

## 2022 - Mathematics and Computing

<b>Semester I</b>						
<b>S. No</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
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>

<b>Semester II</b>						
<b>S. No</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
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 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 102/ NO 104	National Sports Organization (NSO)/National Service Scheme (NSS)				PP/N P
		<b>Total Credits</b>				<b>37</b>

<b>Semester III</b>						
<b>S. No</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
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

### Semester IV

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

### Semester V

S. No	Course Code	Course Name	L	T	P	C
1	MA 310	Stochastic Models	3	0	0	6
2	MA 306	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	CS 427	Mathematics for Data Science	3	0	0	6
Total credits						36

### Semester VI

S. No	Course Code	Course Name	L	T	P	C
1	CS 202	Automata theory	3	1	0	8
2	MA 221	Group Theory	2	1	0	6
3	MA 320	Introduction to Mathematical Finance 2	3	0	0	6
4	CS 315	CSE Elective /Mathematics Elective/R&D project				6
5		HSS Elective II	3	0	0	6
Total credits						32

## Semester VII

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

## Semester VIII

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

**Overall Credits Required (Minimum)**

**252**