

## ELECTRICAL MACHINES – II LABORATORY

### **Learning Objectives:**

- To Plot the Performance characteristics of Three Phase and Single Phase Induction Motors and also “ V “ and Inverted “ V “ curves of a Poly Phase Synchronous Motor.
- To determine circuit model parameters of Three Phase Induction Motors , Single Phase Induction Motors and also Three Phase Salient Pole Alternator.
- To control the speed of the Poly Phase Induction Motor.
- To determine Percentage Per Unit Voltage Regulation of a Three Phase Alternator.

### **Conduct any Ten Experiments from the following:**

1. Brake Test on Three Phase Induction Motor.
2. No-Load and Blocked Rotor Tests on a Three Phase Induction Motor.
3. Speed control of Three-Phase Synchronous Motor by V/F Method.
4. Determination of Efficiency of A Three Phase Alternator by loading with Three Phase Induction Motor.
5. Open Circuit and Short Circuit Tests on Three Phase Alternator to predetermine Percentage Real Power Efficiency.
6. Regulation of Three Phase Alternator by Synchronous Impedance Method and Ampere Turns Methods.
7. Regulation of Three Phase Alternator by Zero Power Factor Method.
8. Determination of  $X_d$  and  $X_q$  of a Salient Pole Synchronous Motor.
9. V and inverted Curves of a Three-Phase Synchronous Motor.
10. Power factor improvement of Single Phase Induction Motor by using Capacitors.
11. Brake Test on Single Phase Induction Motor.
12. No-Load and Blocked Rotor Tests on a Single Phase Induction Motor.

### **Learning Outcomes:**

- Able to assess the performance of single phase induction motor and three phase induction motor
- Able the control the speed of three phase induction motor
- Able the predetermination the regulation three phase induction motor