

SEMESTER I
SKILL ENHANCEMENT COURSE
CEL122S: CONSUMER ELECTRONICS (HOME APPLIANCES)

CREDITS: THEORY – 02, PRACTICAL - 02

Course Objectives:

To train and develop professional skills for interaction, installation, problem diagnosis and rectification of minor and major malfunctioning of the air conditioner, refrigerator, washing machine and water purifier at customer's site or at factory/workshop.

Learning Outcomes:

- ✓ 1. Develop the interactive and professional skills.
- ✓ 2. Identification of proper location for the appliances.
- ✓ 3. Installation and checking of accessories.
- ✓ 4. Checking appliance functioning.
- ✓ 5. Understand the symptoms and faults.
- ✓ 6. Repair and replacement of dysfunctional parts and check functionality.

UNIT I

REFRIGERATOR

Refrigeration cycle, types of compressors, functioning of various electromechanical parts of the refrigerator, Air Conditioner: types, features and functions of various electromechanical parts, frequently occurring faults, Induction cook top: Working principle of Induction cook top.

UNIT II

WASHING MACHINES

Working principle of washing machines, Microwave oven: Functioning and Block diagram of microwave oven, Vacuum cleaner: Block diagram and working principle, parts of Vacuum cleaner.

UNIT III

LABORATORY COMPONENT

Studying the parts, control circuits and sensors of refrigerators, Troubleshoot and rectifying the faults; studying various controls used in Air-conditioning system, fault Identification and rectification, studying various parts, wiring, and electronic circuits in induction cook top, fault Identification and rectification.

UNIT IV

LABORATORY COMPONENT

Studying the parts, control circuits and sensors of washing machines, Troubleshoot and rectifying the faults, Studying various parts, wiring and control mechanism of Microwaves, fault Identification and rectification, Identification of various parts, wiring, and electronic circuits in Vacuum cleaner, fault Identification and rectification.

BOOKS RECOMMENDED:

1. Bali S.P. Consumer Electronics, Pearson Education India, 2010, latest edition.
2. R.S. Khandpur, Troubleshooting Electronic Equipment: Includes Repair and Maintenance, Second Edition, McGraw Hill Education (India) Private Limited.
3. Lal A. K, Trouble Shooting and Maintenance of Electronics Equipments, McGraw Hill Education.
4. Eric Kleinert, Troubleshooting and Repairing Major Appliances, McGraw Hill