



COURSE HIGHLIGHTS

- 5-days fundamental course on LED repairing and maintenance.
- Evolution of LEDs, their characteristics and working principle.
- Hands-on experience on LED circuit design.
- Certification on successful completion of the course.

CONTACT

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REGISTRATION



<https://forms.gle/efbvGExwJxNKa84Y6>

<https://icampus.setgoi.ac.in>

Short Term CERTIFICATE COURSE

ILLUMINATING SPACES

Innovations in LED Lightning
&
Design



DEPARTMENT OF ELECTRONICS AND
COMMUNICATIONS ENGINEERING

Sanaka Educational Trust's Group of Institutions
Malandighi, Durgapur-713212

About Experts

Mr. Rahul Pal
Modern Communication Engineering

Dr. Sarbani Sen
Microwave Engineering

Dr. Indranil Sarkar
Mobile Communication

Course Is For

ITI, Diploma, and B.Tech Students

Registration Fees

Rs. 200 /-

COURSE PLAN

DAY 1

Introduction to LED Lighting

- Overview of Lighting Systems
- History and Evolution of LEDs
- Basic Principles of LEDs
 - Semiconductor Physics
 - Light Emission Mechanism
 - Key Properties of LEDs

DAY 2

Types and Characteristics of LEDs

Different Types of LEDs

- High-Power, Mid-Power, Low-Power LEDs
- Color Temperature & CRI (Color Rendering Index)
- LED Datasheet Analysis
- Basic Performance Metrics (Lumen Output, Efficacy, Lifetime)

DAY 3

LED Circuit Design Basics

- Electrical Requirements
 - Current and Voltage Ratings
 - Forward Voltage and Current Control
 - Power Supply and Driver Design
- LED Driver Types
 - Constant Current vs. Constant Voltage Drivers
 - Dimming Technologies
 - Simple Project

DAY 4

Routine Maintenance and Cleaning for LED Lights

- Best tools and materials for cleaning LEDs.
- Identifying common problems such as loose wiring, poor connections, and wear in LED systems

DAY 5

Troubleshooting and Repairing LED Lighting Systems

- Diagnosing and fixing common LED issues like dimming, flickering, and overvoltage.
- Testing and replacing an LED driver.
- Replacing parts (drivers, bulbs) in an LED system.
- Feedback and Iteration Process