



BRAINWARE UNIVERSITY
SCHOOL OF BIOTECHNOLOGY & BIOSCIENCES
DEPARTMENT OF BIOTECHNOLOGY
CURRICULUM & SYLLABUS: MASTER OF SCIENCE IN MICROBIOLOGY [MSCMB] 2021

Programme duration: 2 years (Semester I-IV)
Total credits: =96; Total marks: =2200

SEMESTER - I

Theory full marks = 100 x 5 = 500

Seminar/Journal Club/Assignment = 100

Total Credits = 24

Practical full marks = 100 x 1 paper = 100

Total marks: 700

Course Code	Course Name	L-T-P	Credits	Total Marks
MMB101	General Microbiology & Microbial Physiology	3-0-0	3	100
MMB102	Virology	3-0-0	3	100
MMB103	Research Methodology & Techniques	3-0-0	3	100
MMB104	Microbial Biochemistry	3-0-0	3	100
MMB105	Cell & Molecular Biotechnology	3-0-0	3	100
MMB191	MSCMB Laboratory - I (General Microbiology, Virology & Microbial Biochemistry)	0-0-8	8	100
MMB181	MSCMB Seminar - 1	0-0-1	1	100
	Total		24	700

SEMESTER - II

Theory full marks = 100 x 5 = 500

Seminar/Journal Club/Assignment = 100

Total Credits = 24

Practical full marks = 100 x 1 paper = 100

Total marks: 700

Course Code	Course Name	L-T-P	Credits	Total Marks
MMB201	Molecular Biology and Microbial Genetics	3-0-0	3	100
MMB202	Environmental & Agriculture Microbiology	3-0-0	3	100
MMB203	Immunology	3-0-0	3	100
MMB204	Pharmaceutical Microbiology	3-0-0	3	100
MMB205	Medical Virology & Parasitology	3-0-0	3	100
MMB291	MSCMB Laboratory - II (Molecular Biology, Environmental Microbiology & Immunology)	0-0-8	8	100
MMB281	MSCMB Seminar - 2	0-0-1	1	100
	Total		24	700



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SEMESTER – III

Theory full marks = 100 x 5 = 500

Project proposal submission = 100

Total Credits = 24

Practical full marks = 100 x 1 paper = 100

Total marks: 700

Course Code	Course Name	L-T-P	Credits	Total Marks
MMB301	Food Microbial Technology	3-0-0	3	100
MMB302	Medical Bacteriology	3-0-0	3	100
MMB303	Microbial Ecology & Plant Microbe Interactions	3-0-0	3	100
MMB304	Microbe Identification and Cell Culture	3-0-0	3	100
MMB305	MSCMB Elective: A. Industrial Microbiology B. Microbial Proteomics C. Microbial Biotechnology	3-0-0	3	100
MMB391	MSCMB Laboratory – III (Food Microbial Technology, Medical Bacteriology and Pharmaceutical Microbiology)	0-0-5	5	100
MMB381	Project Proposal Submission & Presentation	0-0-4	4	100
	Total		24	700

SEMESTER – IV

Theory full marks = 100 x 1 paper = 100

Total marks: 200

Project Works & Viva = 100

Total Credits = 24

Course Code	Course Name	L-T-P	Credits	Total Marks
MMB401	Entrepreneurship in Microbiology	4-0-0	4	100
MMB481	MSCMB Project Work & Viva	0-0-20	20	100
	Total		24	200

Electives for Sem-III:

1. Industrial Microbiology
2. Microbial Proteomics
3. Microbial Biotechnology

Topics for Project/Dissertation for SEM-IV

1. Mushroom Hybrid Production & Cultivation Technology



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2. Biofuel Production
3. Water Recycling and Irrigation
4. Microbial Technology
5. Economically Important Microbes and Applications
6. Industrial & Food Biotechnology
7. Industrial Microbiology
8. Waste Management
9. Microbial Diversity
10. Entrepreneurship Development

Important features: Mandatory

- 1) Internal assessment of each course will be made as per the Brainware University Standard.