

LESSON PLAN (SUMMER- 2022)

Subject- Energy Conversion-I

Semester- 4th(EI)

Branch- Electrical Engineering

NAME OF FACULTY-ZAHID AKHTAR

Sl. No.	Date	Chapter	Topic Name	No. of periods
1	10-03-2022	D.C GENERATOR	1.1. Operating principle of generator	1
2	11-03-2022		1.2. Constructional features of DC machine.1.2.1. Yoke, Pole & field winding, Armature, Commutator	1
3	12-03-2022		1.2.2. Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch	1
4	14-03-2022		1.2.3. Simple Lap and wave winding, Dummy coils	1
5	15-03-2022		cont....	1
6	17-03-2022		1.3. Different types of D.C. machines (Shunt, Series and Compound)	1
7	21-03-2022		1.4. Derivation of EMF equation of DC generators. (Solve problems)	1
8	22-03-2022		Solve Numericals	1
9	24-03-2022		1.5. Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems.	1
10	25-03-2022		Solve Numericals	1
11	26-03-2022		1.6. Armature reaction in D.C. machine	1
12	28-03-2022		1.7. Commutation and methods of improving commutation.	1
13	29-03-2022		cont....	1
14	31-03-2022		1.7.1. Role of inter poles and compensating winding in commutation	1
15	02-04-2022		1.8. Characteristics of D.C. Generators	1
16	04-04-2022		1.9. Application of different types of D.C. Generators.	1
17	05-04-2022		1.10. Concept of critical resistance and critical speed of DC shunt generator	1
18	07-04-2022		1.11. Conditions of Build-up of emf of DC generator.	1
19	08-04-2022		1.12. Parallel operation of D.C. Generators 1.13. Uses of D.C generators.	1
20	09-04-2022		2.1. Basic working principle of DC motor	1
21	11-04-2022		2.2. Significance of back emf in D.C. Motor.	1
22	12-04-2022		2.3. Voltage equation of D.C. Motor and condition for maximum power output(simple problems)	1
23	16-04-2022		Solve Numericals	1
24	18-04-2022		2.4. Derive torque equation (solve problems)	1

25	19-04-2022	D. C. MOTORS	2.5. Characteristics of shunt, series and compound motors and their application.	1
26	21-04-2022		cont....	1
27	22-04-2022		2.6. Starting method of shunt, series and compound motors.	1
28	23-04-2022		cont....	1
29	25-04-2022		2.7. Speed control of D.C shunt motors by Flux control method. Armature voltage Control method. Solve problems	1
30	26-04-2022		2.8. Speed control of D.C. series motors by Field Flux control method, Tapped field method and series-parallel method	1
31	28-04-2022		2.9. Determination of efficiency of D.C. Machine by Brake test method(solve numerical problems)	1
32	29-04-2022		2.10. Determination of efficiency of D.C. Machine by Swinburne's Test method(solve numerical problems)	1
33	30-04-2022		2.11. Losses, efficiency and power stages of D.C. motor(solve numerical problems)	1
34	02-05-2022		Solve Numericals	1
35	05-05-2022		2.12. Uses of D.C. motors	1
36	06-05-2022	SINGLE PHASE TRANSFORMER	3.1 Working principle of transformer. 3.2 Constructional feature of Transformer.3.2.1 Arrangement of core & winding in different types of transformer.	1
37	07-05-2022		3.2.2 Brief ideas about transformer accessories such as conservator, tank, breather, and explosion vent etc.	1
38	09-05-2022		3.2.3 Explain types of cooling methods3.3 State the procedures for Care and maintenance.	1
39	10-05-2022		3.4 EMF equation of transformer.	1
40	12-05-2022		3.5 Ideal transformer voltage transformation ratio3.6 Operation of Transformer at no load, on load with phasor diagrams.	1
41	13-05-2022		3.7 Equivalent Resistance, Leakage Reactance and Impedance of transformer.	1
42	14-05-2022		3.8 To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with using upf, leading pf and lagging pf load.	1
43	17-05-2022		3.9 To explain Equivalent circuit and solve numerical problems.	1

44	19-05-2022		3.10 Approximate & exact voltage drop calculation of a Transformer.3.11 Regulation of transformer	1
45	20-05-2022		3.12 Different types of losses in a Transformer. Explain Open circuit and Short Circuit test.(Solve numerical problems)	1
46	21-05-2022		3.13 Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency (solve problems)	1
47	23-05-2022		Solve Numericals	1
48	24-05-2022		3.14 Explain All Day Efficiency (solve problems)	1
49	26-05-2022		Solve Numericals	1
50	27-05-2022		3.15 Determination of load corresponding to Maximum efficiency.	1
51	28-05-2022		3.16 Parallel operation of single phase transformer.	1
52	31-05-2022		Solve Numericals	1
53	02-06-2022	AUTO TRANSFORMER	4.1. Constructional features of Auto transformer.4.2. Working principle of single phase Auto Transformer.	1
54	03-06-2022		4.3. Comparison of Auto transformer with an two winding transformer (saving of Copper).4.4. Uses of Auto transformer	1
55	04-06-2022		4.5. Explain Tap changer with transformer (on load and off load condition)	1
56	06-06-2022	INSTRUMENT TRANSFORMERS	5.1 Explain Current Transformer and Potential Transformer	1
57	07-06-2022		5.2 Define Ratio error, Phase angle error, Burden.5.3 Uses of C.T. and P.T.	1
58	09-06-2022		revision	1
59	10-06-2022		revision	1

For
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 09/03/22
 HOD (ELECTRICAL)