

**Punyashlok Ahilyadevi Holkar Solapur University, Solapur**



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

**CHOICE BASED CREDIT SYSTEM**

**Syllabus: Electronics and Telecommunication  
Engineering**

**Name of the Course: B.E.- IV (Sem. VII & VIII)**

**(Syllabus to be implemented from w.e.f. June 2019)**

# Punyashlok Ahilyadevi Holkar Solapur University, Solapur

## Faculty of Engineering & Technology

*CBCS structure of B.E.Electronics & Telecommunication Engineering W.E.F. 2019-20*

### Semester I

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme				
		L	T	P		ISE	ESE	ICA	Total	
ET411	Computer Communication Network	4	--	--	4	30	70	25	125	
ET412	Embedded System Design	4	--	--	4	30	70	25	125	
ET413	Satellite Communication	3	1	--	4	30	70	25	125	
ET414	Database Management System (DBMS)	3	1	--	4	30	70	25	125	
ET415	Elective - I	4	--	--	4	30	70	25	125	
ET416	Seminar & Project	--	--	--	--	--	--	25	25	
ET417	Vocational Training	--	--	--	--	--	--	25	25	
<b>Sub Total</b>		18	2	--	20	150	350	175	675	
Course Code	Laboratory Course Name									
							<b>ESE</b>			
							<b>POE</b>	<b>OE</b>		
ET411	Computer Communication Network	--	--	2	1	--	50	--	--	50
ET412	Embedded System Design	--	--	2	1	--	50	--	--	50
ET413	Satellite Communication	--	--	--	--	--	--	--	--	--
ET414	Database Management System (DBMS)	--	--	--	--	--	--	--	--	--
ET415	Elective - I	--	--	2	1	--	--	--	--	--
ET416	Seminar & Project	--	--	4	2	--	--	50	--	50
ET417	Vocational Training	--	--	--	1	--	--	--	--	--
<b>Sub Total</b>		--	--	10	6	--	150		--	150
<b>Grand Total</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>26</b>	<b>150</b>	<b>500</b>		<b>175</b>	<b>825</b>

#### Elective I

ET415A--- Image & Video Processing

ET415B---Optimization Techniques

ET415C---Electronic Product Design

ET415D---Advanced DSP

# Punyashlok Ahilyadevi Holkar Solapur University, Solapur

## Faculty of Engineering & Technology (Revised from 2018-19)

CBCS structure of B.E. Electronics & Telecommunication Engineering W.E.F. 2019-20

### Semester II

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme				
		L	T	P		ISE	ESE	ICA	Total	
ET421	Internet of Things (IoT)	3	1	--	4	30	70	25	125	
ET422	Multimedia Communication Technique	4	--	--	4	30	70	25	125	
ET423	VLSI Design	4	--	--	4	30	70	25	125	
ET424	Elective – II	4	--	--	4	30	70	25	125	
ET425	Project	--	--	--	--	--	--	100	100	
<b>Sub Total</b>		<b>15</b>	<b>1</b>	<b>--</b>	<b>16</b>	<b>120</b>	<b>280</b>	<b>200</b>	<b>600</b>	
Course Code	Laboratory Course Name									
							ESE			
							POE	OE		
ET421	Internet of Things (IoT)	--	--	--	--	--	--	25	--	25
ET422	Multimedia Communication Technique	--	--	2	1	--	--	50	--	50
ET423	VLSI Design	--	--	2	1	--	50	--	--	50
ET424	Elective – II	--	--	2	1	--	--	--	--	--
ET425	Project	--	--	8	4	--	100	--	--	100
<b>Sub Total</b>		<b>--</b>	<b>--</b>	<b>14</b>	<b>7</b>	<b>--</b>	<b>225</b>	<b>--</b>	<b>--</b>	<b>225</b>
<b>Grand Total</b>		<b>15</b>	<b>1</b>	<b>14</b>	<b>23</b>	<b>120</b>	<b>505</b>	<b>200</b>	<b>825</b>	

### Elective – II

ET424A---Network Security

ET424B---Soft Computing

ET424C---DSP Processors & Application

ET424D---Data Analytics

Y Note:

- Minimum strength of the students for Elective is 15.
- Term work assessment shall be a continuous process based on student's performance in class tests, assignments, homework, subject seminars, quizzes, and laboratory books and their interaction and attendance for theory and lab sessions as applicable.
- The batch size for the practical's/tutorials is of 15 students. On forming the batches, if the strength of remaining students exceeds 7 students, then a new batch be formed. For project the group shall be of three students.



# **SOLAPUR UNIVERSITY, SOLAPUR**

**FACULTY OF ENGINEERING & TECHNOLOGY**

**ELECTRONICS & TELECOMMUNICATION ENGINEERING**

**Syllabus for**

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

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

**Choice Based Credit System**



## SOLAPUR UNIVERSITY, SOLAPUR Faculty of Engineering & Technology

CBCS structure of T.E. Electronics & Telecommunication Engineering W.E.F. 2018-19

### Semester I

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme				
		L	T	P		ISE	ESE	ICA	Total	
ET311	Electro Magnetic Engg. & Radiating System	3	1	--	4	30	70	--	100	
ET312	Principles of Digital Communication	4	--	--	4	30	70	--	100	
ET313	Software Engineering & Project Management System	3	--	--	3	30	70	--	100	
ET314	Digital Signal Processing	4	--	--	4	30	70	--	100	
ET315	Microcontroller – I (8051)	4	--	--	4	30	70	--	100	
SLH31	Self Learning Course I -HSS	--	--	--	2	--	50	--	50	
<b>Sub Total</b>		18	1	--	21	150	400	--	550	
Course Code	Laboratory Course Name						ESE			
							POE	OE		
ET311	Electro Magnetic Engg. & Radiating System	--	--	2	1	--	--	--	25	25
ET312	Principles of Digital Communication	--	--	2	1	--	50	--	25	75
ET314	Digital Signal Processing	--	--	2	1	--	25	--	25	50
ET315	Microcontroller – I (8051)	--	--	2	1	--	50	--	25	75
ET316	Electronic Software Lab-III	--	1	2	2	--	--	--	50	50
<b>Sub Total</b>		--	2	10	6	--	125		150	275
<b>Grand Total</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>27</b>	<b>150</b>	<b>525</b>	<b>150</b>	<b>825</b>	

Abbreviations: L- Lectures, P –Practical, T- Tutorial, ISE-In Semester Exam., ESE - End Semester Exam, ICA- Internal Continuous Assessment ESE - University Examination (Theory &/ POE &/Oral examination)



**SOLAPUR UNIVERSITY, SOLAPUR**  
**Faculty of Engineering & Technology**

**CBCS structure of T.E. Electronics & Telecommunication Engineering W.E.F. 2018-19**

**Semester II**

Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme			
		L	T	P		ISE	ESE	ICA	Total
ET321	Radar & Microwave Engineering	4	-	-	4	30	70	-	100
ET322	Microcontroller-II (PIC)	4	-	-	4	30	70	-	100
ET323	Electronics Applications & System Design	4	1	-	5	30	70	-	100
ET324	Optical Communication	3	-	-	3	30	70	-	100
ET325	Mobile Communication	3	1	-	4	30	70	-	100
ET327	Self Learning Course II- Technical	-	-	-	2	--	50	-	50
<b>Sub Total</b>		18	2	-	22	150	400	--	550
Course Code	Laboratory Course Name								
							<b>ESE</b>		
							<b>POE</b>	<b>OE</b>	
ET321	Radar & Microwave Engineering	-	-	2	1	-	-	-	25
ET322	Microcontroller-II (PIC)	-	-	2	1	-	50	-	25
ET323	Electronics Applications & System Design	-	-	2	1	-	-	#50	25
ET324	Optical Communication	-	-	2	1	-	-	25	25
ET325	Mobile Communication	--	--	--	--	-	-	-	25
ET327	Mini Hardware Project	-	-	2	1	-	-	-	25
<b>Sub Total</b>			-	10	5	-	125		150
<b>Grand Total</b>		18	2	10	27	150	525	150	825

Abbreviations: L- Lectures, P –Practical, T- Tutorial, ISE-In Semester Exam., ESE - End Semester Exam, ICA- Internal Continuous Assessment ESE - University Examination (Theory &/ POE &/Oral examination)



## Solapur University, Solapur

**T.E. (Electronics and Telecommunication Engineering) Semester-II**

**ET 326-MINI PROJECT (HARDWARE)**

### Teaching Scheme

Practical – 2 Hours/week, 1 Credit

### Examination Scheme

ICA – 25 Marks

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This course is introduced to enable students to apply the knowledge and skills learned out of courses studied to solve/implement predefined practical problem. The Project work may be beyond the scope of curriculum of courses for learning additional skills, developing the ability to define, design, analysis and implementation of the problem and lead to its accomplishment with proper planning.

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### Course Prerequisite:

Student shall have knowledge of PCB designing, circuit designing, testing, soldering.

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### Course Objectives:

- 1) To produce PCB artwork using an appropriate EDA tool.
  - 2) To practice good soldering, testing, fault detection and effective trouble-shooting.
  - 3) To design and implement application based hardware project.
  - 4) To present technical seminar and display the project.
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### Course Outcomes:

Students will be able to

- 1) Produce PCB artwork using an appropriate EDA tool.
  - 2) Practice good soldering, testing, fault detection and effective trouble-shooting.
  - 3) Design and implement application based hardware project.
  - 4) Present technical seminar and display the project.
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### 1) Guidelines for project implementation:

- 1) Project group should be not more than 3 students per group.
- 2) Domains for projects may be based on a particular application from the following, but not limited to:
  - i. Instrumentation and Control Systems
  - ii. Electronic Communication Systems
  - iii. Biomedical Electronics

- iv. Power Electronics
  - v. Audio, Video Systems
  - vi. Embedded Systems
  - vii. Mechatronics Systems
- 3) Week 1 & 2: Formation of groups, searching of an application based hardware project
  - 4) Week 3 & 4: Finalization of Mini project & Distribution of work.
  - 5) Week 5 & 6: PCB artwork design using an appropriate EDA tool & Simulation.
  - 6) Week 7 & 8: Procurement of electronic components for the project & PCB manufacturing.
  - 7) Week 9, 10 & 11: Hardware assembly, testing, fabrication
  - 8) Week 12: Demo, Group presentation & report submission

**2) Guidelines for group seminar:**

- 1) The seminar shall consist of the Literature Survey, Market survey, Basic project work and Applications of Mini project.
  - 2) Seminar Assessment shall be based on Innovative Idea, Presentation skill, depth of understanding, Applications, Future Scope and Individual Contribution.
1. A certified copy of seminar/ project report shall be required to be presented to external examiner at the time of final examination.