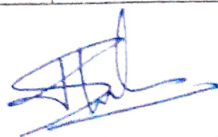
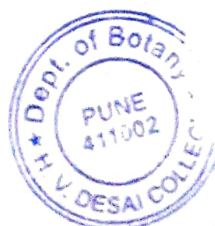


Name of the Teacher-Mr. P.V. Shelar

Class- S.Y.B.Sc.

BO 232: Plant Biotechnology- 2 Credits (30 Lectures) Semester- II (2022-23)

No.	Topic	Method used	Allotted lectures	Required lectures
January. 1st week	Introduction to Plant Biotechnology History and definition Scope and importance of plant biotechnology. Status of biotechnology in India.	Online Power Point Presentation	3	3
January. 2-3rd week	Concept of plant tissue culture and cellular totipotency Basic techniques: Types of culture, Media preparation, sterilization, inoculation, incubation, hardening	Online Power Point Presentation	4	4
January. 3-4 Week	Plant Tissue Culture Applications with reference to: Micropropagation, Somaclonal variation, Haploid production, Protoplast fusion & Somatic hybrids, Embryo rescue, Production of secondary metabolites. Commercial Plant Tissue culture laboratories in Maharashtra and India.	Online Power Point Presentation	4	4
February 1 st - 3 rd week	Commercial Plant Tissue culture laboratories in Maharashtra and India. Single Cell Protein Concept and definition Importance of proteins in diet Production of SCP from <i>Spirulina</i> and Yeast Importance & acceptability of SCP	Online Power Point Presentation	5	5
February 4 th week- 2 nd week of January	Plant Genetic Engineering Introduction, concept Tools of genetic engineering (restriction enzymes, ligases, plasmid vectors) Gene cloning Technique Applications of plant genetic engineering: insect pest resistance, abiotic stress tolerance, herbicide resistance	Online Power Point Presentation	6	8
February 3 rd -4 th week and February 1 st week	Genomics, Proteomics and Bioinformatics Genomics- concept, types, methods used for whole genome sequencing Proteomics- concept, types, methods used in proteome analysis Bioinformatics-concept, database and its classification, data retrieval tools. Bioremediation Introduction and concept Microbial remediation Phytoremediation.	Online Power Point Presentation	7	5
March 2 nd -3 rd week	Biofuel technology Definition, Concept and types of Renewable and nonrenewable energy sources Definition and concept of Biogas, Bioethanol, Biobutanol, Biodiesel & Biohydrogen Revision and tests	Online Power Point Presentation	4	4


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