SREE VIDYADHIRAJA N.S.S. COLLEGE
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Affiliated to Mahatma Gandhi University, Kottayam - NAAC Accredited with B Grade

Name of the Programme : M Sc Botany

2012-18 Admissions

Course Code	Course Title	Course Outcomes	
SEMESTER 1			
PC 1	Microbiology and Phycology	CO1	To enable the students to understand the world of microbes
		CO2	To familiarize the unique characters and diversity of algae
		CO3	To provide knowledge about the application of microbiology in different fields.
		CO4	To familiarize the students about the diversity of the lower plant groups.
PC 2	Mycology and crop pathology	CO1	To provide an understanding about the diversity of fungi and lichens
		CO2	To understand the patho-physiological mechanisms in plants.
		CO3	To understand various plant diseases and their impact on agriculture
		CO4	To familiarizes various measures to be adopted to control plant diseases
PC 3	Bryology	CO1	To familiarize the morphological features of Bryophytes.
		CO2	To understand the anatomical and reproductive peculiarities of Bryophytes.
		CO3	To understanding about the diversity in habits, habitats and organization of Pteridophytes.
		CO4	To familiarize the students with the classification and economic importance of various groups of lower plants.
PC 4	Environmental Biology	CO1	To help the students to understand the extent, limitations and depletion of natural resources.
		CO2	To help the students to develop a novel mechanism for sustainable utilization of natural resources.
		CO3	To understand the structure and function of ecosystem and their interactions.
		CO4	To help the students to develop a design for the conservation of nature.

SEMESTER 2			
PC 5	Gymnos-	CO1	To familiarize the habit, habitat and distribution of various gymnosperms
		CO2	To familiarize the students about the anatomical and morphological features of various gymnosperms.
		CO3	To introduce the students with the various processes and events involved in the development of organisms.
		CO4	To familiarize the students about the evolution of various biomes.
PC 6	Cell and Molecular Biology	CO1	To develop an understanding about the ultrastructure and functioning of the cell in submicroscopic and molecular level.
		CO2	To help the students to familiarize life processes, origin and complexity of life processes.
		CO3	To familiarize students the basic and scientific aspects of diversity.
		CO4	To understand DNA as the basis of heredity, variation and its role in evolution.
PC 7	Plant Anatomy and Principles of Angiosperm Systematics	CO1	To understand the internal structure of various groups of plants.
		CO2	This course may help the students to familiarize the morphological variations of plants in their locality.
		CO3	To acquainting students with some widely accepted taxonomic classifications, naming and identification.
		CO4	To understand phylogeny of angiosperms.
PC 8	Genetics and Biochemistry	CO1	To understand the trends of heredity by nuclear and extra nuclear genes.
		CO2	To understand the principle of inheritance and patterns of inheritance in various species.
		CO3	To help the students in understanding the role and importance of biomolecules associated with plant llife.
		CO4	To familiarize various secondary metabolites and structure of biomolecules associated with plant life.
SEMESTER 3			
PC 9	Research methodology, Biophysical instrumentation, Biostatistics and Micro- technique	CO1	To help the students to develop problem solving skills and to carry out innovative research projects.
		CO2	To familiarize different statistical techniques and to develop skills in handling data statistically.
		CO3	To introduce various microtechnique methods.
		CO4	To help the students to develop problem solving skills and to carry out innovative research projects.
		CO5	To understand the working and principles of different types of microscopes and basic instruments used in laboratory.

PC 10	Plant Physiology and Plant Breeding	CO1	To better understand students about all the physiological processes of plants, their mechanisms and the factors involved in such processes.
		CO2	To enhance students skill in carrying out various experiments in plant physiology.
		CO3	To familiarize the students about various plant breeding techniques and its significance.
PC 11	Biotechnology	CO1	To develop understanding and knowledge about various biotechnological methods and its significance
		CO2	To familiarize with the field of tissue culture and become skilled to carry out tissue culture.
		CO3	To familiarize the students with basic genetic engineering techniques and its application.
		CO4	To familiarize the students with various biological databases and to access and analyze data available in
		CO5	To familiarize with various processes involved in immunology.
PC 12	Taxonomy of Angiosperms	CO1	This course may help the students to familiarize the diversity of angiosperms in their locality.
		CO2	To acquainting students with some widely accepted taxonomic classifications, naming and identification.
		CO3	To understand ethno botanical importance of the plants and methods of ethnobotanical studies.
		CO4	To make the students develop skills to easily identify the families of plants by observing their morphological characters.
SEMESTER 4			
PE 1	Tissue Culture and Microbial Biotechnology	CO1	To help in knowing about the various culture techniques for developing plants.
		CO2	To familiarize the students with various microbial world
			and their significance in day to day life and production of various commercial products.
		CO3	To develop skill to carry out micro propagation of plant specimens.
PE 2	Genetic Engineering	CO1	To familiarize the students with genetic engineering techniques as a new source for the coming generation to outblast their interest in gene manipulation.
		CO2	To understand the possibilities of gene manipulation in medicine and agricultural fields.
		CO3	To understand artificial plant transformation techniques
PE 3	Genomics, Proteomics and Bioinformatics	CO1	To develop understanding and knowledge about various fields such as genomics, proteomics and bioinformatics.
		CO2	To familiarize the students with various biological databases.
		CO3	To familiarize various gene prediction methods.

2019 Admission Onwards			
SEMESTER 1			
BY010 101	Microbiology and Phycology	CO1	To enable the students to understand the world of microbes
		CO2	To familiarize the unique characters and diversity of algae
		CO3	To provide knowledge about the application of microbiology in different fields.
		CO4	To familiarize the students about the diversity of the lower plant groups.
BY010 102	Mycology pathology	CO1	To provide an understanding about the diversity of fungi and lichens
		CO2	To understand the patho-physiological mechanisms in plants.
		CO3	To understand various plant diseases and their impact on agriculture
		CO4	To familiarizes various measures to be adopted to control plant diseases
BY010 103	Bryophytes and Pteridophytes	CO1	To familiarize the morphological features of Bryophytes.
		CO2	To understand the anatomical and reproductive peculiarities of Bryophytes.
		CO3	To understanding about the diversity in habits, habitats and organization of pteridophytes.
		CO4	To familiarize the students with the classification and economic importance of various groups of lower plants.
BY010 104	Gymnos-perms, Paleobotany and Evolution	CO1	To familiarize the habit, habitat and distribution of various gymnosperms
		CO2	To familiarize the students about the anatomical and morphological features of various gymnosperms.
		CO3	To make the students aware of the fossil plants and application of paleobotany.
		CO4	To familiarize the students about the evolution of various biomes.
SEMESTER 2			
BY010 201	Anatomy,	CO1	To understand the internal structure of various groups of plants.
		CO2	To introduce the students with the various processes and events involved in the development of organisms.
		CO3	To introduce the various horticultural techniques and its significance in the modern world.
		CO4	To familiarize the students about various plant propagation techniques and its significance.

BY010 202	Cell Biology, Genetics and Plant Breeding	CO1	To understand the trends of heredity by nuclear and extra nuclear genes.
		CO2	To understand the principle of inheritance and patterns of inheritance in various species.
		CO3	To develop an understanding about the ultrastructure and functioning of the cell in submicroscopic and molecular level.
		CO4	To help the students to familiarize life processes, origin and complexity of life processes.
BY010 203	Plant physiology and Biochemistr y	CO1	To help the students in understanding the role and importance of biomolecules associated with plant llife.
		CO2	To familiarize various secondary metabolites and structure of biomolecules associated with plant life.
		CO3	To better understand students about all the physiological processes of plants, their mechanisms and the factors involved in such processes.
		CO4	To enhance students skill in carrying out various experiments in plant physiology.
BY010 204	Molecular Biology	CO1	To understand the ultrastructure and functioning of the cell in submicroscopic and molecular level.
		CO2	To familiarize students about various life processes.
		CO3	To familiarize students the basic and scientific aspects of diversity.
		CO4	To understand DNA as the basis of heredity, variation and its role in evolution.
SEMESTER 3			
BY010 301	Research methodology, Micro- technique, Biostatistics and Biophysical instrumentation	CO1	To help the students to develop problem solving skills and to carry out innovative research projects.
		CO2	To understand the working and principles of different types of microscopes and basic instruments used in laboratory.
		CO3	To familiarize different statistical techniques and to develop skills in handling data statistically.
		CO4	To introduce various microtechnique methods.
BY010 302	Biotechnology, bioinformatics and bionanotechnology	CO1	To develop understanding and knowledge for applying into sectors like biotechnology, bioinformatics and bionanotechnology
		CO2	To familiarize with the field of tissue culture and become skilled to carry out tissue culture.
		CO3	To familiarize the students with various biological databases and to access and analyze data available in databases.
		CO4	To understand the students about the significance of nano biotechnology and new techniques in it.

BY010 303	Angiosperm Taxonomy, economic botany and ethnobotany	CO1	This course may help the students to familiarize the diversity of angiosperms in their locality.
		CO2	To acquainting students with some widely accepted taxonomic classifications, naming and identification.
		CO3	To understand all the economically and ethnobotanically important plants of the families mentioned in the syllabus.
		CO4	To make the students develop skills to easily identify the families of plants by observing their morphological characters.
BY010 304	Environmental science	CO1	To help the students to understand the extent, limitations and depletion of natural resources.
		CO2	To help the students to develop a novel mechanism for sustainable utilization of natural resources.
		CO3	To understand the structure and function of ecosystem and their interactions.
		CO4	To help the students to develop a design for the conservation of nature.
SEMESTER 4			
BY800 401	Plant Tissue culture and microbial biotechno- logy	CO1	To help in knowing about the various culture techniques for developing plants.
		CO2	To familiarize the students with various microbial world and their significance in day to day life and production of various commercial products.
		CO3	To develop skill to carry out micro propagation of plant specimens.
BY800402	Genetic engineering, Genomics and Immunology	CO1	To familiarize the students with genetic engineering tenchniques as a new source for the coming generation to outblast their interest in gene manipulation.
		CO2	To understand the possibilities of gene manipulation in medicine and agricultural fields.
		CO3	To familiarize with various processes involved in immunology.
BY800403	Genomics, Transcriptomics, Proteomics and Bioinformatics	CO1	To develop understanding and knowledge about various fields such as genomics, transcriptomics, proteomics and bioinformatics.
		CO2	To familiarize the students with various biological databases.
		CO3	To familiarize various docking techniques and CADD
		CO4	To develop an in depth understanding of the applications of microbial biotechnology in medical and agricultural fields