



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

Programme duration: 2 years (Semester I-IV)
Total credits: = 96; Total marks: = 2300

SEMESTER - I

Theory full marks = 100 x 5 = 500

Practical full marks = 100 x 1 paper = 100

Seminar/Journal Club/Assignment = 100

Total marks: 700

Total Credits = 24

Course Code	Course Name	L-T-P	Credits	Total Marks
MBT101	Biochemistry	3-0-0	3	100
MBT102	Cell & Developmental Biology	3-0-0	3	100
MBT103	Molecular Biology	3-0-0	3	100
MBT104	Analytical Techniques	3-0-0	3	100
MBT105	Bioinformatics & Computer Applications	3-0-0	3	100
MBT191	MSCBT Laboratory - I (Biochemistry, Analytical Techniques and Molecular Biology)	0-0-8	8	100
MBT181	MSCBT Seminar - 1	0-0-1	1	100
	Total		24	700

Semester - II

Theory full marks = 100 x 5 = 500

Practical full marks = 100 x 1 paper = 100

Seminar/Journal Club/Assignment = 100

Total marks: 700

Total Credits = 24

Course Code	Course Name	L-T-P	Credits	Total Marks
MBT201	Immunology	3-0-0	3	100
MBT202	Microbiology and Industrial Applications	3-0-0	3	100
MBT203	Genetic Engineering & Recombinant DNA Technology	3-0-0	3	100
MBT204	Genetics & Biostatistics	3-0-0	3	100
MBT205	Genomics & Proteomics	3-0-0	3	100
MBT291	MSCBT Laboratory - II (Immunology, Microbiology & Genetic Engineering)	0-0-8	8	100
MBT281	MSCBT 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
MBT301	Bioprocess Engineering & Technology	3-0-0	3	100
MBT302	Environmental Biotechnology	3-0-0	3	100
MBT303	IPR & Biosafety	3-0-0	3	100
MBT304	Cell Culture Technique: Plant, Animal & Microbes	3-0-0	3	100
MBT305	MSCBT Elective: A. Plant Biotechnology B. Animal Biotechnology C. Enzymology	3-0-0	3	100
MBT391	MSCBT Laboratory – III (Bioprocess Engineering, Technology and Environmental Biotechnology)	0-0-5	5	100
MBT381	Project Proposal Submission & Presentation	0-0-4	4	100
	Total		24	700

SEMESTER – IV

Theory full marks = 100 x 1 papers = 100
Total marks: 200

Project Works & Viva = 100
Total Credits = 24

Course Code	Course Name	L-T-P	Credits	Total Marks
MBT401	Bioentrepreneurship	4-0-0	4	100
MBT481	MSCBT Project Work & Viva	0-0-20	20	100
	Total		24	200

Electives for SEM-III

1. Plant Biotechnology
2. Animal Biotechnology
3. Enzymology



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Topics for Project/Dissertation for SEM-IV

1. Mushroom Hybrid Production & Cultivation Technology
2. Biofuel Production
3. Water Recycling and Irrigation
4. Microbial Technology
5. Bioprocess Technology
6. Enzymology
7. Metabolic Engineering
8. Plant Biotechnology
9. Molecular Breeding
10. Molecular Genetics
11. Economically Important Microbes and Applications
12. Industrial & Food Biotechnology
13. Animal Biotechnology
14. Nanobiotechnology
15. Cancer Genetics
16. Plant Diversity and Medicinal Applications
17. Plant Tissue Culture & Nursery Management
18. Bioengineering
19. Industrial Microbiology
20. Waste Management
21. Microbial Diversity
22. Entrepreneurship Development

Important features: Mandatory

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