



**SOLAPUR UNIVERSITY, SOLAPUR**

**FACULTY OF ENGINEERING & TECHNOLOGY**

**ELECTRONICS & TELECOMMUNICATION ENGINEERING**

**Syllabus for**

**B.E. (E & TC Engineering) w.e.f. Academic Year 2015-16**



# SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF ENGINEERING & TECHNOLOGY

**STRUCTURE OF B.E (Electronics & Telecommunication Engineering)**

**W.E.F 2015-16**

## **B. E. (Electronics & Telecommunication Engineering) Semester- I**

Sr. No.	Subject	Teaching Scheme				Examination Scheme				
		L	Tut	P	Total	Th.	TW	POE	OE	Total
1	Computer Communication Network	4	--	2	6	100	25	50	--	175
2	VLSI Design	4	--	2	6	100	25	50	--	175
3	Satellite Communication	3	1	--	4	100	25	--	--	125
4	Coding Theory	3	1	--	4	100	25	--	--	125
5	Elective – I	4	--	2	6	100	25	--	--	125
6	Seminar & Project	--	--	4	4	--	25	--	50	75
7	Vocational Training	--	--	--	--	--	25	--	--	25
<b>Total</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>30</b>	<b>500</b>	<b>175</b>	<b>100</b>	<b>50</b>	<b>825</b>

**Elective – I    Advanced Telecommunication Network  
Image Processing  
Advance DSP.**

## **B. E. (Electronics & Telecommunication Engineering) Semester- II**

Sr. No.	Subject	Teaching Scheme				Examination Scheme				
		L	Tut	P	Total	Th.	TW	POE	OE	Total
1	Broadband Communication	3	1	--	4	100	25	--	25	150
2	Multimedia Communication Techniques	4	--	2	6	100	25	--	50	175
3	Embedded Systems	4	--	2	6	100	25	--	50	175
4	Elective – II	4	--	2	6	100	25	--	--	125
5	Project	--	--	8	8	--	100	100	--	200
<b>Total</b>		<b>15</b>	<b>1</b>	<b>14</b>	<b>30</b>	<b>400</b>	<b>200</b>	<b>100</b>	<b>125</b>	<b>825</b>

**Elective – II Wireless Sensor Network  
Pattern Recognition  
DSP Processors & Application**

**Note:**

- Minimum strength of the students for Elective be 15.
- Term work assessment shall be a continuous process based on student's performance in class tests, assignments, homework, subject seminars, quizzes, laboratory books and their interaction and attendance for theory and lab sessions as applicable.



# SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF ENGINEERING & TECHNOLOGY

**Electronics & Telecommunication Engineering**

**PROGRAM EDUCATIONAL OBJECTIVES AND PROGRAM OUTCOMES FOR**

**Electronics & Telecommunication Engineering Program**



**STRUCTURE OF T.E (Electronics & Telecommunication Engineering) W.E.F 2016-17**

# SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF ENGINEERING & TECHNOLOGY

STRUCTURE OF T.E (Electronics & Telecommunication Engineering) W.E.F 2016-17

## T. E. (Electronics & Telecommunication Engineering) Semester- I

Credit system structure of T.E. (Electronics & Telecommunication) Engineering W.E.F. 2016-17 Semester -I

Course Name	Theory	Hrs. /Week			Credits	Examination Scheme			
		L	T	P		ISE	ES E	IC A	Tota I
Electro Magnetic Engg. & Radiating System		3	--	--	4	30	70	25	125
Principles of Digital Communication		4	--	--	4	30	70	--	100
Software Engineering & Project Management System		3	1	--	3	30	70	25	125
Digital Signal Processing		4	--	--	4	30	70	--	100
Microprocessors		4	--	--	4	30	70	--	100
Self-Learning (HSS)*			--	--	--	--	50	--	50
<b>Sub Total</b>		<b>18</b>	<b>1</b>	<b>--</b>	<b>19</b>	<b>150</b>	<b>400</b>	<b>50</b>	<b>600</b>
<b>Laboratory</b>									
							ES E		
							PO E	O E	
Electro Magnetic Engg. & Radiating System		--	--	2	1	--		--	--
Principles of Digital Communication		--	--	2	1	--	50	--	25
Digital Signal Processing		--	--	2	1	--	25	--	25
Microprocessors		--	--	2	1	--	50	--	25
Electronic Software Lab-II		--	1	2	2	--	--	--	25
<b>Sub Total</b>		<b>--</b>	<b>1</b>	<b>--</b>	<b>6</b>	<b>--</b>	<b>125</b>	<b>100</b>	<b>225</b>
<b>Grand Total</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>25</b>	<b>150</b>	<b>525</b>	<b>150</b>	<b>825</b>

\* Self Learning (HSS)

Humanity and Social Science (HSS) of Semester – I will be common for Engineering and Technology.

# SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF ENGINEERING & TECHNOLOGY

STRUCTURE OF T.E (Electronics & Telecommunication Engineering) W.E.F 2016-17

## T. E. (Electronics & Telecommunication Engineering) Semester- II

Credit system structure of T.E. (Electronics & Telecommunication) Engineering W.E.F. 2016-17 Semester -II

Theory Course Name	Hrs. /Week			Credits	Examination Scheme			
	L	T	P		ISE	ES E	IC A	Tota I
Radar & Microwave Engineering	4	--	--	4	30	70	25	125
Microcontroller & Applications	4	--	--	4	30	70	--	100
Electronics Applications & System Design	4	--	--	3	30	70	--	100
Optical Communication	4	--	--	4	30	70	--	100
Mobile Communication	3	1	--	4	30	70	--	100
Self Learning*	--	--	--	--	--	50	--	50
<b>Sub Total</b>	<b>19</b>	<b>1</b>	<b>--</b>	<b>19</b>	<b>150</b>	<b>400</b>	<b>25</b>	<b>575</b>
<b>Laboratory</b>								
						<b>ES E</b>		
						<b>POE</b>	<b>OE</b>	
Radar & Microwave Engineering	--	--	2	1	--		--	--
Microcontroller & Applications	--	--	2	1	--	50	--	25
Electronics Applications & System Design	--	--	2	1	--	--	#50	25
Optical Communication	--	--	2	1	--	--	25	25
Mobile Communication	--	--	--	1	--	--	--	25
Mini Project(Hard Ware)	--	--	2	1	--	--	--	25
<b>Sub Total</b>	<b>--</b>	<b>--</b>	<b>10</b>	<b>6</b>	<b>--</b>	<b>125</b>	<b>125</b>	<b>250</b>
<b>Grand Total</b>	<b>19</b>	<b>1</b>	<b>10</b>	<b>25</b>	<b>150</b>	<b>525</b>	<b>150</b>	<b>825</b>



# Solapur University, Solapur

**T.E. (Electronics and Telecommunication Engineering)**

**Semester-II**

## **6. MINI PROJECT (HARDWARE)**

**Teaching Scheme:**

**Practical : 2 Hr/Week**

**Examination Scheme:**

**Term-Work: 25 Marks**

### **Course Objectives**

- 1) To understand PCB designing processes and techniques.
- 2) To make students familiar with PCB artwork and fabrication.
- 3) To design, implement, analyze, and test Hardware/Software mini project.

### **Course Outcome**

On completion of this course, students will be able to :

- 1) Understand and design PCB technique.
- 2) Understand and design PCB artwork and fabrication techniques.
- 3) Design, implement, analyze, and test Hardware mini project.

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**1. Maximum Group Size:** Minimum 2 and maximum 3 students can form a group for the mini project.

**2. Project Type:** The selected mini project must be based on development of a prototype electronic system/product mandatorily having a hardware component with supporting software.

### **3. Execution steps for Mini Projects:**

- (i) Complete Paper work Design using datasheets specifying: Selection criteria of the components to be used. Specifications of system i/p and desired o/p. Module based hardware design.  
Test points at various stages in various modules
- (ii) The circuit should be simulated using any of the standard simulation software available (either complete circuit to be simulated, if possible or an appropriate part of the circuit can be simulated.)
- (iii) Algorithm and the flow chart of the software part must be defined.
- (iv) Result verification for hardware and testing the algorithms.
- (v) Comparison with the paper design to identify the discrepancies, if any. Justification of the same must be given.
- (vi) Verified circuit should be assembled and tested on breadboard or general purpose board.
- (vii) Simulation results and/or the snapshots indicating the current and voltage readings or detailing

- the test point results at various stages must be preserved and included in the project report.
- (viii) Art work / layout of the circuit using standard layout tools.
  - (ix) Assembling and testing of circuit on final PCB.
  - (x) Design and fabrication of suitable enclosure and outside fittings such as switches, Buttons, knobs, meters, indicators, displays etc.
  - (xi) Final testing of the circuit using the earlier defined test points.
  - (xii) Preparing Bill of components and materials.
  - (xiii) Drawing entire circuit diagram (Component level), outlining various blocks indicating test points, inputs and outputs at various stages on A3 graph sheet

#### **4. Guidelines for the Seminar:**

Seminar is based on the Mini Project topic.

The seminar shall consist of the Literature Survey, Market survey, Basic project work and Applications of Mini project.

Seminar Assessment shall be based on Innovative Idea, Presentation skill, depth of understanding, Applications, Future Scope and Individual Contribution.

Maximum three students can deliver a seminar on one topic.(Three students per group) Each group shall be given time of 20 mins for presentation and 5 mins for question answer session.

A certified copy of seminar/ project report shall be required to be presented to external examiner at the time of final examination.

