

**STUDY & EVALUATION SCHEME**  
**B.TECH: ELECTRICAL ENGINEERING**  
**I YEAR: I SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
1	UPH1801	Physics	3	1	0	40	60	200	5.5
			0	0	3	80	20		
2	UMA1003	Mathematics-I	3	1	0	40	60	100	4
3	UEE1801	Basic Electrical Engineering	3	1	0	40	60	200	5
			0	0	2	80	20		
4	UME1801	Engineering Graphics and design	1	0	4	80	20	100	3
5	UCE1801	Environment Science	2	0	0	20	30	50	2
<b>TOTAL</b>			<b>12</b>	<b>3</b>	<b>9</b>	<b>380</b>	<b>270</b>	<b>650</b>	<b>19.5</b>

L - Lecture

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**I YEAR: II SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
1	UCY2801	Chemistry	3	1	0	40	60	200	5.5
			0	0	3	80	20		
2	UMA2003	Mathematics-II	3	1	0	40	60	100	4
3	UCS2802	Programming for Problem Solving	3	1	0	40	60	200	5
			0	0	2	80	20		
4	UME2802	Workshop Practices	1	0	4	80	20	100	3
5	UEG2801	English	2	0	0	40	60	200	3
			0	0	2	20	80		
<b>TOTAL</b>			<b>12</b>	<b>3</b>	<b>11</b>	<b>420</b>	<b>380</b>	<b>800</b>	<b>20.5</b>

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**II YEAR: III SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
<b>THEORY</b>									
1	BEE3005	Electrical Circuit Analysis	3	1	0	40	60	100	4
2	BEE3006	Electrical Machines-I	3	0	0	40	60	100	3
3	BEE3007	Engineering Material	3	0	0	40	60	100	3
4	BMA3010-EE	Mathematics-III	3	1	0	40	60	100	4
5	-	Open Elective-I	3	0	0	40	60	100	3
<b>PRACTICAL/ TRAINING/PROJECT</b>									
6	BEE3502	Networks Lab	0	0	2	80	20	100	1
7	BEE3504	Electrical Machines-I Lab	0	0	2	80	20	100	1
<b>TOTAL</b>			<b>15</b>	<b>02</b>	<b>04</b>	<b>360</b>	<b>340</b>	<b>700</b>	<b>19</b>
8	BEE3001-PS	*Power System Stability and Control	3	0	0	40	60	100	3
	BEE3001-PE	**Utilization of Electrical Energy and Traction	3	0	0	40	60	100	3
	BEE3001-RE	***Solar Energy	3	0	0	40	60	100	3

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**SPECIALIZATION STREAMS:**

\*Power System Stability and Control  
\*\*Utilization of Electrical Energy and Traction  
\*\*\*Solar Energy

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**II YEAR: IV SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
<b>THEORY</b>									
1	BEE4005	Electrical Machines-II	3	0	0	40	60	100	3
2	BEE4006	Signal and System	2	1	0	40	60	100	3
3	BEE4007	Analog and Digital Electronics	3	1	0	40	60	100	4
4	BEE4008	Electromagnetic Fields	3	1	0	40	60	100	4
5	BME4005	Engineering Mechanics	3	1	0	40	60	100	4
6	BBT4023	Biology	2	0	0	40	60	100	2
7	BSS4001	Soft Skills and Inter Traditional Knowledge	2	0	0	100	00	100	2
8	XHUX602	Essence of Indian Traditional Knowledge	2	0	0	Satisfactory/ Unsatisfactory			0
<b>PRACTICAL/ TRAINING/PROJECT</b>									
9	BEE4505	Electrical Machines-II Lab	0	0	2	80	20	100	1
10	BEE4506	Electronics Lab	0	0	2	80	20	100	1
<b>TOTAL</b>			<b>20</b>	<b>04</b>	<b>04</b>	<b>500</b>	<b>400</b>	<b>900</b>	<b>24</b>

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**III YEAR: V SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
<b>THEORY</b>									
1	BEE5009	Power System I	3	1	0	40	60	100	4
2	BEE5010	Control System	3	0	0	40	60	100	3
3	BEE5006	Micro- Processor and Micro-Controller	3	0	0	40	60	100	3
4	BEE5011	EMMI	3	0	0	40	60	100	3
5	---	Open Elective-II	3	0	0	40	60	100	3
6	---	Open Elective-III	3	0	0	40	60	100	3
7	XLAX601	Constitution of India	2	0	0	Satisfactory/ Unsatisfactory			0
<b>PRACTICAL/ TRAINING/PROJECT</b>									
8	BEE5506	Power System I Lab	0	0	2	80	20	100	1
9	BEE5502	Control Lab	0	0	2	80	20	100	1
10	BEE5505	Micro- Processor Lab	0	0	2	80	20	100	1
11	BAP5501	Aptitude and Reasoning and Online Test	0	0	2	100	-	100	0
<b>TOTAL</b>			<b>20</b>	<b>01</b>	<b>08</b>	<b>580</b>	<b>420</b>	<b>1000</b>	<b>22</b>
12	BEE5001-PS	*Power Distribution System and Reliability	3	0	0	40	60	100	3
	BEE5001-PE	**Special Machines	3	0	0	40	60	100	3
	BEE5001-RE	***Wind Energy, Micro Hydro and Renewable Energy Technologies	3	0	0	40	60	100	3

**SPECIALIZATION STREAMS:**

\* Power Distribution System and Reliability

\*\* Special Machines

\*\*\* Wind Energy, Micro Hydro and Renewable Energy Technologies

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**III YEAR: VI SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
<b>THEORY</b>									
1	BEE6006	Power System II	3	1	0	40	60	100	4
2	BEE6007	Power System Operation and Control	3	0	0	40	60	100	3
3	BEE6008	Measurement and Instrumentation	3	0	0	40	60	100	3
4	BEE6001	Power Electronics	3	1	0	40	60	100	4
5	---	Department Elective-I	3	0	0	40	60	100	3
6	---	Open Elective-IV	3	0	0	40	60	100	3
<b>PRACTICAL/ TRAINING/PROJECT</b>									
7	BEE6507	Power System II Lab	0	0	2	80	20	100	1
8	BEE6508	Measurement and Instrumentation Lab	0	0	2	80	20	100	1
9	BEE6501	Power Electronics Lab	0	0	2	80	20	100	1
10	BEE6502	Seminar	0	0	2	100	-	100	1
11	XEEX601	Industrial Visit	0	0	0	Satisfactory / Unsatisfactory			0
12	BAP6501	Aptitude and Reasoning and Online Test	0	0	2	100			-
<b>TOTAL</b>			<b>18</b>	<b>02</b>	<b>10</b>	<b>680</b>	<b>420</b>	<b>1100</b>	<b>24</b>
13	BEE6001-PS	*Power System Security	3	0	0	40	60	100	3
	BEE6001-PE	**Active Power Conditioning	3	0	0	40	60	100	3
	BEE6001-RE	***Smart Grid	3	0	0	40	60	100	3

**SPECIALIZATION STREAMS:**

- \*Power System Security
- \*\*Active Power Conditioning
- \*\*\*Smart Grid

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**IV YEAR: VII SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
<b>THEORY</b>									
1	BEE7002	Switch Gear and Protection	3	0	0	40	60	100	3
2	--	Department Elective II	3	0	0	40	60	100	3
3	---	Department Elective III	3	0	0	40	60	100	3
4	---	Open Elective - V	3	0	0	40	60	100	3
<b>PRACTICAL/ TRAINING/PROJECT</b>									
5	BEE7508	Project Stage - I	0	0	6	100	00	100	3
6	BEE7503	Summer Training (During Summer Vacation)	0	0	2	100	00	100	1
<b>TOTAL</b>			<b>12</b>	<b>00</b>	<b>08</b>	<b>360</b>	<b>240</b>	<b>600</b>	<b>16</b>
7	BEE7001-PS	*Advanced Power System Protection	3	0	0	40	60	100	3
	BEE7001-PE	**HVDC Systems	3	0	0	40	60	100	3
	BEE7001-RE	***Fuel and Combustion Technology	3	0	0	40	60	100	3
8	BEE7002-PS	*Power System Economics	4	0	0	40	60	100	4
	BEE7002-PE	**Advanced Power Electronics	4	0	0	40	60	100	4
	BEE7002-RE	***Power System for Renewable Energy Sources	4	0	0	40	60	100	4

**SPECIALIZATION STREAMS:**

\*Power System-PS

\*\*Power Electronics and Electric Drives-PE

\*\*\*Renewable Energy-RE

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**IV YEAR: VIII SEMESTER**

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C
<b>THEORY</b>									
1	---	Department Elective IV	3	0	0	40	60	100	3
2	---	Department Elective V	3	0	0	40	60	100	3
3	---	Open Elective ---VI	3	0	0	40	60	100	3
<b>PRACTICAL/ TRAINING/PROJECT</b>									
4	BEE8504	Project Stage - II	0	0	16	80	20	100	6
<b>TOTAL</b>			<b>09</b>	<b>00</b>	<b>16</b>	<b>200</b>	<b>200</b>	<b>400</b>	<b>15</b>
5	BEE8001-PS	*Power Quality	4	0	0	40	60	100	4
	BEE8001-PE	**Power Quality	4	0	0	40	60	100	4
	BEE8001-RE	***Energy Auditing and Management	4	0	0	40	60	100	4

<b>TOTAL (III SEM – VIII SEM)</b>	<b>94</b>	<b>9</b>	<b>50</b>	<b>2680</b>	<b>2020</b>	<b>3800</b>	<b>119</b>
<b>GRAND TOTAL (INCLUDING IST YEAR)</b>	<b>118</b>	<b>15</b>	<b>70</b>	<b>3600</b>	<b>2700</b>	<b>5400</b>	<b>157</b>

**SPECIALIZATION STREAMS:**

\*Power System-PS

\*\*Power Electronics and Electric Drives-PE

\*\*\*Renewable Energy-RE

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**LIST OF ELECTIVES**

**OPEN ELECTIVE LIST**

S. NO.	SUBJECT CODE	SUBJECT NAME	DEPARTMENT TO OFFER	SEMESTER	O.E.
1.	BHU3301	Organizational Psychology	HU	III	OR-I
	BHU3302	Organization Sociology			
2.	BEC5301	Electronics Engineering	EC	V	OE-II
	BMA5301	Operational Research	MA		
	BCS5301	Computer Network	CS		
3.	BMG5301	Economics	Management	V	OE-III
	BMG5302	Principal of Management			
4.	BEC6301	Electronic Devices	EC	VI	OE-IV
	BME6301	Project Management	ME		
	BCS6301	Web Technologies	CS		
5.	BEC7303	Analog and Digital Communication	EC	VII	OE-V
	BME7304	Total Quality Management	ME		
	BCS7303	Database System	CS		
6.	BEC7304	Antenna and Propagation	EC	VII	OE-VI
	BME7305	Maintenance Engineering and Management	ME		
	BCS7304	E-Commerce	CS		
7.	BEC8303	Satellite Communication	EC	VIII	OE-VII
	BME8303	Strength of Material	ME		
	BCS8305	Cyber Security and Cyber Laws	CS		
8.	BEC8304	Mobile Communication and Network	EC	VIII	OE-VIII
	BME8304	Thermal and Fluid Engineering	ME		
	BCS8303	Enterprise Resource Planning	CS		

**LIST OF DEPARTMENTAL ELECTIVES**

<b>S. NO.</b>	<b>SUBJECT CODE</b>	<b>SUBJECT NAME</b>	<b>DEPARTMENT TO OFFER</b>	<b>SEMESTER</b>	<b>O.E.</b>
1.	BEE6104	Smart Grid	EE	VI	D.E.-I
	BEE6105	Electrical Drives			
	BEE6105	High Voltage Engineering			
2.	BEE7105	Line Commutated and Active Rectifiers	EE	VII	D.E.-II
	BEE7106	Electrical and Hybrid Vehicles			
	BEE7107	Electrical Machine Design			
3.	BEE8103	HVDC Transmission Systems	EE	VIII	D.E.-III
	BEE8104	Power Quality and FACTS			
	BEE8105	Industrial Electrical Systems			