Govt Degree College - Tekkali Department of Botany				
COURSEOUTCOMES				
YEAR	SEMESTER	COURSE CODE	TITLE OF PAPER	OUTCOMES
I	I	1	Introduction to Classical Biology	1. Learn the principles of classification and preservation of biodiversity 2. Understand the plant anatomical, physiological and reproductive processes. 3. Knowledge on animal classification, physiology, embryonic development and their economic importance. 4. Outline the cell components, cell processes like cell division, heredity and molecular processes. 5. Comprehend the chemical principles in shaping and driving the macromolecules and life processes.
		2	Introduction to Applied Biology	1. Learn the history, ultrastructure, diversity and importance of microorganisms. 2. Understand the structure and functions of macromolecules. 3. Knowledge on biotechnology principles and its applications in food and medicine. 4. Outline the techniques, tools and their uses in diagnosis and therapy. 5. Demonstrate the bioinformatics and statistical tools in comprehending the complex biological data
	II	3	Non-vascular Plants	1. Compile the general characteristics of algae and their significance in nature. 2. Compare and contrast the characteristics of different groups of algae. 3. Summarise the important features of fungi and their economic value. 4. Distinguish the characteristics of different groups of fungi. 5. Elaborate the features and significance of amphibians of plant

				kingdom 6. Explain the diversity among non-vascular plants.
		4	Origin of Life and Diversity of Microbes	1. Illustrate diversity of viruses, multiplication and economic value. 2. Discuss the general characteristics, classification and economic importance of special groups of bacteria. 3. Explain the structure, nutrition, reproduction and significance of eubacteria. 4. Evaluate the interactions among soil microbes. 5. Compile the value and applications of microbes in agriculture
II	III	5	Vascular Plants	1. Infer the evolution of vasculature, heterospory and seed habit in Pteridophytes. 2. Illustrate the general characteristics of Gymnosperms along with their uses 3. Discuss about some Taxonomic aids and their applications in plant systematics. 4. Compare and contrast the vegetative and floral characteristics of some angiospermic families 5. Evaluate the economic value of plant species from the families under the study. 6. Defend the utility of evidences from different branches of botany in solving the taxonomic lineages of some species
		6	Plant Pathology and Plant Diseases	1. Identify major groups of plant pathogens and classify plant diseases. 2. Explain various stages in infection, plant pathogenesis and responsible factors. 3. Elaborate the preventive and control measures for plant diseases. 4. Discuss about some diseases of field crops and their management.

				5. Discuss about some diseases of horticultural crops and their management.
		7	Plant Breeding	1. Compare and contrast the methods of reproduction and also pollination mechanisms. 2. Design appropriate pollination method for a given crop plant. 3. Recommend the best possible breeding method for a crop species. 4. Propose the steps for production of hybrid varieties of crop plants. 5. Apply molecular techniques to develop a tailored plant variety.
		8	Plant Biotechnology	1. Explain the scientific techniques and tools used in plant tissue culture laboratories. 2. Appraise the applications of plant tissue culture in agriculture and horticulture sectors. 3. Acquire skills related to various aspects in plant tissue culture. 4. Evaluate the role of transgenic plants in solving certain plant related beneficiary issues. 5.Justify the role of plant biotechnology in bioenergy and phytoremediation. 6. Judge the biosafety and bioethics related to plant biotechnology.
	IV	9	Anatomy and Embryology of Angiosperms	1. Categorize various tissues and evaluate their role in plants. 2. Explain anomalous secondary growth in some plants and justify the value of timber plants. 3. Summarize the events in micro-sporogenesis and development of male gametophyte. 4. Discuss the events in mega-sporogenesis and development of female gametophyte. 5. Propose the incidents in embryogenesis of an angiospermic

				plant species. 6. Compile the aspects of developmental and reproductive biology in plants.
		10	Plant Ecology, Biodiversity and Phyto geography	1. Explain the interactions among the biotic and abiotic components in an ecosystem. 2. Summarize the characteristics of a population and a community. 3. Anticipate the environmental problems arising due to climate change. 4. Assess the value of biodiversity and choose appropriate conservation strategy. 5. Make a survey on the distribution of various plant groups in a specified geographical area.
		11	Plant Resources and Utilization	1. Explain the significance of plants in human nutrition. 2. List out different plant products used by human beings. 3. Evaluate the commercial plant products and their utilization 4. Discuss the uses of medicinal and aromatic plants for human health care. 5. Appraise the importance of timber and non-timber products for value added products.
III	V	12	Cell Biology and Genetics	1. Sketch the ultra-structural aspects of plant cell and its components. 2. Hypothesise the role of chromosomes in inheritance. 3. Justify the role of genes in inheritance of characters by descent. 4. Correlate the functions of the nucleic acid with their structure. 5. Explain the discoveries led to understand the fine structure of a gene.
		13	Plant Physiology and Metabolism	1. Comprehend the importance of water in plant life and mechanisms

				for transport of water and solutes in plants. *2. Explain the role of minerals in plant nutrition and their deficiency symptoms.* *3. Interpret the role of enzymes in plant metabolism.* *4. Hypothesise the light reactions and carbon assimilation processes responsible for synthesis of food in plants.* *5. Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.* *6. Evaluate the physiological factors that regulate growth, development and flowering in plants*
		14B	*Seed Technology*	*1. Explain the causes for seed dormancy and methods to break dormancy.* *2. Understand critical concepts of seed processing and seed storage procedures.* *3. Acquire skills related to various seed testing methods.* *4. Identify seed borne pathogens and prescribe methods to control them.* *5. Understand the legislations on seed production and procedure of seed certification.*
		15A	*Mushroom Culture Technology*	*1. Understand the structure and life of a mushroom and discriminate edible and poisonous mushrooms.* *2. Identify the basic infrastructure to establish a mushroom culture unit.* *3. Demonstrate skills preparation of compost and spawn.* *4. Acquire a critical knowledge on cultivation of some edible mushrooms.* *5. Explain the methods of storage, preparation of value-added products and marketing*
	VI		*Internship*	