Electrical Machines-II Lab

Objective:

To control the speed of three phase induction motors.

To determine /predetermine the performance three phase and single phase induction motor.

To improve the power factor of single phase induction motor.

To predetermine the regulation of three–phase alternator by various methods, find Xd/ Xq ratio of alternator and asses the performance of three–phase synchronous motor.

Sections Handled: III/I

Major Equipment Details:

Sl.No	Equipment Name	Qty
1	Transformers 2KVA	6
2	3-phase Induction Motors(squirrel-cage)	2
3	3-phase Induction Motors(slip-ring)	1
4	1-phase Induction Motors	1
5	Synchronous motors	1
6	Alternators	4
7	Universal motor	1
8	Different ranges of Rheostats	6
9	Different ranges of three phase resistive loads	1
10	Different ranges of three phase inductive loads	1
11	Different ranges of three phase capacitive loads	1
12	Different ranges of Voltmeters (M1)	44
13	Different ranges of Ammeters(M1)	39
14	Different ranges of wattmeter's (LPF,UPF)	36
15	Single phase auto transformers	12
16	Three phase auto transformers	2
17	Tacho meters	06

Faculty In charge with qualification: **B. Santosh Kumar M.Tech (Ph.D)**

Lab Technical name with qualification: **S. Santhosh Kumar, Diplamo**

Experiment list as per curriculum:

1. O.C. & S.C. tests on Single Phase Transformer
2. Sumpner's test on Single Phase Transformers
3. Scott connection of Transformers
4. Parallel operation of Single Phase Transformers
5. Equivalent Circuit of a Single Phase Induction Motor
6. Brake Test on Three Phase Induction Motor
7. No–Load & Blocked Rotor Tests on Three Phase Induction Motor
8. Regulation of a Three –Phase Alternator By Synchronous Impedance, M.M.F & Z.P.F. Methods.
9. Determination of Xd And Xq of A Salient Pole Synchronous Machine
10. V And Inverted V Curves of a Three-Phase Synchronous Motor.

Experiment list beyond the curriculum
1. Synchronization of an Alternator With Infinite Bus Bar 2. Load Test on Universal Motor