Department of Electrical and Electronics Engineering

Cycle of Experiments – AY 2024-25

Course Code- BEEL404

Course Title- Electric Motors Lab

Lab In-charge: Raghavendra L

Topics Covered as per Syllabus

Cycle-1:

1. Load test on dc shunt motor to draw speed – torque and horse power – efficiency characteristics.
2. Speed control of dc shunt motor by armature and field control.
3. Swinburne's Test on dc motor.
4. Load test on three phase induction motor.
5. Load test on single phase induction motor to draw output versus torque, current, power and efficiency characteristics.
6. Conduct suitable tests to draw the equivalent circuit of single-phase induction motor and determine performance parameters.

Cycle-2

7. Regenerative test on DC shunt machines.
8. No load and Blocked rotor test on three phase induction motor to draw (i) equivalent circuit and (ii) Circle diagram. Determination of performance parameters at different load conditions
9. Load test on induction generator.
10. Conduct an experiment to draw V and Λ curves of synchronous motor at no load and load conditions.
11. Analyze current and load torque of DC Shunt Motor using Simscape.
12. Model 3-phase induction motor using MATLAB and Simulink.

List of Text Books

1. Electrical Machinery by P S Bhimra.
2. Electrical Machines by I J Nagrath and Kothari.

Reference Books

1. AC and DC machines by B L Thereja

List of URLs, Text Books, Notes, Multimedia Content, etc

1. http://electrical-engineering-portal.com
2. http://nptel.iitm.ac.in/courses.php
3. Experiments in Electrical Engineering by G.P.Chhalotra, Khanna Publishers Delhi