

Lesson Plan of Electrical Department of Government Polytechnic Puri

Discipline :- Mechanical Engg.	Semester:- 2nd	Name of the Teaching Faculty:- Rakesh Kumar Sahoo
Subject:- Basic Electrical Engg.	No of Days/per Week Class Allotted :- 2	Semester From:- 2nd Jan, 2019 To:- 30th Apr, 2019 No of Weeks:- 16
Week	Class Day	Theory/ Practical Topics
1 st	1 st	1.1 Concept of current flow. 1.2 Concept of source and load.
	2 nd	1.3 State Ohm's law and concept of resistance. 1.4 Relation of V, I & R in series circuit.
2 nd	1	1.5 Relation of V, I & R in parallel circuit. 1.6 Division of current in parallel circuit.
	2 nd	1.7 Effect of power in series & parallel circuit. 1.8 Kirchhoff's Law. 1.9 Simple problems on Kirchhoff's law.
3 rd	1 th	2.1 Generation of alternating emf. 2.2 Difference between D.C. & A.C.
	2 nd	2.3 Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference.
4 th	1 st	2.4 State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems.
	2 nd	2.5 Represent AC values in phasor diagrams. 2.6 AC through pure resistance, inductance & capacitance
5 th	1 st	2.7 AC through RL, RC, RLC series circuits.
	2 nd	2.8 Simple problems on RL, RC & RLC series circuits.
6 th	1 st	2.9 Concept of Power and Power factor 2.10 Impedance triangle and power triangle.
	2 nd	3.1.1 Give elementary idea on generation of electricity from thermal power station with block diagram
7 th	1 st	3.1.2 Give elementary idea on generation of electricity from hydro power station with block diagram
	2 nd	3.1.3 Give elementary idea on generation of electricity from nuclear power station with block diagram
8 th	1 st	4.1 Introduction of DC machines. 4.2 Main parts of DC machines.
	2 nd	4.3 Principle of operation of DC generator 4.4 EMF equation of generator and simple problem
	1 st	4.5 Classification of DC generator

Lesson Plan of Electrical Department of Government Polytechnic Puri

9 th		4.6 Principle of operation of DC motor.
	2 nd	4.7 Classification of DC motor. 4.8 Uses of different types of DC generators & motors
10 th	1 st	4.9 Types and uses of single phase induction motors. 4.10 Types and uses of 3-phase induction motors 4.11 Concept of transformer & its applications
	2 nd	5.1 Types of wiring for domestic installations.
11 th	1 st	5.2 Layout of household electrical wiring (single line diagram showing all the important component in the system).
	2 nd	5.3 List out the basic protective devices used in house hold wiring.
12 th	1 st	5.4 Calculate energy consumed in a small electrical installation
	2 nd	6.1 Introduction to measuring instruments. 6.2 Torques in instruments
13 th	1 st	6.3 Different uses of PMMC type of instruments (Ammeter & Voltmeter). 6.4 Different uses of MI type of instruments (Ammeter & Voltmeter).
	2 nd	6.5 Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only).
14 th	1 st	7.1 Concept of Lumen
	2 nd	7.2.1 Different types of Lamps (Filament, fluorescent, Mercury Vapour) its Construction and Principle.
15 th	1 st	7.2.2 Different types of Lamps (Sodium Vapour, Neon, LED bulb) its Construction and Principle.
	2 nd	7.3 Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept)
16 th	1 st	Doubt Clearing Classes and Revision of Syllabus
	2 nd	