

Four Year Degree Course in Bachelor of Engineering Branch: **ELECTRICAL ENGINEERING (ELECTRONICS & POWER)**  
Semester Pattern (Choice Based Credit Grade System)

SEMESTER : THIRD																	
Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME									
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL				
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks	
		Int.		Ext.													
<b>THEORY</b>																	
01	3EP01	Engineering Mathematics-III	3	1	--	4	4	3	80	20	100	40	--	--	--	--	
02	3EP02	Electrical Circuit Analysis	2	1	--	3	3	3	80	20	100	40	--	--	--	--	
03	3EP03	Electrical Machines - I	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
04	3EP04	Energy Resources & Generation	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
05	3EP05	Electronic Devices & Circuits	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
06	4ES06	**Environmental Studies	2	--	--	2	0	--	--	--	--	--	-	-	-	-	
<b>PRACTICALS / DRAWING / DESIGN</b>																	
07	3EP06	Electrical Circuit Analysis – lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
08	3EP07	Electrical Machines – I – lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
09	3EP08	Electronic Devices & Circuits – lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
10	3EP09	Electrical Technology - lab	--	--	2	2	1	--	--	--	--	--	50	--	50	25	
<b>Total</b>			<b>16</b>	<b>2</b>	<b>8</b>	<b>26</b>	<b>20</b>	--	--	--	<b>500</b>	--	--	--	<b>200</b>	--	
<b>TOTAL</b>															<b>700</b>		

Note: \*\*The Examination of the Subject Environmental Science shall be conducted in IV Semester. [As per Ordinance of 42/ 2005]

**SEMESTER : FOURTH**

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK			THEORY					PRACTICAL					
			Lecture	Tutorial	P/D	Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks		
		Int.	Ext.													
<b>THEORY</b>																
01	4EP01	Electromagnetic Fields	2	1	--	3	3	3	80	20	100	40	--	--	--	--
02	4EP02	Electrical Measurements & Instrumentation	3	--	--	3	3	3	80	20	100	40	--	--	--	--
03	4EP03	Control Systems	3	--	--	3	3	3	80	20	100	40	--	--	--	--
04	4EP04	Numerical Methods & Optimization Techniques	2	1	--	3	3	3	80	20	100	40	--	--	--	--
05	4EP05	Analog & Digital Circuits	3	1	--	4	4	3	80	20	100	40	--	--	--	--
06	4ES06	**Environmental Studies	2	--	--	2	2	3	80	20	100	40	-	-	-	-
<b>PRACTICALS / DRAWING / DESIGN</b>																
07	4EP06	Electrical Measurements & Instrumentation – lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
08	4EP07	Control Systems - lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
09	4EP08	Analog & Digital Circuits - lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
10	4EP09	Electronics Technology – lab	--	--	2	2	1	--	--	--	--	--	50	--	50	25
<b>Total</b>			<b>15</b>	<b>3</b>	<b>8</b>	<b>26</b>	<b>22</b>	--	--	--	<b>500</b>	--	--	--	<b>200</b>	--
<b>TOTAL</b>															<b>700</b>	

**Note: \*\*The Examination of the Subject Environmental Science shall be conducted in IV Semester. [As per Ordinance of 42/ 2005]**

SEMESTER : FIFTH																
Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL			
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks
THEORY																
01	5EP01	Power System – I	4	--	--	4	4	3	80	20	100	40	--	--	--	--
02	5EP02	Microprocessor & Microcontroller	3	--	--	3	3	3	80	20	100	40	--	--	--	--
03	5EP03	Electrical Machines - II	3	--	--	3	3	3	80	20	100	40	--	--	--	--
04	5EP04	Professional Elective –I (PE-I)	3	--	--	3	3	3	80	20	100	40	--	--	--	--
05	5EP05	Open Elective – I (OE-I)	3	--	--	3	3	3	80	20	100	40	--	--	--	--
PRACTICALS / DRAWING / DESIGN																
06	5EP06	Power System – I Lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25
07	5EP07	Microprocessor & Microcontroller- Lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25
08	5EP08	Electrical Machines – II - lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
09	5EP09	Information & Communication Tech.-lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>24</b>	<b>20</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>500</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>200</b>	<b>--</b>
<b>TOTAL</b>															<b>700</b>	

An Orientation Program of 15 Hours duration/ MOOCs on Indian Constitution to be offered during V semester.

**Prof. Elective-I:** I) Signal & Systems II) Network Analysis & Synthesis III) Electronic Communication Theory

**Open Elective – I :** (For other disciplines) (i) Electrical Drives (i). Power Supply Systems (iii) Power Plant Engineering

Open Elective-I to be opted from the university's faculty of Engineering & Technology offered interdisciplinary courses or MOOCs courses pertaining to the Engineering Profession.

SEMESTER : SIXTH																	
Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME									
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL				
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks	
Int.	Ext.																
<b>THEORY</b>																	
01	6EP01	Power Electronics	4	--	--	4	4	3	80	20	100	40	--	--	--	--	
02	6EP02	Electrical Energy Distribution & Utilization	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
03	6EP03	Computer Aided Electrical Machine Design	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
04	6EP04	Prof. Elective -II (PE-II)	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
05	6EP05	Open Elective - II (OE-II)	3	--	--	3	3	3	80	20	100	40	--	--	--	--	
<b>PRACTICALS / DRAWING / DESIGN</b>																	
06	6EP06	Power Electronics – lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
07	6EP07	Electrical Energy Distribution & Utilization – lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
08	6EP08	Computer Aided Electrical Machine Design –lab.	--	--	2	2	1	--	--	--	--	--	25	25	50	25	
09	6EP09	Computer Technology – lab	--	--	2	2	1	--	--	--	--	--	50	--	50	25	
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>24</b>	<b>20</b>	--	--	--	<b>500</b>	--	--	--	<b>200</b>	--	
<b>TOTAL</b>															<b>700</b>		

An Orientation Program of 15 Hours duration / MOOCs on Entrepreneurship Development to be offered during VI semester.

An Orientation Program of 15 Hours duration/ MOOCs on Indian Traditional Knowledge to be offered during VI semester.

**Professional Elective – II:** (I) Advanced Control Systems (II) Process Control System (III) Industrial Electrical System

**Open Elective – II :** (For other disciplines) (i) Energy Audit & Management (ii) Electrical Estimation & Costing (iii) Electrical Materials

**SEMESTER : SEVENTH**

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL			
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks
													Int.	Ext.		
<b>THEORY</b>																
01	7EP01	Power System II	3	--	--	3	3	3	80	20	100	40	--	--	--	--
02	7EP02	Digital Signal Processing	3	--	--	3	3	3	80	20	100	40	--	--	--	--
03	7EP03	Entrepreneurship & Project Management	3	--	--	3	3	3	80	20	100	40	--	--	--	--
04	7EP04	Prof. Elective - III (PE-III)	3	--	--	3	3	3	80	20	100	40	--	--	--	--
05	7EP05	Prof. Elective- IV (PE-IV)	3	--	--	3	3	3	80	20	100	40	--	--	--	--
<b>PRACTICALS / DRAWING / DESIGN</b>																
06	7EP06	Power System II Lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25
07	7EP07	Digital Signal Processing - Lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25
08	7EP08	Entrepreneurship & Project Management Lab	--	--	2	2	1	--	--	--	--	--	50	--	50	25
09	7EP09	Project & Seminar	--	--	8	8	4	--	--	--	--	--	50	--	50	25
<b>Total</b>			<b>15</b>	<b>0</b>	<b>14</b>	<b>29</b>	<b>22</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>500</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>200</b>	<b>--</b>
<b>TOTAL</b>															<b>700</b>	
<b>7EP04: PE(III) : (i) Wind &amp; Solar Energy Systems (ii) Electrical Estimation &amp; Costing (iii) Power System Operation &amp; Control</b>																
<b>7EP05: PE(IV) : (i) Artificial Intelligence (ii) Electrical Drives &amp; Control (iii) Distributed Automation</b>																

**SEMESTER : EIGHT**

Sr. No.	Subject Code	Subject	TEACHING SCHEME					EXAMINATION SCHEME								
			HOURS / WEEK			Total HOURS/WEEK	CREDITS	THEORY					PRACTICAL			
			Lecture	Tutorial	P/D			Duration Of Paper (Hr.)	Max. Marks Theory Paper	Internal Marks	Total	Min. Passing Marks	Max. Marks		Total	Min. Passing Marks
													Int.	Ext.		
<b>THEORY</b>																
01	8EP01	Power System Protection	3	--		3	3	3	80	20	100	40	--	--	--	--
02	8EP02	Computer Methods in Power System Analysis	3	--		3	3	3	80	20	100	40	--	--	--	--
03	8EP03	Prof. Elective-V (PE-V)	3	--		3	3	3	80	20	100	40	--	--	--	--
04	8EP04	Prof. Elective-VI (PE-VI)	3	--		3	3	3	80	20	100	40	--	--	--	--
<b>PRACTICALS / DRAWING / DESIGN</b>																
05	8EP05	Power System Protection - Lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25
06	8EP06	Computer Methods in Power System Analysis- Lab	--	--	2	2	1	--	--	--	--	--	25	25	50	25
07	8EP07	Project & Seminar	--	--	12	12	6	--	--	--	--	--	75	75	150	75
<b>Total</b>			<b>12</b>	<b>--</b>	<b>16</b>	<b>28</b>	<b>20</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>400</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>250</b>	<b>--</b>
<b>TOTAL</b>															<b>650</b>	
<b>8EP03 : PE-V: (i) High Voltage Engineering (ii) HVDC &amp; Facts (iii) Smart Grid System</b>																
<b>8EP04 : PE-VI: (i) Power Quality (ii) Electrical Energy Conservation &amp; Auditing (iii) Electric &amp; Hybrid Vehicle</b>																