

## 2022 - BS - MS Major in Biology

SEMESTER - I (Common for all B.Tech Courses)						
S. No	Course Code	Course Name	L	T	P	C
1	CH 102	Fundamental concepts and applications of chemistry	3	0	0	6
2	MA 109	Calculus I (1st Half)	3	1	0	4
3	MA 121	Calculus II (2nd Half)	3	1	0	4
4	PH 101	Quantum Physics and Applications	2	1	0	6
5	BB 103	Introduction to Modern Biology	3	0	0	6
6	CS 103	Introduction to Programming - 1 (Using C) (1st Half)	3	0	2	4
7	EE 103	Introduction to Programming - 2 (Using Python) (2nd Half)	3	0	2	4
8	PH 113	Hands on Science Laboratory - I	0	0	3	3
9	HS 103	Introduction to Fine Arts				PP/N P
10	HS 106	Design Thinking and Creativity				PP/N P
11	NO 101/ NO 103	National Sports Organization (NSO)/National Service Scheme (NSS)				PP/N P
		<b>Total Credits</b>				<b>37</b>

Semester - II						
S. No	Course Code	Course Name	L	T	P	C
1	MA 102	Linear Algebra (1st Half)	3	1	0	4
2	MA 103	Differential Equations - I (2nd Half)	3	1	0	4
3	CS 201	Data Structures and Algorithms	3	0	0	6
4	CS 211	Data Structures and Algorithms Laboratory	0	0	3	3
5	PH 102	Electricity and Magnetism	2	1	0	6
6	BB 201	Biomolecules	2	1	0	6
7	CH 203	States of Matter (2nd Half)	3	0	0	3
8	CH 201	Organic Chemistry (1st Half)	3	0	0	3
9	CH 113	Hands On Science Laboratory - II	0	0	3	3
10	NO 101/ NO 103	National Sports Organization (NSO)/National Service Scheme (NSS)	0	0	2	PP/N P
		<b>ALO</b>				
		<b>Total Credits</b>				<b>38</b>

### Semester III

S. No	Course Code	Course Name	L	T	P	C
1	HS 201	Economics	3	0	0	6
2	BB 301	Basics of Cell Biology and Genetics	3	0	0	6
3	CH 204	Physical Organic and Bioorganic Chemistry (1st Half)	3	0	0	3
4	CH 202	Inorganic Chemistry (2nd Half)	3	0	0	3
5	MA 209	Introduction to Probability Theory	3	1	0	8
6	PH 103	Waves, Oscillations & Optics	2	1	0	6
7	MA 223	Mathematics Laboratory	0	0	3	3
		<b>ALO</b>				
		<b>Total Credits</b>				<b>35</b>

Semester IV						
S. No	Course Code	Course Name	L	T	P	C
1	BB 403	Metabolism and Bioenergetics	2	1	0	6
2	BB 404	Biophysics (1st Half)	3	0	0	3
3	BB 411	Biology Lab I	0	0	3	3
4	BB 606	Biophysical Methods	3	0	0	3
5		Institute Elective – I	3	0	0	6
6		Program Elective-I	3	0	0	6
7		HSS Elective-I	3	0	0	6
		<b>Total Credits</b>				<b>33</b>

Semester V						
S. No	Course Code	Course Name	L	T	P	C
1	BB 407	Molecular Biology	2	1	0	6
2	BB 608	Genomics and proteomics (1st Half)	3	0	0	3
3	BB 405	Biostatistics (2nd Half)	3	0	0	3
4	BB 412	Biology Lab II	0	0	6	6
5		Institute Elective – II	3	0	0	6
6		Program Electives				6
		<b>Total Credits</b>				<b>30</b>

Semester VI						
S. No	Course Code	Course Name	L	T	P	C
1	CE 301	Environmental Studies	3	0	0	6
2		Bioinformatics Lab	0	0	3	3

3		Program Elective	2	1	0	6
4		Institute Elective – III				6
5	BB 413	Biology Lab III	0	0	6	6
		Total Credits				27

Semester VII						
S. No	Course Code	Course Name	L	T	P	C
1	BB 607	Immunology	2	1	0	6
2	BB 414	Biology Lab IV	0	0	6	6
3		Program Elective	3	0	0	6
4		Institute Elective -IV	3	0	0	6
5		HSS Elective-II	3	0	0	6
		Total Credits				30

Semester VIII						
S. No	Course Code	Course Name	L	T	P	C
1		Program Elective	3	0	0	6
2		Institute Elective -V	3	0	0	6
3		Mnor Project				12
		Total Credits				24

Semester IX & X						
1		Independent Project				60
		Total Credits				60
Overall Credits Required (Minimum)						317