

KIIT POLYTECHNIC, BHUBANESWAR

LESSON PLAN Session (2021-2022)

Discipline: Mechanical	Semester: 1 st , Winter/2021	Name of the Faculty: Abhaya Kumar Behera Lecturer Email ID: Abhaya_bfel@kp.kiit.ac.in
Subject: Basic Electrical Engineering	No. of Days/week: 02	Start Date: 25/10/2021 End Date: 10/02/2022

Week	Class Day	Theory Topics
1st	1st	Concept of current flow, Concept of source and load, State Ohm's law and concept of resistance.
	2nd	Relation of V, I & R in series circuit
2nd	1st	Relation of V, I & R in parallel circuit
	2nd	Division of current in parallel circuit
3rd	1st	Effect of power in series & parallel circuit.
	2 nd	Kirchhoff's Law, problems on Kirchhoff's law
4th	1st	Generation of alternating emf, Difference between D.C. & A.C
	2nd	Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference
5th	1st	Quiz Test
	2nd	State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems.
6th	1st	Represent AC values in phasor diagrams, AC through pure resistance, AC through pure inductance
	2nd	AC through pure capacitance, AC through RL, RC series Circuit.
7th	1st	AC through RLC series circuits, Simple problems on RL, RC & RLC series circuits

	2nd	Concept of Power and Power factor, Impedance triangle and power triangle.
8th	1st	Elementary idea on generation of electricity from Thermal power plant.
	2nd	Elementary idea on generation of electricity from hydro & nuclear power station with block diagram
9th	1st	Introduction of DC machines, Main parts of DC machines, Classification of DC generator.
	2nd	Classification of DC motor, Uses of different types of DC generators & motors
10th	1st	Types and uses of single phase induction motors, Concept of Lumen
	2nd	Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle
11th	1st	Quiz Test
	2nd	Types of wiring for domestic installations, Layout of household electrical wiring (single line diagram), List out the basic protective devices used in house hold wiring.
12th	1st	Recap & summarization
	2nd	Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept). Calculate energy consumed in a small electrical installation
13th	1st	Introduction to measuring instruments, Torques in instruments
	2nd	Different uses of PMMC type of instruments (Ammeter & Voltmeter),
14th	1st	Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only)
	2nd	Recap & summarization
15th	1st	Assignment Evaluation & Class Test
	2nd	Discussion on Previous year question paper