

Eatd 2003

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

Promoted by Sree Bhakthi Samvardhini Yogam, Kannur Affiliated to KTU & Recognised by AICTE, New Delhi Payyanur, Kannur, Kerala, Pin-670307 Office-04985-201989, 7812911912 Email-info@sngcet.org





HANDS-ON TRAINING ON PCB DESIGN AND FABRICATION

For all Studens

Organized by Department of Electrical & Electronics Engineering

From 30-03-2023 to 03-04-2023

🕤 9.30am to 3.30pm

Venue: LED Manufacturing unit

Staff co ordinators

Ms. Archana C P Assistant Professor Department of EEE Mr. Sreeraj T K Lab Instructor Department of EEE

Student co ordinators

Mr. Vaishnav T V Dr. LEENA A.V. S8 EEE PRINCIPAL S8 EEE ENGINEERING CONTINUE OF ENGINEERING THEMOLOGY, RAYNAWR

Ms. Aswathi P P S6 EEE Institutions Code SNC



HANDS ON TRAINING ON PCB DEISGN AND FABRICATION

Agenda

Prayer

Welcome Address

Ms. Aswathi P P (student co-ordinator)

Felicitation Ms. Archana C P

Principal's Address Mr. Abhilash Krishnan T K (AP EEE)

> Inauguration Dr.Leena A V

Vote of Thanks

Mr. Vaishnav T V (student co-ordinator)

fur

Date: 30-03-2023

Dr. LEEMA A.V. PRINCIPAL BREENSTRAND COLORE OF ENGINEERING COLORI, PARANUR ENGINEERING COLORI, PARANUR KANGUR

Time: 9.30 am

SYLLABUS

PCB Design and Fabrication

Day 1: Introduction to PCBs and Basic Design Concepts

Morning Session:

Introduction to Printed Circuit Boards (PCBs): Definition, importance, and applications.

Overview of the PCB design process: From schematic to layout.

Introduction to common PCB design software tools (e.g., Eagle, Altium, KiCad).

Afternoon Session:

Understanding basic design concepts:

PCB layers: Types and functions.

Component placement: Considerations and best practices.

Introduction to routing traces: Signal paths, trace width, and clearance.

Day 2: Advanced PCB Design Techniques

Morning Session:

Understanding PCB layer stack-up: Importance and configuration.

Signal integrity considerations: Impedance matching, signal integrity analysis.

Designing for EMI/EMC compliance: Grounding techniques, signal shielding.

Afternoon Session:

High-speed design principles: Differential pairs, controlled impedance routing.

Design for manufacturability (DFM) guidelines: Design rule checks (DRC), panelization.

Day 3: PCB Design Software Proficiency

Morning Session:

Practical session: Hands-on training with PCB design software.

Familiarization with the user interface, toolbars, and shortcuts.

lu

Dr. LEENA A. V. PRINCIPAL STEENARY WARKING COURSE OF ENGNELIUM & THEP NOLOGY, PAYYANUR KANNUR Creating schematics: Adding components, connecting nets.

Afternoon Session:

Layout design: Placing components, routing traces, ground planes.

Introduction to design constraints and design rules.

Day 4: PCB Fabrication Process

Morning Session:

Overview of the PCB fabrication process: Steps involved from design to finished board.

Understanding Gerber files: Format, layers, and their role in fabrication.

Selection of PCB materials: Types, properties, and considerations.

Afternoon Session:

Design optimization for fabrication: Panelization, copper weight, solder mask considerations.

Introduction to PCB assembly (PCBA): SMT vs. Through-hole, assembly techniques.

Day 5: Hands-On Fabrication and Design Review

Morning Session:

Hands-on practical session: Participants design their PCB layouts using software.

Guidance provided on optimizing designs for fabrication and assembly.

Afternoon Session:

Design review and feedback: Participants present their designs for review and critique.

Discussion on common mistakes and how to avoid them

Q&A session: Addressing participants' queries and clarifications.

Conclusion and Certificate Distribution.

This 5-days training syllabus provides a structured approach to learning PCB design and fabrication, covering essential concepts, advanced techniques, practical software training, and hands-on experience. Each day focuses on specific aspects of PCB design and fabrication, gradually building participants' skills and knowledge throughout the training program.

((coefforutor) BIGNEDILLE & TUD NOLOGY, PAYAM ENGINEERING & TTO NOLOGY, PAYYANUR

Huloo



SREE NARAYANA GURU COLLEGE OF ENGINEERING &

TECHNOLOGY

ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

The Department of Electrical and Electronics Engineering conducted five days Hands on training on PCB Design and Fabrication for all students of our college from 30 March 2023 to 03 April 2023. A Total of 10 students participated in the training session. The students gained hands on experience in PCB Design and Fabrication.

The event was inaugurated by Dr. Leena A V, Principal, SNGCET. Welcome addresse was delivered by Mr. Abhilash Krishnan (HoD, EEE). Mr. Archana C P, (AP. EEE) delivered felicitation speech. Welcome address delivered by Ms. Aswathi PP, Student Coordinator and Mr. Vaishnav TV, student co coordinator delivered vote of thanks.

The 5-days training session was handled by Mr. Sreeraj, the lab instructor EEE.

The primary objectives of the training were:

To familiarize participants with the fundamentals of PCB design. To provide practical training on using PCB design software. To educate participants about the PCB fabrication process. To enable participants to create their PCB designs and fabricate them.

Participants gained a comprehensive understanding of PCB design principles and techniques. Hands-on experience enabled participants to create their PCB designs effectively. Participants learned how to optimize designs for fabrication, ensuring manufacturability and reliability. Increased confidence among participants in using PCB design software and submitting designs for fabrication.

PAYVANUR

PRINCIPAL









PCB design process practice for students

Dr. LEENA A. V. PRINCIPAL SREE HARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, RWY/AMUR KANNUR



GPS Map Camer





Kannur, Kerala, India 47R2+G8H, Kerala 670307, India 03/04/23 12:13 PM GMT +05:30

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

ATTENDANCE SHEET

Date: 30/03/2023 to 03/04/2023		Venue: Led Bulb Manufacturing Unit				
	ATTENDANCE					
Name of Students	30-03-2023	31-03-2023	01-04-2023	02-04-2023	03-04-2023	
VYSHNAV TV	X	×	X	X	X	
DEVI KEERTHANA	X	X	X	x	×	
ASWATHI PP	X	X	×	×	X	
ADHIN O	X	X	×	X	X	
ANURAJ N	X	X	X	X	X	
NIHAD T	X	X	X	X	x	
ADITHYA K	×	×	×	X	X	
DIYA KC	X	X	X	×	8	
ANUVIND NK	x	x	×	x	X	
VISMAYA	×	×	×	×	X	
	VV3/2023 to 03/04/2023 Name of Students VYSHNAV TV DEVI KEERTHANA ASWATHI PP ADHIN O ANURAJ N NIHAD T ADITHYA K DIYA KC ANUVIND NK VISMAYA	Normal of Students 30-03-2023 Name of Students 30-03-2023 VYSHNAV TV X DEVI KEERTHANA X ASWATHI PP X ADHIN O X NIHAD T X ADITHYA K X DIYA KC X VISMAYA X	V03/2023 to 03/04/2023 Venue: Led Name of Students 30-03-2023 31-03-2023 VYSHNAV TV X X DEVI KEERTHANA X X ASWATHI PP X X ADHIN O X X NIHAD T X X ADITHYA K X X DIYA KC X X ANUVIND NK X X VISMAYA X X	D/03/2023 to 03/04/2023 Venue: Led Bulb Manu Name of Students 30-03-2023 31-03-2023 01-04-2023 VYSHNAV TV X X X DEVI KEERTHANA X X X ASWATHI PP X X X ADHIN O X X X NIHAD T X X X ADITHYA K X X X DIYA KC X X X VISMAYA X X X	D/03/2023 to 03/04/2023 Venue: Led Bulb Manufacturing T Name of Students 30-03-2023 31-03-2023 01-04-2023 02-04-2023 VYSHNAV TV X X X X DEVI KEERTHANA X X X X ASWATHI PP X X X X ADHIN O X X X X NIHAD T X X X X ADITHYA K X X X X VISMAYA X X X X	

Co-ovelinahr

HODEFE

Dr. LEENA A. V. PRINCIPAL SREE NUTAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PARYANUR KANNUR

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

Date: 30/03/2023 to 03/04/2023		Venue: Led Bulb Manufacturing Unit		
SI.No	Name of Students	Semester	Branch	
1	VYSHNAV TV	S8	EEE	
2	DEVI KEERTHANA	S8	EEE	
3	ASWATHI PP	S6	EEE	
4	ADHIN O	S4	EEE	
5	ANURAJ N	S4	EEE	
6	NIHAD T	S4	EEE	
7	ADITHYA K	S2	EEE	
8	DIYA KC	S2	EEE	
9	ANUVIND NK	S2	EEE	
10	VISMAYA	S2	EEE	

Registration Form

Co-orchine ha

un

DIE LEENA A.V. PERINCIPAL SREENAFAYANA GURU COLLEGE OF ENGNEERING & TOCHNOLOGY, INVYANUR KANNUR

1961 LOO HOD FEE



EVENT PROPOSAL FORM

I. TO BE FILLED BY THE EVENT COORDINATOR(S)

1	Event type	PCB WORKSHOP
2	Event name	HANDS ON TRAINING ON PCB DESIGN AND FABRICATION
3	Whether the event is inter departmental? If yes, mention the other department(s) associated with	Electrical And Electronics Engineering
4	Mode of conduct [online/ offline]	Offline
5	Date and time	30-03-2023 -3-04-2023 09:30am - 03:30pm
6	Venue +	LED Manufacturing Unit
7	Whether any professional body is associated with the event?	No
8	Participants / Target Audience	All students
9	Whether the event is conducted for bridging the gap in syllabus? If Yes, name the course with code and the semester and year it the subject is handled	NO, SKILL DEVELOPHENT
10	Objectives of the event	 Educational Insight: To familiarize participants with the fundamentals of PCB design. To provide practical training on using PCB design software.

PAGE 1 OF 2

Dr. LEENA PRINCIPAL SREE NAFAYNA GURU COLLEGE OF ENG CANNUE

		 Skill Enhancement: Enhance students' skills and creativity by encouraging participation in training sessions. To educate participants about the PCB fabrication process. To enable participants to create their PCB designs and fabricate them.
*	17.	 Holistic Learning: Encourage interdisciplinary learning by allowing students to engage in different types of activities that cater to their diverse interests and talents, aligning with the holistic nature of the B. Tech curriculum.
	5	 Teamwork and Collaboration: Promote teamwork and collaboration through group activities. Participants gained a comprehensive understanding of PCB design principles and techniques.
		 Hands-on experience: Enabled participants to create their PCB designs effectively. Participants learned how to optimize designs for fabrication, ensuring manufacturability and reliability. Increased confidence among participants in using PCB design software and submitting designs for fabrication.
11	Expected Outcomes	A structured approaches to learn PCB design and fabrication covering essential concepts, advanced techniques, practical software training and hands on experience.
12	Connected PO / PSO	PO1,PO3,PO5, PO 9,PO 11,PO12
13	Justification for PO / PSO [may use separate sheet if necessary]	Engineering knowledge, Problem Analysis, Design / Development Of Solution, Modern tool usage, Individual and Team work, Project Management and Finance Life Long Learning

PAGE 2 OF 2

х.

15	Designation of the resource person (may attach separate sheet to indicate the profile)	Asst Professor EEE, The lab instructor EEE
		1. Tools Required
		 PCB Hand drill
		Drill bit
		Iron box
- 1		Steel rule
		 Knife metal
		 Rectangular plastic tray
		 Hand gloves
- 1		2. Raw Materials
		 Ferric chloride
		 Copper clad
		 Solder wire
- 1		 Hook up wire
		 Small multi strand wire
		 500rpm DC motor
		 Glossy photo paper
		 Nice sand paper
		 Kitchen scrubber
		3. Presentation materials
		 MS Power point Presentation
16	Resource requirements	
		4. Documentation:
		 Cameras and recording equipment for
		documenting the program.
		 Photographers and videographers if necessar
		5. Transportation and Accommodation:
		 If required, arrangements for the resource
		person's transportation and accommodation.
		6. Registration and Feedback System:
		 Registration desk and materials for
		participants.
		 Feedback forms and data collection tools for
		evaluation.
- 1		7. Budget Allocation:
		 Affocation of funds for resource person's
		nonorarium, travel expenses, and any other
		8 Cleaning and Maintenances
		Cleaning and Maintenance: Cleaning services for the venue before and
		after the event
		 Maintenance services for technical equipment

PAGE 3 OF 2

		 9. COVID-19 Precautions: Adherence to local health guidelines, including mask-wearing, social distancing, and sanitization.
17	Any fund from external source will be received? If yes, mention it.	Yes
18	Whether budget for the event is attached? (use separate sheet to indicate the estimated budget)	Yes
19	Any other relevant information	Nil
20	Name of the event coordinator(s)	Ms. Archana C P (AP EEE), Mr. Sreeraj(The lab instructor EEE
21	Dated signature of the coordinator(s)	Hitan

TO BE FILLED BY THE DEPARTMENT HOD (any one of the HoD, in case if the event is jointly conducted by various department(s))

1	Comments on the relevance of the event	
2	Recommendation [Put a tick v on whichever is applicable]	Recommended Not Recommended
3	Name	Eshilash Krishnon T.K
4	Dated Signature	Alestation 2023

PRINCIPAL SREE NAPAYANA GOVI COLLEGE OF ENGINEERING & TOCHOLOGY, PAYYANUR KANNUR

COMMENTS FROM PRINCIPAL

APPROVED / NOT APPROVED

DATED SIGNATURE OF THE PRINCIPAL:

03 2023 Dr. LEENA A. V.

PAGE 4 OF 2

(Promoted by Sree Bhakthi Samvardhini Yogam, Kannur) (Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O. Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

VYSHNAV TV

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator Ms. Archana CP Assistant Professor

HOD-EEE Pricipal Mr. Abhilash Krishnai Assoc ofesso

Dr.Leen A V

(Promoted by Sree Bhakthi Samvardhini Yogam, Kannur) (Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

VISMAYA

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator Ms. Archana CP Assistant Professor

HoD- EEE Mr. Abhilash Krishnan T K Assocher Professor

Pricipal Dr.Leen A V

(Affliated to APJ Abdul Kalam Technological University and Approved by AICTE. New Delhi) Chalakkode P.O. Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

NIHAD T

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator Ms. Archana CP Assistant Professor

HoD- EEE Mr. Abhilash Krishnan T K Associate Professor

Dr.Leen A V

(Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

DIYA KC

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023



Coordinator Ms. Archana CP Assistant Professor

HoD-EEE Mr. Abhilash Krishnan T K Associato Professor

Pricipal Dr.Leen A V

(Promoted by Sree Bhakthi Samvardhini Yogam, Kannur) (Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

DEVI KEERTHANA

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator Ms. Archana CP Assistant Professor

HoD-EEE Pricipal Mr. Abhilash Krishnan T K Associate Professor

(Promoted by Sree Bhakthi Samvardhini Yogam, Kannur) (Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

ASWATHI PP

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023



Coordinator Ms. Archana CP Assistant Professor

HoD-EEE Professor Dr.Leen AV

(Promoted by Sree Bhakthi Samvardhini Yogam, Kannur) (Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

ANUVIND NK

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator Ms. Archana CP Assistant Professor

HOD- EEE Pricipal Mr. Abhilash Krishnan T K Associate Professor

Dr.Leen A V

(Promoted by Sree Bhakthi Samvardhini Yogam, Kannur) (Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

ANURAJ N

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator Ms. Archana CP Assistant Professor

HoD-EEE Mr. Abhilash Krishnan T K ANN F Associate Professor

Pricipal Dr.Leen A V

(Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi) Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

ADITHYA K

has suscessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator Ms. Archana CP Assistant Professor

HoD- EEE Mr. Abhilash Krishnan T K Associate Professor

Pricipal Dr.Leen A V



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Vyshnuv TV Date: 03/04/23

Training Session Evaluation:

1. Overall Satisfaction:

- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant /
- Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear /
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

Dr. LEENA A. V. PRINCIPAL SREE NATA/ANA GURU COLLECE OF ENGINEERING & TECHNOLOGY, PAYYANUR ICANNUR

- 5. Effectiveness of Hands-on Exercises:
- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- · Good
- Fair
- Poor
- 7. Likelihood of Recommending this Training to Others:
- Very Likely
- Likely
- Neutral
- Unlikely
- · Very Unlikely
- 8. Did the training session encourage you to learn more about LED technology?
- · Yes
- No
- 9. Overall Training Experience:
- Excellent
- Good
- Fair
- Poor

10. Additional Comments or Suggestions:

wood

Dr. LEENA, A. V. INCIPAL ANA GURU COLLEGE OF CHNOLOGY, PRYVINUR ENGINEERINAL

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Devikeerthung

Date: 3/4/23 Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- · Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
- · Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

PELINCIPAL PELINCIPAL ENERGY ANA GURU COLLEGE OF ENGNEERING & TECHNOLOGY, PAYTABUR ICANINUE

5. Effectiveness of Hands-on Exercises:

- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- Good
- Fair
- · Poor
- 7. Likelihood of Recommending this Training to Others:
- · Very Likely
- Likely
- Neutral
- Unlikely
- · Very Unlikely

8. Did the training session encourage you to learn more about LED technology?

- Yes
- No
- 9. Overall Training Experience:
- Excellent
- Good
- Fair
- Poor
- 10. Additional Comments or Suggestions:

Dr. LEENA A.V. FILINCIPAL SREE INFAMMAGURU COLLEGE OF ENGREETING & TICHNOLOGY, MAYNAUR LIANNUE

hood

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Aswalli PP

Date: 03 04 23

Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
 - Relevant
 - Somewhat Relevant
 - Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
 - Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- · Good
- Fair
- Poor

DY. LEENA A.V. PRINCIPAL SREENARXANA GURU COLLIDE OF ENGREERING & TCHNOLOGY, RAYAMUR KANNUR

5. Effectiveness of Hands-on Exercises:

- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- Good
 - Fair
 - Poor
 - 7. Likelihood of Recommending this Training to Others:
 - · Very Likely
- (Likely
- Neutral
- Unlikely
- · Very Unlikely
- 8. Did the training session encourage you to learn more about LED technology?
- · Yes
- No
- 9. Overall Training Experience:
- Excellent
 - Good
 - Fair
 - Poor

10. Additional Comments or Suggestions:

Croool

Dr. LEENA A.

PELINCIPAL SREE MARA/MA GURU COLLEGE OF ENCINCERING & TICHNOLOGY, PAYMALIR KANNUF

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: ROHIN . O

Date: 03-04-2023

Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
- Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

DY. LEENA A.V. PTUNCIPAL SREE NATA MAAGURU COLLEGE OF ENGREEPING & TCHNOLOGY, RAYANGR KANNUR

5. Effectiveness of Hands-on Exercises:

- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- . Good
- Fair
- Poor
- 7. Likelihood of Recommending this Training to Others:
- Very Likely
- · Likely
- Neutral
- Unlikely
- · Very Unlikely
- 8. Did the training session encourage you to learn more about LED technology?
- · Yes
- No
- 9. Overall Training Experience:
- Excellent
- · Good
- Fair
- Poor

10. Additional Comments or Suggestions:

PRINCIPAL STEEL ALL A ANA GURU COLL COL CHNOLOGY, INTANUR ENGINEEDING & ANINIT

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.

Excellent



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: And N Date: 44/23 Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
- Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
 - Good
 - Fair
 - Poor

un

DR. LEENA A.V. PRINCIPAL BREEILUKANNA GURU COLLEE OF BIOMEERING & TOCHNOLOBY, WYYASUR HANNUR

5. Effectiveness of Hands-on Exercises:

- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- · Good
- Fair
- Poor
- 7. Likelihood of Recommending this Training to Others:
- · Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

8. Did the training session encourage you to learn more about LED technology?

- . Yes
 - No
 - 9. Overall Training Experience:
 - Excellent
- Good
- Fair
- Poor
- 10. Additional Comments or Suggestions:

un

Dr. LEENA A. V. PTLINCIPAL UREE NATAYANA GURU COLL CLE OF ENGINEERINA A TOCHNOLOGY, MAYONUR ICANNUE

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Netword

Date: Stalazes Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
- . Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

SPEE SHEA/MA GURU COLL SOL OF CHINOLOGY, INVANIAN AHAN IF

- 5. Effectiveness of Hands-on Exercises:
- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- Good
- Fair
- Poor
- 7. Likelihood of Recommending this Training to Others:
- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely
- 8. Did the training session encourage you to learn more about LED technology?
- · Yes
- No
- 9. Overall Training Experience:
- Excellent
- Good
- Fair
- Poor

10. Additional Comments or Suggestions:

Dr. LEENA A. V. PRINCIPAL REE NUMANA GURU COLINE OF ENDIDERING & TO NOLOGY, WY WAR ENDIDERING & TO NOLOGY, WY WAR EADANUS

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Atty b Date: At 23 Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
- Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

Dr. LEENA A.V. PRINCIPAL MARGINA ST CHNOLOGY NOTABLE CANNUES

5. Effectiveness of Hands-on Exercises:

- Very Effective
- Effective
 - Somewhat Effective
 - Ineffective
 - 6. Interaction with Instructor:
 - Excellent
 - · Good
 - Fair
 - Poor
 - 7. Likelihood of Recommending this Training to Others:
 - Very Likely
 - Likely
 - Neutral
 - Unlikely
 - · Very Unlikely

8. Did the training session encourage you to learn more about LED technology?

- Yes
- No
- 9. Overall Training Experience:
- Excellent
- Good
- Fair
- Poor

10. Additional Comments or Suggestions:

Or LEENA A.V. PRINCIPAL STELL A ANA GURU COLL COP ENGINEERING & TOCHNOLOGY, INVINUE CANINUE

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Diga-ICC Date: -0/04/13 Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
 - Satisfied
 - Neutral
 - Dissatisfied
 - Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
- Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

un

Dr. LEENA A. V. PRINCIPAL BERNARANA GURU COLLIDE OF ENDINEERING & T.CHINOLOGY, PAYONUR KANHUR

- 5. Effectiveness of Hands-on Exercises:
- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- Good
- Fair
- Poor
- 7. Likelihood of Recommending this Training to Others:
- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely
- 8. Did the training session encourage you to learn more about LED technology?
- · Yes/
- No
- 9. Overall Training Experience:
- Excollent
- Good
- Fair
- Poor

10. Additional Comments or Suggestions:

DI, LEENA A.V. PRINCIPAL SEE NG AMA GURU COLLIGE OF ENGINEERING & TICHNOLORY, ROYAGUR ICAMPUE:

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.

2



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Anwind Date: Soy 123 Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied
- 2. Relevance of Training Content:
- Highly Relevant
- Relevant
- Somewhat Relevant
- Not Relevant
- 3. Clarity of Instruction:
- Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

Dr. LEENA A. V.

ENDER NOR ANA GURU COLLINE OF ENDER NOR ANALITY OF NOLOGY PAYAGE R

- 5. Effectiveness of Hands-on Exercises:
- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- Good
- Fair
- Poor
- 7. Likelihood of Recommending this Training to Others:
- Very Likely
 - Likely
 - Neutral
 - Unlikely
 - · Very Unlikely
 - 8. Did the training session encourage you to learn more about LED technology?
 - · Yes
 - No
 - 9. Overall Training Experience:
 - Excellent
 - Good
 - Fair
 - Poor

10. Additional Comments or Suggestions:

Dr. LEENA A.V. PRINCIPAL SREENARA/MAGURU COLLINE OF ENDREMMING TOCHNOLOGY, PRYNKILR ENDREMMING TOCHNOLOGY, PRYNKILR

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Momoya-h Date: 20 63 04 23 Training Session Evaluation:

- 1. Overall Satisfaction:
- Very Satisfied
- Satisfied
 - Neutral
 - Dissatisfied
 - Very Dissatisfied
 - 2. Relevance of Training Content:
- Highly Relevant
 - Relevant
 - Somewhat Relevant
 - Not Relevant
- 3. Clarity of Instruction:
- · Very Clear
- Clear
- Somewhat Clear
- Unclear
- 4. Quality of Training Materials:
- Excellent
- Good
- Fair
- Poor

DR. LEENA A.V. PRINCIPAL BREEMERAANA BURU COLUME OF ENGINEERING & T.CHNOLOGY, MAYANUR ICANNUR

- 5. Effectiveness of Hands-on Exercises:
- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- 6. Interaction with Instructor:
- Excellent
- · Good
- Fair
- Poor
- 7. Likelihood of Recommending this Training to Others:
- Very Likely
- · Likely
- Neutral
- Unlikely
- Very Unlikely
- 8. Did the training session encourage you to learn more about LED technology?
- · Yes
- No
- 9. Overall Training Experience:
- Excellent
- Good
- Fair
- Poor

10. Additional Comments or Suggestions:

Tocellast

DIT LEENA A. V. PRINCIPAL ERECHTAANA GURU COLLINE OF EXCHEMING TOMNOLORY, RAMANUR ICANATUR

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.



POST EVENT ANALYSIS FORM

1. TOBEFILLED BYTHEEVENTCOORDINATOR(S)

1	Event type conducted	PCB WORKSHOP
2	Event name	HANDS ON TRAINING ON PCB DESIGN AND FABRICATION
3	Date and time of the event conducted	30.03.2023 to 3.04.2023 09.30am - 03.30pm
4	Venue	LED Manufacturing unit
5	Whether the event was inter departmental? If yes,mention the department(s) Associated with	No. Electrical and Electronics Engineering
6	Mode of conduct [online \offline]	Offline
7	Is there any deviation from the proposal in the date, time and venue of the event? If yes, Mention the reason for change	No
8	Whether any professional body was associated with the event? If yes, name the body	No +
9	Any funds received from the professional body? Indicate the amount	Yes
10	Participants/Target Audience	All students

DE ELENT S. V. PRINCIPAL SALE NUPAYARA GURU COLLEGE OF ENCONTERNAS & TECHNOLOGY, PAYANUR PANAVER

7

PAGE10F2

11	Whether the event is conducted for bridging the gap in syllabus? If Yes, name the course with code and the semester and year it the subject is handled	No, Skill development
12	Objectives of the event	 Educational Insight: To familiarize participants with the fundamentals of PCB design. To provide practical training or using PCB design software Skill Enhancement: Enhance students' skills and creativity by encouraging participation in training sessions. To educate participants about the PCB fabrication process. To enable participants to create their PCB designs and fabricate them. Holistic Learning: Encourage interdisciplinary learning by allowing students to engage in different types of activities that cater to their diverse interests and talents, aligning with the holistic nature of the B. Tech curriculum.
		 Teamwork and Collaboration: Promote teamwork and collaboration through group activities. Participants gained a comprehensive understanding of PCB design principles and techniques. Hands-on experience: Enabled participants to create their PCB designs effectively. Participants learned how to optimize designs for fabrication, ensuring manufacturability and reliability. Increased confidence among participants in using PCB design software and submitting designs for fabrication.
13	Expected Outcomes	Hands on experience in creating PCB designs for project work
15	Connected PO /PSO	PO1,PO3,PO5, PO 9,PO 11,PO12
16	Justification forPO/PSO [may use separate sheet if necessary]	Engineering knowledge, Problem Analysis, Design / Development Of Solution, Modern tool usage, Individual and Team work, Project Management and Finance Life Long Learning
17	Whether feedback forms from audience and resource person,is collected?	Yes

ļ

PAGE20F2

18	Whether analysis of feedback is done? Use separate sheet to indicate the same	Yes
19	Attainment level of outcomes	
20	Name of the resource person	Ms. Archana C P, Mr. Sreeraj
21	Designation of the resource person(s)	Asst Professor EEE. The lab instructor EEE
22	Any other relevant information	Nil
23	Name of the event coordinator(s)	Ms. Archana C P(AP EEE), Mr. Sreeraj(The lab instructor EEE
24	Dated signature of the coordinator(s)	Julie War

II. TOBEFILLEDBYTHEDEPARTMENTHOD(anyone of the HoD, in case if the event is jointly conducted by various department(s))

List of enclosures-To be maintained in the file

SI No:	ÎTEM	AVAILABILITY YES /NO]
1	Posters	Yes
2	Schedule of the event	Yes
3	Registration form sample copy	No
4	All registration forms duly filled and signed	No
5	Profile of the resource person(s)	No
6	Feedback forms filled by participants and resource person	YES
7	Feedback analysis sheet	465
8	CO attainment calculation sheet	No
9	Study Materials(if any)	No
10	Letters or printouts of e-mail communication Relevant to the event	Yes
11	Documents related to professional body associated with the event	Yes

PAGE30F2

12	Photographs of the event	"hs
1	Comments about the conduct of the event	-
2	Comments about the resource person and impact of the event	2
3	Name	Abrilash. Lasmin T
4	Dated Signature	Autom

COMMENTS FROM PRINCIPAL

TALENDARY CONTRACTOR

DATED SIGNATURE OF THE PRINCIPAL:

06 =4 2023

Dr. LEENA, A. V. PRINCIPAL BREE MAPAYANA GURU COLLEDE OF ENGREERINE & TICHNOLOGY, RAYYANUR KANNUR

PAGE 3 OF 2