

DEVA MATHA COLLEGE KURAVILANGAD

Affiliated to Mahatma Gandhi University, Kottayam



SYLLABUS

OF

ADD-ON COURSE

IN

LED Light – Mechanical Assembly

Academic Year: 2022-23



DEVA MATHA COLLEGE KURAVILANGAD

DEPARTMENT OF PHYSICS

Add on Courses offered for Students : 2022-2023

1. LED Light- Mechanical Assembling :

DMCK/ PHY/AD 15/2022

2. Introduction to Python :

DMCK/ PHY/AD 16/2022



Department Coordinator: Dr. Saritha K. Jose

Title: LED Light – Mechanical Assembly

Instructional Hours: 30 Hours

Duration: 4 Months

Mode of Instruction: Theory and Practical

Intake Capacity: 30

Eligibility: Plus Two

DEVA MATHA COLLEGE KURAVILANGAD

ADD-ON COURSE FOR THE AY 2022-23

Course Objectives

1. To familiarize electronic components and the procedure of soldering
2. To provide fundamental understanding of LED
3. To understand and practice the design and assembling of hobby circuits
4. To practice the knowledge gained in assembling various LED luminaries such as LED bulb, LED tube light etc.

Module 1 (2 Hours)

Introduction and understanding safety procedure & preventive measures against electrical accidents

Module 2 (4 Hours)

Awareness of electronic components, pick & place process, soldering

Module 3 (10 Hours)

Hobby circuit design and assembling – Clap Switch, Burglar Alarm, Water Level Indicator, Automatic Night Lamp

Module 4 (4 Hours)

LED Basics: Operating voltage & current, Thermal Management, Array configuration

Module 5 (10 hrs)

Driver selection & all the aspects related to LED Luminary Assembly

References

1. Understanding LED Illumination, M. Nisa Khan, CRC press, 2020
2. Practical lighting Design with LEDs, Ron Lenk, Carol Lenk, The Institute of electrical and Electronic Engineers Inc., 2017 (Wiley)
3. A beginner's Guide to Circuits, Oyvind Nydal Dahl, No Starch Press, US, 2018.

Assessment Procedure

- 1) Attendance
- 2) Examination

Grading

Marks Obtained (%)	Grade
90 and above	S
85-89	A
80-84	B
75-79	C
Below 75	D



Anni Mathew

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