

DEPARTMENT OF BOTANY
COURSE OUTCOME-2017-2018

Discipline	Paper	Outcomes
SEM-1	C1T (Algae & Microbiology)	<ol style="list-style-type: none"> 1. To learn the types of virus and bacteria and their harmful and beneficial effect. 2. To learn how to prevent the bacterial and viral disease in society as well as immunization system by vaccine. 3. To learn the uses of algae along with their respective life form along with their consumption as food, fodder and medicine in human society.
	C1P (Algae & Microbiology)	<ol style="list-style-type: none"> 1. Students will able to identify various types of bacteria and algae of their habitat by staining technique with microscope. 2. Students will able to identify the various pathogens of plants and animals by handsome method.
	C2T (Biomolecules and Cell Biology)	<ol style="list-style-type: none"> 1. Students learn about the significance, classification and structure of carbohydrates, lipids, proteins and various types of nucleic acids present in life system 2. They develop the concept of free energy, role of energy currency molecule. 3. They learn about the structure, classification, features of enzyme and their role in cell. 4. Students can classify and distinguish the prokaryotic and eukaryotic cells and they learn about the origin of eukaryotic cell. 5. Students can gather the knowledge about the plant cell wall and plasma membrane. 6. Students can develop their knowledge about structure, function, signaling system of cell organelles.

	<p>C2P (Biomolecules and Cell Biology)</p>	<ol style="list-style-type: none"> 1. Students differ reducing and non-reducing sugars, identify lipids and proteins by their experimental work. 2. They can easily identify the plant cell structure with the help of epidermal peel mount of onion. 3. They collect the knowledge of the phenomenon of protoplasmic streaming. 4. With the help of practical work student can measure the cell size by the technique of micrometry. 5. Students can develop the phenomenon of plasmolysis and deplasmolysis. 6. They can develop the knowledge about membrane permeability experimentally with the use of organic solvent and temperature.
	<p>GE-1 T (Biodiversity)</p>	<ol style="list-style-type: none"> 1. Students are known about the virus and how plants and animals are infected through virus.Explain in general two ways in which viruses recognize their hosts. 2. Students are known about the difference between virus and bacteria and how the virus are transmitted in animal and plants under certain environmental conditions. 3. Students are able to known microbes are every where and affect almost all aspects of our lives .We can not see them ,but our world would not function without them,Bacteria,Viruses,Fungi,Protists,algae and other microscopic life forms are on us and in us,in the air,soil,and water,and in our food.They are in and on the surfaces and other environments. 4. Show evidence of self study by acquiring relevant knowledge about algae other than that presented by the lecturer. 5. Students are able some fungi also edible and some fungi poisonous because some harmful toxin produced from these fungi.
	<p>GE-1P</p>	<ol style="list-style-type: none"> 1. Students are able to known practically how different plant species are distinguish microscopically and morphology.

		<ol style="list-style-type: none"> 2. How the different groups of bacteria identifying by using staining method under microscope
SEM-2	C3T (Mycology and Phytopathology)	<ol style="list-style-type: none"> 1. Students will able to learn various types of fungi and their uses basically in food and medicine in human society. 2. To learn the various pathogens which cause many plant diseases hampering crop production. 3. Studednts will able to control various types of plant diseases by learning the controle measures of the disease forming pathogens.
	C3P (Mycology and Phytopathology)	<ol style="list-style-type: none"> 1. Students will identify easily the various plant disease by observing the symptoms and will be benifited in agriculture. 2. Students will be self development economically by mushroom culture which have been taught by the syllabus.
	C4T (Archegoniate)	<ol style="list-style-type: none"> 1. Students can develop their knowledge about archegoniates. 2. They can differ about bryophyte, pteridophyte and gymnosperm. 3.They earn the experience and knowledge about the various types of ecological and habitat features of this group and their ecotype. 4.They know about the economic importance and their utilization in our daily life.
SEM-2	C4P (Archegoniate)	<ol style="list-style-type: none"> 1. Students are able to learn about the morphological and anatomical features of some species of bryophyte, pteridophyte and gymnosperm by their practical work. 2. They can easily separate this group by developing their knowledge with the help of their practical work.
	GE-2 T (Plant Ecology and Taxonomy)	<ol style="list-style-type: none"> 1. The courses should define learning objectives & learning outcomes. 2. A course maybe designed to comprise lectures,tutorials,laboratory work,field work,project work,presentations,self-study etc or combination of some of these. 3. Plant taxonomy is most essential part of botany for knowledge of

		<p>morphology of various types of plants. Various types of plants and animals collect and preserved for extinct and endangered specimens.</p> <ol style="list-style-type: none"> 4. It is a students centric approach to learning on acquiring higher education. 5. It promotes group works, research and community involvement.
	GE-2 P	<ol style="list-style-type: none"> 1. Students knowledge increase about the anatomical characters of plant stem, root, leaves, flowers in practical classes, 2. Students identify the various types of plants and increase their knowledge.
PART-2 (Hons)	Paper-III :Theory (Taxonomy of Angiosperms ,Ecology, Economic Botany,&Ethnobotany, Floriculture & Pharmacognosy&Phytogeography)	<ol style="list-style-type: none"> 1. Students are able to learn the classification, taxonomy and systematics approach of plant. They collect their knowledge about modern evidence of plant taxonomy, botanical nomenclature. 2. Students are develop their knowledge about herbarium preparation, conservation technique. 3. They earn their knowledge and can easily differ monocot and dicot family, their characteristic feature, economic importance and medicinal value of some plant. 4. Students are able to learn how can managed the biodiversity, conservation and control the pollution. 5. They can develop their knowledge about economic plant, medicinal plants, oil yielding plants, some vegetables and pharmacological concept of our daily life. 6. They also can develop their knowledge about cultivation, propagation and hervesting of rose, tuberose and jasmine.
	Paper-IV : Theory (Plant Physiology, Biochemistry ,applied Botany &Ecology)	<ol style="list-style-type: none"> 1. Students who are actively learning are actively engaged whatever solving a problem, debating issue or researching a concept, they are processing idea and forgoing deeper understanding about biochemistry. 2. Plant physiology is the most efficient part of students. Students enrich their knowledge about plant growth regulators.

		<ol style="list-style-type: none"> 3. Students are often applying their ideas, working on various active principles of plants and collaborative projects or using approaches against various disorder of human beings. 4. Students learning from the syllabus benefit from increased self esteem and become more engaged in their education applying.
	Paper-V: Practical (Microbiology and lower Plant groups)	<ol style="list-style-type: none"> 1. Students are able to learn about the morphological and anatomical features of some species of bryophyte, pteridophyte and gymnosperm by their practical work. 2. How the different groups of bacteria identifying by using staining method under microscope. 3. Students will identify easily the various plant disease by observing the symptoms and will be benefited in agriculture. 4. Students will be self development economically by mushroom culture which have been taught by the syllabus.
PART-2 (Pass)	Paper-II (Theory) (Anatomy ,Ecology Cell biology & Silviculture)	<ol style="list-style-type: none"> 1. The Students will understand various Angiosperm plant habits. 2. Learn about vegetative and reproductive structural features of Angiosperms. 3. Understand various modifications and its purpose in plant parts. 4. Learn about various Angiosperm families and its economic value. 5. The students will be able to learn about the basics of cell and its inclusions and understand the basic concepts of Mendelian genetics, its variations and applications as well as familiarize with the various concepts of evolution.
	Paper-III : Practical	<ol style="list-style-type: none"> 1. Students will learn about the morphological and anatomical features of different species of algae, fungi, bryophyte, pteridophyte and gymnosperm by their practical work. 2. They can easily separate this group by developing their knowledge with the help of their practical work.
PART-3 (Hons)	Paper-VI :Theory (Cell Biology ,Molecular Biology &	<ol style="list-style-type: none"> 1. To learn inheritance pattern of different characters from generation to generation by which students can predict the outcomes of different

	Biotechnology)	<p>crosses in plants as well as in animals.</p> <ol style="list-style-type: none"> 2. Students will able to learn how different types hybrids are produced . 3. Students will able to learn about the reasons and mechanism of mutation and its related genetic diseases. 4. Students can able to learn about the gene and its regulation and how far change the living system in society.
	Paper-VII : Practical	<ol style="list-style-type: none"> 1.Students are able to develop the skill to draw floral formula, floral diagram and standard key and also increase their skill in morphology. 2.The studentexperience will increase about various types of ecological plant species and their impact on environment. 3.Student can learn about the anatomical characters of different plants along with respective identification.
	Paper-VIII : Practical	<ol style="list-style-type: none"> 1. Students will able to produce various types of hybrids plants and genetically modified plants by learning the syllabus which help to absorb them in various commercial companies. 2. Students will learn the various physiological process in life system and their regulation which manifested on the crop productivity. 3. Students will able to learn various statistical approaches to evaluate and to measure the productivity,number of plants in respect to various life supporting parameters 4.Student will learn various techniques of tissue culture in plants for economic and environmental aspect.
PART-3 (Pass)	Theory(IVA) : Theory (Lower plant groups ,morphology ,plant physiology & anatomy)	<ol style="list-style-type: none"> 1. Students are able to known how artificially Transgenic plants and transgenic animals are producing through application of Genetic Engeneering. 2. Students are able to known how plants are protected from different pathogens. 3. Students are able to known how the green manure benefitted to plant development and ecofriendly uses,because chemical fertilizers are harmful which causes cancer,skin diseases.

	Practical(IVB) : Practical	<ol style="list-style-type: none"> 1. Students also knowing about the Nursery technique, floriculture, mushrooms production, which they can produce those things for marketing for earn money. 2. They knowing about how viable seeds and nonviable seeds are recognize and artificially how hybrid plants are produce without tissue culture.
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DEPARTMENT OF BOTANY
PROGRAMME SPECIFIC OUTCOME-2017-2018

Discipline	Outcomes Students will be able to-
BSc (Hons) in Botany	<ol style="list-style-type: none"> 1. Stewardship responsibility 2. Hands on expertise in Biological Sciences. 3. Entrepreneurship skill development. 4. They will be able to clear competitive exams like JAM, TFIR IFS etc. 5. Career opportunities and job opportunities in both Govt. and private sectors. 6. Student will learn various techniques of tissue culture in plants for economic and environmental aspect. 7. Students will be self development economically by mushroom culture which have

	been taught by the syllabus.
BSc (General) in Botany	<ol style="list-style-type: none">1.Students by applying Nursery technique,floriculture,mushrooms production, they can produce those things for marketing for earn money.2.It promotes career and job opportunities in both Govt. and private sectors.3.Hands on expertise in Biological Sciences.4.Students are able to produce the green manure- benefitted to plant development and ecofriendly uses which make help economically.