

<b>Lesson Plan</b>			
	<b>Discipline: Electrical</b>	<b>Semester-4th SUMMER 2024</b>	<b>Name of the Teaching Faculty: Smt SWATI SUKLA</b>
<b>Sl. No</b>	<b>Subject-Energy Conversion-I</b>	<b>No. Of Days/Week class allotted:05</b>	<b>Semester From date: 16.01.2024 to date: 26.04.2024. No of weeks: 15</b>
	<b>Weeks/Months</b>	<b>Class Day</b>	<b>Topic</b>
1	1st Week	1st (16/01/2024)	Operating principle of generator
		2nd (18/01/2024)	Constructional features of DC machine, Yoke, Pole & field winding, Armature, Commutator
		3rd (18/01/2024)	Constructional features of DC machine, Yoke, Pole & field winding, Armature, Commutator
		4th (20/01/2024)	Constructional features of DC machine, Yoke, Pole & field winding, Armature, Commutator
2	2nd Week	1st (22/01/2024)	Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch Different types o
		2nd (25/01/2024)	Different types of D.C. machines (Shunt, Series and Compound)
		3rd (25/01/2024)	Derivation of EMF equation of DC generators.
		4th (27/01/2024)	Derivation of EMF equation of DC generators.
3	3rd Week	1st (29/01/2024)	Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems
		2nd (30/01/2024)	Armature reaction in D.C. machine
		3rd (01/02/2024)	Commutation and methods of improving commutation.
		4th (01/02/2024)	Role of inter poles and compensating winding in commutation
		5th (03/02/2024)	Characteristics of D.C. Generators Application of different types of D.C. Generators
4	4th Week	1st (05/02/2024)	Characteristics of D.C. Generators Application of different types of D.C. Generators
		2nd (06/02/2024)	Concept of critical resistance and critical speed of DC shunt generator
		3rd (08/02/2024)	important terms used for fuses and circuit breaker
		4th(08/02/2024)	Conditions of Build-up of emf of DC generator.
		5th(10/02/2024)	Conditions of Build-up of emf of DC generator.
5	5th Week	1st (12/02/2024)	Parallel operation of D.C. Generators Uses of D.C generators.
		2nd (13/02/2024)	Parallel operation of D.C. Generators Uses of D.C generators.
		3rd (15/02/2024)	Basic working principle of DC motor Significance of back emf in D.C. Motor
		4th (15/02/2024)	Voltage equation of D.C. Motor and condition for maximum power output(simple problems)
		5th(17/02/2024)	Voltage equation of D.C. Motor and condition for maximum power output(simple problems)
		1st (19/02/2024)	Derive torque equation (solve problems)

6	6th Week	2nd (20/02/2024)	Characteristics of shunt, series and compound motors and their application.
		3rd (22/02/2024)	Characteristics of shunt, series and compound motors and their application.
		4th (22/02/2024)	Starting method of shunt, series and compound motors.
		5th (24/02/2024)	Starting method of shunt, series and compound motors.
7	7th Week	1st (26/02/2024)	Speed control of D.C. series motors by Field Flux control method, Tapped field method and series-
		2nd (27/02/2024)	Speed control of D.C. series motors by Field Flux control method, Tapped field method and series- parallel method
		3rd (29/02/2024)	Determination of efficiency of D.C. Machine by Brake test method(solve numerical problems)
		4th (29/02/2024)	Speed control of D.C. series motors by Field Flux control method, Tapped field method and series- parallel method
		5th (02/03/2024)	Determination of efficiency of D.C. Machine by Brake test method(solve numerical problems)
8	8th Week	1st (04/03/2024)	Determination of efficiency of D.C. Machine by Swinburne's Test method(solve numerical problems)
		2nd (07/03/2024)	Losses, efficiency and power stages of D.C. motor(solve numerical problems)
		3rd (07/03/2024)	Losses, efficiency and power stages of D.C. motor(solve numerical problems) Uses of D.C. motors
		4th(09/03/2024)	solve numericals
9	9th Week	1st (11/03/2024)	Constructional feature of Transformer. Arrangement of core & winding in different types of transformer.
		2nd (12/03/2024)	Brief ideas about transformer accessories such as conservator, tank, breather, and explosion vent etc.
		3rd (14/03/2024)	Explain types of cooling methods
		4th (14/03/2024)	State the procedures for Care and maintenance.
		5th (16/03/2024)	EMF equation of transformer.
10	10th Week	1st (18/03/2024)	Ideal transformer voltage transformation ratio
		2nd (19/03/2024)	Operation of Transformer at no load, on load with phasor diagrams.
		3rd (21/03/2024)	Operation of Transformer at no load, on load with phasor diagrams.
		4th (21/03/2024)	Equivalent Resistance, Leakage Reactance and Impedance of transformer.
		5th (23/03/2024)	To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with
11	11th Week	1st (28/03/2024)	To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with using upf, leading pf and
		2nd (28/03/2024)	To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with using upf, leading pf and
		3rd(30/03/2024)	Regulation of transformer.
12	12th Week	1st (02/04/2024)	Different types of losses in a Transformer. Explain Open circuit and Short Circuit test.(Solve numerical problems)
		2nd (04/04/2024)	Different types of losses in a Transformer. Explain Open circuit and Short Circuit test.(Solve numerical problems)
		3rd (04/04/2024)	Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency (solve problems)
		4th (06/04/2024)	Explain All Day Efficiency (solve problems)

13	13th Week	1st (08/04/2024)	Determination of load corresponding to Maximum efficiency.
		2nd (09/04/2024)	Parallel operation of single phase transformer
		3rd (13/04/2024)	Constructional features of Auto transformer.
14	14th Week	1st (15/04/2024)	Comparison of Auto transformer with an two winding transformer (saving of Copper).
		2nd (16/04/2024)	Uses of Auto transformer.
		3rd (18/04/2024)	Explain Tap changer with transformer (on load and off load condition)
		4th (18/04/2024)	Explain Tap changer with transformer (on load and off load condition)
		5th(20/04/2024)	Explain Current Transformer
15	15th Week	1st (22/04/2024)	Explain Potential Transformer
		2nd (23/04/2024)	solve problems
		3rd (25/04/2024)	Revision
		4th (25/04/2024)	Revision