

**PROGRAM STRUCTURE**  
**B.TECH (ELECTRONICS & COMMUNICATION ENGINEERING)**

**Semester I**

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2MAT101	Mathematics-I	3	--	--	3
2	A2PYI102	Applied Physics (Theory + Lab)	3	--	3	5
3	A2CII201	Programming for Problem Solving (Theory + Lab)	3	--	3	5
4	A2MED201	Computer Aided Engineering Graphics	1	--	4	3
5	A2EHA701	Constitution of India	2	--	--	--
<b>Total credits</b>						<b>16</b>

**Semester II**

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2MAT102	Mathematics-II	3	--	--	3
2	A2CYI101	Engineering Chemistry (Theory + Lab)	3	--	3	5
3	A2EEI201	Basic Electrical Engineering (Theory + Lab)	3	--	3	5
4	A2ECW201	Electronics Workshop	--	--	4	2
5	A2EHL001	English-I	1	--	3	3
<b>Total credits</b>						<b>18</b>

**Semester III**

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2MAT107	Mathematics-III	3	--	--	3
2	A2EHT101	Biology for Engineers	3	--	--	3
3	A2ECI301	Electronic Devices & Circuits (Theory + Lab)	3	--	2	4
4	A2ECT301	Network Theory	3	--	--	3
5	A2ECT201	Internet of Things (IOT)	3	--	--	3
6	A2ECT302	Switching Theory & Logic Design	3	--	--	3
7	A2ECI201	AI Tools, Techniques & Applications (Theory + Lab)	3	--	3	5
8	A2CHA701	Environmental Science	2	--	--	--
<b>Total credits</b>						<b>24</b>

**Semester IV**

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2MAT109	Mathematics-IV	3	--	--	3
2	A2EHL002	Effective Technical Communication (Theory + Lab)	1	--	3	3
3	A2ECT303	Signal and Systems	3	--	--	3
4	A2ECI302	Analog Communications (Theory + Lab)	3	--	2	4
5	A2ECT304	Random Variables and Stochastic Process	3	--	--	3
6	A2ECT305	Analog Circuits	3	--	--	3
7	A2ECT202	Design Thinking and Product Innovation	3	--	--	3
8	A2EHA702	Essence of Indian Traditional Knowledge	2	--	--	--
<b>Total credits</b>						<b>22</b>

**Semester V**

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2ECI303	Electromagnetic Waves & Transmission Lines (Theory + Lab)	3	--	3	4.5
2	A2ECT306	Control Systems	3	--	--	3
3	A2ECI304	Digital Communications (Theory + Lab)	3	--	3	4.5
4	A2ECT4XX	Professional Elective – 1	3	--	--	3
5	A2XXT5XX	Open Elective-I	3	--	--	3
6	A2XXT5XX	Open Elective-II	3	--	--	3
7	A2ECP601	Socially Relevant Project				1
<b>Total credits</b>						<b>22</b>

**Semester VI**

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2ECT307	Antennas & Wave Propagation	3	--	--	3
2	A2ECI305	Digital Signal Processing (Theory + Lab)	3	--	3	4.5
3	A2ECI306	Microprocessors & Microcontrollers (Theory + Lab)	3	--	3	4.5
4	A2ECT4XX	Professional Elective-II	3	--	--	3
5	A2ECT4XX	Professional Elective -III	3	--	--	3
6	A2MST001	Managerial Economics & Financial Analysis	3	--	--	3
7	A2ECP602	Mini Project				2
<b>Total credits</b>						<b>23</b>

### Semester VII

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2ECI307	Microwave Engineering (Theory + Lab)	3	--	2	4
2	A2ECL301	Virtual Instrumentation	1	--	3	3
3	A2ECT4XX	Professional Elective-IV	3	--	--	3
4	A2ECT4XX	Professional Elective-V	3	--	--	3
5	A2ECT4XX	Professional Elective-VI	3	--	--	3
6	A2EHT001	Professional Ethics and Human Values	3	--	--	3
7	A2ECP603	Project Phase – I				2
<b>Total credits</b>						<b>21</b>

### Semester VIII

S. No.	Course Code	Course Title	Hours per week			Credits
			L	T	P	
1	A2XXT5XX	Open Elective-III (Self Study)	--	--	--	3
2	A2XXT5XX	Open Elective-IV (Self Study)	--	--	--	3
3	A2ECP604	Project Phase - II	--	--	--	8
<b>Total credits</b>						<b>14</b>

#### Professional Elective-I :

S.No.	Course Code	Course Title
1	A2ECT401	Information Theory and Coding
2	A2ECT402	VLSI Design
3	A2ECT403	Soft Computing Techniques

#### Professional Elective-II :

S.No.	Course Code	Course Title
1	A2ECT404	Optical Communication
2	A2ECT405	Digital IC Design
3	A2ECT406	Machine Learning

#### Professional Elective-III

S.No.	Course Code	Course Title
1	A2ECT407	EMI/EMC
2	A2ECT408	Computer Architecture & Computer Networks
3	A2ECT409	Transform Techniques

#### Professional Elective-IV :

S.No.	Course Code	Course Title
1	A2ECT410	Cellular & Mobile Communication
2	A2ECT411	Analog IC Design
3	A2ECT412	Digital Image & Video Processing

Professional Elective-V :

S.No.	Course Code	Course Title
1	A2ECT413	Radar & Satellite Systems
2	A2ECT414	Embedded & Realtime Operating Systems
3	A2ECT415	Biomedical Signal Processing

Professional Elective-VI :

S.No.	Course Code	Course Title
1	A2ECT416	Display Systems
2	A2ECT417	System On Chip
3	A2ECT418	Speech and Audio Processing

Open Elective-I

- **Organizational Behaviour and HRD Concepts**

Open Elective –II ( To be opted from the following courses offered by other Depts)

**Civil Engineering**

S. No	Course Code	Name of the Course
1	A2CVT501	Remote Sensing and GIS
2	A2CVT502	Project Planning and Management
3	A2CVT503	Road Safety Engineering
4	A2CVT504	Geomatics
5	A2CVT505	Building Services
6	A2CVT506	Water Power Engineering

**Electrical and Electronics Engineering**

S. No	Course Code	Name of the Course
1	A2EET501	Basic Control Systems
2	A2EET502	Applied Electrical Engineering
3	A2EET503	Electrical Safety
4	A2EET504	Concepts of Electrical Wiring
5	A2EET505	Basic Automation Course
6	A2EET506	Illumination Engineering

### **Mechanical Engineering**

<b>S.No</b>	<b>Course Code</b>	<b>Course Title</b>
1	A2MET501	Introduction to Robotics
2	A2MET502	Solar and Wind Energy
3	A2MET503	Production and Operations Management
4	A2MET504	Micro Electromechanical Systems
5	A2MET505	Product Design
6	A2MET506	Foundation of Computational Fluid Dynamics

### **CSE & IT**

<b>S.No</b>	<b>Subject Code</b>	<b>Course Title</b>
1	A2CIT501	Fundamentals of Data Structures
2	A2CIT502	Object Oriented Programming with JAVA
3	A2CIT503	Web Design & Development
4	A2CIT504	Python Programming
5	A2CIT505	NoSQL Databases
6	A2CIT506	Data Analytics

### **Chemical Engineering**

<b>S.No</b>	<b>Subject Code</b>	<b>Course Title</b>
1	A2CHT501	Industrial Pollution Control & Engineering
2	A2CHT502	Renewable Energy Resources
3	A2CHT503	Solid Waste Management
4	A2CHT504	Energy Engineering
5	A2CHT505	Green Chemistry & Technology
6	A2CHT506	Air Pollution Control and Design of Equipment

### **Open Elective Courses offered by ECE Department to other departments:**

<b>S.No.</b>	<b>Course Code</b>	<b>Course Title</b>
1	A2ECT501	Principles of Communication Engineering
2	A2ECT502	Electronic Instrumentation
3	A2ECT503	Biomedical Engineering
4	A2ECT504	Modern Communication Systems
5	A2ECT505	Transducers and Sensors
6	A2ECT506	Principles of Mobile Communications

**Open Elective-III (Self Study):**

<b>S.No.</b>	<b>Course Code</b>	<b>Course Title</b>
1	A2ECT507	Telecommunication Systems
2	A2ECT508	Wireless Communication Systems
3	A2ECT509	IOT Systems Design
4	A2ECT510	MOOCS

**Open Elective-IV (Self Study):**

<b>S.No.</b>	<b>Course Code</b>	<b>Course Title</b>
1	A2ECT511	GPS & Navigational Systems
2	A2ECT512	Cognitive Radio
3	A2ECT513	Industrial IOT
4	A2ECT514	MOOCS

## Audit Courses

<b>S.No.</b>	<b>Course Code</b>	<b>Course Title</b>
1	A2EHT701	Constitution of India
2	A2EHT702	Indian Traditional Knowledge
3	A2CHT701	Environmental Science