

## Mathematics and Computing

### Semester - I (Common for all B.Tech Courses)

S.No	C. Code	Course	L	T	P	C
1	MA 101	Calculus	3	1	0	8
2	PH 101	Quantum Physics and Applications	2	1	0	6
3	CH 102	Fundamental Concepts and Applications of Chemistry	3	0	0	6
4	BB 103	Introduction to Modern biology	3	0	0	6
5	PH 113	Hands on Science Laboratory - I	0	0	3	3
6	CS 101	Computer Programming	3	0	2	8
7	HS 103	Introduction to Fine Arts	0	0	1	PP/NP
8	HS 106	Design Thinking and Creativity	1	0	0	PP/NP
9	NO107/NO105	NSO/NSS	0	0	2	2
First Semester Total Credits						37

### 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	ME 111	Engineering Graphics Laboratory	1	0	3	5
4	EE 101	Introduction to Electrical Systems and Electronics	3	0	0	6
5	CS 201	Data Structures and Algorithms	3	0	0	6
6	CS 211	Data Structures and Algorithms Laboratory	0	0	3	3
7	ME 113	Hands on Engineering Laboratory	0	0	3	3
8	PH 102	Electricity and magnetism	2	1	0	6
9	NO 105/ NO 107	National Sports Organization (NSO)/National Service Scheme (NSS)	0	0	2	2
Total Credits						37

### Semester III

S.No	Course code	Course name	L	T	P	C
1	CS 205	Design and analysis of algorithms	3	0	0	6
2	CS 203	Discrete structures	3	0	0	6
3	EE 221	Introduction to Probability (1st Half)	3	0	0	3
4	EE 227	Data Analysis (2nd Half)	3	0	0	3
5	HS 201	Economics	3	0	0	6
6	CS 213	Software Systems Lab	1	3	0	8
7	CS 403	Graph Theory and Combinatorics	3	0	0	6
Total credits						38

<b>Semester IV</b>							
S.No	Course code	Course name	L	T	P	C	
1	CE 301	Environmental studies	3	0	0	6	
2	CS 209	Artificial intelligence	3	0	0	6	
3	CS 301	Computer Architecture	3	0	0	6	
4	CS 214	Artificial intelligence Laboratory	0	0	3	3	
5	CS 311	Computer Architecture Laboratory	0	0	3	3	
6	MA 220	Real Analysis	2	1	0	6	
7	MA 210	Statistics	3	0	0	6	
Total credits							36
<b>Semester V</b>							
S.No	Course code	Course name	L	T	P	C	
1	MA407T	Stochastic Models	3	0	0	6	
2	MA404T	Introduction to Mathematical Finance I	3	0	0	6	
3		CSE Elective I				6	
4		Mathematics Elective I				6	
5		HSS Elective I	3	0	0	6	
6	CS407T	Mathematics for Data Science	3	0	0	6	
Total credits							36
<b>Semester VI</b>							
S.No	Course code	Course name	L	T	P	C	
1	CS201T	Automata theory	3	1	0	8	
2	MA303T	Group Theory	2	1	0	6	
3	MA408T	Introduction to Mathematical Finance 2	3	0	0	6	
4		CSE Elective /Mathematics Elective/R&D project				6	
5		HSS Elective II	3	0	0	6	
Total credits							32
<b>Semester VII</b>							
S.No	Course Code	Course Name	L	T	P	C	
1		CSE Elective /Mathematics Elective				6	
2		Institute Elective/BTP				6	
3		Institute Elective				6	
Total credits							18
<b>Semester VIII</b>							
S.No	Course Code	Course Name	L	T	P	C	
1		CSE Elective /Mathematics Elective				6	
2		Institute Elective/BTP				6	

3		Institute Elective				6
Overall Credits Required (Minimum)						18
	<b>Overall Credits Required (Minimum)</b>					<b>252</b>