

**SREENIDHI INSTITUTE OF SCIENCE AND TECHNOLOGY**  
**Electronics and Communication Engineering**  
**B.Tech Course Structure - Autonomous Regulation: 2015-16 (A15)**

**I Year B. Tech (ECE) – I Sem**

S. No.	Subject Code	Subject	L	T	P/D	C	Marks	
							Int.	Ext.
1	5H101	English-I	2	-	-	2	25	75
2	5H111	Engineering Mathematics – I	3	1	-	3	25	75
3	5H121	Engineering Physics – I	3	1	-	3	25	75
4	5H131	Engineering Chemistry	2	1	-	2	25	75
5	5F101	Computer Programming	3	1	-	3	25	75
6	5B101	Engineering Drawing – I	1	1	4	3	25	75
7	5H171	English Language Lab – I	-	-	2	1	25	75
8	5H181	Engineering Physics Lab-I	-	-	2/2	1	25	75
9	5H186	Engineering Chemistry Lab	-	-	2/2	1	25	75
10	5F171	Computer Programming Lab	-	-	3	2	25	75
11	5B171	Engineering workshop-I	-	-	2/2	1	25	75
12	5F172	IT Workshop – I	-	-	2/2	1	25	75
13	5C191	Seminar on current affairs/Technical Topic	-	-	2	1	100	-
<b>Total</b>			<b>14</b>	<b>5</b>	<b>15</b>	<b>24</b>	<b>400</b>	<b>900</b>

**I Year B. Tech (ECE) – II Sem**

S.No.	Subject Code	Subject	L	T	P/D	C	Max Marks	
							Int	Ext
1	5H202	English – II	2	2	-	2	25	75
2	5H213	Engineering Mathematics – II	3	1	-	3	25	75
3	5H223	Applied Physics – I	3	1	-	3	25	75
4	5E201	Data Structures and C++	3	1	-	3	25	75
5	5B202	Engineering Drawing – II	1	1	2	2	25	75
6	5H232	Environmental Chemistry and Ecology	2	1	-	2	25	75
7	5A242	Network Analysis	3	1	-	3	25	75
8	5H233	Ethics, Values, Positive Thinking and Happiness	1	1	-	1	25	75
9	5E271	Data structure and C++Lab	-	-	3	2	25	75
10	5H282	Engineering Physics Lab – II	-	-	2/2	1	25	75
11	5B272	Engineering Workshop - II	-	-	2/2	1	25	75
12	5C292	Seminar on Science and its impact	-	-	2	1	100	-
<b>Total</b>			<b>18</b>	<b>9</b>	<b>09</b>	<b>24</b>	<b>325</b>	<b>650</b>

**II Year B. Tech (ECE) – I Sem**

S.No.	Subject Code	Subject	L	T	P/D	C	Marks	
							CIE	SEE
1	5H315	Engineering Mathematics-III	3	1	-	3	25	75
2	5C301	Electronic Devices and Circuits	3	1	-	3	25	75
3	5CC02	Switching Theory and Logic Design	3	1	-	3	25	75
4	5C303	Probability Theory and Stochastic Process	3	1	-	3	25	75
5	5CC04	Signals and Systems	3	1	-	3	25	75
6	5BC04	Elements of Mechanical Engineering	3	1	-	3	25	75
7	5H373	Functional Communicative Written English	1	2	-	1	25	75
8	5C371	Electronic Devices & Circuits Lab	-	-	3	2	25	75
9	5CC72	Basic Simulation Lab	-	-	3	2	25	75
10	5C393	Seminar on Technology and Its Impact	-	-	2	1	100	-
<b>Total</b>			<b>19</b>	<b>8</b>	<b>8</b>	<b>24</b>	<b>325</b>	<b>675</b>

### II Year B. Tech (ECE) – II Sem

S.No.	Subject Code	Subject	L	T	P/D	C	Marks	
							CIE	SEE
1	5C406	Pulse and Digital Circuits	3	1	-	3	25	75
2	5C405	Analog Communications	3	1	-	3	25	75
3	5C408	Electronic Circuit Analysis	2	2	-	2	25	75
4	5C409	Electromagnetic Theory and Transmission Lines	3	1	-	3	25	75
5	5CC10	Digital Signal Processing	3	1	-	3	25	75
6		<b>Professional Elective-I</b>	3	1	-	3	25	75
7	5H474	Effective English Communication (EEC)	1	1	2	1	25	75
8	5C473	PDC & CAD Lab	1	1	3	2	25	75
9	5C474	Analog Communications Lab	-	-	3	2	25	75
10	5C494	Technical Seminar	-	-	2	1	100	-
11	5C486	Comprehensive Viva Voce-I	-	-	-	1	50	50
<b>Total</b>			<b>17</b>	<b>7</b>	<b>10</b>	<b>24</b>	<b>375</b>	<b>725</b>

Professional Elective-I			
S. No.	Stream	Subject Code	Subject Name
1	VLSI Technology	5CC20	HDL based Digital System Design
2	Embedded Systems	5DC03	Computer Organization and Architecture
3	Signal Processing	5C421	Coding Theory and Techniques
4	Computer Science	5EC41	Java Programming
5	Management	5ZC14	Financial Management
6	Manufacturing Engineering	5BC07	Metallurgy and Material Science

### III Year B. Tech (ECE) – I Sem

S.No.	Subject Code	Subject	L	T	P/D	C	Marks	
							CIE	SEE
1	5C512	Digital Communications	3	1	-	3	25	75
2	5C513	Microprocessors, Microcontrollers and Applications	3	1	-	3	25	75
3	5AC43	Electrical Technology	3	1	-	3	25	75
4	5C514	Antennas and Wave Propagation	3	1	-	3	25	75
5		<b>Professional Elective – II</b>	3	-	-	3	25	75
6		<b>Open Elective –I</b>	2	1	-	2	25	75
7	5HC75	Quantitative Aptitude	-	-	2	1	25	75
8	5C676	MPMCA Lab	-	-	4	2	25	75
9	5AC94	Electrical Technology Lab			2	1	25	75
10	5CC75	Digital Signal Processing Lab	-	-	4	2	25	75
11	5C585	Group Project	-	-	2	1	25	75
12	5C599	Summer Internship Evaluation	-	-	-	1	25	75
13	5C595	Technical Literature Review and Seminar –I	-	-	2	1	100	-
<b>Total</b>			<b>17</b>	<b>5</b>	<b>16</b>	<b>26</b>	<b>400</b>	<b>900</b>

<b>Professional Elective-II</b>			
S. No.	Stream	Subject Code	Subject Name
1	VLSI Technology /Advanced Electronics	5C524	Programmable Logic devices
2	Embedded Systems	5C525	Sensors and Actuators
3	Signal Processing	5C526	Multi - Rate Signal Processing
4	Communications	5CC27	Telecommunication Switching Systems & Networks
5	IOT	5DC57	Introduction to Internet of Things

<b>Open Elective-I</b>			
S. No.	Stream	Subject Code	Subject Name
1	Biology	5GC51	Biology for Engineers
2	Management	5ZC03	BOIRM
3	SAP	5EC26	SAP-I : SAP ABAP Workbench Fundamentals
4	Computer Science	5FC32	Data Base Systems
5	Electrical & Electronics	5AC47	Fundamentals of Power Electronics
6	Mechanical	5BC61	Fundamentals of Smart Materials
7	Technology Entrepreneurship	5ZC20	Product and Services
8	Cloud Computing & Analytics	5DC61	Introduction to Cloud computing for IOT
9	Foreign Language	5HC46	Basic German Language
10	Social Sciences Stream	5ZC25	Basics of Indian Economy

### III Year B. Tech (ECE) – II Sem

S.No.	Subject Code	Subject	L	T	P/D	C	Marks	
							CIE	SE E
1	5C617	Microwave and Optical Communications	3	1	-	3	25	75
2	5ZC01	Managerial Economics and Financial Analysis	2	1	-	2	25	75
3	5CC16	Linear and Digital IC Applications	3	2	-	3	25	75
4	5GC49	Intellectual Property Rights	1	1	-	1	25	75
5		<b>Open Elective-II</b>	2	1	-	2	25	75
6		<b>Open Elective-III</b>	2	1	-	2	25	75
7		<b>Professional Elective-III</b>	3	-	-	3	25	75
8	5HC77	Logical Reasoning	-	-	2	1	25	75
9	5C677	Digital Communications Lab	-	-	4	2	25	75
10	5CC89	Linear and Digital IC Application Lab	-	-	4	2	25	75
11	5C691	Comprehensive Viva Voce-II	-	-	-	1	50	50
12	5C696	Technical Literature Review and Seminar –II	-	-	2	1	100	-
<b>Total</b>			<b>16</b>	<b>7</b>	<b>12</b>	<b>23</b>	<b>400</b>	<b>800</b>
<b>Open Elective-II</b>								
S. No.	Stream	Subject Code	Subject Name					
1	Biology	5GC47	Fundamentals of Bio – Informatics					
2	Management	5ZC19	Entrepreneurship, Project Management and Structured Finance					
3	SAP	5EC27	SAP-II : SAP ABAP Workbench Concepts					
4	Computer Science	5EC73	Fundamentals of Operating Systems					
5	Electrical & Electronics	5AC44	Fundamentals of Measurements & Instrumentation					
6	Mechanical	5BC63	Principles of Operation Research					
7	Technology Entrepreneurship	5ZC24	Innovation and Design Thinking					
8	Cloud Computing & Analytics	5DC62	Business Analytics for IOT					
9	Foreign Language	5HC41	Basic French Language					
10	Social Sciences Stream	5ZC26	Basics of Polity and Ecology					
<b>Open Elective-III</b>								
1	Biology	5GC48	Biomedical Instrumentation					
2	Management	5ZC08	Enterprise Resource Planning					
3	SAP	5ZC08	Enterprise Resource Planning-II					
4	Computer Science	5FC28	Data Analytics					
		-----	Network Security and Cryptography					
5	Electrical & Electronics	5AC45	Fundamentals of Renewable Energy Sources					
6	Mechanical	5BC62	Basic Manufacturing Processes					
7	Technology Entrepreneurship	5ZC21	General Management and Entrepreneurship					
8	Foreign Language	5HC51	Basic Spanish Language					
9	Social Sciences Stream	5ZC27	Indian History, Culture and Geography					
	SWAYAM MOOCS Course							
<b>Professional Elective-III</b>								
1	VLSI Technology/ Advanced Electronics	5C629	Structured Digital System Design					
2	Embedded Systems	5C630 5C631 5C653	Automotive Electronics Embedded C Programming Developing Embedded IOT Applications					
3	Signal Processing	5CC32	Digital Image Processing					
4	Communications	5C739	Software Defined Radio					
5	IOT	5DC60	Developing IOT with case studies					
	SWAYAM MOOCS Course							

### Approved SWAYAM MOOCS Courses under Open Elective-III

1. Programming, Data Structure and Algorithms using Python
2. English Language for Competitive Exams
3. Advanced IOT Applications

### Approved SWAYAM MOOCS Courses under Professional Elective-III

1. Real Time Operating System
2. Introduction to Coding Theory
3. Principles of Digital Communications

### IV Year B. Tech (ECE) – I Sem

S.No.	Subject Code	SUBJECT	L	T	P/D	C	Marks	
							CIE	SEE
1	5C718	VLSI Technology and Design	3	1	-	3	25	75
2	5C719	Cellular and Mobile Communications	3	1	-	3	25	75
3	5EC05	Computer Networks	3	1	-	3	25	75
4	5AC07	Control Systems	3	-	-	3	25	75
5	5C722	Radar Systems	3	-	-	3	25	75
6		<b>Professional Elective-IV</b>	3	-	-	3	25	75
7	5C780	Micro Wave and Optical Communications Lab	-	-	4	2	25	75
8	5C782	VLSI TD Lab	-	-	4	2	25	75
9	5C786	Industry Oriented Mini Project	-	-	-	1	25	75
10	5C787	Project –I	-	-	2	3	100	-
11	5C797	Technical Literature Review and Seminar –III	-	-	2	1	100	-
<b>Total</b>			<b>18</b>	<b>3</b>	<b>12</b>	<b>27</b>	<b>450</b>	<b>750</b>

### Professional Elective- IV

1	VLSI Technology/ Advanced Electronics	5C735	Digital Design Through Verilog
2	Embedded Systems	5C736	DSP Processors and Architectures
3	Signal Processing	5C737 5C738	Wavelets Theory and Applications Artificial Neural Networks
4	Communications	5C746 5C740 5C746	Software Defined Networks Spread Spectrum communications MIMO OFDM

### IV Year B. Tech (ECE) – II Sem

S.No.	Subject Code	SUBJECT	L	T	P/D	C	Marks	
							CIE	SEE
1	5ZC02	Management Science	3	1	-	3	25	75
2		<b>Professional Elective-V</b>	3	-	-	3	25	75
3	5C888	Project -II	-	-	20	12	50	150
4	5C892	Comprehensive Viva Voce-III	-	-	-	1	50	50
5	5C898	Technical Literature Review and Seminar –IV	-	-	2	1	100	-
<b>Total</b>			<b>6</b>	<b>1</b>	<b>22</b>	<b>20</b>	<b>250</b>	<b>350</b>

### Professional Elective-V

1	VLSI Technology	5C841	CMOS Digital IC Design
2	Embedded Systems	5C842	System on-Chip Architecture

		5CC23 5C853	Embedded Real Time operating system <b>Introduction to System Engineering</b>
3	Signal Processing	5CC43	Digital Speech Signal Processing
4	Communications	5C845 5C851 5C852	Wireless Communications and Networks Satellite communications Ad-hoc Wireless Networks

\*- The highlighted courses are newly introduced in the curriculum based on feedback from various stake holders and skills-in-demand analysis.