Name of Faculty : SATYA,V.F
Discipline   : I&C
Semester   : 2nd sem
Subject   :FEE
Lesson Plan Duration   : 15 weeks(from Jan2023to June 2023)
Work Load (lecture/practical)per week (in hours) : Lectures- 03, practical- 04

Week	Theory		Practical	
	Lecture Day	Topic	Practical Day	Practical Topic
1	1	UNIT I	1	Familiarization of measuring instruments viz voltmeter, ammeter, CRO, Wattmeter and multi-meter and other accessories.
	2	Electrical Fundamentals	2	To measure (very low) resistance of an ammeter and (very high) resistance of a voltmeter
	3	Nature of Electricity charge	3	Familiarization of measuring instruments viz voltmeter, ammeter, CRO, Wattmeter and multi-meter and other accessories.
		free electrons, Electric current, Electric potential	4	To measure (very low) resistance of an ammeter and (very high) resistance of a voltmeter
2	4	potential difference, Electric current	5	To verify Ohm's law by drawing a graph between voltage and current.
	5	Electrical Energy, Electrical power and their unit	6	To observe change in resistance of a bulb in hot and cold conditions, using voltmeter and ammeter.
	6	Revision	7	To verify Ohm's law by drawing a graph between voltage and current.
			8	To observe change in resistance of a bulb in hot and cold conditions, using voltmeter and ammeter.
3	7	1.2 Resistance: Definition, Unit, Laws of resistance, conductivity and resistivity	9	To determine the value of resistance using colour coding method.
	8	Types of resistance	10	Verification of Kirchhoff's Current and Voltage Laws in a DC circuit on bread board.
	9	Inductors and capacitors with their wattage consideration.	11	To determine the value of resistance using colour coding method.
			12	Verification of Kirchhoff's Current and Voltage Laws in a DC circuit on bread board.
4	10	Revision	13	Verification of Thevenin's theorem.
	11	Class test	14	Verification of Norton's theorem.
	12	Factors affecting capacitance of a capacitor.	15	Verification of Thevenin's theorem.
			16	Verification of Norton's theorem.
5	13	Capacitors in series and parallel.	17	Verification of Superposition theorem.
	14	DC Circuits & Theorems	18	Verification of Maximum Power theorem.
	15	Ohm's law and its verification	19	Verification of Superposition theorem.
			20	Verification of Maximum Power theorem.
6	16	Kirchhoff's current law	21	Alternating voltage applied to resistance and inductance, resistance and capacitance in series.
	17	Kirchhoff's voltage law	22	To find the voltage current relationship in a single phase R-L circuits, draw their impedance triangles.
	18	Revision	23	Alternating voltage applied to resistance and inductance, resistance and capacitance in series.

Week	Lec No	Topic	Prac No	Practical
	18	Star – Delta connections.	24	To find the voltage current relationship in a single phase R-L circuits, draw their impedance triangles.
7	19	2.4 Voltage and current source, symbol and graphical representation, characteristics of ideal and practical sources.	25	To find the voltage current relationship in R-C Series circuits, draw their impedance triangles
	20	Class test	26	Measurement of power and power factor in a single phase R,L,C. circuit
		Mesh and Loop analysis	27	To find the voltage current relationship in R-C Series circuits, draw their impedance triangles
	21	Thevenin's theorem, Norton's theorem Transfer Theorem	28	Measurement of power and power factor in a single phase R,L,C. circuit
8	22	Superposition Theorem, Maximum Power	29	Calculation of active and reactive powers in the circuit
	23	Transfer Theorem	30	To test a lead - acid storage battery and measure its specific gravity.
		AC Circuits Fundamentals: Cycle, frequency, time period, amplitude.	31	Calculation of active and reactive powers in the circuit
	24	Difference between AC and DC, instantaneous value, average value, r.m.s. value, maximum value, form factor and peak factor.	32	To test a lead - acid storage battery and measure its specific gravity.
9	25	Concept of conductance, susceptance, admittance, impedance and concept of inductive and capacitive reactance	33	Care and maintenance of lead-acid battery.
		RL-RC Circuits	34	Visit to a nearby Power Station
	26	Introduction to series and parallel resonance and its conditions	35	Care and maintenance of lead-acid battery.
	27	Revision	36	Visit to a nearby Power Station
	28	Class test	37	viva voce

10	29	Power in pure resistance, inductance and capacitance, power in combined RLC circuits.	38	viva voce
	30	Power factor, active and reactive power: Definition and their significance.	39	viva voce
		Revision	40	viva voce
11		Class test	41	viva voce
	31	Electro Magnetic Circuit	42	viva voce
	32	Concept of electro-magnetic field produced by flow of electric current	43	viva voce
	33	concept of magneto-motive force (MMF), flux, reluctance, permeability, analogy between electric and magnetic circuit	44	viva voce
12	34	Faraday's laws of electro-magnetic induction, principles of self and mutual induction.	45	viva voce
	35	self and mutually induced emf.	46	viva voce
	36	Energy stored in an inductor, series and parallel combination of inductors	47	viva voce
		Revision	48	viva voce
13		Class test	49	viva voce
	37	Basic idea of primary and secondary cells.	50	viva voce
	38	Construction, working principle and applications of Lead-Acid, Nickel-Cadmium, Li- Ion batteries	51	viva voce

		39	Series and parallel connections of batteries	52	viva voce
14		40	Revision	53	viva voce
		41	Class test	54	viva voce
		42	Introduction to maintenance of free batteries.	55	viva voce
			Disposal of batterie	56	viva voce
15		43	General idea of solar cells, solar panels and their applications.	57	viva voce
			Revision	58	viva voce
		44	Class test	59	viva voce
		45	Revision	60	viva voce