

Skill Enhancement Course (SEC) B.Sc. Part-I NEP-2020

Level 4.5 (Semester- II)

Paper- I: Maintenance and Repairing of Household Electrical Appliances

Code: PHY-SEC- I.

Theory: 30 Lectures

Marks: 50 (Credits: 2)

Learning Objectives:

Students will be able to

- create awareness among students in understanding the working principle, maintenance & repairing of electric home appliances.
- ability to do maintenance of general electric home appliances.
- encourage student for self employment.
- ensure steady flow of skilled worker in different trades for the industries.

Unit - I Basic Electronic Components (5)

Symbol, specifications, types and applications: resistor, capacitor, inductor, diode, transistor, Fuse, switches, power supply.

Unit - II Circuit Connections and measurements (5)

Introduction, Types of electrical connections, wires and cables, Earthing, Practical diagram of house wiring, meters (use of Ammeter, Voltmeter, multimeter).

Unit - III Home Appliances (5)

Testing and repairing: switch board, Fuse, Fan, Mixer, iron, Table Lamp, Induction Coil, Inverter & UPS, Electric Bell, Torch.

Practicals:

1. Identification of electrical component
2. Use of Multimeter (Testing of Electronic Components).
3. Fuse checking and Fault finding in electric circuits.
4. Earthing preparation.
5. Build and test switch board.

6. Testing/Fault finding in Fans, Mixer, iron, Table Lamps, Induction Coil.
7. Testing/Fault finding in UPS

Learning Outcomes: after completion of the course, Student should be able to:

- understand the working principle, maintenance and repairing of electric home appliances.
- able to do maintenance of general electric home appliances.
- ensure student for Self employment.
- enhance student's skill to do self job.

Reference Books:

1. *Basic Electronics(Solid State)*- B. L. Theraja, S. Chand Publication (Edition 2007)
2. *Electrician*- K. Mehta, G. V. Ramana Murthy, Asian Publisher (Edition 2021)
3. *Electrical Measurements and Measuring Instruments*- R. K. Rajput, S. Chand Publication, ISBN: 978-81-219-2963-9
4. *A Textbook of Electrical Technology*- B. L. Theraja, Volume III, S. Chand Publication (Edition 2013).
5. *Electronic Measurements and Instrumentation*- Dr. R. S. Sedha, S. Chand Publication, ISBN: 978-81-219-9775-1