



**Integral University, Lucknow**  
**Department of Electrical Engg.**  
**Study and Evaluation Scheme**

**Program: B. Tech. (Electrical Engg.)**

**Semester V**

S. No.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub-Total	Credit	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)
				L	T	P	CT	TA	Total	ES				E	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	
<b>THEORIES</b>																					
1	EE301	Control System	Core	3	1	0	40	20	60	40	100	3:1:0	4	√						4	
2	EE303	Power Electronics	Core	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√				4	
3	EE305	Digital Circuits and Systems	Core	3	1	0	40	20	60	40	100	3:1:0	4		√	√				4	
4	EE307	Power System I	Core	3	1	0	40	20	60	40	100	3:1:0	4	√						4,7,8,9,11	
5	BM338	Industrial Management	HM	2	1	0	40	20	60	40	100	2:1:0	3	√		√					
6		Departmental Elective -II	Elective	3	1	0	40	20	60	40	100	3:1:0	4								
<b>PRACTICAL</b>																					
7	EE302	Control System Lab	Core	0	0	2	40	20	60	40	100	0:0:2	1	√		√				4	
8	EE304	Power Electronics Lab	Core	0	0	2	40	20	60	40	100	0:0:2	1	√		√				4	
9	EE306	Digital Circuits and Systems Lab	Core	0	0	2	40	20	60	40	100	0:0:2	1			√				4	
10		Departmental Elective -III	Elective	0	0	2	40	20	60	40	100	0:0:2	1								
<b>Total</b>				<b>17</b>	<b>6</b>	<b>8</b>	<b>400</b>	<b>200</b>	<b>600</b>	<b>400</b>	<b>1000</b>		<b>27</b>								





**Integral University, Lucknow**  
**Department of Electrical Engg.**  
**Study and Evaluation Scheme**

**Program: B. Tech. (Electrical Engg.)**

**List of Electives**

S. No.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub Total	Credit	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)
				L	T	P	CT	TA	Total	ESE				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
<b>Departmental Elective I</b>																					
1	EE221	Electrical Engineering Materials	DE 1	3	1	0	40	20	60	40	100	3:1:0	4	√							9
	EE222	Probability Foundations for Electrical Engineers	DE 1	3	1	0	40	20	60	40	100	3:1:0	4		√						9
	CS205	OOP & C++	DE 1	3	1	0	40	20	60	40	100	3:1:0	4		√						
	EE224	Illumination Engineering	DE 1	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√		√			9
<b>Departmental Elective II</b>																					
2	EE321	Measurement & Instrumentation	DE 2	3	1	0	40	20	60	40	100	3:1:0	4		√	√					9
	EE323	Process Instrumentation	DE 2	3	1	0	40	20	60	40	100	3:1:0	4	√		√					9
	EE325	Conventional & CAD of Electrical Machines	DE 2	3	1	0	40	20	60	40	100	3:1:0	4	√		√					9
	EC302	Integrated Circuits	DE 2	3	1	0	40	20	60	40	100	3:1:0	4	√		√					
<b>Departmental Elective III</b>																					
3	EE322	Measurement and Instrumentation Lab	DE 3	3	1	0	40	20	60	40	100	0:0:2	1		√	√					9
	EE324	Process Instrumentation Lab	DE 3	3	1	0	40	20	60	40	100	0:0:2	1	√		√					9
	EE326	Machine Design Lab	DE 3	3	1	0	40	20	60	40	100	0:0:2	1	√	√	√					9
	EC309	Integrated Circuits Lab	DE3	3	1	0	40	20	60	40	100	0:0:2	1	√	√	√					
<b>Departmental Elective IV</b>																					
	EE331	Modern Power System	DE 4	3	1	0	40	20	60	40	100	3:1:0	4	√							7,8,9,11
	EE333	Advance Control System	DE 4	3	1	0	40	20	60	40	100	3:1:0	4	√		√					9

4	EE335	Industrial Automation	DE 4	3	1	0	40	20	60	40	100	3:1:0	4	√		√							7,8,9,11
	EC336	Communication Engineering	DE 4	3	1	0	40	20	60	40	100	3:1:0	4	√		√							
<b>Departmental Elective V</b>																							
5	EE341	Introduction to Soft Computing	DE 5	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√							9
	EE343	Renewable Energy Technology	DE 5	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√							7,9,11,13
	EE345	Power Electronics based Converters Design	DE 5	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√							9
	EE347	Modeling and Dynamic analysis of Electrical Machines	DE 5	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√							9
<b>Departmental Elective VI</b>																							
6	EE351	Sensor and Instrumentation	DE 6	2	1	0	40	20	60	40	100	2:1:0	3	√	√	√							9
	EE353	Power Station Practice	DE 6	2	1	0	40	20	60	40	100	2:1:0	3	√		√							9
	EE355	Nuclear & Advance Power Generation Technology	DE 6	2	1	0	40	20	60	40	100	2:1:0	3	√		√							9
	EE357	Biomedical Engineering	DE 6	2	1	0	40	20	60	40	100	2:1:0	3	√	√	√							9
	EE359	Energy Management	DE 6	2	1	0	40	20	60	40	100	2:1:0	3	√	√	√							7,9,11,13
<b>Departmental Elective VII</b>																							
7	EE332	Computer Aided Power System Lab	DE 7	0	0	240	20	60	40		100	0:0:2	1	√	√	√							9
	EE334	Advance Control System Lab	DE 7	0	0	240	20	60	40		100	0:0:2	1	√		√							9
	EE336	Automation Lab	DE 7	0	0	240	20	60	40		100	0:0:2	1	√		√							9
	EC337	Communication Engineering Lab	DE 7	0	0	240	20	60	40		100	0:0:2	1	√		√							
<b>Departmental Elective VIII</b>																							
8	EE342	Soft Computing Lab	DE 8	0	0	240	20	60	40		100	0:0:2	1	√	√	√							9
	EE344	Renewable Energy Lab	DE 8	0	0	240	20	60	40		100	0:0:2	1	√	√	√							7,9,11,13
	EE346	Converters Lab	DE 8	0	0	240	20	60	40		100	0:0:2	1	√	√	√							9
	EE348	Electrical machine modeling lab	DE 8	0	0	240	20	60	40		100	0:0:2	1	√	√	√							9
<b>Departmental Elective IX</b>																							
9	EE421	Electrical Insulation in	DE 9	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√							9

		Power Apparatus & System																				
	EE423	Application of Power Electronics to Power System	DE 9	3	1	0	40	20	60	40	100	3:1:0	4	√		√						9
	EE425	EHVAC & EHVDC Transmission	DE 9	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9
	EE427	Power System Dynamics	DE 9	3	1	0	40	20	60	40	100	3:1:0	4			√						9
	EE429	DSP and its application	DE 9	3	1	0	40	20	60	40	100	3:1:0	4	√		√						9
<b>Departmental Elective X</b>																						
10	EE431	Utilization of Electrical Energy & Traction	DE 10	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9
	EE433	Power Quality & Mitigation	DE 10	3	1	0	40	20	60	40	100	3:1:0	4			√						9
	EE435	High Voltage DC Transmission	DE 10	3	1	0	40	20	60	40	100	3:1:0	4	√		√						9
	EE437	Electrical Distribution System & Automation	DE 10	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9
	EE439	High Power Semiconductor Devices	DE 10	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9
<b>Departmental Elective XI</b>																						
11	EE441	Flexible AC Transmission System	DE 11	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9
	EE443	Special Electric Machines	DE 11	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9
	EE445	Electrical System and Substation Design	DE 11	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9
	EE447	Electric Vehicles	DE 11	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						9,13
	EE449	Energy Conservation & Energy Audit	DE 11	3	1	0	40	20	60	40	100	3:1:0	4	√	√	√						7, 9,11,13