

**ANNEXURE – I****Credit Structure for Undergraduate programs**

Sr. No.	Category Code	Category	Credits
1	HSSM	Ability Enhancement Course (AEC), Indian Knowledge System (IKS), Value Education Course (VEC), Entrepreneurship/Economics/Management courses	10
2	BSC	Basic Science courses	14
3	ESC	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	16
4	PCC	Professional core courses	66
5	PEC	Professional Elective courses relevant to chosen specialization/branch	12
6	OE	Open subjects – Electives from other technical and /or emerging subjects	08
7	ELC	Project work, seminar and internship in industry or elsewhere, Industry Training and Skill Development, Capstone Course	22
8	VSEC	Vocations Skill Courses (VSC) , Skill Enhancement Courses (SEC)	10
9	CC	Co-curricular Courses (CC) such as Health and Wellness, Yoga education sports, and fitness, Cultural Activities, NSS/NCC and Fine/ Applied/ Visual/ Performing Arts	04
10	MDM	Compulsory Multidisciplinary Minor	14
		<b>TOTAL</b>	<b>176</b>

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**GROUP 2: SEMESTER I**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	AS201T	Engineering Chemistry & Environmental Science	2	-	--	2	15	35	50
2	BSC	AS201P	Engineering Chemistry & Environmental Science Lab	-	-	2	1	25	25	50
3	BSC	AS102T	Applied Mathematics–I	3	1	-	4	30	70	100
4	ESC	AS203T	Engineering Practices-II (Civil & Mechanical)	3	-	-	3	30	70	100
5	ESC	AS203P	Engineering Practices-II Lab (Civil & Mechanical)	-	-	2	1	25	25	50
6	ESC	AS204T	Problem Solving with Python	2	-	-	2	15	35	50
7	ESC	AS204P	Problem Solving with Python Lab	-	-	2	1	25	25	50
8	AEC	AS205P	Business Communication Skills II Lab		-	2	1	25	25	50
9	SEC	AS107P	Career Development I		-	2	1	50	-	50
10	PCC	xx101T	Program Foundation I	2	-	-	2	15	35	50
11	ESC	AS207T	Design Thinking	2	-		2	15	35	50
12	CC	AS108T	Co-curricular Course -I	2	-	-	2	50		50
13	ELC	AS209P	Tinkering & model Lab	-	-	2	-	-	-	-
<b>Total</b>				<b>16</b>	<b>1</b>	<b>12</b>	<b>22</b>	<b>320</b>	<b>380</b>	<b>700</b>

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**GROUP 2: SEMESTER II**

SrNo	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	AS101T	Engineering Physics & Material Sciences	2	0	-	2	15	35	50
2	BSC	AS101P	Engineering Physics & Material Sciences Lab	-	-	2	1	25	25	50
3	BSC	AS202T	Applied Mathematics – II	3	1	-	4	30	70	100
4	ESC	AS103T	Engineering Practices-I (Electrical & Electronics)	3	-	-	3	30	70	100
5	ESC	AS103P	Engineering Practices-I Lab(Electrical & Electronics)	-	-	2	1	25	25	50
6	ESC	AS104T	Logic building with C	2	-	-	2	15	35	50
7	ESC	AS104P	Logic building with C Lab	-	-	2	1	25	25	50
8	AEC	AS105P	Business Communication Skills I Lab	-	-	2	1	25	25	50
9	IKS	AS106T	Indian Knowledge Systems	2	-	-	2	15	35	50
10	SEC	AS206P	Career Development II	-	-	2	1	50	-	50
11	PCC	xx201T	Program Foundation II	2	-	-	2	15	35	50
12	CC	AS208T	Co-curricular Course - II	2	-	-	2	50		50
<b>Total</b>				<b>16</b>	<b>1</b>	<b>10</b>	<b>22</b>	<b>320</b>	<b>380</b>	<b>700</b>

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**SEMESTER III**

SrNo	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1.	PCC	EE301T	Network Analysis	3	1	-	4	30	70	100
2.	PCC	EE 302T	Electrical Measurement and Instrumentation	3	-	-	3	30	70	100
3.	PCC	EE302P	Electrical Measurement & Instrumentation Lab	-	-	2	1	25	25	50
4.	PCC	EE303T	Electronics Devices and Circuits	3	1	-	4	30	70	100
5.	PCC	EE303P	Electronics Devices and Circuits Lab	-	-	2	1	25	25	50
6.	PCC	EE304T	Renewable Energy Sources	3	-	-	3	30	70	100
7.	PCC	EE304P	Renewable Energy Sources Lab	-	-	2	1	25	25	50
8.	SEC	EE305P	Career Development III	-	-	2	1	50	-	50
9.	VEC	AS306T	Value Education Course I	2	-	-	2	15	35	50
10.	ELC	EE307P	Micro Project I*	-	-	2	1	50	-	50
<b>Total</b>				<b>14</b>	<b>2</b>	<b>10</b>	<b>21</b>	<b>310</b>	<b>390</b>	<b>700</b>
11	MDM		Multidisciplinary Minor-I	2	-	-	2	15	35	50
				<b>16</b>	<b>2</b>	<b>10</b>	<b>23</b>	<b>325</b>	<b>425</b>	<b>750</b>

\* Field Project or Community engagement project in the major discipline

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**SEMESTER IV**

SrNo	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1.	PCC	EE401T	Elements of Electromagnetics	3	1	-	4	30	70	100
2.	PCC	EE402T	Electrical Machines	3	1	-	4	30	70	100
3.	PCC	EE402P	Electrical Machines-Lab	-	-	2	1	25	25	50
4.	PCC	EE403T	Programming in Electrical Engineering	3	-	-	3	30	70	100
5.	PCC	EE403P	Programming in Electrical Engineering Lab	-	-	2	1	25	25	50
6.	OE	EE404T	Open Elective - I	2	-	-	2	15	35	50
7.	VSC	EE405P	Technical Skill Development - I	-	-	4	2	50	-	50
8.	VEC	EE406T	Value Education Course II	2	-	-	2	15	35	50
9.	SEC	EE407P	Career Development - IV	-	-	2	1	50	-	50
10.	ELC	EE408P	Micro Project II*	-	-	2	1	50	-	50
<b>Total</b>				<b>13</b>	<b>2</b>	<b>12</b>	<b>21</b>	<b>320</b>	<b>330</b>	<b>650</b>
11	MDM		Multidisciplinary Minor-II	3	-	-	3	30	70	100
				<b>16</b>	<b>2</b>	<b>12</b>	<b>24</b>	<b>350</b>	<b>400</b>	<b>750</b>

\* Field Project or Community engagement project in the major discipline

Open Elective - I	
EE404T(i)	PLC and SCADA
EE404T(ii)	Modeling and Simulation

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**SEMESTER V**

SrNo	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1.	PCC	EE501T	Power Electronics	2	1	-	3	30	70	100
2.	PCC	EE501P	Power Electronics Lab	-	-	2	1	25	25	50
3.	PCC	EE502T	Microprocessor and Microcontroller	3	1	-	4	30	70	100
4.	PCC	EE502P	Microprocessor and Microcontroller Lab	-	-	2	1	25	25	50
5.	PEC	EE503T	Electrical Power System	3	-	-	3	30	70	100
6.	PCC	EE504T	Professional Elective -I	3	-	-	3	30	70	100
7.	OE	EE505T	Open Elective - II	3	-	-	3	30	70	100
8.	VSC	EE506P	Technical Skill Development - II	-	-	4	2	50	-	50
9.	SEC	EE507P	Career Development - V	-	-	2	1	50	-	50
<b>Total</b>				<b>14</b>	<b>2</b>	<b>10</b>	<b>21</b>	<b>300</b>	<b>400</b>	<b>700</b>
10	MDM		Multidisciplinary Minor-III	3	-	-	3	30	70	100
				<b>18</b>	<b>2</b>	<b>10</b>	<b>24</b>	<b>330</b>	<b>470</b>	<b>800</b>

**Open Elective - II**

EE505 T(I)	Power Plant Engineering
EE505 T(II)	Solar PV Energy Systems

**Professional Elective - I**

EE504T(i)	Solar PV Energy Systems
ET504T(ii)	Power Station Practice
ET504T(iii)	Signals & Systems
EE504T(iv)	Linear Electronics Circuit
EE504T(v)	Electric Vehicle Architecture
EE504T(vi)	Electrical Machines-II
EE504T(vii)	Instrumentation

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**SEMESTER VI**

SrNo	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1.	PCC	EE601T	High Voltage Engineering	2	1	-	3	30	70	100
2.	PCC	EE601P	High Voltage Engineering Lab	-	-	2	1	25	25	50
3.	PCC	EE602T	Control System Engineering	3	1	-	4	30	70	100
4.	PCC	EE602P	Control System Engineering Lab	-	-	2	1	25	25	50
5.	PEC	EE603T	Professional Elective - II	3	-	-	3	30	70	100
6.	AEC	AS601T	Economics & Management	2	-	-	2	15	35	50
7.	OE	EE604T	Open Elective- III	3	-	-	3	30	70	100
8.	PCC	EE605P	Electrical Engineering Workshop			2	1	50	-	50
9.	ELC	EE606P	Project - I	-	-	4	2	50	50	100
10.	SEC	EE607P	Career Development - VI	-	-	2	1	50	-	50
<b>Total</b>				<b>13</b>	<b>2</b>	<b>10</b>	<b>21</b>	<b>335</b>	<b>415</b>	<b>750</b>
10	MDM		Multidisciplinary Minor-IV	3	-	-	3	30	70	100
				<b>16</b>	<b>2</b>	<b>10</b>	<b>24</b>	<b>315</b>	<b>485</b>	<b>800</b>

**Open Elective - III**

EE604T(i)	Monitoring & Testing of Electrical Machines
EE604T(ii)	Utilization of Electrical Energy

**Professional Elective - II**

EE603T(i)	Advanced Power System
ET603T(ii)	Utilization of Electrical Energy
EE603T(iii)	Electric Drives
ET603T(iv)	Energy Management & Audit
ET603T(v)	Safety for Engineers ( L& T EduTech)
EE603T(vi)	Monitoring & Testing of Electrical Machines

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**SEMESTER VII**

SrNo	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1.	PCC	EE701T	Electrical Machine Design	3	1	-	4	30	70	100
2.	PCC	EE702T	Switchgear & Protection	3	1	-	4	30	70	100
3.	PCC	EE702P	Switchgear & Protection Lab	-	-	2	1	25	25	50
4.	PEC	EE703T	Professional Elective - III	3	-	-	3	30	70	100
5.	PEC	EE704T	Professional Elective - IV	3	-	-	3	30	70	100
6.	PCC	EE705P	Power System Simulation Lab	-	-	2	1	25	25	50
7.	ELC	EE706P	Project - II	-	-	8	4	50	50	100
8.	ELC	EE707P	Summer / Winter Internship*	-	-	-	2	50	-	50
<b>Total</b>				<b>12</b>	<b>2</b>	<b>12</b>	<b>22</b>	<b>270</b>	<b>380</b>	<b>650</b>
9	MDM		Multidisciplinary Minor-V	3	-	-	3	30	70	100
				<b>15</b>	<b>2</b>	<b>12</b>	<b>25</b>	<b>300</b>	<b>450</b>	<b>750</b>

\* Summer / Winter Internship (Evaluation of Four weeks Internship Completion till 6th Semester)

Professional Elective - III	
EE703T(i)	Electrical Installation and Design
EE703T(ii)	Flexible AC Transmission Systems
EE703T(iii)	HVDC Transmission system
EE 703T(iv)	Electric Vehicle Dynamics
EE 703T(v)	Applied Thermodynamics and Steam Turbines
EE703T(vi)	Digital Signal Processing

Professional Elective - IV	
EE704T(i)	Power Semiconductor based Drives
EE704T(ii)	Power Quality
EE704T(iii)	Advanced Control System
EE704T (iv)	Energy Storage Systems
EE704T(v)	Electrical Distribution System
EE704T(vi)	Computer Applications in Power System
EE704T(vi)	Project Management for Engineers (L&T EduTech)

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**SEMESTER VIII****Option A**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	EE801P*	Project based on one semester internship in Industry/Research Institute/ National Laboratories/ Incubation Center	-	-	-	12	300	100	400
<b>Total</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>300</b>	<b>100</b>	<b>400</b>

**\*End semester examination will consist of evaluation of seminar & project report.**

**Option B**

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	EE802P#	Institutional Internship	-	-	12	6	100	100	200
2	ELC	EE803P	Project – III	-	-	12	6	100	100	200
<b>Total</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>300</b>	<b>100</b>	<b>400</b>

**Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.**

\* Minimum 90 days internship in any industry and project is to be carried out during internship.

# Two NPTEL courses (as per choice of student) or Institutional Internship by IEDC, SVP CET.

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**EXIT OPTIONS****Award of UG Certificate in Major with 44 credits and an additional 8 credits (After First Year)**

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Two weeks Internship	Offline /Online	2
2	Electrical wiring & LT installations	Offline	4
3	Motor Winding	Offline	2

**Award of UG Diploma in Major with 91 credits and an additional 8 credits (After Second Year)**

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Two weeks Internship	Offline /Online	2
2	Industrial IoT	Offline	4
3	General Electrical Maintenance	Offline	2

**Award of UG Degree in Major with 139 credits and an additional 8 credits (After Third Year)**

EXIT COURSES			
S.N.	Course name	Mode of conduction	Credits
1	Two weeks Internship	Offline /Online	2
2	AutoCad Electrical / BIM	Offline /Online	4
3	Testing & Maintenance of Electrical machines	Offline	2

**Multidisciplinary Minor****Minor 1 :- Management**

SrNo	Sem	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
					L	T	P		Continual Assessment	End Sem Examination	Total
1	3	MDM						2			
2	4	MDM						3			
3	5	MDM						3			
4	6	MDM						3			
5	7	MDM						3			
				<b>Total</b>				<b>14</b>			

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**Multidisciplinary Minor**  
**Minor 2 :- Emerging Trends**

SrNo	Sem	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
					L	T	P		Continual Assessment	End Sem Examination	Total
1		MDM						2			
2		MDM						3			
3		MDM						3			
4		MDM						3			
5		MDM						3			
				<b>Total</b>				<b>14</b>			

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