

Course Name: C301- EE8501 POWER SYSTEM ANALYSIS

S No.	OBJECTIVES
1	To model the power system under steady state operating condition.
2	To apply numerical methods to solve the power flow problem.
3	To model and analyze the system under balanced fault conditions.
4	To model and analyze the system under unbalanced fault conditions
5	To model and analyze the transient behaviour of power system when it is subjected to a fault.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to	RBT Level
C301.1	Explain the operation of various power system components, the per unit diagram and form Y-bus matrix for the power system.	K2
C301.2	Compare the power flow solution for power system problems using various algorithm	K2
C301.3	Illustrate the types of faults and their effects, calculate the fault currents for symmetrical fault condition.	K3
C301.4	Categorize the sequence network for L-G, L-L and L-L-G fault of the power system	K4
C301.5	Analyze the concept of power system stability, the stability of single machine infinite bus system	K4

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	3	2	-	1	1	-	-	-	-	-	-	1	2	1
CO 2	3	2	-	1	1	-	-	-	-	-	-	1	2	1
CO 3	3	2	-	1	1	-	-	-	-	-	-	1	2	1
CO 4	3	2	-	1	1	-	-	-	-	-	-	1	2	1
CO 5	3	2	-	1	1	-	-	-	-	-	-	1	2	1
AVG	3	2	0	1	1	-	-	-	-	-	-	1	2	1

M. S. H. f
HEAD OF THE DEPARTMENT



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Course Name: C205- EC8353- ELECTRONIC DEVICES AND CIRCUITS


S No.	OBJECTIVES
1	Be familiar with the structure of basic electronic devices.
2	Be exposed to the operation and applications of electronic devices.
3	
4	
5	

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C205.1	Explain the characteristics of various types of diodes, Half Wave and Full wave rectifier
C205.2	Compare the different configuration of BJT, its characteristics
C205.3	Understand the FET parameters, its frequency response characteristics
C205.4	Design amplifier circuits with its frequency response characteristics
C205.5	Analyze the parameters of feedback amplifier circuit, different types of oscillator circuits.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	1	1	-	-	-	1	-	-	-	1	1	1
CO 2	2	1	1	-	-	-	-	1	-	-	-	1	1	1
CO 3	2	1	1	1	-	-	-	1	-	-	-	1	2	1
CO 4	2	1	1	1	-	-	1	1	-	-	1	2	1	2
CO 5	2	1	1	1	-	1	1	1	-	-	-	1	1	1
AVG	2	1	1	1	-	1	1	1	-	-	1	1.2	1.2	1.2


 HEAD OF THE DEPARTMENT

Course Name: C203-EE8391- ELECTROMAGNETIC THEORY

S No.	OBJECTIVES
1	To introduce the basic mathematical concepts related to electromagnetic vector fields
2	To impart knowledge on the concepts of electrostatics, electrical potential, energy density and their applications.
3	To impart knowledge on the concepts of magneto statics, magnetic flux density, scalar and vector potential and its applications.
4	To impart knowledge on the concepts of Faraday's law, induced emf and Maxwell's equations
5	To impart knowledge on the concepts of Concepts of electromagnetic waves and Pointing vector.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C203.1	Explain the different coordinate systems, and apply Gauss's law
C203.2	Interpret the concepts of Electrostatic fields and apply boundary conditions on Electrostatic field
C203.3	Develop concepts of Magneto static fields and apply boundary conditions.
C203.4	Analyze the Maxwell's equations for electromagnetic fields
C203.5	Derive Electromagnetic wave equation and apply the Pointing expression.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	2	2	1	-	-	-	-	-	-	-	1	1	-
CO 2	2	2	2	1	1	1	-	-	-	-	-	1	1	-
CO 3	2	2	2	1	1	1	-	-	-	-	-	1	1	-
CO 4	2	2	2	-	-	-	-	-	-	-	-	1	1	-
CO 5	2	2	2	1	1	1	-	-	-	-	-	1	1	-
AVG	2	2	2	1	1	1	-	-	-	-	-	1	1	-

M. S. H. S. f
HEAD OF THE DEPARTMENT
ELECTRONICS ENGINEERING

Course Name: C212- EE8403-MEASUREMENTS AND INSTRUMENTATION

S No.	OBJECTIVES
1	To introduce the basic functional elements of instrumentation
2	To introduce the fundamentals of electrical and electronic instruments
3	To educate on the comparison between various measurement techniques
4	To introduce various storage and display devices
5	To introduce various transducers and the data acquisition systems

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C212.1	Relate the basic functional block elements in different measuring Instruments and the errors in the measurement system
C212.2	Predict suitable instrument for measuring different electrical and magnetic parameters
C212.3	Design a suitable Bridge circuit to determine the values of various resistor, inductor and capacitor
C212.4	Explain the construction and working principle of various types of storage and display devices and compare them
C212.5	Compare the various types of transducers and explain the function of different blocks involved in data acquisition systems

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	-	-	-	1	-	1	-	1	-	2	1	2
CO 2	2	-	1	-	-	1	1	1	-	-	-	2	2	2
CO 3	2	2	1	-	-	-	1	1	-	-	-	2	2	2
CO 4	2	1	-	-	-	1	1	1	-	1	-	2	2	2
CO 5	2	1	-	-	-	1	1	1	-	-	-	2	2	2
AVG	2	1.25	1	-	-	1	1	1	-	1	-	2	1.8	2

M. S. S.
HEAD OF THE DEPARTMENT

Course Name: C214 - IC8451-CONTROL SYSTEMS

S No.	OBJECTIVES
1	To understand the use of transfer function models for analysis physical systems and introduce the control system components.
2	To provide adequate knowledge in the time response of systems and steady state error analysis.
3	To accord basic knowledge in obtaining the open loop and closed-loop frequency responses of systems.
4	To introduce stability analysis and design of compensators
5	To introduce state variable representation of physical systems and study the effect of state feedback

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C214.1	State the use of transfer function models for analysis of physical systems and the control system components.
C214.2	Analyse the time response of systems and steady state error.
C214.3	Explain the open loop and closed-loop frequency responses of systems.
C214.4	Summarize the stability analysis and types of compensators.
C214.5	Predict the state variable representation of physical systems and the effect of state feedback.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	2	2	1	-	1	-	-	-	-	-	1	1	1
CO 2	2	2	2	-	-	1	-	-	-	-	-	1	1	1
CO 3	2	2	2	-	-	1	-	-	-	-	-	1	1	1
CO 4	2	2	2	-	1	1	-	-	-	-	-	1	1	1
CO 5	2	2	2	-	1	1	-	-	-	-	-	1	1	1
AVG	2	2	2	1	1	1	-	-	-	-	-	1	1	1

M. S. H. f
HEAD OF THE DEPARTMENT
ELECTRICAL AND ELECTRONICS ENGINEERING

Course Name: C318- EE8601- SOLID STATE DRIVES

S No.	OBJECTIVES
1	To understand steady state operation and transient dynamics of a motor load system.
2	To study and analyze the operation of the converter/chopper fed dc drive, both qualitatively and quantitatively.
3	To study and understand the operation and performance of AC motor drives.
4	To analyze and design the current and speed controllers for a closed loop solid state DC motor drive.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C318.1	Discuss the various types of drives and their load torque characteristics
C318.2	Analyze the operation of steady state analysis of single phase and three phase fully controlled converter and Chopper fed separately excited dc motor drives and discuss the various control strategies of converter.
C318.3	Explain the operation and characteristics of various methods of solid state speed control of induction motor.
C318.4	Categorize the operation of various modes of V/f control of synchronous motor drives and different types of permanent magnet synchronous motor drives.
C318.5	Design a current and speed controller and develop the transfer function for DC motor, load and converter, closed loop control with current and speed feedback.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	-	1	-	-	-	-	-	-	-	-	1	2	1
CO 2	3	2	2	1	-	-	-	-	-	-	-	1	2	1
CO 3	3	1	1	-	-	-	-	-	-	-	-	1	2	1
CO 4	3	1	1	-	-	-	-	-	-	-	-	1	2	1
CO 5	3	2	2	-	-	-	-	-	-	-	-	1	2	1
AVG	2.8	1.5	1.4	1	-	-	-	-	-	-	-	1	2	1

M. S. H.
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OF ELECTRICAL & ELECTRONICS ENGINEERING

Course Name: C319-EE8602- PROTECTION AND SWITCHGEAR

S No.	OBJECTIVES
1	To educate the causes of abnormal operating conditions (faults, lightning and switching surges) of the apparatus and system.
2	To introduce the characteristics and functions of relays and protection schemes.
3	To impart knowledge on apparatus protection
4	To introduce static and numerical relays
5	To impart knowledge on functioning of circuit breakers

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to	RBT Level
C319.1	Discuss the causes and effects of faults in power system and explain the necessity of protection in power system.	K2
C319.2	Explain the operation of electromagnetic relays and draw their characteristic curves.	K2
C319.3	Classify the various faults that can occur on alternator, transformer, bus bar and transmission line and select the suitable protection schemes.	K3
C319.4	Compare the static relays using comparators and numerical relays.	K2
C319.5	Examine RRRV, critical resistance value and compare the various types of circuit breakers.	K4

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	1	-	-	-	-	-	-	-	-	1	2	1
CO 2	3	2	1	1	-	-	-	-	-	-	-	1	2	1
CO 3	3	2	1	-	-	-	-	-	-	-	-	1	2	1
CO 4	3	-	1	-	-	-	-	-	-	-	-	1	2	1
CO 5	3	3	1	2	-	-	-	-	-	-	-	1	2	1
AVG	2.8	2	1	1.5	-	-	-	-	-	-	-	1	2	1

M. S. H. f
HEAD OF THE DEPARTMENT
ELECTRICAL AND ELECTRONICS ENGINEERING

**Course Name: C422- EE8015-ELECTRIC ENERGY GENERATION, UTILIZATION
AND CONSERVATION**

S No.	OBJECTIVES
1	To analyze the various concepts behind renewable energy resources.
2	To introduce the energy saving concept by different ways of illumination.
3	To understand the different methods of electric heating and electric welding.
4	To introduce knowledge on Solar Radiation and Solar Energy Collectors
5	To introduce concepts of Wind Energy and its utilization

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C422.1	Evaluate tractive effort for the propulsion of train, name the traction motors, list the traction motor control, track equipment and collection gear.
C422.2	Categorize different light sources and design various illumination systems for the indoor lighting schemes, factory lighting, halls, outdoor lighting schemes, flood lighting, street lighting.
C422.3	Compare the different methods of electric heating and types of electric welding.
C422.4	Estimate average solar radiation and illustrate the physical principles of the conversion of solar radiation into heat.
C422.5	Analyze aerodynamic forces acting on the blade and draw basic components of a WECS.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	2	1	1	-	-	1	-	-	-	-	1	1	2
CO 2	2	2	1	1	-	-	1	-	-	-	-	1	1	2
CO 3	2	2	1	1	-	-	1	-	-	-	-	1	1	2
CO 4	2	2	1	1	-	-	-	-	-	-	-	1	1	2
CO 5	2	2	1	1	-	-	1	-	-	-	-	1	1	2
AVG	2	2	1	1	-	-	1	-	-	-	-	1	1	2

Course Name: C204- EE8301- ELECTRICAL MACHINES – I

S No.	OBJECTIVES
1	To introduce techniques of magnetic-circuit analysis and introduce magnetic materials
2	To familiarize the constructional details, the principle of operation, prediction of performance, the methods of testing the transformers and three phase transformer connections.
3	To study the working principles of electrical machines using the concepts of electromechanical energy conversion principles and derive expressions for generated voltage and torque developed in all Electrical Machines.
4	To study the working principles of DC machines as Generator types, determination of their no-load/load characteristics, starting and methods of speed control of motors.
5	To estimate the various losses taking place in D.C. Motor and to study the different testing methods to arrive at their performance.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C204.1	Explain the magnetic circuits and magnetic materials
C204.2	Categorize equivalent circuit parameters and operation of different transformers
C204.3	Relate electromechanical energy conversion and types of excitation.
C204.4	Construct the components of DC generators with their characteristics
C204.5	Interpret the operation and testing of DC motors.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	-	1	-	-	-	1	1	-	-	1	1	2	1
CO 2	2	2	2	1	-	-	1	1	-	-	-	1	2	2
CO 3	2	1	1	1	-	-	1	-	1	-	1	1	2	2
CO 4	2	1	1	1	-	-	1	1	-	-	-	1	2	2
CO 5	2	1	1	1	-	-	1	1	-	-	-	1	2	2
AVG	2	1.25	1.2	1	-	-	1	1	1	-	1	1	2	1.8

M. S. S. S.
OF THE DEPARTMENT



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Course Name: C213- EE8451- LINEAR INTEGRATED CIRCUITS AND APPLICATIONS

S No.	OBJECTIVES
1	To study the IC fabrication procedure.
2	To study characteristics; realize circuits; design for signal analysis using Op-amp ICs.
3	To study the applications of Op-amp.
4	To study internal functional blocks and the applications of special ICs like Timers, PLL
5	circuits, regulator Circuits, ADCs.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C213.1	Explain the procedure for the fabrication of IC's
C213.2	Relate the DC and AC characteristics of operating amplifier
C213.3	Illustrate the application of operational amplifier
C213.4	Describe the internal functional blocks of special Ic's like timer and PLL
C213.5	Classify types of voltage regulators and describe the special ICs

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	-	1	-	1	1	1	-	-	-	2	1	-
CO 2	2	1	1	1	-	1	1	1	-	-	-	2	1	-
CO 3	2	2	1	1	-	1	1	1	1	-	-	2	1	-
CO 4	2	1	-	-	-	1	1	1	-	-	-	2	1	-
CO 5	2	1	-	-	-	1	1	1	-	-	-	2	1	-
AVG	2	1.2	1	1	-	1	1	1	1	-	-	2	1	-

M. S. H. J.
 HEAD OF THE DEPARTMENT

Course Name: C206-ME8792- POWER PLANT ENGINEERING

S No.	OBJECTIVES
1	Providing an overview of Power Plants and detailing the role of Mechanical Engineers in their operation and maintenance.
2	
3	
4	
5	

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C206.1	Draw the layout of modern coal power plant and the various components used in thermal power plant.
C206.2	Identify the components of diesel and gas turbine power plants
C206.3	Describe the layout of subsystems of various nuclear power plants
C206.4	Distinguish different hydroelectric power plants and various renewable energy power plants such as wind, tidal, spv, solar thermal, geothermal, biogas and fuel cell.
C206.5	Calculate the per unit cost of electrical energy based on Power tariff, load factor, demand factor, diversity factor and plant safety factor.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	1	2	-	-	1	-	-	-	-	-	1	1
CO 2	2	2	1	-	-	-	1	-	-	-	-	-	1	1
CO 3	2	1	1	2	2	-	1	-	-	-	-	-	1	1
CO 4	2	1	1	1	2	-	1	-	-	-	-	-	1	1
CO 5	2	1	1	1	-	-	1	-	-	-	-	-	1	1
AVG	2	1.2	1	1.5	2	-	1	-	-	-	-	-	1	1

M. S. H. f
HEAD OF THE DEPARTMENT
ELECTRICAL AND ELECTRONICS ENGINEERING

Course Name: C211- EE8402- TRANSMISSION AND DISTRIBUTION

S No.	OBJECTIVES
1	To develop expressions for the computation of transmission line parameters.
2	To obtain the equivalent circuits for the transmission lines based on distance and operating
3	voltage for determining voltage regulation and efficiency. Also to improve the voltage profile of the transmission system.
4	To analyses the voltage distribution in insulator strings and cables and methods to improve the same.
5	To understand the operation of the different distribution schemes.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C211.1	Explain structure of power system components
C211.2	Summarize transmission line parameters
C211.3	Model and recital of transmission lines
C211.4	Classify different types of Insulators and cables
C211.5	Determine mechanical strategy of lines and grounding

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	3	1	-	-	-	-	1	-	-	-	-	1	2	1
CO 2	3	2	1	2	1	-	1	-	-	-	-	1	2	1
CO 3	3	2	1	2	1	-	1	-	-	-	-	1	2	1
CO 4	3	2	1	1	-	-	1	-	-	-	-	1	2	1
CO 5	3	2	1	1	-	-	1	-	-	-	-	1	2	1
AVG	3	1.8	1	1.5	1	-	1	-	-	-	-	1	2	1

M. S. H. S.
DEPARTMENT
ELECTRONICS ENGINEERING

Course Name: C210- EE8401- ELECTRICAL MACHINES – II

S No.	OBJECTIVES
1	To impart knowledge on Construction and performance of salient and non – salient type synchronous generators.
2	To impart knowledge on Principle of operation and performance of synchronous motor.
3	To impart knowledge on Construction, principle of operation and performance of induction machines.
4	To impart knowledge on Starting and speed control of three-phase induction motors.
5	To impart knowledge on Construction, principle of operation and performance of single phase induction motors and special machines.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C210.1	Explain the constructional details and the performance of salient and non – salient type synchronous generators.
C210.2	Discuss the Principle of operation and performance of synchronous motor.
C210.3	Describe the construction, principle of operation and performance of induction machines.
C210.4	Illustrate the starting and speed control of three-phase induction motors.
C210.5	Explain the construction, principle of operation and performance of single phase induction motors and special machines.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	-	1	-	-	-	1	1	-	-	1	1	2	1
CO 2	2	2	2	1	-	-	1	1	-	-	-	1	2	2
CO 3	2	1	1	1	-	-	1	-	1	-	1	1	2	2
CO 4	2	1	1	1	-	-	1	1	-	-	-	1	2	2
CO 5	2	1	1	1	-	-	1	1	-	-	-	1	2	2
AVG	2	1.25	1.2	1	-	-	1	1	1	-	1	1	2	1.8

M. S. H. f
HEAD OF THE DEPARTMENT
ELECTRICAL AND ELECTRONICS ENGINEERING

Course Name: C303- EE8552- POWER ELECTRONICS

S No.	OBJECTIVES
1	To get an overview of different types of power semiconductor devices and their switching characteristics.
2	To understand the operation, characteristics and performance parameters of controlled rectifiers
3	To study the operation, switching techniques and basics topologies of DC-DC switching Regulators.
4	To learn the different modulation techniques of pulse width modulated inverters and to understand harmonic reduction methods.
5	To study the operation of AC voltage controller and various configurations.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C303.1	Explain the significance of switching devices
C303.2	Compare the operation of two, three Pulse Converters with and without source and load inductance.
C303.3	Classify the operation of Choppers and the application of SMPS.
C303.4	Analyze the operation of single phase and three phase Inverters with and without PWM techniques.
C303.5	Illustrate the operation of AC voltage controller and cyclo converter and its application.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	-	1	-	1	-	1	1	-	-	1	1	2	1
CO 2	2	2	2	1	1	-	1	1	-	-	-	1	2	2
CO 3	2	1	1	1	1	-	1	-	1	-	1	1	2	2
CO 4	2	1	1	1	1	-	1	1	-	-	-	1	2	2
CO 5	2	1	1	1	1	-	1	1	-	-	-	1	2	2
AVG	2	1.25	1.2	1	1	-	1	1	1	-	1	1	2	1.8

M. S. K. J.
DEPARTMENT

Course Name: C302-EE8551- MICROPROCESSORS AND MICROCONTROLLERS

S No.	OBJECTIVES
1	To study the Architecture of MP8085 & MC 8051
2	To study the addressing modes & instruction set of 8085 & 8051.
3	To introduce the need & use of Interrupt structure 8085 & 8051.
4	To develop skill in simple applications development with programming 8085 & 8051
5	To introduce commonly used peripheral / interfacing

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C302.1	Discuss the functional blocks of 8085 microprocessor
C302.2	Apply different instructions for assembly language programming 8085 microprocessor
C302.3	Explain the building blocks of 8051 microcontroller
C302.4	Identify the different peripherals interfaced with 8085 microprocessor
C302.5	Apply the knowledge of microcontroller programming and its applications.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	2	-	1	1	1	1	1	1	-	2	2	2
CO 2	2	1	2	-	2	1	1	1	2	1	-	2	2	2
CO 3	2	1	2	-	1	1	1	1	2	1	-	2	2	2
CO 4	2	1	2	-	2	1	1	1	2	1	-	2	2	2
CO 5	2	1	2	-	1	1	1	1	-	1	-	2	2	2
AVG	2	1	2	-	1.4	1	1	1	1.75	1	-	2	2	2

M. Sathya
 HEAD OF THE DEPARTMENT
 OF ELECTRICAL AND ELECTRONICS ENGINEERING

Course Name: C202- EE8351- DIGITAL LOGIC CIRCUITS

S No.	OBJECTIVES
1	To study various number systems , simplify the logical expressions using Boolean functions
2	To study implementation of combinational circuits
3	To design various synchronous and asynchronous circuits.
4	To introduce asynchronous sequential circuits and PLCs
5	To introduce digital simulation for development of application oriented logic circuits.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C202.1	List the various types of number system and compare the digital logic families.
C202.2	Apply K –Map for simplification and implementation of combinational logic circuit
C202.3	Explain the synchronous Sequential logic circuits, draw the block diagram of Shift Registers
C202.4	Design of asynchronous sequential circuits and describe the operation of Programmable Logic Devices
C202.5	Develop the VHDL coding for combinational logic and Sequential circuits

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	1	-	-	-	1	1	-	1	-	2	1	1
CO 2	2	2	1	1	-	-	-	1	-	1	-	1	1	1
CO 3	2	2	1	1	-	-	1	1	-	1	-	1	1	1
CO 4	2	2	1	1	-	-	1	1	-	1	-	1	1	1
CO 5	2	1	1	1	1	-	-	1	-	1	-	1	1	1
AVG	2	1.6	1	1	1	-	1	1	-	1	-	1.2	1	1


HEAD OF THE DEPARTMENT

Course Name: C304- EE8591 - DIGITAL SIGNAL PROCESSING

S No.	OBJECTIVES
1	To classify signals and systems & their mathematical representation.
2	To analyze the discrete time systems.
3	To study various transformation techniques & their computation.
4	To study about filters and their design for digital implementation.
5	To study about a programmable digital signal processor & quantization effects.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C304.1	Classify the different types of signal and systems, sampling process in time signal.
C304.2	Apply z transform and inverse z transform to analyze discrete time signals.
C304.3	Apply Radix 2 decimation in time and decimation in frequency (FFT) algorithm to compute Discrete Fourier Transform.
C304.4	Explain various types of Infinite impulse response and finite impulse response filters.
C304.5	Categorize various architecture of digital signal processors.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	2	2	1	2	1	-	-	-	1	-	1	2	-
CO 2	2	2	1	2	2	-	-	-	-	-	-	1	2	-
CO 3	2	2	2	2	2	-	-	-	-	-	-	1	2	-
CO 4	2	2	2	2	2	-	-	-	-	-	-	1	2	-
CO 5	2	-	-	-	-	-	-	-	-	-	-	1	2	-
AVG	2	2	1.75	1.75	2	1	-	-	-	1	-	1	2	-

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HEAD OF THE DEPARTMENT
ELECTRICAL AND ELECTRONICS ENGINEERING

Course Name: C320- EE8691- EMBEDDED SYSTEMS

S No.	OBJECTIVES
1	To introduce the Building Blocks of Embedded System
2	To Educate in Various Embedded Development Strategies
3	To Introduce Bus Communication in processors, Input/output interfacing.
4	To impart knowledge in Various processor scheduling algorithms.
5	To introduce Basics of Real time operating system and example tutorials to discuss on one real time operating system tool

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C320.1	Analyze the basic build process and apply hardware and software tools in embedded system.
C320.2	Classify the types of ports and relate various processor in embedded system.
C320.3	Model the embedded product development life cycle by using different techniques.
C320.4	Analyze the basic concept of RTOS and compare the features of different types of RTOS.
C320.5	Apply the knowledge of concepts of embedded system for various applications.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	-	-	-	1	1	1	-	-	-	2	1	2
CO 2	2	1	1	-	-	1	1	1	-	1	-	2	1	1
CO 3	2	1	-	1	-	1	1	1	-	-	1	2	1	1
CO 4	1	-	1	1	1	1	1	1	-	-	-	2	1	2
CO 5	2	1	1	1	1	1	1	1	-	-	-	2	1	2
AVG	1.8	1	1	1	1	1	1	1	-	1	1	2	1	1.6

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ELECTRONICS ENGINEERING

Course Name: C402- EE8702 -POWER SYSTEM OPERATION AND CONTROL

S No.	OBJECTIVES
1	To have an overview of power system operation and control.
2	To model power-frequency dynamics and to design power-frequency controller.
3	To model reactive power-voltage interaction and the control actions to be implemented for maintaining the voltage profile against varying system load.
4	To study the economic operation of power system.
5	To teach about SCADA and its application for real time operation and control of power systems.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C402.1	Understand the structure of power system
C402.2	Analyze and model real power frequency control
C402.3	Discriminate and find errors in reactive power voltage control
C402.4	Classify and apply unit commitment and economic dispatch problem
C402.5	Integrate and categorize computer control of power systems

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	3	1	-	1	1	-	1	-	-	-	-	1	2	1
CO 2	3	2	1	1	1	-	1	-	-	-	-	1	2	1
CO 3	3	2	1	1	1	-	1	-	-	-	-	1	2	1
CO 4	3	2	2	2	2	-	1	-	-	-	-	1	2	1
CO 5	3	-	-	-	1	-	1	-	-	-	-	1	2	1
AVG	3	1.75	1.33	1.25	1.2	-	1	-	-	-	-	1	2	1

M. J. H. J.
HEAD OF THE DEPARTMENT

Course Name: C326-EE8002-DESIGN OF ELECTRICAL APPARATUS

S No.	OBJECTIVES
1	To study mmf calculation and thermal rating of various types of electrical machines.
2	To design armature and field systems for D.C. machines
3	To design core, yoke, windings and cooling systems of transformers.
4	To design stator and rotor of induction machines.
5	To design stator and rotor of synchronous machines and study their thermal behavior.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C326.1	Explain the electrical engineering materials and standard specifications.
C326.2	Categorize dimensions and different types of loadings in DC machines.
C326.3	Design main dimensions and cooling systems of a transformer.
C326.4	Compute leakage reactance and electrical proportions of induction motors.
C326.5	Interpret armature design parameters and windings of synchronous machines.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	3	2	-	1	-	-	-	1	-	-	-	1	2	1
CO 2	3	2	1	2	-	-	-	1	-	-	-	1	2	1
CO 3	3	2	1	2	-	-	-	1	-	-	-	1	2	1
CO 4	3	2	1	1	-	-	-	1	-	-	-	1	2	1
CO 5	3	2	1	1	-	-	-	1	-	-	-	1	2	1
AVG	3	2	1	1.4	-	-	-	1	-	-	-	1	2	1

M. S. H. f
HEAD OF THE DEPARTMENT

Course Name: C401- EE8701 - HIGH VOLTAGE ENGINEERING

S No.	OBJECTIVES
1	To understand the various types of over voltages in power system and protection methods.
2	Generation of over voltages in laboratories.
3	Measurement of over voltages.
4	Nature of Breakdown mechanism in solid, liquid and gaseous dielectrics.
5	Testing of power apparatus and insulation coordination.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C401.1	Identify the causes of over voltage and its effects in power system.
C401.2	Classify the breakdown Mechanisms in Solid, Liquid, gases and Composite dielectrics
C401.3	Design different type of Generating circuit for high voltage D.C and high voltage A.C
C401.4	Measure A.C and D.C high voltage and current using appropriate method
C401.5	Test the transformer ,insulator , circuit breakers, surge diverters and cables also discuss the insulation coordination

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	2	1	-	-	-	-	-	1	1	1	1	2	1
CO 2	2	1	1	-	-	1	-	1	-	1	-	1	2	1
CO 3	2	2	2	-	-	1	1	1	1	-	1	1	2	1
CO 4	2	1	1	-	-	-	1	-	2	1	-	1	2	1
CO 5	2	2	1	-	-	2	1	1	1	-	1	1	2	1
AVG	2	1.6	1.2	-	-	1.33	1	1	1.25	1	1	1	2	1

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ELECTRONICS ENGINEERING



DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Course Name: C416- EE8010 - POWER SYSTEM TRANSIENTS

S No.	OBJECTIVES
1	To study the generation of switching transients and their control using circuit – theoretical concept.
2	To study the mechanism of lightning strokes and the production of lightning surges.
3	To study the propagation, reflection and refraction of travelling waves.
4	To study the impact of voltage transients caused by faults, circuit breaker action, load rejection on integrated power system.
5	

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C416.1	Explain the importance of transients and their effects on power system
C416.2	Illustrate the over voltages due to switching transients
C416.3	Categorize the importance of lightning transients and their interaction with power system.
C416.4	Compare transients in transmission line
C416.5	Discuss about integrated power system using qualitative applications of EMTP.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	3	-	1	-	-	-	-	-	-	-	-	1	2	1
CO 2	2	1	1	1	-	-	-	-	-	-	-	1	2	1
CO 3	3	1	1	2	1	-	-	-	-	-	-	1	2	1
CO 4	3	1	1	-	-	-	-	-	-	-	-	1	2	1
CO 5	3	1	1	1	2	-	-	-	-	-	-	1	2	1
AVG	2.8	1	1	1.3	1.5	-	-	-	-	-	-	1	2	1


 HEAD OF THE DEPARTMENT

Course Name: C331- EE8005- SPECIAL ELECTRICAL MACHINES

S No.	OBJECTIVES
1	To impart knowledge on Construction, principle of operation and performance of synchronous reluctance motors.
2	To impart knowledge on the Construction, principle of operation, control and performance of stepping motors.
3	To impart knowledge on the Construction, principle of operation, control and performance of switched reluctance motors.
4	To impart knowledge on the Construction, principle of operation, control and performance of permanent magnet brushless D.C. motors.
5	To impart knowledge on the Construction, principle of operation and performance of permanent magnet synchronous motors.

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C331.1	Explain the necessity to improve the saliency of synchronous reluctance motor and its characteristics
C331.2	Compare the various methods of excitation of different types of stepper motor and its driver circuits
C331.3	Describe the operation of switched reluctance motor with and without sensors
C331.4	Explain the electronic commutation of permanent magnet brushless D.C. motors and to determine the torque production
C331.5	Derive the expression for emf and torque of permanent magnet synchronous motors and choose power controller for permanent magnet synchronous motors.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	-	1	-	-	-	1	1	-	-	1	1	2	1
CO 2	2	2	2	1	-	-	1	1	-	-	-	1	2	2
CO 3	2	1	1	1	-	-	1	-	1	-	1	1	2	2
CO 4	2	1	1	1	-	-	1	1	-	-	-	1	2	2
CO 5	2	1	1	1	-	-	1	1	-	-	-	1	2	2
AVG	2	1.25	1.2	1	-	-	1	1	1	-	1	1	2	1.8

M. J. J. J.
OF THE DEPARTMENT

Course Name: C305- CS8392 - OBJECT ORIENTED PROGRAMMING

S No.	OBJECTIVES
1	To get a clear understanding of object-oriented concepts.
2	To understand object oriented programming through C++.
3	
4	
5	

Course Outcome

CO No.	Upon the successful completion of the course, students will be able to
C305.1	Explain the key attributes of C++ like native types and statements and implement ADT.
C305.2	Develop object oriented programs using polymorphism and data abstraction concepts.
C305.3	Design templates, construct generics and to handle exceptions.
C305.4	Develop the concept of java in creating classes, objects using arrays and control statements.
C305.5	Create packages, handle exceptions and develop multi-threaded programs.

CO-PO Mapping

CO.NO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CO 1	2	1	-	-	-	-	-	1	-	-	-	1	-	-
CO 2	2	1	2	2	2	-	-	1	-	-	-	1	-	-
CO 3	2	1	2	2	2	-	-	1	-	-	-	1	-	-
CO 4	2	1	2	2	2	-	-	1	-	-	-	1	-	-
CO 5	2	1	2	2	2	-	-	1	-	-	-	1	-	-
AVG	2	1	2	2	2	-	-	1	-	-	-	1	-	-

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