

**Department of
Computer Science and Engineering**

**Scheme of Instruction and Syllabi
of
M.Tech (Computer Science and Engineering)**

**Full time / Part time
(2015-16)**



**UNIVERSITY COLLEGE OF ENGINEERING
(Autonomous)
Osmania University
Hyderabad – 500 007, TS, INDIA**

Scheme of Instruction & Examination
M.Tech. (Computer Science and Engineering)

Sl. No	Course	Hours per Week		Duration (Hrs)	Max. Marks		Credits
		L/T	D/P		SEE	CIE	
Semester - I							
1.	Core	3	--	3	70	30	3
2.	Core	3	--	3	70	30	3
3.	Core / Elective	3	--	3	70	30	3
4.	Core / Elective	3	--	3	70	30	3
5.	Elective	3	--	3	70	30	3
6.	Elective	3	--	3	70	30	3
7.	Software Lab - I	--	3	3	--	50	2
8.	Seminar - I	--	3	3	--	50	2
	Total	18	6	24	420	280	22

Note: Six Core subjects, Six Elective subjects, Two Laboratory Courses and Two Seminars must be offered in Semester I and II.

* **One project seminar presentation:** ** 50 marks to be awarded by Supervisor and 50 marks to be awarded by Viva-Voce committee comprising Head, Supervisor and an Examiner.

Semester II

S.No	Course	L/T	P	Hrs/Wk	Max Marks		
					SEE	CIE	Credits
1.	Core	3	--	3	70	30	3
2.	Core	3	--	3	70	30	3
3.	Core / Elective	3	--	3	70	30	3
4.	Core / Elective	3	--	3	70	30	3
5.	Elective	3	--	3	70	30	3
6.	Elective	3	--	3	70	30	3
7.	Software Lab - II	--	3	3	--	50	2
8.	Seminar - II	--	3	3	--	50	2
	Total	18	6	24	420	280	22

Semester III

S.No	Course	L/T	P	Hrs/Wk	Max Marks		
					SEE	CIE	Credits
1.	Project Seminar*	--	4	4	-	100**	8
	Total	--	4	4	--	100	8

Semester IV

S.No	Course	L/T	P	Hrs/Wk	Max Marks		
					SEE	CIE	Credits
1.	Dissertation	--	6	6	150	-	12

Note: Six Core subjects, Six Elective subjects, Two Laboratory Courses and Two Seminars must be offered in Semester I and II.

* **One project seminar presentation:** ** 50 marks to be awarded by Supervisor and 50 marks to be awarded by Viva-Voce committee comprising Head, Supervisor and an Examiner.

With effect from 2015-2016

Scheme of Instruction & Examination

M.Tech (Computer Science and Engineering) (Part-Time Program)

Sl. No	Course	Hours/ Week		Duration (Hrs)	Max. Marks		Credits
		L/T	D/P		SEE	CIE	
Semester – I							
1.	Core	3	--	3	70	30	3
2.	Core / Elective	3	--	3	70	30	3
3.	Elective	3	--	3	70	30	3
4.	Software Lab- I	--	3	3	--	50	2
	Total	9	3	12	210	140	11
Semester – II							
1.	Core	3	--	3	70	30	3
2.	Core / Elective	3	--	3	70	30	3
3.	Elective	3	--	3	70	30	3
4.	Seminar – I	--	3	3	--	50	2
	Total	9	3	12	210	140	11
Semester – III							
1.	Core	3	--	3	70	30	3
2.	Core / Elective	3	--	3	70	30	3
3.	Elective	3	--	3	70	30	3
4.	Software Lab- II	--	3	3	--	50	2
	Total	9	3	12	210	140	11
Semester – IV							
1.	Core	3	--	3	70	30	3
2.	Core / Elective	3	--	3	70	30	3
3.	Elective	3	--	3	70	30	3
4.	Seminar - II	--	3	3	--	50	2
	Total	9	3	12	210	140	11
Semester – V							
1.	Project Seminar*	--	4	4	--	100**	8
Semester – VI							
1.	Dissertation	--	6	6	150	-	12

With effect from 2015-2016

M. Tech (COMPUTER SCIENCE AND ENGINEERING)

	Code	Course Title	Contact Hrs/Week	Scheme of Examination		Credits
				CIE	SEE	
S.No	Core Subjects					
1	CS 5101	Advanced Algorithms	3	30	70	3
2	CS 5102	Advanced Operating Systems	3	30	70	3
3	CS 5103	Artificial Intelligence	3	30	70	3
4	CS 5104	Object Oriented Software Engineering	3	30	70	3
5	CS 5105	Distributed Computing	3	30	70	3
6	CS 5106	Advanced Databases	3	30	70	3
Elective subjects:						
1	CS5051	Mobile Computing	3	30	70	3
2	CS5052	Real Time Systems	3	30	70	3
3	CS5151	Advanced Computer Graphics	3	30	70	3
4	CS5053	Web Engineering	3	30	70	3
5	CS5202	Parallel Computer Architecture	3	30	70	3
6	CS5054	Multimedia Technologies	3	30	70	3
7	CS5152	Embedded Systems	3	30	70	3
8	CS5055	Data Mining	3	30	70	3

9	CS5056	Network Security	3	30	70	3
10	CS5057	Machine Learning	3	30	70	3
11	CS5206	Grid Computing	3	30	70	3
12	CS5058	Information Retrieval System	3	30	70	3
13	CS5059	Natural Language processing	3	30	70	3
14	CS5060	Software Quality and Testing	3	30	70	3
15	CS5153	Software Engineering for RTS	3	30	70	3
16	CS5061	Cloud Computing	3	30	70	3
17	CS5062	Soft Computing	3	30	70	3
18	CS5063	Neural Networks	3	30	70	3
19	CS5154	Parallel Algorithms	3	30	70	3
20	CS5305	Simulation and Modeling	3	30	70	3
21	CS5064	Software Project Management	3	30	70	3
22	CS5065	Image Processing	3	30	70	3
23	CS5066	Software Reuse Techniques	3	30	70	3
24	CS5067	Reliability and Fault Tolerance	3	30	70	3
25	CS5068	Web Mining	3	30	70	3
26	CS5069	Human Computer Interaction	3	30	70	3

Scheme of Instruction & Examination
M.Tech (Parallel and Distributed Systems)

	Code	Course Title	Contact Hrs /Week	Scheme of Examination		Credits
				CIE	SEE	
S.No	Core Subjects:					
1	CS 5201	Distributed Algorithms	3	30	70	3
2	CS 5202	Parallel Computer Architecture	3	30	70	3
3	CS 5203	Web Services	3	30	70	3
4	CS 5204	Distributed Computing	3	30	70	3
5	CS 5205	Parallel Programming	3	30	70	3
6	CS 5206	Grid Computing	3	30	70	3
	Elective subjects:					
1	CS5051	Mobile Computing	3	30	70	3
2	CS5052	Real Time Systems	3	30	70	3
3	CS5251	Advanced Computer Networks	3	30	70	3
4	CS5252	Web Engineering	3	30	70	3
5	CS5253	Parallel and Distributed Databases	3	30	70	3
6	CS5055	Data Mining	3	30	70	3

7	CS5104	Object Oriented Software Engineering	3	30	70	3
8	CS5056	Network Security	3	30	70	3
9	CS5057	Machine Learning	3	30	70	3
10	CS5254	Adhoc Sensor Networks	3	30	70	3
11	CS5058	Information Retrieval System	3	30	70	3
12	CS5059	Natural Language Processing	3	30	70	3
13	CS5060	Software Quality and Testing	3	30	70	3
14	CS5061	Cloud Computing	3	30	70	3
15	CS5062	Soft Computing	3	30	70	3
16	CS5063	Neural Networks	3	30	70	3
17	CS5255	Storage Management	3	30	70	3
18	CS5305	Simulation & Modeling	3	30	70	3
19	CS5064	Software Project Management	3	30	70	3
20	CS5065	Image Processing	3	30	70	3
21	CS5066	Software Reuse Techniques	3	30	70	3
22	CS5067	Reliability & Fault Tolerance	3	30	70	3
23	CS5068	Web Mining	3	30	70	3
24	CS5256	Performance Evaluation of Computing	3	30	70	3
25	CS5069	Human Computer Interaction	3	30	70	3

M. Tech (Embedded Systems and Computing)

	Code	Course Title	Contact Hrs /Week	Scheme of Examination		Credits
				CIE	SEE	
S.No	Core Subjects:					
1	CS 5301	Embedded System Design	3	30	70	3
2	CS 5302	Digital System Design	3	30	70	3
3	CS 5303	Micro controllers for Embedded Systems	3	30	70	3
4	CS 5304	Real Time Operating Systems	3	30	70	3
5	CS 5305	Simulation and Modeling	3	30	70	3
6	CS 5306	Hardware and Software Co-design	3	30	70	3
	Elective subjects:					
1	CS5101	Advanced Algorithms	3	30	70	3
2	CS5351	Advanced Computer Architecture	3	30	70	3
3	CS5352	Scripting Languages for Design Automation	3	30	70	3
4	CS5054	Multimedia Technologies	3	30	70	3
5	CS5353	Software Engineering for Real Time Systems	3	30	70	3
6	CS5354	Embedded Programming	3	30	70	3
7	CS5355	Field Programmable Gate Arrays	3	30	70	3

8	CS5355	System On Chip Architecture	3	30	70	3
9	CS5356	Optimization Techniques	3	30	70	3
10	CS5357	Product Design and Quality Management	3	30	70	3
11	CS5358	Design for Testability	3	30	70	3
12	CS5359	DSP Architecture	3	30	70	3
13	CS5360	Graph Theory and its Applications	3	30	70	3
14	CS5361	Low Power and VLSI Design	3	30	70	3
15	CS5067	Reliability and Fault Tolerance	3	30	70	3
S.No	Departmental Requirements:					
1	CS5021	Software Lab – I	2	50	-	2
2	CS5022	Seminar-I	2	50	-	2
3	CS5023	Software Lab – II	2	50	-	2
4	CS5024	Seminar-II	2	50	-	2
5	CS5025	Project Seminar	4	100	-	8
6	CS5026	Dissertation	6	50	100	12

CIE: Continuous Internal Evaluation SEE: Semester End Examination