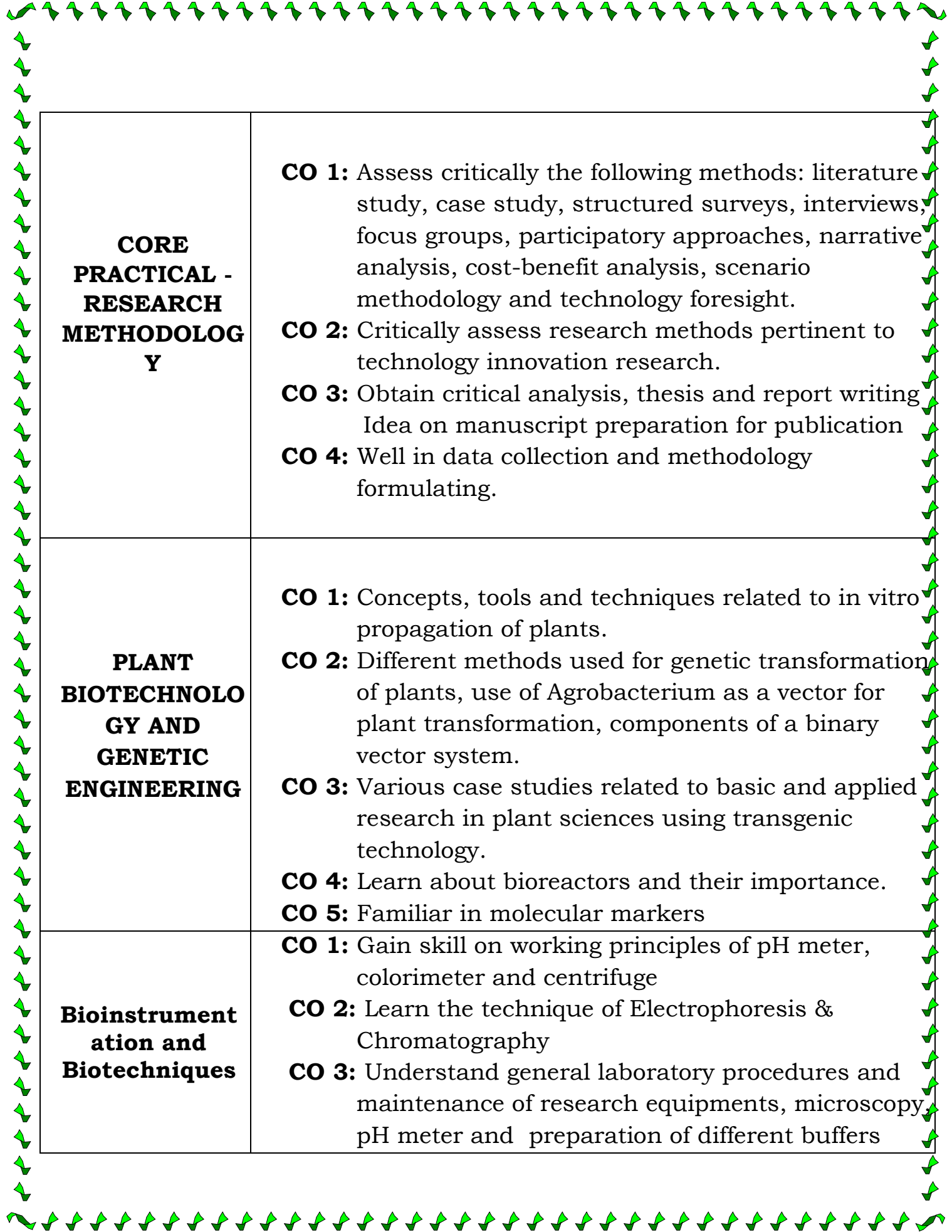
Farm Science

- CO 1:** Demonstrate a working knowledge and appreciation of the diversity of plants, their culture and utilization.
- CO 2:** Apply horticultural principles to the successful growth and production of horticultural plants.
- CO 3:** Demonstrate the knowledge, skills and attributes to be successful contributing members of the horticulture profession.
- CO 4:** Demonstrate integrated farming system
- CO 5:** Apply process in applied cultivation of mushroom

<p>Plant Tissue culture</p>	<p>CO 1: Understand the basic knowledge about tissue culture tools, medium, sterilization and techniques of tissue culture.</p> <p>CO 2: Learn about the production of Synthetic seeds & significance</p> <p>CO 3: Study about the role of tissue culture in crop improvement</p> <p>CO 4: Know about germ plasm conservation</p> <p>CO 5: Know to apply in various feilds</p>
<p>Plant Physiology</p>	<p>CO 1: Define the physiological metabolic processes in plants.</p> <p>CO 2: Explain the role of hormones for plant growth</p> <p>CO 3: Depict the interaction and functioning of various organelles</p> <p>CO 4: Do the functional behaviors of plant growth under different environments.</p> <p>CO 5: To know photoperiodism in plants</p>
<p>Plant Systematics</p>	<p>CO 1: Understand the taxonomic principles and to understand the different systems of plant classification</p> <p>CO 2: Demonstrate understanding of evolutionary processes and patterns in the major plant groups</p> <p>CO 3: To know modern taxonomic classification systems</p> <p>CO 4: Demonstrate the ability to handle and analyze plant materials in the laboratory and herbarium in the field</p> <p>CO 5: Knolodge on Key family characters, floral characters, floral variations,</p>

<p>Core Practical – III Plant Physiology, Plant systematics, Plant ecology and Phytogeograph y, Plant Biotechnology</p>	<p>CO 1: Provides skill in structural and functional characteristics of various plant parts</p> <p>CO 2: Acquire practical knowledge on identification of various groups of plants</p> <p>CO 3: Understand the photosynthetic mechanism and related events of plants</p> <p>CO 4: Understand the role of various growth promoting substances and their action</p> <p>CO 5: Acquire knowledge on physiological response of plants to various factors</p>
<p>Plant Ecology and Phytogeography</p>	<p>CO 1: To have the clear understanding of ecology and environmental concepts.</p> <p>CO 2: Undertake the ecological conservation</p> <p>CO 3: Perform analytical methods in environmental and biodiversity management</p> <p>CO 4: Equip on the methods to adapt in sustainable environmental management related research and development</p> <p>CO 5: Clear idea on Population and Community Ecology: Characteristics of a population, population growth curves, population.</p>
<p>Bioinformatics</p>	<p>CO 1: Learn the phylogenetic analysis –molecular evolution</p> <p>CO 2: Studied the application of Bioinformatics in Drug designing</p> <p>CO 3: Students understand whole genome analysis methods</p> <p>CO 4: Students know the computational tools used for sequence analysis tools</p> <p>CO 1: Understand the applications of computer in biological sciences.</p>

Biofertilizer Technology	<p>CO 1: Isolate, identify and mass multiply biofertilizers</p> <p>CO 2: Explain the benefits of organic farming</p> <p>CO 3: To give an overview of relevance use of microbial biofertilizers</p> <p>CO 4: Understand the application of AM</p> <p>CO 5: Familiar in vermicompost making</p>
Pharmacognosy	<p>CO 1: Know about history and relevance of herbal drugs in Indian system of medicine</p> <p>CO 2: Learn the macroscopic and microscopic characters, chemical constituents, adulterants,</p> <p>CO 3: Therapeutically and pharmaceutical uses of medicinal plants</p> <p>CO 4: Understand the techniques for drug evaluation (Chemical, Physical and Biological),</p> <p>CO 5: Skilled in herbal drug production</p>
Research Methodology	<p>CO 1: Training and participating in active research activities for their academic and professional levels</p> <p>CO 2: Creation of novel ideas and simple techniques useful to the society (R/D)</p> <p>CO 3: Acquire background knowledge in research publication and thesis writing</p> <p>CO 4: Idea on publication in journals</p> <p>CO 5: Clear ideas on data analysis</p>



CO 4: Describe the pH measurement in soil and water samples Understand how to isolate cellular constituents

CO 5: Skilled in molecular marker technique

Project Work

CO 1: At the end of the project, students should have increased: their capacity to think critically; - their ability to design, analyse and execute an experiment;

CO 2: Their confidence and ability in communication skills (in writing and oral).

CO 3: Acquiring the literature collection methods, and interpreting the data of their scientific experiments etc