BSC (BIO TECH)

	Program Outcome(PO)
PO	Acquire the knowledge of the general features of Virus,Bacteria, Algae, Fungi and Lichens.

I Year Semester I	
Course– Paper –I Diversity of Microbes	
Paper –I	Students learn to classify, identifyand study the characters, structure, pigmentation, nutrition, reserve food material, reproduction, life history and economic importanceof Algae and Fungi. Learn the structure and function of cell organelles.·Acquire the knowledge of cell division.
Semester-I Course- Paper-II Cell Biology	
Paper-II	Acquire the knowledge of cell division.Understand the Morphology, organization, structure of Chromosome.Understand the Chromosomal variations alterations.
I YearSemester II	
Course– Paper – I Diversity of Archegoniates	
Paper –I	Acquire the knowledge of general features, classification, identifying characters, structure, reproduction and life history of Bryophytes and Pteridophytes. Acquire the knowledge of the genetic materialand replication. Learn about Mendelian principles, Gene interaction, Allelic and non-allelic interactions.
Course– Paper – II Genetics	
Paper-II	Acquire knowledge on genetic, cytoplasmic and sex linked inheritance. Understand the mechanism of mutation, and genetic variations
Course– Paper – III Practical	
Paper-III	Learn to handle microscopic. Become familiarize and able to identify and observe the different species of algae , fungi, bryophytes, pteridophytes and lichens through the external and internal structure of lower and higher group. Student are able be to prepare and observe cell division from the cytological preparation. Working out problems related to genetics.

II Year Semester-III	
Course– Paper – I Biology and Diversity of Seed Plants -I	
Paper – I	Student are able to understand general characters, distribution, classification, morphology, anatomy, life history of some genera and economic importance of Gymnosperms.Study the methods of fossilization and fossil plants with the reconstruction of some genera.Study and impart knowledge about Geological Time Table and Evolution of Seed Habit.Acquire the knowledge of General characters of Angiosperms including primitive angiosperms.
Course- Paper –II Plant Anatomy	
Paper-II	Study the various aspects of anatomy and histological organizations of plant tissues/organs.Learn about tissues systems, types, structural modifications, functions and anomalous growth.
II YearSemester IV	
Course– Paper –I Biology and Diversity of Seed Plants -II	
Paper –I	Acquire knowledge on Taxonomy and Systematics along withchemotaxonomy, cytotaxonomy and taximetrics.Learn about Botanical Nomenclature and classification of angiosperms.Learn identification and economic importance of various important plant families.Acquire the knowledge on herbarium techniques. Learn the various aspects ofstructure and mechanism of sporogenesis, Pollination, fertilization and plant embryogenesis
Course- Paper –II Plant Embryology	
Paper-II	Learn aboutFlowers, Fruits and dispersal mechanisms in fruits and seeds. Understand morphological and reproductive characters of different plant families.Able to prepare and study the double-stained permanent anatomical slides of different plant parts
Course- Paper –III Practical	
Paper-III	Learn the herbarium preparation techniques.Able to identify, collect, observe, prepare herbarium of the plants from their natural habitats.Learn to dissect and taxonomically describe the plants coming under the families prescribed in the theory syllabus
III Year Semester V	
Course– Paper –I Plant Physiology	

Paper –I	Acquire knowledge in plant and its water relations.Students learn about plant nutrition, growth, development, uptake, translocation of organic solutes and their deficiency symptoms of nutrients. Gain knowledge about photosynthesis and the chemical pathway of reactions.Acquire knowledge on the Seed dormancy, plant movements, photoperiodism, physiology of flowering, senescence and fruit ripening
Course– Paper –II Ecology :.	
Paper –II	Understand approaches to the study of Ecology and Environment Students acquire knowledgeabout Ecosystem, Biogeochemical Cycles, Phyto-geography,Environmental Pollution, impact of greenhouse gases and global warming.
III Year Semester VI	
Course– Paper –I Biochemistry & Plant Biotechnology	
Paper –I	Understand the nomenclature, general features and concept of basics of enzymology such as enzyme activity and enzyme inhibition.Understand the different phases of Growth and development in plants.·Know about the discovery, mechanism of action role of various Plant Growth hormones.·Acquire knowledge of Lipid and Nitrogen metabolism.Learn the specific tools and techniques of Genetic engineering and Biotechnology Learn about origin, distribution, botanical description, cultivation and economic importance of Cereals, Pulses, Vegetables, Fibers and Oils
Course– Paper –II Economic Botany	
Paper –II	Brief study of morphology, part used, cultivation, economic uses of some Spices and Medicinal PlantsAcquire knowledge of botanical description and processing ofBeverages, Rubber and Sugar.Learn about sources of timber, energy plantations and bio-fuels. ·Learn to demonstrate experiments on the variousplant physiological process.Acquire knowledge of identification, part used and economic importance of plants studied in the theory syllabus of thecourseEconomic Botany.Learn to determination the various environmental parameters such as pH of soil, water samples, physical properties of soil-soil density, water holding capacity etc.Learn Manometric determination of R.Q., phototropism,peroxidase activity, geotropism and hydrotropism.

Course– Paper – III Practical	
Paper –III	Learn to tests for the detection of Carbohydrates, Proteins and Fats.Learn about the components and working of the various lab instruments and preparation of the culture medium.Acquire knowledge of techniques of sterilization, anther culture, protoplast isolation and sub-culturing of cell, tissues and organs.Acquire knowledge of ecological field study by Quadrats and Line transect methods of vegetation such as density, abundance and frequency of species.