

\$: Mandatory subjects of first, second and third semester must include at least 40 credits for Engineering Physics, Engineering Chemistry, Engineering Mathematics, social science and soft skills

In addition to above credits, there should be audit courses in semester five, six and seven to develop the various skills.

The detail structure is given in Tables

TABLE - 2 Structure for Semester-1

Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
			Lectures	Tutorials	PR/DRG	Theory		TW	PR	OR	Max. Marks	
						In-Semester Exam	End-Semester Exam					
107001	Engineering Mathematics I		4	1	-	50	50	25	-	-	125	5
# 107002 / 107009.	Engineering Physics OR Engineering Chemistry		4	-	2	50	50	25	-	-	125	5
102006	Engineering Graphics I		3	-	2	50	50	-	-	-	100	4
# 103004 / 104012	Basic Electrical Engineering OR Basic Electronics Engineering		3	-	2	50	50	25	-	-	125	4
101005	Basic Civil and Environmental Engineering		3	-	2	50	50	25	-	-	125	4
110003	Fundamentals of Programming Languages I		1	-	2	-	-	-	50*	-	50	2
111007	Workshop Practice		-	-	2	-	-	50	-	-	50	1
Total of Semester I			18	1	12	250	250	150	50	-	700	25

TABLE - 3 Structure for Semester-2

Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
			Lectures	Tutorials	PR/DRG	Theory		TW	PR	OR	Max. Marks	
						In-Semester Exam	End-Semester Exam					
107008	Engineering Mathematics II		4	-	-	50	50	-	-	-	100	4
# 107009 / 107002	Engineering Chemistry OR Engineering Physics		4	-	2	50	50	25	-	-	125	5
102013	Basic Mechanical Engineering		3	-	2	50	50	25	-	-	125	4
101011	Engineering Mechanics		4	-	2	50	50	25	-	-	125	5
# 104012 / 103004.	Basic Electronics Engineering OR Basic Electrical Engineering		3	-	2	50	50	25	-	-	125	4
110010	Fundamentals of Programming Languages II		1	-	2	-	-	-	50*	-	50	2
102014	Engineering Graphics II		-	-	2	-	-	50	-	-	50	1
Total of Semester II			19	-	12	250	250	150	50	-	700	25

Instructions:

1. PR/Tutorial must be conducted in minimum three batches (batch size 22 maximum) per division
2. Minimum number of required Experiments/Assignments in PR/DRG/Tutorial be carried out as mentioned in the syllabi of related subjects.
3. * for FPL-I and FPL-II: S.P. Pune University Online Practical Examination shall be conducted at the semester end.
4. # Every student should appear for Engineering Physics, Engineering Chemistry, Basic Electronics Engineering and Basic Electrical Engineering during the year.
5. # College is allowed to distribute Teaching Workload of subjects Physics, Chemistry, BEE, BXE in semester I and II by dividing number of FE divisions appropriately in two groups.

Savitribai Phule Pune University, Pune
SE(E&TC/Electronics Engineering) 2015 Course

(With effect from Academic Year 2016-17)

Semester I												
Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem (On line)	End-Sem (Theory)	TW	PR	OR	Total	TH/TUT	PR+OR
204181	Signals & Systems	3	1	-	50	50	25	-	-	125	4	-
204182	Electronic Devices & Circuits	4	-	2	50	50	-	50	-	150	4	1
204183	Electrical Circuits and Machines	3	-	2	50	50	25	-	-	125	3	1
204184	Data Structures and Algorithms	4	-	2	50	50	-	-	50	150	4	1
204185	Digital Electronics	4	-	2	50	50	-	50	-	150	4	1
204186	Electronic Measuring Instruments & Tools	1	-	2	-	-	50	-	-	50	1	1
204192	Audit Course 1	--	--	--	--	--	--	--	--	--		
Total		19	1	10	250	250	100	100	50	750	20	05
Total Credits											25	

Abbreviations:

Th : Theory

TW: Term Work

OR: Oral

TUT : Tutorial

PR : Practical

Note: Interested students of S.E. (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

SE(E&TC/Electronics Engineering) 2015 Course**(With effect from Academic Year 2016-17)****Semester II**

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem (on line)	End-Sem (Theory)	TW	PR	OR	Total	TH/TUT	PR+OR
207005	Engineering Mathematics III	4	1	-	50	50	25	-	-	125	5	-
204187	Integrated Circuits	4	-	2	50	50	25	50	-	175	4	1
204188	Control Systems	3	-	-	50	50	-	-	-	100	3	-
204189	Analog Communication	3	-	2	50	50	-	50	-	150	3	1
204190	Object Oriented Programming	3	-	4	50	50	-	-	50	150	3	2
204191	Employability Skill Development	2	-	2	-	-	50	-	-	50	2	1
204193	Audit Course 2	--	--	--	--	--	--	--	--	--		
Total		19	1	10	250	250	100	100	50	750	20	05
Total Credits											25	

Abbreviations:

TH: Theory
 TW: Term Work
 OR: Oral

TUT: Tutorial
 PR: Practical

Note: Interested students of S.E (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

Third Year E&TC Engineering (2015 Course) (With effect from Academic Year 2017-18)

Semester II												
Course Code	Course	Teaching Scheme			Semester Examination Scheme of						Credit	
		Hours / Week			Marks						Th+Tut	PR/OR/ TW
Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total				
304186	Power Electronics	3	--	--	30	70	--	--	--	100	3	--
304187	Information Theory, Coding and Communication Networks	4	--	--	30	70	--	--	--	100	4	--
304188	Business Management	3	--	--	30	70	--	--	--	100	3	--
306189	Advanced Processors	3	--	--	30	70	--	--	--	100	3	--
304190	System Programming and Operating Systems	3	--	--	30	70	--	--	--	100	3	--
304194	Power and ITCT Lab	--	--	4	--	--	50	50	--	100	--	2
304195	Advanced Processors and System Programming Lab	--	--	4	--	--	50	50	--	100	--	2
304196	Employability Skills and Mini Project	2	--	2	--	--	--	--	50	50	2	1
	Audit Course 4	--	--	--	--	--	--	--	--	--		
	Total	18	---	10	150	350	100	100	50	750	18	5
Total Credits											23	

BE (E & TC) Structure
2012 Course w.e.f. June 2015

Semester-I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment Phase I	PR	OR	TW	End Semester Examination	Total
									Phase II	
404181	VLSI Design & Technology	3			30					
404182	Computer Networks	3			30				70	100
404183	Microwave Engineering	4			30				70	100
404184	Elective I	3			30				70	100
404185	Elective II	3			30				70	100
404186	Lab Practice I (CN & MWE)			4			50	50		100
404187	Lab Practice II (VLSI & Elective I)			4		50		50		100
404188	Project Phase I		2				50			50
	Total	16	2	8	150	50	100	100	350	750

Elective I

1. Digital Image Processing
2. Embedded Systems & RTOS
3. Software Defined Radio
4. Industrial Drives and Control

Elective II

1. Multi rate & Adaptive Signal Processing
2. Electronic Product Design
3. PLCs and Automation
4. Artificial Intelligence

Semester-II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment	PR	OR	TW	End Semester Examination	Total
					Phase I				Phase II	
404189	Mobile Communication	4			30				70	100
404190	Broadband Communication Systems	4			30				70	100
404191	Elective III	3			30				70	100
404192	Elective IV	3			30				70	100
404193	Lab Practice III(MC & BCS)			4			50	50		100
404194	Lab Practice IV(Elective III)			2		50		50		100
404195	Project Phase II		6			50		100		150
	Total	14	6	6	120	100	50	200	280	750

Elective III

1. Speech & Audio Signal Processing
2. RF Circuit Design
3. Audio Video Engineering
4. Soft Computing

Elective IV

1. Biomedical Signal Processing
2. Nano Electronics & MEMS
3. Detection & Estimation Theory
4. Wireless Networks
5. Open Elective*

*Any one subject from the list of Elective IV of computer/IT/Electrical/Instrumentation or Institute can offer elective IV based on any industry need with prior approval from BoS(Electronics). Repetition of subjects or topics is to be avoided.

Dr. D. S. Bormane
Chairman, BOS(Electronics)

BE (E & TC) Structure
2012 Course w.e.f. June 2015

Semester-I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment	PR	OR	TW	End Semester Examination	Total
					Phase I				Phase II	
404181	VLSI Design & Technology	3			30				70	100
404182	Computer Networks	3			30				70	100
404183	Microwave Engineering	4			30				70	100
404184	Elective I	3			30				70	100
404185	Elective II	3			30				70	100
404186	Lab Practice I (CN & MWE)			4			50	50		100
404187	Lab Practice II (VLSI & Elective I)			4		50		50		100
404188	Project Phase I		2				50			50
	Total	16	2	8	150	50	100	100	350	750

Elective I

1. Digital Image Processing
2. Embedded Systems & RTOS
3. Software Defined Radio
4. Industrial Drives and Control

Elective II

1. Multi rate & Adaptive Signal Processing
2. Electronic Product Design
3. PLCs and Automation
4. Artificial Intelligence

Semester-II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment	PR	OR	TW	End Semester Examination	Total
					Phase I				Phase II	
404189	Mobile Communication	4			30				70	100
404190	Broadband Communication Systems	4			30				70	100
404191	Elective III	3			30				70	100
404192	Elective IV	3			30				70	100
404193	Lab Practice III(MC & BCS)			4			50	50		100
404194	Lab Practice IV(Elective III)			2		50		50		100
404195	Project Phase II		6			50		100		150
	Total	14	6	6	120	100	50	200	280	750

Elective III

1. Speech & Audio Signal Processing
2. RF Circuit Design
3. Audio Video Engineering
4. Soft Computing

Elective IV

1. Biomedical Signal Processing
2. Nano Electronics & MEMS
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BE (E & TC) Structure
2012 Course w.e.f. June 2015

Semester-I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment	PR	OR	TW	End Semester Examination	Total
					Phase I				Phase II	
404181	VLSI Design & Technology	3			30				70	100
404182	Computer Networks	3			30				70	100
404183	Microwave Engineering	4			30				70	100
404184	Elective I	3			30				70	100
404185	Elective II	3			30				70	100
404186	Lab Practice I (CN & MWE)			4			50	50		100
404187	Lab Practice II (VLSI & Elective I)			4		50		50		100
404188	Project Phase I		2				50			50
	Total	16	2	8	150	50	100	100	350	750

Elective I

1. Digital Image Processing
2. Embedded Systems & RTOS
3. Software Defined Radio
4. Industrial Drives and Control

Elective II

1. Multi rate & Adaptive Signal Processing
2. Electronic Product Design
3. PLCs and Automation
4. Artificial Intelligence

Semester-II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment	PR	OR	TW	End Semester Examination	Total
					Phase I				Phase II	
404189	Mobile Communication	4			30				70	100
404190	Broadband Communication Systems	4			30				70	100
404191	Elective III	3			30				70	100
404192	Elective IV	3			30				70	100
404193	Lab Practice III(MC & BCS)			4			50	50		100
404194	Lab Practice IV(Elective III)			2		50		50		100
404195	Project Phase II		6			50		100		150
	Total	14	6	6	120	100	50	200	280	750

Elective III

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Chairman, BOS(Electronics)

STRUCTURE OF

B.E. (ELECTRONICS & TELECOMMUNICATIONS) 2008 COURSE

TERM - I

SUBJECT CODE	NAME OF SUBJECT	TH	PR	TUT	PP	TW	OR	PR	TOTAL MARKS
404181	ELECTRONICS PRODUCT DESIGN	3		1	100	25			125
404182	VLSI DESIGN & TECHNOLOGY	4	2		100			50	150
404183	COMPUTER NETWORK	4	2		100		50		150
404184	ELECTIVE-I	4	2		100	25		50	175
404185	ELECTIVE-II	4			100				100
404186	PROJECT (PART-1)		2			50			50
		19	8	1	500	100	50	100	750

Elective -I

1. Digital Image Processing
2. Embedded System and RTOS
3. Industrial Drives Control
4. Microwave Communication and Radar

Elective-II

1. Entrepreneurship Development
2. Joint Time Frequency Analysis
3. Micro-electromechanical-system and System on chip (MEMS and SOC)
4. Mobile Communication

TERM – II

SUBJECT CODE	NAME OF SUBJECT	TH	PR	TUT	PP	TW	OR	PR	TOTAL MARKS
404187	TELECOMMUNICATION & SWITCHING SYSTEM	4	2	1	100		50		150
404188	OPTICAL FIBER COMMUNICATION	4	2		100	25		50	175
404189	ELECTIVE-III	4	2		100	25		50	175
404190	ELECTIVE-IV	4			100				100
404191	PROJECT (PART-II)***		6			100	50		150
		16	12	0	400	150	100	100	750

Elective-III

1. Soft Computing
2. Speech Processing
3. Television and Video Engineering
4. Test and Measurement Systems

Elective-IV

1. Artificial intelligence
2. Automotive Electronics
3. Nanotechnology
4. PLC and Industrial Process Automation
5. Any one subject from the list of Elective IV of Computer/IT/Electrical/Instrumentation OR institute can offer an elective-IV based on any industry need with prior approval of BOS (Electronics)

Note:

- 1) All Theory papers are three hours duration
- 2) Practical/Oral shall be based on term-work
- 3) Term-work of Project Part I consist of project report based on project
- 4) * * * Exam at the end of II term

STRUCTURE OF

B.E. (ELECTRONICS & TELECOMMUNICATIONS) 2008 COURSE

TERM - I

SUBJECT CODE	NAME OF SUBJECT	TH	PR	TUT	PP	TW	OR	PR	TOTAL MARKS
404181	ELECTRONICS PRODUCT DESIGN	3		1	100	25			125
404182	VLSI DESIGN & TECHNOLOGY	4	2		100			50	150
404183	COMPUTER NETWORK	4	2		100		50		150
404184	ELECTIVE-I	4	2		100	25		50	175
404185	ELECTIVE-II	4			100				100
404186	PROJECT (PART-1)		2			50			50
		19	8	1	500	100	50	100	750

Elective -I

1. Digital Image Processing
2. Embedded System and RTOS
3. Industrial Drives Control
4. Microwave Communication and Radar

Elective-II

1. Entrepreneurship Development
2. Joint Time Frequency Analysis
3. Micro-electromechanical-system and System on chip (MEMS and SOC)
4. Mobile Communication

TERM – II

SUBJECT CODE	NAME OF SUBJECT	TH	PR	TUT	PP	TW	OR	PR	TOTAL MARKS
404187	TELECOMMUNICATION & SWITCHING SYSTEM	4	2	1	100		50		150
404188	OPTICAL FIBER COMMUNICATION	4	2		100	25		50	175
404189	ELECTIVE-III	4	2		100	25		50	175
404190	ELECTIVE-IV	4			100				100
404191	PROJECT (PART-II)***		6			100	50		150
		16	12	0	400	150	100	100	750

Elective-III

1. Soft Computing
2. Speech Processing
3. Television and Video Engineering
4. Test and Measurement Systems

Elective-IV

1. Artificial intelligence
2. Automotive Electronics
3. Nanotechnology
4. PLC and Industrial Process Automation
5. Any one subject from the list of Elective IV of Computer/IT/Electrical/Instrumentation OR institute can offer an elective-IV based on any industry need with prior approval of BOS (Electronics)

Note:

- 1) All Theory papers are three hours duration
- 2) Practical/Oral shall be based on term-work
- 3) Term-work of Project Part I consist of project report based on project
- 4) ** * Exam at the end of II term