

Pr. 1 ELECTRICAL MACHINE LAB-I

Name of the Course: Diploma in Electrical Engineering		Date:-	
Faculty: Mr Ruhia Hansda			
Course code:	Th.4	Semester:	4 th
Total Period:	90 Periods	Examination:	3 Hrs
Lab. Periods:	6P / Week	Term Work/Sessional:	25
Tutorial:	-	End Semester Examination:	50
Maximum marks:	75		

VISION:

To create competent & industry ready Electrical Diploma Engineers with professional and social values to meet future challenges.

MISSION:

- To prepare diploma holders through "qualitative competency based education system" to compete with national requirement along with core values.
- To produce dynamic Electrical Engineers to serve the society and industry.
- To develop leadership qualities, communication skills, critical thinking and attitude for lifelong learning.

PROGRAM EDUCATIONAL OBJECTIVES:

PEO1	Apply technical knowledge and skills learned in the field of Electrical Engineering to excel in Professional and/or higher education.
PEO2	To provide students an excellent academic environment and make them aware the needs of Society and Industry to become a successful Professional/Entrepreneur.
PEO3	To engage in lifelong learning, career enhancement to adopt emerging technologies

Course outcomes:-


Co1	Identify the physical parts of the DC machines and terminals of the machines.
Co2	Interpret and apply the Speed Control methods of a DC Motor.
Co3	Operate and maintain DC shunt, series and compound motors and three phase transformers AND Perform OC Test and SC test of a single phase transformer.
Co4	Explain the need for starter, connect and run a DC shunt Motor using 3 point Starter.

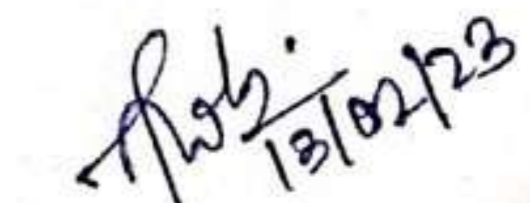


GOVERNMENT POLYTECHNIC KORAPUT
DEPARTMENT OF ELECTRICAL ENGINEERING

LESSON PLAN

Week	Day Each 3 Period	Experiments
1 st	1 st	1. Identification of different terminals of a DC machine by test lamp method and multimeter method & to measure insulation resistance by megger
	2 nd	1. Identification of different terminals of a DC machine by test lamp method and multimeter method & to measure insulation resistance by megger
2 nd	1 st	2. Dimensional and material study of various parts of a DC machine.
	2 nd	2. Dimensional and material study of various parts of a DC machine.
3 rd	1 st	3. Plot OCC of a DC shunt generator at constant speed and determine critical resistance from the graph.
	2 nd	3. Plot OCC of a DC shunt generator at constant speed and determine critical resistance from the graph.
4 th	1 st	4. Plot External Characteristics of a DC shunt generator at constant speed.
	2 nd	4. Plot External Characteristics of a DC shunt generator at constant speed.
5 th	1 st	4. Plot External Characteristics of a DC shunt generator at constant speed
	2 nd	5. Study of Three point starter, connect and run a DC shunt motor & measure the no load current.
6 th	1 st	5. Study of Three point starter, connect and run a DC shunt motor & measure the no load current.
	2 nd	6. Study of Four point starter, connect and run a DC compound motor & measure no load current.
7 th	1 st	6. Study of Four point starter, connect and run a DC compound motor & measure no load current.
	2 nd	6. Study of Four point starter, connect and run a DC compound motor & measure no load current
8 th	1 st	7. Control the speed of a DC shunt motor by field flux control method & armature voltage control method.
	2 nd	7. Control the speed of a DC shunt motor by field flux control method & armature voltage control method.
9 th	1 st	8. Determine the armature current vs. speed characteristic of a DC motor
	2 nd	8. Determine the armature current vs. speed characteristic of a DC motor
10 th	1 st	9. Determine the efficiency of a DC machine by brake test method.
	2 nd	9. Determine the efficiency of a DC machine by brake test method.
11 th	1 st	9. Determine the efficiency of a DC machine by brake test method.
	2 nd	10. Identification of terminals, determination of voltage transformation ratio of a single phase transformer.
12 th	1 st	10. Identification of terminals, determination of voltage transformation ratio of a single phase transformer.
	2 nd	11. Perform OC Test and SC test of a single phase transformer.
13 th	1 st	11. Perform OC Test and SC test of a single phase transformer.
	2 nd	12. Determine the voltage regulation of a single phase transformer at different loads.
14 th	1 st	12. Determine the voltage regulation of a single phase transformer at different loads.
	2 nd	13. Polarity test of single phase transformer and parallel operation of two single phase transformers.
15 th	1 st	13. Polarity test of single phase transformer and parallel operation of two single phase transformers.
	2 nd	


Signature of faculty concerned


H.O.D. Electrical