



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL - 15

MEETING OF THE DEPARTMENT FACULTY - EEE DEPARTMENT

MINUTES OF THE MEETING OF

INTERNAL BOARD OF STUDIES(Internal BoS)

HELD AT 10:00 AM ON 30.05.2020 (Saturday)

IN DIGITAL SIMULATION LABORATORY OF THE DEPARTMENT

Agenda:

1. Finalizing syllabus for the following V-Semester Courses of B. Tech EEE Program.

- A. Renewable Energy Systems (EE502A)
- B. Electrical Engineering Materials (EE502B)
- C. Communication Engineering (EE502C)
- D. Power Systems-II (EE503)
- E. Electrical Machines-II (EE504)
- F. Power Electronics (EE506)
- G. Microprocessors and Microcontroller Systems (EC511)
- H. Electrical Machines Laboratory-II (EE508)
- I. Power Electronics Laboratory (EE509)
- J. Microprocessors and Microcontroller Systems Laboratory (EC512)
- K. Seminar (EE510)

2. Finalizing syllabus for the following VI-Semester Courses of B. Tech EEE Program

- A. Utilization of Electrical Energy (EE603A)
- B. High Voltage Engineering (EE603B)
- C. Electric Vehicles (EE603C)
- D. Power System Operation and Control (EE604)
- E. Power Semiconductor Drives (EE605)
- F. Control Systems Engineering (EE606)
- G. Signals and Systems (EI614)
- H. Control Systems Engineering Laboratory (EE607)
- I. Power Semiconductors Drives Laboratory (EE608)
- J. Mini project (EE610)

3. Finalizing the date for Complete BoS meeting (Virtual) including external members

4. Review of Programme Specific Outcomes (PSOs) of B.Tech EEE

5. Action Plan for teaching process (including ICT/Virtual/Online/Flipped teaching) to meet the course syllabus delivery under this Covid-19 pandemic situation

6. Any other item with the permission of chair

The following members were present: -

- | | | |
|-------------------------|-----|------------------------------|
| 1. Prof. C. Venkatesh | ... | Professor & Chairperson, BOS |
| 2. Prof. V. Ramaiah | ... | Professor |
| 3. Prof. V. Rajagopal | ... | Professor |
| 4. Sri M.Narasimha Rao | ... | Associate Professor |
| 5. Dr.G.Rajender | ... | Associate Professor |
| 6. Sri B.Jagadish Kumar | ... | Associate Professor |
| 7. Dr. G. RajenderNaik | ... | Associate Professor |
| 8. Dr.P.Nagarjuna Reddy | ... | Assistant Professor |

The meeting commenced at 10:00 A.Mand was presided over by the Chairman, BoS. At the outset, the Chairman, BoS welcomed the members to the meeting to discuss the pre-notified items on the agenda and approval.

MoM:

The Board of Studies Chairman formally invited all members and put forth Agenda for discussion and approval. The syllabi of courses of B.Tech V & VI sem courses received from Coordinators of Course Content Preparation Committee (CCPC) and discussed in faculty meeting have been presented.

The major changes in the scheme of the V& VI semesters of the B.Tech (EEE) program and the syllabus of the various courses have been discussed. The details have been listed below.

RESOLUTIONS:

Resolution on Agenda1: Finalizing syllabus V-Semester Courses of B. Tech EEE Program.

IBOS-EEE-May2020-RES1:

Renewable Energy Systems (EE502A):

- The mandatory course in VIII semester has been shifted to V semester as a Professional Elective to provide an elementary treatment on the different renewable energy technologies for generation of electric power
- The concepts of Microgrid and distributed generation, renewable energy economics have been removed as this course is aimed to provide a basic knowledge on renewable energy generation

- Solar energy is introduced in Unit-I followed by geothermal and wind energy in Unit-II
- Unit-III deals with ocean energy and bioenergy
- Fuel cells and energy storage systems are introduced in Unit-IV

Electrical Engineering Materials (EE502B):

- This course is newly introduced to provide an insight of the materials which are used in electrical engineering
- Conducting materials and semiconducting materials are introduced in Unit-I to provide knowledge on the properties of the materials that are used for electrical conduction.
- Insulating materials and dielectric materials are introduced in Unit-II to provide knowledge on the properties of materials that are used for electrical insulation.
- Unit-III deals with magnetic materials. The materials used in nanotechnology are introduced in Unit-III to make the students aware of the latest research area of nanotechnology.
- Special purpose materials introduced in Unit-IV has been introduced in Unit- IV which deals with different types of materials which are used in electrical engineering other than conduction and insulation. Electronic components has been introduced in Unit-IV to get the students familiarized with the materials used in the making of resistors, inductors, capacitors and transformers.

Communication Engineering (EE502C):

- This course is newly introduced to get the students familiarized with the basics of communication engineering.
- Unit-I deals with introduction of communication systems and amplitude modulation.
- Unit-II deals with angle and pulse modulation.
- Unit-III deals with digital modulation.
- Unit -IV deals with bandpass data transmission systems.

Power Systems-II (EE503):

- This course is shifted from VI semester (URR14) to V semester (URR18).

- The equivalent circuit representation of long line in Unit-I is deleted as it is being repeated.
- Determination of the capacities of synchronous modifiers and analytical methods in Unit-II has been deleted based on the suggestion given by external BoS members.
- Insulation coordination and volt-time curves topics in Unit-IV has been deleted as it is covered in the course of "*Electromagnetic Fields*" in III semester.

Electrical Machines-II (EE504):

- The contents in the course are rearranged. In the revised content, Unit -I deals with three phase induction motors and Unit-II deals with single phase machines. Unit-III and Unit-IV deal with synchronous generators and synchronous motors respectively.
- The concept of Circle diagrams to determine the induction motor performance in Unit-I is removed as this method is not in vogue now.
- The concept of short circuit transients in synchronous generators has been removed as it is covered in the course of "*Power System Operation and Control*".
- Special purpose machines has been removed as it is being covered in the course of "*Electric Vehicles*".

Power Electronics (EE506):

- The concept of series and parallel operation of SCRs and determination of string efficiency has been deleted in Unit-I.
- Forced commutation techniques, earlier in Unit-I, has been shifted to Unit-III as it is more relevant with choppers and inverters.
- Power factor improvements topic in Unit-II has been removed. Distortion factor of AC to DC converters has been modified as it is in GATE syllabus.
- Voltage source inverters (180° & 120° conduction) and principle and operation of centre tap & bridge type cycloconverters have been mentioned in Unit-III and unit-IV respectively to make the course content more relevant to the students and course handling faculty.

Electrical Machines Laboratory -II (EE508):

- This course is shifted from VI semester (URR14) to V semester (URR18).

- The experiment on *determination of circle diagrams of a three-phase induction motor using no load and blocked rotor test* is removed as this method is not in vogue now.
- A new experiment on *speed control of three phase induction motor using rotor resistance control* is introduced.

Power Electronics Laboratory (EE509):

- This course is shifted from VI semester (URR14) to V semester (URR18).
- A new experiment on *single phase bridge inverter* is introduced.
- The experiment on *DC Morgan chopper* is replaced with *Four quadrant chopper*.

Microprocessors and Microcontroller Systems(EC511):

- No changes

Microprocessors and Microcontroller SystemsLaboratory (EC512):

- No changes

Seminar (EE510):

- No major changes

<p><u>Resolution on Agenda2: Finalizing syllabus <u>VI-Semester</u> Courses of B. Tech EEE Program</u></p>

<p><u>IBOS-EEE-May2020-RES2:</u></p>

Utilization of Electrical Energy (EE603A):

- This course has been changed from Mandatory course (URR14) to Professional Elective (URR18).
- Different types of electric braking, reverse current, rheostat and regenerative braking, counter current braking of AC and DC motors has been removed in Unit-I. Speed control methods of DC traction motors topic has been included in detail to make it easier for the students to understand the concept of speed control.
- Control equipment in Electric heating in Unit-III has been removed in Unit-III.

High Voltage Engineering (EE603B):

- The concept of overvoltage phenomenon has been introduced in Unit-IV as it is essential for electric power engineers to have knowledge on causes of overvoltages in electric systems.

Electrical Vehicles (EE603C):

- This course is newly introduced in the place of “*Special Purpose Machines*” to let the students understand the emerging trend of electric vehicles.
- Unit-I deals with introduction of hybrid electric vehicles, the concept of hybridization and the fundamentals of HEV.
- Unit-II deals with PHEVs, SHVs and their applications for military vehicles.
- Unit-III deals with power electronics, electric machines & drives and electric energy sources & storage devices that are employed in electric vehicles.
- Unit -IV deals with modelling of battery and simulation of electric and hybrid vehicles using MATLAB.

Power System Operation and Control (EE604):

- This course is shifted from VII semester (URR14) to VI semester (URR18).
- The system data for load flow studies in Unit-I is deleted.
- The concept of P-Q control in Unit-II has been deleted as it is similar to that of voltage control in the course of “*Power Systems-II*” in V semester.
- The terms of synchronizing power coefficient, critical clearing angle and critical clearing time are introduced to give them much importance as they are frequently asked in GATE and other competitive exams. The concepts of steady state stability of synchronous machine and effect of excitation on generator power limits has been deleted as it is reflected in the course of “*Electrical Machines -II*” in V semester.

Power Semiconductor Drives (EE605):

- The concepts of braking and speed control of induction and synchronous motor, which were earlier in Unit- I have been shifted to Unit-III and Unit -IV for better understanding for the students.

Control Systems Engineering (EE606):

- This course is shifted from V semester (URR14) to VI semester (URR18).

- The topic of 'Tacho generators' is removed from Unit-II.
- The topics '*Routh Hurwitz Criterion, Concept of root locus and construction of root loci, Effects of adding poles and zeros*' of Unit -II have been shifted to Unit-III under stability analysis.
- '*Stability analysis using MATLAB*' has been introduced in Unit-III to get the students exposed to practical knowledge on all the contents being covered under theory.
- It has been resolved that the students must be encouraged to track the responses of first and second order systems and determine the system's stability using MATLAB.

Signals and Systems (EI614):

- This course is newly introduced to let the students get knowledge on analog and digital signal processing, ideas at the heart of modern communication and measurement.
- Unit- I deals with introduction to continuous and discrete time signals, sampling theorem, LTI systems and their properties.
- Unit-II deals with continuous Time Fourier Transforms
- Unit -III deals with Discrete Time Fourier Transforms
- Unit -IV deals with z- transforms, region of convergence and inverse z-transforms.
- This course acts as a prerequisite course for "*Digital Signal Processing (VIII semester)*"

Control Systems Engineering Laboratory (EE607):

- This course is shifted from V semester (URR14) to VI semester (URR18).
- The experiments of *study of characteristics of DC servo motor and performance of temperature controller using PID* have been removed.
- New experiment of *stability analysis through polar plot of linear time invariant system using MATLAB* is introduced to improve the programming skills of the students.

Power Semiconductors Drives Laboratory (EE608):

- This course is shifted from VII semester (URR14) to VI semester (URR18).
- New experiments of *Simulation of single-phase fully controlled converter DC drive using MATLAB-Simulink* and *Simulation of VSI controlled induction motor drive using MATLAB-Simulink* are introduced to improve the programming skills of the students.

Mini Project (EE610):

- No major changes.

Resolution on Agenda3: Finalizing the date for Complete BoS meeting (Virtual) including external members.

IBOS-EEE-May2020-RES3:

It is finalized to conduct the BoS meeting (Virtual) on **13.06.2020 (Saturday) or 14.06.2020 (Sunday)**. The date is to be finalized by taking consent from all external members of BoS-EEE.

The scheme of Four year B.Tech (EEE) programme and Syllabus of V & VI semesters of B.Tech (EEE) is to be shared to the external members' emails well in advance.

During the complete BoS meeting, all the internal members to be present physically in the same venue and external members will attend the meeting online.

Resolution on Agenda4: Review of Programme Specific Outcomes (PSOs) of B.Tech EEE

IBOS-EEE-May2020-RES4:

Chairman, BoS has put forward the Programme Specific Outcomes (PSOs) of B.Tech (EEE) to the internal members of BoS for considering of reviewing.

Present PSOs of B.Tech(EEE) are:

PSO1	The Electrical and Electronics Engineering graduates are capable of applying the knowledge of mathematics and sciences in modern power industry
PSO2	Analyze and design efficient systems to generate, transmit, distribute and utilize electrical energy to meet social needs using power electronic systems.
PSO3	Electrical Engineers are capable to apply principles of management and economics forB providing better services to the societyB with the technical advancements in renewable and sustainable energy integration
PSO4	Practice professional ethics and work in a team and communicate to keep abreast of latest developments to achieve project objectives for the betterment of the society.

The members considered the feedback of faculty and finalized to rearrange the statements of PSOs without any change in the meaning.

The Electrical and Electronics Engineering graduates will be able to

PSO1	<u>Apply</u> the knowledge of mathematics and science in modern power industry
PSO2	<u>Analyse and design</u> efficient systems to generate, transmit, distribute and utilize electrical energy to meet social needs using power electronic systems
PSO3	<u>Apply</u> principles of management and economics for providing better services to the society with the technical advancements in renewable and sustainable energy integration
PSO4	<u>Practice</u> professional ethics and work in a team and <u>communicate</u> to keep abreast of latest developments to achieve project objectives for the betterment of society

Resolution on Agenda5: Action Plan for teaching process (including ICT/Virtual/Online/Flipped teaching) to meet the course syllabus delivery under this Covid-19 pandemic situation

IBOS-EEE-May2020-RES5:

During this condition of Covid-19 pandemic situation, it is required that all faculty be ready to engage classes physically and also in online mode.

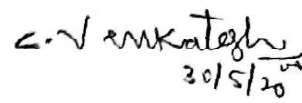

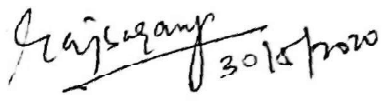
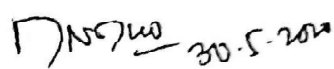
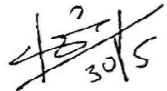
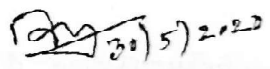

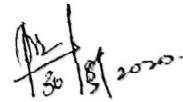
Faculty should, well in advance, prepare their course content notes softcopy in the form of PPT / Video lectures / Lecture notes / Images / Moodle material and share it to students.

Faculty should prepare their content such that online teaching mode should also meet identified Course Outcomes (COs) and Cognitive Domain Learning Levels (CDLLs).

This hybrid mode of teaching should meet all the course requirements.

The meeting concluded with vote of thanks to CCPC coordinators and members for framing the syllabus. The Chairman BoS thanked all the members of the meeting for giving valuable suggestions. The meeting concluded at 1.00pm.

BOS Members Present

- | | | | |
|---|-----|-------------------------|--|
| 1. Prof. C. Venkatesh
Prof & HoD of EEE, KITSW | --- | Chairperson, BoS of EEE | 
30/5/20 |
| 2. Prof. V. Ramaiah
Professor of EEE, KITSW | --- | Member | 
30/5/2020 |
| 3. Prof. V. Rajagopal
Professor of EEE, KITSW | --- | Member | 
30/5/2020 |
| 4. Sri M. Narsimha Rao
Associate Professor of EEE,
KITSW | --- | Member | 
30.5.2020 |
| 5. Dr. G. Rajender
Associate Professor of EEE,
KITSW | --- | Member | 
30/5 |
| 6. Sri B. Jagadish Kumar
Associate Professor of EEE,
KITSW | --- | Co-Opted Member | 
30/5/2020 |
| 7. Dr G. Rajender Naik
Associate Professor of EEE,
KITSW | --- | Co-Opted Member | 
30/5/20 |
| 8. Dr. P. Nagarjuna Reddy
Assistant Professor of EEE,
KITSW | --- | Co-Opted Member | 
30/5/2020 |

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE: WARANGAL-15
(An Autonomous Institute under Kakatiya University, Warangal)
SCHEME OF INSTRUCTIONS & EVALUATION FOR B.TECH. 4-YEAR DEGREE PROGRAMME

BRANCH : B.Tech. - CE / EIE / EEE / ECE / ECI (Stream - II)
SEMESTER : FIRST

Sl.No	Course Category	Course Code	Course Name	Periods/week				Credits	Evaluation Scheme				Total Marks
				L	T	P	C		CIE			ESE	
									TA	MSE	Total		
1	BSC	U18MH101	Engineering Mathematics - I	3	1	-	4	10	30	40	60	100	
2	ESC	U18CS102	Programming for Problem Solving using C	3	-	-	3	10	30	40	60	100	
3	BSC	U18CH103	Engineering Chemistry	3	1	-	4	10	30	40	60	100	
4	ESC	U18ME104	Engineering Drawing	2	-	4	4	10	30	40	60	100	
5	ESC	U18CE105	Engineering Mechanics	3	1	-	4	10	30	40	60	100	
6	ESC	U18CS107	Programming for Problem Solving using C Laboratory	-	-	2	1	40	-	40	60	100	
7	BSC	U18CH108	Engineering Chemistry Laboratory	-	-	2	1	40	-	40	60	100	
8	MC	U18CH109	Environmental Studies*	2	-	-	-	10	30	40	60	100	
9	MC	U18EA110	EAA* : Sports/Yoga/NSS	-	-	2	-	100	-	100	-	100	
10	MC	--	Induction Programme	-	-	-	-	-	-	-	-	-	
Total				16	3	10	21	240	180	420	480	900	

Note: L - Lectures; T - Tutorials; P - Practicals; CIE - Continuous Internal Evaluation; TA - Teachers Assessment;

MSE - Mid Semester Examination; ESE - End Semester Examination; EAA - Extra Academic Activity;

* indicates mandatory non-credit course

Student Contact Hours/Week : 29(periods/week)

TotalCredits(C) : 22 Credits

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE: WARANGAL-15
(An Autonomous Institute under Kakatiya University, Warangal)
SCHEME OF INSTRUCTIONS & EVALUATION FOR B.TECH. 4-YEAR DEGREE PROGRAMME

BRANCH : B.Tech. - CE / EIE / EEE / ECE / ECI (Stream - II)
SEMESTER : SECOND

Sl.No	Course Category	Course Code	Course Name	Periods/week			Credits		Evaluation Scheme			
				L	T	P	C	ESE	CIE			
									TA	MSE	Total	Total Marks
1	BSC	U18MH201	Engineering Mathematics - II	3	1	-	4	60	30	40	60	100
2	ESC	U18CS202	Data Structures through C	3	-	-	3	60	30	40	60	100
3	BSC	U18PH203	Engineering Physics	3	1	-	4	60	30	40	60	100
4	HSMC	U18MH204	English for Communication	2	-	2	3	60	30	40	60	100
5	ESC	U18EE205	Basic Electrical Engineering	3	1	-	4	60	30	40	60	100
6	ESC	U18EE206	Basic Electrical Engineering Laboratory	-	-	2	1	60	-	40	60	100
7	ESC	U18CS207	Data Structures through C Laboratory	-	-	2	1	60	-	40	60	100
8	BSC	U18PH208	Engineering Physics Laboratory	-	-	2	1	60	-	40	60	100
9	ESC	U18ME209	Workshop Practice	-	-	2	1	60	-	40	60	100
10	MC	U18EA210	EAA* : Sports/Yoga/NSS	-	-	2	-	100	-	100	-	100
Total				14	3	12	22	310	150	460	540	1000

Note: L - Lectures; T - Tutorials; P - Practicals; CIE - Continuous Internal Evaluation; TA - Teachers Assessment;

MSE - Mid Semester Examination; ESE - End Semester Examination; EAA - Extra Academic Activity;

* indicates mandatory non-creditcourse

Student Contact Hours/Week : 29(periods/week)

TotalCredits(C) : 22 Credits

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE :: WARANGAL-15

(An Autonomous Institute under Kakatiya University)
 III SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME
 ELECTRICAL & ELECTRONICS ENGINEERING

w.e.f. A/Y2018-19

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme			Total Marks	
				L	T	P		TA	CIE			ESE
									MSE	Total		
1.	BSC	U18MH301	Engineering Mathematics - III	3	1	-	4	10	30	40	60	100
2.	HSMC	U18TP302	Soft and Interpersonal Skills	-	-	2	1	10	30	40	60	100
3.	PCC	U18EE303	Network Theory	3	1	-	4	10	30	40	60	100
4.	PCC	U18EE304	Electrical Measurements & Instrumentation	3	-	-	3	10	30	40	60	100
5.	PCC	U18EE305	Electromagnetic Fields	3	-	-	3	10	30	40	60	100
6.	PCC	U18EC310	Electronic Devices and Circuits	3	-	-	3	10	30	40	60	100
7.	PCC	U18EE307	Electrical Measurements & Instrumentation Laboratory	-	-	2	1	40	-	40	60	100
8.	PCC	U18EE308	Networks & Simulation Laboratory	-	-	2	1	40	-	40	60	100
9.	PCC	U18EC311	Electronic Devices and Circuits Laboratory	-	-	2	1	40	-	40	60	100
Total				15	2	8	21					900

Students Contact Hours/Weeks:25

Total Credits: 21

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE :: WARANGAL-15
(An Autonomous Institute under Kakatiya University)
IV SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME
ELECTRICAL & ELECTRONICSENGINEERING

w.e.f. A/Y2018-19

Sl.No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme			Total Marks	
				L	T	P		CIE		ESE		
								TA	MSE			Total
1.	MC	U18MH415	Essence of Indian Traditional Knowledge	2	-	-	-	10	30	40	60	100
2.	OE	U18OE401	Open Elective -II	3	1	-	4	10	30	40	60	100
3.	HSMC	U18MH402	Professional English	-	-	2	1	10	30	40	60	100
4.	OE	U18OE303/ U18OE403	Open Elective -I	3	-	-	3	10	30	40	60	100
5.	PCC	U18EE404	Power Systems-I	3	-	-	3	10	30	40	60	100
6.	PCC	U18EE405	Electrical Machines-I	3	1	-	4	10	30	40	60	100
7.	PCC	U18EC412	Analog and Digital Electronics	3	-	-	3	10	30	40	60	100
8.	PCC	U18EE407	Electrical Machines Laboratory -I	-	-	2	1	40	-	40	60	100
9.	PCC	U18EC413	Analog and Digital Electronics Laboratory	-	-	2	1	40	-	40	60	100
10.	OE	U18OE311/ U18OE411	OE-I based lab	-	-	2	1	40	-	40	60	100
11.	MC	U18CH409	Environmental Studies*	Total	17	2	8	21	30	40	60	1000

Students Contact Hours/Weeks:27

*For Lateral entry students only

Total Credits:21

Open Elective-I

U18OE303/403A: Object Oriented Programming(CSE)	U18OE311/411A: Object Oriented Programming Lab (CSE)
U18OE303/403B: Fluid Mechanics & Hydraulic Machines(CE)	U18OE311/411B: Fluid Mechanics & Hydraulic Machines Lab(CE)
U18OE303/403C:Mechatronics(ME)	U18OE311/411C: MechatronicsLaboratory(ME)
U18OE303/403D:WebProgramming(IT)	U18OE311/411D: Web Programming Laboratory(IT)
U18OE303/403E:Microprocessors(ECE)	U18OE311/411E: MicroprocessorsLaboratory(ECE)
U18OE303/403F: StrengthofMaterials(ME)	U18OE311/411F: Strength of MaterialsLaboratory(ME)

Open Elective-II

U18OE401A:ApplicableMathematics(MH)	U18OE401A: Object Oriented Programming Lab (CSE)
U18OE401B BasicElectronicsEngineering(ECE)	U18OE311/411B: Fluid Mechanics & Hydraulic Machines Lab(CE)
U18OE401C: Elements of Mechanical Engineering(ME)	U18OE311/411C: MechatronicsLaboratory(ME)
U18OE401D: Measurements and Instrumentation(EIE)	U18OE311/411D: Web Programming Laboratory(IT)
U18OE401E: Fundamentals of Computer Networks(IT)	U18OE311/411E: MicroprocessorsLaboratory(ECE)
U18O 401F: RenewableEnergySources(EEE)	U18OE311/411F: Strength of MaterialsLaboratory(ME)

Open Elective-I based Lab

U18OE311/411A: Object Oriented Programming Lab (CSE)	U18OE311/411A: Object Oriented Programming Lab (CSE)
U18OE311/411B: Fluid Mechanics & Hydraulic Machines Lab(CE)	U18OE311/411B: Fluid Mechanics & Hydraulic Machines Lab(CE)
U18OE311/411C: MechatronicsLaboratory(ME)	U18OE311/411C: MechatronicsLaboratory(ME)
U18OE311/411D: Web Programming Laboratory(IT)	U18OE311/411D: Web Programming Laboratory(IT)
U18OE311/411E: MicroprocessorsLaboratory(ECE)	U18OE311/411E: MicroprocessorsLaboratory(ECE)
U18OE311/411F: Strength of MaterialsLaboratory(ME)	U18OE311/411F: Strength of MaterialsLaboratory(ME)

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE :: WARANGAL-15
(An Autonomous Institute under Kakatiya University)
V SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME
ELECTRICAL & ELECTRONICS ENGINEERING

w.e.f. A/Y 2018-19

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
				L	T	P		CIE			ESE	Total Marks
								TA	MSE	Total		
1.	MC	U18MH501	Constitution of India	2	-	-	-	10	30	40	60	100
2.	PE	U18PE502	Professional Elective - I/ MOOC-I	3	-	-	3	10	30	40	60	100
3.	PCC	U18EE503	Power Systems-II	3	-	-	3	10	30	40	60	100
4.	PCC	U18EE504	Electrical Machines-II	3	-	-	3	10	30	40	60	100
5.	PCC	U18EE506	Power Electronics	3	-	-	3	10	30	40	60	100
6.	PCC	U18EC511	Microprocessors and Microcontroller Systems	3	-	-	3	10	30	40	60	100
7.	PCC	U18EE508	Electrical Machines Laboratory-II	-	-	2	1	40	-	40	60	100
8.	PCC	U18EE509	Power Electronics Laboratory	-	-	2	1	40	-	40	60	100
9.	PCC	U18EC512	Microprocessors and Microcontroller Systems Laboratory	-	-	2	1	40	-	40	60	100
10.	PROJ	U18EE510	Seminar	-	-	2	1	-	-	100	-	100
Total				17	-	8	19					1000

Students Contact Hours/Weeks: 25

Total Credits: 19

Professional Elective-I/MOOC - I
U18EE502A: Renewable Energy Systems
U18EE502B: Electrical Engineering Materials
U18EE502C: Communication Engineering
U18EE502M: MOOCs Course

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ELECTRICAL & ELECTRONICS ENGINEERING

w.e.f. A/Y 2018-19

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
				L	T	P		CIE			Total Marks	
								TA	MSE	Total		ESE
1.	HSMC	U18TP601	Quantitative Aptitude & Logical Reasoning	2	-	-	1	10	30	40	60	100
2.	HSMC	U18MH602	Management, Economics and Accountancy	3	-	-	3	10	30	40	60	100
3.	PE	U18EE603	Professional Elective - II / MOOC-II	3	-	-	3	10	30	40	60	100
4.	PCC	U18EE604	Power System Operation and Control	3	-	-	3	10	30	40	60	100
5.	PCC	U18EE605	Power Semiconductor Drives	3	-	-	3	10	30	40	60	100
6.	PCC	U18EE606	Control Systems Engineering	3	1	-	4	10	30	40	60	100
7.	PCC	U18EI614	Signals & Systems	3	-	-	3	40	-	40	60	100
8.	PCC	U18EE607	Control Systems Engineering Laboratory	-	-	2	1	40	-	40	60	100
9.	PCC	U18EE608	Power Semiconductor Drives Laboratory	-	-	2	1	40	-	40	60	100
10.	PROJ	U18EE610	Mini Project	-	-	2	1	-	-	100	-	100
Total				20	1	6	23					1000

Students Contact Hours/Weeks: 27

Total Credits: 23

Professional Elective-II / MOOC - II
U18EE 603A: Utilization of Electrical Energy
U18EE 603B: High Voltage Engineering
U18EE 603C: Electric Vehicles
U18EE 603M: MOOCs Course

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ELECTRICAL & ELECTRONICS ENGINEERING

w.e.f. A/Y 2018-19

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
				L	T	P		CIE			ESE	Total Marks
								TA	MSE	Total		
1.	OE	U18OE701	Open Elective- III	3	-	-	3	10	30	40	60	100
2.	PE	U18EE702	Professional Elective - III / MOOC-III	3	-	-	3	10	30	40	60	100
3.	PE	U18EE703	Professional Elective - IV / MOOC-IV	3	-	-	3	10	30	40	60	100
4.	PCC	U18EE704	Power System Protection	3	-	-	3	10	30	40	60	100
5.	PCC	U18EE705	Electrical Simulation Laboratory	-	-	2	1	40	-	40	60	100
6.	PCC	U18EE706	Power Systems Laboratory	-	-	2	1	40	-	40	60	100
7.	PROJ	U18EE707	Major Project - Phase - I	-	-	6	3	-	-	100	-	100
8.	MC	U18EE708	Internship Evaluation	-	-	2	-	-	-	100	-	100
Total				12	-	12	17					800

Students Contact Hours/ Week: 24

Total Credits: 17

Open Elective-III

OE 701A: Disaster Management

OE 701B: Project Management

OE701C: Professional Ethics in Engineering

OE 701D: Rural Technology and Community Developments

Professional Elective-III/MOOC-III

U18EE702A: HVDC & FACTS

U18EE702B: Embedded Systems

U18EE702C: Micro grid & Distributed Generation

U18EE702M: MOOCs Course

Professional Elective-IV / MOOC-IV

U18EE703A: Computer Methods in Power Systems

U18EE703B: Power Quality

U18EE703C: Power System Deregulation

U18EE703M: MOOCs Course

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w.e.f. A/Y 2018-19

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
				L	T	P		CIE		ESE	Total Marks	
								TA	MSE			Total
1.	PE	U18EE 801	PE-V / MOOC -V	3	-	-	3	10	30	40	60	100
2.	PE	U18EE 802	PE-VI/MOOC -VI	3	-	-	3	10	30	40	60	100
3.	OE	U18OE 803	OE-IV / MOOC -VII	3	-	-	3	10	30	40	60	100
4.	PROJ	U18EE 804	Major Project - Phase - II	-	-	14	7	-	-	40	60	100
Total				9	-	14	16					400

Students Contact Hours/ Weeks: 23

Total Credits: 16

Professional Elective-V / MOOC-V

U18EE801A: AI Techniques in Electrical Engineering
 U18EE801B: Electrical Power Distribution Systems
 U18EE801C: SCADA
 U18EE801M: MOOCs Course

Professional Elective-VI /MOOC-VI

U18EE802A: Digital Control Systems
 U18EE802B: Advance Power System Protection
 U18EE802C: Digital Signal Processing
 U18EE802M: MOOCs Course

Open Elective-IV / MOOC-VII

U18OE803A: Operations Research
 U18OE803B: Management Information Systems
 U18OE803C: Entrepreneurship Development
 U18OE803D: Forex and Foreign Trade
 U18OE803M: MOOCs Course