Lesson Plan

Discipline: Mechanical Engineering	**Semester:** First (1st)	**Name of the Faculty: Er. Tapas Kumar Swain**
Subject: Basic Electrical Engg.	**No. of days/week class allotted:** Three(3)	**Semester from Date:** 25.10.22 **to Date:** 31.01.23 **No. of Weeks:** 15
WEEK	**CLASS DAY**	**THEORY TOPICS**
1st	1st	Introduction ,Concept of current flow
	2nd	Concept of source and load.
	3rd	State Ohm's law and concept of resistance
2nd	1st	Relation of V, I & R in series circuit , Relation of V, I & R in parallel circuit
	2nd	Division of current in parallel circuit , Effect of power in series & parallel circuit
	3rd	State and explain Kirchhoff's Law.
3rd	1st	Simple problems on Kirchhoff's law.
	2nd	**Review Class**
	3rd	Generation of alternating emf, Difference between D.C. & A.C
4th	1st	Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference.
	2nd	State and explain RMS value
	3rd	**Monthly test**
5th	1st	Average value
	2nd	Amplitude factor & Form factor with Simple problems.
	3rd	Represent AC values in phasor diagrams.
6th	1st	Explain AC through pure resistance inductance & capacitance
	2nd	Explain AC though RL, RC, RLC series circuits.
	3rd	Solve simple problems on RL, RC & RLC series & Parallel circuits.
7th	1st	Concept of power and Power factor
	2nd	Explain impedance triangle and power triangle.
	3rd	**Monthly test**

8th	1st	**Review Class**
	2nd	Give elementary idea on generation of electricity from thermal, hydro power station with block diagram
	3rd	Give elementary idea on generation of electricity from nuclear power station with block diagram
9th	1st	**Review Class**
	2nd	Introduction of DC machines. Main parts of DC machines.
	3rd	Classification of DC generators, Classification of DC Motor
10th	1st	Uses of different types of DC generator & motor
	2nd	Types and uses of single phase induction motors.
	3rd	**Monthly test**
11th	1st	Concept of Lumen
	2nd	Different types of Lamps (Filament, Florescent, LED bulb) its construction & Principle.
	3rd	Star rating of home appliances (Terminology, Energy efficiency, star rating concept)
12th	1st	**Review Class**
	2nd	Types of wiring for domestic installation
	3rd	Layout of household electrical wiring (single line diagram showing all the important component in the system).
13th	1st	List out the basic protective devices used in house hold wiring.
	2nd	Calculate energy consumed in a small electrical installation.
	3rd	**Review Class**
14th	1st	Introduction to measuring instruments.
	2nd	**Monthly test**
	3rd	Torques in instruments.
15th	1st	State different uses of PMMC type of instruments (Ammeter & Voltmeter).
	2nd	Torques in instruments.
	3rd	**Review Class**