Where dreams find their path to reality

Electrical and Electronics Engineering

Sep 2021-Dec 2021 (Vol-11)

VISION

The Department of Electrical and Electronics Engineering strives to be a Centre of Excellence in Electrical Engineering in producing competent engineers.

MISSION

1. *Adopt good teaching and learning methods*
2. *Ensure competency in the emerging technologies*
3. *To be accountable through self-evaluation and continuous improvement.*

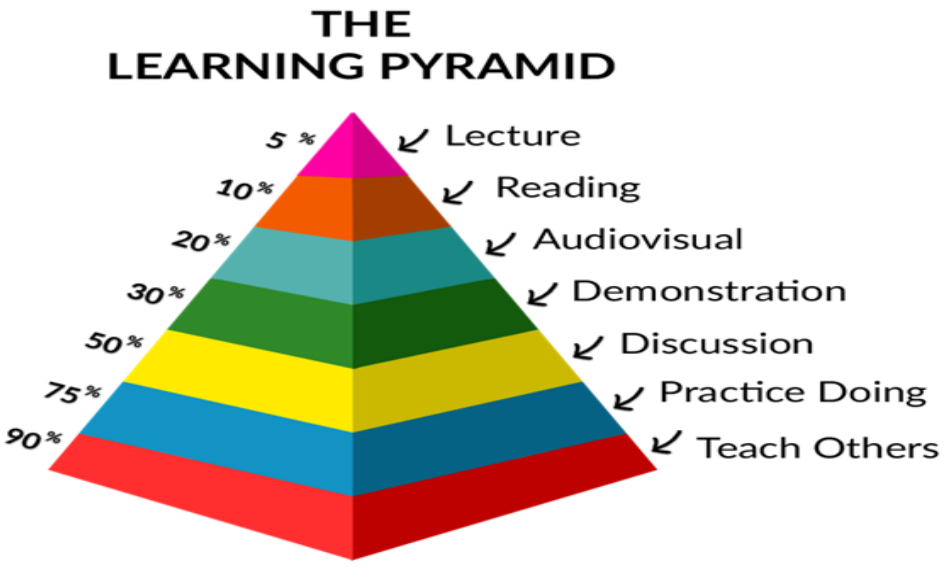
Chief Editor

Dr.O.P. SURESH, HOD

Editors

Ms. P. MADHAVI, Asst. Professor

Learning Pyramid



HITAM-EEE News Letter

HYDERABAD INSTITUTE OF TECHNOLOGY AND MANAGEMENT

EEE DEPARTMENT

Program Educational Objectives

PEO1: Graduates will have a successful technical or professional careers, including supportive and leadership roles on multidisciplinary teams.

PEO2: Graduates will be able to acquire, use and develop skills as required for effective professional practices.

PEO3: Graduates will be able to attain holistic education that is an essential prerequisite for being a responsible member of society.

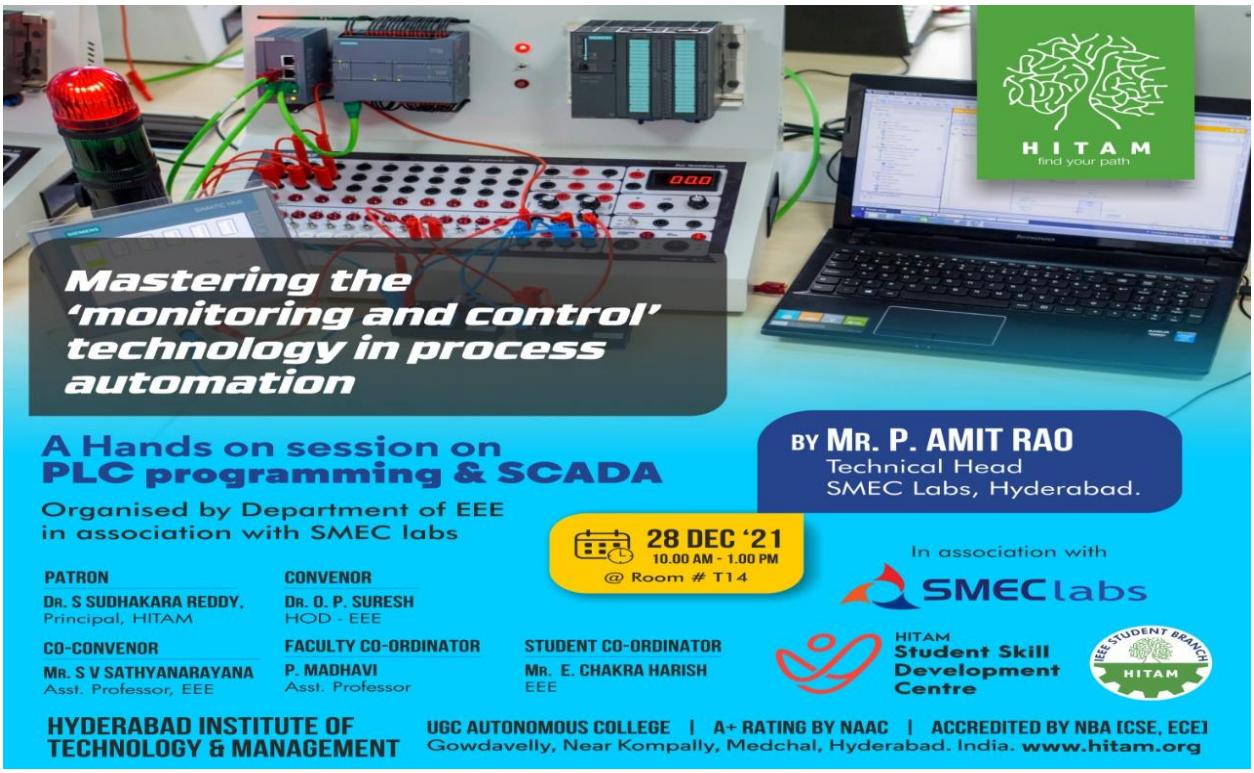
Program Specific Outcomes

PSO1: Analyze, Model, Test and provide engineering solutions in the areas related to electric drives, control and power systems.

PSO1: Apply fundamentals of electrical engineering to simulate and develop electrical and electronic systems using MATLAB, PSPICE tools.

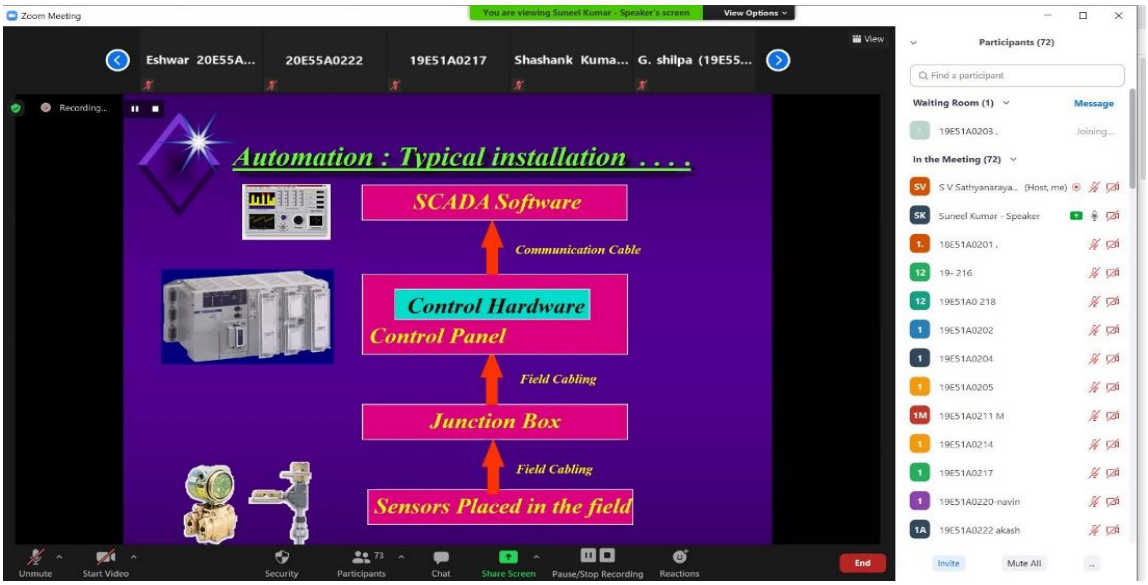
Department Activities

- ✓ *Organized a "**Hands-on Session on PLC Programming & SCADA in association with SMEC labs"**. Automation is the use of various control systems for operating equipment such as machinery, processes in factories, boilers, and heat-treating ovens, switching on telephone networks, steering and stabilization of ships, aircraft and other applications with minimal or reduced human intervention. Some processes have been completely automated. The biggest benefit of automation is that it saves labour; however, it is also used to save energy and materials and to improve quality, accuracy and precision. Automation has been achieved by various means including mechanical, hydraulic, pneumatic, electrical, electronic devices and computers, usually in combination. Complicated systems.*



- ✓ *Organized an Online webinar on '**Overview on Industrial Automation with PLC & SCADA' in association with Prolific Systems and Technologies**, Hyderabad. This webinar purely focused on the basic working of controllers in the automation sector for Electrical students. It provides end-to-end comprehensive total Automation Solutions through the integration of cutting-edge, state-of-the-art PLCs (Programmable Logic Controllers), controllers,*

distributed data acquisition and control systems, compact PCI, and PC-based open control software solutions. Both theoretical & practical training will be imparted during this webinar in the following domain: Brief information about PLC components, various ranges available in PLCs, Creating a new SCADA application, power supply, I/O modules, and communication bus. This webinar gives motivation and benefit to a large number of students especially UG students and also faculty who are working in Industrial Automation.



Faculty Achievements

- *Pedda Suresh Ogeti, Hyderabad Institute of Technology and Management Has participated in a One-week international workshop on JAVA WITH ANDROID from 20th - 25th SEP, 2021 organized by the Department of Computer Science and Engineering, HITAM in association with Brain O Vision, CSI and IEEE- Student Branch HITAM.*

- *Mr. S V Sathyanarayana, Ms. Madhavi for presenting the Case Study PBL report at IUCEE- Mini-Symposium PBL.*

- *Mr.Chiranjivi and M.Siddartha attended the 5-day FDP on MATLAB and its applications for Project development in Electrical Engineering from 26th – 30th Oct 2021.*

VIGNAN'S NIRULA

INSTITUTE OF TECHNOLOGY AND SCIENCE FOR WOMEN
Approved by AICTE New Delhi & Affiliated to JNTU Kakinada
An ISO 9001:2019 Certified Institution
Peda Palakaluru, Guntur-522009,
Andhra Pradesh.

Department of Electrical and Electronics Engineering

CERTIFICATE OF PARTICIPATION

This is to certify that Mr. Mallarapu Siddartha, working as Assistant Professor in EEE, Hyderabad Institute of Technology and Management, Hyderabad, Telangana has participated in A Five Day National Level Workshop on "MATLAB and its Applications for Project Development in Electrical Engineering" conducted during 26th -30th October 2021.

Mrs. S. L. Sirisha
Co-Convener & HoD-EEE

Dr. Joseph Sanam
Convener

Dr. P. Radhika
Principal

Email : principal@vignannirula.org

www.vignannirula.org

- *M.Chiranjivi published a Paper in IEEE with the title of Green Energy Power Charging infrastructure for Hybrid EVs on 10/12/2021.*

Green Energy Powered Charging Infrastructure for Hybrid EVs

Anurag Shrivastava
Department of Pharmacy
Lakshmi Narain College of Technology and Science
Indore, India
anuragshri76@gmail.com

Jarabala Ranga
Department of EEE
Ramachandra College of Engineering
Eluru, India
jarabalaranga@rcee.ac.in

V N S L Narayana
Department of EEE
University of Technology
Hyderabad, India
avnslnnarayana@gmail.com

Chiranjivi
Department of EEE
Hyderabad Institute of Technology and Management
Hyderabad, India
chiranjivimadduluri@gmail.com

Yogini Dilip Borole
Department of Electronics and Telecommunications Engineering
GH Raisoni Institute of Engineering and Technology
Pune, India
yoginiborole@gmail.com

2021 9th International Conference on Cyber and IT Service Management (CITSM) | 978-1-6654-3548-2/21/$31.00 ©2021 IEEE | DOI: 10.1109/CITSM52892.2021.9588027

Abstract- Nowadays, Vehicles used for transport purposes in India rely primarily on traditional sources of energy. In the various surveys, it has been observed that the automobile sector is the largest contributor of pollutants due to eminent co2 emissions resulting in the continuous degradation of the ecosystem and environment. Besides, the petroleum products usually used in automobiles are depleting promptly at a very alarming rate which is a matter of great concern. In view of that, the future lies in the more accelerated adoption of electric vehicles (EVs), which have been proved to be more energy-efficient, much higher than conventional petrol or diesel-based vehicles. This paper proposes an all-new innovative, integrated hybrid power module involving both renewable and conventional power sources fundamentally to feed the EVs. A smart integrated controller circuit has been designed for the efficient utilization of multiple energy sources and storage. Health monitoring of the whole system is taken care of to avoid disruption to the services. The scheme proposed is aimed towards reliable and affordable e-charging. Moreover, this scheme will also promote the local electricity supply's self-reliance and reduce the conventional energy flow burden. To become a critical imperative global player in the energy sector, India needs a rapid transformation by emphasizing and strengthening energy-efficient green technologies to support & nurture the ambitious goal, i.e., 'Atmanirbhar Bharat,' and to move towards a sustainable, vibrant society. The newly proposed scheme, cost optimization strategy, mathematical tools and the necessary outcome has been explained, explored, and highlighted in the subsequent sections.

Keywords- Charging, distributed generation (DGs), electric vehicle, hybrid module, energy efficiency, solar PV

I. Introduction

In recent times there has been significant development in the field of e-mobility for energy-efficient operation and to make it a popular choice between the consumers. Moreover, new storage technology introduces a reliable power supply with a compact and attractive design. Researchers and scientists worldwide are continuously making an effort to study various optimization techniques to explore and unlock hidden potentials. Although there are several challenges, including design, production, reliability, efficiency, etc., an innovative approach with new cutting-edge technology has made it possible to convert it into opportunity. The quick deterioration of traditional power resources makes an urgent call for systematic replacement with alternative sustainable renewable sources. Several developmental challenges have been optimized in recent times, which have a remarkable contribution to the EVs sector's exponential growth. By early 2003, India witnessed a considerable shortage in the electric supply-demand, and non-renewable sources like coal and fossil fuels cannot meet the growing energy demand. This may also cause a problem in supplying adequate charge to the EV charging station from time to time. So, renewable energy sources are adapted to meet the growing demand and minimize the shortage of electric supply from the grid because of the above situation. Hence the EV charging station can be facilitated. India is among the elite class countries to have the largest growing economy, and this can further be strengthened by emphasizing energy-efficient green technologies, which also help to maintain a sustainable environment with better energy security. The recent global warming and energy crisis has unlocked the exploration and intense research for the most trustworthy sustainable alternative, which has paved the path towards the systematic adoption of Electric Vehicle (EV) with improvised technologies and shall be beneficial in minimizing co2 emissions and safeguard our environment to a great extent. Nevertheless, the challenges of the availability of infrastructural support for Electric Vehicles' smooth operation in large volumes do not exist, and this work aims to address those issues with an amicable solution. Moreover, introducing new storage technology leads to a reliable power supply with a compact design. However, several challenges include design, production, reliability, efficiency, the evolution of new cutting-edge technology, and innovation has made it possible to convert it into a golden opportunity. Apart from hydropower and likely wind power, non-conventional energy supplies are not accessible in abundance, rendering them incompetent and inefficient for mass-level energy production. Therefore, the widely fragmented complexity of their distribution and lack of reliability would preclude the likelihood of organized output. However, the decentralization of the current network and the emergence of distributed generation (DGs) would undoubtedly shed light on a viable Alternative. The acceptance of EV over fuel-powered vehicles has been debated in the automobile industries for years. In theory, EV's perform fantastic with instant torque, easy maintenance, carbon-free emission, less moving part, but unfortunately, in reality, there are prominent barriers that predominantly affect

- *Mr.S.V.Satyanarayana attended 5 day online FDP on Basics on MATLAB & its applications.*

G.PULLA REDDY ENGINEERING COLLEGE(Autonomous):Kurnool

Accredited by NBA of AICTE and NAAC of UGC & Affiliated to JNTUA, Ananthapuramu, A.P., India.

Certificate of Participation

This is to certify that Dr/Mr/Mrs.SALAVA V SATYANARAYANA from HYDERABAD INSTITUTE OF TECHNOLOGY AND MANAGEMENT Participated in a 5-day Online Faculty Development Program on "Basics of MATLAB & Its Applications" held from 27th to 31st December 2021 organized by Math Club, Department of Humanities & Basic Sciences, GPREC in association with MathWorks and Capricot Technologies Pvt. Ltd , Hyderabad.

Dr.M.SIVA SANKARA REDDY, Co-Convener | Dr.V.RAGHAVENDRA PRASAD, Convener | Dr.Y.RAJASEKHARA GOUD, HoD-H&BS | Dr.B.SREENIVASA REDDY, Principal

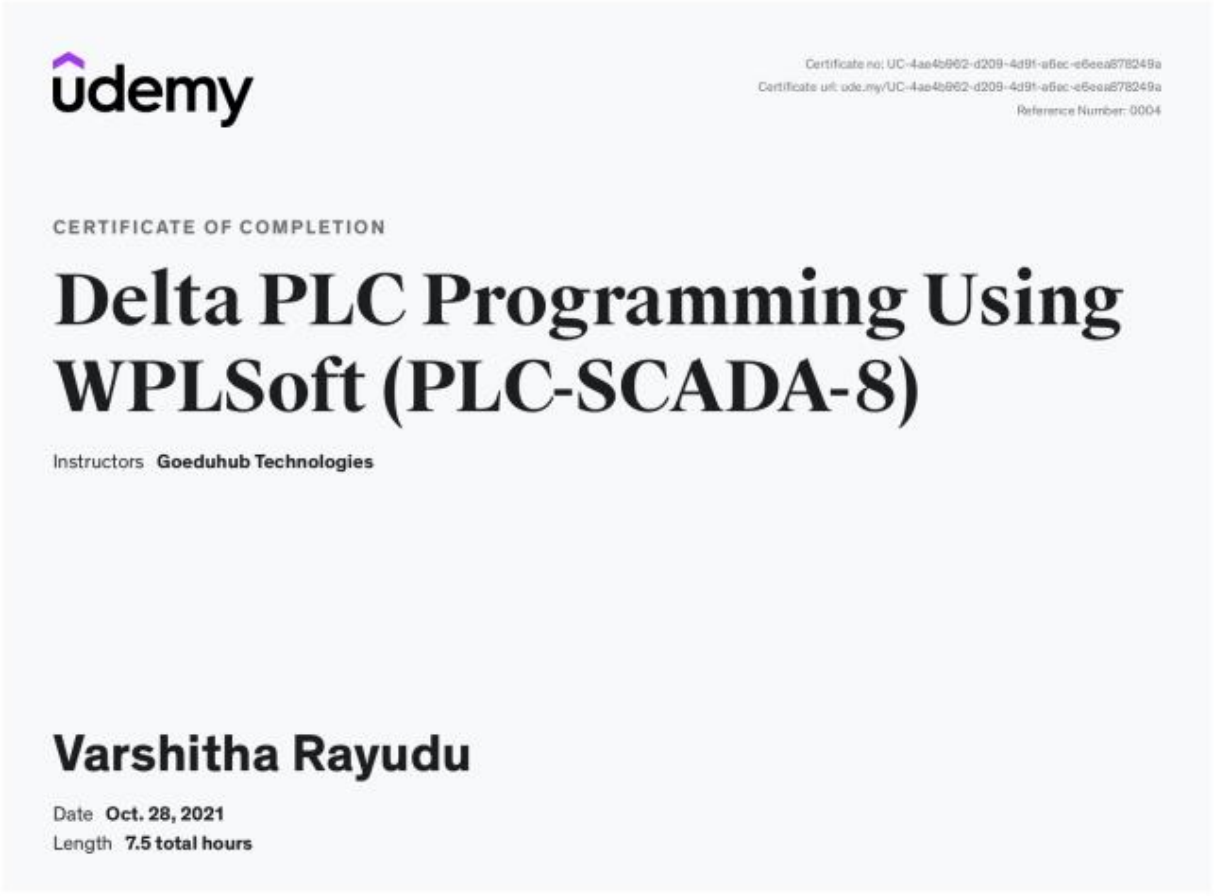
- *Mr. Sathyanarayana, Assistant Professor of EEE conducted session on "Importance of National Energy Conservation Day". National Energy Conservation Day is observed on December 14, every year. The day focuses on making people aware of global warming and climate change and promotes efforts towards saving energy resources. Energy conservation is a big necessity that is required of our future well-being. It is a practice that everyone should indulge in to make the future of our earth even better. The agenda of celebrating national energy conservation Day is to raise awareness regarding the importance of energy and resources conservation. Conserving energy means wisely using energy rather than indiscriminately misusing it. Back in 2001, the Indian bureau of energy efficiency implemented the Indian energy conservation act which focused on formulating policies regarding energy conservation. since then, on every 14th December various discussions, conferences, and workshops are organized to raise awareness regarding energy conservation.*

.

Student Achievements

- *Fifty Students from II EEE completed MATLAB Certification from MathWorks.*

- *Fifteen Students from III EEE completed the PLC Certification course from Udemy.*



udemy

Certificate no: UC-4ae4b862-d209-4d91-a6ec-e6eea878249a
Certificate url: ude.my/UC-4ae4b862-d209-4d91-a6ec-e6eea878249a
Reference Number: 0004

CERTIFICATE OF COMPLETION

Delta PLC Programming Using WPLSoft (PLC-SCADA-8)

Instructors **Goeduhub Technologies**

Varshitha Rayudu

Date **Oct. 28, 2021**
Length **7.5 total hours**

- ✓ *D.Anil Sai from III EEE participated as an athlete in the B20 Years group in the 8th Telangana State cross country Championship-2021 held at Telangana Sports school on 27th December 2021.*
- ✓ *D.Anil Sai from III EEE got a Gold Medal in an athletics 800M in Telangana and AP Sports Meet on 13th -14th Nov 2021-22 at Marri Laxman Reddy Institute of Technology and Management.*

TELANGANA ATHLETICS ASSOCIATION

Participation Certificate

No. 321/ 468

This is to certify that DASARI ANIL SAI, son of DASARILAXMI NARAYANA Representing MEDCHAL District Participated as an Athlete in B20 years Group in the 8th Telangana State Cross Country Championships - 2021 held at Telangana Sports School, Lower Manair Dam, Karimnagar on 27th December, 2021, Organised by Karimnagar District Athletics Association under the aegis of Sports Authority of Telangana State & Telangana Athletics Association.

Date of Birth given by him is 09.02.2002

B.E. STANLEY JONES, President, T.A.A. — N. MAHIPAL, President, KDAA — KADARI RAVI, Secretary, KDAA — K. SARANGAPANI, General Secretary, T.A.A.

Certificate is only valid it the original Date of Birth Certificate matches with the Date of Birth mentioned on this Certificate

YUVA KHELKUD MAHASANGH

Regn : 89/2017

1st AP & TELANGANA SPORTS MEET

Certificate

MERIT / PARTICIPATION / OFFICIAL

This Is To Certify That D. ANIL SAI

Date Of Birth 09-02-2002 Representing Telangana State/

Unit Has Participated As A ATHLETICS 800M in The

1ST AP & TELANGANA SPORTS MEET 2021-2022 In The Junior / Senior / Sub Junior / Youth Age

Group Boys-girls Team Event / Game RUNNING

Held On Dated On 13th & 14th November At Marri Laxman Reddy Institute Of Technology & Management

Dundigal Hyderabad Was Adjudged GOLD Medal/position

Srikanth Veleti, President — Ch .Mahesh, Organizing Secretary — Suresh D, Vice President — Chaganti Veeresh, General Secretary

- ✓ *Ch. Vamsi Krishna and D. Anil Sai completed the internship program in the area of Power System Analysis using ETAP from 11/10/2021 to 25/10/2021.*

राष्ट्रीय लघु उद्योग निगम–तकनीकी सेवा केन्द्र
THE NATIONAL SMALL INDUSTRIES CORPORATION LTD
TECHNICAL SERVICES CENTRE
(भारत सरकार का उद्यम / A Government of India Enterprises)
ई.सी.आई.एल एक्स रोड, कुशाईगुडा, हैदराबाद – 500062, तेलंगाना, भारत।
E.C.I.L X Road, Kushaiguda, Hyderabad - 500062, Telangana, India.

एन एस आई सी
N S I C

क्रमांक / S.No. 182168

दिनांक / Date: 26/10/2021

Certificate

This is to certify that Mr. / Ms. Dasari Anil Sai
son/daughter of Mr Dasari Laxmi Narayana pursuing B.Tech in EEE from
(College Name) Hyderabad Institute of Technology and Management
Roll No. 20E55AO212 has successfully completed the Internship Program
entitled/in the area of Power System Analysis Using ETAP
under
our guidance. It is a bonafide work carried out by her/him from 11/10/2021 to 25/10/2021
He/She has completed the assigned module as per the requirements within the time frame
During the above period, the trainee's conduct was found Good

Project Coordinator

Centre Head

यह प्रमाण पत्र होलोग्राम लगा होने के साथ ही मान्य होगा / This Certificate shall be valid only with affixed hologram

राष्ट्रीय लघु उद्योग निगम–तकनीकी सेवा केन्द्र
THE NATIONAL SMALL INDUSTRIES CORPORATION LTD
TECHNICAL SERVICES CENTRE
(भारत सरकार का उद्यम / A Government of India Enterprises)
ई.सी.आई.एल एक्स रोड, कुशाईगुडा, हैदराबाद – 500062, तेलंगाना, भारत।
E.C.I.L X Road, Kushaiguda, Hyderabad - 500062, Telangana, India.

एन एस आई सी
N S I C

क्रमांक / S.No. 182167

दिनांक / Date: 26/10/2021

Certificate

This is to certify that Mr. / Ms. Chintham Vamshikrishna
son/daughter of Mr Chintham Sathaiah pursuing B.Tech in EEE from
(College Name) Hyderabad Institute of Technology and Management
Roll No. 20E55A0210 has successfully completed the Internship Program
entitled/in the area of Power System Analysis Using ETAP
under
our guidance. It is a bonafide work carried out by her/him from 11/10/2021 to 25/10/2021
He/She has completed the assigned module as per the requirements within the time frame
During the above period, the trainee's conduct was found Good

Project Coordinator

Centre Head

यह प्रमाण पत्र होलोग्राम लगा होने के साथ ही मान्य होगा / This Certificate shall be valid only with affixed hologram