

**IEM/UEM**  
**ELECTRICAL ENGINEERING DEPARTMENT**

<b>EXECUTIVE SUMMARY OF PROPOSED SYLLABUS</b>								
ALONG WITH COMPARISON WITH AICTE MODEL SYLLABUS								
SEMESTER /GROUP	HSMC	BSC	ESC	PCC	PEC	OEC	PROJ & SEMINAR	TOTAL
3	3	3	3	12		3	1	25
4	3	6		14		3	1	27
5	3			15	3	3	1	25
6	5			9	6	3	2	25
7	5			3	6	3	5	22
8	5				3	3	4	15
GROUP TOTAL	24	9	3	53	18	18	14	139
1	3.5	8.5	9					21
2	3.5	8.5	9					21
<b>IEM</b>	<b>31</b>	<b>26</b>	<b>21</b>	<b>53</b>	<b>18</b>	<b>18</b>	<b>14</b>	<b>181</b>
<b>AICTE</b>	<b>12</b>	<b>26</b>	<b>20</b>	<b>53</b>	<b>18</b>	<b>18</b>	<b>11</b>	<b>158</b>
UEM	Mandatory Additional Requirements (MAR) (3 <sup>rd</sup> Sem to 8 <sup>th</sup> Sem) (0.5x6)							3
UEM	MOOC (Mandatory for honours) (3 <sup>rd</sup> Sem to 8 <sup>th</sup> Sem) (3x6)							18
<b>UEM</b>	<b>(3<sup>rd</sup> Sem to 8<sup>th</sup> Sem)</b>							<b>160</b>

22 Essential Studies & skill development

<b>ABBREVIATIONS OF SUBJECT - GROUPS</b>	
GROUP NAME	TOPIC
HSMC	HUMANITIES, SOCIAL SCIENCE INCLUDING MANAGEMENT
BSC	BASIC SCIENCE
ESC	ENGINEERING SCIENCE
PCC	PROFESSIONAL CORE SUBJECTS
PEC	PROFESSIONAL ELECTIVE SUBJECT RELEVANT TO THE BRANCH
OEC	ELECTIVES FROM OTHER TECHNICAL / EMERGING FIELDS
PROJ	PROJECT, SEMINAR AND INDUSTRIAL TRAINING

**IEM/UEM**  
**COURSE STRUCTURE FOR B.Tech (Electrical Engineering)**

**Second year (Third semester)**

Theory							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	BSC-M301	Mathematics & Statistics-III	2	1	0	3	3
2	PCC-EE 301	Electrical Network Theory	3	1	0	4	4
3	PCC-EE 302	Analog Electronics	3	0	0	3	3
4	PCC-EE 303	Electromagnetic Field theory	3	0	0	3	3
5	OEC-EE 301	Data Structure and Algorithm	2	0	0	2	2
6	ESC-ME 301	Engineering Mechanics	3	0	0	3	3
7	MC-EE 301	Indian Constitution	2	0	0	2	0
8	HSMC 301	Essential Studies for Professionals III	2	0	0	2	2
<b>Total of Theory</b>						<b>22</b>	<b>20</b>

Practical/ Sessional							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PCC-EE 391	Electrical Network Theory Laboratory	0	0	2	2	1
2	PCC-EE 392	Analog Electronics Lab	0	0	2	2	1
3	OEC-EE 391	Data Structure and Algorithm Lab	0	0	2	2	1
4	HSMC 381	Skill Development for Professionals III	0	0	2	2	1
5	PROJ-EE 01	Project I	0	0	0	0	1
6	MC381	Mandatory Additional Requirements (MAR)	0	0	0	0	0.5
7	MOOC 3	MOOCs (Mandatory for Honours)	0	0	0	0	3
<b>Total of Practical</b>						<b>8</b>	<b>(5+3.5)</b>
<b>Total of Semester</b>						<b>30</b>	<b>25+3.5</b>

**Second year (Fourth semester)**

Theory							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	BSC-M 401	Mathematics & Statistics-IV	3	0	0	3	3
2	BSC-EE 401	Science of Living System	3	0	0	3	3
3	PCC-EE401	Electrical Machines -I	3	0	0	3	3
4	PCC-EE402	Digital Electronics	3	0	0	3	3
5	PCC-EE403	Electrical & Electronic Measurement	2	0	0	2	2
6	PCC-EE 404	Signals & Systems	3	0	0	3	3
7	OEC-EE 401	Object Oriented Programming & Java	2	0	0	2	2
8	HSMC 401	Essential Studies for Professionals IV	2	0	0	2	2
<b>Total of Theory</b>						<b>21</b>	<b>21</b>

Practical/Sessional							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PCC-EE 491	Electrical Machines Laboratory-I	0	0	2	2	1
2	PCC-EE 492	Digital Electronics Laboratory	0	0	2	2	1
3	PCC-EE 493	Electrical & Electronic Measurement Lab	0	0	2	2	1
4	OEC-EE 491	Object Oriented Programming & Java Lab	0	0	2	2	1
5	HSMC 481	Skill Development for Professionals IV	0	0	2	2	1
6	PROJ-EE 02	Project II	0	0	0	0	1
7	MC481	Mandatory Additional Requirements (MAR)	0	0	0	0	0.5
8	MOOC 4	MOOCs (Mandatory for Honours)	0	0	0	0	3
<b>Total of Practical</b>						<b>10</b>	<b>(6+3.5)</b>
<b>Total of Semester</b>						<b>31</b>	<b>27+3.5</b>

**IEM/UEM**  
**COURSE STRUCTURE FOR B.Tech (Electrical Engineering)**

**Thirdyear (Fifth semester)**

Theory							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PCC-EE 501	Electrical machines -II	3	0	0	3	3
2	PCC-EE 502	Power systems -I	3	0	0	3	3
3	PCC-EE 503	Control Systems	3	0	0	3	3
4	PEC-EE 501	A. Digital Signal Processing B. Electrical and Hybrid Vehicles	3	0	0	3	3
5	PEC-EE 502	A. ElectromagneticWaves B. Industrial ElectricalSystem	3	0	0	3	3
6	OEC-EE 501	Database Management System	2	0	0	2	2
7	MC-EE 501	Environmental Science	2	0	0	2	0
8	HSMC 501	Essential Studies for Professionals V	2	0	0	2	2
<b>Total of Theory</b>						<b>21</b>	<b>19</b>

Practical/Sessional							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PCC-EE 591	Electrical machines Laboratory - II	0	0	2	2	1
2	PCC-EE 592	Power Systems Laboratory - I	0	0	2	2	1
3	PCC-EE 593	Control Systems Laboratory	0	0	2	2	1
4	OEC-EE 591	Database Management System Lab	0	0	2	2	1
5	HSMC 581	Skill Development for Professionals V	0	0	2	2	1
6	PROJ-EE 03	Project III	0	0	0	0	1
7	MC581	Mandatory Additional Requirements (MAR)	0	0	0	0	0.5
8	MOOC 5	MOOCs (Mandatory for Honours)	0	0	0	0	3
<b>Total of Practical</b>						<b>10</b>	<b>(6+3.5)</b>
<b>Total of Semester</b>						<b>31</b>	<b>25+3.5</b>

**Thirdyear (Sixth semester)**

Theory							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PCC-EE 601	Power Systems -II	3	1	0	3	3
2	PCC-EE 602	Power Electronics	3	0	0	3	3
3	PCC-EE 603	Microprocessors	3	0	0	3	3
4	PEC-EE 601	A. Control Systems Design B. Wind and Solar Power EnergySystems	3	0	0	3	3
5	OEC-EE 601	Machine Learning & IoT	2	0	0	2	2
6	HSMC 601	Principles of Management	2	0	0	2	2
7	HSMC 602	Essential Studies for Professionals VI	2	0	0	2	2
<b>Total of Theory</b>						<b>18</b>	<b>18</b>

Practical/Sessional							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PCC-EE691	Power Systems Laboratory - II	0	0	2	2	1
2	PCC-EE 692	Power Electronics Laboratory	0	0	2	2	1
3	PCC-EE 693	Microprocessors Laboratory	0	0	2	2	1
4	OEC-EE 691	Machine Learning & IoT Laboratory	2	0	0	2	1
5	HSMC 681	Skill Development for Professionals VI	0	0	2	2	1
6	PROJ-EE 04	Project IV	0	0	0	0	2
7	MC681	Mandatory Additional Requirements (MAR)	0	0	0	0	0.5
8	MOOC 6	MOOCs (Mandatory for Honours)	0	0	0	0	3
<b>Total of Practical</b>						<b>10</b>	<b>(7+3.5)</b>
<b>Total of Semester</b>						<b>28</b>	<b>25+3.5</b>

**IEM/UEM**  
**COURSE STRUCTURE FOR B.Tech (Electrical Engineering)**

**Fourthyear (Seventh semester)**

Theory							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PEC-EE 701	A. H.V.D.C.TransmissionSystem B. Power quality &FACTS C. Power System Protection	3	0	0	3	3
2	PEC-EE 702	A. ElectricalDrives B. Line Commutated and Active Rectifiers and Converters	3	0	0	3	3
3	OEC-EE 701	A. Embeddedsystem B. Robotics and Automation C. Data Science & Data Analytics	3	0	0	3	3
4	HSMC-701	Engineering Economics	2	0	0	2	2
5	HSMC 702	Essential Studies for Professionals VII	2	0	0	2	2
<b>Total of Theory</b>						<b>13</b>	<b>13</b>

Practical/Sessional							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PCC-EE 791	Electronics Design Lab.	1	0	4	5	3
2	PROJ-EE 781	Seminar on Industrial Training	0	0	4	4	2
3	HSMC 781	Skill Development for Professionals VII	0	0	2	2	1
4	PROJ-EE 05	Project V	0	0	6	6	3
5	MC781	Mandatory Additional Requirements (MAR)	0	0	0	0	0.5
6	MOOC 7	MOOCs (Mandatory for Honours)	0	0	0	0	3
<b>Total of Practical</b>						<b>17</b>	<b>(9+3.5)</b>
<b>Total of Semester</b>						<b>30</b>	<b>22+3.5</b>

**Fourthyear (Eighth semester)**

Theory							
SL.NO.	Paper Code	Paper Name	L	T	P	Total	Credits
1	PEC-EE 801	A. Digital Control Systems B. Electrical EnergyConservation andAudit	3	0	0	3	3
2	OEC-EE 801	A. Smart Sensing System & IOT B. Big Data Analysis & SmartGrid C. Digital Image Processing	3	0	0	3	3
3	HSMC-801	Human Resource Development &OrganisationalBehaviour	3	0	0	2	2
4	HSMC 802	Essential Studies for Professionals VIII	2	0	0	2	2
<b>Total of Theory</b>						<b>7</b>	<b>10</b>

Practical/ Sessional							
SINO	Paper Code	Paper Name	L	T	P	Total	Credits
1	HSMC 881	Skill Development for Professionals VIII	0	0	2	2	1
2	PROJ-EE 06	Project –VI	0	0	8	8	4
3	MC881	Mandatory Additional Requirements (MAR)	0	0	0	0	0.5
4	MOOC 8	MOOCs (Mandatory for Honours)	0	0	0	0	3
<b>Total of Practical</b>						<b>10</b>	<b>(5+3.5)</b>
<b>Total of Semester</b>						<b>17</b>	<b>15+3.5</b>