

M.Sc. Bioinformatics

CURRICULUM STRUCTURE

First Semester

S.No	Department	Course Code	Course Title	Contact Hours				Credit
				L	T	P	Total	
1	Biotech	24M41BT111	Fundamentals of Bioinformatics	3	1	0	4	4
2	Biotech	24M41BT112	Molecular & Cellular Biology	3	1	0	4	4
3	Maths	25M11MA111	Statistical Methods in Bioinformatics	3	1	0	4	4
4	CSE	25M91CS111	Fundamentals of Computers and Programming	3	1	0	4	4
5	Biotech	24M45BT111	Lab I- Basic Bioinformatics Lab	0	0	4	2	2
6	CSE	25M95CS111	Lab II- Programming Fundamentals (Linux, bash scripting and C++)	0	0	4	2	2
7	HSS	19M21HS111	Presentation and Communication Skills	2	0	0	-	Audit
			Total					20

Second Semester

S.No	Department	Course Code	Course Title	Contact Hours				Credit
				L	T	P	Total	
1	Biotech	24M41BT113	Database Management System and Web technology	3	1	0	4	4
2	Biotech	24M41BT114	Programming in R	3	1	0	4	4
3	Biotech	24M41BT115	Omics Analytics	3	1	0	4	4
4	Biotech	24M41BT116	Systems Biology and Biological Networks	3	1	0	4	4
5	Biotech	24M45BT112	Lab III - SQL and Web Technology Lab	0	0	4	2	2
6	Biotech	24M45BT113	Lab IV- Advanced Bioinformatics Tools and R	0	0	4	2	2
7	Biotech	xxxxxxxx	DE-I	3	0	0	-	3
			Total					23

Third Semester

S.No	Department	Course Code	Course Title	Contact Hours				Credit
				L	T	P	Total	
1	Biotech	24M41BT211	Python for Bioinformatics	3	1	0	4	4
2	Biotech	24M41BT212	Structural Bioinformatics & Drug design	3	1	0	4	4
3	Biotech	24M41BT213	Artificial Intelligence and Machine Learning	3	1	0	4	4
4	Biotech	24M45BT211	Lab V- Python and Biopython Lab	0	0	4	2	2
5	Biotech	24M45BT212	Lab VI- Modeling and drug design Lab	0	0	4	2	2
6	Biotech	xxxxxxxx	DE-II	3	0	0	-	3
7	Biotech	xxxxxxxx	DE-III	3	0	0	-	3
8	Biotech	xxxxxxxx	DE-IV	3	0	0	-	3
			Total					24

Fourth Semester

S.No	Department	Course Code	Course Title	Contact Hours				Credit
				L	T	P	Total	
1	Biotech	xxxxxxx	DE-V	3	0	0	3	3
2	Biotech	24M47BT211	Project Work/ Dissertation	0	0	0	20	10
			Total					13

Electives (to be updated from time to time)

Semester II

DE-I

Biotech.	18M12BT116	IPR in Biotechnology
Biotech.	22M22BT211	Market Research and Data Analysis

Semester III

DE-II

Biotech.	24M42BT212	Algorithms in Bioinformatics
Biotech.	MOOCs	Interactomics: Basics & Applications

DE-III

Biotech.	24M42BT213	Pharmaceutical modeling
Biotech.	24M42BT214	Molecular Informatics
Biotech.	MOOCs	Programming for Java

DE-IV

Biotech.	24M42BT215	Big data Analytics
Biotech.	24M42BT216	Microbial Informatics
Biotech.	24M42BT217	Ecoinformatics

Semester IV

DE-V

Biotech.	20M32BT213	Bioentrepreneurship
Biotech.	MOOCs	Cloud Computing