B.Tech. (EEE) –

Course Outcomes

Regulation : R15

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Subject Name & Code: Functional English &15A52101

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Compose letters and writing paragraphs
CO2	Could analyze graphs and charts
CO3	Compose SMS and writing E-mails
CO4	Participate effectively in GD and debate
CO5	Comprehend and write report according to the requirement

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									3	3		3
CO2									2	3	1	2
CO3									2	3		3
CO4									2	3		2
CO5									3	3		3

1:Slight(Low)   2:Moderate(Medium)   3:Substantial(High)

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Subject Name &Code: Mathematics-I& 15A54101

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Apply standard methods for solving First Order Differential Equations.
CO2	Identify Second Order Linear Differential Equations with variable coefficients .
CO3	Apply partial Derivatives to study Maxima and Minima of function of two and three variables.
CO4	Find the area and Volume of given region.
CO5	Apply the concepts of line, surface and volume integrals.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3										
CO2	2											
CO3	2											
CO4	3	2										
CO5	3											

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Subject Name &Code: Engineering Physics& 15A56101

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Identify the nature of light.
CO2	Outline the different types of crystals and ultrasonic wave.
CO3	Explain the behavior of microscopic particles.
CO4	Classify the semiconductors and magnetic materials.
CO5	Describe the features of superconductors and nanomaterials.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2										
CO2	3	1										
CO3	1	2										
CO4	3	2										
CO5	3	3										

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Subject Name & Code: Advanced English Language Communication skills Lab &15A52601

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Accomplish sound vocabulary and its use contextually
CO2	Write reports or resume fairly
CO3	Improvise presentation skills
CO4	Take part in discussion and debate effectively
CO5	Enhances speaking abilities.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									1	3		
CO2									2	3		
CO3									1	3		
CO4									2	3		
CO5									1	3		

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Subject Name & Code: Engineering Physics Lab& 15A56102

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Determine the wave lengths of various colors.
CO2	Measure the energy gap of the semiconductor diode
CO3	Analyze the magnetic field along the current carrying coils.
CO4	Determine the dispersive power of the prism.
CO5	Determine the radius of curvature of a plane convex lens by using newton's rings.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2										
CO2	2	2										
CO3	2	2										
CO4	1	1										
CO5	2	1										

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Subject Name & Code: Mathematics-II& 15A54201

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Solve Differential Equations using Laplace Transform.
CO2	Find Fourier Coefficients and Fourier Expansion of given function.
CO3	Determine Fourier transform, Fourier sine and Cosine Transform of a function.
CO4	Apply Partial differential Equations to solve Engineering Problems.
CO5	Solve Difference Equations using Z-Transform.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2										
CO2	3											
CO3	1											
CO4	3	2										
CO5	2											

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Subject Name & Code: English for Professional Communication & 15A52201

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Participate in Argument and Discussion
CO2	Write Essays Correctly
CO3	Participate in Elocution with correct accent
CO4	Comprehend advantages & disadvantages tourism
CO5	Draft Curriculum vitae and Resume

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									3	3		3
CO2									2	3		2
CO3									3	3	1	3
CO4									2	3		2
CO5									3	3		3

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Subject Name & Code: ENGINEERINGCHEMISTRY & 15A51101

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Appraise the quality and utility of suitable water for industrial and domestic.
CO2	Difference between the thermo plastic and thermo setting.
CO3	Classify the types of batteries and apply the methods to prevent the corrosion.
CO4	Categorize the types and properties of fuel.
CO5	Infer the chemistry of engineering materials.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1				1					
CO2	2		1				1					
CO3	2	1	1				1					
CO4	3	1					1					
CO5	2		1									

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Subject Name & Code: Environmental Studies & 15A01101

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Appraise knowledge regarding environment and its components.
CO2	Distinguish the types of biodiversity and ecosystems.
CO3	Categorize different types of pollution and their control measures.
CO4	Analyze global environmental problems.
CO5	Ability to describe value education.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3											
CO2							3					
CO3	2						3					1
CO4		2										
CO5						2						3

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Subject   Name & Code:ELECTRICAL CIRCUITS- I& 15A02201

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Determine the current through any element and voltage across any element
CO2	Determine the real power, reactive power, power factor etc., for a given circuit and excitation
CO3	Apply the network theorems suitably.
CO4	Find the equivalent impedance by using network reduction techniques for a given network.
CO5	Analyse the series and parallel resonance circuits.

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	3								
CO2	3	3	3	2								
CO3	3	3	3	2								
CO4	3	3	3	3								
CO5	3	3	3	3								

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Subject Name & Code: Engineering Chemistry Lab& 15A51102

COURSE OUTCOMES:

After completion of this course the students will be able to

CO1	Identify the types of hardness, acidity and alkalinity in water treatment.
CO2	Distinguish the types of reaction.
CO3	Analyze the viscosity of different types of oils.
CO4	Estimate the amount of substance using potentiometer and conductometer.
CO5	Determine the Ph*value of different solutions.*

COURSE OUTCOME – PROGRAM OUTCOME (CO-PO) MAPPING:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1										
CO2	2	2										
CO3	1	3										
CO4	2	1										
CO5	2	1										

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15

Subject code: (15A02301)

Year &Sem: II-I

Subject Name:ELECTRICAL CIRCUITS- II

1. Determine the transient response of R-L, R-C, R-L-C circuits for D.C. and A.C. excitations

2. Analyze three phase balanced and unbalanced circuits and determine line voltages, line currents, phase voltages and phase currents

3. Measure active and reactive power consumed by a given three phase circuit

4. Apply Fourier transforms to electrical circuits excited by non-sinusoidal sources

5. Analysis of electrical networks, duality and dual networks

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	1	1									3	3
CO2	2	2	1	1									3	3
CO3	2	2	1	1									3	3
CO4	3	3	1	1									3	2
CO5	2	1											1	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15

Subject code: (15A02302)

Year &Sem: II-I

Subject Name: ELECTRICAL MACHINES - I

1. Calculate the e.m.f. generated on open circuit and find terminal voltage on load
2. Diagonise the failure of DC generator to build up voltage
3. Compute the load shared by each generator when several generators operate in parallel
4. Determine the gross torque and useful torque developed by DC motor
5. Identify suitable method and conditions for obtaining the required speed of DC motor

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	1								3	2
CO2	2	2	3	3	2								3	2
CO3	1	3	1	1									2	
CO4	2	1	2			1							1	
CO5	2		1										1	

P. ⟨signature⟩

Program Co-ordinator

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15

Year &Sem: II-I

Subject code: (15A02303)

Subject Name: CONTROL SYSTEMS ENGINEERING

1. Evaluate the effective transfer function of a system from input to output using (i) block diagram reduction techniques (ii) Mason's gain formula
2. Compute the steady state errors and transient response characteristics for a given system and excitation
3. Determine the absolute stability and relative stability of a system
4. Draw root loci
5. Design a compensator to accomplish desired Performance

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1											1	1
CO2	1	3			3								1	1
CO3	1	3	2		2	1							1	1
CO4	1	3	2	1	3	1							2	1
CO5	2	3	2										2	1

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Course outcomes and CO-PO and PSO Mapping Correlation

Year &Sem: II-I   **Subject Name:**) ELECTRONIC DEVICES AND CIRCUITS

1. Analyze the operating principles of major electronic devices, its characteristics and applications.
2. Design and analyze the DC bias circuitry of BJT and FET.
3. Design and analyze basic transistor amplifier circuits using BJT and FET
4. Analyse basic Rectifier setup and rectifiers
5. Analyse all Signal Low Frequency Transistor Amplifier Models

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	2										3	1
CO2	3	1	2										3	1
CO3	3	2	3	2	2								3	2
CO4	2	2	2											1
CO5	2	1	2	3									3	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15

Subject code: (15A02305)

Year &Sem: II-I

Subject Name: ELECTRIC CIRCUITS SIMULATION LABORATORY

1. Explain electric circuit concepts by interpreting the simulation results
2. Design RLC series circuit for specified frequency response
3. Analyze three phase balanced circuits
4. Analyze three phase unbalanced circuits
5. Design RL, RC and RLC circuits for specified transient responce

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		1	2	2	2								2	
CO2	2	1	2		2								2	
CO3	2	1	2	1									2	
CO4	2	1	2			2							2	
CO5	1	1			2								1	2

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: (15A02401)

Year &Sem: II-II   Subject Name: **ELECTRICAL MACHINES – II**

1. Draw the equivalent circuit of transformer
2. Conduct O.C, S.C tests and predetermine the regulation and efficiency of transformer
3. Compute the load shared by each transformer when several transformers operate in parallel
4. Draw the circle diagram of a three phase Induction motor and predetermine the performance characteristics
5. Determine the starting torque, maximum torque, slip at maximum torque using given data

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2		2	2	2								1	
CO2	2	1	1		1								2	1
CO3	2		2	2	2								1	
CO4	2	1	2		1								2	1
CO5	2		1										1	2

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   **Subject code: (15A02402)**

Year &Sem: II-II   **Subject Name:** ELECTRICAL POWER GENERATING SYSTEMS

1. Estimate the coal requirement, cost per kWh generation and number of units generated for thermal power station
2. Estimate the required flow of river water, cost of generation and number of units generated in hydel power generation
3. Compute various factors like load factor, plant factor
4. Evaluate the tariffs to be charged for the consumers
5. Plot the load curve, load duration curve and hence determine the load capacity of the plant

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		1				2						1	
CO2	2						1						1	
CO3	2						2						1	
CO4	2						2						1	
CO5	2	2				1	1				3		1	1

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: (15A04409)

Year &Sem: II-II   Subject Name: ANALOG ELECTRONIC CIRCUITS

1. Methods of biasing transistors & Design of simple amplifier circuits.
2. Mid – band analysis of amplifier circuits using small - signal equivalent circuits to determine gain, input impedance and output impedance.
3. Method of calculating cutoff frequencies and to determine bandwidth.
4. Design and analyse different Oscillator circuits.
5. Design of circuits for linear wave shaping and Multi-vibrators.

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	2										1	1
CO2	2	1	2										1	1
CO3	2	1	2	1	2								1	1
CO4	2	1	1										1	1
CO5														

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15

Subject code: (15A02404)

Year &Sem: II-II

Subject Name: ELECTRICAL MACHINES LABORATORY - I

1. Conduct experiments to obtain the no-load and load characteristics of D.C. Generators
2. Conduct tests on D.C. motors for predetermination of efficiency
3. Conduct tests on D.C. motors for determination of efficiency
4. Control the speed of D.C. motor in a given range using appropriate method
5. Identify the reason as to why D.C. Generator is not building up voltage

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1		1										1	
CO2	1		1										1	1
CO3	1		1	2	2								1	1
CO4	1		1										1	1
CO5	2		1	1	1								1	1

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   **Subject code: (15A02405)**

Year &Sem: II-II   **Subject Name:** CONTROL SYSTEMS AND SIMULATION LABORATORY

1. Design the controllers/compensators to achieve desired specifications.
2. Understand the effect of location of poles and zeros on transient and steady state behavior of systems.
3. Assess the performance, in terms of time domain specifications, of first and second order systems.
4. Use MATLAB/SIMULINK software for control system analysis and design

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	3								2	
CO2	3	2	2		2								2	
CO3	3	2	3	3	3	1							3	2
CO4	2	2	3		3								1	2

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   **Subject code: 15A02501**

Year &Sem: III-I   **Subject Name: ELECTRICAL MEASUREMENTS**

1. Use wattmeters, pf meters, and energy meters in a given circuit.
2. Extend the range of ammeters and voltmeters
3. Measure active power, reactive power, power factor, and energy in both 1-phase and 3-phase circuits
4. Determine the resistance values of various ranges, L and C values using appropriate bridges.
5. Analyze the different characteristic features of periodic, and aperiodic signals using CRO.

PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2		2										1	
CO2	2	2	2										1	
CO3	2		2										1	
CO4	2		1										1	
CO5	2	2	1										1	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   **Subject code: 15A04509**

Year &Sem: III-I   **Subject Name: LINEAR & DIGITAL IC APPLICATIONS**

1. Upon completion of the course, students will be able to:
2. Understand the basic building blocks of linear integrated circuits and its characteristics.
3. Analyze the linear, non-linear and specialized applications of operational amplifiers.
4. Understand the theory of ADC and DAC.
5. Able to use computer-aided design tools for development of complex digital logic circuits.

PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2												1	
CO2	2												1	
CO3	2				2								1	
CO4	2	1	2		2	1	1						1	2
CO5	2				1								1	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: **15A02502**

Year &Sem: III-I   Subject Name: **ELECTRICAL POWER TRANSMISSION SYSTEMS**

1. Compute the transmission line parameters.
2. Model a given transmission line.
3. Estimate the performance of a given transmission line.
4. Analyze the effect of over voltages on transmission lines.
5. Explain the construction, types and grading of underground cables and analyze cable performance.

PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2											1	
CO2	2	2											1	
CO3	2	2	1										1	
CO4	2	1											1	
CO5	1												1	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: 15A02503

Year &Sem: III-I   Subject Name: POWER ELECTRONICS

1. Basic operating principles of power semiconductor switching devices.
2. The operation of power electronic converters, choppers and their control
3. The operation of power electronic AC voltage controllers, inverters and their control
4. The operation of power electronic cycloconverters, and their control
5. How to apply the learnt principles and methods to practical applications.

PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3												2	
CO2	3	1	2	3	3	1							2	2
CO3	2	1	2	3	3	1							2	2
CO4	2	1	2	3	3	1							2	2
CO5	2	1	2	3	3								2	2

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15

Subject code: 15A02504

Year &Sem: III-I

Subject Name: ELECTRICAL MACHINES – III

1. predetermine the regulation of synchronous generators using different methods.
2. Determine how several alternators running in parallel share the load on the system.
3. Analyze the performance characteristics of synchronous motors.
4. Make necessary calculations for power factor improvement using synchronous condenser.
5. Choose specific 1-phase motor and/or special motors for a given application.

PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2		1	3	2	1							1	
CO2	3	2	1			1							2	
CO3	2	1				1							1	
CO4	2	2	1	1									1	
CO5	2		2	2	2		1						2	2

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: 15A02506

Year &Sem: III-I   Subject Name: ELECTRICAL MACHINES LABORATORY – II

1. After going through this laboratory course, the student acquires sufficiently good practical knowledge about the operation, testing, and characteristics of important A.C equipment like transformers, Induction Motors, Alternators and Synchronous Motors.

2. The student should also have acquired the knowledge about the fixation of the rating of transformers, induction motors and synchronous machines

PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2		1										1	
CO2	1	2	1	2	2								1	
CO3	2	2	1										1	
CO4	1		1										1	
CO5	2	1	1										1	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: 15A02507

Year &Sem: III-I   Subject Name: ELECTRICAL MEASUREMENTS LABORATORY

1. Calibrate various electrical measuring/recording instruments.
2. Accurately determine the values of inductance and capacitance using a.c bridges
3. Accurately determine the values of very low resistances
4. Measure reactive power in 3-phase circuit using single wattmeter
5. Determine ratio error and phase angle error of CT

PO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO
CO1	2	1	1										2	
CO2	3	2	2										2	1
CO3	3	2	1										2	1
CO4	2	1	1	1									2	1
CO5	1	2	1										2	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15 **Subject code: 15A02601**

Year &Sem: III-II **Subject Name: POWER SEMICONDUCTOR DRIVES**

1. Identify the choice of the electric drive system based on their applications
2. Explain the operation of single and multi quadrant electric drives
3. Analyze single phase and three phase rectifiers fed DC motors as well as chopper fed DC motors
4. Explain the speed control methods for AC-AC & DC-AC converters fed to Induction motors

5. Explain the speed control methods for Synchronous motors with closed loop, and open loop operations

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	2	1	2								2	1
CO2	2	2	2	2	2								3	
CO3	2	1	2	1	2								2	1
CO4	2		2	1	2							1	3	1
CO5	2		2	1	2								3	1

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15

Year &Sem: III-II

Subject code: 15A02602

Subject Name: POWER SYSTEM PROTECTION

1. Explain the principles of operation of various types of electromagnetic relays,Static relays as well as Microprocessor based relays

2. Understanding the protection of generators and determination of what %generator winding is unprotected under fault occurrence

3. Understanding the protection of transformers and make design calculations todetermine the required CT ratio for transformer protection

4. Explain the use of relays in protecting Feeders, lines and bus bars

5. Solve numerical problems concerning the arc interruption and recovery incircuit breakers

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2		2				1						2	1
CO2	2	1	2	2									2	
CO3	2	1	2	2									2	
CO4	2		2				1						2	1
CO5	2	3	3	3			1						2	1

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: 15A04601

Year &Sem: III-II   Subject Name: **MICROPROCESSORS AND MICROCONTROLLERS**

1. Do programming with 8086 microprocessors
2. Understand concepts of Intel x86 series of processors
3. Program MSP 430 for designing any basic Embedded System
4. Design and implement some specific real time applicationsUsing MSP 430 low power microcontroller

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3					1						2		1
CO2	1		3		2								1	2
CO3		2	2	1	3								2	2
CO4	1		2									1		3
CO5	1		3									2	1	3

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: 15A02603

Year &Sem: III-II   Subject Name: POWER SYSTEM ANALYSIS

1. Form the Zbus and Ybus of a given power system network
2. Compare different methods used for obtaining load flow solution
3. Conduct load flow studies on a given system
4. Make fault calculations for various types of faults
5. Determine the transient stability by equal area criterion

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	1	3								2	
CO2	3	2	2	1	3								2	1
CO3	3	2	2	1	3								2	2
CO4	3	2	2	2	3								2	1
CO5	3	2	2	3	3								2	

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: 15A02604

Year &Sem: III-II   Subject Name: NEURAL NETWORKS & FUZZY LOGIC

- ➢ Approaches and architectures of Artificial Intelligence
- ➢ Artificial Neural Networks terminologies and techniques
- ➢ Application of ANN to System Identification and Pattern recognition
- ➢ The development of Fuzzy Logic concept
- ➢ Use of Fuzzy Logic for motor control and AVR operation

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	2		3	1	1				1	1	3	
CO2	1	3	2	2	2							2	1	
CO3	3	3	2	3	3		2						3	3
CO4	1	3	2		3								2	
CO5	3	3	2	3	3		2						3	3

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Course outcomes and CO-PO and PSO Mapping Correlation

Regulation: R15   Subject code: 15A02607

Year &Sem: III-II   Subject Name: POWER ELECTRONICS AND SIMULATION LABORATORY

1. Test the turn on –turn off characteristics of various power electronic devices.
2. Test and analyze firing circuits for SCRs
3. Test different types of voltage controllers, converters and Inverters with R and RL loads
4. Analyze the TPS7A4901, TPS7A8300 and TPS54160 buck regulators

5. Test and analyse the Choppers

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2											2	
CO2	3	3	2										2	1
CO3	3	3	2	2	2							2	2	1
CO4	3	3	2	2	3							2	2	
CO5	3	3	2	2	3							2	2	

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