

ACADEMIC LESSON PLAN OF SUMMER 2024

Discipline:	Semester:	Name of the Teaching Faculty:
ELECTRICAL		
Subject: BASIC ELECTRICAL ENGINEERING	No. of days/per week class allotted:2p/w week	Semester From: 29 TH January 2024 to 14 th May 2024
Week	Class Day	Theory Topics
1 st	1 st	1. FUNDAMENTALS: 1.1 Concept of current flow
	2 nd	1.2 concept of source and load 1.2.1 concept of D.C source
2 nd	1 st	1.3 state Ohm's law 1.3.1 Resistance
	2 nd	1.3.2 Series and parallel resistances 1.3.3 problems on series and parallel resistances
3 rd	1 st	1.4 Current and Voltage division in series and parallel circuits
	2 nd	1.5 Kirchhoff's laws 1.5.1 problems on kirchhoff's laws
4 th	1 st	2 A.C THEORY 2.1 Concept of AC voltage and current
	2 nd	2.2 Generation of alternating EMF
5 th	1 st	2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference
	2 nd	2.5 Explanation of RMS value , instantaneous value, average value, amplitude factor, form factor(simple problems)
6 th	1 st	2.6 Representation of AC values in phasor diagrams.
	2 nd	2.7. AC through pure resistance , inductance, capacitance
7 th	1 st	2.8. AC through RL,RC, & RLC circuits
	2 nd	2.9. Problems on RL, RC,& RLC series circuits
8 th	1 st	2.10. concept of power and power factor
	2 nd	2.11. Impedance triangle 2.11.1 Power triangle
9 th	1 st	3. GENERATION OF ELECTRICAL POWER 3.1 Introduction to different generating power plants
	2 nd	3.2. Thermal power plants 3.2.1 layout of a thermal power plant(advantages and disadvantages)
10 th	1 st	3.3 Hydro power plant 3.3.1 layout of a Hydro power plant(advantages and disadvantages)
	2 nd	3.4 Nuclear power plant(layout of nuclear power plant with advantages and disadvantages)
11 th	1 st	4. CONVERSION OF ELECTRICACAL ENERGY(Introduction to DC machines)

	2 nd	4.1 main parts of DC machines(DC generator and DC motor)
12 th	1 st	4.2 Single phase induction motor(types) and concept of lumen
	2 nd	4.3 different types of lamps, filaments, LED bulbs and their construction 4.4 star rating of home appliances(star rating concept, energy efficiency)
13 th	1 st	5. WIRING AND POWER BILLING: Types of wiring for domestic installations 5.1 single line diagram showing all the important components in the system
	2 nd	5.2 list of protective devices used in household wiring 5.3 calculation of energy consumed.
14 th	1 st	6. MEASURING INSTRUMENTS: introduction to measuring instruments
	2 nd	6.1 Torques in measurements 6.2 Different use of PMMC type of instruments(voltmeter and ammeter)
15 th	1 st	6.3 different usage of MI type of instruments(voltmeter and ammeter)
	2 nd	6.4 Draw the connection diagram of A.C/D.C ammeter, voltmeter energy meter and wattmeter(single phase only).

Signature of Teaching Faculty