KRUPAJAL ENGINEERING COLLEGE
DEPARTMENT OF EE & EEE

COURSE OUTCOMES [COs]: ELECTRICAL ENGINEERING & ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE TITLE:	**BASIC ELECTRICAL ENGINEERING**
SEM: 2ND	**COURSE CODE: RBE2B201**
After completion of this Course, the student will be able to:	
CO1:	Explain Understanding of Basic concept of circuit laws and 1 Phase circuit.
CO2:	Illustrate concepts of 3 phase AC circuit.
CO3:	Understanding of magnetic circuit.
CO4:	Explanation of working principle of electrical machines as Transformer induction Motor and DC machines.

COURSE TITLE:	**NETWORK THEORY**
SEM: 3RD	**COURSE CODE: REE3C002**
After completion of this Course, the student will be able to:	
CO1:	Understanding of concept of network theorem and its application.
CO2:	Understanding of first and second order network with transient and steady state response.
CO3:	Analysis of electrical circuit using Laplace Transforms.
CO4:	Evaluation of different parameters of Two-port Network.

COURSE TITLE:	**ELETRICAL AND ELECTRONICS MEASUREMENT**
SEM: 4TH	**COURSE CODE: REL4D003**
After completion of this Course, the student will be able to:	
CO1:	Understand the concept of various measuring instruments.
CO2:	Evaluation of parameters like resistance, inductance and capacitance.
CO3:	Understand the working of Galvanometer and Potentiometer etc.
CO4:	Explain the principles of Instrument transformers and electronic instruments.

COURSE TITLE:	**ELECTROMAGNETIC THEORY**
SEM: 4TH	**COURSE CODE: REL4D001**
After completion of this Course, the student will be able to:	
CO1:	Understand theorems of magnetic circuits and its application to analyse complex magnetic fields and circuits.
CO2:	Application of Faraday's law and Maxwell equation to electrostatic fields.
CO3:	Understand one-dimensional wave equation.
CO4:	Understand and analyse transmission lines.

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COURSE OUTCOMES [COs]: ELECTRICAL ENGINEERING & ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE TITLE:	**POWER ELECTRONICS**
SEM: 4TH	**COURSE CODE: REL4C003**
After completion of this Course, the student will be able to:	
CO1:	Understand the basics of various power switching devices.
CO2:	Learning of operation of Rectifiers and their performance parameters.
CO3:	Analyse the operation of various DC choppers.
CO4:	Understand the operation of VSI and PWM technique.

COURSE TITLE:	**ELECTRICAL MACHINE - I**
SEM: 4TH	**COURSE CODE: REL4C002**
After completion of this Course, the student will be able to:	
CO1:	Understanding the concepts of magnetic field circuits.
CO2:	Analyse the concepts of electromagnetic force, torque and its application.
CO3:	Understanding the construction of DC machines and evaluate the different characteristics.
CO4:	Understand and analyze the concepts of single phase and three phase transformers circuits.

COURSE TITLE:	**ELECTRIC DRIVES**
SEM: 5TH	**COURSE CODE: REL5D004**
After completion of this Course, the student will be able to:	
CO1:	Fundamentals of AC drives, DC drives, thermal model of heating and cooling.
CO2:	Analyse of Speed control of DC/AC drives and induction drives.
CO3:	Understanding of synchronous motor drives and basics of electric traction.
CO4:	Application of drives in different means and functions of microprocessor in drive technology.

COURSE TITLE:	**INDUSTRIAL PROCESS CONTROL AND DYNAMICS**
SEM: 5TH	**COURSE CODE: PEL5D003**
After completion of this Course, the student will be able to:	
CO1:	Understand the Process control block diagram and analog signal controlling.
CO2:	Understand the basics of Digital Conditioning and Thermal, Mechanical sensors.
CO3:	Understand basics of optimal sensor and analysis of final control and discrete state process control.
CO4:	Discussion of analog and digital controllers.

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COURSE OUTCOMES [COs]: ELECTRICAL ENGINEERING & ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE TITLE:	**ELECTRICAL MACHINE - II**
SEM: 5TH	**COURSE CODE: REL5C003**
After completion of this Course, the student will be able to:	
CO1:	Understand concepts of windings in AC machines and production of magnetic field.
CO2:	Analyse operation of 3ph Induction motor and its control.
CO3:	Learning of features of Ph induction motor with parameter determination.
CO4:	Understanding of concepts behind synchronous machine.

COURSE TITLE:	**CONTROL SYSTEM**
SEM:5TH	**COURSE CODE: REL5C002**
After completion of this Course, the student will be able to:	
CO1:	Describe the role of various control blocks and components in feedback systems.
CO2:	Analyse the time and frequency domain responses of the linear systems.
CO3:	Apply different method to check the stability of the system.
CO4:	Study of controller and its application.

COURSE TITLE:	**ELECTRICAL POWER TRANSMISSION AND DISTRIBUTION**
SEM: 5TH	**COURSE CODE: REL5C001**
After completion of this Course, the student will be able to:	
CO1:	Understand the power generation and it's associated economical terms.
CO2:	Determine the parameters of transmission line.
CO3:	Understand the significant components used in transmission lines.
CO4:	Understand the role of insulators and able to calculate the string efficiency.

COURSE TITLE:	**ELECTRICAL POWER SYSTEM PROTECTION**
SEM: 6TH	**COURSE CODE: REL6D001**
After completion of this Course, the student will be able to:	
CO1:	Understand and remember the concept of protective schemes and faults
CO2:	Understand Principle and construction of relays.
CO3:	Understand apparatus protection in power system.
CO4:	Understand switch gear and circuit breakers for protection.

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COURSE TITLE:	**POWER SYSTEM OPERATION AND CONTROL**
SEM: 6TH	**COURSE CODE: REL6C001**
After completion of this Course, the student will be able to:	
CO1:	Remembering structure of power system, its component and numerical methods for solution of nonlinear algebraic equation.
CO2:	Analysis of economic operation and management of power system.
CO3:	Understand voltage and frequency control of various power system component.
CO4:	Study of power system stability through Swing equation.

COURSE TITLE:	**SMART GRID**
SEM: 7TH	**COURSE CODE: REL7D003**
After completion of this Course, the student will be able to:	
CO1:	Understand concept and functions of smart grid.
CO2:	Understand measurement systems and protections used in microgrids.
CO3:	Understand the operation of various distributed generations schemes.
CO4:	Understand power quality issues of on-grid renewable sources.

COURSE TITLE:	**HIGH VOLTAGE DC TRANSMISSION**
SEM: 7TH	**COURSE CODE: REL7D002**
After completion of this Course, the student will be able to:	
CO1:	Understand the designing, planning and layout of HVDC system.
CO2:	Understanding the concept of high voltage generation and safety measures.
CO3:	Understand and remember HVDC transmission system.
CO4:	Understand reactors and Multi-terminals DC systems.