

**MASTER OF SCIENCE (M.Sc.)  
IN  
PLANT BIOTECHNOLOGY**

**PROGRAM STRUCTURE AND SYLLABUS  
2019-20 ADMISSIONS ONWARDS**

**(UNDER MAHATMA GANDHI UNIVERSITY PGCSS REGULATIONS 2019)**



**EXPERT COMMITTEE OF BIOSCIENCE (PG)  
MAHATMA GANDHI UNIVERSITY**

2019

## M.Sc. Plant Biotechnology

(Mahatma Gandhi University Regulations PGCSS2019 from 2019-20 Academic Year)

### 1. Aim of the Program

The aim of the programme is to highlight the role played by Biotechnology in modern society and its relevance to sustainable development. It seeks to provide the following: to advance education and research in Plant Biotechnology and explore sustainable solutions for agriculture, environment and energy sectors.

### 2. Eligibility for Admission

B Sc Botany, Biochemistry, Biotechnology, Microbiology, Agricultural Science, Environmental Science under Part III Core Group (Core + Complementary + Open Courses) with not less than CGPA of 2.00 out of 4.

### 3. Medium of Instruction and Assessment

Course of study will be over a period of two academic year under semester system

#### a. Scheme of examination

The examinations for the award of degree consist of theory and practical papers, dissertation and comprehensive viva-voce. There will be examinations at end of each semester for theory and practical courses. Each semester consists of four theory papers and one practical examination for the first three semesters. The fourth semester has project presentation and evaluation and comprehensive viva-voce in addition to one practical examination and **three theory papers which are exclusively based on elective courses.**

#### b. Dissertation

Each candidate should submit a dissertation in four copies of the research project undertaken by him/her at the end of fourth semester for evaluation.

#### c. Comprehensive viva-voce

A comprehensive viva-voce will be held at the end of the fourth semester covering all the courses of the programme taught in the entire four semesters.

### 4. Faculty under which the Degree is Awarded

M.Sc. Plant Biotechnology

### 5. Specializations offered, if any

Nil



## 7. PROGRAMME STRUCTURE

Course Code	Title of the Course	Type of the Course	Hours per week	Credits	Total Credits
<b>FIRST SEMESTER</b>					
BS010101	Biochemistry and Cell Biology	Core	4	4	19
BS010102	Microbiology and Immunology	Core	4	4	
BS010103	Genetics and Molecular Biology	Core	4	4	
BS010104	Bioanalytical Techniques and Bioinformatics	Core	3	3	
BS010105	Laboratory course I	Core	10	4	
<b>SECOND SEMESTER</b>					
BS010201	Plant Cell Tissue and Organ Culture	Core	4	4	19
BS010202	Genetic Engineering	Core	4	4	
BS010203	Metabolism and Metabolic Engineering	Core	4	4	
BS010204	Biomass and Bioenergy	Core	3	3	
BS010205	Laboratory course II	Core	10	4	
<b>THIRD SEMESTER</b>					
BS010301	Plant Stress Biology	Core	4	4	19
BS010302	IPR and Translational Research	Core	4	4	
BS010303	Genomics and Proteomics	Core	4	4	
BS010304	Bioprocess Technology and Engineering	Core	3	3	
BS010305	Laboratory course III	Core	10	4	



Course Code	Title of the Course	Type of the Course	Hours per week	Credits	Total Credits
<b>FOURTH SEMESTER</b>					
BS800401		Research Methodology and Science communication	Elective	5	4
BS800402	Electives Group A	Molecular Techniques for Crop Improvement	Elective	5	4
BS800403		Introduction to Nanotechnology	Elective	5	4
BS810401		Plant Developmental Biology	Elective	5	4
BS810402	Electives Group B	Systematic Botany, Biodiversity and Economic Botany	Elective	5	4
BS810403		Ecology and Ecoinformatics	Elective	5	4
BS820401		Green House Management and Plant Protection	Elective	5	4
BS820402	Electives Group C	Business Management and Entrepreneurship	Elective	5	4
BS820403		Marine Biotechnology	Elective	5	4
BS010401	Laboratory course IV		Core	10	4
BS010402	Research Project & dissertation		Core		5
BS010403	Comprehensive Viva-Voce		Core		2
			<b>TOTAL</b>		<b>80</b>

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