

LESSON PLAN

Discipline / All Branches	Semester-1st	Name of the teaching faculty:- Saiswarup Patel & Rakesh Pattanayak
Subject:-Basic electrical & Basic Electronics	No. of days/per week- 04	Semester from date : 09.11.2020 to 15.02.2021 No. of weeks :- 15 (excluding any vacation)
Week	Class day	Theory
1st	1st	Chapter- 01 (FUNDAMENTALS) 1.1 Concept of current flow. 1.2 Concept of source and load.
	2nd	1.3 State Ohm's law and concept of resistance. 1.4 Relation of V, I & R in series circuit.
	3rd	1.5 Relation of V, I & R in parallel circuit.
	4th	1.6 Division of current in parallel circuit. 1.7 Effect of power in series & parallel circuit.
2nd	1st	1.8 Kirchhoff's Law. 1.9 Simple problems on Kirchhoff's law.
	2nd	Chapter- 02 (A.C. THEORY) 2.1 Generation of alternating emf. 2.2 Difference between D.C. & A.C.
	3rd	2.3 Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference
	4th	2.4 State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems.
3rd	1st	2.5 Represent AC values in phasor diagrams.
	2nd	2.6 AC through pure resistance, inductance & capacitance
	3rd	2.7 AC though RL, RC, RLC series circuits.
	4th	2.8 Simple problems on RL, RC & RLC series circuits.
4th	1st	2.9 Concept of Power and Power factor 2.10 Impedance triangle and power triangle.
	2nd	Chapter- 03 (GENERATION OF ELECTRICAL POWER) 3.1 Give elementary idea on generation of electricity from thermal power station with block diagram
	3rd	3.2 Give elementary idea on generation of electricity from Hydro power station with block diagram.
	4th	3.3 Give elementary idea on generation of electricity from Nuclear power station with block diagram
5th	1st	Chapter- 04 (CONVERSION OF ELECTRICAL ENERGY) 4.1 Introduction of DC machines.
	2nd	4.2 Main parts of DC machines.
	3rd	4.3 Classification of DC generator

	4th	4.4 Classification of DC motor Uses of different types of DC generators & motors.	4.5
6th	1st	4.6 Types and uses of single phase induction motors. Concept of Lumen	4.7
	2nd	4.8 Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle	
	3rd	4.9 Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept)	
	4th	Chapter- 05 (WIRING AND POWER BILLING) 5.1 Types of wiring for domestic installations.	
7th	1st	5.2 Layout of household electrical wiring (single line diagram showing all the important component in the system)	
	2nd	5.3 List out the basic protective devices used in house hold wiring.	
	3rd	5.4 Calculate energy consumed in a small electrical installation	
	4th	Chapter- 06 (MEASURING INSTRUMENTS) 6.1 Introduction to measuring instruments. 6.2 Torques in instruments.	
8th	1st	6.3 Different uses of PMMC type of instruments (Ammeter & Voltmeter). 6.4 Different uses of MI type of instruments	
	2nd	6.5 Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter.	
	3rd	chapter1:electronic device 1.1:basic concept of electronics	
	4th	1.2 electron emission theory	
9th	1st	1.3classification of material with energy band diagram	
	2nd	1.4.intrinsic verses extrinsic 1.5.difference between vacuum tube and semiconductor	
	3rd	1.6.use of pn junction diode,zener diode	
	4th	1.7.intigrated circuit	
10th	1st	chapter 2:2.1.rectifiers and uses	
	2nd	2.2.working of rectifiers ,	
	3rd	2.3function of filter	
	4th	2.4.working of dc power supply	
11th	1st	2.5.transistor,transistors configuration,	
	2nd	2.6need of biasing	
	3rd	2.7.amplifiers ,CEamplifiers	
	4th	2.8.elctronic oscillator	

12th	1st	2.9.block of oscillator
	2nd	chapter 3(communication system)introduction
	3rd	3.1.basic communication system
	4th	3.2.modulation and demodulation
13th	1st	3.3.types of modulation
	2nd	chapter4:transducer and measuring instrument (introduction)
	3rd	4.1.concept of transducer
	4th	4.2types of transducer
14th	1st	4.3.photo emissive,photo conductive transducer
	2nd	4.4.photo volcanic transducer
	3rd	4.5 multimeter and its uses
	4th	4.6.analog and digital multimeter
15th	1st	4.7.block of multimeter
	2nd	4.8 CRO
	3rd	4.9.working principle of cro
	4th	4.10.block of cro

