

**M.Sc. SOFTWARE ENGINEERING (5 YEARS)**

**ANNA UNIVERSITY**

**CHENNAI & TRICHY**

**CURRICULUM**

**I SEMESTER**

**Theory**

<b>Code No.</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>M</b>
<b>XCS 111</b>	English I	4	0	0	100
<b>XCS 112</b>	Trigonometry, Algebra and Calculus	3	1	0	100
<b>XCS 113</b>	Applied Physics	4	0	0	100
<b>XCS 114</b>	Digital Principles	4	0	0	100
<b>XCS 115</b>	Problem Solving Techniques	3	1	0	100

**Practicals**

<b>XCS 116</b>	Devices Lab	0	0	3	100
<b>XCS 117</b>	Digital Lab	0	0	3	100
<b>XCS 118</b>	Computer Practice	1	0	3	100

**II SEMESTER**

**Theory**

<b>XCS 121</b>	English II	4	0	0	100
<b>XCS 122</b>	Analytical Geometry and Real and Complex Analysis	3	1	0	100
<b>XSE 121</b>	Software Engineering I	4	0	0	100
<b>XIT 121</b>	Computer Architecture	4	0	0	100
<b>XCS 125</b>	Programming in C	3	1	0	100
<b>XCS 126</b>	COBOL and Data Processing	3	1	0	100

**Practicals**

<b>XCS 127</b>	C Programming Lab	0	0	3	100
<b>XCS 128</b>	COBOL Lab	0	0	3	100

### III SEMESTER

#### Theory

<b>Code No.</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>M</b>
<b>XCS 231</b>	Partial Differential Equations and Integral Transforms	3	1	0	100
<b>XCS 232</b>	Numerical Methods	3	1	0	100
<b>XCS 233</b>	Data Structures	3	1	0	100
<b>XCS 246</b>	Object Oriented Programming and C ++	3	1	0	100
<b>XCS 235</b>	Database Management Systems	4	0	0	100

#### Practicals

<b>XCS 248</b>	C++ Lab	0	0	3	100
<b>XCS 237</b>	Data Structures Lab	0	0	3	100
<b>XCS 238</b>	RDBMS Lab	0	0	3	100

### IV SEMESTER

#### Theory

<b>XCS 241</b>	Discrete Mathematics	3	1	0	100
<b>XSE 241</b>	Software Engineering II	4	0	0	100
<b>XSE 242</b>	Operating System and System Software	4	0	0	100
<b>XCS 244</b>	Principles of Data Communication	4	0	0	100
<b>XCS 354</b>	Computer Graphics	3	1	0	100
<b>XSE 243</b>	Management Information System	4	0	0	100

#### Practicals

<b>XSE 244</b>	Operating System and System Software Lab	0	0	3	100
<b>XCS 357</b>	Computer Graphics Lab	0	0	3	100

## V SEMESTER

### Theory

<b>Code No.</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>M</b>
<b>XCS 351</b>	Operations Research	3	1	0	100
<b>XCS 353</b>	Computer Networks	4	0	0	100
<b>XCS 355</b>	Design and Analysis of Algorithms	3	1	0	100
<b>XSE 351</b>	Software Architecture	4	0	0	100
<b>XCS 352</b>	Theory of Computation	4	0	0	100

### Practicals

<b>XCS 356</b>	Algorithms Lab	0	0	3	100
<b>XCS 358</b>	Unix Lab	0	0	3	100
<b>XSE 352</b>	Operations Research and Networks Lab	0	0	3	100

## VI SEMESTER

### Theory

<b>XSE 361</b>	Software Design	4	0	0	100
<b>XCS 363</b>	Artificial Intelligence	4	0	0	100
<b>XCS 364</b>	Internet Programming	3	1	0	100
<b>XCS 473</b>	Object Oriented Analysis and Design	4	0	0	100
	Elective I	4	0	0	100
	Elective II	4	0	0	100

### Practicals

<b>XCS 475</b>	CASE Tools and UML Lab	0	0	3	100
<b>XCS 365</b>	Internet Programming Lab	0	0	3	100

## VII SEMESTER

### Theory

<b>Code No.</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>M</b>
<b>XSE 471</b>	Software Testing	4	0	0	100
<b>XCS 472</b>	Modelling and Simulation	3	1	0	100
<b>XCS 474</b>	Visual Programming	3	1	0	100
<b>XSE 472</b>	Object Oriented Software Engineering	4	0	0	100
	Elective III	4	0	0	100
	Elective IV	4	0	0	100

### Practicals

<b>XCS 476</b>	Visual Programming Lab	0	0	3	100
<b>XCS 366</b>	Software Lab I	0	0	3	100

## VIII SEMESTER

### Theory

<b>XCS 021</b>	Software Quality Assurance	4	0	0	100
<b>XCS 481</b>	Multimedia Systems	4	0	0	100
<b>XCS 482</b>	Web Technology	4	0	0	100
	Elective V	4	0	0	100
	Elective VI	4	0	0	100
	Elective VII	4	0	0	100

### Practicals

<b>XCS 485</b>	Software Lab II	0	0	3	100
<b>XCS 484</b>	Multimedia Lab	0	0	3	100

## IX SEMESTER

### Theory

<b>Code No.</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>M</b>
<b>XSE 591</b>	Software Metrics	4	0	0	100
<b>XCS 592</b>	Software Project Management	4	0	0	100
<b>XCS 593</b>	Network Security	4	0	0	100
<b>XCS 471</b>	Principles of Management	4	0	0	100
	Elective VIII	4	0	0	100
	Elective IX	4	0	0	100

### Practical

<b>XSE 592</b>	Software Lab III	0	0	3	100
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## X SEMESTER

### Practicals

<b>XSE 510</b>	Project Work	0	0	32	400
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**Total Marks :** **7500**

## LIST OF ELECTIVES

Code No.	Course Title	L	T	P	M
<b>XSE 001</b>	Software Reuse	3	0	0	100
<b>XSE 002</b>	Software Communication and Documentation	3	0	0	100
<b>XSE 003</b>	User Interface Design	3	0	0	100
<b>XCS 022</b>	Personal Software Process and Team Software Process	3	0	0	100
<b>XSE 004</b>	Software Agents	3	0	0	100
<b>XSE 005</b>	Real Time Systems	3	0	0	100
<b>XSE 006</b>	Component Based Development	3	0	0	100
<b>XCS 362</b>	Compiler Design	3	0	0	100
<b>XCS 234</b>	Microprocessors	3	0	0	100
<b>XCS 483</b>	Network Protocols	3	0	0	100
<b>XCS 017</b>	Wireless Technology	3	0	0	100
<b>XIT 002</b>	Client Server Computing	3	0	0	100
<b>XCS 010</b>	Advanced Database Management Systems	3	0	0	100
<b>XCS 011</b>	Data Mining and Data Warehousing	3	0	0	100
<b>XCS 020</b>	Cryptography	3	0	0	100
<b>XIT 004</b>	Mobile Computing	3	0	0	100
<b>XCS 019</b>	Extreme Programming	3	0	0	100
<b>XIT 009</b>	Parallel Computing	3	0	0	100
<b>XIT 010</b>	Soft Computing	3	0	0	100
<b>XIT 011</b>	Software Reliability	3	0	0	100
<b>XCS 014</b>	Image Processing	3	0	0	100
<b>XCS 016</b>	Computer Vision	3	0	0	100
<b>XCS 015</b>	Pattern Recognition	3	0	0	100
<b>XSE 007</b>	Design Patterns	3	0	0	100