



# Vidya Jyothi Institute of Technology (Autonomous)

(Accredited by NAAC & NBA, Approved By A.I.C.T.E., New Delhi, Permanently Affiliated to JNTU, Hyderabad)

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

## ELECTRICAL AND ELECTRONICS ENGINEERING COURSE STRUCTURE FOR B.TECH I YEAR R18

### I YEAR I SEMESTER

S.No.	Course Code	Course Title	L	T	P/D	Total Credits
1	A21001	English	2	0	0	2.0
2	A21002	Mathematics-I	3	1	0	4.0
3	A21004	Chemistry	3	1	0	4.0
4	A21501	Programming For Problem Solving-I	2	0	0	2.0
5	A21081	English Language Skills Lab ( ELSL)	0	0	2	1.0
6	A21083	Chemistry Lab	0	0	3	1.5
7	A21381	Engineering Workshop	0	1	3	2.5
8	A21581	Programming For Problem Solving Lab-I	0	0	2	1.0
<b>TOTAL CREDITS</b>						<b>18</b>

### I YEAR II SEMESTER

### COURSE STRUCTURE

S.No.	Course Code	Course Title	L	T	P/D	Total Credits
1	A22006	Mathematics-II	3	1	0	4.0
2	A22007	Engineering Physics	3	1	0	4.0
3	A22302	Engineering Graphics & Modeling	1	0	3	2.5
4	A22202	Basic Electrical Engineering	3	0	0	3.0
5	A22502	Programming For Problem Solving-II	2	0	0	2.0
6	A22084	English communication Skills Lab (ECSL)	0	0	2	1.0
7	A22282	Basic Electrical Engineering Lab	0	0	2	1.0
8	A22085	Engineering Physics Lab	0	0	3	1.5
9	A22582	Programming For Problem Solving Lab-II	0	0	2	1.0
<b>TOTAL CREDITS</b>						<b>20</b>



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## COURSE STRUCTURE FOR B.TECH II YEAR R18

### II Year I Semester

S.No.	Course Code	Course Title	L	T	P/D	Credits
1	A23011	Complex Analysis & Fourier Transforms	3	-	-	3.0
2	A23010	Professional Communication	2	-	-	2.0
3	A23203	Power Systems –I	3	-	-	3.0
4	A23204	Network Analysis	3	-	-	3.0
5	A23205	Electro Magnetic Fields	3	-	-	3.0
6	A23206	Electrical Machines –I	4	-	-	4.0
7	A23283	Basic Simulation Tools Lab	0	-	2	1.0
8	A23284	Electric Circuits Lab	0	-	2	1.0
9	A23MC1	Environmental Science	2	-	-	-
<b>TOTAL CREDITS</b>						<b>20</b>

### II Year II Semester

S.No.	Course Code	Course Title	L	T	P/D	Credits
1	A24014	Numerical Methods and Partial Differential Equations	3			3.0
2	A24109	Fluid Mechanics and Hydraulic Machines	3	-	-	3.0
3	A24406	Electronics Devices and Circuits	3	-	-	3.0
4	A24208	Electrical Machines –II	3	-	-	3.0
5	A24209	Power Systems – II	3	-	-	3.0
6	A24210	Control Systems	3	-	-	3.0
7	A24285	Electrical Machines – I Lab	0	-	2	1.0
8	A24484	Electronic Devices and Circuits Lab	0	-	2	1.0
9	A24MC1	Gender Sensitization	2	-	-	-
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## COURSE STRUCTURE FOR B.TECH III YEAR R18

### B. Tech. EEE III Year I Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	A25016	Managerial Economics and Financial Analysis	3	0	0	3
2	A25412	Switching Theory and Logic Design	3	0	0	3
3	A25212	Electrical Machines-III	3	0	0	3
4	A25213	Power Electronics	3	0	0	3
5	A25214/ A25215	Electrical Energy Conservation and Auditing/ Electrical Estimation and Costing	3	0	0	3
6	A25216/ A25217	Non-Conventional Energy Sources / Fundamentals of Electrical Power Generation and Protection	3	0	0	3
7	A25287	Electrical Machines-II Lab	0	0	2	1
8	A25087	Advanced Communication Skills Lab	0	0	2	1
9	A25TP1	Quantitative Methods & Logical Reasoning	2	0	0	1
<b>TOTAL CREDITS</b>						<b>21</b>

### B. Tech. EEE III Year II Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	A26219	Electrical Measurements & Instrumentation	3	0	0	3
2	A26220	Computer Methods in Power Systems	3	0	0	3
3	A26221	Power Semiconductor Drives	3	0	0	3
4	A26222	Switch Gear and Protection	3	0	0	3
5	A26223/ A26224	Integrated Circuit and Applications/ Artificial Intelligence Techniques in Electrical Engineering	3	0	0	3
6	A26225/ A26226	Energy Auditing and Conservation/ Principles of Electric Power Utilization	3	0	0	3
7	A26288	Control Systems and Simulation Lab	0	0	2	1
8	A26289	Power Electronics and Simulation Lab	0	0	2	1
9	A26TP1	Personality Development & Behavioral Skills	2	0	0	1
<b>TOTAL CREDITS</b>						<b>21</b>



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## COURSE STRUCTURE FOR B.TECH IV YEAR R18

### B. Tech. EEE IV Year I Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	A27428	Microprocessors and Interfacing Devices	3	0	0	3
2	A27227	Power Systems Operation and Control	3	0	0	3
3	A27228/ A27229	Electric Vehicles / Smart Grids	3	0	0	3
4	A27230/ A27231	Electrical Distribution Systems/ Industrial Electrical Systems	3	0	0	3
5	A27232/ A27233	Electric Vehicles and Hybrid Vehicles/ Energy Storage Systems	3	0	0	3
6	A27490	Microprocessors and Interfacing Lab	0	0	2	1
7	A27290	Electrical Measurements Lab	0	0	2	1
8	A272P1	Mini Project	0	0	0	3
<b>TOTAL CREDITS</b>						<b>20</b>

### B. Tech. EEE IV Year II Semester

S.No	Course Code	Course Title	L	T	P	Credits
1	A28234	Utilization of Electrical Energy	3	0	0	3
2	A28235	Renewable Energy and Energy Storage Technologies	3	0	0	3
3	A282TS	Technical Seminar	2	0	0	2
4	A282CV	Comprehensive Viva-Voce	0	0	0	2
5	A282P2	Major Project	0	0	0	10
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## ELECTRICAL AND ELECTRONICS ENGINEERING COURSE STRUCTURE FOR B.TECH I YEAR R15

### I YEAR I SEMESTER

S.No.	Course Code	Course Title	L	T	P/D	Credits
1	A11001	English-I	2	0	0	2
2	A11002	Mathematics - I	4	1	0	3
3	A11003	Engineering Physics-I	3	1	0	3
4	A11502	C Programming – I	3	1	0	3
5	A11004	Engineering Chemistry	3	1	0	3
6	A11303 /A11201	Engineering Graphics / Electrical circuits	2	0	3	3
7	A11081	English Language Communication Skills Lab-I	0	0	3	2
8	A11582	C Programming Lab – I	0	0	3	2
9	A11083	Engineering Physics and Chemistry Lab	0	0	3	2
10	A11084	IT & Engineering Workshop	0	0	3	2
		<b>Total</b>	17	7	15	<b>25</b>

### I YEAR II SEMESTER

### COURSE STRUCTURE

S.No.	Course Code	Course Title	L	T	P/D	Credits
1	A12005	English-II	2	0	0	2
2	A12202/ A12306	Electrical Circuits Theory / Engineering Graphics	3	1	0	3
3	A12007	Engineering Physics-II	3	1	0	3
4	A12503	C Programming – II	3	1	0	3
5	A12006	Mathematics – II	4	1	0	3
6	A12009	Mathematics – III	3	1	0	3
7	A12085	English Language Communication Skills Lab-II	0	0	3	2
8	A12584	C Programming Lab –II	0	0	3	2
9	A12088	Engineering Physics Lab	0	0	3	2
		<b>Total</b>	18	5	9	<b>23</b>



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## COURSE STRUCTURE FOR B.TECH II YEAR R15

### II Year I Semester

S.No.	Course Code	Course Title	L	T	P/D	Credits
1	A13012	Mathematics-IV	3	1	0	3
2	A13401	Electronic Devices & Circuits	3	1	0	3
3	A13204	Network Theory	4	1	0	4
4	A13205	Electro Magnetic Fields	4	1	0	4
5	A13206	Electrical Machines –I	4	1	0	4
6	A13011	Environmental Science	2	1	0	2
7	A13281	Basic Simulation Tools Lab	-	-	3	2
8	A13282	Electrical Circuits Lab	-	-	3	2
9	MC-I	Mandatory Course –I	2	0	0	0
		<b>Total</b>	<b>22</b>	<b>8</b>	<b>6</b>	<b>24</b>

### II Year II Semester

S.No.	Course Code	Course Title	L	T	P/D	Credits
1	A14407	Electronic Circuits	3	1	0	3
2	A14408	STLD	3	1	0	3
3	A14311	Fluid Mechanics and Hydraulic Machines	3	1	0	3
4	A14208	Electrical Machines-II	4	1	0	4
5	A14209	Power Systems-I	3	1	0	3
6	A14210	Control Systems	4	1	0	4
7	A14283	Electrical Machines Lab-I	-	0	3	2
8	A14484	Electronic Devices and Circuits lab	-	0	3	2
9	MC-II	Mandatory Course –II	2	0	0	0
		<b>Total</b>	<b>22</b>	<b>6</b>	<b>6</b>	<b>24</b>



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## COURSE STRUCTURE FOR B.TECH III YEAR R15

### B. Tech. EEE III Year I Semester

S. No.	Course Code	Course Title	L	T/P	Credits
1	A15017	Managerial Economics and Financial Accounts	3	1	3
2	A15212	Power Electronics	3	1	3
3	A15213	Power Systems-II	3	1	3
4	A15214	Electrical Machines-III	3	1	3
5	Open Elective-1	<b>A15218</b> - Non Conventional Energy Sources <b>A15219</b> - Energy Management	3	1	3
6	Professional Electives	<b>A15215</b> -High Voltage Engineering	3	1	3
		<b>A15216</b> - Advanced Control Systems			
		<b>A15217</b> - Linear Systems Analysis			
7	A15285	Electrical Machines Lab-II	0	2	2
8	A15286	Control Systems & Simulation Lab	0	2	2
9	MC-III	Personality Development & Behavioral Skills	2	0	2
<b>Total Credits</b>			<b>20</b>	<b>10</b>	<b>24</b>

### B. Tech. EEE III Year II Semester

S. No.	Course Code	Course Title	L	T/P	Credits
1	A16421	IC Applications	3	1	3
2	A16221	Electrical Measurements & Measuring Instruments	3	1	3
3	A16222	Power Semiconductor Drives	3	1	3
4	A16223	Switchgear & Protection	3	1	3
5	Open Elective-2	<b>A16227</b> - Energy Auditing & Conservation <b>A16228</b> - Principles of Electric Power Utilization	3	1	3
6	Professional Electives	<b>A16224</b> - Renewable Energy Sources <b>A16225</b> - Reliability Engineering and Application to Power Systems <b>A16226</b> - Digital Control Systems	3	1	3
7	A16287	Power Electronics and Simulation Lab	0	2	2
8	A16090	Advanced Communication Skills Lab	0	2	2
9	MC-IV	Quantitative Methods & Logical Reasoning	2	0	2
<b>Total Credits</b>			<b>20</b>	<b>10</b>	<b>24</b>



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## COURSE STRUCTURE FOR B.TECH IV YEAR R15

### B. Tech. EEE IV Year I Semester

S.No.	Course Code	Course Title	L	T/P	Credits
1	A17441	Microprocessors and Interfacing Devices	3	1	3
2	A17230	Power Systems Operation & Control	3	1	3
3	A17231	Computer Methods In Power Systems	3	1	3
4	A17232 A17233 A17234	1.Optimization Methods 2.Electrical Distribution Systems 3.Special Machines	3	1	3
5	A17235 A17236 A17237	1. Electrical Machine Design 2. Electrical Estimation and Costing 3.Power System Planning	3	1	3
6	A17238 A17239	1.Electric Vehicles and Hybrid Vehicles 2.Energy Storage Systems	3	1	3
7	A17288	Electrical Measurements Lab	--	3	2
8	A17493	Microprocessors and Interfacing Devices Lab	--	3	2
9	MP - I	Industry Oriented Mini Project	--	--	2
		Total	18	12	24

### B. Tech. EEE IV Year II Semester

S.No.	Course Code	Course Title	L	T/P	Credits
1	A18240	Utilization Of Electrical Energy	3	1	3
2	A18241	Fundamentals of HVDC and FACTS Devices	3	1	3
3	A18244	EHVAC Transmission	3	1	3
4	MP-II, TS, CVV	Major Project, Seminar & Comprehensive Viva-Voce	---	--	(11+2+2)=15 16
		Total	9	3	24



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY  
HYDERABAD.**

**B. TECH. ELECTRICAL AND ELECTRONICS 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
	<b>Total</b>	<b>19</b>	<b>16</b>	<b>56</b>

**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
A30102	Fluid Mechanics and Hydraulic Machinery	4	-	4
A30404	Electronic Devices & Circuits	4	-	4

A30204	Electrical Circuits	4	-	4
A30403	Electromagnetic fields	4	-	4
A30206	Electrical Machines-I	4	-	4
A30181	Fluid Mechanics and Hydraulic Machinery Lab	-	3	2
A30482	Electronic devices & Circuit labs	-	3	2
	<b>Total</b>	<b>24</b>	<b>6</b>	<b>28</b>

**II YEAR II SEMESTER**

Code	Subject	L	T/P/D	C
A40010	Managerial Economics & Financial Analysis	4	-	4
A40214	Power Systems-I	4	-	4
A40413	Electronic Circuits	4	-	4
A40407	Switching Theory and Logic Design	4	-	4
A40213	Network Theory	4	-	4
A40212	Electrical Machines-II	4	-	4
A40287	Electrical Machines lab -I	-	3	2
A40286	Electrical Circuits and Simulation 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
A50423	IC Applications	4	-	4
A50014	Management Science	4	-	4
A50221	Power Systems-II	4	-	4
A50211	Control Systems	4	-	4
A50220	Power Electronics	4	-	4
A50218	Electrical Machines-III	4	-	4
A50289	Electrical Machines lab -II	-	3	2

A50086	Advanced Communication Skills 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
A60223	Electrical and Electronics Instrumentation	4	-	4
A60225	Static Drives	4	-	4
A60222	Computer Methods in Power Systems	4	-	4
A60430	Microprocessors and Interfacing Devices	4	-	4
A60009	Environmental Studies	4	-	4
	<b>Open Elective</b>	4	-	4
A60117	Disaster Management			
A60017	Intellectual Property Rights			
A60018	Human Values and Professional Ethics			
A60290	Control Systems and Simulation Lab	-	3	2
A60291	Power Electronics and Simulation 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
A70231	Switch Gear and Protection	4	-	4
A70232	Utilization of Electrical Energy	4	-	4
A70421	Digital Signal Processing	4	-	4
A70230	Power System Operation and Control	4	-	4
	<b>Elective-I</b>	4	-	4
A70228	High Voltage Engineering			
A70432	VLSI Design			
A70435	Digital Control Systems			
	<b>Elective-II</b>	4	-	4
A70229	Optimization Techniques			
A70226	Electrical Distribution Systems			

A70227	Electrical Estimation and Costing			
A70498	Microprocessors and Interfacing Devices Lab	-	3	2
A70293	Electrical Measurements 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
A80237	Fundamentals of HVDC and FACTS Devices	4	-	4
	<b>Elective-III</b>	4	-	4
A80238	Neural Networks and Fuzzy Logic			
A80324	Renewable Energy Sources			
A80244	Principles of Reliability Engineering			
	<b>Elective-IV</b>	4	-	4
A80234	Advanced Control Systems			
A80235	EHV AC Transmission			
A82909	Nanotechnology			
A80087	Industry Oriented Mini Project	-	-	2
A80089	Seminar	-	6	2
A80088	Project Work	-	15	10
A80090	Comprehensive Viva-Voce	-	-	2
	<b>Total</b>	<b>12</b>	<b>21</b>	<b>28</b>

**Note:** All End Examinations (Theory and Practical) are of three hours duration.

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

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**IV YEAR EEE I SEMESTER**

**COURSE STRUCTURE**

Code	Subject	L	T/P/D	C
57012	SWITCHGEAR AND PROTECTION	3	1	3
57013	UTILIZATION OF ELECTRICAL ENERGY	3	1	3
57014	INSTRUMENTATION	3	1	3
57015	POWER SYSTEM OPERATION AND CONTROL	4	-	4
57016 57017 57018	<b>ELECTIVE I</b> HIGH VOLTAGE ENGINEERING VLSI DESIGN DIGITAL CONTROL SYSTEMS	4	1	4
57019 57020 57021	<b>ELECTIVE II</b> OPTIMIZATION TECHNIQUES ELECTRICAL DISTRIBUTION SYSTEMS PRINCIPLES OF DIGITAL SIGNAL PROCESSING	4	1	4
57603	MICROPROCESSORS AND MICROCONTROLLERS LAB	-	3	2
57604	ELECTRICAL MEASUREMENTS LAB	-	3	2
	<b>TOTAL</b>	21	11	25

**IV YEAR EEE II SEMESTER**

**COURSE STRUCTURE**

Code	Subject	L	T/P/D	C
58008	H.V.D.C. TRANSMISSION	3	-	3
58009 58010 58011	<b>ELECTIVE III</b> NEURAL NETWORKS AND FUZZY LOGIC LINEAR SYSTEMS ANALYSIS RELIABILITY ENGINEERING AND APPLICATIONS TO POWER SYSTEMS	3	1	3
58012 58013 58014	<b>ELECTIVE IV</b> ADVANCED CONTROL SYSTEMS EHV AC TRANSMISSION COMPUTER SYSTEM ORGANIZATION	3	1	3
58605	INDUSTRY ORIENTED MINI PROJECT	0	-	2
58606	SEMINAR	0	6	2
58607	PROJECT WORK	0	15	10
58608	COMPREHENSIVE VIVA VOCE	0	-	2
	<b>TOTAL</b>	9	22	25