

DEPARTMENT OF PHYSICS**SPHYVAC01 - Maintenance of Minor Equipment's (Entry Level)****Learning Objectives**

To identify and categorize the most common household equipments

To understand the basic principles of domestic equipments

To predict the goodness or age estimation of domestic equipments

To perform layman checks and rectify minor defects

To familiarize the maintenance of household equipments

Course Outcomes

By the end of the course, the students will be able to

- Able to categorize the fault in the domestic equipment.
- Adopt proper handling procedures of the domestic equipment.
- Do layman checks and identify the problems in the domestic equipment.
- Familiarize and understand the maintenance of household equipment's.

Unit I Types of Household equipments – Mechanical, Thermal, Acoustical, Optical, Electrical, Electronics, Embedded Systems, - Simple & sophisticated appliances

Unit II General maintenance procedures of various appliances – Specific caution and care

Unit III Most common defects – other possible defects

Unit IV Layman checks - Simple testing tools for each category

Unit V Analyzing the condition — Confirming the goodness of the equipment

Practice

Hands-on practice of Tools & Procedures of above listed equipment's

List of Equipment's (includes but not limited to);

Mechanical Doors and Windows; Taps and Pipes, Cots, Tables and other Furniture, Scrubbers and Powders

Thermal Gas stoves & cylinders, Geyser, Cooking Utensils, Pressure Cooker,

Electrical Lights, Fan, AC, Coolers, Inverter, Battery, etc

Electronics Mobile, TV, DVD, etc

Embedded Washing Machines, Induction Stoves, Computers, etc

Text Books:

Complete Guide to Home Appliance Repair – Evan Powel, Better Homes & Garden Books Pubn, (Amazon online purchase) 2019.

The Hindu Speaks on Scientific Facts – General Volume, The Hindu Publication, Chennai, 2006.

Yen, Yetharku, Yeppadi (Tamil) – Sujatha, Vikadan Pirasuram, Chennai. 2005.

References:

Hand Book on Home Appliances 1st Edition – L. Palaniappan, S.P. Publications, Chidambaram, TN, , 2019.

Troubleshooting and Repairing Major Appliances – Eric Keinert, McGraw-Hill Professional Publishers, New Delhi 2014.

SPHYVAC02 - Maintenance of Minor Equipment's (ADVANCED LEVEL)**Learning Objectives**

- To understand the various principles of domestic equipment's
- To predict the goodness or age estimation of domestic equipment's
- To perform layman checks and rectify minor defects
- To troubleshoot the defects of the most common household equipment's
- To understand the techniques involved in advanced repairing of household equipment's

Course Outcomes

By the end of the course, the students will be able to

- Able to suggest & do remedial measures in the domestic equipment
- Do technical checks with relevant tools and solve the problems
- Provide useful tips to users for prolonged usage.
- Understand the techniques involved in advanced repairing of household equipment's

Unit I

Household equipment's – Various types – General Maintenance

Unit II

Effect of external world on the condition of the equipment's – Influence of gravity, humidity, moisture, climate,

Unit III

Ageing of the equipment's – Wear and tear – Prolonging the condition

Unit IV

Technical checks - Specific testing tools for each category - Multi-tester, multimeter, Logic Probe, CRO

Unit V

Troubleshooting procedures - software debugging, Active & Passive devices replacement

Practice

Hands-on practice of Tools & Technical procedures of above listed equipment's

List of Equipment's (includes but not limited to)

Mechanical Doors and Windows; Taps and Pipes, Cots, Tables and other Furniture, Scrubbers and Powders

Thermal Gas stoves & cylinders, Geyser, Cooking Utensils, Pressure Cooker,

Electrical Lights, Fan, AC, Coolers, Inverter, Battery, etc

Electronics Mobile, TV, DVD, etc

Embedded Washing Machines, Induction Stoves, Computers, etc

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Hand Book on Home Appliances – L.Palaniappan, S.P. Publications, Chidambaram, TN. 1st Edition, 2019.

Troubleshooting and Repairing Major Appliances – Eric Keinert, McGraw-Hill Professional Publishers, New Delhi. 2014.