

Name of the laboratory: ELECTRICAL MACHINES LAB –I I

Objectives of the lab:

- To understand the operation of synchronous machines
- To understand the analysis of power angle curve of a synchronous machine
- To understand the equivalent circuit of a single phase transformer and single phase induction motor
- To understand the circle diagram of an induction motor by conducting a blocked rotor test.

List of experiments:

1. O.C. & S.C. Tests on Single phase Transformer
2. Sumpner's test on a pair of single phase transformers
3. No-load & Blocked rotor tests on three phase Induction motor
4. Regulation of a three –phase alternator by synchronous impedance & m.m.f. methods
5. V and Inverted V curves of a three—phase synchronous motor.
6. Equivalent Circuit of a single phase induction motor
7. Determination of X_d and X_q of a salient pole synchronous machine
8. Load test on three phase Induction Motor
9. Separation of core losses of a single phase transformer
10. Efficiency of a three-phase alternator
11. Parallel operation of Single phase Transformers
12. Regulation of three-phase alternator by Z.P.F. and A.S.A methods
13. Heat run test on a bank of 3 Nos. of single phase Delta connected transformers
14. Measurement of sequence impedance of a three-phase alternator.
15. Vector grouping of Three Transformer
16. Scott Connection of transformer

LIST OF EQUIPMENT

S.NO	DESCRIPTION
1	WATTMETER L.P.F
2	RECTIFIER
3	RHEOSTARTS(DOUBLE) 500 Ω /2A
4	RHEOSTARTS(SINGLE) 370 Ω /1.7 A
5	AUTO TRANSFORMER
6	AUTO TRANSFORMER 3 - PHASE
	AUTO TRANSFORMER 1-PHASE 15 A
	AUTO TRANSFORMER 1-PHASE
7	TACHOMETER
	D.C SHUNT GENERATOR
	BRAKE TEST ON D.C SHUNT MOTOR
8	ACCESSORIES
	ACCESSORIES
	O.C& S.C TEST
9	BRAKE TEST ON 3PHASE INDUCTION MOTOR
12	REGULATION OF 3MPHASE ALTERNATOR
13	ACCESSORIES
14	ACCESSORIES
15	PANEL BOX WITH POWDER COATED
16	MOVING IRON VOLTMETER
17	MOVING IRON VOLTMETER 0-300/600 V
18	MOVING IRON AMMETERS 5/10A
19	MOVING COIL VOLTMETERS 25/50 V
20	MOVING COIL VOLTMETERS 150/300V
21	MOVING COIL AMMETERS 1/2 A
22	MOVING COIL AMMETERS 10/20A
23	MOVING COIL AMMETERS 15/30 A
24	LOAD TEST ON D.C SHUNT GENERATOR
25	ACCESSORIES

26	LOAD TEST ON D.C SHUNT MOTOR
27	D.C 3 POINT STARTER
28	LOAD TEST ON D.C COMPOUND GENERATOR
29	D.C 3 POINT STARTER
30	HOPKINS TEST
31	D.C 3 POINT STARTER
32	D.C SERIES MACHINE FIELD TEST
33	D.C 3 POINT STARTER
34	BRAKE TEST ON D.C COMPOUND MOTOR
35	D.C 3 POINT STARTER
36	SEPERATION OF LOSSES
37	D.C 3 POINT STARTER
38	RESSITIVE LAOD1-PHASE
39	TACHOMETERS DIGITAL
40	PANEL BOPARD TERMINALS 25AMPS
41	D.P.S.T SWITCH
42	S.P.S.T SWITCH
43	RHEOSTARTS 500 Ω /2 A
44	RHEOSTARTS 500 Ω /1 A
45	RHEOSTARTS 50 Ω /5 A
46	RHEOSTARTS 370 Ω /1.7 A
47	BACKLITE
48	M.C VOLTMETERS PORTABLE 0-150/300V
49	M.C AMMETERS PORTABLE 10/20A
50	M.C AMMETERS PORTABLE 1/2A
51	SUMPNERS TEST SETUP
52	SCOOT CONNECTION TEST SETUP
53	NO LOPAD BLOKED ROTOR TEST
54	1-PASE INDUCTION MACHINE
55	V ^ CURVES ON 3-PHASE SYNCHRONOUS MACHINE
56	EQUIVALENT CIRCUIT OF 1-PHASE INDUCTION MAOTOR
57	XD AND XQ OF SALINET POLE MACHINE
58	ACCESSORIES
59	PARREL OPERATION OF 1-PAHSE TRANSFORMERS
61	R-L 3-PHASE LOAD 10A
62	3-PHASE INDUCTIVE LOAD
63	3-PHASE CAPACTIVE LOAD
64	MULTIMETERS
65	RHEOSTARTS 25 Ω /10A

66	RHEOSTARTS 100Ω /2.5A
67	BOOSTER TRANSFORMER 230V/0-50V @15A

