Dr. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, CHHATRAPATI SAMBHAJINAGAR.

DEPARTMENT OF BOTANY

M.Sc. Botany Program Outcome Matrix

Required Courses and Course Outcomes	M.Sc. Botany Course Program Outcomes Semester: III											
	Foundational Knowledge	Research and Analytical Skills	Problem-Solving and Critical Thinking	Practical and Technical Proficiency	Communication Skills	Ethical and Social Responsibility	Teamwork and Collaboration	Entrepreneurship and Innovation	Lifelong Learning	Global and Indian Perspectives	Application of Botany	Career Readiness
Semester: III												
SAD266003T Biology & Diversity of Pteridophytes & Gymnosperms												
CO1: Understanding of Evolutionary Relationships and Morphological Diversity	✓											
CO2: Analysis of Reproductive Strategies and Evolutionary Adaptations	✓			✓	✓		✓			✓	✓	✓
CO3: Exploration of Gymnosperm Diversity and Paleobotanical Insights	✓	✓			✓	✓		✓	✓	✓		✓
SAD266013T Plant Ecology and Conservation												
CO1: Comprehensive Understanding of Ecosystem Dynamics	✓											
CO2: Critical Analysis of Biogeography and Environmental Challenges	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
CO3: Application of Conservation Strategies and Legal Frameworks	✓		✓	✓		✓		✓			✓	✓
SAD266023T Plant Biotechnology												
CO1: Mastery of Plant Tissue Culture Techniques and Principles	✓											✓
CO2: Application of Cellular Totipotency and Somaclonal Variation	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
CO3: Proficiency in Advanced Plant Biotechnology and Genetic Engineering	✓		✓	✓			✓	✓	✓	✓	✓	✓
SAD266003P Biology and Diversity of Pteridophytes and Gymnosperms,												
CO1: Proficiency in Morphological and Anatomical Analysis of Pteridophytes	✓				✓	✓			✓			
CO2: Competence in Gymnosperm Structural and Reproductive Studies	✓	✓		✓		✓	✓	✓		✓	✓	✓
CO3: Understanding of Fossilization Processes and Paleobotanical Specimens	✓	✓	✓						✓		✓	

SAD266013P **Plant Ecology and Conservation**												
CO1: Proficiency in Ecological Data Analysis and Statistical Techniques	✓					✓					✓	✓
CO2: Competence in Field-Based Ecological Assessments	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓
CO3: Understanding of Soil and Water Quality Assessment Techniques	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
SAD266023P **Plant Biotechnology**												
CO1: Mastery of Plant Tissue Culture Techniques and Principles	✓					✓			✓			
CO2: Application of Cellular Totipotency and Somaclonal Variation	✓	✓		✓		✓	✓	✓		✓	✓	✓
CO3: Proficiency in Advanced Plant Biotechnology and GeneticEngineering	✓	✓	✓						✓		✓	
SAD266033P **Industrial Technology**												
CO1: Mastery of Industrial Fermentation Techniques and Equipment	✓			✓					✓			✓
CO2: Proficiency in Food Biotechnology and Preservation Methods	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO3: Application of Biotechnological Processes in Commercial Production	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
SBD266043T **ADVANCED GENETICS – I**												
CO1: Proficiency in Microbial Genetics and Gene Mapping Techniques	✓	✓										
CO2: Mastery of Genetic Engineering and Genomic Techniques	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
CO3: Understanding of Cancer Genetics and Genomic Analysis	✓			✓		✓	✓		✓			✓
SBD266043P **ADVANCED GENETICS – I**												
CO1: Proficiency in Microbial Genetics and Gene Mapping Techniques	✓			✓					✓			✓
CO2: Mastery of Genetic Engineering and Genomic Techniques	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO3: Understanding of Cancer Genetics and Genomic Analysis	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
SBD266053T **Mycology and Plant Pathology - III**												
CO1: Expertise in Plant Disease Diagnosis and Preservation Techniques	✓			✓								
CO2: Understanding of Pathogen Dispersal, Pathogenesis, and Disease Resistance	✓	✓		✓	✓	✓						

CO3: Proficiency in Disease Management Strategies and Biotechnological Applications	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓
SBD266053P **Mycology and Plant Pathology - III**												
CO1: Proficiency in Fungal Isolation, Identification, and Preservation Techniques	✓											
CO2: Ability to Analyze the Impact of Physical and Nutritional Factors on Fungal Growth	✓	✓		✓	✓		✓	✓	✓		✓	✓
CO3: Competence in Evaluating Antifungal and Antibacterial Agents	✓	✓	✓	✓		✓		✓		✓	✓	✓
SBD266063T **Taxonomy of Angiosperms – III**												
CO1: Mastery of Angiosperm Phylogeny and Theoretical Frameworks	✓				✓	✓	✓				✓	
CO2: Proficiency in Fossil Angiosperm Identification and Taxonomy	✓	✓	✓	✓		✓		✓			✓	✓
CO3: Expertise in Modern Taxonomic Techniques and Classification Systems	✓	✓			✓	✓			✓	✓	✓	✓
SBD266063P **Taxonomy of Angiosperms – III**												
CO1: Mastery of Angiosperm Phylogeny and Theoretical Frameworks	✓											
CO2: Proficiency in Fossil Angiosperm Identification and Taxonomy	✓	✓		✓	✓		✓	✓	✓		✓	✓
CO3: Expertise in Modern Taxonomic Techniques and Classification Systems	✓	✓	✓	✓		✓		✓		✓	✓	✓
SBD266073T **Advanced Plant Physiology and Biochemistry - III**												
CO1: In-Depth Understanding of Plant Water Relations and Stress Physiology	✓			✓								
CO2: Expertise in Seed Germination and Growth Physiology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO3: Proficiency in Plant Biostatistics and Experimental Design	✓	✓	✓		✓				✓			
SBD266073P **Advanced Plant Physiology and Biochemistry - III**												
CO1: Proficiency in Experimental Techniques for Plant Water Relations and Seed Physiology	✓				✓		✓					
CO2: Expertise in Stress Physiology and Seed Dormancy Analysis	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
CO3: Competence in Biostatistical Analysis and Data Interpretation	✓			✓	✓				✓		✓	✓
SRD266083P OJT/FP/Internship	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓