



ELECTRICAL MACHINES LABORATORY- I

LIST OF EXPERIMENTS

1. To determine the efficiency of single-phase Transformer by conducting Sumpner's back- to- back test.
2. To conduct load test on DC shunt generator and to draw the external and internal characteristics of DC shunt generator.
3. To conduct Hopkinson's test on a pair of identical DC machines to pre-determine the efficiency of the machine as generator and as motor.
4. To perform the scott connection of transformer and to obtain the two-phase supply from three phase supply.
5. To determine the efficiency of the two given dc series motors which are mechanically coupled.
6. To study of the speed control of a dc shunt motor using conventional Ward- Leonard method.
7. To draw the magnetization characteristics of dc shunt generator.
8. To conduct brake test on DC compound motor for long shunt cumulative & differential connections and to draw the performance characteristics.
9. To perform parallel operation of two dissimilar Transformer and determine combined and individual transfer efficiency.

10. To perform the Swinburne's test of the DC machine and pre-determine the efficiency of the machine as generator and as motor.

ELECTRICAL MACHINES LABORATORY- II

LIST OF EXPERIMENTS

1. To determine speed- torque characteristics of single-phase Induction motor and study the effect of voltage variation.
2. To draw the circle diagram of 3-phase induction motor by conducting no load and blocked rotor test.
3. To study speed control of three phase Induction motor by varying supply voltage and keeping v/f constant.
4. To determine V-curve and inverted V-curve of a three-phase synchronous motor.
5. To predetermine the regulation of 3-phase alternator by EMF and MMF methods and also draw the vector diagram.
6. To determine the efficiency of 3-phase induction motor by performing load test.
7. To study synchronization of an alternator with infinite bus using
 - (A) Dark lamp method
 - (B) Two bright and one dark lamp method
8. To determine the percentage regulation of an alternator by ZPF method.
9. To study the power angle curve of synchronous generator.
10. To determine x_d and x_q of a salient pole synchronous motor using the slip test.

List of Major Equipment's

1. 3-Phase Rectifier
2. DC Shunt Motor
3. Squirrel Cage IM
4. Dc Power Supply SCR Based
5. DC compound Gen Set
6. Slip Ring Motor
7. Synchronous Motor 4 pole coupled with DC Shunt Generator
8. Synchronous Motor, with Induction motor Coupled Dc Shunt gen. 220V,3 kW, 1500rpm

9. Synchronous Motor, 1HP, Coupled Dc Shunt gen. 220V,
3kW, 1550 rpm
10. Servo Stabilizer 3-ph
11. Multi Winding Transformer