

## I Year I Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	BS	S&H	8HC04	Engineering Chemistry	4	0	0	4	30	70
2	ES	IT	8FC01	Problem Solving using C	3	0	0	3	30	70
3	BS	S&H	8HC09	Matrix Methods and Calculus	2	1	0	3	30	70
4	ES	S&H	8BC01	Workshop/Manufacturing Processes	1	0	0	1	30	70
5	HS	S&H	8HC01	Oral Communication Skills	1	0	0	1	30	70
6	BS	S&H	8HC08	Basic Mathematics, Analysis and Reasoning	2	1	0	3	30	70
7	BS	S&H	8HC64	Engineering Chemistry Lab	0	0	2	1	30	70
8	ES	IT	8FC61	Problem Solving using C Lab	0	0	2	1	30	70
9	ES	S&H	8BC61	Workshop/Manufacturing Processes Lab	0	0	2	1	30	70
10	HS	S&H	8HC61	Oral Communication Skills Lab	0	0	2	1	30	70
11	BS	ECE	8C160	Comprehensive Test and Viva Voce-I (2 Mids (Viva) and End Semester (Test and Viva) = 30+70)	1	0	0	1	30	70
12	BS	ECE	8C161	Technical Seminar – I	1	0	0	1	100	00
13	HS	S&H	8HC18	Orientation Course*	1	0	0	0	Marks and Grades will be given at the end of I – II Sem	
Total					16	2	8	21	430	770

\* a) Orientation Course for B. Tech I year I semester Students take place for 3 weeks duration covering the first Two Units

b) Orientation Course for B. Tech I year II semester Students take place for covering the remaining Four Units (Units III, IV, V, and VI).

## I Year II Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	BS	S&H	8HC07	Engineering Physics	3	1	0	4	30	70
2	ES	CSE	8EC01	Data Structures and C++	3	0	0	3	30	70
3	BS	S&H	8HC11	Advanced Calculus and Complex Variable	3	1	0	4	30	70
4	ES	S&H	8BC02	Engineering Graphics	1	0	4	3	30	70
5	HS	S&H	8HC02	Written Communication Skills	1	0	0	1	30	70
6	ES	EEE	8AC42	Electrical Circuits & Networks Analysis	2	1	0	3	30	70
7	ES	EEE	8AC61	Electrical Circuits & Networks Analysis Lab	0	0	2	1	30	70
8	BS	S&H	8HC66	Engineering Physics Lab	0	0	2	1	30	70
9	ES	CSE	8EC61	Data Structures (C/C++) Lab	0	0	2	1	30	70
10	HS	S&H	8HC62	Written Communication Skills Lab	0	0	2	1	30	70
11	BS	ECE	8C262	Comprehensive Test and Viva Voce-II (2 Mids (Viva) and End Semester (Test and Viva) = 30+70)	1	0	0	1	30	70
12	BS	ECE	8C263	Technical Seminar – II	1	0	0	1	100	00
13	HS	S&H	8HC18	Orientation Course*	2	0	0	0	Grade evaluation	
									30	70
Total					17	3	12	24	460	840

### II Year I Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	PC	ECE	8CC01	Electronic Devices and Circuits	3	0	0	3	30	70
2	PC	ECE	8CC02	Digital Logic Design	2	0	0	2	30	70
3	PC	ECE	8CC03	Signals and Systems	3	0	0	3	30	70
4	PC	ECE	8C304	Probability Theory and Stochastic Process	2	1	0	3	30	70
5	BS	S&H	8HC14	Transform Techniques and Numerical Methods	2	1	0	3	30	70
6	HS	S&H	8HC17	Universal Human Values	2	1	0	3	30	70
7	HS	S&H	8HC03	Soft Skills	1	0	2	2	30	70
8	PC	ECE	8CC71	Electronic Devices and Circuits Lab	0	0	2	1	30	70
9	PC	ECE	8CC72	Basic Simulation Lab	0	0	2	1	30	70
10	PC	ECE	8CC73	Digital Logic Design Lab	0	0	2	1	30	70
11	PW	ECE	8C364	Comprehensive Test and Viva Voce-III (2 Mids (Viva) and End Semester (Test and Viva) = 30+70)	1	0	0	1	30	70
12	PW	ECE	8C365	Technical Seminar - III	1	0	0	1	100	00
<b>Total</b>					17	3	8	24	430	770

### II Year II Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	PC	ECE	8CC05	Analog Circuits	2	0	0	2	30	70
2	PC	ECE	8CC06	Analog & Digital Communications	2	1	0	3	30	70
3	PC	ECE	8CC07	IC Applications	2	0	0	2	30	70
4	PC	ECE	8C408	Electromagnetic Waves and Transmission Lines	3	0	0	3	30	70
5	HS	MBA	8ZC01	Economics, Accountancy and Management Science	2	0	0	2	30	70
6	ES	IT	8FC27	Python Programming Concepts	2	0	0	2	30	70
7	HS	S&H	8HC05	Environmental Science and Ecology	2	0	0	2	30	70
8	PC	ECE	8CC74	Analog Circuits Lab	0	0	2	1	30	70
9	PC	ECE	8CC75	Analog & Digital Communication Lab	0	0	2	1	30	70
10	PC	ECE	8CC76	IC Applications Lab	0	0	2	1	30	70
12	PW	ECE	8C466	Comprehensive Test and Viva Voce-IV (2 Mids (Viva) and End Semester (Test and Viva) = 30+70)	1	0	0	1	30	70
13	PW	ECE	8C467	Technical Seminar - IV	1	0	0	1	100	00
14	PW	ECE		Summer Industry Internship - I: Evaluation will be done along with 3-1 courses						
<b>Total</b>					17	1	6	21	430	770

### III Year I Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	PC	ECE	8CC09	Digital Signal Processing	2	1	0	3	30	70
2	PC	ECE	8C510	VLSI Technology and Design	3	0	0	3	30	70
3	PC	ECM	8DC05	Microprocessors and Microcontrollers	3	0	0	3	30	70
4	PC	ECE	8C511	Cellular and Mobile Communication	2	0	0	2	30	70
5	PC	ECE	8C512	Antennas and Wave Propagations	2	1	0	3	30	70
6	PE	ECE		Professional Elective-I	3	0	0	3	30	70
7	PC	ECM	8DC71	Microprocessors and Microcontrollers Lab	0	0	2	1	30	70
8	PC	ECE	8C577	VLSI Technology and Design Lab	0	0	4	2	30	70
9	ES	IT	8FC72	Python Programming Lab	0	0	4	2	30	70
10	PW	ECE	8C591	Summer Industry Internship-I	0	0	1	1	30	70
11	MC	IT	8FC24	Cyber Security	2	0	0	0	Grade evaluation	
									30	70
Total					16	2	11	23	330	770

### III Year II Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	PC	CSE	8EC47	Computer Networks	2	0	0	2	30	70
2	PC	ECE	8C613	Microwave and Optical Communications	3	0	0	3	30	70
3	MC	CSE	8EC45	Artificial Intelligence	2	0	0	0	Grade evaluation	
									30	70
4	ES	EEE	8AC07	Linear Control systems	3	0	0	3	30	70
5	PE	ECE		Professional Elective- II	3	0	0	3	30	70
6	OE			Open Elective-I	2	0	0	2	30	70
7	PC	ECE	8C678	Antenna Simulation Lab	0	0	4	1	30	70
8	PC	CSE	8EC65	Computer Networks Lab	0	0	2	1	30	70
9	PC	ECE	8CC79	Digital Signal Processing Lab	0	0	4	2	30	70
10	PW	ECE	8C692	Group Project	0	0	2	1	30	70
11	PW	ECE	8C668	Comprehensive Viva Voce	1	0	0	1	30	70
12	PW	ECE		Summer Industry Internship - II: Evaluation will be done along with 4-1 courses						
Total					16	0	12	19	330	770

#### IV Year I Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	PC	ECE	8C714	Internet of Things and Applications	2	1	0	3	30	70
2	PC	ECE	8C715	Advanced Communications and Networks	3	1	0	3	30	70
3	HS	ECE	8C716	Intellectual Property Rights	1	0	0	1	30	70
4	PE	ECE		Professional Elective –III	3	0	0	3	30	70
5	PE	ECE		Professional Elective – IV	3	0	0	3	30	70
6	OE			Open Elective – II	2	0	0	2	30	70
7	PC	ECE	8C780	Internet of Things and Applications Lab	0	0	4	2	30	70
8	PC	ECE	8C781	Advanced Communications and Networks Lab	0	0	4	2	30	70
9	PC	ECE	8C782	Microwave and Optical Communications Lab	0	0	4	2	30	70
10	PW	ECE	8C793	Summer Industry Internship - II	0	0	1	1	30	70
<b>TOTAL</b>					<b>14</b>	<b>2</b>	<b>13</b>	<b>22</b>	<b>300</b>	<b>700</b>

#### IV Year II Semester ECE

Sl. No	Course Type	Dept Course	Code	Name of the Course	L	T	P	C	CIE	SEE
1	PE	ECE		Professional Elective –V	3	0	0	3	30	70
2	OE			Open Elective – III	2	0	0	2	30	70
3	PW	ECE	8C894	Major Project	0	0	10	5	30	70
<b>TOTAL</b>					<b>5</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>90</b>	<b>210</b>

## Professional Electives

S.No	Stream	PE-I	PE- II	PE-III	PE-IV	PE-V
1	<b>Code</b>	<b>8C517</b>	<b>8C623</b>	<b>8C729</b>	<b>8C735</b>	<b>8C841</b>
	<b>VLSI</b>	Digital Design Through Verilog	Analog and Mixed Signal Design	VLSI Physical Design	Design Verification using System Verilog	Low Power VLSI Design
2	<b>Code</b>	<b>8CC18</b>	<b>8CC24</b>	<b>8C730</b>	<b>8C736</b>	<b>8C842</b>
	<b>Embedded System</b>	Advanced Computer Architecture	Embedded C Programming	Embedded System Design using ARM	Embedded Real Time Operating Systems	System on Chip Architecture
3	<b>Code</b>	<b>8C519</b>	<b>8C625</b>	<b>8C731</b>	<b>8C737</b>	<b>8C843</b>
	<b>Signal Processing</b>	Digital Image & Video Processing	Transform Techniques	<b>DSP Processors and Architectures</b>	Bio-Medical Signal Processing	Radar Signal Processing
4	<b>Code</b>	<b>8C520</b>	<b>8C626</b>	<b>8C732</b>	<b>8C738</b>	<b>8C844</b>
	<b>Communications</b>	Information Theory and Coding Techniques	Software Defined Radio	Ad hoc and Wireless Sensor Networks	MIMO OFDM System	5G Communications
5	<b>Code</b>	<b>8C521</b>	<b>8C627</b>	<b>8C733</b>	<b>8C739</b>	<b>8C845</b>
	<b>Advanced Computing</b>	<b>Digital Image Processing</b>	<b>Artificial Neural Networks</b>	Computer Vision	<b>Machine Learning</b>	<b>Deep Learning</b>
6	<b>Code</b>	<b>8C522</b>	<b>8C628</b>	<b>8C734</b>	<b>8C740</b>	<b>8C846</b>
	<b>Microwave and Radar</b>	Phased Array Antennas	Satellite Communications	Radar Systems	Microwave Integrated Circuits	EMI/EMC

## Open Electives

Sl.No	Stream	OE-I	OE-II	OE-III
1	<b>Code</b>	<b>8ZC05</b>	<b>8ZC19</b>	<b>8ZC15</b>
	Finance	Banking Operations, Insurance and Risk Management	Entrepreneurship, Project Management and Structured Finance	Financial Institutions, Markets and services
2	<b>Code</b>	<b>8EC72</b>	<b>8EC74</b>	<b>8EC76</b>
	Computer Science	Programming in Java	Database Systems Concepts	Operating Systems Concepts
3	<b>Code</b>	<b>8ZC22</b>	<b>8ZC23</b>	<b>8ZC24</b>
	Entrepreneurship	Basics of Entrepreneurship	Advanced Entrepreneurship	Product and Services
4	<b>Code</b>	<b>8ZC25</b>	<b>8ZC26</b>	<b>8ZC27</b>
	Social Sciences Stream	Basics of Indian Economy	Basics of Polity	Indian History, Culture and Geography
5	<b>Code</b>	<b>8CC51</b>	<b>8CC52</b>	<b>8CC53</b>
	ECE Stream	Electronics and Instrumentation	Fundamentals of Communication	Embedded Systems Concepts
		Fundamentals of digital circuits & Microprocessors		
6	<b>Code</b>	<b>8AC47</b>	<b>8AC44</b>	<b>8AC45</b>
	EEE stream	Power Electronic Devices and Converters	Fundamentals of Measurements and Instrumentation	Fundamentals of Renewable energy sources
7	<b>Code</b>	<b>8BC51</b>	<b>8BC52</b>	<b>8BC53</b>
	Mechanical Stream	Introduction To Additive Manufacturing Processes	Principles of Operations Research	Principles of Automation and Robotics
8	<b>Code</b>	<b>8ZC08</b>	<b>8ZC09</b>	<b>8ZC10</b>
	Innovation and Design Thinking	Design literacy and Design Thinking	Co-Creation and Product Design	Entrepreneurship & Business Design

**A20 - Total Credits**  
**(Semester-wise Credit Distribution)**

SL. NO	SEMESTER	CREDITS
1.	I-I	21
2	I-II	24
3	II-I	24
4.	II-II	21
5	III-I	22
6	III-II	20
7	IV-I	22
8	IV-II	10
	<b>Total</b>	<b>164</b>

**Service Courses offered by ECE**

Sl. No	Code	Name of Subject	Offered to Dept
1	8CC01	Electronic Devices and Circuits	ECM, EEE
2	8CC02	Digital Logic Design	ECM, EEE
3	8CC03	Signals and Systems	ECM, EEE
4	8CC71	Electronic Devices and Circuits Lab	ECM, EEE
5	8CC72	Basic Simulation Lab	ECM
6	8CC73	Digital Logic Design Lab	ECM
7	8CC05	Analog Circuits	ECM, EEE
8	8CC06	Analog& Digital Communications	ECM, EEE
9	8CC07	IC Applications	ECM, EEE
10	8CC74	Analog Circuits Lab	ECM, EEE
11	8CC75	Analog& Digital Communication Lab	ECM
12	8CC76	IC Applications Lab	ECM, EEE
13	8CC09	Digital Signal Processing	ECM, EEE
14	8CC79	Digital Signal Processing Lab	ECM
15	8CC18	Advanced Computer Architecture	EEE
16	8CC24	Embedded C Programming	EEE
17	8CC54	Analog Electronic Circuits	CSE, IT
18	8CC83	Analog Electronic Circuits Lab	CSE, IT
19	8CC55	Digital Electronics	CSE, IT

<b>SL.NO</b>	<b>CATEGORY</b>	<b>MODEL CURRICULUM</b>	<b>SNIST</b>
<b>1.</b>	<b>Humanities and Social Sciences including Management</b>	<b>12</b>	<b>14</b>
<b>2</b>	<b>Basic Science courses</b>	<b>25</b>	<b>27</b>
<b>3</b>	<b>Engineering sciences</b>	<b>24</b>	<b>24</b>
<b>4.</b>	<b>Professional core courses</b>	<b>48</b>	<b>69</b>
<b>5</b>	<b>Professional Elective courses</b>	<b>18</b>	<b>15</b>
<b>6</b>	<b>Open Electives</b>	<b>18</b>	<b>6</b>
<b>7</b>	<b>Project work, Seminar and Internship</b>	<b>15</b>	<b>13</b>
	<b>Total</b>	<b>160</b>	<b>164</b>