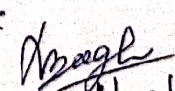


LESSON PLAN (WINTER- 2021)				
Subject- Energy Conversion-II		Semester- 5th	Branch- Electrical Engineering	
NAME OF FACULTY-ZAHID AKHTAR				
Sl. No.	Date	Chapter	Topic Name	No. of periods
1	05-10-2021	ALTERNATOR	1.1. Types of alternator and their constructional features	1
2	07-10-2021		1.2. Basic working principle of alternator and the relation between speed and frequency.	1
3	08-10-2021		1.3. Terminology in armature winding and expressions for winding factors (Pitch factor, Distribution factor).	1
4	21-10-2021		cont.....	1
5	22-10-2021		1.4. Explain harmonics, its causes and impact on winding factor	1
6	23-10-2021		1.5. E.M.F equation of alternator. (Solve numerical problems).	1
7	24-10-2021		Solve Numerical	1
8	26-10-2021		1.6. Explain Armature reaction and its effect on emf at different power factor of load.	1
9	28-10-2021		1.7. The vector diagram of loaded alternator. (Solve numerical problems)	1
10	29-10-2021		Solve Numerical	1
11	30-10-2021		1.8. Testing of alternator (Solve numerical problems)1.8.1. Open circuit test.1.8.2. Short circuit test.	1
12	02-11-2021		1.9. Determination of voltage regulation of Alternator by direct loading and synchronous impedance method. (Solve numerical problems)	1
13	05-11-2021		Solve Numerical	1
14	06-11-2021		1.10. Parallel operation of alternator using synchro-scope and dark & bright lamp method.	1
15	09-11-2021		1.11. Explain distribution of load by parallel connected alternators.	1
16	11-11-2021		cont.....	1
17	12-11-2021		2.1. Constructional feature of Synchronous Motor2.2. Principles of operation, concept of load angle	1
18	13-11-2021		2.3. Derive torque, power developed.2.4. Effect of varying load with constant excitation	1

19	16-11-2021	SYNCHRONOUS MOTOR	2.5. Effect of varying excitation with constant load.2.6. Power angle characteristics of cylindrical rotor motor.	1
20	18-11-2021		2.7. Explain effect of excitation on Armature current and power factor	1
21	20-11-2021		2.8. Hunting in Synchronous Motor.	1
22	23-11-2021		2.9. Function of Damper Bars in synchronous motor and generator.	1
23	25-11-2021		2.10. Describe method of starting of Synchronous motor.2.11. State application of synchronous motor	1
24	26-11-2021	THREE PHASE INDUCTION MOTOR	3.1. Production of rotating magnetic field.	1
25	27-11-2021		3.2. Constructional feature of Squirrel cage and Slip ring induction motors.	1
26	30-11-2021		3.3. Working principles of operation of 3-phase Induction motor.	1
27	02-12-2021		3.4. Define slip speed, slip and establish the relation of slip with rotor quantities.	1
28	03-12-2021		3.5. Derive expression for torque during starting and running conditions and derive conditions for maximum torque. (solve numerical problems)	1
29	04-12-2021		cont.....	1
30	07-12-2021		3.6. Torque-slip characteristics.	1
31	09-12-2021		3.7. Derive relation between full load torque and starting torque etc. (solve numerical problems)	1
32	10-12-2021		cont.....	1
33	11-12-2021		3.8. Establish the relations between Rotor Copper loss, Rotor output and Gross Torque and relationship of slip with rotor copper loss. (solve numerical problems)	1
34	14-12-2021		3.9. Methods of starting and different types of starters used for three phase Induction motor.	1
35	16-12-2021		3.10. Explain speed control by Voltage Control, Rotor resistance control, Pole changing, frequency control methods	1

36	17-12-2021		3.11. Plugging as applicable to three phase induction motor 3.12. Describe different types of motor enclosures.	1
37	18-12-2021		3.13. Explain principle of Induction Generator and state its applications.	1
38	21-12-2021	SINGLE PHASE INDUCTION MOTOR:	4.1. Explain Ferrari's principle 4.2. Explain double revolving field theory and Cross-field theory to analyze starting torque of 1-phase induction motor	1
39	23-12-2021		4.3. Explain Working principle, Torque speed characteristics, performance characteristics and application of following single phase motors. 4.3.1. Split phase motor 4.3.2. Capacitor Start motor	1
40	24-12-2021		4.3.3. Capacitor start, capacitor run motor 4.3.4. Permanent capacitor type motor 4.3.5. Shaded pole motor 4.4. Explain the method to change the direction of rotation of above motors.	1
41	28-12-2021	COMMUTATOR MOTORS	5.1. Construction, working principle, running characteristic and application of single phase series motor 5.2. Construction, working principle and application of Universal motors	1
42	30-12-2021		5.3. Working principle of Repulsion start Motor, Repulsion start Induction run motor, Repulsion Induction motor.	1
43	31-12-2021	SPECIAL ELECTRICAL MACHINE	6.1. Principle of Stepper motor 6.2. Classification of Stepper motor 6.3. Principle of variable reluctant stepper motor	1
44	01-01-2022		6.4. Principle of Permanent magnet stepper motor 6.5. Principle of hybrid stepper motor 6.6. Applications of Stepper motor	1
45	04-01-2022		7.1. Explain Grouping of winding, Advantages	1
46	06-01-2022	THREE PHASE TRANSFORMERS	7.2. Explain parallel operation of the three phase transformers.	1
47	07-01-2022		7.3. Explain tap changer (On/Off load tap changing)	1
48	08-01-2022		4. Maintenance Schedule of Power Transformer	1

for

02/10/2021
H.O.D (ELECTRICAL)