

**1.2.1 List of programs in which Choice Based Credit System (CBCS)/elective course system has been implemented**

<b>Programme Name : Computer Science &amp; Engineering (PG)</b>			
<b>Programme Code: 1-1408968341</b>			
<b>Sr. No.</b>	<b>Class Name</b>	<b>Status of implementation of CBCS / elective course system (Yes/No)</b>	<b>Year of implementation of CBCS / elective course system</b>
1	M.E. Computer Science & Engineering -I	Yes (CBCS & Elective)	2015-16
2	M.E. Computer Science & Engineering -II	Yes (CBCS)	2016-17
3	M.Tech. Computer Science & Engineering -I	Yes (CBCS & Elective)	2018-19
4	M.Tech. Computer Science & Engineering -II	Yes (CBCS & Elective)	2019-2020



*B. Pange*  
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College of Engineering  
PANDHARPUR



# SOLAPUR UNIVERSITY, SOLAPUR

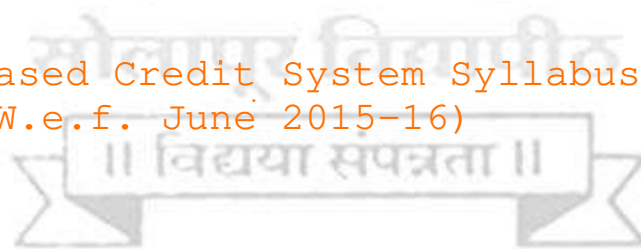
FACULTY OF ENGINEERING & TECHNOLOGY

**COMPUTER SCIENCE AND ENGINEERING**

**Structure for**

**M.E. (Computer Science & Engineering) Part-I**

Choice Based Credit System Syllabus  
(W.e.f. June 2015-16)



## Structure of M. E. (Computer Science & Engineering) Part-II

### Semester – I

Sr. No.	Name of the Subject	Teaching Scheme			Examination Scheme - Credits		
		L	T	P	Paper	T/W	Total
1	Theory of computation	3	1	-	3	1	4
2	Advanced Operating Systems	3	-	2	3	1	4
3	Analysis of Algorithms	3	-	2	3	1	4
4	Research Methodology	3	1	-	3	1	4
5	Elective-I	3		2	3	1	4
6	Seminar-I	-	-	2	-	2	2
	<b>Total</b>	<b>15</b>	<b>2</b>	<b>8</b>	<b>15</b>	<b>7</b>	<b>22</b>

- Elective – I:**
- 1) Data Mining
  - 2) Mobile Computing
  - 3) Artificial Neural Network and Genetic Algorithms
  - 4) Enterprise Software Development

### Semester – II

Sr. No.	Name of the Subject	Teaching Scheme			Examination Scheme - Credits		
		L	T	P	Paper	T/W	Total
1	Internet Routing Algorithm	3	--	2	3	1	4
2	Advanced Database Concepts	3	--	2	3	1	4
3	Parallel Computer Architectures	3	1	--	3	1	4
4	Elective-II	3	1	--	3	1	4
5	Elective-III	3	--	2	3	1	4
6	Seminar-II	--	--	2	--	2	2
	<b>Total</b>	<b>15</b>	<b>2</b>	<b>8</b>	<b>15</b>	<b>7</b>	<b>22</b>

- Elective – II:**
- 1) Grid Computing
  - 2) Real Time Operating System
  - 3) Natural Language Processing
  - 4) Infrastructure Management

- Elective – III:**
- 1) Web Technology
  - 2) Business Intelligent System
  - 3) Object Oriented Software Engineering and Design Patterns
  - 4) Wireless Ad-hoc Network



# **SOLAPUR UNIVERSITY, SOLAPUR**

**FACULTY OF ENGINEERING & TECHNOLOGY**

**COMPUTER SCIENCE AND ENGINEERING**

**Syllabus Structure and detailed syllabus of**

**M.E. (Computer Science & Engineering) Part II**

**Choice Based Credit System Syllabus**

**w.e.f. Academic Year 2016-17**

**Structure of M. E. (Computer Science & Engineering) Part-II**  
w.e.f. Academic Year 2016 - 17

**Semester – III**

Sr. No.	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Theory (Marks)	Practical (Marks)	Total
1	Self learning	--	--	--	3	ISE	30	--	30
						ESE	70	--	70
2	Lab Practice	--	--	2	1	ISE	--	25	25
3	<b>Dissertation Phase –I</b> : Synopsis Submission Seminar	--	--	6	3	ISE	--	75	75
	<b>Dissertation Phase-II</b> : Termwork	--	--	--	3	ISE	--	100	100
	<b>Dissertation Phase II</b> Progress Seminar Presentation	--	--	--	6	ESE	--	200	200
<b>Total</b>		--	--	<b>08</b>	<b>16</b>		<b>100</b>	<b>400</b>	<b>500</b>

**Note:**

1. Student shall select one Self Learning course from the following list.
  - i) Big Data
  - ii) Open Source Technology
  - iii) Computer Network Administration

**Semester – IV**

Sr. No.	Course	Teaching Scheme		Evaluation Scheme		
		P	Credits	Scheme	Practical (Marks)	Total
1	<b>Dissertation Phase III</b> : Progress Seminar Presentation and report	4	4	ISE	100	100
2	<b>Dissertation Phase IV:</b> Term work	2	6	ISE	200	200
3	Final presentation and viva-voce	-	6	ESE	200	200
<b>Total</b>		<b>6</b>	<b>16</b>		<b>500</b>	<b>500</b>

**ISE – IN SEMESTER EVALUATION**  
**ESE – END SEMESTER EVALUATION**



**SOLAPUR UNIVERSITY, SOLAPUR**

**FACULTY OF ENGINEERING & TECHNOLOGY**

**COMPUTER SCIENCE AND ENGINEERING**

**CBCS Syllabus for**

**First Year M.Tech.**

**w.e.f. Academic Year 2018-19**





**SOLAPUR UNIVERSITY, SOLAPUR**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**STRUCTURE OF M.Tech. (COMPUTER SCIENCE & ENGINEERING)**  
**Four Semester Course**  
**Choice Based Credit System Syllabus wef 2018 -19**  
**Semester-I**

Sr. No.	Subject	Teaching Scheme				Credits				Evaluation Scheme				
		L	T	P	Total	Credits (L)	Credits (T)	Credits (P)	Total Credits	Scheme	Theory Marks	ICA- P Marks	ICA-T Marks	Total Marks
1	Applied Algorithms	3	-	2	5	3.0	-	1.0	4.0	ISE	30	25	--	125
										ESE	70	--	--	
2	Theory of Computation	3	1	-	4	3.0	1.0		4.0	ISE	30	--	25	125
										ESE	70	--	--	
3	Data Mining	3	-	2	5	3.0	-	1.0	4.0	ISE	30	25	--	125
										ESE	70	--	--	
4	Machine Learning©	3	-	2	5	3.0	-	1.0	4.0	ISE	30	25	--	125
										ESE	70	--	--	
5	Elective I	3	1	-	4	3.0	1.0	-	4.0	ISE	30	--	25	125
										ESE	70	--	--	
6	Seminar- I	-	-	2	2	-	-	2.0	2.0	ISE	--	50	--	50
										ESE	--	--	--	
<b>Total</b>		<b>15</b>	<b>2</b>	<b>8</b>	<b>25</b>	<b>15.0</b>	<b>2.0</b>	<b>5.0</b>	<b>22.0</b>		<b>500</b>	<b>125</b>	<b>50</b>	<b>675</b>

*Note : L- Lectures, P-Practical, T-Tutorial, ISE- In Semester Evaluation, ESE- End Semester Evaluation, ICA- Internal Continuous Assessment*

*© - This Course is common for M.Tech. (Electronics Engineering) and M.Tech. (Computer Science & Engineering)*



**SOLAPUR UNIVERSITY, SOLAPUR**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**STRUCTURE OF M.Tech. (COMPUTER SCIENCE & ENGINEERING)**  
**Four Semester Course**  
**Choice Based Credit System Syllabus wef 2018-19**  
**Semester-II**

Sr. No.	Subject	Teaching Scheme				Credits				Evaluation Scheme				
		L	T	P	Total	Credits (L)	Credits (T)	Credits (P)	Total Credits	Scheme	Theory Marks	ICA- P Marks	ICA-T Marks	Total Marks
1	Research Methodology & IPR©	3	1	-	4	3.0	1.0	-	4.0	ISE	30	--	25	125
										ESE	70	--	--	
2	Internet of Things	3	-	2	5	3.0	-	1.0	4.0	ISE	30	25	--	125
										ESE	70	--	--	
3	Internet Routing Algorithm	3	-	2	5	3.0	-	1.0	4.0	ISE	30	25	--	125
										ESE	70	--	--	
4	Elective – II	3	-	2	5	3.0	-	1.0	4.0	ISE	30	25	--	125
										ESE	70	--	--	
5	Elective – III	3	1	-	4	3.0	1.0	-	4.0	ISE	30	--	25	125
										ESE	70	--	--	
6	Seminar- II	-	-	2	2	-	-	2.0	2.0	ISE	--	50	--	50
										ESE	--	--	--	
<b>Total</b>		<b>15</b>	<b>2</b>	<b>8</b>	<b>25</b>	<b>15.0</b>	<b>2.0</b>	<b>5.0</b>	<b>22.0</b>		<b>500</b>	<b>125</b>	<b>50</b>	<b>675</b>

**Note :** L- Lectures, P-Practical, T-Tutorial, ISE- In Semester Evaluation, ESE- End Semester Evaluation, ICA- Internal Continuous Assessment  
 © - This Course is common for M.Tech. (Electronics Engineering) and M.Tech. (Computer Science & Engineering)



- Seminar I shall be delivered on a topic related to student's broad area of interest for dissertation work selected in consultation with the advisor after compiling the information from the latest literature. Student shall deliver seminar using modern presentation tools. A hard copy of the report (as per format specified by the department) shall be submitted to the Department before delivering the seminar. A PDF copy of the report must be submitted to the advisor along with other details if any.
- Seminar II shall be delivered on a topic related to student's particular area of interest for dissertation work selected in consultation with the advisor after compiling the information from the latest literature. Student shall deliver seminar using modern presentation tools. A hard copy of the report (as per format specified by the department) shall be submitted to the Department before delivering the seminar. A PDF copy of the report must be submitted to the advisor along with other details if any.

- **List of elective courses for semester I and II -**

<b>Sr. No.</b>	<b>Elective - I</b>	<b>Elective - II</b>	<b>Elective - III</b>
1	Natural Language Processing	Reinforcement Learning	Wireless Sensor Network
2	Soft Computing	Advanced Cloud Computing	Infrastructure Management
3	Computer Vision	High Performance Computing	Real Time Operating System
4	Object Oriented Software Engineering	Software Defined Network	Advances in Database Systems

- Courses may be added in the list of Elective I, Elective II and Elective III as and when required.

**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**



**Name of the Faculty: Science & Technology**

**CHOICE BASED CREDIT SYSTEM**

**Syllabus: COMPUTER SCIENCE ENGINEERING**

**Name of the Course: M.Tech.- Semester I, II, III & IV**

**(Syllabus to be implemented from w.e.f. 2018-19 & 2019-20)**



Sr. No.	Subject	Teaching Scheme		Credits			Evaluation Scheme			
		L	P	Credits (L)	Credits (P)	Total Credits	Scheme	Theory Marks	ICA-P Marks	Total Marks
1	Self Learning Course	\$	--	3.0	--	3.0	ISE	30	--	100
							ESE	70	--	
2	Open Elective Course#	3	--	3.0	--	3.0	ISE	30	--	100
							ESE	70	--	
3	Dissertation Phase-I : Synopsis Submission Seminar*		@4	--	3.0	3.0	ISE	--	100	100
							ESE	--		
4	Dissertation Phase-II : ICA*	--	--	--	3.0	3.0	ISE	--	100	100
							ESE	--		
5	Dissertation Phase-II : Progress Seminar*	--	--	--	3.0	3.0	ISE	--		100
							ESE	--	100	
	<b>Total</b>	<b>3</b>	<b>4</b>	<b>6.0</b>	<b>9.0</b>	<b>15.0</b>		<b>200</b>	<b>300</b>	<b>500</b>

L- Lectures, P-Practical, T-Tutorial, ISE- In Semester Evaluation, ESE – End Semester Evaluation, ICA- Internal Continuous Assessment

**Note -**

- \$- Being a Self Learning Course, student shall prepare for examination as per specified syllabus
- \*- For all activities related to dissertation Phase I (synopsis submission seminar and progress seminar) student must interact regularly every week with the adviser.
- # - This course is common for all branches of Technology (i.e. for all M.Tech. Programs)
- Synopsis submission seminar shall cover detailed synopsis of the proposed work. Student shall submit synopsis of the dissertation work only after delivering this seminar.
- Progress seminar shall be delivered capturing details of the work done by student for dissertation
- Student shall deliver all seminars using modern presentation tools. A hard copy of the report shall be submitted to the department before delivering the seminar. A PDF copy of the report must be submitted to the adviser along with other details if any
- @ Indicates contact hours of students for interaction with adviser.
- Details of modes of assessment of seminar and dissertation shall be as specified in 7(III) of PG Engineering Ordinance of P.A.H. Solapur University, Solapur

Self Learning Course	
Sr. No.	Subject
1	Big Data
2	Computer Network Administration
3	Open Source Technologies
4	Usability Engineering

Open Elective Course	
Sr. No.	Subjects
1	Business Analytics
2	Operation Research
3	Cost Management of Engineering Projects
4	Non Conventional Energy

- New Self Learning Courses and New Open Elective Courses may be added as and when required



**PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR**  
**FACULTY OF SCIENCE & TECHNOLOGY**

**M.Tech. (COMPUTER SCIENCE & ENGINEERING)**

**Four Semester Course**

**Choice Based Credit System**

**Semester-IV**

Sr. No.	Subject	Teaching Scheme		Credits			Evaluation Scheme		
		L	P	Credits (L)	Credits (P)	Total Credits	Scheme	ICA-P Marks	Total Marks
1	Dissertation Phase-III : Progress Seminar #	--	@4	--	3.0	3.0	ISE	100	100
2	Dissertation Phase-IV : #	--	@2	--	6.0	6.0	--	200	200
3	Final Submission of the Dissertation and Viva-voce	--	--	--	6.0	6.0	ESE	200	200
	<b>Total</b>	--	<b>6</b>	--	<b>15.0</b>	<b>15.0</b>		<b>500</b>	<b>500</b>

Note –

- #- For all activities related to dissertation Phase III and Phase IV student must interact regularly every week with the adviser.
- Progress seminar shall be delivered capturing details of the work done by student for dissertation.
- Student shall deliver all seminars using modern presentation tools. A hard copy of the report shall be submitted to the Department before delivering the seminar. A PDF copy of the report must be submitted to the adviser along with other details if any.
- Student must submit a hard copy of Project Report to the department
- @ indicates contact hours of the student for interaction with the adviser.
- Details of modes of assessment of seminar and dissertation shall be as specified in 7 (III) of PG Engineering Ordinance of P.A.H. Solapur University, Solapur.