R21 Curriculum and Syllabus, MSc in Medical Biotechnology and Bioinformatics Centre for Health Science and Technology, JISIASR Kolkata

SEMESTER - 1									
Sl. No.	Туре	Course No.	Course Name	L	T	P	Credits		
THEO	THEORY								
1	PC	PBB1001	Introduction to Bioinformatics	2	1	0	3		
2	PC	PBB1002	Cell and Molecular Biology	2	0	0	2		
3	PC	PBB1003	Biochemistry of Macromolecules	2	0	0	2		
4	PC	PBB1004	Structural Bioinformatics	2	1	0	3		
5	OE	PDS1001	Probability and Statistics	4	0	0	4		
PRAC'	PRACTICAL								
6	PC	PBB1101	Biochemistry	0	0	4	2		
7	PC	PBB1102	Programming Languages – Python and R	0	0	8	4		
MANDATORY NON-CGPA COURSE									
8	MC	PBB1501	Seminar/Skill-Ex	-	-	-	2		
TOTAL				12	2	12	20		



## UNIVERSITY

## **SEMESTER - 2**

Sl. No.	Туре	Course No.	Course Name	L	Т	P	Credits	
THEORY								
1	PC	PBB2001	Phylogenetics and Evolution	2	1	0	3	
2	PC	PBB2002	Medical Microbiology and Immunology	2	1	0	3	
3	PC	PBB2003	NGS Data Analysis	3	1	0	4	
4	PC	PBB2004	Genetics and Diseases	2	0	0	2	
5	PC	PBB2005	Molecular Dynamics Simulation and Docking	2	0	0	2	
6	OE	PDS2007	Database Design	4	0	0	4	
PRACTICAL								
7	PC	PBB2101	Medical Microbiology and Immunology	0	0	4	2	
MANDATORY NON-CGPA COURSE								
8	MC	PBB2501	Seminar/Skill-Ex	_	-	-	2	

TOTAL	15	3	4	20
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			SEMESTER - 3	_		_	
Sl. No.	Туре	Course No.	Course Name	L	Т	P	Credits
THEO	RY	•					
1	PC	PBB3001	Systems Biology and Biological Networks	3	1	0	4
2	PC	PBB3002	Machine Learning in Bioinformatics	2	1	0	3
3	PC	PBB3003	Pharmacoinformatics	2	1	0	3
4	PC	PBB3004	Genetic Engineering and Synthetic Biology	2	1	0	3
5	PC	PBB3005	Career Development, Entrepreneurship and IPR	2	0	0	2
6	PC	PBB3006	Research Methodology	3	0	0	3
PRAC	ΓICAL				_		
7	PC	PBB3101	r-DNA Technology	0	0	4	2
MAND	ATORY NON	-CGPA COUI	RSE				
8	MC	PBB3501	Seminar/Skill-Ex	-	-	-	2
TOTAI	 [_	•	•	14	4	4	20



SEMESTER - 4								
Sl. No.	Туре	Course No.	Course Name	L	Т	P	Credits	
1	PC	PBB4001	Final Thesis with Oral Presentation and Viva Voce	-	-	-	20	
MANDATORY NON-CGPA COURSE								
2	MC	PBB4501	Seminar/Skill-Ex	-	-	-	2	
TOTAL					-	-	20	