



# Vidya Jyothi Institute of Technology

(An Autonomous Institution)

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

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

## M. TECH. (ELECTRICAL POWER SYSTEMS) EFFECTIVE FROM ACADEMIC YEAR 2019- 20 ADMITTED BATCH COURSE STRUCTURE AND SYLLABUS

### I Semester

Category	Course Title	L	T	P	C
19D2CS1101	Modelling of Power System Components	4	0	0	4
19D2CS1102	AI Techniques in Electrical Engineering	4	0	0	4
19D2CS1103	Modern Control Theory	4	0	0	4
19D2E11101	1. EHV AC Transmission	3	0	0	3
19D2E11102	2. High Voltage Engineering				
19D2E11103	3. Advanced Digital Signal Processing				
19D2E21101	1. Power Quality	3	0	0	3
19D2E21102	2. Microcontrollers and applications				
19D2E21103	3. Distribution Automation				
191EOE1101	<b>*Open Elective – I</b>	3	0	0	3
19D2LB1101	Power & Energy Systems Lab - I	0	0	3	2
19D2SM1101	Seminar – I	0	0	3	2
<b>Total</b>		<b>21</b>	<b>0</b>	<b>6</b>	<b>25</b>

### II Semester

Category	Course Title	L	T	P	C
19D2CS1204	Advanced Power System Analysis	4	0	0	4
19D2CS1205	Flexible AC Transmission Systems (FACTS)	4	0	0	4
19D2CS1206	Power System Operation and Deregulation	4	0	0	4
19D2E31201	1. Gas Insulated Systems(GIS)	3	0	0	3
19D2E31202	2. Programmable Logic Controllers and applications				
19D2E31203	3. Energy Auditing Conservation and Management				
19D2E41201	1. Reactive Power Compensation and Management	3	0	0	3
19D2E41202	2. Power System Reliability				
19D2E41203	3. Voltage Stability				
191EOE1201	<b>*Open Elective – II</b>	3	0	0	3
19D2LB1201	Power & Energy Systems Lab - II	0	0	3	2
19D2SM1201	Seminar –II	0	0	3	2
<b>Total</b>		<b>21</b>	<b>0</b>	<b>6</b>	<b>25</b>



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## III Semester

Course Code	Course Title	L	T	P	C
19D2CS2107	Technical Paper Writing	0	3	0	2
19D1CV2101	Comprehensive Viva-Voce	0	0	0	4
19D1PW2101	Project work Review I	0	0	22	8
	<b>Total</b>	<b>0</b>	<b>3</b>	<b>22</b>	<b>14</b>

## IV Semester

Course Code	Course Title	L	T	P	C
19D1PW2202	Project work Review II	0	0	24	8
19D1PE2201	Project Evaluation (Viva-Voce)	0	0	0	16
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>24</b>

\*Open Elective subjects must be chosen from the list of open electives offered by other departments.

### LIST OF OPEN ELECTIVES OFFERED BY EEE

#### OPEN ELECTIVE-I

1. RENEWABLE ENERGY SYSTEMS

2. ELECTRICAL INSTALLATION & SAFETY

#### OPEN ELECTIVE-II

1. ENERGY FROM WASTE

2. DISTRIBUTED GENERATION AND MICROGRID

3. RELIABILITY ENGINEERING



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*M.Tech R15 Regulations*

## M. TECH. (ELECTRICAL POWER SYSTEMS) COURSE STRUCTURE R 15

### I Year – I Semester

Subject Code	Category	Course Title	L	P	C
15D2CS1101	Core Course I	Advanced Power System Analysis	4	--	4
15D2CS1102	Core Course II	Advanced Power System Protection	4	--	4
15D2CS1103	Core Course III	Modern Control Theory	4	--	4
15D2E11101	Core Elective I	1. EHV AC Transmission	4	--	4
15D2E11102		2. High Voltage Engineering			
15D2E11103		3. Advanced Digital Signal Processing			
15D2E21101	Core Elective II	1. Power Quality	4	--	4
15D2E21102		2. Microcontrollers and applications			
15D2E21103		3. Distribution Automation			
15D2OE1101	Open Elective I	1. Optimization Techniques	4	--	4
15D2OE1102		2. Digital control systems			
15D2OE1103		3. Renewable energy systems			
15D2OE1104		4. HVDC Transmission			
15D2OE1105		5. Analysis of power converters			
15D2OE1106		6. Embedded Systems			
15D2LB1101	Laboratory I	Power Systems Lab-I	--	4	2
15D2SM1101	Seminar I	Seminar-I	--	4	2
<b>Total Credits</b>			<b>24</b>	<b>8</b>	<b>28</b>

### I Year – II Semester

Subject Code	Category	Course Title	L	P	C
15D2CS1204	Core Course IV	Power System Dynamics	4	--	4
15D2CS1205	Core Course V	Flexible AC Transmission Systems (FACTS)	4	--	4
15D2CS1206	Core Course VI	Power System Operation and Deregulation	4	--	4
15D2E31201	Core Elective III	1. Gas Insulated Systems(GIS)	4	--	4
15D2E31202		2. Programmable Logic Controllers and their Applications			
15D2E31203		3. High frequency magnetic components			
15D2E41201	Core Elective IV	1. Reactive Power Compensation and Management	4	--	4
15D2E41202		2. Power System Reliability			
15D2E41203		3. Voltage Stability			
15D2OE1201	Open Elective II	1. Instrumentation & Control	4	--	4
15D2OE1202		2. Intelligent Control			
15D2OE1203		3. Smart grid technologies			
15D2OE1204		4. AI Techniques in Electrical Engineering			
15D2OE1205		5. Reliability Engineering			
15D2OE1206		6. Energy Auditing, Conservation & Management			
15D2LB1201	Laboratory II	Power Systems Lab-II	--	4	2
15D2SM1201	Seminar II	Seminar-II	--	4	2
<b>Total Credits</b>			<b>24</b>	<b>8</b>	<b>28</b>



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## II Year - I Semester

Subject Code	Course Title	L	P	C
15D2CV2101	Comprehensive Viva-Voce	--	--	4
15D2PW2101	Project work Review I	--	24	12
	<b>Total Credits</b>	--	24	<b>16</b>

## II Year - II Semester

Subject Code	Course Title	L	P	C
15D2PW2202	Project work Review II	--	8	4
15D2PE2201	Project Evaluation (Viva-Voce)	--	16	12
	<b>Total Credits</b>	--	<b>24</b>	<b>16</b>