

## Tools and Equipments:

1. Electric Heater
2. Electric Iron
3. Electric Kettle
4. Ceiling Fan
5. Table Fan
6. Washing Machine
7. Automatic Iron
8. Cooking Range
9. Storage Heater
10. Wet Grinder
11. Cooler
12. Connector, 6"
13. Screw Driver 8", 10", 12"
14. Cutting Pliers 6", 8"
15. Neon Tester
16. Heavy Duty Screw Driver 10", 12"
17. Nose Pliers 6"
18. Soldering iron
19. Multimeter
20. Speedometer
21. Hacksaw 30cm
22. BP Hammer 1/2kg, 1/4kg
23. Bench Wise
24. Combination Pliers 6", 8"
25. Electric Drill Machine
26. Standard Wire Gauge
27. Line Tester

## Repair and Maintenance of Electrical gadgets

**Name :** Repair and Maintenance of Electrical gadgets  
**Duration :** 24 Weeks

**Terminal competency :** The participant will be able to

1. Observe the safety precautions while working
2. Test line cord for continuity with test lamp/multimeter
3. Prepare a heating element for a heater as required specification.
4. Replace the old element for heater, kettle, non-automatic electronic iron, room heaters etc., with a new one
5. Dismantle and reassemble an electric iron, heater, kettle, room heater, toaster, hair dryer, mixer etc.
6. Install a ceiling fan and the regulator.
7. Check a fluorescent lamp chock, starter and install it.
8. Understand the necessity of good earthing in an electrical installation.
9. Do the domestic installation testing before energizing a domestic installation.

## Practical

1. Safety practices – lifting and handling.
2. Safety practices – Fire fighting
3. Nature of working of tools and equipments.
4. Electrical safety practice o Rescue a person who is in contact with live wire.
5. Treat a person for electric shock/injury.
6. Prepare Terminations o Skinning Different types of cable ends o Make various joints in cable o Crimping cable ends. o Soldering the cable lugs
7. Simple electrical connections using resistance, voltmeter, and ammeter, multimeter
8. Connecting number of lamps in series connection.
9. Connecting number of lamps in parallel connection.
10. Testing the polarity of DC supply. Identification of phase and neutral in single phase supply
11. Carry out of pipe earthing Carry out of plate earthing
12. Repairing of house wiring faults.
13. General repair of heating iron, kettle, ceiling fan, table fan, washing machine etc.,
14. Test the fan capacitors. Clean and lubricate the bearing of ceiling and table fan, and check the speed. Regulator of both fan.
15. Measure the insulation resistance between the terminals and body of the appliance. Check the oscillator mechanisms of table fan
16. Select the fuse size according to the load of circuit
17. Dismantle and reassemble automatic iron, ceiling fan table fan cooking range, storage heater, washing machines, and wet grinders etc.
18. Determine the number of lamps to be connected in series for particular supply voltage for making decorative serial lamp.
19. Check the internal connections of cooking range selector switch and circuits. connections in different temperature arrangements
20. Check the simple mechanical timer, small water pump of washing machines and regular service and faults.
21. List the conducting and insulating materials used in motor winding
22. Testing the motor before declaring for rewinding
23. Prepare the winding former and the coils
24. Method of stripping the old winding and preparing the winding former and the coils
25. Method of inserting coil in the slots.
26. Making end connections
27. Testing the motor after rewinding
28. Impregnation methods of winding

## Theory

1.	Safety practice – o Lifting and handling loads. o Heavy Equipments
2.	Safety practice – o Fire extinguishers o Types of fire extinguishers
3.	General safety of tools and equipments
4.	Electrical safety o Rescue a person who is in contact with live wire.
5.	o Treat a person for electric shock/injury.
6.	Introduction to Electricity Conductors and types of conductors Insulators and types of insulators Crimping & crimping tool Soldering
7.	Define simple electrical terms like voltage, current, resistance and their units.
8.	Simple series and parallel circuits
9.	Direct current and testing the polarity Alternating current and identifying phase, neutral and earth terminals
10.	Purpose of Earthing Types of Earthing. o Pipe Earthing o Plate Earthing
11.	Simple house wiring circuit.
12.	Install, service and repair all kinds of electrical home appliances
13.	Repair and rectification of an automatic electric iron, servicing and repairing of mixer, ceiling and table fan.
14.	Assemble and install a fluorescent6 lamp.
15.	Thermostat heat controls of Automatic electric iron, steam iron, spray irons. Understand home appliances like heater, iron, kettle ceiling fan, table fan, washing machine etc.
16.	Maintenance of decorative serial lamp for a required supply voltage
17.	Assemble, connect and install a twin fluorescent lamp with accessories
18.	Repair and service technique of cooking range, storage water heater, washing machines, wet grinders. Replace the heating element in a soldering.
19.	Introduction to re-winding Insulating material used
20.	Terminology used in single phase winding like pole pitch coil pitch etc.,
21.	Method of stripping the old winding and preparing the winding former and the coils.
22.	Preparation of winding data for given Motor.
23.	Procedure followed for re-winding of domestic electric motors like single phase A./C. motors, pump motors, ceiling fan motors, table fan motors, washing machine motors etc.
24.	Various methods used of inserting coil into the slots. Preparation of winding table , connection diagram, winding diagram for given Motor.
25.	Test to be done after re-winding-impregnation methods of winding