

**M.Tech (CSE) Programme w.e.f. 2018-19 Batch****FIRST SEMESTER**

SNo	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	17M11CS111	Data Structures and Algorithms for Big Data	3	-	-	03	3
2.	17M11CS112	Machine Learning and Data Mining	3	-	-	03	3
3.		Elective – I	3	-	-	03	3
4.		Elective – II	3	-	-	03	3
5.		Elective – III	3	-	-	03	3
6.	18M11GE111	Research Methodology and Intellectual Property Rights	2	-	-	02	2
7.	17M15CS111	Advanced Algorithms Lab	-	-	2	02	1
8.	17M15CS112	Machine Learning and Data Mining Lab			2	02	1
9.	17M15CS113	Cloud Technology Lab			2	02	1
		TOTAL	17	-	6	23	20

**SECOND SEMESTER**

SNo	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	17M11CS121	Cloud and Web Services Software Engineering	3	-	-	03	3
2.	17M11CS122	Performance Evaluation of Computing Systems	3	-	-	03	3
3.		Elective – IV	3	-	-	03	3
4.		Elective – V	3	-	-	03	3
5.		Audit-I	2	-	-	02	Qualifying
6.	17M17CS111	Project Based Learning-I (Open Source Software Development)		-	4	04	2
7.	17M15CS121	Cloud and Web Services Lab	-	-	2	02	1
8.	17M15CS122	Performance Engineering Lab			2	02	1
9.	17M15CS123	IOT Systems Development Lab			2	02	1
		TOTAL	15	-	10	24	17

**THIRD SEMESTER**

SNo	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.		Open Elective	3			3	3
2.	17M17CS212	Seminar & Term Paper OR Earn credits by transfer, e.g., MOOCs, Course Work at another Institute, Supervised Study				4	4
3.	17M17CS121	Project Based Learning-II (Software Development Automation)				8	4
4.	17M17CS213/ 17M17CS214/ 17M17CS215	Dissertation /Industrial Project/Entrepreneurial Project				8	4
5.		Audit-II	2			2	Qualifying
		TOTAL				25	15

## FOURTH SEMESTER

SNo	Course		Contact Hours				Credits
	No.	Title	L	T	P	Total	
1.	17M17CS223/ 17M17CS224/ 17M17CS225	Dissertation /Industrial Project/ Entrepreneurial Project				32	16
		TOTAL				32	16

**TOTAL CREDITS: 68**

**Upto one elective from Maths/JBS/HSS may be taken**

### MTech (CSE) Electives

1. 17M12CS111 High Performance Computer Architecture
2. 17M12CS131 Power-Efficient and Reconfigurable Architectures
3. 17M12CS132 Compilers for High-Performance Computing
4. 17M12CS112 Operating Systems for Scalable High-Performance Computing
5. 17M12CS133 Resilient and Fault Tolerant Algorithms
6. 17M12CS134 GPU Computing
7. 17M12CS135 Advanced Cloud Computing
8. 17M12CS113 Computational Optimization
9. 17M12CS136 Multi-objective Optimization
10. 17M12CS137 Meta-Heuristic algorithms
11. 17M12CS138 Dynamic Graph Algorithms
12. 17M12CS114 Approximation and Randomized algorithms
13. 17M12CS139 Algorithmic Game Theory
14. 17M12CS115 3D Graphics and Animation
15. 17M12CS116 Parallel and Distributed Algorithms
16. 17M12CS141 Modeling and Simulation
17. 17M12CS117 Concurrent Computing
18. 17M12CS142 Complexity Theory
19. 17M12CS118 Real Time Systems
20. 17M12CS143 Dependable and Fault Tolerant Systems
21. 17M12CS119 Software Development Process Management
22. 17M12CS144 System Description Languages
23. 17M12CS145 Software Architecture and Design
24. 17M12CS121 Software Verification and Validation
25. 17M12CS14 Software Re-engineering
26. 17M12CS122 Software Requirements Engineering
27. 17M12CS123 User and Activity Centered Design
28. 17M12CS124 Flexible Computer Networks
29. 17M12CS125 Wireless Ad-hoc Networks
30. 17M12CS126 Wireless Sensor and Actuator Networks
31. 17M12CS127 Distributed Systems
32. 17M12CS128 Theory of Cryptography
33. 17M12CS147 Systems and Network security
34. 17M12CS148 Database and Software security
35. 17M12CS129 Computing Systems and Research Thinking
36. 17M22CS111 Computing Education