

SYLLABUS

M. Sc. INTEGRATED BIOTECHNOLOGY

Subject Code	Subject Name
SEMESTER I	
PS01CIGB01	Physics-I
PS01CIGB02	Organic Chemistry
PS01CIGB03	Introduction to computers
PS01CIGB04	Animal Sciences
PS01CIGB05	Plant Sciences
PS01CIGB06	Biomathematics
PS01CIGB07	Practical Based on PS01CIGB01-02
PS01CIGB08	Practical Based on PS01CIGB03-04
PS01CIGB09	Practical Based on PS01CIGB05-06
PS01CIGB10	Viva Based on PS01CIGB01-06
SEMESTER III	
PS03CIGB01	Physico-Inorganic Chemistry
PS03CIGB02	Biochemistry - I
PS03CIGB03	Microbial Physiology
PS03CIGB04	Microbiology - II
PS03CIGB05	Molecular Biology - I
PS03CIGB06	Introduction to Genetics
PS03CIGB07	Practical Based on PS03CIGB01-02
PS03CIGB08	Practical Based on PS03CIGB03-04
PS03CIGB09	Practical Based on PS03CIGB05-06
PS03CIGB10	Viva Based on PS03CIGB01-06
SEMESTER V	
PS05CIGB01	Enzymology
PS05CIGB02	Recombinant DNA-Technology
PS05CIGB03	Biotechnology Principles and Practices
PS05CIGB04	Bioinformatics and Structural Biology
PS05CIGB05	Bioinstrumentation
PS05CIGB06	Plant Physiology
PS05CIGB07	Practical Based on PS05CIGB01-02
PS05CIGB08	Practical Based on PS05CIGB03-04
PS05CIGB09	Practical Based on PS05CIGB05-06
PS05CIGB10	Viva Based on PS05CIGB01-06

Subject Code	Subject Name
SEMESTER II	
PS02CIGB01	Physics - II
PS02CIGB02	Biophysical Chemistry
PS02CIGB03	Computer Applications
PS02CIGB04	Microbiology - I
PS02CIGB05	Cell biology
PS02CIGB06	Biostatistics
PS02CIGB07	Practical Based on PS02CIGB01-02
PS02CIGB08	Practical Based on PS02CIGB03-04
PS02CIGB09	Practical Based on PS02CIGB05-06
PS02CIGB10	Viva Based on PS02CIGB01-06
SEMESTER IV	
PS04CIGB01	Bioenergetics
PS04CIGB02	Biochemistry - II
PS04CIGB03	Environmental Biology
PS04CIGB04	Developmental Biology
PS04CIGB05	Molecular Biology - II
PS04CIGB06	Virology
PS04CIGB07	Practical Based on PS04CIGB01-02
PS04CIGB08	Practical Based on PS04CIGB03-04
PS04CIGB09	Practical Based on PS04CIGB05-06
PS04CIGB10	Viva Based on PS04CIGB01-06
SEMESTER VI	
PS06CIGB01	Fundamentals of Immunology
PS06CIGB02	Genetic Engineering
PS06CIGB03	Industrial Microbiology
PS06CIGB04	Biosensors and Biocrystallography
PS06CIGB05	Bio analytical Techniques
PS06CIGB06	Animal Physiology
PS06CIGB07	Practical Based on PS06CIGB01-02
PS06CIGB08	Practical Based on PS06CIGB03-04
PS06CIGB09	Practical Based on PS06CIGB05-06
PS06CIGB10	Viva Based on PS06CIGB01-06

GENERAL BIOTECHNOLOGY

Subject Code	Subject Name
SEMESTER VII	
PS07CIGGB1	Ecology and Toxicology
PS07CIGGB2	Cell Biology and Cell signaling
PS07CIGGB3	Plant Biotechnology
PS07CIGGB4	Advanced Molecular Biology
	Labs
	Viva-Voce
SEMESTER IX	
PS09CIGGB1	Developmental Genetics
PS09CIGGB2	Food Biotechnology and Nutraceuticals
PS09CIGGB3	Metabolic Engineering
PS09CIGGB4	Immuno Technology
	Labs
	Viva-Voce

Subject Code	Subject Name
SEMESTER VIII	
PS08CIGGB1	Applied Environmental Biotechnology
PS08CIGGB2	Bioprocess Engineering and Technology
PS08CIGGB3	'O'-mics
PS08CIGGB4	Animal Biotechnology
	Labs
	Viva-Voce
SEMESTER X	
PS10CIGGB1	Microbial Genetics
PS10CIGGB2	Regenerative Medicine
PS10CIGGB3	Novel Therapeutics and Diagnostics
PS10CIGGB4	Bio safety, Bioethics & IPR
	Labs
	Viva-Voce

INDUSTRIAL BIOTECHNOLOGY

Subject Code	Subject Name
SEMESTER VII	
PS07CIGIB1	Plant Tissue Culture technology
PS07CIGIB2	Animal Tissue Culture technology
PS07CIGIB3	Fermentation Technology
PS07CIGIB4	Advanced Molecular Biology
	Labs
	Viva-Voce
SEMESTER IX	
PS09CIGIB1	Environmental Microbiology and Systematics
PS09CIGIB2	Industrial Waste Management
PS09CIGIB3	Metabolic Engineering
PS09CIGIB4	Biotechnology of fermentation and Biotransformation-II
	Labs
	Viva-Voce

Subject Code	Subject Name
SEMESTER VIII	
PS08CIGIB1	Applied Environmental Biotechnology
PS08CIGIB2	Biotechnology of fermentation and Biotransformation-I
PS08CIGIB3	'O'-mics
PS08CIGIB4	Biodegradation and Bioremediation
	Labs
	Viva-Voce
SEMESTER X	
PS10CIGIB1	Biopharmaceuticals and Biotherapeutics
PS10CIGIB2	Downstream Processing
PS10CIGIB3	Nanobiotechnology and Diagnostics
PS10CIGIB4	Biosafety, Bioethics & IPR
	Labs
	Viva-Voce

ENVIRONMENTAL BIOTECHNOLOGY

Subject Code	Subject Name
SEMESTER VII	
PS07CIGEB1	Environmental Chemistry
PS07CIGEB2	Ecology and Biodiversity
PS07CIGEB3	Environmental Microbiology
PS07CIGEB4	Advanced Molecular Biology
	Labs
	Viva-Voce
SEMESTER IX	
PS09CIGEB1	Agricultural Biotechnology
PS09CIGEB2	Industrial Waste Management
PS09CIGEB3	Environmental Technology
PS09CIGEB4	Current Environmental Issues
	Labs
	Viva-Voce

Subject Code	Subject Name
SEMESTER VIII	
PS08CIGEB1	Applied Environmental Biotechnology
PS08CIGEB2	Environmental Management
PS08CIGEB3	Environmental Toxicology
PS08CIGEB4	Biodegradation and Bioremediation
	Labs
	Viva-Voce
SEMESTER X	
PS10CIGEB1	Environmental Conservation &
PS10CIGEB2	Renewable Energy Resources
PS10CIGEB3	Environmental Engineering
PS10CIGEB4	Bio safety, Bioethics & IPR
	Labs
	Viva-Voce

MEDICAL BIOTECHNOLOGY

Subject Code	Subject Name
SEMESTER VII	
PS07CIGMB1	Regulation of Metabolic Pathways
PS07CIGMB2	Molecular Diagnostic Techniques
PS07CIGMB3	Clinical Biochemistry
PS07CIGMB4	Advanced Molecular Biology
	Labs
	Viva-Voce
SEMESTER IX	
PS07CIGMB1	Human Cytogenetics
PS07CIGMB2	Toxicology
PS07CIGMB3	Tissue Culture and Regenerative
PS07CIGMB4	Molecular Medicine II & Gene Therapy
	Labs
	Viva-Voce

Subject Code	Subject Name
SEMESTER VIII	
PS07CIGMB1	Medical Microbiology
PS07CIGMB2	Molecular Medicine I
PS07CIGMB3	'O'-mics
PS07CIGMB4	Essential of Pharmacology
	Labs
	Viva-Voce
SEMESTER X	
PS07CIGMB1	Advanced Immunology
PS07CIGMB2	Human Genetics
PS07CIGMB3	Assisted Reproductive Techniques
PS07CIGMB4	Bio safety, Bioethics & IPR
	Labs
	Viva-Voce