COURSE OUTCOMES

BOTANY

F. Y. B.Sc.	
SEM-I	
PAPER 1	**Course Title: PLANT DIVERSITY – I** **Course Code: USBO101**
CO1	To learn the salient features of major group of algae Chlorophyta with suitable examples.
CO2	To understand blue green algae and also economic importance of algae group in general.
CO3	To gain knowledge about fungi, their life cycle patterns and economic importance.
CO4	To study plant group Class- Hepaticae from Bryophyta.
PAPER 2	**Course Title: FORM AND FUNCTIONS- I** **Course Code: USBO102**
CO1	To understand plant cell, the structure and function of different cell organelles.
CO2	To acquire information about basic concepts related to environmental landscape formations and functioning of different components of an ecosystem.
CO3	To gain knowledge about hereditary phenomenon observed in nature and interactions of genetic crosses
	SEM - II
PAPER 1:	**Course Title: PLANT DIVERSITY – I** **Course Code: USBO201**
CO1	To learn about life cycle pattern of ornamental plants-Ferns and their significance in evolution of plant life.
CO2	To understand life cycle of living fossil plant and the economic importance of Gymnosperms.
CO3	To gain knowledge about modifications and adaptations of plant organ leaf and patterns of arrangement of flowers.
CO4	To illustrate particular type of flowering plants under specific broad classification group of plant family
SEM-II	
PAPER 2	**Course Title: FORM AND FUNCTIONS- I** **Course Code: USBO202**
CO1	To understand the internal components and construction of various plant organs.
CO2	To gain knowledge about functional mechanisms of synthesis of food material by plants.
CO3	To analyze and apply the information about medicinal plants gained by simple observations related to common ailments, household remedies with traditional knowledge.
	S.Y. B.Sc.
	SEM - III
PAPER 1:	**Course Title: PLANT DIVERSITY – II** **Course Code: USBO301**

CO1	To learn about salient features of group Phaeophyta of algae with suitable examples.
CO2	To study plant group Class Anthocerotae from Bryophytes.
CO3	To understand some objectives and goals of plant systematics and its interactions with other branches of Botany, including study of few specific plant families.
CO4	To get acquainted with modern techniques for study of plant diversity with proper plant preservation methods.
CO5	
PAPER 2: Course Title: FORM AND FUNCTIONS- II Course Code: USBO302	
CO1	To understand the structure and function of some cell organelles, micro bodies in cell.
CO2	To gain knowledge about different mechanisms of cell division.
CO3	To study about hereditary carriers and their role in genetic mechanism of living organisms.
CO4	To learn about molecular biology aspect of genes.
PAPER 3 Course Title: CURRENT TRENDS IN PLANT SCIENCES I Course Code: USBO 303	
CO1	To understand phytochemical aspects of known medicinal plants, mainly secondary metabolites and their adulterants.
CO2	To gain knowledge about forest resources and their conservation, with special concern with social forestry, economic botany and organic farming practices.
CO3	To explore about industrial applications and plant based products in mainly food industry, pharmaceuticals and fuels.
	SEM IV
PAPER 1 Course Title: PLANT DIVERSITY – II Course Code: USBO 401	
CO1	To learn the general characteristics of fungal group Ascomycetes with suitable examples and also Lichens—Symbiotic forms
CO2	To understand the scope and importance of plant pathology
CO3	To gain knowledge about extinct plant fossils and study of living forms of group Pteridophyta and Gymnosperms
CO4	To study group Coniferophyta of Gymnosperms which is of great economic importance
PAPER 2 Course Title: FORM AND FUNCTIONS- II Course Code: USBO 402	
CO1	To understand the internal changes that occur in plants during their growth and how plants get strength to withstand their erect position?
CO2	To gain knowledge about mechanism of flowering in plants and supply of energy for vital activities by breakdown of food materials
CO3	To learn about various mechanisms that occur in cycling processes and role of soil as a growth medium for plants
CO4	To study about different aspects of plant assemblages or plant community
PAPER 3: Course Title: CURRENT TRENDS IN PLANT SCIENCES I Course Code: USBO 403	
CO1	To learn about various features of a garden and different types of gardens.
CO2	To gain knowledge of plant based biotechnological aspects viz. plant tissue culture and genetic engineering.

CO3	To get the idea of applications of statistical methods to solve the biological problems and use of computers, internet for biological data related with molecular biology i.e. Bioinformatics
	T.Y.B.Sc.
SEM-V	
PAPER 1	**Course Title: PLANT DIVERSITY – III** **Course Code: USBO501**
CO1	To gain knowledge about microbial diversity and techniques for culturing and visualization.
CO2	To understand the salient features of three major groups of algae, their lifecycle patterns with a suitable example; to be able to identify them.
CO3	To learn the general characteristics and classification of two major groups of fungi along with life cycles of each group; to be able to identify them.
CO4	To understand the scope and importance of Plant Pathology and apply the concepts of various control measures of commonly widespread plant diseases.
CO5	
PAPER 2	**Course Title: PLANT DIVERSITY – IV** **Course Code: USBO502**
CO1	To acquire knowledge of different fossil forms and understand their role in evolution.
CO2	To provide plant description, describe the morphological and reproductive structures of seven families and also identify and classify according to Bentham and Hooker's system.
CO3	To gain proficiency in the use of keys and identification manuals for identifying any unknown plants to species level.
CO4	To relate anomalies in internal stem structure with function and appreciate the salient features of the root stem transition zone.
CO5	To get exposure to pollen study and learn to apply it in various fields.
PAPER 3	**Course Title: FORM AND FUNCTIONS- III** **Course Code: USBO503**
CO1	To acquire knowledge about two important organelles and molecular mechanisms of translation.
CO2	To understand water relations of plants, inorganic and organic solute transport, and apply the knowledge to manage mineral nutrition and survival in challenging abiotic stresses.
CO3	To understand succession in plant communities and study remediation technologies in order to apply knowledge acquired for cleanup of polluted sites.
CO4	To get exposure to principles and techniques of plant tissue culture and apply these studies for improving agriculture and horticulture and to become an entrepreneur
PAPER 4: Course Title: CURRENT TRENDS IN PLANT SCIENCE – II Course Code: USBO504	
CO1	To get exposure to the technique of mushroom cultivation and explore the possibility of entrepreneurship in the same.
CO2	To learn ethnobotanical principles, applications and utilize indigenous plant knowledge for the cure of common human diseases and improvement of agriculture.
CO3	To gain knowledge about the latest molecular biology techniques for isolation and characterization of genes.
CO4	To learn principles and application of commonly used techniques in instrumentation.

CO5	To gain proficiency in the monograph study and pharmacognostic analysis of six medicinal plants.
SEM-VI	
PAPER 1	**Course Title: PLANT DIVERSITY – III** **Course Code: USBO601**
CO1	To identify, describe and study in detail the life cycles of three Bryophytes.
CO2	To and study in detail classification and general characters of three classes of Pteridophytes and identify as well as describe the life cycles of one example from each class.
CO3	To study evolutionary aspects and economic utilization of Bryophytes and Pteridophytes.
CO4	To identify, describe and study in detail the life cycles of three Gymnosperms.
CO5	
PAPER 2	**Course Title: PLANT DIVERSITY – IV** **Course Code: USBO602**
CO1	To study contribution of Botanical gardens, BSI to Angiosperm study and provide plant description, describe the morphological and reproductive structures of seven families.
CO2	To gain exposure to a phylogenetic system of classification.
CO3	To gain insight into the anatomical adaptations of different ecological plant groups.
CO4	To understand development plant of male and female gametophytes, embryonic structure and development.
CO5	To understand the different aspects and importance of Biodiversity and utilize them for conservation of species so as to prevent further loss or extinction of Biodiversity and preserve the existing for future generations.
PAPER 3	**Course Title: FORMS AND FUNCTION – III** **Course Code: USBO603**
CO1	To study various plant biomolecular structures and appreciate the structures, role, functions and applications of enzymes.
CO2	To gain insight into the Nitrogen and plant hormone metabolism with applications of the same in agriculture and horticulture.
CO3	To understand principles of genetic mapping, mutations and solve problems based on them, gain knowledge of various metabolic disorders and their implications.
CO4	To generate and test hypotheses, make observations, collect data, analyse and interpret results, derive conclusions, and evaluate their significance within a broad scientific context, using suitable statistical techniques.
PAPER 4	**Course Title: CURRENT TRENDS IN PLANT SCIENCE - II** **Course Code: USBO604**
CO1	To gain insight into recent molecular biology techniques for DNA analysis and amplification and Barcoding techniques and applications therein.
CO2	To understand and apply tools of Bioinformatics for data retrieval and phylogenetic analysis.
CO3	To learn about the sources of economically important plants in the field of fats and oils and apply it for extraction, dealing with entrepreneurship in the field.
CO4	To gain knowledge and proficiency in preservation of post -harvest produce and explore the possibility of entrepreneurship in the field

Paper : Applied Component Course Title: HORTICULTURE & GARDENING –I Course Code: USACHO501	
CO1	To gain knowledge about various natural and artificial methods of multiplication of plants that are useful for plantation purpose which is basic concept of plant nursery development.
CO2	To learn about different nutritional requirement of plants and other supplements, natural manures and fertilizers with use of live organisms for sustainable gardening practices.
CO3	To get idea about different preparatory measures for establishment of cultivation area for various horticultural crops and their proper maintenances.
CO4	To get acquainted with common pests and diseases with their necessary control measures to manage the garden properly as well as improve the conditions so that beneficial organisms can settle in appropriate condition in cultivation areas.
CO5	To get the idea about different aspects of applied branch of horticulture to accommodate diversified garden crops and allied branches or industries which are using horticultural resources for their establishment.
Paper: Applied Component Course Title: HORTICULTURE & GARDENING –II Course Code: USACHO601	
CO1	To understand the underlying principles and requirements of planning a landscape in an area and also the suitable vegetation for that site.
CO2	To gain knowledge about modern techniques in horticulture and floriculture industry like greenhouse management, hydroponics, space garden- and utilization of horticultural produce
CO3	To learn about actual culture needs for commercial and large scale production of some important horticultural crops, with selection of their proper suitable varieties
CO4	To understand the different methods of preservation of perishable horticultural produce for future use and value addition of horticultural produce.
CO5	To explore the possibility of establishing a horticultural business requirement for small startup unit or self-employment venture with entrepreneurial skills.