

**M.Tech (Electrical Power Engineering)**  
**Course Structure and Syllabus - Academic Year: 2019 - 2020**

**I Year - I Semester**

Code	Subject	L	T	P	Credits	Marks	
						CIE	SEE
7X101	Power System Dynamics	4	--	--	4	30	70
7X105	High Voltage DC Transmission	3	--	--	3	30	70
7X112	Advanced Power System Operation and Control	3	--	--	3	30	70
7X104	Computer Methods in Power Systems	3	--	--	3	30	70
	<b>Program Elective – I</b>	3	--	--	3	30	70
<b>7HC18</b>	<b>English for Research paper Writing (Audit Course –I)</b>	<b>2</b>	<b>--</b>	<b>--</b>	<b>0</b>	<b>30</b>	<b>70</b>
						<b>Grade Evaluation</b>	
7X174	Research Methodology	2	--	-	2	30	70
7X175	Power Systems Simulation Lab	--	--	4	2	30	70
7X172	Technical Seminar -I	--	--	2	1	100	-
<b>Total Credits</b>		<b>20</b>	<b>--</b>	<b>6</b>	<b>21</b>	<b>340</b>	<b>560</b>

**Program Elective – I:** Any one subject to be selected

Code	Subject
7X102	Optimization Techniques
7X106	Distribution Planning & Automation
<b>7X111</b>	<b>Wind and Solar Energy</b>
7X117	Advanced Control Systems
<b>7X119</b>	<b>Electric and Hybrid Vehicles</b>
7P140	Java Programming

**I Year - II Semester**

Code	Subject	L	T	P	Credits	Marks	
						CIE	SEE
7X211	Power System Stability	4	--	--	4	30	70
7X212	Advanced Power System Protection	3	--	--	3	30	70
7X213	Flexible AC Transmission Systems	3	--	--	3	30	70
7X214	Power Quality	3	--	--	3	30	70
	<b>Program Elective – II</b>	3	--	--	3	30	70
<b>7HC19</b>	<b>Ethics, Morals, Gender Sensitization, and Yoga (Audit Course- II)</b>	<b>2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>30</b>	<b>70</b>
						<b>Grade Evaluation</b>	
7X277	Power Systems Lab	--	--	4	2	30	70
7X273	Comprehensive Viva Voce	--	--	--	1	30	70
7X274	Technical Seminar -II	--	--	2	1	100	-
	Mini Project with seminars (Evaluation in II –Year I –Sem)	Evaluation in II Year I Sem					
<b>Total Credits</b>		<b>18</b>	<b>--</b>	<b>6</b>	<b>20</b>	<b>340</b>	<b>560</b>

**Program Elective – II:** Any one subject to be selected

Code	Subject
7X108	SCADA System & Applications
7X109	Energy Conversion Systems
7X118	Reactive Power Compensation & Management
7X120	Digital Control Systems
7X121	Smart Electric Grid
7RC17	Database Management Systems

**II Year - I Semester**

Code	Subject	L	T	P	Credits	Marks	
						CIE	SEE
	<b>Open Elective</b>	3	--	--	3	30	70
	<b>Program Elective – III</b>	3	--	--	3	30	70
7X378	Main Project Phase-I with Seminars	--	--	10	5	30	70
7X375	Mini Project with seminars (Project conducted in summer)	--	--	6	3	30	70
<b>Total Credits</b>		<b>6</b>	<b>--</b>	<b>16</b>	<b>14</b>	<b>120</b>	<b>280</b>

**Open Elective:** Any one subject to be selected

Code	Subject
7ZC03	Banking Operations, Insurance and Risk Management
7T216	Embedded and Real time control
7ZC31	Business Analytics
7Z332	Cost management of Engineering Project
7WC18	Operations Research

**Program Elective – III:** Any one subject to be selected

Code	Subject
7X215	Soft Computing Techniques
7X216	Restructuring in Electrical Power Systems
7X217	Power System Transients
7X222	Real Time Control of Power Systems
7X223	Switched Mode Power Conversion
7P141	Computer Networks

**II Year - II Semester**

Code	Subject	L	T	P	Credits	Marks	
						Int.	Ext.
7X479	Main Project Phase- II with Seminars	-	-	12	6	30	70
7X480	Dissertation And Defense Viva	--	--	--	7	30	70
<b>Total Credits</b>		<b>--</b>	<b>--</b>	<b>12</b>	<b>13</b>	<b>60</b>	<b>140</b>

**L - Lectures; T - Tutorial; P - Practical; C - Credits**