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(UGC-AUTONOMOUS INSTITUTION)
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NBA Accredited - B.Tech. (CIVIL, CSE, ECE, EEE, MECH, CST), MBA & MCA

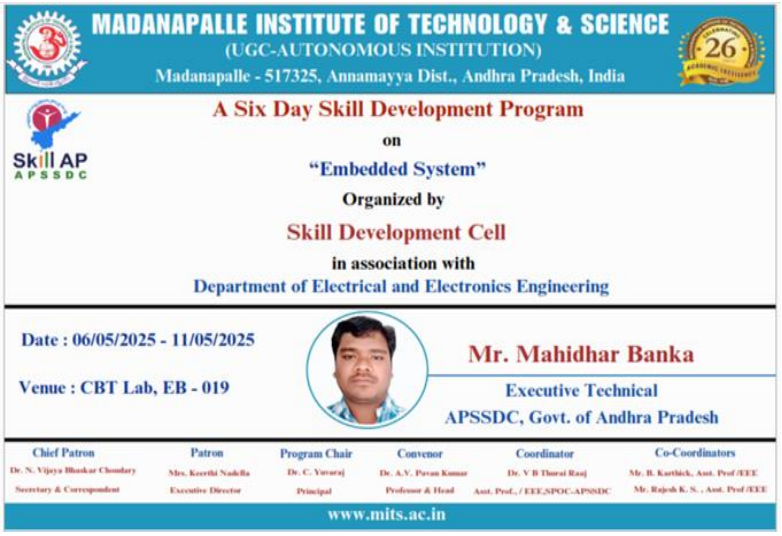
A Report on Six-Day Skill Development Training Program on "EMBEDDED SYSTEM"

Organized by Skill Development Cell

In Association with

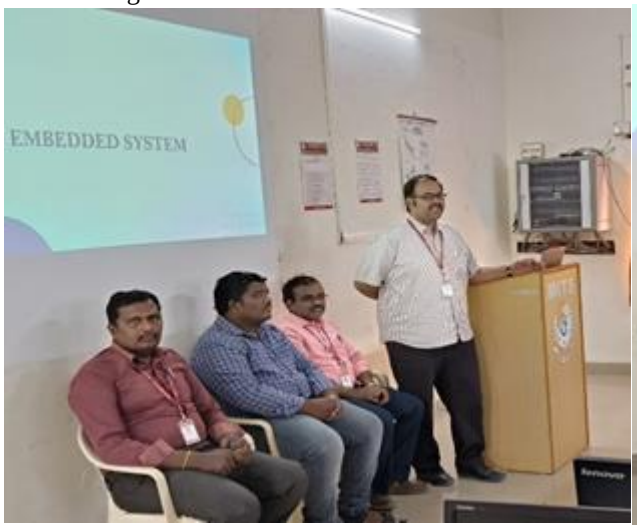
Department of Electrical and Electronics Engineering

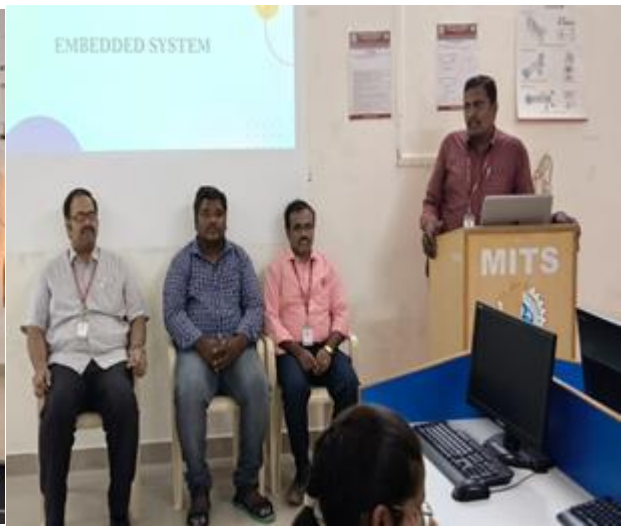
from 06.05.2025 to 11.05.2025



Report Submitted by: Dr. V.B. Thurai Raaj, Assistant Professor in EEE & SPOC- APSSDC t-SDI.
Resource Person Details: Mr. Mahidhar Banka, Executive -Technical, APSSDC, Govt. of AP, Vijayawada.
Total Participants: 59 students and 2 faculty members from Dept. of EEE
Venue: Siemens Computer Lab (EB:019)
Report received on 17.05.2025
Mode of Conduct: Offline.

The APSSDC- Skill Development Cell, Madanapalle Institute of Technology and Science, Andhra Pradesh**,** Madanapalle, in association with the Department of Electrical and Electronics Engineering, MITS, has organized a **six-day skill development program** on **"Embedded System"** from 06.05.2025 to 11.05.2025. In this program, 61 participants participated and made the event a great success.





A summary of the skill development program is as follows:

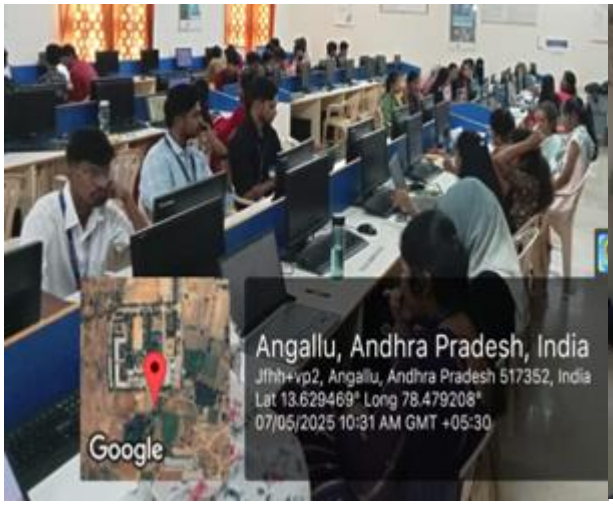
Dr. A. V. Pavan Kumar, Professor and Head of the Department of Electrical and Electronics Engineering, along with Dr. V. B. Thurai Raaj and Mr. B. Karthick, Assistant Professors in the Department of EEE, warmly welcomed the resource person. Dr. A. V. Pavan Kumar delivered a brief introduction to the six-day skill development program and officially inaugurated the event with an inspiring speech. Following this, Dr. V. B. Thurai Raaj, Assistant Professor in EEE and SPOC – APSSDC t-SDI, formally introduced the resource person and handed over the session to him.

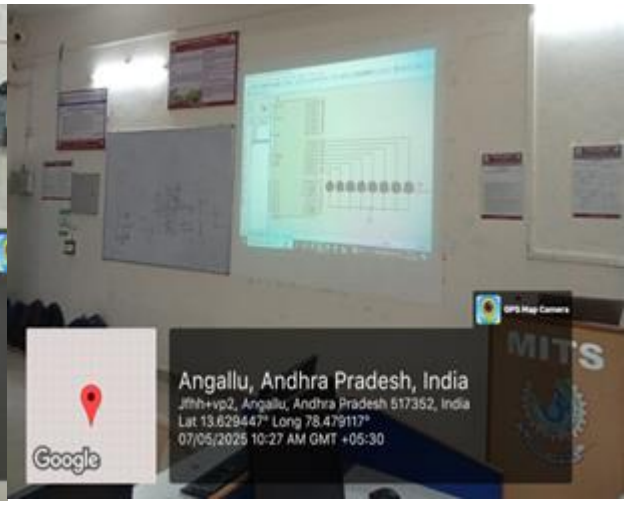
The **59** students from the third year and two faculty members from the Department of Electronics and Electrical Engineering participated in this six-day hands-on training program.

Day-1(06.05.2025)

Morning session: History and need of Embedded systems, Basic components of Embedded systems, Programming Language Classification of Embedded Systems.

Afternoon session: Introduction of Embedded C: Introduction of Embedded C: Introduction to Embedded, Difference between C and Embedded, Programming style, Basic Structure of C program





Day-2(07.05.2025)

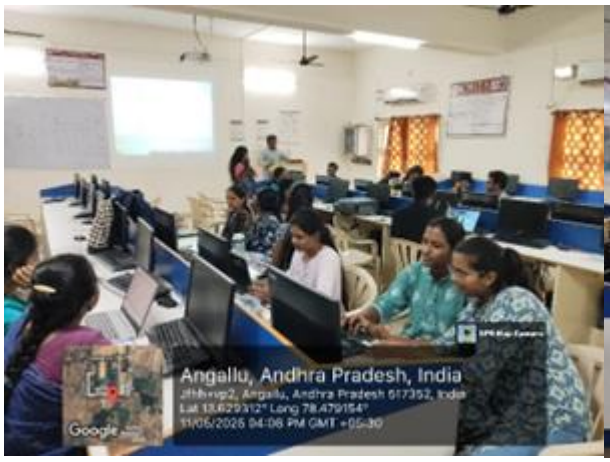
Morning session: Control structures and loops, Decision making with if statement. If …else statement, Switch statement, GOTO statement, and FOR statement.

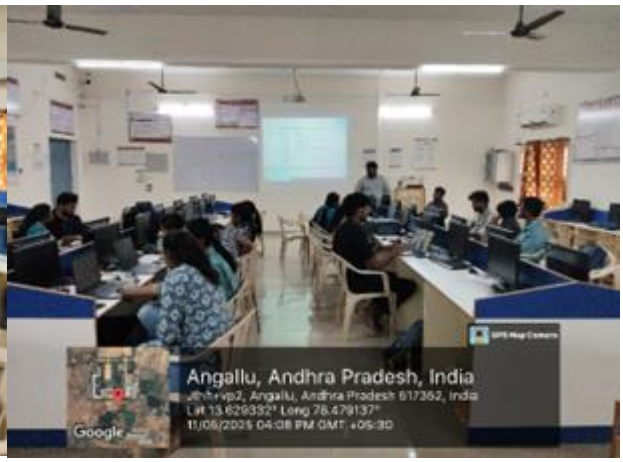
Afternoon session: Introduction to software: software for ARM Cortex, Kiel Compiler for ARM 9,8051 microcontroller, Arduino series, Proteus for interfacing of Microcontroller and discrete components simulation.

Day-3(08.05.2025)

Morning session: Interfacing of LEDs: Interfacing of LEDs, Interfacing circuit, Description of LEDs, Programming of LEDS Interfacing.

Afternoon session: Interfacing of Seven Segment Display: Introduction to 7 Segment Display, Types of 7 Segment Display, Interfacing Circuit Description of 7 Segment Display, Programming of 7 Segment Display Interfacing.





Day-4(09.05.2025)

Morning session: Interfacing to 16x2 LCD, commands of 16x2 LCD, interfacing circuit Description of 16x2 LCD, Programming of 16X2 LCD.

Afternoon session: Timers and counters programming: Introduction to Timers and counters, Difference between Timer and counter, Description of SFR associated with timers and counters, Programming of Timers and counters

Day-5(10.05.2025)

Morning session: Interfacing of Motors: Introduction to motors, types of motors used in Embedded systems, Programming and controlling of motors in Embedded systems.

Afternoon session: Interfacing of wireless modules, Interfacing Website, Zigbee interfacing website, Bluetooth interfacing website, wifi module interfacing.

Day-6(11.05.2025)

Morning session: Interfacing of ADC: introduction to ADC, programming of ADC.

Afternoon session: Sensor Interfacing: introduction to sensing devices, Interfacing of IR sensors, Interfacing of temperature SENSOR ADC.

Outcomes: **Students can be able to**

- Understanding the history, significance, and wide-ranging applications of embedded systems, along with familiarity with their basic components and their respective functions.
- Gaining knowledge of various programming languages used in embedded systems, with a focus on Embedded C, including its differences from standard C and the use of basic programming structures.
- Developing proficiency in control structures and loops such as if-else, switch, and for, enabling effective decision-making and control in embedded programming.
- Introduction to essential software tools like ARM Cortex, Keil Compiler, and Proteus for microcontroller programming and simulation, along with hands-on experience in interfacing LEDs, 7-segment displays, and LCDs.
- Acquiring practical skills in using timers and counters, interfacing motors, and integrating wireless modules such as Zigbee, Bluetooth, and Wi-Fi, as well as working with ADCs and sensors like IR and temperature sensors.

As the Event Coordinator, I would like to express my heartfelt gratitude to the **Management** and **Dr. C. Yuvaraj**, Principal, for granting permission and extending financial support to organize this program. My sincere thanks go to **Dr. C. Kamal Basha,** Professor & Vice Principal – Administration, for his timely assistance and unwavering support. I am deeply grateful to **Dr. A. V. Pavan Kumar**, Professor & Head of the Department of Electrical and Electronics Engineering (HoD/EEE), for his consistent guidance and encouragement throughout the planning and execution of this event. I also extend my appreciation to **Mr. Rajesh K.S.,** & **Mr. B. Karthick**, Department of EEE, for their dedicated coordination and valuable support in making this event a success. I would like to thank **Mr. Ramanjaneyulu**, Lab Assistant, Department of EEE, for his dedicated support and active presence throughout the event. Lastly, I take this opportunity to thank all the **faculty members of the EEE Department**, as well as the teaching and non-teaching staff and students, for their enthusiastic involvement, cooperation, and active participation.