

- Offered to I BSc Students
- A 36 hour certification Course
- Credits offered: 2



Highlights:

Understand basic electronic components

How to safe handle electrical equipments

How to maintain and rectify their faults

Course Coordinator : Dr. Thejal Abraham

email: thejal @cmscollege.ac.in



Course	Details			
Code				
Title	Electronics and maintenance of Home Appliances			
Degree	B.Sc.			
Branch(s)	Physics			
Year/Semester	-			
Туре	Add On Course			
Credits	2	Total hours	36	

CO No.	<i>Expected Course Outcomes</i> Upon completion of this course, the students will be able to:	Cognitiv e Level	PSO No.
1	After the completion of this course students will be able to use	U	3
	electrical appliances safely and could avoid accidents		
2	After the completion of this course, students will be able to	Ар	3
	identify the faults and rectify simple electrical tools like		
	electrical iron.		

PSO-Program Specific outcome; CO-Course Outcome; Cognitive Level: R-Remember; U-Understanding; Ap-Apply; An-Analyze; E-Evaluate; C-Create.

Module	Course Description	Hrs	CO.No
1.1	Electric Charge, Voltage, Electric Current, Ohm's Law, Electric Potential,	1	1
1.2	Cell, Serial and Parallel Circuit, their effect on Voltage and current	1	1
1.3	Transformer, Use and Operation	1	1
1.4	Types of Electric Connections and switches	1	2
1.5	Active and Passive Components, Resistors, Capacitors and Inductors, Their identification, types and application	1	1
1.6	Semiconducting Devices: Diodes, its type, characteristics and applications	1	1
1.7	Transistors, Integrated Circuits, Study of a transistor	1	1
	Practical	4	
2.1	Soldering Iron, Soldering wire, Soldering Flux, Soldering method, Zero defect soldering	1	2
2.2	Desoldering pump, Temperature controlled soldering station	1	2

2.3	Screw Driver Set ,Tweezers, Different Types of Tweezers	1	1
2.4	Nose Pliers, Wire Cutter, Hot air gun, Liquid solder pest, Magnifying Lamp and Measuring Tools, Brush	1	1
2.5	Nipper, Test and Measurement Equipment, Multimeter Operation etc.	1	1
2.6	Electrical fans working principles, Type and structure of fans,	1	2
2.7	Describe parts of fans motors, Perform stator side faults	1	2
2.8	Perform measurement of electrical characteristics, Demonstrate fans machine operations	1	2
	Practical	6	
3.1	Iron working principles, Type and structure of iron, Heating element set Perform element faults	1	1
3.2	Measurement of electrical characteristics	2	2
3.3	Iron Heating principals of electrical elements	2	2
	Practical	6	

#### **Text Books for Reference**

1. S.K. Sharotri, "Preventive Maintenance of Electrical Apparatus" Katson Publishing House Ludhiana

2. Philip Kiameh," Electrical Equipment Handbook: Troubleshooting and Maintenance", McGrawHill

3. K.B. Bhatia, "Study of Electrical Appliances and Devices", Khanna Publishers Focal 4. R.S. Sedha, "Textbook Of Applied Electronics", S chand Publishers

Theory: 20 hr

Practical: 16 hrs

Evaluation method: Objective method of evaluation is employed

#### Value Added Course

# Electronics and Maintenance of Home Appliances

## B. Sc Physics I year (2019-20)

20th November 2019 Day 3

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HEAD OF THE DEPARTMENT OF PHYSIC C.M.S. COLLEGE, KOTTAYAM KERALA, INDIA

# Electronics and Maintenance of Home Appliances

## B. Sc Physics I year (2019-20)

19<sup>th</sup> November 2019 Day 2

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## Value Added Course

## **Electronics and Maintenance of Home Appliances**

B. Sc Physics I year (2019-20)

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18<sup>th</sup> November 2019 Day 1

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## Department of Physics CMS College Kottayam

## **Report Of Value Added Course**

# **Electronics and Maintenance of Home Appliances**

### Introduction

The Department of Physics, CMS College kottayam conducted an Add On Course on "Electronics and Maintenance of Home Appliances" from 14th November 2019 to 21st November 2019.

Learning about electronics and the maintenance of home appliances can be beneficial in many aspects. This will help us to use appliances cost effectively, will be effective in preventing accidents. Knowing how to fix problems regarding the appliance will help you to be self-sufficient and empowered. It will help to minimize the usage of energy and will open doors of career opportunities.

#### Objective

The objective of the course is to train students in order to use electrical appliances safely, avoiding accidents. They will be able to identify the faults and rectify simple electrical tools such as an electrical iron.

### Method

The course was imparted through lectures (18 hours) and practical lab sessions (18 hours). 36 students from II nd Semester BSc Physics have attended the course. The evaluation of the study is done using proctored online test containing objective type questions.

#### Result

The course provided an opportunity for students to understand the fundamentals of electronics and its applications in our day-to-day life.

Course Coordinator: Dr. Thejal Abraham, Assistant Professor, Department of Physics



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