

REGULATIONS 2019

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING M.E. COMPUTER SCIENCE AND ENGINEERING

CURRICULUM and SYLLABUS

S.No. Category Course Code Course Title L T P Credits Prorequisite					Contact Hours per Week					
PC	S.No.	Category	Course Code	Course Title	L	Т	P	Credits	Prerequisite	
3	1	FC	19MMA04	Applied Probability and Statistics	4	0	0	4	-	
4 PC 19MCS03 Operating System Internals 3 0 0 3 - 5 PC 19MCS04 Advanced Software Engineering 3 0 0 3 - 6 PC 19MCS05 Machine Learning Technologies 3 0 0 3 - 7 PC 19MCS05 Data Structures Laboratory 0 0 4 2 - 8 PC 19MCS07 Network Design and Technologies 3 0 0 3 - 10 PC 19MCS08 Security Practicos 3 0 0 3 - 11 PC 19MCS10 Internet of Things 3 0 0 3 - 12 PC 19MCS11 Data Analytics Laboratory 0 0 4 2 - 13 EEC 19MCS12 Tem Paper Writing and Seminar 0 0 12 1 - 14 EE	2	PC	19MCS01	Advanced Data Structures and Algorithms	4	0	0	4	-	
5 PC 19MCS04 Advanced Software Engineering 3 0 0 3 - 6 PC 19MCS05 Machine Learning Techniques 3 0 0 3 - 7 PC 19MCS07 Network Design and Technologies 3 0 0 3 - 8 PC 19MCS08 Security Practices 3 0 0 3 - 9 PC 19MCS08 Security Practices 3 0 0 3 - 10 PC 19MCS09 Intermet of Things 3 0 0 3 - 11 PC 19MCS10 Big Data Analytics 3 0 0 3 - 12 PC 19MCS13 Project Work Phase I 0 0 4 2 - 14 EEC 19MCS13 Project Work Phase I 0 0 12 6 - 15 EEC 19MCS15	3	PC	19MCS02	Advanced Computer Architecture	3	0	0	3	-	
6 PC 19MCS05 Machine Learning Techniques 3 0 0 3 - 7 PC 19MCS06 Data Structures Laboratory 0 0 4 2 - 8 PC 19MCS08 Network Design and Technologies 3 0 0 3 - 9 PC 19MCS08 Security Practices 3 0 0 3 - 10 PC 19MCS10 Big Data Analytics 3 0 0 3 - 11 PC 19MCS11 Data Analytics Laboratory 0 0 4 2 - 13 EEC 19MCS12 Term Paper Writing and Seminar 0 0 2 1 - 14 EEC 19MCS12 Project Work Phase I 0 0 24 12 - 16 PE 19MCS15 Advanced Databases 3 0 0 3 - 17 PE <	4	PC	19MCS03	Operating System Internals	3	0	0	3	-	
PC	5	PC	19MCS04	Advanced Software Engineering	3	0	0	3	-	
8 PC 19MCS07 Network Design and Technologies 3 0 0 3 - 9 PC 19MCS08 Security Practices 3 0 0 3 - 110 PC 19MCS10 Ilitemet of Things 3 0 0 3 - 111 PC 19MCS11 Big Data Analytics Laboratory 0 0 4 2 - 12 PC 19MCS12 Term Paper Writing and Seminar 0 0 2 1 - 14 EEC 19MCS14 Project Work Phase I 0 0 12 6 - 15 EEC 19MCS14 Project Work Phase II 0 0 24 12 - 16 PE 19MCS14 Project Work Phase II 0 0 24 12 - 16 PE 19MCS14 Project Work Phase II 0 0 3 0 3 - 17	6	PC	19MCS05	Machine Learning Techniques	3	0	0	3	-	
9	7	PC	19MCS06	Data Structures Laboratory	0	0	4	2	-	
10	8	PC	19MCS07	Network Design and Technologies	3	0	0	3	-	
11	9	PC	19MCS08	Security Practices	3	0	0	3	-	
12	10	PC	19MCS09	Internet of Things	3	0	0	3	-	
13	11	PC	19MCS10	Big Data Analytics	3	0	0	3	-	
14	12	PC	19MCS11	Data Analytics Laboratory	0	0	4	2	-	
15 EEC 19MCS14 Project Work Phase II 0 0 24 12	13	EEC	19MCS12	Term Paper Writing and Seminar	0	0	2	1	-	
16	14	EEC	19MCS13	Project Work Phase I	0	0	12	6	-	
17 PE 19MCS16 Principles of Programming Languages 3 0 0 3 - 18 PE 19MCS17 Image Processing and Analysis 3 0 0 3 - 19 PE 19MCS18 Web Engineering 3 0 0 3 - 20 PE 19MCS19 Cloud Computing Technologies 3 0 0 3 - 21 PE 19MCS20 Real Time Systems 3 0 0 3 - 22 PE 19MCS21 Mobile and Pervasive Computing 3 0 0 3 - 23 PE 19MCS21 Mobile and Pervasive Computing 3 0 0 3 - 24 PE 19MCS22 Parallel Programming Paradigms 3 0 0 3 - 25 PE 19MCS23 Information Retrieval Techniques 3 0 0 3 - 26 </td <td>15</td> <td>EEC</td> <td>19MCS14</td> <td>Project Work Phase II</td> <td>0</td> <td>0</td> <td>24</td> <td>12</td> <td>-</td>	15	EEC	19MCS14	Project Work Phase II	0	0	24	12	-	
18 PE 19MCS17 Image Processing and Analysis 3 0 0 3 - 19 PE 19MCS18 Web Engineering 3 0 0 3 - 20 PE 19MCS19 Cloud Computing Technologies 3 0 0 3 - 21 PE 19MCS20 Real Time Systems 3 0 0 3 - 22 PE 19MCS21 Mobile and Pervasive Computing 3 0 0 3 - 23 PE 19MCS22 Parallel Programming Paradigms 3 0 0 3 - 24 PE 19MCS22 Information Retrieval Techniques 3 0 0 3 - 25 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 26 PE 19MCS25 Performance Analysis of Computer Systems 3 0 0 3 -	16	PE	19MCS15	Advanced Databases	3	0	0	3	-	
PE	17	PE	19MCS16	Principles of Programming Languages	3	0	0	3	-	
PE	18	PE		 	3	0	0	3	-	
20 PE 19MCS19 Cloud Computing Technologies 3 0 0 3 - 21 PE 19MCS20 Real Time Systems 3 0 0 3 - 22 PE 19MCS21 Mobile and Pervasive Computing 3 0 0 3 - 23 PE 19MCS22 Parallel Programming Paradigms 3 0 0 3 - 24 PE 19MCS23 Information Retrieval Techniques 3 0 0 3 - 25 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 26 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 27 PE 19MCS25 Performance Analysis of Computer Systems 3 0 0 3 - 29 PE 19MCS27 Computer Vision 3 0 0 3 -	19	PE	19MCS18		3	0	0	 	-	
21 PE 19MCS20 Real Time Systems 3 0 0 3 - 22 PE 19MCS21 Mobile and Pervasive Computing 3 0 0 3 - 23 PE 19MCS22 Parallel Programming Paradigms 3 0 0 3 - 24 PE 19MCS23 Information Retrieval Techniques 3 0 0 3 - 25 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 26 PE 19MCS25 Performance Analysis of Computer Systems 3 0 0 3 - 27 PE 19MCS26 Language Technologies 3 0 0 3 - 28 PE 19MCS26 Language Technologies 3 0 0 3 - 29 PE 19MCS26 Software Quality Assurance and Testing 3 0 0 3 -	20	PE	19MCS19		3	0	0	3	-	
23 PE 19MCS22 Parallel Programming Paradigms 3 0 0 3 - 24 PE 19MCS23 Information Retrieval Techniques 3 0 0 3 - 25 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 26 PE 19MCS25 Performance Analysis of Computer Systems 3 0 0 3 - 27 PE 19MCS26 Language Technologies 3 0 0 3 - 28 PE 19MCS27 Computer Vision 3 0 0 3 - 29 PE 19MCS27 Computer Vision 3 0 0 3 - 30 PE 19MCS27 Software Quality Assurance and Testing 3 0 0 3 - 31 PE 19MCS30 Formal Models of Software Systems 3 0 0 3 -	21	PE	19MCS20		3	0	0	3	-	
23 PE 19MCS22 Parallel Programming Paradigms 3 0 0 3 - 24 PE 19MCS23 Information Retrieval Techniques 3 0 0 3 - 25 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 26 PE 19MCS25 Performance Analysis of Computer Systems 3 0 0 3 - 27 PE 19MCS26 Language Technologies 3 0 0 3 - 28 PE 19MCS27 Computer Vision 3 0 0 3 - 29 PE 19MCS27 Computer Vision 3 0 0 3 - 30 PE 19MCS27 Software Quality Assurance and Testing 3 0 0 3 - 31 PE 19MCS30 Formal Models of Software Systems 3 0 0 3 -	22	PE			3	0	0	3	-	
24 PE 19MCS23 Information Retrieval Techniques 3 0 0 3 - 25 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 26 PE 19MCS25 Performance Analysis of Computer Systems 3 0 0 3 - 27 PE 19MCS26 Language Technologies 3 0 0 3 - 28 PE 19MCS27 Computer Vision 3 0 0 3 - 29 PE 19MCN21 Speech Processing and Synthesis 3 0 0 3 - 30 PE 19MCS29 Software Quality Assurance and Testing 3 0 0 3 - 31 PE 19MCS30 Formal Models of Software Systems 3 0 0 3 - 32 PE 19MCS31 Embedded Software Development 3 0 0 3 -	23	PE			3	0	0	3	-	
25 PE 19MCS24 Software Architectures and Design 3 0 0 3 - 26 PE 19MCS25 Performance Analysis of Computer Systems 3 0 0 3 - 27 PE 19MCS26 Language Technologies 3 0 0 3 - 28 PE 19MCS27 Computer Vision 3 0 0 3 - 29 PE 19MCN21 Speech Processing and Synthesis 3 0 0 3 - 30 PE 19MCS29 Software Quality Assurance and Testing 3 0 0 3 - 31 PE 19MCS30 Formal Models of Software Systems 3 0 0 3 - 32 PE 19MCS31 Embedded Software Development 3 0 0 3 - 33 PE 19MCS32 Social Network Analysis 3 0 0 3 -	24	PE			3	0	0		-	
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34 PE 19MCS33 Bio-inspired Computing 3 0 0 3 - 35 PE 19MCS34 Compiler Optimization Techniques 3 0 0 3 - 36 PE 19MCS35 Data Visualization Techniques 3 0 0 3 - 37 PE 19MCS36 Reconfigurable Computing 3 0 0 3 - 38 PE 19MCS37 Mobile Application Development 3 0 0 3 - 39 PE 19MCS38 Bio Informatics 3 0 0 3 - 40 PE 19MCS39 Information Storage Management 3 0 0 3 - 41 PE 19MCS40 Agile Methodologies 3 0 0 3 -				 	+				-	
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36 PE 19MCS35 Data Visualization Techniques 3 0 0 3 - 37 PE 19MCS36 Reconfigurable Computing 3 0 0 3 - 38 PE 19MCS37 Mobile Application Development 3 0 0 3 - 39 PE 19MCS38 Bio Informatics 3 0 0 3 - 40 PE 19MCS39 Information Storage Management 3 0 0 3 - 41 PE 19MCS40 Agile Methodologies 3 0 0 3 -					+			+	_	
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41 PE 19MCS40 Agile Methodologies 3 0 0 3 -		 								
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	42	PE	19MCS41	Distributed Systems	3	0	0	3	_	

43	PE	19MCS42	Knowledge Engineering	3	0	0	3	-
44	PE	19MCS43	Operations Research	3	0	0	3	-
45	PE	19MCS44	Research Methodologies	3	0	0	3	-
46	PE	19MMA05	Linear Algebra and Number Theory	3	0	0	3	-

	SEMESTER I										
		Course Title	Contac	Contact Hours per Week							
S.No.	Course Code		L	Т	Р	Credits					
1	19MMA04	Applied Probability and Statistics	4	0	0	4					
2	19MCS01	Advanced Data Structures and Algorithms	4	0	0	4					
3	19MCS02	Advanced Computer Architecture	3	0	0	3					
4	19MCS03	Operating System Internals	3	0	0	3					
5	19MCS04	Advanced Software Engineering	3	0	0	3					
6	19MCS05	Machine Learning Techniques	3	0	0	3					
7	19MCS06	Data Structures Laboratory	0	0	4	2					
	•	Total	20	0	4	22					

		SEMESTER II				
			Contac	Hours p		
S.No.	Course Code	Course Title	L	Т	Р	Credits
1	19MCS07	Network Design and Technologies	3	0	0	3
2	19MCS08	Security Practices	3	0	0	3
3	19MCS09	Internet of Things	3	0	0	3
4	19MCS10	Big Data Analytics	3	0	0	3
5		Professional Elective –I	3	0	0	3
6		Professional Elective –II	3	0	0	3
7	19MCS11	Data Analytics Laboratory	0	0	4	2
8	19MCS12	Term Paper Writing and Seminar	0	0	2	1
		Total	18	0	6	21

		SEMESTER III				
			Contact Hours per Week			
S.No.	Course Code	Course Title	L	Т	Р	Credits
1		Professional Elective –III	3	0	0	3
2		Professional Elective –IV	3	0	0	3
3		Professional Elective –V	3	0	0	3
4	19MCS13	Project Work Phase – I	0	0	12	6
		Total	9	0	12	15

	SEMESTER IV									
Contact Hours per Week										
S.No.	Course Code	Course Title	L	Т	Р	Credits				
1	19MCS14	Project Work Phase II	0	0	24	12				
		Total	0	0	24	12				

TOTAL CREDITS: 70