

### 13. COURSES OF STUDY AND SCHEME OF ASSESSMENT

#### M Sc SOFTWARE ENGINEERING

(TOTAL CREDITS TO BE EARNED: 230)

Course Code	Course Title	Hours/Week			Credits	Maximum marks		
		Lecture	Tutorial	Practical		CA	FE	Total
<b>SEMESTER 1</b>								
<b>THEORY</b>								
12XW11	ENGLISH FOR PROFESSIONAL SKILLS	3	0	0	3	50	50	100
12XW12	CALCULUS AND ITS APPLICATIONS	3	2	0	4	50	50	100
12XW13	MATERIAL SCIENCE	4	0	0	4	50	50	100
12XW14	ANALOG AND DIGITAL ELECTRONICS	4	0	0	4	50	50	100
12XW15	C PROGRAMMING	3	0	0	3	50	50	100
<b>PRACTICAL</b>								
12XW16	ENGINEERING GRAPHICS AND GEOMETRIC MODELING	2	0	3	4	100	-	100
12XW17	PROGRAMMING LAB (PASCAL AND C)	1	0	4	3	100	-	100
12XW18	MATERIAL SCIENCE AND DIGITAL ELECTRONICS LAB	0	0	4	2	100	-	100
Total 33 hrs		<b>20</b>	<b>2</b>	<b>11</b>	<b>27</b>			
<b>SEMESTER 2</b>								
<b>THEORY</b>								
12XW21	PROBABILITY AND STATISTICS	3	2	0	4	50	50	100
12XW22	APPLIED LINEAR ALGEBRA	3	0	2	4	50	50	100
12XW23	DATA STRUCTURES AND ALGORITHMS	4	0	0	4	50	50	100
12XW24	OBJECT ORIENTED PROGRAMMING	4	0	0	4	50	50	100
12XW25	COMPUTER ORGANIZATION	4	0	0	4	50	50	100
<b>PRACTICAL</b>								
12XW26	OBJECT COMPUTING LAB	0	0	3	2	100	-	100
12XW27	DATA STRUCTURES LAB	0	0	3	2	100	-	100
12XW28	DATA PROCESSING LAB	1	0	3	3	100	-	100
Total 32 hrs		<b>19</b>	<b>2</b>	<b>11</b>	<b>27</b>			

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<b>SEMESTER 3</b>								
<b>THEORY</b>								
12XW31	DISCRETE STRUCTURES	3	2	0	4	50	50	100
12XW32	DATA BASE MANAGEMENT SYSTEM	4	0	0	4	50	50	100
12XW33	OPTIMIZATION TECHNIQUES	3	0	2	4	50	50	100
12XW34	ADVANCED DATA STRUCTURES	4	0	0	4	50	50	100
12XW35	MICROPROCESSOR SYSTEMS AND PROGRAMMING	4	0	0	4	50	50	100
<b>PRACTICAL</b>								
12XW36	RDBMS LAB	0	0	3	2	100	-	100
12XW37	ADVANCED DATA STRUCTURES LAB	0	0	3	2	100	-	100
12XW38	ASSEMBLY LANGUAGE PROGRAMMING LAB	0	0	3	2	100	-	100
Total 31 hrs		<b>18</b>	<b>2</b>	<b>11</b>	<b>26</b>			
<b>SEMESTER 4</b>								
<b>THEORY</b>								
12XW41	ACCOUNTING AND FINANCIAL MANAGEMENT	4	0	0	4	50	50	100
12XW42	DATA COMMUNICATION NETWORKS	4	0	0	4	50	50	100
12XW43	TRANSFORMS AND THREE DIMENSIONAL GEOMETRY	3	2	0	4	50	50	100
12XW44	OPERATING SYSTEMS	3	0	2	4	50	50	100
12XW45	SOFTWARE ENGINEERING TECHNIQUES	3	0	0	3	50	50	100
<b>PRACTICAL</b>								
12XW46	COMPUTER NETWORKS LAB	0	0	3	2	100	-	100
12XW47	MATHEMATICAL COMPUTING LAB	0	0	3	2	100	-	100
12XW48	JAVA PROGRAMMING LAB	2	0	2	3	100	-	100
Total 31 hrs		<b>19</b>	<b>2</b>	<b>10</b>	<b>26</b>			

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<b>SEMESTER 5</b>								
<b>THEORY</b>								
12XW51	UNIX ARCHITECTURE AND PROGRAMMING	4	0	0	4	50	50	100
12XW52	COMPUTER GRAPHICS AND VISUALIZATION	3	0	2	4	50	50	100
12XW53	ENTERPRISE COMPUTING	3	0	2	4	50	50	100
12XW54	TCP/IP NETWORKS AND APPLICATIONS	3	0	0	3	50	50	100
12XW55	OBJECT ORIENTED ANALYSIS AND DESIGN	3	0	2	4	50	50	100
<b>PRACTICAL</b>								
12XW56	WINDOWS PROGRAMMING LAB	1	0	3	3	100	-	100
12XW57	TCP/IP APPLICATIONS LAB	0	0	3	2	100	-	100
12XW58	UNIX SHELL AND SYSTEM PROGRAMMING LAB	0	0	3	2	100	-	100
Total 32 hrs		<b>17</b>	<b>0</b>	<b>15</b>	<b>26</b>			
<b>SEMESTER 6</b>								
<b>THEORY</b>								
12XW61	PRINCIPLES OF COMPILER DESIGN	4	0	0	4	50	50	100
12XW62	MACHINE LEARNING	3	0	0	3	50	50	100
12XW63	DISTRIBUTED ENTERPRISE COMPUTING	3	0	0	3	50	50	100
12XW64	SOFTWARE TESTING	3	0	2	4	50	50	100
12XW65	ELECTIVE I	3	0	2	4	50	50	100
<b>PRACTICAL</b>								
12XW66	PRINCIPLES OF COMPILER DESIGN LAB	0	0	3	2	100	-	100
12XW67	MACHINE LEARNING LAB	0	0	3	2	100	-	100
12XW68	DISTRIBUTED ENTERPRISE COMPUTING LAB	0	0	3	2	100	-	100
Total 29 hrs		<b>16</b>	<b>0</b>	<b>13</b>	<b>24</b>			

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<b>SEMESTER 7</b>								
12XW01	PROJECT WORK I	0	0	-	12	50	50	100
<b>SEMESTER 8</b>								
<b>THEORY</b>								
12XW81	DIGITAL MANUFACTURING	3	0	0	3	50	50	100
12XW82	SOFT COMPUTING	4	0	0	4	50	50	100
12XW83	SOFTWARE PROJECT MANAGEMENT AND QUALITY ASSURANCE	3	0	0	3	50	50	100
12XW84	APPLIED GRAPH THEORY	4	0	0	4	50	50	100
12XW85	ELECTIVE II	3	0	2	4	50	50	100
<b>PRACTICAL</b>								
12XW86	DIGITAL MANUFACTURING LAB	0	0	3	2	100	-	100
12XW87	SOFT COMPUTING LAB	0	0	3	2	100	-	100
12XW88	OPEN SOURCE SOFTWARE LAB	1	0	3	3	100	-	100
Total 29 hrs		18	0	11	25			
<b>SEMESTER 9</b>								
<b>THEORY</b>								
12XW91	PRINCIPLES OF MANAGEMENT AND BEHAVIOURAL SCIENCE	3	0	0	3	50	50	100
12XW92	WEB SERVICES	3	0	0	3	50	50	100
12XW93	INTELLIGENT INFORMATION RETRIEVAL	3	0	0	3	50	50	100
12XW94	ELECTIVE III ( Self Study)	3	0	2	4	50	50	100
12XW95	ELECTIVE IV	3	0	2	4	50	50	100
<b>PRACTICAL</b>								
12XW96	INTELLIGENT INFORMATION RETRIEVAL LAB	0	0	3	2	100	-	100
12XW97	WEB SERVICES LAB	0	0	3	2	100	-	100
12XW98	SOFTWARE PATTERNS LAB	2	0	3	4	100	-	100
Total 30 hrs		17	0	13	25			
<b>SEMESTER 10</b>								
12XW02	PROJECT WORK II	0	0	-	12	50	50	100

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## **ELECTIVES**

12XWA1	MODELLING AND SIMULATION
12XWA2	ADVANCED DATABASE MANAGEMENT SYSTEMS
12XWA3	SOFTWARE METRICS
12XWA4	PARALLEL AND DISTRIBUTED COMPUTING
12XWA5	DATA COMPRESSION
12XWA6	ADVANCED COMPUTER GRAPHICS
12XWA7	REAL TIME AND EMBEDDED SYSTEMS
12XWA8	MOBILE COMPUTING
12XWA9	REQUIREMENTS ENGINEERING
12XWAA	SERVICE ORIENTED ARCHITECTURE
12XWAB	PRINCIPLES OF PROGRAMMING LANGUAGES
12XWAC	DATA MINING
12XWAD	AGILE SOFTWARE DEVELOPMENT
12XWAE	SECURITY IN COMPUTING
12XWAF	PERVASIVE COMPUTING
12XWAG	SEMANTIC WEB
12XWAH	CLOUD COMPUTING
12XWAI	HUMAN COMPUTER INTERACTION
12XWAJ	SOCIAL NETWORK ANALYSIS