

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code : **XXX M.Tech. (Computer Science and Engineering)**
 Department : **Department of Computer Science and Engineering**
 Year : **I**
 Model : **2**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	CSC-501	Advanced Algorithms	PCC	4	3	1	0	3	0
2.	CSC-503	Distributed Systems	PCC	4	3	1	0	3	0
3.	CSC-505	Machine Learning	PCC	4	3	1	0	3	0
4.	CSC-507	Programming Lab	PCC	3	0	0	6	0	6
5.		Social Science Course	SSC	2	-	-	-	-	-
		Total		17					
Semester-II (Spring)									
1.		Program Elective-I	PEC	4	-	-	-	-	-
2.		Program Elective-II	PEC	4	-	-	-	-	-
3.		Program Elective-III	PEC	4	-	-	-	-	-
4.		Program Elective-IV	PEC	4	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	CSC-700	Seminar	SEM	2	-	-	-	-	-
		Total		21					

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Program Code : **XXX M.Tech. (Computer Science and Engineering)**
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Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
Semester-I (Autumn)									
1.	CSC-691	Internship Social Activity	ISA	4	-	-	-	-	-
2.	CSC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		14					
Semester-II (Spring)									
1.	CSC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		14					

Summary				
Semester	1	2	3	4
Semester-wise Total Credits	17	21	14	14
Total Credits	66			

M.Tech. (Computer Science and Engineering)

Program Elective Courses

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	CSL-510	Network Programming	PEC	4	3	1	0	3	0
2.	CSL-511	Advanced Database Management Systems	PEC	4	3	1	0	3	0
3.	CSL-512	Formal Methods and Software Verification	PEC	4	3	1	0	3	0
4.	CSL-513	Information and Network Security	PEC	4	3	1	0	3	0
5.	CSL-514	Advanced Automata Theory	PEC	4	3	1	0	3	0
6.	CSL-515	Data Mining and Warehousing	PEC	4	3	1	0	3	0
7.	CSL-516	Modelling and Simulation	PEC	4	3	1	0	3	0
8.	CSL-517	Advanced Topics in Software Engineering	PEC	4	3	1	0	3	0
9.	CSL-518	Logic and Automated Reasoning	PEC	4	3	1	0	3	0
10.	CSL-519	Social Network Analysis	PEC	4	3	1	0	3	0
11.	CSL-520	Cloud Computing	PEC	4	3	1	0	3	0
12.	CSL-521	Mobile and Pervasive Computing	PEC	4	3	1	0	3	0
13.	CSL-522	Advanced Graph Theory	PEC	4	3	1	0	3	0
14.	CSL-523	Computational Geometry	PEC	4	3	1	0	3	0
15.	CSL-525	Computer Vision	PEC	4	3	1	0	3	0
16.	CSL-527	Internet of Things	PEC	4	3	1	0	3	0
17.	CSL-528	Natural Language Processing	PEC	4	3	1	0	3	0
18.	CSL-529	Advanced Computer Networks	PEC	4	3	1	0	3	0
19.	CSL-533	Advanced Operating Systems	PEC	4	3	1	0	3	0
20.	CSL-534	Advanced Data Structures	PEC	4	3	1	0	3	0
21.	CSL-535	Complexity Theory	PEC	4	3	1	0	3	0
22.	CSL-536	Distributed Algorithms	PEC	4	3	1	0	3	0
23.	CSL-537	Deep Learning	PEC	4	3	1	0	3	0
24.	CSL-524	Algorithms and Foundations of Chip Design	PEC	4	3	1	0	3	0

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Program Elective Courses

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
25.	CSL-476	Software Project Management	PEC	4	3	1	0	3	0
26.	CSL-538	Multimedia Technologies	PEC	4	3	1	0	3	0
27.	CSL-539	Quantum Computation	PEC	4	3	1	0	3	0
28.	CSL-530	Design and Analysis of Symmetric Cryptosystems	PEC	4	3	1	0	3	0
29.	CSL-531	Dynamic Graph Algorithms	PEC	4	3	1	0	3	0
30.	CSL-532	Data Stream Mining	PEC	4	3	1	0	3	0

Science, Technology, and Advanced Research-tools Basket

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	CST-501	Programming in C/C++	STAR	3	3	0	0	3	0