

## Syllabus of Certificate Course offered By Department of Physics(Self)

### Basic Electric & Electronic Equipment Maintenance Course

1. Basic circuit concepts – passive components: Resistance, Inductor, capacitor – active components – series and parallel connections and circuits – Kirchhoff's law and applications – Familiarization of different types of cells: primary, secondary, fuel, reserve, Daniel, Lech langi cell – batteries – Advantages and drawbacks of Cells / batteries.(3 hours)
2. Different types of measuring instruments in electronics: ammeter, voltmeter, galvanometer and multimeter – uses – repairing of measuring instruments – advantages and drawbacks.(2 hours)
3. Design and analysis of different basic electronic circuits – rectifier, amplifier etc. Basics of Transformer, different types – Step up, step down, Distribution, isolation, auto, power transformer – working – construction, uses and advantages – basics of transformer winding – winding methods.(2 hours)
4. Basics of P N junction diodes – V I characteristics – different types: Diode, Zener, Schottky, Rectifier, LED, Photodiode, Tunnel, Varactor Diode – working – uses and advantages.(2 hours)
5. Study of DSO – Waveform analysis – study of voltage, frequency. Phase of a given waveform – working of DSO – function generator basics – Hardware training: SMPS, UPS etc.(3 hours)

6. Basic household wiring – ELCB – working of different home appliances: LED TV, solar panel.( 3 hours)

7. Practical session - 15 hours

8. Energy survey



# Christ College (Autonomous) Irinjalakuda

Value added Certificate Course On

## Basic Electric and Electronic Equipment Maintenance Course

### Course Highlights

- Acquire basic Knowledge on electric and electronic devices
- Energy conception Survey
- House hold wiring
- Hardware training (Basics)
- Mini Project

Course Fee  
1200/-

4 Month Duration

Offered by Department of Physics (self)

Starts on 12th September, 2022

Last date for online application 09/09/2022

Registration Link

<https://forms.gle/39uiixKjjGF66kPFA>

Contact

Prof. V P Anto : 7907132445

**Basic Electric & Electronic Equipment Maintenance Course  
(Certificate Course)**

**Summary Report 2022-23**

The course started in 12th september 2022. There were 28 students enrolled and completed the course. The course was of 30 hrs duration. Students enjoyed the energy survey and practical sessions, in their feedback, requested for more such sessions in the future.

**Course Outcome:**

On completion of this course the participants will develop an ability to independently analyze electronic circuits do basic household wiring, working and maintenance of basic household equipment.

The course encompasses most of the major type of vocational and skill enhancement techniques employed in the electronic industry.

**Evaluation**

Participants will be assessed on practical assignments and tests after the completion of training program. There will be both lab work and assignments (Energy Survey)

**Target Audience:**

Graduate who want to master the skills in Electronic Equipment maintenance.

**Course Coordinator:** MS. JOHNSY E JOHNSON

# **Basic Electric & Electronic Equipment Maintenance Course**

## **Certificate Course**

### **Teacher Coordinator Report 2022**

Number of students	28
Date of examination	27-03-2023
Total students who passed exam	28
Total course duration	30 hrs

#### **Feedback analysis:**

- Students appreciated the training
- The students used this knowledge for analyzing Electric circuits .
- Basics of Energy Conservation were introduced and applied.
- 100% students enjoyed the classes and practice sessions.

**Course Coordinator: MS JOHNSY E JOHNSON**

**CHRIST COLLEGE (AUTONOMOUS), IRINJALAKUDA**

**DEPARTMENT OF PHYSICS (UNAIDED)**

**VALUE ADDED CERTIFICATE COURSE:**

**BASIC ELECTRIC AND ELECTRONIC EQUIPMENT MAINTANANCE COURSE**

**Time:1 hr**

**Max.mark:30**

**Section A** (answer all)

1. State Kirchhoff's laws.
2. What is the use of a galvanometer?
3. What is a rectifier?
4. Give the full form of DSO. For what purpose it is used for?
5. What is an ELCB?

**5 x 2 =10**

**Section B** (answer any two)

6. Write a short note on transformers.
7. What is a Zener diode? Draw its reverse V-I characteristics.
8. Differentiate between passive and active components with examples.

**2 x 5 =10**

**Section C**

9. Explain in detail different types of cells and batteries.
10. Explain the basic principle of P-N junction diodes. Also give a short note on different types of diodes.

**1 x 10=10**

# CHRIST COLLEGE (AUTONOMOUS) IRINJALAKUDA

## Basic Electric & Electronic Equipment Maintenance Course

### Name List

Reg. No	Name	Grade
CCAVSPH041	ADITHYA . M. M	A
CCAVSPH042	ANAGHA M S	A
CCAVSPH043	ANEENA BERLIN	A
CCAVSPH044	ATHIRA V	A
CCAVSPH045	BISMITHA I	A
CCAVSPH046	C J DHANUSREE	A
CCAVSPH047	HRESHIKESH DEVRAJ	A
CCAVSPH048	SABIQ MAHMOOD	A
CCAVSPH049	SIYA SANTHOSH	A
CCAVSPH051	ANGEL P A	A
CCAVSPH052	CHACKOCHAN JOJI	A+
CCAVSPH053	EDWIN C DENNY	A
CCAVSPH054	JITHUKRISHNA M	A+
CCAVSPH055	NANDANA VINOD	A
CCAVSPH057	SANDRA P VINOD	A
CCAVSPH058	SHOBITH JAIRAJ	A
CCAVSPH059	VASUDEV K J	A+
CCAVSPH060	ADHWAITH NARAYAN K N	A+
CCAVSPH061	AJAL K P	A
CCAVSPH062	ALEENA JOSE	A+
CCAVSPH063	ALISHA JOY	A
CCAVSPH064	ARJUN GREESHLAL	A
CCAVSPH065	HENJO HENRY	A
CCAVSPH066	KIRAN K	A
CCAVSPH067	NAVYA BHAVAL C	A
CCAVSPH068	ROHITH T V	A
CCAVSPH069	SHAUN SHOBY	A
CCAVSPH070	SUJITHA V S	A+