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**Department of Electrical Engineering**  
**Electrical Machine Lab**

**List of Equipments**

Sr.No.	Description	Specification	Qty.
1	Control Panel to perform Load test on DC shunt motor	—	1
2	Control Panel to perform Field's test	—	1
3	Control Panel to perform Speed control & Swinburn test on DC Shunt motor	—	1
4	Control Panel to perform Retardation test on DC Shunt motor	—	1
5	Control Panel for study of DC motor starters	—	1
6	Control Panel for OC-SC test on Single Phase Transformer.	—	1
7	Control Panel for Sumpner's test & Parallel operation of Single Phase Transformer.	—	1
8	60A-DC Thyristor Power supply.	—	1
9	16Ohm/6A Field Diverter ( Rheostat type )	—	2
10	Single Phase /10A Resistive load in 10 steps	1 Phase/10A	1
11	Resistive load in 10 Steps	1 Phase/20A	1
12	1 Phase Transformer -	1KVA/230-115V	1
13	1 Phase Transformer -	2KVA/230-230V	2
14	1 Phase Transformer -	500VA Auxillary	1
15	1 Phase Auto Transformer -	10 Ampere	2
16	UPF Single Phase Portable Wattmeter	300-600/10-20A	2
17	Digital Contact type Tachometer	—	2
18	Digital NonContact type Tachometer	—	1
19	DC Shunt motor with BDA	5HP/220V/1500 RPM	1
20	Series DC Identical Machine Set	2KW/220V/1500 RPM	1 set
21	DC Shunt motor	2 HP/220V/1500 RPM	1
22	DC Shunt Motor with flywheel	3 HP/220V/1500 RPM	1
23	DC Integrated Motor	0.5 HP/180V/1500 RPM	1
24	DC Shunt Motor working cut section	0.5HP/180V/1500 RPM	1
25	Digital Megger	1000V,2000M Ohm	1
26	Screw driver	Flat bit	1
27	Screw driver	Star bit	1
28	Screw driver set	—	1
29	Combination plier	—	1
30	Nose plier	—	1
31	Tester	—	2

32	Control Panel to perform Load test on DC shunt motor	—	2
33	Control Panel to perform Field's test	—	2
34	Control Panel to perform Speed control & Swinburn test on DC Shunt motor	—	2
35	Control Panel to perform Retardation test on DC Shunt motor	—	2
36	Control Panel for study of DC motor starters	—	2
37	Control Panel for OC-SC test on Single Phase Transformer.	—	2
38	Control Panel for Sumpner's test & Parallel operation of Single Phase Transformer.	—	2
39	60A-DC Thyristor Power supply.	—	2
40	Control Panel for Slipring Induction Motor	—	1
41	Squirrel cage Induction Motor	1HP/230V/1440RPM/1Phase	1
42	Control Panel for 1phase squirrel cage Induction Motor	—	1
43	3Phase Transformer	1KVA/415V	1
44	Control Panel for 1KVA 3Phase Transformer	—	1
45	Wattmeter	1Phase/0.5-1A/150-300-600V LPF	2
46	Wattmeter	1Phase/2.5-5A/75-150-300V UPF	2
47	Phase sequence Indicator	—	1
48	Panel for Motor - Alternator set	—	3
49	Panel for Synchronous motor	—	1
50	Variable Inductive load	3 phase / 4.2 A	1
51	Capacitive load	3 phase / 5 A	1
52	Resistive load	3 phase / 10 A	1
53	Resistive load	3 phase / 5 A	1
54	Synchronizing panel	—	1
55	Variac	3phase / 6 A	1
56	UPF wattmeter	2.5/5 A - 150/300/600 V	2
57	DC shunt motor - Alternator set	Motor - 5 HP/220V/1500 RPM Alternator - 3KVA / 3PH/415 V	3 set
58	Auto synchronous motor	5HP/3PH/415V /1500RPM	1
59	Cut section working synchronous motor	0.5 HP/3PH/415V/1500RPM	1
60	Transformer	1 phase/2KVA/440-220V with tapping	3
61	Control Panel for Transformer	—	1
62	Resistive Load Bank	415V/5A/6 steps	1
63	Ammeter	2.5 -5A DC	1
64	Ammeter	10-20 A DC	1
65	Ammeter	2.5-5A AC	1
66	Ammeter	10-20 A AC	1
67	Voltmeter	150-300 V DC	1
68	Voltmeter	300-600 V AC	1
69	Power Factor Meter Portable	1 Phase 150/300/600V/5A/10A	1
70	Wattmeter	3Phase/125/250/500V,5/10A	2
71	Tong Tester	MECCO	1
72	Megger	—	1
73	Tachometer	Non Contact Type	2
74	Frequency Meter	—	1
75	Multimeters	6036 Model	5
76	Anemometer	Digital	1

## List of Experiments

### Electrical Machine – I

Sr.No	Title of Experiments
1	Study of DC machine Starter
2	Speed control of DC shunt Motor
3	Swinburne's test on DC shunt Motor
4	Retardation test on DC shunt Motor
5	Load test on DC shunt Motor
6	Field test on DC series identical machines

### Electrical Machine – II

Sr.No	Title of Experiments
1	Open circuit test on 1 Transformer
2	Sumpener's test on 1 Transformer
3	Parallel operation on 1 Transformer
4	Open circuit test on 3 Transformer
5	Parallel operation on 3 Transformer
6	Scott connection of Transformer
7	Open Delta connection of Transformer

### Electrical Machine – III

Sr.No	Title of Experiments
1	Load Test on 3 Slip ring Induction Motor
2	Load Test on 3 Sq.cage Induction Motor
3	Load Test on 1 Sq.cage Induction Motor
4	No Load & Blocked rotor test on 1 Sq.cage Induction Motor
5	No Load & Blocked rotor test on 3 Sq.cage Induction Motor
6	No Load & Blocked rotor test on 3 Slip –ring Induction Motor

## Electrical Machine – IV

Sr.No	Title of Experiments
1	Regulation of Alternator by Direct loading.
2	Regulation of Alternator by ZPF & ASA method.
3	Regulation of Alternator by EMF & MMF method ( OC & SC Test ).
4	Excitation required to keep terminal voltage of an Alternator constant.
5	Parallel operation of 3 Phase Alternator with other Alternator or Mains.
6	$X_d - X_q$ ( Slip ) Test on Salient pole Synchronous machine .
7	V & Inverse V curve for 3 Phase Synchronous Motor.
8	Load test on Synchronous Motor.
9	Construction of Alternator

