

### 13. Courses of Study and Scheme of Assessment

#### MASTER OF COMPUTER APPLICATIONS

(2015 REGULATIONS)

(Minimum No. of credits to be earned: 120\*)

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
<b>I SEMESTER</b>									
15MX11	Probability and Statistics	3	2	0	4	50	50	100	FC
15MX12	Mathematical Foundations of Computer Science	3	2	0	4	50	50	100	FC
15MX13	Principles of Programming Languages	4	0	0	4	50	50	100	PC
15MX14	Data Structures	3	0	0	3	50	50	100	PC
15MX15	Computer System Architecture	3	2	0	4	50	50	100	PC
15MX16	Programming Languages Laboratory	0	0	4	2	100	-	100	PC
15MX17	Data Structures Laboratory	0	0	2	1	100	-	100	PC
<b>Total 28 hrs</b>		<b>16</b>	<b>6</b>	<b>6</b>	<b>22</b>	<b>450</b>	<b>250</b>	<b>700</b>	
<b>II SEMESTER</b>									
15MX21	Optimization Techniques	3	2	0	4	50	50	100	FC
15MX22	Object Oriented Programming	3	0	0	3	50	50	100	PC
15MX23	Advanced Data Structures and Algorithms	3	2	0	4	50	50	100	PC
15MX24	Database Management System	3	0	0	3	50	50	100	PC
15MX25	Microprocessors and Embedded Systems	3	2	0	4	50	50	100	PC
15MX26	Object Oriented Programming Laboratory	0	0	2	1	100	-	100	PC
15MX27	RDBMS Laboratory	0	0	2	1	100	-	100	PC
15MX28	Professional Communication	1	0	2	2	100	-	100	EEC
<b>Total 28 hrs</b>		<b>16</b>	<b>6</b>	<b>6</b>	<b>22</b>	<b>550</b>	<b>250</b>	<b>800</b>	
<b>III SEMESTER</b>									
15MX31	JAVA and .Net Programming	4	0	0	4	50	50	100	PC
15MX32	Operating Systems	3	2	0	4	50	50	100	PC
15MX33	Computer Networks	3	2	0	4	50	50	100	PC
15MX34	Principles of Compiler Design	3	2	0	4	50	50	100	PC
15MX__	Elective I	3	0	0	3	50	50	100	PE
15MX36	JAVA and .Net Programming Laboratory	0	0	4	2	100	-	100	PC
15MX37	Multimedia Application Development Laboratory	1	0	2	2	100	-	100	PC
<b>Total 29 hrs</b>		<b>17</b>	<b>6</b>	<b>6</b>	<b>23</b>	<b>450</b>	<b>250</b>	<b>700</b>	
<b>IV SEMESTER</b>									
15MX41	Unix Architecture and Programming	3	0	0	3	50	50	100	PC
15MX42	Enterprise Computing	3	0	0	3	50	50	100	PC
15MX43	Software Engineering Methodologies	3	2	0	4	50	50	100	PC
15MX__	Elective II	3	0	0	3	50	50	100	PE
15MX__	Elective III	3	0	0	3	50	50	100	PE
15MX46	Unix System Programming Laboratory	0	0	2	1	100	-	100	PC
15MX47	Enterprise Computing Laboratory	0	0	4	2	100	-	100	PC
15MX48	Mini Project I	0	0	4	2	100	-	100	EEC
<b>Total 27 hrs</b>		<b>15</b>	<b>2</b>	<b>10</b>	<b>21</b>	<b>550</b>	<b>250</b>	<b>800</b>	
<b>V SEMESTER</b>									
15MX51	Data Mining	3	2	0	4	50	50	100	PC
15MX52	Service Oriented Architecture and Web Services	3	0	0	3	50	50	100	PC
15MX__	Elective IV	3	0	0	3	50	50	100	PE
15MX__	Elective V	3	0	0	3	50	50	100	PE
15MX__	Elective VI	3	0	0	3	50	50	100	PE
15MX56	Service Oriented Computing Laboratory	0	0	4	2	100	-	100	PC
15MX57	Mini Project II	0	0	4	2	100	-	100	EEC
<b>Total 25 hrs</b>		<b>15</b>	<b>2</b>	<b>8</b>	<b>20</b>	<b>450</b>	<b>250</b>	<b>700</b>	
<b>VI SEMESTER</b>									
15MX61	Project Work	0	0	24	12	50	50	100	EEC
<b>Total 24 hrs</b>		<b>0</b>	<b>0</b>	<b>24</b>	<b>12</b>	<b>50</b>	<b>50</b>	<b>100</b>	

\* Indicated is the minimum number of credits to be earned by a student.

**MASTER OF COMPUTER APPLICATIONS**

(2015 REGULATIONS)

<b>ELECTIVE THEORY COURSES(Six to be opted)</b>									
<b>Network System and Technologies</b>									
15MXAA	Network Management	3	0	0	3	50	50	100	PE
15MXAB	Wireless Networks	3	0	0	3	50	50	100	PE
15MXAC	Security in Computing	3	0	0	3	50	50	100	PE
15MXAD	Cloud Computing	3	0	0	3	50	50	100	PE
15MXAE	Pervasive Computing	3	0	0	3	50	50	100	PE
15MXAF	Mobile Computing	3	0	0	3	50	50	100	PE
15MXAG	Computers Forensics	3	0	0	3	50	50	100	PE
15MXAH	High Performance Computing	3	0	0	3	50	50	100	PE
15MXAI	Foundations of Modern Networking	3	0	0	3	50	50	100	PE
15MXAJ	Ubiquitous Computing	3	0	0	3	50	50	100	PE
<b>Web Services and Technologies</b>									
15MXBA	Social Networking and Web Mining	3	0	0	3	50	50	100	PE
15MXBB	XML and its Applications	3	0	0	3	50	50	100	PE
15MXBC	Semantic Web Technologies	3	0	0	3	50	50	100	PE
<b>Intelligent System and Technologies</b>									
15MXCA	Machine Learning	3	0	0	3	50	50	100	PE
15MXCB	Soft computing	3	0	0	3	50	50	100	PE
15MXCC	Artificial Intelligence	3	0	0	3	50	50	100	PE
15MXCD	Bioinformatics	3	0	0	3	50	50	100	PE
15MXCE	Evolutionary Computation	3	0	0	3	50	50	100	PE
15MXCF	Programming for Robotics	2	2	0	3	50	50	100	PE
15MXCG	Deep Learning	2	2	0	3	50	50	100	PE
<b>Advanced Computing and Technologies</b>									
15MXDA	Advanced Database Technology	3	0	0	3	50	50	100	PE
15MXDB	Information Storage and Management	3	0	0	3	50	50	100	PE
15MXDC	Green Computing	3	0	0	3	50	50	100	PE
15MXDD	Multidimensional Data Structures	3	0	0	3	50	50	100	PE
15MXDE	Multi-Core Programming	3	0	0	3	50	50	100	PE
15MXDF	Applied Graph Theory	3	0	0	3	50	50	100	PE
15MXDG	Computer Graphics	3	0	0	3	50	50	100	PE
15MXDH	Open Source Systems	3	0	0	3	50	50	100	PE
15MXDI	Human Computer Interaction	3	0	0	3	50	50	100	PE
15MXDJ	Design Patterns	3	0	0	3	50	50	100	PE
15MXDK	Games Engineering	3	0	0	3	50	50	100	PE
15MXDL	Big Data Analytics	3	0	0	3	50	50	100	PE
15MXDM	Data Analytics	3	0	0	3	50	50	100	PE
15MXDN	Internet of Things	3	0	0	3	50	50	100	PE
15MXDO	Software Project Management	3	0	0	3	50	50	100	PE
15MXDP	HPC Programming Model	2	2	0	3	50	50	100	PE
15MXDQ	Programming with Advanced Architectures	2	2	0	3	50	50	100	PE
15MXDR	Video Processing	2	2	0	3	50	50	100	PE
15MXDS	Virtualization	2	2	0	3	50	50	100	PE
15MXDT	Social Network Analysis	3	0	0	3	50	50	100	PE
15MXDU	Python Application Programming								
<b>Management and Decision Making</b>									
15MXEA	Knowledge Management	3	0	0	3	50	50	100	PE
15MXEB	Principles of Management and Behavioural Sciences	3	0	0	3	50	50	100	PE
15MXEC	Accounting and Financial Management	3	0	0	3	50	50	100	PE
15MXED	Entrepreneurship	3	0	0	3	50	50	100	PE
<b>Information System and Technologies</b>									
15MXFA	Text Mining	3	0	0	3	50	50	100	PE
15MXFB	Intelligent Information Retrieval	3	0	0	3	50	50	100	PE
15MXFC	Geographic Information System	2	2	0	3	50	50	100	PE
<b>Mathematical Modeling</b>									
15MXGA	Numerical Methods	3	0	0	3	50	50	100	PE
15MXGB	Applied Mathematical Modeling	3	0	0	3	50	50	100	PE

**CAT – Category; FC – Foundation Course; PC – Professional Core; PE - Professional Electives EEC – Employability Enhancement Course**

**ONE CREDIT COURSES**

15XK01	Creativity and Innovation in Software Problem Solving and Design
15XK02	Business Analytics
15XK03	Domain Specific Languages
15XK04	Software Testing – Industry Perspectives
15XK05	Mainframe Systems
15XK06	Operating System Performance Assessment
15XK07	Responsive Web Design
15XK08	Multi-Core Technology
15XK09	Skill for Virtual Teams