

LESSON PLAN-2021
SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

Discipline- ELECTRICAL	Semester- 4TH	Name of teaching faculty-Susanta kumar parida
SUBJECT- ENERGY CONVERSION- 1	No of days/ per week class allotted- 5	SEM From date-22.04.21 No of weeks- 12
Week	Class day	Theory Topics
		D.C GENERATOR
4TH	22-04-2021	Operating principle of generator
	23-04-2021	Constructional features of DC machine: Yoke, Pole & field winding, Armature, Commutator.
	24-04-2021	Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch.
5TH	26-04-2021	Simple Lap and wave winding, Dummy coils.
	27-04-2021	Different types of D.C. machines (Shunt, Series and Compound)
	28-04-2021	Derivation of EMF equation of DC generators. (Solve problems)
	29-04-2021	Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems.
	30-04-2021	Armature reaction in D.C. machine
	01-05-2021	Commutation and methods of improving commutation.
1ST	03-05-2021	Role of inter poles and compensating winding in commutation.
	04-05-2021	Characteristics of D.C. Generators
	05-05-2021	Application of different types of D.C. Generators
	06-05-2021	Concept of critical resistance and critical speed of DC shunt generator
	07-05-2021	Conditions of Build-up of emf of DC generator.
	08-05-2021	Parallel operation of D.C. Generators.
2ND	10-05-2021	Uses of D.C generators.
		D. C. MOTORS
	11-05-2021	Basic working principle of DC motor
	12-05-2021	Significance of back emf in D.C. Motor.
	13-05-2021	Voltage equation of D.C. Motor and condition for maximum power output(simple problems)
	14-05-2021	Derive torque equation (solve problems)
3RD	17-05-2021	Characteristics of shunt, series and compound motors and their application.
	18-05-2021	Starting method of shunt, series and compound motors.
	19-05-2021	Speed control of D.C shunt motors by Flux control method. Armature voltage Control method. Solve problems
	20-05-2021	Speed control of D.C. series motors by Field Flux control method, Tapped field method and series-parallel method

	21-05-2021	Determination of efficiency of D.C. Machine by Brake test method(solve numerical problems)
4TH	22-05-2021	Determination of efficiency of D.C. Machine by Swinburne's Test method(solve numerical problems)
	24-05-2021	Losses, efficiency and power stages of D.C. motor(solve numerical problems)
	25-05-2021	Uses of D.C. motors
		SINGLE PHASE TRANSFORMER
		Working principle of transformer.
	26-05-2021	Constructional feature of Transformer
	27-05-2021	Arrangement of core & winding in different types of transformer.
5 TH	28-05-2021	Brief ideas about transformer accessories such as conservator, tank, breather, and explosion vent etc.
	29-05-2021	Explain types of cooling methods
	31-05-2021	State the procedures for Care and maintenance.
1ST	01-06-2021	EMF equation of transformer.
	02-06-2021	Ideal transformer voltage transformation ratio
	03-06-2021	Operation of Transformer at no load, on load with phasor diagrams.
	04-06-2021	Equivalent Resistance, Leakage Reactance and Impedance of transformer.
	05-06-2021	To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with using upf, leading pf and lagging pf load.
2ND	07-06-2021	To explain Equivalent circuit and solve numerical problems
	08-06-2021	Approximate & exact voltage drop calculation of a Transformer.
	09-06-2021	Regulation of transformer.
	11-06-2021	Different types of losses in a Transformer. Explain Open circuit and Short Circuit test.(Solve numerical problems)
	12-06-2021	Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency (solve problems)
	17-06-2021	Explain All Day Efficiency (solve problems)
3RD		Determination of load corresponding to Maximum efficiency.
	18-06-2021	Parallel operation of single phase transformer.
		AUTO TRANSFORMER
	19-06-2021	Constructional features of Auto transformer.
	21-06-2021	Working principle of single phase Auto Transformer.
4TH	22-06-2021	Comparison of Auto transformer with an two winding transformer (saving of Copper).
	24-06-2021	Uses of Auto transformer.
	25-06-2021	Explain Tap changer with transformer (on load and off load condition)
		INSTRUMENT TRANSFORMERS
	28-06-2021	Explain Current Transformer and Potential Transformer
	29-06-2021	Define Ratio error, Phase angle error, Burden.

5TH	30-06-2021	Uses of C.T. and P.T.
	01-07-2021	Various applications of c.t and p.t.
	02-07-2021	Numerical solved
	05-07-2021	Previous year Question discussion.
	06-07-2021	Previous year Question discussion.
	07-07-2021	Numerical solved
	08-07-2021	Class Test
	10-07-2021	Previous year Question discussion.

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PRINCIPAL