

Department of **Computer Science and Engineering**

B. Tech. in **Computer Science and Engineering**

<b>Semester I</b>					
<b>Sl. No.</b>	<b>Code</b>	<b>Course Name</b>	<b>Category</b>	<b>L-T-P</b>	<b>Credit</b>
1	MAT104T	Calculus	BSC	3-0-0	3
2	PHY108T	Engineering Mechanics	BSC	3-0-0	3
3	CS101T	Problem Solving and Computer Programming	BEC	3-0-0	3
4	DES101T	Concepts in Engineering Design	DES	3-0-0	3
5	INT107T	English for Communication	HMC	2-0-0	2
6	DES103T	Earth, Environment & Design	DES	2-0-0	P/F
7	INT110P	Engineering Skills Practice	BEC	0-0-3	2
8	PHY109P	Materials & Mechanics Practice	BSC	0-0-3	2
9	CS101P	Problem Solving and Computer Programming Practice	PEC	0-0-3	2
10	INT109P	Engineering Graphics	DES	1-0-3	3
<b>Total</b>					<b>23</b>

<b>Semester II</b>					
<b>Sl. No.</b>	<b>Code</b>	<b>Course Name</b>	<b>Category</b>	<b>L-T-P</b>	<b>Credit</b>
1	MAT105T	Differential Equations	BSC	3-0-0	3
2	PHY107T	Engineering Electromagnetics	BSC	3-0-0	3
3	ELE103T	Basic Electrical and Electronics Engineering	BEC	3-0-0	3
4	INT108T	Science and Engineering of Materials	BEC	3-0-0	3
5	DES102T	Design History	DES	2-0-0	2
6	MAN102T	Professional Ethics for Engineers	HMC	2-0-0	P/F
7	INT111P	Measurement & Data Analysis Practice	BSC	0-0-3	2
8	DES104P	Industrial Design Sketching	BEC	0-0-3	2
9	PHY107P	Engineering Electromagnetics Practice	BSC	0-0-3	2
10	DES105P	Design Realization	DES	0-0-3	2
<b>Total</b>					<b>22</b>

<b>Semester III</b>					
<b>Sl. No.</b>	<b>Code</b>	<b>Course Name</b>	<b>Category</b>	<b>L-T-P</b>	<b>Credit</b>
1	MAT204T	Linear Algebra	BSC	3-0-0	3
2	MAN202T	Sociology of Design	DES	3-0-0	3
3	CS201T	Discrete Mathematics	PEC	3-0-0	3
4	CS202T	Data Structures and Algorithms	PEC	3-0-0	3
5	CS203I	Object Oriented Programming	PEC	2-2-0	4
6	CS204T	Digital and Analog Circuits Design	PEC	3-0-0	3
7	CS202P	Data Structures Practice	PEC	0-0-3	2
8	CS204P	Digital and Analog Circuits Design Practice	PEC	0-0-3	2
<b>Total</b>					<b>23</b>

<b>Semester IV</b>					
<b>Sl. No.</b>	<b>Code</b>	<b>Course Name</b>	<b>Category</b>	<b>L-T-P</b>	<b>Credit</b>
1	MAT205T	Probability Theory	BSC	3-0-0	3
2			HMC	3-0-0	3
3	CS204T	Design and Analysis of Algorithms	PEC	3-0-0	3
4	CS205T	Database Systems	PEC	3-0-0	3
5	CS206T	Computer Organization and Architecture	PEC	3-0-0	3
6	CS204P	Design and Analysis of Algorithms Practice	PEC	0-0-3	2
7	CS205P	Database Systems Practice	PEC	0-0-3	2
8	CS206P	Computer Organization and Architecture Practice	PEC	0-0-3	2
<b>Total</b>					<b>21</b>

<b>Semester V</b>					
<b>Sl. No.</b>	<b>Code</b>	<b>Course Name</b>	<b>Category</b>	<b>L-T-P</b>	<b>Credit</b>
1	MAN301T	Entrepreneurship and Management Functions	HMC	2-0-0	2
2	CS301T	Operating Systems	PEC	3-0-0	3
3	CS302T	Data Communication and Networking	PEC	3-0-0	3
4	CS303T	Theory of Computation	PEC	3-0-0	3
	CS304T	Data Mining and Warehousing	PEC	3-0-0	3
6	CS301P	Operating Systems Practice	PEC	0-0-3	2
7	CS302P	Data Communication and Networking Practice	PEC	0-0-3	2
8	CS304P	Knowledge Engineering Practice	PEC	0-0-3	2
<b>Total</b>					<b>20</b>

<b>Semester VI</b>					
<b>Sl. No.</b>	<b>Code</b>	<b>Course Name</b>	<b>Category</b>	<b>L-T-P</b>	<b>Credit</b>
1	CS305T	Artificial Intelligence	PEC	3-0-0	3
2	CS306T	Compiler Design	PEC	3-0-0	3
3	CS307I	Software Engineering	PEC	2-0-2	4
4	CS308T	Cryptography and Network Security	PEC	3-0-0	3
5	CS3XXT	Elective – I	PEC	3-0-0	3
6	CS3XXT	Elective – II	PEC	3-0-0	3
7	CS306P	Compiler Design Practice	PEC	0-0-3	2
8	CS308P	Cryptography and Network Security Practice	PEC	0-0-3	2
<b>Total</b>					<b>23</b>

<b>Semester VII</b>					
1	CS401	Industry Internship	PCD	0-0-25	5
2	CS4XXT	Elective – III	ELE	3-0-0	3
3	CS451	Design Project	DES	0-0-25	5
Total					13
<b>Semester VIII</b>					
1	CS402T	Design Elective	DES	3-0-0	3
2	CS4XXT	Elective – IV	ELE	3-0-0	3
3	XXXXT	Open Elective	ELE	3-0-0	3
4	CS452	Project	DES	0-0-25	10
Total					19

**HMC** Humanities & Management Courses

**BSC** Basic Science Courses (Physics/ Chemistry/Mathematics / Life Science)

**BEC** Basic Engineering Courses

**PEC** Professional Engineering Courses

**AEC** Allied Engineering Courses

**PCD** Professional / Career Development (Industrial Lecture / Internships)

**DES** Design Courses

<b>List of Electives</b>					
<b>Sl. No.</b>	<b>Code</b>	<b>Course Name</b>	<b>Category</b>	<b>I-P</b>	<b>Credit</b>
1	CS403T	Advanced Data Structures and Algorithms	PEC	3-0	3
2	CS404T	Graph Theory	PEC	3-0	3
3	CS405T	Approximation and Randomized Algorithms	PEC	3-0	3
4	CS406T	Digital Image Processing	PEC	3-0	3
5	CS407T	Quantum Computing	PEC	3-0	3
6	CS408T	Mobile Computing	PEC	3-0	3
7	CS409T	Introduction to Game Theory	PEC	3-0	3
8	CS410T	Information Retrieval	PEC	3-0	3
9	CS411T	Pattern Recognition	PEC	3-0	3
10	CS412T	Foundations of Machine Learning	PEC	3-0	3
11	CS413T	Cloud Computing	PEC	3-0	3
12	CS414T	Soft Computing	PEC	3-0	3
13	CS415T	Parallel and Distributed Systems	PEC	3-0	3
14	CS416T	Web Technology	PEC	3-0	3
15	CS417T	Business Intelligence	PEC	3-0	3
16	CS418T	Service Oriented Architecture	PEC	3-0	3
17	CS419T	Real Time Systems	PEC	3-0	3
18	CS420T	Social Network Analysis	PEC	3-0	3
19	CS421T	Big Data Analytics	PEC	3-0	3
20	CS422T	Internet of Things	PEC	3-0	3
21	CS423T	Information Theory and Coding	PEC	3-0	3
22	CS424T	Fault-Tolerant Systems	PEC	3-0	3
23	CS425T	Computer Vision	PEC	3-0	3
24	CS426T	Computer Graphics and Multimedia	PEC	3-0	3
25	CS427T	Natural Language Processing	PEC	3-0	3
26	CS428T	Deep Learning	PEC	3-0	3
27	CS429T	Blockchain Architecture and Design	PEC	3-0	3
28	CS430T	Data Science for Engineers	PEC	3-0	3
29	CS431T	Scalable Data Science	PEC	3-0	3
30	CS432T	Distributed Computing	PEC	3-0	3
31	CS433T	Advanced Database Systems	PEC	3-0	3
32	CS434T	Optimization Techniques	PEC	3-0	3
33	CS435T	Embedded Systems	PEC	3-0	3