Department of Computer Science & Engineering
Curriculum for M.Tech Courses

M.Tech in Computer Science & Engineering

First Semester

Sl. No.	Sub. Code	Subject	L-T-P	Credits
1	CSC 1001	Mathematical Concepts in Computer Science	3-1-0	4
2	CSC 1002	Advanced Algorithms	3-1-0	4
3	CSC 1003	Advanced Software Engineering	3-1-0	4
4		Elective-I*	3-1-0	4
5		Elective-II#	3-1-0	4
6	CSS1051	Software Engineering Laboratory	0-0-4	2
7	CSS1052	Modeling and Simulation Laboratory	0-0-4	2
TOTAL				**24**

Second Semester

Sl. No.	Sub. Code	Subject	L-T-P	Credits
1	CSC 2001	Advanced Database Management System	3-1-0	4
2	CSC 2002	Distributed System	3-1-0	4
3	CSC 2003	Advanced Computer Architecture	3-1-0	4
4		Elective-III	3-1-0	4
5		Elective-IV	3-1-0	4
6	CSS2051	Network and Distributed System Laboratory	0-0-4	2
7	CSS 2052	Seminar – I (Non-Project)	0-0-2	1
8	CSS 2053	Project - I	0-0-2	1
TOTAL				**24**

Third Semester

Sl. No.	Sub. Code	Subject	L-T-P	Credits
1	CSS 3051	Project - II		11
2	CSS 3052	Project Seminar – I		2
TOTAL				**13**

Fourth Semester

Sl. No.	Sub. Code	Subject	L-T-P	Credits
1	CSS4051	Project - III		11
2	CSS4052	Project Seminar – II & Viva-Voce		3
TOTAL				**14**
Total Program Credit				**75**

LIST OF ELECTIVES (for M.Tech in Commuter Science & Engineering)

Common pool of Electives (Elective –I should be opt from this list)

CSE 9011	CAD for VLSI	3-1-0	4
CSE 9021	Soft Computing	3-1-0	4
CSE 9022	Pattern Recognition	3-1-0	4
CSE 9023	Data Warehousing and Data Mining	3-1-0	4
CSE 9024	Computer Vision	3-1-0	4
CSE 9025	Optical Networks	3-1-0	4
CSE 9033	Advance Artificial Intelligence	3-1-0	4
CSE 9035	Principles of Programming Languages	3-1-0	4
CSE 9040	Advance Graph Theory	3-1-0	4
CSE 9045	Simulation and Analysis of Communication Networks	3-1-0	4
CSE 9047	Digital Image Processing	3-1-0	4
CSE 9067	Randomized Algorithms	3-1-0	4
CSE 9069	Convex Optimization	3-1-0	4
CSE 9070	Machine Learning	3-1-0	4
CSE 9074	Data Analytics	3-1-0	4
CSE 9071	Fundamentals of Cryptography	3-1-0	4

Elective Pool-I (Emphasized on Systems a Networking)

CSE 9013	Wireless Networks & Mobile Computing	3-1-0	4
CSE 9014	Theory of Computation	3-1-0	4
CSE 9016	Computational Geometry	3-1-0	4
CSE 9017	Information & Coding Theory	3-1-0	4
CSE 9026	Peer to peer Networks	3-1-0	4
CSE 9027	Adhoc Networks	3-1-0	4
CSE 9028	Sensor Networks	3-1-0	4
CSE9029	Embedded System	3-1-0	4
CSE 9030	High Performance Computing	3-1-0	4
CSE 9031	Complex network	3-1-0	4
CSE 9032	Testing and verification Of VLSI Circuits	3-1-0	4
CSE 9044	Computational Bio-Informatics	3-1-0	4
CSE 9049	Adaptive Signal Processing	3-1-0	4
CSE 9050	Swam Robotics Design And Simulation	3-1-0	4
CSE 9054	Bio-Medical Signal And Image Processing	3-1-0	4
CSE 9057	Cloud Computing	3-1-0	4
CSE 9062	Introduction to Human Activity Recognition	3-1-0	4
CSE 9063	Human Computer Interaction	3-1-0	4
CSE 9081	Bioinformatics	3-1-0	4

Elective Pool –II (Emphasized on Software Engineering)

CSE 9015	Web Design and Web Mining	3-1-0	4
CSE 9034	Software Testing and Verification	3-1-0	4
CSE 9039	Computer Graphics and Application	3-1-0	4
CSE 9040	Advance Graph Theory	3-1-0	4
CSE 9041	Information Security and Trust management	3-1-0	4
CSE 9046	Agent Based Computing	3-1-0	4
CSE 9051	Knowledge Management Application	3-1-0	4
CSE 9052	Internet of Things	3-1-0	4
CSE 9053	Computational Social Science	3-1-0	4
CSE 9055	Semantic Web and Linked Data Engineering	3-1-0	4
CSE 9059	Software Quality	3-1-0	4
CSE 9060	Knowledge Based System Engineering	3-1-0	4
CSE 9064	Management Information Systems	3-1-0	4

Elective Pool –III (Emphasized on Cyber Security and Digital Forensic)

CSE 9018	Cryptology and Cryptanalysis	3-1-0	4
CSE 9019	Network Security	3-1-0	4
CSE 9041	Information Security and Trust management	3-1-0	4
CSE 9042	Game Theory and its Applications	3-1-0	4
CSE 9056	Biometric	3-1-0	4
CSE 9058	Information And System Security	3-1-0	4
CSE 9061	Secure Software Development	3-1-0	4
CSE 9065	System Analysis and Design	3-1-0	4
CSE 9071	Fundamentals of Cryptography	3-1-0	4
CSE 9072	Secure Multiparty Computation	3-1-0	4
CSE 9073	Advance Topics in Cryptography	3-1-0	4
CSE 9075	Security Engineering for Business Computing	3-1-0	4
CSE 9076	Machine Learning and Its Applications in Cyber Security	3-1-0	4
CSE 9077	Computer Crime Investigation and Cyber Forensic	3-1-0	4
CSE 9078	Cyber Law and Rights in the Digital Age	3-1-0	4
CSE 9079	Wireless & Mobile Computing	3-1-0	4
CSE 9080	Information Theory & Coding	3-1-0	4
CSE 9081	Web Mining and Analytics	3-1-0	4
CSE 9082	Internet of Things Security	3-1-0	4

M.Tech Computer Science offers six (6) core papers and four (4) elective paper. The electives are divided into three categories: Common Elective, Minor Elective and Major Elective.

- **Common Elective:** Elective- I* should be opt from the list of Common Electives.
- **Minor Elective:** Elective –II# should be opt either from Pool-I, Pool-II or Pool-III.
- **Major Elective:** Elective –III and IV should be opt from any one of the Pools (i.e. Pool-I, II or III).