

## **33074- CONTROL OF ELECTRICAL MACHINES PRACTICAL**

### DETAILED SYLLABUS

#### **OBJECTIVES**

On completion of this practical subject the students will be able to

- Make use of various types of control circuit elements like industrial switches, relays, timers, solenoids, contactors and interlocking arrangement.
- Construct various types of automatic starters for electrical motors.
- Construct control circuits for braking, jogging, reversing operations.
- To make use of PLCs for control applications.
- To program PLCs for controlling the motor.

#### **LIST OF EXPERIMENTS**

1. a) Perform breakdown test and determine the dielectric strength of transformer oil.  
b) Conduct acidity test on transformer oil.
2. Test the timing characteristics of thermal over load relay.
3. Wire and test the control circuit for jogging in cage induction motor.
4. Wire and test the control circuit for semi-automatic star –delta starter.
5. Wire and test the control circuit for automatic star –delta starter.
6. Wire and test the control circuit for dynamic braking of cage motor.
7. Wire and test the control circuit for two speed pole changing motor.
8. Wire and test the control circuit for forward and reverse operation.
9. Wire and test the control circuit for automatic rotor resistance starter.
10. Test the working of single phase preventer.
11. Wire and test the DOL starter with single phase preventer using PLC.
12. Wire and test the Star –Delta starter using PLC.
13. Wire and test the control circuit for automatic rotor resistance starter using PLC.
14. Develop & execute the ladder logic diagram in PLC for 3 stage lift operation.
15. Wire and test the sequential operation of solenoid valve and a motor for tank filling operation using PLC.
16. Develop and execute the ladder logic to interface PLC with conveyor model for counting the object moving in the conveyer.