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Academic Session:2021-2022 Semester Name:TRIMESTER-II Course Year Name:FY - IX

Subject Name : Basics of Electrical and Electronics Engineering

Sr No	Unit	Topic Details
1	UNIT-I	Introduction to Semiconductor Diodes
		PN Junction Diode characteristics
		Diode Types: Zener and Light Emitting diodes
		Diode Applications: half wave Rectifier
		Full wave Rectifier
		Zener diode as a voltage regulator
		Regulated power supply
2	UNIT-II	CE amplifier
		BJT Biasing circuits
		BJT VI characteristics
		Common Collector (CC) Configuration
		Common Base (CB) configuration
		Common Emitter (CE) configuration
		DC and AC Analysis of CE amplifier with h parameter model
		BJT Working principle, operation
3	UNIT-III	JK flip flop, D flip flop, shift registers
		Flip-flops: RS flip flop
		K- map, Half Adder, Full Adder
		Combinational logic Circuits, De-Morgan’s theorems, SOP,POS forms
		Digital integrated circuits: Logic Gates, Boolean algebra
		Study of IC 741
		Analog Integrated circuits, Basics of OPAMP: - inverting and non-inverting mode
		Introduction to Microcontroller
4	UNIT-IV	Transformer Equivalent circuit
		Transformer Types
		Transformer Construction
		Transformer Working principle, Losses
		Transformer Efficiency
		Transformer Regulation
5	UNIT-V	Star to delta conversion
		Series, parallel circuits
		Dependent and independent sources
		Basic active and passive circuit elements
		Delta to star conversion
		Superposition Theorem
		Thevenin’s Theorem
		KCL, KVL
6	UNIT-VI	Generation of alternating EMF
		Equation of alternating quantity
		Waveforms, phasor representation
		Concept of impedance, admittance and power triangle
		Parallel circuits
		Series resonance circuit

Sr No	Unit	Topic Details
		Series RL, RC, RLC circuits
		Generation of three phase EMF