

Master of Science (Biotechnology)

Programme Code: MSB

Duration – 2 Years Full Time

**Programme Structure
And
Curriculum & Scheme of Examination
With
Choice Based Credit System (CBCS)
2019 Batch**

**AMITY UNIVERSITY
RAJASTHAN**

M.Sc. Biotechnology

PROGRAMME LEARNING OUTCOMES

PLO1: Apply the theoretical and empirical methods of Biotechnology to questions at the frontier of knowledge for a successful career in Biotechnology and allied industries.

PLO2: Explain debate and demonstrate to lay audiences the application of Biotechnology to solve the problems of society.

PLO3: Build teams that work collaboratively and make progress efficiently towards solutions for real world projects.

PLO4: Evaluate and explain the potential impacts, including risks of large scale engineering projects from Biotechnology and thereby produce recommendations for sustainable development.

Credit Summary Sheet

M. Sc. Biotechnology					
Semester	CC	DE	VA	OE	Total
1	17	3	4	-	24
2	18	3	4	3	28
3	18	3	4	3	28
4	30	-	-	-	30
Total	83	09	12	06	110

Note:- CC - Core Course, VA - Value Added Course, OE - Open Elective, DE - Domain Elective

List of Open Electives from M.Sc Biotechnology						
From M.Sc Biotech						
Course Code	Course Title	Category	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Credits
MSB 205	Research Methodology and Scientific Writing	CC	3	-	-	3
MSB 304	Recombinant DNA Technology	CC	3	-	-	3

M. Sc. Biotechnology: I Semester						
Course Code	Course Title	Category	Lectur es (L) Hours Per Week	Tutori al (T) Hours Per Week	Practical (P) Hours Per Week	Credits
MSB101	Biochemistry & Metabolic Regulation	CC	3	-	-	3
MSB102	Advanced Microbial Technology	CC	3	1	-	4
MSB103	Bioinformatics	CC	3	-	-	3
MSB104	Cell & Molecular Biology	CC	3	-	-	3
MSB121	Biochemistry & Metabolic Regulation Lab	CC	-	-	2	1
MSB122	Advanced Microbial Technology Lab	CC	-	-	2	1
MSB123	Bioinformatics Lab	CC	-	-	2	1
MSB124	Cell & Molecular Biology Lab	CC	-	-	2	1
DE Electives: Student has to select 1 course from the list of following DE electives						
MSB130	Instrumentation in Biotechnology	DE	3	-	-	3
MSB131	IPR & Drug Regulatory Affairs	DE				
MSB132	Industrial Safety & Hazards	DE				
BCS111	Communicational Skills - I	VA	1	-	-	1
BSS111	Self Development and Interpersonal Skills - I	VA	1	-	-	1
FLT111 FLG111 FLS111 FLC111	Foreign Language - I French German Spanish Chinese	VA	2	-	-	2
TOTAL						24

M. Sc. Biotechnology: II Semester						
Course Code	Course Title	Category	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Credits
MSB201	Advanced Plant Biotechnology	CC	3	-	-	3
MSB202	Advanced Animal Biotechnology	CC	3	-	-	3
MSB203	Advanced Structural Biology	CC	3	-	-	3
MSB204	Advance Biostatistics for Biologists	CC	3	-	-	3
MSB205	Research Methodology and Scientific Writing	CC	3	-	-	3
MSB221	Advanced Plant Biotechnology Lab	CC	-	-	2	1
MSB222	Advanced Animal Biotechnology Lab	CC	-	-	2	1
MSB223	Advanced Structural Biology Lab	CC	-	-	2	1
DE Electives: Student has to select 1 course from the list of following DE electives						
MSB230	Environment Biotechnology	DE	3	-	-	3
MSB231	Medical Biotechnology	DE				
MSB232	Pharmaceutical Technology & Biotechnology	DE				
OE	Open Elective II	OE	3	-	-	3
BCS211	Communicational Skills - II	VA	1	-	-	1
BSS211	Self Development and Interpersonal Skills - II	VA	1	-	-	1
FLT211 FLG211 FLS211 FLC211	Foreign Language - II French German Spanish Chinese	VA	2	-	-	2
TOTAL						28

M. Sc. Biotechnology: III Semester						
Course Code	Course Title	Category	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Credits
MSB301	Bioprocess and Industrial Biotechnology	CC	3	-	-	3
MSB302	Molecular Genetics and Developmental Biology	CC	3	-	-	3
MSB303	Enzyme Technology & Immunology	CC	3	-	-	3
MSB304	Recombinant DNA Technology	CC	3	-	-	3
MSB305	Genomics & Proteomics	CC	2	-	-	2
MSB321	Bioprocess and Industrial Biotechnology Lab	CC	-	-	2	1
MSB323	Enzyme Technology & Immunology Lab	CC	-	-	2	1
MSB324	Recombinant DNA Technology Lab	CC	-	-	2	1
MSB325	Genomics & Proteomics Lab	CC	-	-	2	1
DE Electives: Student has to select 1 course from the list of following DE electives						
MSB330	Advanced Food Technology	DE	3	-	-	3
MSB331	Tissue Engineering	DE				
MSB332	Drug Discovery & Development	DE				
OE	Open Elective III	OE	3	-	-	3
BCS311	Communicational Skills - III	VA	1	-	-	1
BSS311	Self Development and Interpersonal Skills - III	VA	1	-	-	1
FLT311 FLG311 FLS311 FLC311	Foreign Language - III French German Spanish Chinese	VA	2	-	-	2
TOTAL						28

M. Sc. Biotechnology: IV Semester						
Course Code	Course Title	Category	Lectures (L) Hours Per Week	Tutorial (T) Hours Per Week	Practical (P) Hours Per Week	Credits
MSB460	Major Project /Dissertation	CC	-	-	-	30
	TOTAL					30