

## CERTIFICATE COURSE

<b>Name of the Certificate Course</b>	:	"HOUSEHOLD WIRING & LED DECORATION"
<b>Venue</b>	:	Department of Physics
<b>Student Group</b>	:	18 to 25 Year
<b>Time</b>	:	04 Hr/Week
<b>Total Duration</b>	:	30 Hours
<b>Total Number of Credits</b>	:	2 Credits
<b>Course Fee</b>	:	No Fee
<b>Evaluation</b>	:	50 Marks (25 Theory + 25 Practical)

### **Aim and Objective:**

1. To inculcate the life skill of basic electrical safety among the students.
2. To provide practical knowledge of basic electrical safety.
3. To give hands on-training on household wiring and repairing.
4. To give training on LED decoration.

### **Expected Outcome:**

1. Students should be able to take basic electrical safety in day to day life.
2. Students should be able to do the household wiring and understand the concepts practically.
3. Students should be able to do the proper earthing for household equipment's.
4. Students should be able to the basic LED decoration.

# "HOUSEHOLD WIRING AND LED DECORATION"

## SYLLABUS(2 Credits)

### 1 ELECTRICAL SAFETY 5 L

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- 1.1 INTRODUCTION TO CURRENT, VOLTAGE POWER
- 1.2 INTRODUCTION TO EARTHING
- 1.3 EARTHING
  - 1.3.1 TYPES OF EARTHING
  - 1.3.2 PROPER EARTHING
- 1.4 INTRODUCTION OF ELECTRICITY
  - 1.4.1 DISTRIBUTING POINT (DP)
  - 1.4.2 ALTERNATING CURRENT (AC)
    - 1.4.2.1 Three phase AC
    - 1.4.2.2 Single phase AC
- 1.5 DIRECT CURRENT (DC)
- 1.6 LIVE, EARTH AND NEUTRAL
- 1.7 USEFUL ELECTRICAL INSTRUMENTS
  - 1.7.1 DIGITAL MULTIMETER.
  - 1.7.2 TESTER
  - 1.7.3 ELECTRICAL SAFETY EQUIPMENT'S
  - 1.7.4 TONG TESTER

### 2 HOUSEHOLD WIRING 5 L

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- 2.1 PRECAUTIONS
- 2.2 WIRING AND FITTING
- 2.3 REPAIRING
- 2.4 CHANGING FAN CAPACITOR
- 2.5 3 PHASE STARTER FITTING
- 2.6 TESTING OF MOTOR OR COIL
  - 2.6.1 USING BULB HOLDER
  - 2.6.2 USING DIGITAL MULTIMETER

### 3 LED DECORATION 4 L

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- 3.1 INTRODUCTION TO ELECTRICAL COMPONENTS
- 3.2 SOLDERING
- 3.3 LED DECORATION ASPECTS
  - 3.3.1 DESIGN AND CALCULATION
  - 3.3.2 SOLDERING OF LED

P.T.O.


## EXPERIMENTS TO BE PERFORMED BY STUDENTS

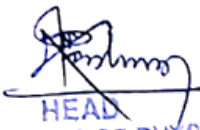
(For Certificate Course on "Household wiring and LED decoration")

S.N.	Title of the experiment	Total Hr
1.	Identification of basic electrical components and testing components.	2 Hr
2.	Measurement of ac, dc voltages and currents.	2 Hr
3.	Study of household fitting.	2 Hr
4.	Performing soldering of few electrical components.	2 Hr
5.	Use of continuity testing for motor or coil using DMM and bulb.	2 Hr
6.	Measurement of resistance using color code and DMM for ledProtection.	2 Hr
7.	Verification of Kirchhoff's Law (KVL & KCL).	2 Hr
8.	Design and fabricate the LED series and parallel circuits.	2 Hr

### REFERENCES:

1. Home Wiring Do It by Phil Thane, GMC Distribution, 2009.
2. House Wiring (Hindi), Surendra Kumar Jain, Hans Publisher, 2018.
3. Led Lightning: A Primer To Lightning The Future by Sal Cangeloso, Maker Press, 2012.
4. Practical Lightning Design with Led by Ron Lenk And Carol Lenk, Second Edition, Wiley, 2017.
5. Home Electrical Wiring by Devid W Rongey, Home Electrical Wiring Pub., 2013.
6. Electrical Wiring: An Introduction by Satheesh Kumar, Ane Books Pvt. Ltd, 2011.

  
PRINCIPAL  
Arts, Commerce and Science  
College, Satral, Tal. Rahuri  
Dist. Ahmednagar, 413711

  
HEAD  
DEPARTMENT OF PHYSICS  
Arts, Commerce & Science College, Satral  
Tal. Rahuri, Dist. Ahmednagar-413711