



# VidyaJyothi Institute of Technology

(An Autonomous Institution)

(Accredited by NAAC, Approved by AICTE New Delhi & Permanently Affiliated to JNTUH)

Aziznagar Gate, C.B. Post, Hyderabad-500 075

**R18**

## Department of Electronics and Communication Engineering

### COURSE STRUCTURE FOR B.TECH I YEAR

#### I B.Tech I Sem ECE:

S.No.	Subject Code	Course Title	L	T	P	Credits
1.	A21002	Mathematics-I	3	1	0	4.0
2.	A21003	Applied Physics	3	1	0	4.0
3.	A21201	Basic Electrical Engineering	0	0	3	1.5
4.	A21301	Engineering Graphics & Modeling	3	0	0	3.0
5.	A21501	Programming For Problem Solving-I	0	0	2	1.0
6.	A21082	Applied Physics Lab	1	0	3	2.5
7.	A21281	Basic Electrical Engineering Lab	0	0	2	1.0
8.	A21081	English Language Skills Lab (ELSL)	2	0	0	2.0
9.	A21581	Programming For Problem Solving Lab-I	0	0	2	1.0
<b>Total number</b>			<b>12</b>	<b>2</b>	<b>12</b>	<b>20</b>

#### I B.Tech II Sem ECE:

S.No.	Subject Code	Course Title	L	T	P	Credits
1.	A22005	English	3	1	0	4.0
2.	A22006	Mathematics-II	3	1	0	4.0
3.	A22008	Chemistry	0	0	3	1.5
4.	A22502	Programming For Problem Solving-II	2	0	0	2.0
5.	A22084	English Communication Skills Lab (ECSL)	0	0	2	1.0
6.	A22086	Chemistry Lab	2	0	0	2.0
7.	A22382	Engineering Workshop	0	0	2	1.0
8.	A22582	Programming For Problem Solving Lab-II	0	1	3	2.5
<b>Total number</b>			<b>10</b>	<b>3</b>	<b>10</b>	<b>18</b>



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### II B.Tech I Sem ECE:

S.No.	Course Category	Course Title	L	T	P	Credits
1.	A23011	Mathematics-III (Complex Analysis and Fourier Transforms)	3	0	0	3.0
2.	A23503	OOPS Through JAVA	3	0	0	3.0
3.	A23401	Electronic Devices and Circuits	3	0	0	3.0
4.	A23402	Probability Theory and Stochastic Processes	3	0	0	3.0
5.	A23403	Signals and Systems	3	0	0	3.0
6.	A23404	Network Analysis and Transmission Lines	3	0	0	3.0
7.	A23481	Electronic Devices and Circuits Laboratory	0	0	2	1.0
8.	A23482	Basic Simulation Laboratory	0	0	2	1.0
9.	A23MC2	Gender Sensitization	2	0	0	0
<b>Total number</b>			<b>20</b>	<b>0</b>	<b>4</b>	<b>20</b>

### II B.Tech II Sem ECE:

S.No.	Course Category	Course Title	L	T	P	Credits
1.	A24407	Switching Theory and Logic Design	2	1	0	3.0
2.	A24408	Electrical Technology	3	0	0	3.0
3.	A24015	Professional Communications	2	0	0	2.0
4.	A24409	Analog and Digital Communications	3	1	0	4.0
5.	A24410	Analog and Pulse Circuits	3	0	0	3.0
6.	A24411	Electromagnetic Waves	3	0	0	3.0
7.	A24485	Analog & Digital Communications Laboratory	0	0	2	1.0
8.	A24486	Analog and Pulse Circuits Laboratory	0	0	2	1.0
9.	A24MC2	Environmental Science	2	0	0	0
<b>Total number</b>			<b>18</b>	<b>2</b>	<b>4</b>	<b>20</b>



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## Department of Electronics and Communication Engineering

### COURSE STRUCTURE FOR B.TECH III YEAR

#### III B.Tech I Sem ECE:

S.No	Course Category	Course Title	L	T	P	Credits
1	A25218	Control Systems	3	0	0	3.0
2	A25412	Microprocessors & Microcontrollers	2	1	0	3.0
3	A25413	Linear & Digital IC Applications	3	0	0	3.0
4	A25414	Antenna And Propagation	3	0	0	3.0
		<b>Professional Elective-1</b>				
5	A25415	1. Computer Architecture	3	0	0	3.0
	A25416	2. Information Theory and Coding				
	A25417	3. Introduction to Mems				
		<b>Open Elective-1</b>				
6	A25418	1. Introduction to Microcontrollers	3	0	0	3.0
	A25419	2. Basic Electronics				
7	A25487	Microprocessor and Microcontrollers Laboratory	0	0	2	1.0
8	A25488	Linear & Digital IC App. Laboratory	0	0	2	1.0
9	A25TP2	Personality Development & Behavioral Skills	2	0	0	1.0
<b>Total Number</b>			<b>19</b>	<b>1</b>	<b>4</b>	<b>21</b>

#### III B.Tech II Sem ECE:

S.No	Course Category	Course Title	L	T	P	Credits
1	A26017	Managerial Economics & Financial Analysis	3	0	0	3.0
2	A26420	Digital Signal Processing	2	1	0	3.0
3	A26421	Microwave Engineering	2	1	0	3.0
4	A26422	Data Communication and Networking	2	1	0	3.0
		<b>Professional Elective-2</b>				
5	A26423	1. Digital Signal Processors and Architectures	3	0	0	3.0
	A26424	2. Modelling and Simulation using MATLAB				
	A26425	3. Optical Communications				
		<b>Open Elective-2</b>				
6	A26426	1. Basic Electronic Instrumentation	3	0	0	3.0
	A26427	2. Consumer Electronics				
7	A26489	Digital Signal Processing Laboratory	0	0	2	1.0



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## Department of Electronics and Communication Engineering

8	A26088	Adv. Communication Skills Laboratory	0	0	2	1.0
9	A26TP2	Quantitative Methods & Logical Reasoning	2	0	0	1.0
<b>Total Number</b>			<b>17</b>	<b>3</b>	<b>4</b>	<b>21</b>

### IV B.Tech I Sem ECE:COURSE STRUCTURE

S.No.	Course Category	Course Title	L	T	P	Credits
1	A27429	Embedded System Design	2	1	0	3.0
2	A27430	VLSI Design	2	1	0	3.0
3		<b>Professional Elective-3</b>	3	0	0	3.0
	A27431	1. Digital Image Processing				
	A27432	2. Cellular and Mobile Communications				
	A27433	3. Radar Engineering				
4		<b>Professional Elective-4</b>	3	0	0	3.0
	A27434	1. Biomedical Instrumentation				
	A27435	2. Satellite Communications				
	A27436	3. Telecommunication Switching Systems and Networks				
5		<b>Open Elective-3</b>	3	0	0	3.0
	A27437	1. Automotive Electronics				
	A27438	2. Introduction to Communication Engineering				
6	A27491	Embedded & VLSI Laboratory	0	0	2	1.0
7	A27492	Antenna and Microwave Engineering Laboratory	0	0	2	1.0
8	A274P1	Industry Oriented Mini Project	0	0	0	3.0
<b>Total Number</b>			<b>13</b>	<b>2</b>	<b>4</b>	<b>20</b>

### IV B.Tech II Sem ECE:

S.No.	Course Category	Course Title	L	T	P	Credits
1	A28439	Electronic Measurements & Instrumentation	3	0	0	3.0
2	A28440	Wireless Communications and Networks	3	0	0	3.0
3	A284TS	Technical Seminar	0	0	0	2.0
4	A284CV	Comprehensive Viva Voce	0	0	0	2.0



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## Department of Electronics and Communication Engineering

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5	A284P2	Major Project	0	0	0	10.0
<b>Total number</b>			<b>6</b>	<b>0</b>	<b>0</b>	<b>20</b>



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(Aziz Nagar, C.B.Post, Hyderabad -500075)

## ELECTRONICS AND COMMUNICATION ENGINEERING

### I YEAR I SEMESTER (R15)

### COURSE STRUCTURE

Subject Code	Subject Name	L	T	P/D	Total Credits
A11001	English-I	2	0	0	2
A11002	Mathematics – I	4	1	0	3
A11003	Engineering Physics-I	3	1	0	3
A11502	C Programming – I	3	1	0	3
A11201	Electrical Circuits	3	1	0	3
A11004	Engineering Chemistry	3	1	0	3
A11081	English Language Communication Skills Lab-I	0	0	3	2
A11582	C Programming Lab – I	0	0	3	2
A11083	Engineering Physics and Chemistry Lab	0	0	3	2
A11584	IT & Engineering Workshop	0	0	3	2
	Total	18	05	12	25

### I YEAR II SEMESTER

### COURSE STRUCTURE

Subject Code	Subject Name	L	T	P/D	Total Credits
A12005	English-II	2	0	0	2
A12306	Engineering Graphics	2	3	0	3
A12007	Engineering Physics-II	3	1	0	3
A12006	Mathematics – II	4	1	0	3
A12009	Mathematics – III	3	1	0	3
A12503	C Programming – II	3	1	0	3
A12085	English Language Communication Skills Lab-II	0	0	3	2
A12584	C Programming Lab – II	0	0	3	2
A12088	Engineering Physics Lab	0	0	3	2
	Total	17	7	9	23

**II YEAR I SEMESTER (R15)****COURSE STRUCTURE**

<b>Subject Code</b>	<b>Subject Name</b>	<b>L</b>	<b>T</b>	<b>P/D</b>	<b>Total Credits</b>
A13012	Mathematics – IV	3	1	0	3
A13401	Electronic Devices and Circuits	3	1	0	3
A13402	Signals and Systems	4	0	0	4
A13403	Switching Theory and Logic Design	3	0	0	3
A13404	Electronic Measurements & Instruments	3	0	0	3
A13405	Probability Theory and Stochastic Processes	4	0	0	4
A13481	Electronic Devices and Circuits Lab	0	0	3	2
A13482	Basic Simulation Lab	0	0	3	2
A13MC1	Disaster Management	2	0	0	0
	<b>Total</b>	<b>22</b>	<b>2</b>	<b>6</b>	<b>24</b>

**II YEAR II SEMESTER (R15)****COURSE STRUCTURE**

<b>Subject Code</b>	<b>Subject Name</b>	<b>L</b>	<b>T</b>	<b>P/D</b>	<b>Total Credits</b>
A14211	Principles of Electrical Engineering	3	1	0	3
A14409	Electronic Circuit Analysis	4	0	0	4
A14410	Pulse and Digital Circuits	4	0	0	4
A14411	Electromagnetic Theory and Transmission Lines	4	0	0	4
A14412	Digital System Design	3	1	0	3
A14016	Environmental Science	2	0	0	2
A14485	ECA Lab	0	0	3	2
A14486	PDC Lab	0	0	3	2
A14MC2	IPR&CL	2	0	0	-
	<b>Total</b>	<b>22</b>	<b>2</b>	<b>6</b>	<b>24</b>

**III YEAR I SEMESTER (R15)**
**COURSE STRUCTURE**

S.No.	Subject Code	Subject Name	Lectures			Credits
			L	T	P	
1	A15413	Analog Communications	4	0	0	3
2	A15414	Linear & Digital IC Applications	3	1	0	4
3	A15415	Control Systems Engineering	3	1	0	3
4		<b>Professional Elective – 1:</b>	4	0	0	3
	A15416	1. Computer Organization and Architecture				
	A15417	2. Soft Computing				
	A15418	3. Biomedical Instrumentation				
5		<b>Open Elective – 1:</b>	4	0	0	3
	A15419	1. Introduction to Microcontrollers & Applications				
	A15420	2. Basic Electronics & Instrumentation				
6	A15487	Analog Communications Lab	0	0	3	2
7	A15488	Linear & Digital IC Applications Lab	0	0	3	2
8	A15089	Advanced English Language & Communication Skills Lab	0	0	3	2
9	A15TP2	Quantitative Methods & Logical Reasoning	2	0	0	2
<b>Total</b>			<b>20</b>	<b>2</b>	<b>9</b>	<b>24</b>

**III YEAR II SEMESTER (R15) COURSE STRUCTURE**

S.No.	Subject Code	Subject Name	Lectures			Credits
			L	T	P	
1	A16018	Managerial Economics and Financial Analysis	4	0	0	3
2	A16422	VLSI Design	3	1	0	3
3	A16423	Digital Signal Processing	3	1	0	3
4	A16424	Microprocessors and Microcontrollers	4	0	0	3
5		<b>Professional Elective – 2:</b>	4	0	0	3
	A16425	1. Optical Communications				
	A16426	2. Programming in MATLAB				
	A16427	3. Satellite & Wireless Communications				
6		<b>Open Elective – 2:</b>	4	0	0	3
	A16428	1. Fundamentals of Embedded Systems				
	A16429	2. Principles of Communications				
7	A16489	Microprocessors and Microcontrollers Lab	0	0	3	2
8	A16490	Digital Signal Processing & e-CAD Lab	0	0	3	2
9	A16TP1	Personality Development & Behavioural Skills	2	0	0	2

	<b>Total</b>	<b>24</b>	<b>2</b>	<b>6</b>	<b>24</b>
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#### IV B.Tech I Sem ECE:

S.No.	Subject Code	Subject Name	Lectures			Credits
			L	T	P	
1	A17430	Digital Communication	4	0	0	3
2	A17431	Embedded System Design	4	0	0	3
3	A17432	Antennas & Microwave Engineering	3	1	0	3
4		<b>Professional Elective – 3:</b>	4	0	0	3
	A17433	1. Digital Image Processing				
	A17434	2. Spread Spectrum Communications				
	A17435	3. Multimedia and Signal Coding				
5		<b>Professional Elective – 4:</b>	4	0	0	3
	A17436	1. DSP Architectures				
	A17437	2. Telecommunication Switching Systems and Networks				
	A17438	3. Low Power VLSI				
6		<b>Open Elective – 3:</b>	4	0	0	3
	A17439	1. Introduction to MATLAB				
	A17440	2. Circuit Simulation using PSpice				
7	A17491	Embedded System Design Lab	0	0	3	2
8	A17492	Microwave Engineering & Digital Communications Lab	0	0	3	2
9	MP - I	Industry Oriented Mini-Project	-	-	-	2
		<b>Total</b>	<b>23</b>	<b>1</b>	<b>6</b>	<b>24</b>

#### IV B.Tech II Sem ECE:

S.No.	Subject Code	Subject Name	Lectures			Credits
			L	T	P	
1	A18441	Cellular and Mobile Communications	4	0	0	3
2	A18442	Computer Networks	4	0	0	3
3	A18443	Radar Engineering	3	1	0	3
4	MP - II	Major Project	0	0	15	10
5	SM	Seminar	0	0	6	2
6	CVV	Comprehensive Viva-Voce	-	-	-	3
		<b>Total</b>	<b>11</b>	<b>1</b>	<b>21</b>	<b>24</b>

1. \_\_\_\_\_ ELECTRONICS AND COMMUNICATION ENGINEERING 2013-14  
**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD.**

**B. TECH. ELECTRONICS AND COMMUNICATION ENGINEERING**

**I YEAR**

<b>Code</b>	<b>Subject</b>	<b>L</b>	<b>T/P/ D</b>	<b>C</b>
A10001	English	2	-	4
A10002	Mathematics – I	3	1	6
A10003	Mathematical Methods	3	-	6
A10004	Engineering Physics	3	-	6
A10005	Engineering Chemistry	3	-	6
A10501	Computer Programming	3	-	6
A10301	Engineering Drawing	2	3	6
A10581	Computer Programming Lab.	-	3	4
A10081	Engineering Physics / Engineering Chemistry Lab.	-	3	4
A10083	English Language Communication Skills Lab.	-	3	4
A10082	IT Workshop / Engineering Workshop	-	3	4

**II YEAR I SEMESTER**

<b>Code</b>	<b>Subject</b>	<b>L</b>	<b>T/P/ D</b>	<b>C</b>
A30007	Mathematics - III	4	-	4
A30405	Probability Theory and Stochastic Processes	4	-	4
A30407	Switching Theory and Logic Design	4	-	4
A30204	Electrical Circuits	4	-	4
A30404	Electronic Devices and Circuits	4	-	4
A30406	Signals and Systems	4	-	4
A30482	Electronic Devices and Circuits Lab.	-	3	2
A30481	Basic Simulation Lab.	-	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**II YEAR I SEMESTER**

Code	Subject	L	T/P/ D	C
A40215	Principles of Electrical Engineering	4	-	4
A40412	Electronic Circuit Analysis	4	-	4
A40415	Pulse and Digital Circuits	4	-	4
A40009	Environmental Studies	4	—	4
A40411	Electromagnetic Theory and Transmission Lines	4	-	4
A40410	Digital Design using Verilog HDL	4	-	4
A40288	Electrical Technology Lab.	-	3	2
A40484	Electronic Circuits and Pulse Circuits Lab.	-	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**III YEAR I SEMESTER**

Code	Subject	L	T/P/ D	C
A50217	Control Systems Engineering	4	-	4
A50516	Computer Organization and Operating Systems	4	-	4
A50418	Antennas and Wave Propagation	4	-	4
A50422	Electronic Measurements and Instrumentation	4	-	4
A50408	Analog Communications	4	-	4
A50425	Linear and Digital IC Applications	4	-	4
A50482	Analog Communications Lab.	-	3	2
A50488	IC Applications and HDL Simulation Lab.	-	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**III YEAR II SEMESTER**

Code	Subject	L	T/P/ D	C
A60010	Managerial Economics and Financial Analysis	4	-	4
	<b>Open Elective:</b>	4	-	4
A60018	Human Values and Professional			
A60117	Ethics Disaster Management			
A60017	Intellectual Property Rights			
A60420	Digital Communications	4	-	4
A60432	VLSI Design	4	-	4
A60430	Microprocessors and Microcontrollers	4	-	4
A60421	Digital Signal Processing	4	-	4
A60494	Microprocessors and Microcontrollers Lab.	-	3	2
A60493	Digital Signal Processing Lab.	-	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**IV YEAR I SEMESTER**

Code	Subject	L	T/P/ D	C
A70014	Management Science	4	-	4
A70442	Microwave Engineering	4	-	4
A70515	Computer Networks	4	-	4
A70434	Cellular and Mobile Communications	4	-	4
	<b>Elective -I:</b>	4	-	4
A70436	Digital Image Processing			
A70443	Multimedia and Signal Coding			
A70505	Object Oriented Programming through Java			
	<b>Elective -II:</b>	4	-	4
A70447	Television Engineering			
A70444	Optical Communications			
A70440	Embedded Systems Design			
A70086	Advanced Communication Skills Lab,	-	3	2
A70499	Microwave Engineering and Digital Communications Lab	-	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**IV YEAR II SEMESTER**

Code	Subject	L	T/P/ D	C
	<b>Elective -III:</b>	4	-	4
A80452	Satellite Communications			
A81102	Biomedical Instrumentation			
A80527	Artificial Neural Networks			
	<b>Elective -IV:</b>	4	-	4
A80431	Telecommunication Switching Systems and Networks			
A80450	Radar Systems			
A80449	Network Security			
	<b>Elective -V:</b>	4	-	4
A80454	Wireless Communications and Networks			
A80437	Digital Signal Processors and Architectures			
A80451	RF Circuit Design			
A80087	Industry Oriented Mini Project	-	-	2
A80089	Seminar	-	6	2
A80088	Major Project Work	-	15	10
A80090	Comprehensive Viva	-	-	2
	<b>Total</b>	<b>12</b>	<b>21</b>	<b>28</b>

**T-Tutorial L-Theory P-Practical D-Drawing C -Credits**