

ACADEMIC YEARS 2020-21 TO 2021-22

BOTANY			
1		Fundamentals of Microbes and Non-vascular Plants	After Completion of this course the student would be able to: CO1: On successful completion of this course, the students will be able to: Explain origin of life on the earth CO2: Illustrate diversity among the viruses and prokaryotic organisms and can categorize them CO3: Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles. CO4: Analyze and ascertain the plant disease symptoms due to viruses, bacteria and fungi. CO5: Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat. CO6: Evaluate the ecological and economic value of microbes, thallophytes and bryophytes
1		Basics of Vascular plants and Phytogeography	After Completion of this course the student would be able to: CO1: Classify and compare Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction and life cycles. CO2: Justify evolutionary trends in tracheophytes to adapt for land habitat. CO3: Explain the process of fossilization and compare the characteristics of extinct and extant plants. CO4: Critically understand various taxonomical aids for identification of Angiosperms. CO5: Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families CO6: Evaluate the ecological, ethnic and economic value of different tracheophytes and summarize their goods and services for human welfare

3		Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity	After Completion of this course the student would be able to: CO1: Understand on the organization of tissues and tissue systems in plants. CO2: Illustrate and interpret various aspects of embryology. CO3: Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities. CO4: Appraise various qualitative and quantitative parameters to study the population and community ecology. CO5: Correlate the importance of biodiversity and consequences due to its loss. CO6: Enlist the endemic/endangered flora and fauna from two biodiversity hot spots in India and assess strategies for their conservation
4		Plant Physiology and Metabolism	After Completion of this course the student would be able to: CO1: Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants. CO2: Evaluate the role of minerals in plant nutrition and their deficiency symptoms. CO3: Interpret the role of enzymes in plant metabolism. CO4: Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants. CO5: Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms. CO6: Evaluate the physiological factors that regulate growth and development in plants. CO7: Examine the role of light on flowering and explain physiology of plants under stress conditions.

5		Cell Biology, Genetics and Plant Breeding	After Completion of this course the student would be able to: CO1: Distinguish prokaryotic and eukaryotic cells and design the model of a cell. CO2: Explain the organization of a eukaryotic chromosome and the structure of genetic material. CO3: Demonstrate techniques to observe the cell and its components under a microscope. CO4: Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings. CO5: Elucidate the role of extra-chromosomal genetic material for inheritance of characters. CO6: Evaluate the structure, function and regulation of genetic material CO7: Understand the application of principles and modern techniques in plant breeding CO8: Explain the procedures of selection and hybridization for improvement of crops. □
6		Plant Tissue Culture	After Completion of this course the student would be able to: CO1: Comprehend the basic knowledge and applications of plant tissue culture. CO2: Identify various facilities required to set up a plant tissue culture laboratory CO3: Acquire a critical knowledge on sterilization techniques related to plant tissue culture. CO4: Demonstrate skills of callus culture through hands on experience.
7		Mushroom Cultivation	After Completion of this course the student would be able to: CO1: Understand the structure and life of a mushroom and discriminate edible and poisonous mushrooms. CO2: Identify the basic infrastructure to establish a mushroom culture unit. CO3: Demonstrate skills preparation of compost and spawn. CO4: Acquire a critical knowledge on cultivation of some edible mushrooms.

