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NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: www.diet.edu.in, 9963694444, 9963994043 E-mail: info@diet.edu.in, hodece@diet.edu.in



A SIX DAY WORKSHOP

ON

PCB DESIGN

(28th Aug, 2023 to 2nd Sep, 2023)

Organized by

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

In association with

Andhra Pradesh State Skill Development Corporation (APSSDC)

Resource Persons : 1. Mr.M.Uma Maheswara Rao, Electronics Engineer-APSSDC.
2. Mrs.G.Sirisha, Electronics Engineer-APSSDC.

Convenor : Dr.P.Poorna Priya, HoD ECE, DIET, Anakapalle.

Faculty Coordinator: Ms.Sk.Shabeena, Assistant Professor, E.C.E Department.

Student organizers : Mr.B.Raja Ratna Prasad- 22U41A0402.
Ms.G.Haritha -22U41A0414.
Ms.K.Harshitha

Technical Staff : Mr.K.Srinivasa Rao
Mr.B.Sheshagir Rao



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Report on Workshop

The Department of Electronics and Communication Engineering of DIET, in association with Andhra Pradesh State Skill Development Corporation (APSSDC) has organized a Six day workshop on " PCB DESIGN " for II B.Tech ECE Students during 28-08-2023 to 02-09-2023. The main aim of workshop is to develop the practical knowledge of students in advanced PCB software's and to design the multiple circuits. The workshop was aimed to provide knowledge about Complete PCB Designing using simulation tool to test electronics & electrical circuit in software environment and to design simple circuits using hardware.

About PCB:

A **Printed Circuit Board (PCB)** mechanically supports and electrically connects electronic or electrical components using conductive tracks, pads and other features etched from one or more sheet layers of copper laminated onto and / or between sheet layers of a non-conductive substrate. Components are generally soldered onto the PCB to both electrically connect and mechanically fasten them to it and point-to-point construction. PCBs require additional design effort to layout the circuit, but manufacturing and assembly can be automated. Printed circuit boards are used in all the electronic products. They are also used in electrical products, such as passive switch boxes.

Inauguration:

The inauguration of the workshop was conducted in the Seminar Hall 2, DIET Campus on 28-08-2023 at 9.30 AM with a prayer song. The dignitaries of the Inaugural Function includes, **Dr.R.Vaikunta Rao, Principal**, **Dr.P.Poorna Priya**, HoD-ECE, Workshop Convenor and resource persons **Mr.M.UmaMaheswara Rao**, Electronics Engineer-APSSDC, **Mrs.G.Sirisha**, Electronics Engineer-APSSDC. The HoD's of other departments, E.C.E Department faculty



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members and 45 students from II B.Tech ECE Department have participated in the inaugural function. The Welcome speech was given by students Ms.K.Harshitha of II B.Tech ECE.



Dignitaries on the Dias

The Convenor Dr.P.Poorna Priya, H.O.D, E.C.E Department, have given the opening remarks about the workshop. She has addressed all the student participants to make use of this workshop and improve their practical knowledge.

The Principal Dr.R.Vaikunta Rao, addressed the students about workshop and importance of APSSDC. He said that, it is an opportunity for all the II B.Tech ECE students to learn different PCB Softwares and Hardware modules. Apart from theoretical knowledge, practical knowledge is also very important for Engineering students. So, he has suggested all the students to make use of this 6-day workshop effectively.



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Dr.R.Vaikunta Rao, Principal - DIET, addressing the gathering.

Mrs.G.Sirisha, Electronics Engineer-APSSDC, briefed the students about workshop and importance of PCB Design.



Mrs.G.Sirisha, Resource Person-APSSDC, addressing the students about workshop.

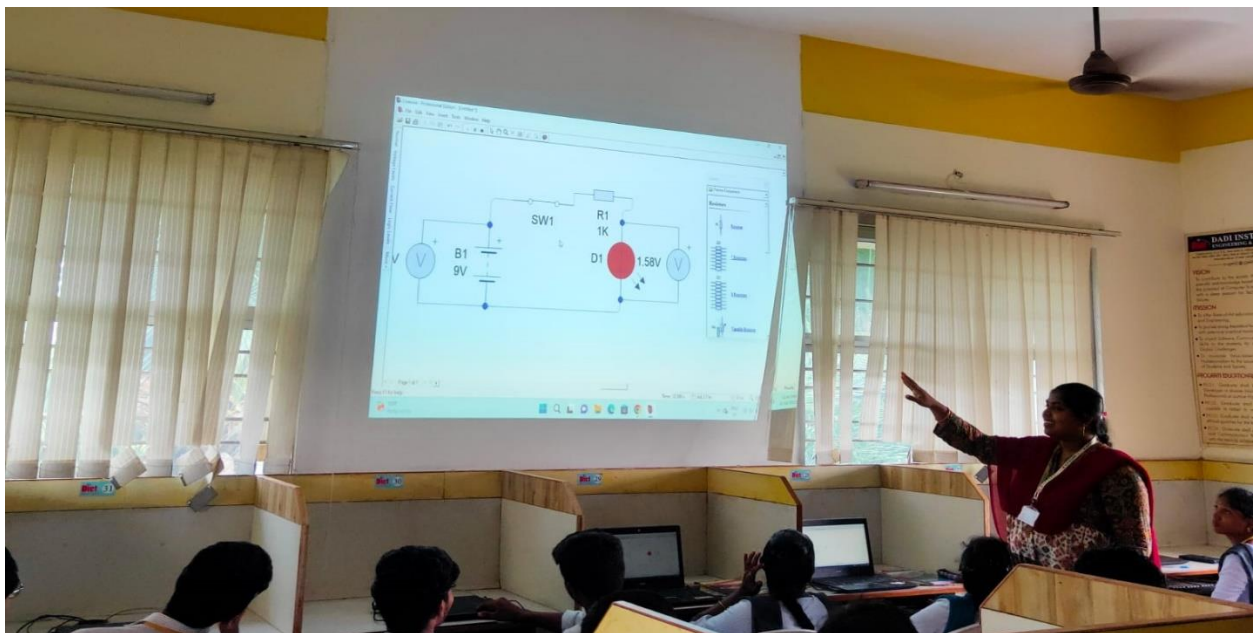
Day Wise Program Details

Day-1: Workshop on "PCB DESIGN" - DIET – 28th Aug 2023

Resource Persons: Mr.M.UmaMaheswara Rao Electronics Engineer-APSSDC and Mrs.G.Sirisha, Electronics Engineer-APSSDC

Topics covered: Introduction to PCB and Software

Mrs.G.Sirisha, in the Forenoon Session started with introduction of PCB Designing, layouts, benefits of the workshop and its applications. She has explained about Schematic Design of a demo Circuit and pointers to make precise schematic design from 11.00 AM to 12.30 PM.



Mr.M.UmaMaheswara Rao has explained about the types of software's and their usage 1) Live wire and 2) PCB wizard. All the 45 participants designed basic circuits by using Live Wire software from 01.00 PM-04.00 PM.



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Day-2: Workshop on "PCB DESIGN" - DIET – 29th Aug 2023

Resource Persons: Mr.M.UmaMaheswara Rao, Electronics Engineer-APSSDC

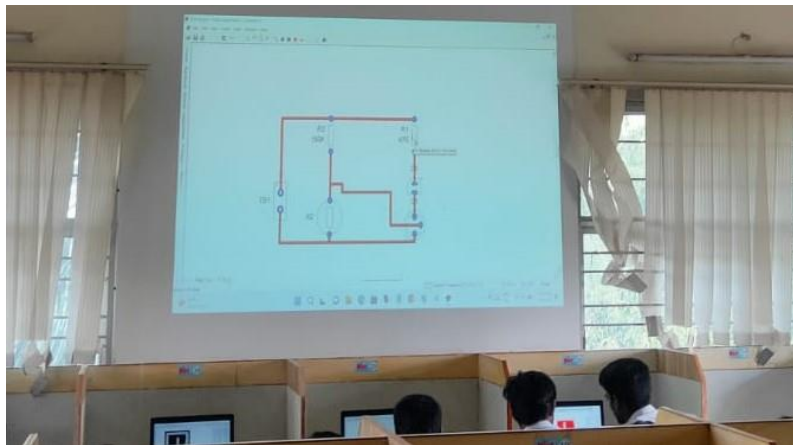
Topics covered:

Forenoon Session:

- 1.Introduction to LDR
- 2.LDR Interfacing with LED by Using Live Wire Software
3. Explained about usage of PCB Wizard Tool
4. Identification of Component Foot Prints

Afternoon Session:

1. Explained about differences between through hole components and CMD components
2. Calling bell circuit Layout designed in PCB Wizard
3. LDR Circuit Layout designed in PCB Wizard



Mr.M.UmaMaheswara Rao, explained how to design different types circuits by using Live wire software.

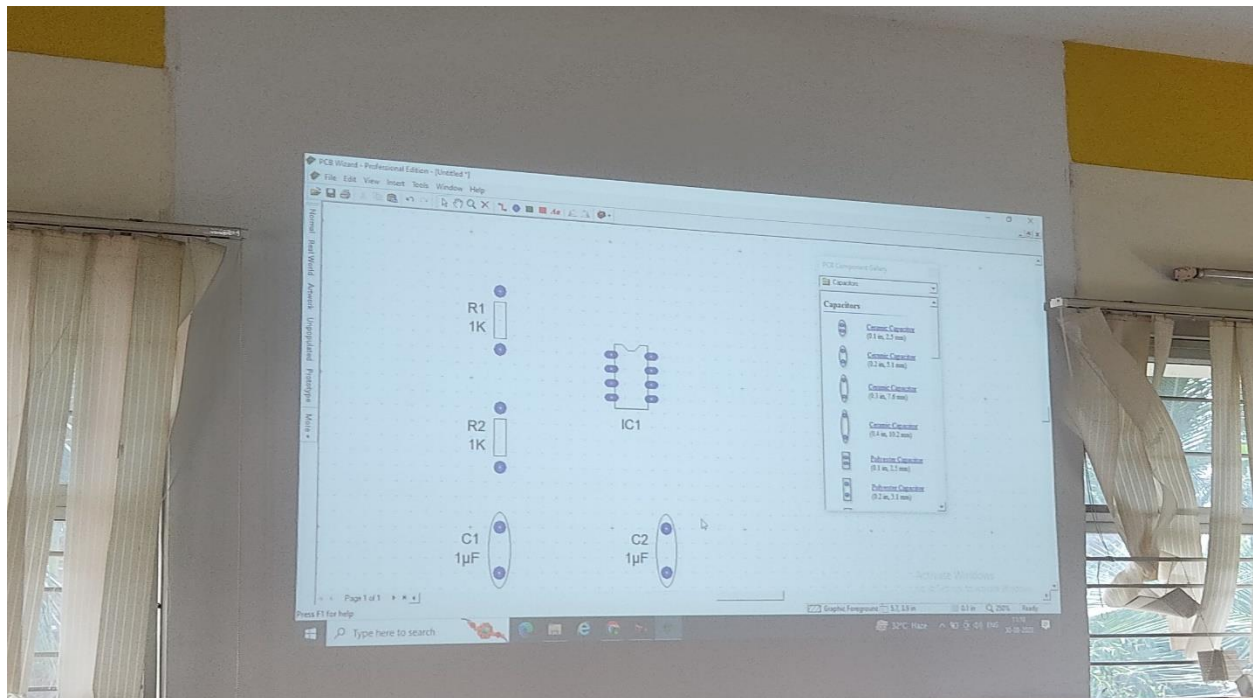
Day-3: Workshop on "PCB DESIGN" - DIET – 30th Aug 2023

Resource Persons: Mr.M.UmaMaheswara Rao, Electronics Engineer-APSSDC

Topics covered:

Forenoon Session:

1. Introduction to 555 Timer
2. Blinking of an LED using 555 timer IC circuit
3. Blinking of two LEDs alternately using 555 timer IC circuit
4. 555 Timer Layout Designed in PCB Wizard tool





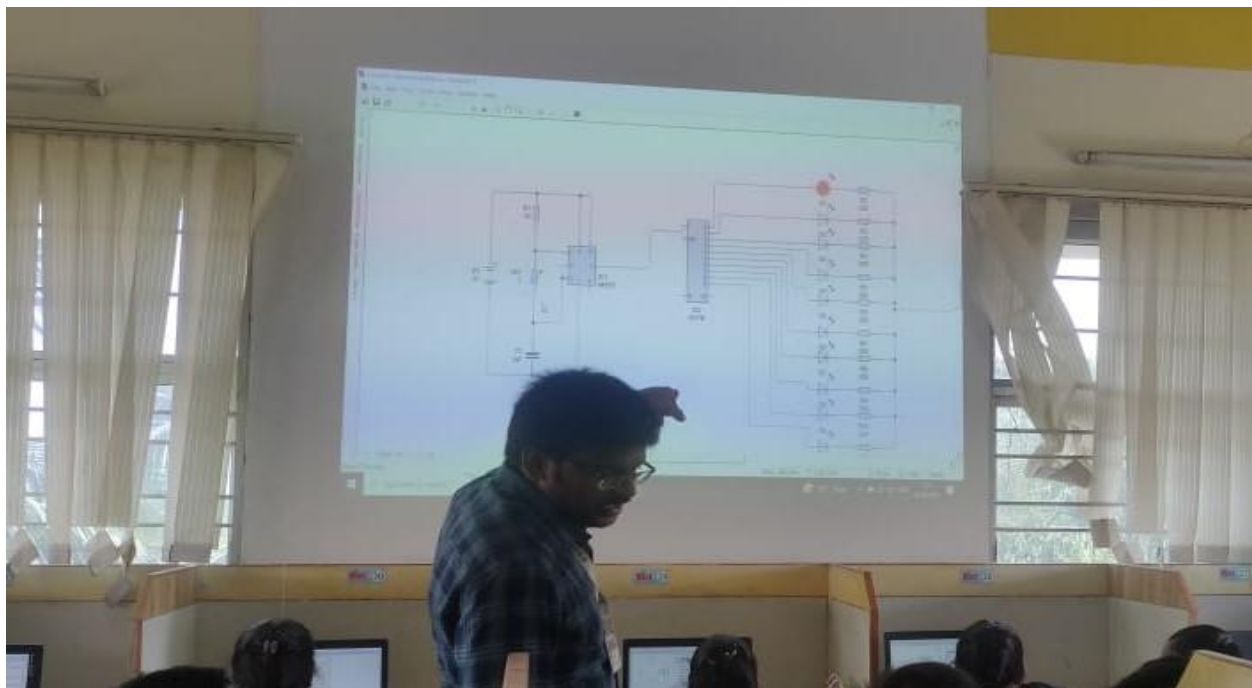
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Afternoon Session:

1. 555 Timer layout designed in PCB Wizard in different methods (possibility ways)
2. Showing output waveforms in CRO by using LIVEWIRE software.
3. Designing PCB layout for led chaser circuit using 4017b IC
4. Explanation of manual routing and auto routing in PCB wizard software
5. Introduction of EasyEDA Software
- 6 Introduction to double layered PCB design using EasyEDA software
7. Explanation of photo view and 3D view of PCB layouts
8. Auto Routing in EasyEDA tool





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Day-4: Workshop on "PCB DESIGN" - DIET – 31th Aug 2023

Resource Persons: Mr.M.UmaMaheswara Rao, Electronics Engineer-APSSDC

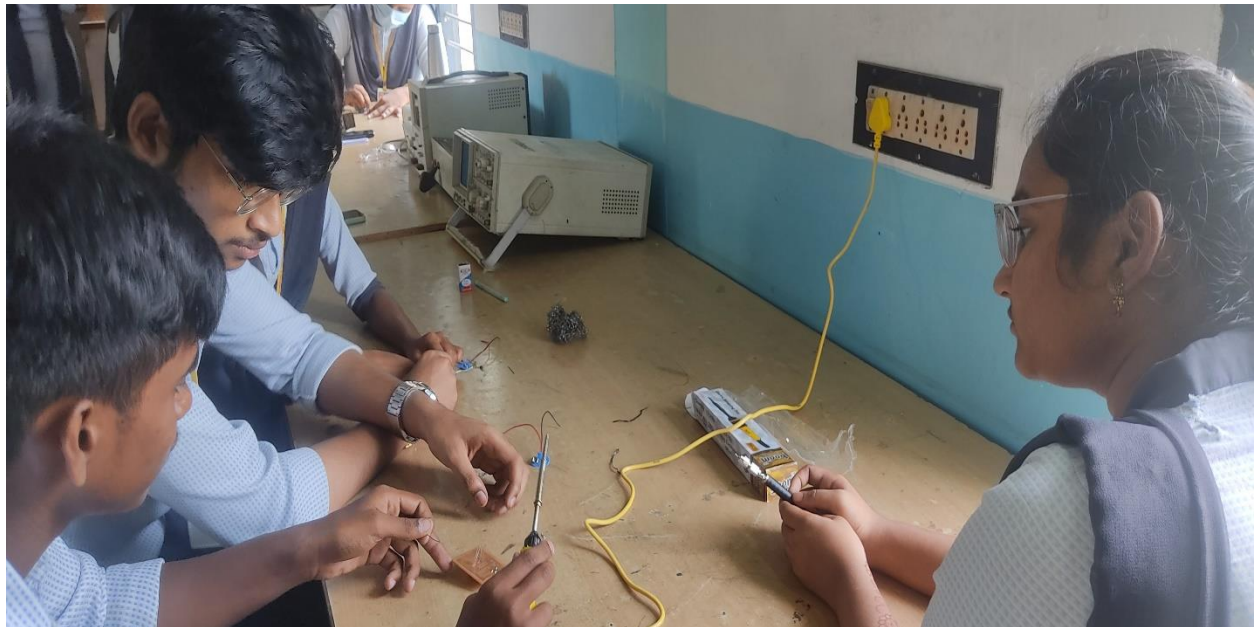
Topics covered:

Forenoon Session:

- Hardware Requirement Setup

Afternoon Session:

1. Calling circuit
2. LDR interfacing with LED,
3. LED brightness controlling by using potentiometer
4. PCB Boards are designed



Day-5: Workshop on "PCB DESIGN" - DIET – 1st Sep 2023

Resource Persons: Mr.M.UmaMaheswara Rao, Electronics Engineer-APSSDC

Topics covered:

- 555 timer LED flasher, Fire alarm and Clap Switch with PCB Boards are Designed





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Day-6: Workshop on "PCB DESIGN" - DIET – 2nd Sep 2023

Resource Persons: Mr.M.UmaMaheswara Rao, Electronics Engineer-APSSDC

Topics covered:

1. Water level Indicator.
2. LED Chaser by using 4017 Decade counter.
3. Police vehicle lights using 4017b PCB boards are designed





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Valedictory Programme of PCB DESIGN Workshop

The Valedictory of the workshop was conducted in the Seminar Hall 2, DIET Campus on 02-09-2023 at 3.30 PM. The dignitaries of the Valedictory Programme includes, **Dr.R.Vaikunta Rao, Principal** , **Dr.P.Poorna Priya**, HoD-ECE, Workshop Convenor and resource persons **Mr.M.UmaMaheswara Rao**, Electronics Engineer-APSSDC. The HoD's of other departments, E.C.E Department faculty members and 45 students from II B.Tech ECE Department have participated in the Valedictory Programme .



HoD-ECE Dr.P.Poorna Priya Addressing the students on successful completion of the workshop



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Principal-DIET, Dr.R.Vaikunta Rao addressing the students in the valedictory programme



Ms.D.Sravani-IIB.Tech ECE student presenting feedback on the Workshop



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Mr.M.Uma Maheswar Rao-Resource Person-APSSDC addressing the students



Felicitating Mr.M.Uma Maheswar Rao-Resource Person-APSSDC with a token of remembrance from DIET.



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Outcome of workshop:

All the 45 participants effectively utilized the workshop and learned about PCB related softwares for designing different electronic circuits and hardware setup for designing circuits on PCB Boards.

Now all the participants are able to:

- Design circuits by using Live Wire Software.
- Design circuits by using PCB Wizard Software.
- Design circuits by using Easy EDA Software.
- Design circuits on PCB Boards.

Feedback from students:

After attending this workshop students have expressed their views as follows:

- In 2nd year itself we all got an opportunity to participate in workshop which is conducted on PCB design in association with Andhra Pradesh State Skill Development Corporation (APSSDC).
- We all have learned the basics of PCB, different types of PCB software and Hardware setup to design circuits.
- It's very interesting for all the 6 days.
- It is a very good experience for us in experiencing the hands on experience.

I would like to thank our honourable Chairman, Sri Dadi Ratnakar, for his continuous cooperation and support for conducting this workshop.

I would like to thank our beloved principal, Dr.R.Vaikunta Rao for his encouragement in all aspects for conducting industry based workshops .



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I would like to thank Dean Academics – DIET, All the Departmental HOD's, Faculty coordinators , Student coordinators , ECE department teaching and non teaching faculty members , Admin staff who knowingly and unknowingly helped in all aspects for making this workshop a grand success.



Group photo with Convener, Principal, Resource persons, Faculty and Participants.



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సాక్షి

ఈసీఈ విద్యార్థులకు అపార అవకాశాలు



విద్యార్థులతో కళాశాల ప్రస్థాపిత, పలు విభాగాధిపతులు అనకాపల్లిటౌన్: ఈసీఈ గ్రూప్ విద్యార్థులకు అపార ఉద్యోగావకాశాలు ఉన్నాయని, వాటిని అందించుచుకోవాలని ఈసీఈ విభాగాధిపతి పి.పూర్ణప్రియ అన్నారు. డైట్ కళాశాలలో సోమవారం ఈసీఈ విద్యార్థులకు వర్క్ షాప్ జరిగింది. ఈ సందర్భంగా ఆమె మాట్లాడుతూ జటువంటి వర్క్ షాప్ ల ద్వారా విద్యార్థులు ఎప్పుటికప్పుడు సర్క్యూట్ బోర్డు, ప్రాజెక్టుల తయారీ విధానాన్ని సులభంగా తెలుసుకునే అవకాశముందన్నారు. విద్యార్థులు తమ సజ్జె క్షుల్లో నైపుణ్యత సాధించి ఉద్యోగావకాశాలను అందించుకోవాలని సూచించారు. ఏపీఎస్ఎ సెడీసి ఇంజనీర్ జి.శిరీష, రిసోర్స్ వర్కస్ ఎం.ఉమామహేశ్వరరావులు పీసీడీ డిజైన్ ప్రాముఖ్యతను తెలియజేశారు. కార్యక్రమంలో ప్రొఫెసర్ పాల్ ఆర్.వైకుంఠరావు, కళాశాల సిబ్బంది, విద్యార్థులు పాల్గొన్నారు.

29/08/2023 | Anakapalle(Anakapalle District) | Page : 9 Source : <https://epaper.sakshi.com/>

సాక్షి

నకాలలో ప్రముఖ సంక్షేమ పథకాలు అందిస్తు ఉద్యోగులు, ఎలంటిల్లు వాల్గొన్నారు.

డైట్ లో ముగిసిన ఈసీఈ వర్క్ షాప్

అనకాపల్లిటౌన్: స్థానిక డైట్ కళాశాలలో వారం రోజులుగా నిర్వహిస్తున్న ఈసీఈ వర్క్ షాప్ శనివారంతో ముగిసింది. ఈ కార్యక్రమానికి ముఖ్య అతిథిగా విచ్చేసిన ప్రొఫెసర్ ఆర్.వైకుంఠరావు మాట్లాడుతూ ప్రైవేట్ సర్క్యూట్ బోర్డు(ఈసీఈ) వర్క్ షాప్ విద్యార్థులకు ఎంతగానో ఉపయోగపడిందన్నారు. ఇలాంటి వర్క్ షాప్ ల ద్వారా వివిధ టెక్నిక్ లు అలవర్చుకోవడంతోపాటు నూతన టెక్నాలజీలో మెళకువలు తెలుసుకోవచ్చన్నారు. అంతకు ముందు వర్క్ షాప్ లో ఉత్తమ ప్రతిభ కనబర్చిన విద్యార్థులకు ప్రకంసావత్రాలు అందించారు. కార్యక్రమంలో ఈసీఈ



విద్యార్థికి ప్రకంసావత్రం అందిస్తున్న ప్రొఫెసర్ వైకుంఠరావు, విభాగాధిపతి పూర్ణిమ విభాగాధిపతి పి.పూర్ణిమ, రిసోర్స్ వర్కస్ ఎం.ఉమామహేశ్వరరావు, విద్యార్థులు పాల్గొన్నారు.

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నకాలలో ప్రముఖ సంక్షేమ పథకాలు అందిస్తు ఉద్యోగులు, ఎలంటిల్లు వాల్గొన్నారు.

డైట్ లో ముగిసిన ఈసీఈ వర్క్ షాప్

అనకాపల్లిటౌన్: స్థానిక డైట్ కళాశాలలో వారం రోజులుగా నిర్వహిస్తున్న ఈసీఈ వర్క్ షాప్ శనివారంతో ముగిసింది. ఈ కార్యక్రమానికి ముఖ్య అతిథిగా విచ్చేసిన ప్రొఫెసర్ ఆర్.వైకుంఠరావు మాట్లాడుతూ ప్రైవేట్ సర్క్యూట్ బోర్డు(ఈసీఈ) వర్క్ షాప్ విద్యార్థులకు ఎంతగానో ఉపయోగపడిందన్నారు. ఇలాంటి వర్క్ షాప్ ల ద్వారా వివిధ టెక్నిక్ లు అలవర్చుకోవడంతోపాటు నూతన టెక్నాలజీలో మెళకువలు తెలుసుకోవచ్చన్నారు. అంతకు ముందు వర్క్ షాప్ లో ఉత్తమ ప్రతిభ కనబర్చిన విద్యార్థులకు ప్రకంసావత్రాలు అందించారు. కార్యక్రమంలో ఈసీఈ



విద్యార్థికి ప్రకంసావత్రం అందిస్తున్న ప్రొఫెసర్ వైకుంఠరావు, విభాగాధిపతి పూర్ణిమ విభాగాధిపతి పి.పూర్ణిమ, రిసోర్స్ వర్కస్ ఎం.ఉమామహేశ్వరరావు, విద్యార్థులు పాల్గొన్నారు.

Paper Clippings of 6-Day Workshop on PCB Design in DIET



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Department of Electronics & Communication Engineering

in association with

APSSDC

Andhra Pradesh State Skill Development Corporation

is organizing "One Week Workshop" on

PCB Design



Resource Persons

1. Ms. G.Sirisha, APSSDC
2. Mr. M.Uma Maheswara Rao, APSSDC

Date: 28/08/2023 to 02/09/2023

Time: 9:00 AM to 4:00 PM

Venue: Inauguration - Seminar Hall 2
Workshop - MPMC lab and Communication lab

Dr. P. Poorna Priya
HoD, ECE

Dr. R. Vaikunta Rao
Principal

Sri Dadi Ratnakar
Chairman

Invitation for PCB Design Workshop