

**B.TECH. COMPUTER SCIENCE AND ENGINEERING -Computer Stream**

Year	FIRST SEMESTER						SECOND SEMESTER						
	Course Code	Course Name	L	T	P	C	Course Code	Course Name	L	T	P	C	
I	MAT 1102	Computational Mathematics - I	3	1	0	4	MAT 1202	Computational Mathematics - II	3	1	0	4	
	PHY 1002	Applied Physics for Engineers	3	0	0	3	CHM1002	Applied Chemistry for Engineers	3	0	0	3	
	ECE 1002	Fundamentals of Electronics	2	1	0	3	ELE 1002	Fundamentals of Electrical Engineering	3	0	0	3	
	CSS 1001	Programming for Problem Solving	2	1	0	3	CIV 1002	Engineering Mechanics and Smart Buildings	2	1	0	3	
	MME 1002	Basic Mechanical Engineering Science	3	0	0	3	CSS 1002	Introduction to Object Oriented Programming	3	0	0	3	
	HUM 1001	Communication Skills in English	1	0	2	2	CIV 1003	Environmental Studies	1	0	2	2	
	HUM 1002	Universal Human Values and Professional Ethics (MLC)	1	0	0	1	CSS 1012	Data Visualization	1	0	3	2	
	HUM 1003	Human Rights and Constitution (MLC)	1	0	0	1	CSS 1013	Introduction to Object Oriented Programming Lab	0	0	3	1	
	MME 1011	Workshop Practice	0	0	3	1	MME 1012	Computer Aided Engineering Graphics	0	0	3	1	
	CSS 1011	Programming for Problem Solving Lab	0	0	3	1							
<b>Total Contact Hours (L + T + P)</b>			<b>16</b>	<b>3</b>	<b>8</b>	<b>22</b>	<b>Total Contact Hours (L + T+ P)</b>			<b>15</b>	<b>3</b>	<b>12</b>	<b>22</b>
			<b>27</b>						<b>27</b>				

Year	THIRD SEMESTER							FOURTH SEMESTER						
	Course Code	Course Name	L	T	P	C	Course Code	Course Name	L	T	P	C		
II	MAT ****	Discrete Mathematical Structures	3	0	0	3	MAT ****	Probability and Optimization	3	0	0	3		
	CSS ****	Data Structures	3	1	0	4	CSS ****	Database Systems	3	1	0	4		
	CSS ****	Data Communication and Computer Networks	3	1	0	4	CSS ****	Design & Analysis of Algorithms	3	1	0	4		
	CSS ****	Data Analytics	3	1	0	4	CSS ****	Introduction to Artificial Intelligence	3	0	0	3		
	CSS ****	Digital Systems and Computer Organization	4	0	0	4	CSS ****	Operating Systems	3	0	0	3		
	CSS ****	Data Structures Lab	0	0	3	1	CSS ****	Operating Systems Lab	0	0	3	1		
	CSS ****	Digital Systems lab	0	0	3	1	CSS ****	Database Lab	0	0	6	2		
	CSS ****	Discrete Mathematical Structures	3	0	0	3	CSS ****	Object-Oriented Software Development Lab	0	1	3	2		
<b>Total Contact Hours (L + T + P)</b>			<b>16</b>	<b>3</b>	<b>6</b>	<b>21</b>	<b>Total Contact Hours (L + T + P)</b>			<b>15</b>	<b>3</b>	<b>12</b>	<b>22</b>	
<b>FIFTH SEMESTER</b>							<b>SIXTH SEMESTER</b>							
III	HUM ****	Essentials of Management	3	0	0	3	HUM ****	Engineering Economics and Financial Management	3	0	0	3		
	CSS ****	Finite Automata and Compiler Design	3	1	0	4	CSO ****	CS SPECIALIZATION (S4)	3	0	3	4		
	CSO ****	CS SPECIALIZATION (S1)	3	0	3	4	CSO ****	CS SPECIALIZATION (S5)	3	0	3	4		
	CSO ****	CS SPECIALIZATION (S2)	3	0	3	4	CSS ****	Program Elective -I	3	0	0	3		
	CSO ****	CS SPECIALIZATION (S3)	3	0	3	4	CSS ****	Program Elective -II	3	0	0	3		
	IOE ****	OPEN ELECTIVE – I (MLC)	3	0	0	3	IOE ****	Open Elective II	3	0	0	3		
<b>Total Contact Hours (L + T + P)</b>			<b>18</b>	<b>1</b>	<b>9</b>	<b>22</b>	<b>Total Contact Hours (L + T + P)</b>			<b>18</b>	<b>0</b>	<b>6</b>	<b>20</b>	
<b>SEVENTH SEMESTER</b>							<b>EIGHTH SEMESTER</b>							
IV	CSP ****	PROGRAM ELECTIVE 1/ MINOR 3	3	0	0	3	CSS ****	INTERNSHIP (MLC)				1		
	CSP ****	PROGRAM ELECTIVE 1/ MINOR 4	3	0	0	3	CSS ****	CAPSTONE PROJECT				12		
	CSP ****	PROGRAM ELECTIVE 5	3	0	0	3	CSS ****	CAPSTONE PROJECT (HONOURS)^				20		
	CSP ****	PROGRAM ELECTIVE 6	3	0	0	3	CSS ****	HONOURS COURSE 1^				4		
	CSP ****	PROGRAM ELECTIVE 7	3	0	0	3	CSS ****	HONOURS COURSE 2^				4		
	IOE ****	OPEN ELECTIVE – 3 (MLC)	3	0	0	3	CSS ****	HONOURS COURSE 3^				4		
						8								
<b>Total Contact Hours (L + T + P)</b>			<b>18</b>	<b>0</b>	<b>0</b>	<b>18</b>							<b>13/33^</b>	
<b>Total Contact Hours (L + T + P)</b>							<b>18</b>							

## **List of Specializations Offered**

### **A. ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**

Foundation of Computer Vision  
Machine Learning  
Parallel Computer Architecture and Programming  
Deep Learning and Applications  
Natural Language Processing

### **B. NETWORKS AND IOT**

Wireless Communication and Networking  
Network Protocols and Programming  
Cloud Computing  
Network Security  
Embedded Systems and IoT

### **C. DATA SCIENCE**

Data Privacy and Security  
Machine Learning  
Parallel Computer Architecture and Programming  
Deep Learning & Applications  
Generative AI

### **D. SOFTWARE ENGINEERING**

Software Design Technology  
DevOps - Using AI  
Full Stack Application Development  
Human Computer Interaction  
Knowledge and Data Engineering

### **E. OTHER COURSES OFFERED**

Principles of Cryptography  
Cloud Computing & DevOps  
Software Engineering  
Machine Learning  
Parallel Computer Architecture and Programming