

# SREE NARAYANA COLLEGE CHENGANNUR

## POST GRADUATE DEPARTMENT OF PHYSICS & IQAC

(Affiliated to University of Kerala)  
NAAC accredited with Grade B  
Neduvarancode (PO), Cheriyanad  
Chengannur-689508

### CERTIFICATE COURSE

# LED ASSEMBLING & E-WASTE MANAGEMENT

Date :15 Dec 2022-31 Jan 2023

Time: 3.00 -4.00 PM

#### Organizing Committee

Principal-in-charge	Dr.Shereen K
IQAC Co-ordinator	Dr.Smitha Sasidharan
HOD & Co-ordinator	Dr.K Sreelatha
Members	Dr.Venu S
	Ms.Shehina Shaji
	Ms.Renju Ravi
	Ms.Reshma Remesh
	Ms.Surya M
	Ms.Arya Raveendran
	Mr.Ashok Kumar P R



**DR.K SREELATHA**  
HEAD OF THE DEPARTMENT

**DR.SHEREEN K**  
PRINCIPAL-IN-CHARGE

Dr. K.Sreelatha  
Head of the Department  
SN College Chengannur

Chengannur  
15/02/2022

The Principal  
SN College Chengannur

Subject :- Conduct of certificate course for AY 2022-2023- request permission reg:

Madam,

The Department of Physics plans to conduct a certificate course on "LED Assembling and E-Waste Management" for the UG and PG students of the department. The duration of the course is 30 hours. We plan to conduct the course from 15/12/2022 to 31/01/2023. Kindly grant permission to organize the same.

Thanking you,

Yours faithfully,



Dr. K Sreelatha



PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR



## **CERTIFICATE COURSE 2022-2023**

Department Conducts a Certificate course on “**LED ASSEMBLING AND E-WASTE MANAGEMENT**”. The Duration of the Course is 30 hours. This course will provide the students how to assemble the LED and usage of the E-waste system.

### **CERTIFICATE COURSE IN LED ASSEMBLING AND E-WASTE MANAGEMENT**

**PY22LE**

#### **SYLLABUS**

##### **Module 1 (6hr)**

Diodes (basic concepts)-Biasing-forward bias and reverse bias-Introduction to LEDs-Semiconductor LEDs and LED's basic theory-LED Voltage and current-Advantages and disadvantages of LED

##### **Module 2 (11hr)**

Multicolor LEDs-White LED, Blue LED- LEDs Lighting and Potential for energy savings-Applications of LEDs-Power indicator,-seven segment display,-why LED lights so good-Organic LEDs.

##### **Module 3 (3hr)**

What is E-Waste, Indian and global scenario of E-Waste, Growth of Electrical and Electronics industry in India, E-waste generation in India, Composition of e-waste, Possible hazardous substances present in E-waste, Environmental and Health implications. Emerging recycling and recovery technologies, Guidelines for establishment of integrated E-waste recycling and treatment facility.

##### **Module 3 (10hr)**

Practical work:- Bulb assembling and Discussion of the circuits , Fabrication of the LED bulbs.

## Books for Reference

1. **Basic Electrical Engineering – V.K Mehta & Rohit Mehta (2006) – S.Chand publishers**
2. **Understanding LED Illumination – M. Nisa Khan**
3. **Johri R., “E-waste: implications, regulations, and management in India and current global best practices”, TERI Press, New Delhi.**



PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR

**SREE NARAYANA COLLEGE, CHENGANNUR**  
**DEPARTMENT OF PHYSICS**

**Minutes of the Meeting**

The minutes of the meeting of the Board of Studies of Certificate courses was held on 5<sup>th</sup> December, 2022 in the Department of Physics, Sree Narayana College, Chengannur at 10.00 a.m. The following members were present for the meeting.

1. Dr.K Sreelatha
2. Ms.Shehina Shaji
3. Ms.Renju Ravi
4. Ms.Arya Raveendran
5. Ms.Reshma Remesh
6. Ms.Surya M

The following points were discussed in the meeting.

- The BoS has decided to initiate the following certificate course in the academic year 2022-23.

**LED ASSEMBLING AND E-WASTE MANAGEMENT**

- The syllabus for the above courses was designed by the committee considering the global needs and demand of the market.  
This course will provide the students an idea of the basic idea of Led Assembling and E-Waste Management.
- It was decided to conduct the above course having 30 hours duration.
- Classes will start from 15/12/2022 to 30/01/2023.
- The minimum attendance for the successful completion of the course is decided to be 75%.
- The submission of the assignment is compulsory for the successful completion of the course.

- The board has decided to initiate the certificate courses as per the approval of IQAC.  
Dr. K. Sreelatha proposed the vote of thanks and the meeting ended.

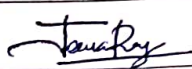
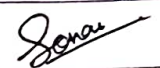
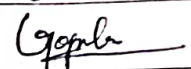
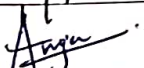
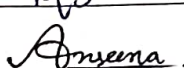
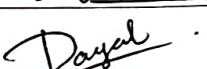
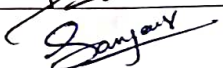
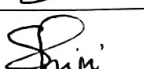
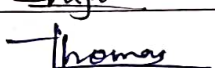
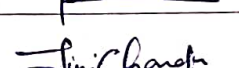
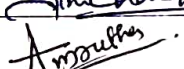
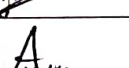
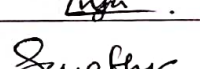
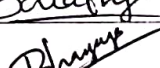

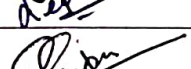
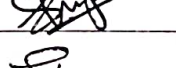
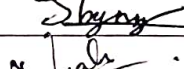



A handwritten signature in green ink, consisting of several loops and a vertical line, appearing to be the initials or name of the principal.


PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR

**CERTIFICATE COURSE IN LED ASSEMBLING AND**  
**E-WASTE MANAGEMENT**

**Details of Students Enrolled for Certificate Course: 2022-2023**

Sl. No.	Candidate Code	Name of Student	Class	Signature
1.	23022128001	Jeevaraj R	I B.Sc. Physics	
2.	23021128002	Sona. S	II B.Sc. Physics	
3.	23021128001	Gopika Unni	II B.Sc. Physics	
4.	23020128002	Anju B	III B.Sc. Physics	
5.	23020128003	Anseena .A	III B.Sc. Physics	
6.	23020128004	Dayal Udayan	III B.Sc. Physics	
7.	23020128005	Sanjeev Sathyan	III B.Sc. Physics	
8.	23020128006	Shiji Johnson	III B.Sc. Physics	
9.	23020128007	Thomas Kuriakose	III B.Sc. Physics	
10.	23020128008	Tini Chandran	III B.Sc. Physics	
11.	23020128009	Amrutha S	III B.Sc. Physics	
12.	23020128010	Anju Uthaman	III B.Sc. Physics	
13.	23020128011	Swathy Santhosh	III B.Sc. Physics	
14.	63022128001	Bhagya Vijayan	I M.Sc. Physics	
15.	63022128002	Meenu B S	I M.Sc. Physics	
16.	63022128003	Shilpa Vijayan	I M.Sc. Physics	
17.	63022128004	Shiney Y	I M.Sc. Physics	
18.	63021128001	Anjali S	II M.Sc. Physics	
19.	63021128002	Ardra Sajeev	II M.Sc. Physics	



  
PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR

20.	63021128003	Aswathi Ashok	II M.Sc. Physics	<i>Aswathi</i>
21.	63021128005	Gopika P S	II M.Sc. Physics	<i>Gopika</i>
22.	63021128006	Greeshma Babu	II M.Sc. Physics	<i>Greeshma</i>
23.	63021128007	Kavitha K M	II M.Sc. Physics	<i>Kavitha</i>
24.	63021128008	Lakshmi S	II M.Sc. Physics	<i>Lakshmi</i>
25.	63021128009	Lekshmi B	II M.Sc. Physics	<i>Lekshmi</i>
26.	63021128010	Parvathy S Kumar	II M.Sc. Physics	<i>Parvathy</i>
27.	63021128011	Sandeep Kumar S	II M.Sc. Physics	<i>Sandeep</i>



*[Signature]*  
**PRINCIPAL**  
**SREE NARAYANA COLLEGE**  
**CHENGANNUR**

PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR





**SREE NARAYANA COLLEGE, CHENGANNUR**

**DEPARTMENT OF PHYSICS**

**CERTIFICATE COURSE IN LED ASSEMBLING AND E-WASTE MANAGEMENT**

**CERTIFICATE COURSE REPORT 2022-2023**

**Date: 15/12/2022 to 30/01/2023**

**Time: 3.00 pm to 4.00 pm**

**Venue: Physics Lab**

As per the decision of Dept. of Physics, Sree Narayana College, Chengannur, IQAC and the PG department of Physics jointly conducted the certificate course having 30 hours duration. The program was inaugurated by Dr. Shereen K, the Principal-in-charge, and chaired by Dr. K. Sreelatha, Head, Department of Physics, Sree Narayana College, Chengannur. Ms. Renju Ravi, Course coordinator delivered the welcome address.

The sessions of course were handled by four experts in different areas namely Dr. K. Sreelatha, Head, Department of Physics, Sree Narayana College, Chengannur. Ms. Shehina Shaji, Ms. Renju Ravi, Ms. Arya Raveendran, Ms. Reshma Remesh and Ms. Surya M gave support and helped in this course. Certificate course benefits the students with something extra beyond their regular academics and serves as an added advantage. The main objective of the course was assembling the LED bulb with the kit and using it with the benefit of E-waste in Physics UG & PG laboratories and to develop entrepreneur skills. UG and PG students in our department successfully completed the course. On the completion of the course, certificates were distributed to the students by Dr. Shereen K, the Principal, and Dr. K. Sreelatha, Head of the Department of Physics, Sree Narayana College, Chengannur.



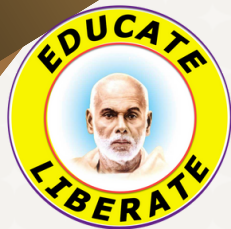
## PHOTOGRAPHS

Entrepreneurship Programme on “Assembling of LED sources for waste management and energy consumption reduction” Jointly Conducted by Post graduate department of Physics, Science forum and IQAC for UG and PG students in the month of February 2023.



Handwritten signature in green ink.

PRINCIPAL  
SREE NARAYANA COLLEGE  
CHENGANNUR



SREE NARAYANA COLLEGE  
CHENGANNUR  
PG DEPARTMENT OF PHYSICS & IQAC

CERTIFICATE OF PARTICIPATION

THIS CERTIFICATE IS PROUDLY AWARDED TO

*Anseena A*

This is to certify that Anseena A of III B.Sc. Physics has successfully completed the certificate course on 'LED ASSEMBLING & E-WASTE MANAGEMENT' conducted by PG Department of Physics, Sree Narayana College, Chengannur during the academic year 2022-23. The member understood the fundamentals of LED working and achieved assembling skills of LED bulbs & E-waste management



*Sreelatha K*

**Dr.K Sreelatha**

HOD, Department of  
Physics



*Dr. Sherene K*

**Dr. Sherene K**

Principal in Charge  
**SREE NARAYANA COLLEGE  
CHENGANNUR**