Vivekananda Mission Mahavidyalaya

Department of Botany

Programme Specific Outcomes: B.Sc. 3 Year UG Programme (Botany multidisciplinary Studies) under CCFUP, 2023 & NEP, 2020

By the end of this course, the students will be able to -

- Understand the basic concepts and morphology of lower group and higher group plants.
- Identify the bacteria, viruses.
- Understand the basic concepts of ecology.
- Understand the evolution, classification, anatomical details of plants.
- Student will be able to knowing about different economical plant and their uses.
- Analyze metabolic activities of plants.
- Understand the application of genetic engineering for the improvements of plants.
- Analyze the cellular details and application of genetics, molecular biology in plant breeding
- Perform the laboratory techniques in anatomy, physiology, biochemistry, biotechnology, ecology and utilization of plants.

COURSE OUTCOME:

Course Code	Course Name	Course Outcome
BOTPMJ101 (Disc.-A1)	MJ 1T MJ 1P (Plant Groups and Texa)	**Theory Outcomes:-** 1) Gain knowledge about microbial diversity. 2) Learn about the pigmentation, thallus organization and food reserves of Algae. 3) Learn about the structure, pigmentation, food reserves and methods of reproduction of Fungi. 4) Know about the Economic importance of algae, Fungi, Bryophyte, Pteridophyte, Gymnosperm, Mycorhyza and lichen. 5) Study and impart knowledge about the occurrence, distribution, morphology, anatomy, method of reproduction and life history of lower plants such as Algae, Fungi, Lichens, Bryophytes, Pteridophytes and Gymnosperms. 6) Learn symbiotic association in Lichens and Mycorhyza. 7) Gain knowledge about Geological time scale and types of plant fossils. **Practical Outcome:-** 1. Learn the microscopic technique. 2. Learn about Gram staining method of bacteria. 3. Learn about the microscopic observation and identification of algae,fungi, bryophytes, pteridophytes , gymnosperm , lichens and mycorhyza . 4. Learn about different microbe's structure and Reproduction. 5). Learn about different types of fossils.
BOTPMJ101 (Disc.-B1)	MJ 1T MJ 1P (Plant Groups and Texa)	(Same as like A1 for students taken botany as Discipline-B)
BOTSEC01	SEC01P (Biofertilizers)	1) Understand the Concept of Biofertilizers. 2) Explain the Benefits of Biofertilizers. 3) Identify Different Types of Biofertilizers. 4) Understand the Role of Biofertilizers .
BOTSEC02	SEC02P (Floriculture)	1) Understand how flowers grow, develop, and bloom, and the environmental factors that affect plant health. 2) Learn how to grow and manage different flower crops. 3) Principles of Garden Designs.
BOTMI01	MI -1T MI-1P (Plant Science-I)	(Same as like BOTPMJ101 for students taken botany as DisciplineMI-1)

Course Code	Course Name	Course Outcome
BOTMI02	MI -2T MI-2P (Plant Science-II)	**Theory Outcomes:-** 1) Understand the structure and function of plant organs such as roots, stems, leaves, flowers, and fruits. 2) Identify and classify plants based on their morphological features (e.g., leaf shape, flower structure). 3) understand the structure and function of plant tissues and organs, including how cells, tissues, and vascular systems work together to support plant growth and function. 4) Use dichotomous keys to accurately identify and distinguish between plant species. 5) Recognize the taxonomic hierarchy, from kingdom down to species, and understand the classification system. 6) Understand the concept of binomial nomenclature and how scientific plant names are formed. 7) Identify key plant families and their characteristics (e.g. - Malvaceae, Papilionaceae etc.) **Practical Outcome:-** 1) Learn the microscopic technique. 2) Identify and classify plants based on their morphological features and taxonomic relationships. 3) Explore how different plant families are identified and classified based on shared morphological traits.