

LESSON PALN 2024(SUMMER)				
Discipline: Electrical Engg.	Semester:4th Sem	Name of the Teaching Faculty: Mrs.JayashreeMohanty,Sr. Lect. Electrical Engg		
Subject: Energy Conversion-I	Theory Periods: 5P/Week	Semester From Date:-16.01.24 to Date:- 23.04.24	No. of Weeks:15	
1st Week	16.01.24	1 st	Operating principle of generator	
	17.01.24	2 nd	Constructional features of DC machine, Yoke, Pole & field winding, Armature, Commutator.	
	18.01.24	3 rd	Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch.	
	19.01.24	4 th	Simple Lap and wave winding, Dummy coils.	
2nd Week	22.01.24	1 st	Different types of D.C. machines (Shunt, Series and Compound)	
	24.01.24	2 nd	Derivation of EMF equation of DC generator.(Solve problems)	
	27.01.24	3 rd	Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems.	
3rd Week	29.01.24	1 st	numerical problems	
	30.01.24	2 nd	Armature reaction in D.C. machine.	
	31.01.24	3 rd	Commutation and methods of improving commutation.	
	01.02.24	4 th	Role of inter poles and compensating winding in commutation.	
	02.02.24	5 th	Characteristics of D.C. Generators.	
4th Week	05.02.24	1 st	Application of different types of D.C. Generator.	
	06.02.24	2 nd	Concept of critical resistance and critical speed of DC shunt generator.	
	07.02.24	3 rd	Conditions of Build-up of emf of DC generator.	
	08.02.24	4 th	Parallel operation of D.C. Generators.	
	09.02.24	5 th	Basic working principle of DC motor.	
5th Week	12.02.24	1 st	CLASS TEST-1	
	13.02.24	2 nd	Significance of back emf in D.C. Motor.	
	15.02.24	3 rd	Voltage equation of D.C. Motor and condition for maximum power output (simple problems).	
	16.02.24	4 th	Derive torque equation (solve problems).	
6th Week	19.02.24	1 st	Characteristics of shunt, series and compound motors and their application.	
	20.02.24	2 nd	Starting method of shunt, series and compound motors.	
	21.02.24	3 rd	Speed control of D.C shunt motors by Flux control method.	
	22.02.24	4 th	Speed control of D.C shunt motors by Armature voltage method.	
	23.02.24	5 th	Speed control of D.C. series motors by Field Flux control method.	
7th Week	26.02.24	1 st	Speed control of D.C. series motors by Tapped field method and series-parallel method.	
	27.02.24	2 nd	Determination of efficiency of D.C. Machine by Brake test method (solve numerical problems).	
	28.02.24	3 rd	Determination of efficiency of D.C. Machine by Swinburne's Test method (solve numerical problems).	
	29.02.24	4 th	Losses, efficiency and power stages of D.C. motor.	
	01.03.24	5 th	(Solve numerical problems).	

8th Week	04.03.24	1 st	Working principle of transformer.
	06.03.24	2 nd	Constructional feature of Transformer. Arrangement of core & winding in different types of transformer, Brief ideas about transformer accessories such as conservator, tank,
	07.03.24	3 rd	Ideas about breather, and explosion vent etc. Explain types of cooling methods
9th Week	11.03.24	1 st	State the procedures for Care and maintenance
	12.03.24	2 nd	EMF equation of transformer.
	13.03.24	3 rd	Ideal transformer voltage transformation ratio.
	14.03.24	4 th	(Solve numerical problems).
	15.03.24	5 th	Operation of Transformer at no load, on load with phasor diagrams.
10th Week	18.03.24	1 st	Equivalent Resistance, Leakage Reactance and Impedance of transformer.
	19.03.24	2 nd	To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with using upf, leading pf and lagging pf load.
	20.03.24	3 rd	To explain Equivalent circuit and solve numerical problems..
	21.03.24	4 th	Approximate & exact voltage drop calculation of a Transformer.
	22.03.24	5 th	Regulation of transformer.
11th Week	27.03.23	1 st	Different types of losses in a Transformer. Explain Open circuit and Short Circuit test.
	28.03.23	2 nd	(Solve numerical problems).
12th Week	02.04.24	1 st	Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency.
	03.04.24	2 nd	(Solve problems).
	04.04.24	3 rd	Explain All Day Efficiency (solve problems).
	05.04.24	4 th	Determination of load corresponding to Maximum efficiency.
13th Week	08.04.24	1 st	Parallel operation of single phase transformer.
	09.04.24	2 nd	Constructional features of Auto transformer. Working principle of single phase Auto Transformer.
	10.04.24	3 rd	Comparison of Auto transformer with a two winding transformer (saving of Copper).
	12.04.24	4 th	Uses of Auto transformer. Explain Tap changer with transformer (on load and off load condition)
14th Week	15.04.24	5 th	Explain Current Transformer
	16.04.24		QUIZ
	18.04.24	3 rd	Potential Transformer
	19.04.24	4 th	Define Ratio error, Phase angle error, Burden
15th Week	22.04.24	5 th	Uses of C.T. and P.T
	23.04.24	1 st	Tutorial