J.J. College of Arts & Science (Autonomous), Pudukkottai

PG and Research Department of Botany

Course Outcomes

M.Sc. Botany – PSBO

Course Name - Plant Diversity I(Phycology, Lichenology and Bryology)		Course Code - P1R1BOCC1
Upon Completion of the course students would be able to		
CO 1	explain the importance of lower plants like Algae, Lichens and Bryophytes.	
CO 2	describe the distribution and occurrence of lower plants	
CO 3	start consultancy services to the farmers on various algae culture and value added products from algae	
CO 4	acquire knowledge about Lichens and their importance	
CO 5	get laboratory knowledge about cultivation of algae under lab conditions	
Course Name - Plant Diversity – II (Pteridophytes, Gymnosperm and Paleobotany)		Course Code - P1RBOCC2
Upon Completion of the course students would be able to		
CO 1	learn about the structure and reproduction of certain selected species of Pteridophytes and Gymnosperms.	
CO 2	know the few representatives of fossil forms.	
CO 3	get employment in Botanical Survey of India.	
CO 4	get employment in Herbarium, Paleontological research institutes etc	
CO 5	get knowledge about carbon dating and oil exploration	
Course Name – Microbiology and Plant Pathology		Course Code – P1RBOCC3
Upon Completion of the course students would be able to		
CO 1	understand epidemiology of plant diseases and epidemic plant disease.	
CO 2	study pathogenicity, defense mechanisms of host plants pathogen	
CO 3	undertake the study of bacterial, viral and fungal disease of plants	
CO 4	get employment in National Institute of Plant Health Management	
CO 5	get employment in BSI and Microbiology laboratories	

Course Name - Practical - IPlant Diversity I & II(Algae, Fungi, Lichen, Bryophytes, Pteridophytes, Gymnosperms Paleobotany and Microbiology and Plant Pathology)		Course Code – P1R1BOCC4P
Upon Completion of the course students would be able to		
CO 1	to understand the structure and reproduction of certain selected algae, fungi and bryophytes	
CO 2	learn about the importance of the plant diversity	
CO 3	settle as lower plant taxonomist	
CO 4	understand morphology and internal structure of some selected species of Pteridophyte and Gymnosperms	
CO 5	knowledge about the fossils structures internally.	
CO 6	get employment in Botanical Survey of India as a taxonomist in lower plants	
Course Name - Anatomy, Embryology and Micro-Techniques		Course Code – P2R1BOCC5
Upon Completion of the course students would be able to		
CO 1	classify the meristimatic and permanent tissues based on origin and position	
CO 2	compare the different theories of tissues	
CO 3	explain the types of ovules	
CO 4	understand double staining technique	
CO 5	get employment in Biodiversity Conservation Centres and Artificial Pollination Centres	
Course Name – Angiosperm Taxonomy and Economic Botany		Course Code – P2R1BOCC6
Upon Completion of the course students would be able to		
CO 1	know about the concepts of plant taxonomy and classification of angiosperms	
CO 2	prepare the Herbarium	
CO 3	identify the binominal of plants under natural environment.	
CO 4	get employment in BSI	
CO 5	understand various angiosperm plant habits	

Course Name - Cell Biologyand Molecular Genetics		Course Code – P2R1BOCC7
Upon Completion of the course students would be able to		
CO 1	understand the basic concepts of molecular biology and genetic engineering	
CO 2	understand the cell organelles and their functions	
CO 3	understand the mitosis and meiosis and their importance	
CO 4	employment in biology instrumentation labs and Molecular Biology Research Centre	
CO 5	identify the binominal of plants under natural environment.	
Course Name - Practical – II (Anatomy, Embryology and Micro-techniques; Angiosperm Taxonomy and Economic Botany; Cell and Molecular Genetics)		Course Code – P2R1BOCC8P
Upon Completion of the course students would be able to		
CO 1	could perform double staining permanent slide mounting	
CO 2	understand the various components of stem and wood during their secondary growth	
CO 3	En-light about the mechanism of pollination and basic structure of the embryo	
CO 4	know the concepts of plant taxonomy and classification of angiosperms	
CO 5	prepare the herbarium	
CO 6	identify the binominal of plants under natural environment	
CO 7	get employment in BSI	
Course Name – Plant Ecology, Conservation Biology, Phytogeography and Forestry		Course Code – P3R1BOCC9
Upon Completion of the course students would be able to		
CO 1	learn basic knowledge about environment issues	
CO 2	learn acquired knowledge about the role of man in protecting the environment	
CO 3	understand the biodiversity conservation and participation in conservation activities	

CO 4	get employment in pollution Board and Environment and forest conservation department
CO 5	get employment in pollution Board and Environment and forest conservation department

Course Name - Plant Breeding and Horticulture	Course Code – P3R1BOCC10
Upon Completion of the course students would be able to	
CO 1	know various methods of selection in plant breeding
CO 2	assert the mutation and level of ploidy
CO 3	learn the landscape designing methods
CO 4	get employment in agriculture and horticulture centres and plant breeding centre
CO 5	get entrepreneur in the field of ornamental plant propagation
Course Name - Plant Physiology and Biochemistry	Course Code – P3R1BOCC11
Upon Completion of the course students would be able to	
CO 1	learn analytical and presentation skill on bio-molecular level
CO 2	understand and appreciate the plant world
CO 3	know about the basic principles of plant function, metabolism, secondary products, cell physiology and principles of growth and development
CO 4	employment in plant growth centres, plant tissue culture and grafting centre.
CO 5	get knowledge in preparation of reagents and solutions plant experiments
Course Name - Plant Biotechnology	Course Code – P3R1BOCC12
Upon Completion of the course students would be able to	
CO 1	understand importance of applications of biotechnology day to day life
CO 2	learn the methods of vectors in plant genome
CO 3	gain the uses of r-DNA technology
CO 4	get employment in biotechnology research laboratory

CO 5	**understand the identification and cultivation of medicinal plants**

Course Name - PRACTICAL –III (Plant Ecology, Conservation Biology, Phytogeography and Forestry; Plant Breeding, Horticulture and Landscape Designing; Biochemistry and Plant Physiology; Plant Biotechnology)	**Course Code - P3R1BOCC13P**
Upon Completion of the course students would be able to	
CO 1	**learnt procedure for isolation the genomic DNA.**
CO 2	**understand the estimation procedure for the certain phytochemical content of the plant.**
CO 3	**perform the experiments in plant physiology.**
CO 4	**Get employment in the labs of plant tissue culture and nursery centre.**
CO 5	**The student could acquire knowledge and species and genus diversity of plant ecology.**
CO 6	**learn the basic principles, producers and application for certain bio instruments.**
CO 7	**get employment in environment forest department, plant tissue laboratory and biotechnology research centers.**
Course Name - Bio-Instrumentation	**Course Code - P4RBOCC14**
Upon Completion of the course students would be able to	
CO 1	**understand the principles, procedures and application of certain instruments.**
CO 2	**understand data collection and handling methods.**
CO 3	**get employment in instrumentation laboratory at research industries.**
CO 4	**acquire knowledge on spectroscopy and electrophoresis**
CO 5	**get perform the chromatographic techniques**
Course Name - Project Work	**Course Code - P4R1BOCC15PW**
Upon Completion of the course students would be able to	
CO 1	**demonstrate the experimental techniques and methods of analysis appropriate for their area of specialization within biology.**

CO 2	**learnt different techniques of research.**
CO 3	**develop the skills on preparing data and presentation.**
CO 4	**improve presentation skill and teaching communication skill.**
CO 5	**get knowledge on typical writing of dissertation, thesis, research, review articles**
Course Name - Biofertilizers and Mushroom technology	**Course Code - P1R1BOEC1**
Upon Completion of the course students would be able to	
CO 1	**acquired sufficient, academic, practical experiences in the biofertilizer and mushroom culture**
CO 2	**understand the basic information on biofertilizers and mushroom**
CO 3	**learns entrepreneurial skills in the production of mushrooms.**
CO 4	**get employment in mushroom cultivation companies**
CO 5	**get employment in bio fertilizer production companies**
Course Name - Ethno Botany and Pharmacognosy	**Course Code - P1R1BOEC2**
Upon Completion of the course students would be able to	
CO 1	**learn the basic knowledge on traditional plant based medicinal system**
CO 2	**understand the valuable herbal products and their preparation methods**
CO 3	**acquire knowledge on drug marketing**
CO 4	**get employment in herbal companies**
CO 5	**get employment in research institutions like CIMAP, FRLHT, ATREE and pharmaceutical companies.**
Course Name - Research Methodology	**Course Code - P1R1BOEC3**
Upon Completion of the course students would be able to	
CO 1	**know the state of art of research in botany.**
CO 2	**plan and carry out short term research project.**
CO 3	**present the collected data on research articles, thesis and seminar presentation**
CO 4	**understand the value of and need for socially relevant researches.**

CO 5	**Students could get knowledge on collection and presentation of biological data**
Course Name - Recyclic Technology	**Course Code - P1R1BOEC4**
Upon Completion of the course students would be able to	
CO 1	**understand basic knowledge on recyclic process and application of waste materials.**
CO 2	**know about the various steps in recyclic process of plastic and production of degradable plastics.**
CO 3	**learn the concept and topper of glarier and ceramics recycling.**
CO 4	**become an entrepreneur.**
CO 5	**understand awareness about the recyclic process of waste materials**
	Food Processing Technology
	Nursery Technology
	Herbal Recipes and Remedies
	Organic, Indoor and Terrace Gardening