



DEPARTMENT OF BOTANY
PROGRAMME SPECIFIC OUTCOME

On the successful completion of B.Sc Botany programme, students will

PSO1:	To know the importance and scope of the discipline in Plant science
PSO2:	To inculcate interest in and love of nature with its myriad from microscopic to macroscopic living forms
PSO3:	To impart knowledge of Plant Science as the basic objective of Education
PSO4:	To develop a scientific attitude to make students open minded, critical and curious
PSO5:	To develop an ability to work on their own and to make them fit for the society
PSO6:	To expose themselves to the diversity amongst life forms and its conservation
PSO7:	To develop skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of biological materials and data
PSO8:	To make aware of natural resources and environment and the importance of conserving it.

On the successful completion of M.Sc Botany programme, students will

PSO1:	To equip and mould students fit for the current educational scenario.
PSO2:	To undertake a combination of advanced coursework, participation in seminars and taking up student research projects.
PSO3:	To instill confidence among students in identifying various plant species in the field.
PSO4:	To gain knowledge about sustainable utilization of various plant resources such as food and medicinal plants.
PSO5:	To equip them with tools and techniques which will help in meeting the manpower requirements of institutions of higher learning and research centres by providing qualified professional biologists to take up research as a career.
PSO6:	To make influential contributions to scientific discovery and engage in teaching and mentoring, careers in academics, industry, government and non-governmental organizations.



On the successful completion of M.Phil Botany programme, students will

PSO1:	To enable the students to be acquainted with the modern trends in plants and allied sciences.
PSO2:	To prepare students in developing theoretical as well as practical skills
PSO3:	To encourage students to become effective and independent learners.
PSO4:	To develop research aptitude among students.
PSO5:	To develop professional approach in the proposed subject.

COURSE OUTCOMES

I B.Sc Botany

SEMESTER: I

Subject Name: Cell Biology and Plant Anatomy

Subject Code: U2BYC1

In this course the students will

CO1:	To studied the internal structure and organization of the various parts of the plants – stem, root and leaves.
CO2:	To understand the structures and purposes of basic components of prokaryotic and eukaryotic cells

Subject Name: Horticulture

Subject Code: U2BYS11

In this course the students will

CO1:	To impart skill on various techniques in horticulture and they develop various types of nursery gardening.
CO2:	To promote the Horticulture in food and ornamental plant production

Subject Name: Embryology of Angiosperms

Subject Code: U2BYS12

In this course the students will

CO1:	To imparted knowledge about plant reproductive organs and its development
CO2:	To Get insight in to the fruit and seed development.



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

SEMESTER: II

Subject Name: Algae and Bryophytes

Subject Code: U1BYC2

In this course the students will

CO1:	To understanding the salient features, life cycle pattern of selected Algae and Bryophytes and their economic importance
CO2:	To Identify uniting characteristics of plants.

Subject Name: Plant Ecology and Phytogeography

Subject Code: U2BYS21

In this course the students will

CO1:	To provide students with an understanding of the basics of plant –environment.
CO2:	To Know the plant-plant/plant-microbe/plant –animal interactions and their influences plant abundance and diversity

Subject Name: Medicinal Botany

Subject Code: U2BYS22

In this course the students will

CO1:	To explore the uses of medicinal uses of plants as medicine ranging from traditional to modern pharmaceuticals, also learn the home made herbal drug preparation.
CO2:	To identify the plants to be conserved/cultivated in-situ at the different agro-climatic regions of the State and those to be cultivated /conserved in the fields (Ex-situ)

II B.Sc Botany

SEMESTER: III

Subject Name: Fungi, Lichens and Plant Pathology

Subject Code: U2BYC3

In this course the students will

CO1:	To discuss the ecological role and economic importance of fungi.
CO2:	To study the unique characteristics of a lichen and the role of each partner in the symbiotic relationship of a lichen
CO3:	To deals with the study of diseases of plants, their development and control



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

SEMESTER: IV

Subject Name: Pteridophytes and Gymnosperms

Subject Code: U1BYC41

In this course the students will

CO1:	To understand the general characters, reproduction and economic importance of pteridophytes.
CO2:	To impart the Knowledge in characters, reproduction of Gymnosperms

III B.Sc Botany

SEMESTER: V

Subject Name: Biochemistry

Subject Code: U2BYC51

In this course the students will

CO1:	To provide an advanced understanding of the core principles and topics of Biochemistry and their experimental basis.
CO2:	To develop students understanding of three areas of widely used and advanced scientific methods – spectroscopic tools, molecular imaging and applications.

Subject Name: Genetics and Plant Breeding

Subject Code: U2BYC52

In this course the students will

CO1:	To Know and describe variations from Mendel's Principles and to solve genetics problems that involve monohybrid and dihybrid crosses
CO2:	To improve the characteristics of plant so that they become more desirable agronomically and economically.

Subject Name: Taxonomy of Angiosperms

Subject Code: U2BYC53

In this course the students will

CO1:	To identify all the kinds of plants on earth with their names, distinctions, distribution, habit, characteristics and affinities
CO2:	To arrange the kinds of plants into a scheme of classification or an orderly arrangement.



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

Subject Name: Plant Utility and Exploitation (NME)

Subject Code: U2BYN51

In this course the students will

CO1:	To enhancing the utility of crop plants to mankind and to increase in economic worth of the plants
CO2:	To gain the Knowledge about ethno botany and the preparation of crude drugs

SEMESTER: VI

Subject Name: Plant Physiology

Subject Code: U2BYC61

In this course the students will

CO1:	To understand basic principles of plant physiological form and functions as well as processes and its importance in crop production.
CO2:	To build up the knowledge of the students in pertinent plant physiological processes such as photosynthesis, respiration, transport, growth, flowering, growth substances and the physiological aspects of crop yield

Subject Name: Biotechnology and Bioinformatics

Subject Code: U2BYC62

In this course the students will

CO1:	To Know about the DNA and RNA functions.
CO2:	To understand the Knowledge in DNA and Protein databases

Subject Name: Microbiology

Subject Code: U2BYC63

In this course the students will

CO1:	To impart Knowledge on culture techniques of Microorganisms, Morphology and Reproduction of Bacteria, Virus and, Fungi, and Diseases in Plants
CO2:	To provide students with the latest information in scientific microbiological methods and to provide advanced knowledge, understanding, and critical judgment appropriate in microbiology



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

Subject Name: Biodiversity and Conservation

Subject Code: U2BYS61

In this course the students will

CO1:	To conserve the essential ecological diversity to preserve the continuity of food chains
CO2:	To ensure the sustainable utilization of life support systems on earth and it provides a vast knowledge of potential use to the scientific community.

Subject Name: Mushroom Cultivation (NME)

Subject Code: U2BYN61

In this course the students will

CO1:	To strengthen the promotion of mushroom cultivation by establishing a well-equipped laboratory and to provide the Unit with appropriately trained personnel for the promotion of mushroom production.
CO2:	To help create new employment opportunities for our students through mushroom cultivation.
CO3:	To empower rural communities with entrepreneurial skills through the production and sale of mushrooms.
CO4:	To create exploration on mushroom cultivation technology and developing small scale industries for nutritional and medicinal values of Human health

I M.Sc. Botany
SEMESTER: I

Subject Name: Taxonomy of Angiosperms

Subject Code: P2BYC11

In this course the students will

CO1:	To identify, study the distribution and salient features of angiospermic plants.
CO2:	To understand the principles of plant taxonomy
CO3:	To understand the evolution of Angiosperm plants
CO4:	To develop a skill to identify the plants and recognize major plant families and their representative species using regional Floras.
CO5:	To know about the economic importance of families



Subject Name: Cell Biology and Internal Morphology

Subject Code: P2BYC12

In this course the students will

CO1:	To understand the cell organelles of prokaryotic and eukaryotic cells.
CO2:	To study the cell division and cell cycle
CO3:	To know the complexity of tissue organization and its functions
CO4:	To understand the anatomy of wood and its seasonal variations.

Subject Name: Pteridophytes and Gymnosperms

Subject Code: P2BYC

In this course the students will

CO1:	To identify various species of Pteridophytes and Gymnosperms.
CO2:	To classify and understand their evolutionary relationships.
CO3:	To gain knowledge on their economic importance.

Subject Name: Pharmacognosy

Subject Code: P2BYE1

In this course the students will

CO1:	To gain knowledge in various systems of medicine.
CO2:	To know the methods of cultivation, collection and processing of herbal drugs.
CO3:	To study about crude drugs of vegetables and mineral origin
CO4:	To understand the pharmacological action of plant drugs.

SEMESTER: II

Subject Name: Algae, Lichens and Bryophytes

Subject Code: P2BYC21

In this course the students will

CO1:	To understand the diversity, distribution, classification.
CO2:	To identify Algae, Lichens and Bryophytes by microscopic studies.
CO3:	To compare the life cycle patterns of thallophytes.
CO4:	To study about their phylogeny and evolutionary relationship.
CO5:	To study about their ecological significance and economical importance.



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

Subject Name: Genetics and Molecular Biology

Subject Code: P2BYC22

In this course the students will

CO1:	To understand the basic concepts of Mendelian genetics
CO2:	To understand the molecular basis of genetics (Replication, Transcription, Translation and Mutation)
CO3:	To understand the basic concepts of population genetics.

Subject Name: Environmental Biology

Subject Code: P1BYC23

In this course the students will

CO1:	To understand the effect of various environmental factors
CO2:	To study the occurrence of succession among various plant communities
CO3:	To learn about the methods and techniques of environmental impact assessment
CO4:	To analyze and approach the social and environmental issues

II M.Sc. Botany
SEMESTER: III

Subject Name: Microbiology, Fungi and Plant Pathology

Subject Code: P2BYC31

In this course the students will

CO1:	To know the contributions of microbiologists.
CO2:	To learn the structure, growth and culture of bacteria.
CO3:	To acquire knowledge on the classification of microbes.
CO4:	To know the characteristics of Viruses.
CO5:	To learn the morphology and reproduction of Fungi.
CO6:	To have a knowledge on the diseases caused by fungi, bacteria and viruses and the measures of its control.



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

Subject Name: Biotechnology

Subject Code: P2BYC32

In this course the students will

CO1:	To enhance knowledge on the applications of modern biotechnology.
CO2:	To enrich knowledge about the industrial production with waste minimization and reduced energy consumption.

Subject Name: Bio-chemistry

Subject Code: P2BYC33

In this course the students will

CO1:	To have a wide knowledge on the inter disciplinary programme that focuses on the chemistry of living systems.
CO2:	To analyse the chemical combinations and reactions in biological processes.

Subject Name: Biodiversity and Conservation

Subject Code: P1BYE3

In this course the students will

CO1:	To characterize biological traits leading to RET and invasive population
CO2:	To prioritize ecosystem and landscape biodiversity conservation
CO3:	To develop habitat management strategies to maintained threatened populations or to assist populations to adapt.
CO4:	To understand landscape biodiversity conservation policies and the services they provide.

SEMESTER: IV

Subject Name: Plant Physiology

Subject Code: P2BYC41

In this course the students will

CO1:	To understand the physiological functions of plants.
CO2:	To recognize the methods, plants use to sequester nutrients with reference to climate change
CO3:	To analyse the morphogenetic potential pertaining to the development of various organs in plants.
CO4:	To understand plant adaptations to different environments and their impacts on plant physiology.



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

Subject Name: Bioinformatics and Biostatistics

Subject Code: P2BYC42

In this course the students will

CO1:	To provide expertise in study design, randomization procedures, data collection report regeneration, interim reviews and final analysis.
CO2:	To provide analyses and informatics support for all biological research projects using statistical and computing methodologies by softwares.
CO3:	To understand the applications of neural networks, probability and statistics to support and enhance molecular analysis.

Subject Name: Developmental Botany

Subject Code: P2BYC43

In this course the students will

CO1:	To understand the structure and development of reproductive organs of the angiosperms.
CO2:	To analyze the morphogenetic potentials pertaining to development of various organs of plant system.

M.Phil Botany

Subject Name: Research Methodology

Subject Code: M1BYC11

In this course the students will

CO1:	To gain familiarity with a research article writing phenomenon or to achieve new insights into it
CO2:	To portray accurately the characteristics of a particular individual, situation or a group
CO3:	To determine the Knowledge in principles, working mechanism and applications of Different instruments.



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE
(An Autonomous Institution Affiliated to Madurai Kamaraj University)
[Re-accredited with 'A' Grade by NAAC]
Virudhunagar – 626 001.

Subject Name: Plant biotechnology

Subject Code: M1BYC12

In this course the students will

CO1:	To give students new knowledge and widening of the knowledge acquired in other course by handling of classical and modern plant biotechnology processes, including breeding of healthy plants, plants with improved characteristics and plants for biomolecule production.
CO2:	To develop molecular strategies to support plant breeding programs, including molecular biodiversity analysis, quantitative genetics and molecular marker-trait associations.