

Report
**A 10-day Workshop on “Embedded Systems & IoT
Training”**

Organized By
Department of
Electrical and Electronics Engineering
NARSIMHA REDDY ENGINEERING COLLEGE
Hyderabad (Autonomous)

Narsimha Reddy Engineering College (NRCM) Hyderabad has organized a

10day Workshop on “Embedded Systems & IoT Training”

Workshop Report

Title: 10-Day Workshop on " Embedded Systems & IoT Training from Basics to Advance"

Duration: 16/09/26 to 26/09/26

Timings: 10:00 AM to 4:00 PM

Venue: Narsimha Reddy Engineering College (NRCM), Hyderabad

Speaker: Mr. KOWSHAL

Introduction

Narsimha Reddy Engineering College (NRCM), Hyderabad, successfully organized a **10-day workshop** titled “**Embedded Systems & IoT Training from Basics to Advance**” from **16th September 2026 to 26th September 2026**, from **10:00 AM to 4:00 PM** each day.

The workshop aimed to provide students and participants with comprehensive knowledge and practical hands-on experience in **Embedded Systems and Internet of Things (IoT)**. The training focused on fundamental concepts as well as advanced applications of embedded technologies, IoT architectures, microcontrollers, sensors, communication modules, and real-time IoT-based applications.

The workshop was led by **Mr. KowshaL**, an experienced industry expert and trainer, who guided the participants through essential concepts, tools, hardware interfaces, programming techniques, and practical implementation methods related to Embedded Systems and IoT. The sessions included hands-on activities and demonstrations, enabling participants to gain practical exposure and develop their technical skills in designing and implementing IoT-based solutions.

Inauguration Ceremony

The workshop commenced with an Inauguration Ceremony on 16th September 2026 at 10:00 AM at Narsimha Reddy Engineering College (NRCM), Hyderabad. Distinguished faculty members, staff, and participants attended the inaugural programme.

The ceremony began with a welcome address by Mr. M. Nataraj, Coordinator of the Workshop, who welcomed the dignitaries, resource persons, faculty members, and participants. Later, Dr. C. Sasikala, Professor and HOD of EEE, addressed the gathering and emphasized the growing importance of Embedded Systems and Internet of Things (IoT) in modern engineering and industrial applications.

The resource person, Mr. **Kowshal**, was formally introduced to the participants, highlighting his expertise and experience in the fields of Embedded Systems and IoT. He provided an overview of the workshop objectives, practical sessions, and the importance of acquiring hands-on technical skills.

The inaugural ceremony concluded with motivational remarks from the Principal and Head of the Department, encouraging the participants to actively participate in all the sessions, make effective use of the practical training, and gain maximum benefit from the 10-day workshop.





Workshop Overview

Narsimha Reddy Engineering College (NRCM), Hyderabad, organized a 10-day workshop titled **“Embedded Systems & IoT Training from Basics to Advance”** from **16th to 26th September 2026**.

The workshop was designed to provide participants with fundamental and advanced knowledge of Embedded Systems and Internet of Things (IoT). The training included theoretical concepts, programming techniques, microcontrollers, sensors, communication modules, hardware interfacing, and practical IoT applications. Expert-led sessions and hands-on activities enabled participants to develop practical skills and understand real-world applications. The workshop encouraged active learning, technical innovation, and the development of industry-relevant skills among students and participants.

Key Topics Covered:

1. Day 1: Embedded Systems Fundamentals

- Introduction to Embedded systems
- Microcontroller Vs Microprocessor
- Digital and Analog signals

Maisammaguda (V), Dhulapally (P)
Near Kompally, Medchal (M), Secunderabad – 500 100.

✉ principal@nrcmec.org

☎ 9949092454  www.nrcmec.org

2. **Day 2: Microcontroller Programming**
 - GPIO Programming
 - PWM, TIMERS
 - Basic Embedded Programming Concepts
3. **Day 3: Sensors & Actuators**
 - Temperature and Humidity sensors
 - Ultrasonic sensors
 - Relay ,Buzzer, Motor
4. **Day 4: Arduino & ESP 32 Programming**
 - Arduino architecture
 - ESP 32 features ,GPIO,ADC
 - Wi-Fi, Bluetooth Basics
5. **Day 5: Communication Protocols**
 - UART,SPI
 - Serial Communication
 - Interfacing displays and Peripherals
6. **Day 6: IOT Architecture & MQTT**
 - IoT Architecture
 - Device and Cloud
 - Qos basics
7. **Day 7: Raspberry Pi for IoT**
 - Raspberry Pi Hard ware
 - Python programming
 - SSH Basics
8. **Day 8: IOT Cloud &Dashboard Development**
 - IoT Cloud Architecture
 - Device and Cloud
 - Qos basics
9. **Day 9: IOT Architecture & MQTT**
 - IoT Architecture
 - API basics
 - Real time dash boards
10. **Day 10: Mini Project & Demonstration**
 - System Architecture
 - Hardware Integration
 - Testing



Throughout the sessions, Mr. Kowshal provided real-world examples, shared best practices, and engaged participants with practical exercises to solidify their understanding.

Valedictory Ceremony

The **10-day workshop on “Embedded Systems & IoT Training from Basics to Advance”** concluded successfully with a **Valedictory Ceremony on 26th September 2026**. The ceremony was attended by the management representatives, faculty members, organizers, resource persons, and participating students.

During the ceremony, participants shared their experiences and expressed their appreciation for the valuable knowledge, practical exposure, and hands-on skills gained throughout the workshop. **Mr. Kowshal**, the resource person, addressed the participants and encouraged them to continue exploring, practicing, and developing their technical skills in **Embedded Systems and IoT** to meet industry requirements.

Certificates of Participation were distributed to all the participants in recognition of their active involvement in the workshop. The ceremony concluded with a **Vote of Thanks**, expressing sincere appreciation to the management, Principal, HOD, resource person, faculty coordinators,

Maisammaguda (V), Dhulapally (P)
 Near Kompally, Medchal (M), Secunderabad – 500 100.

✉ principal@nrcmec.org

☎ 9949092454 🌐 www.nrcmec.org

and students for their valuable support, active participation, and contributions towards making the workshop a successful and enriching learning experience.





Conclusion

The **10-day workshop on “Embedded Systems & IoT Training from Basics to Advance”** proved to be highly informative, practical, and enriching. The workshop provided participants with a strong foundation in **Embedded Systems and Internet of Things (IoT)**, along with hands-on exposure to microcontrollers, sensors, hardware interfacing, programming, communication modules, and real-world IoT applications.

The participants actively engaged in the practical sessions and appreciated the hands-on learning approach and the expertise of the resource person, **Mr. Kowshal**. The workshop enhanced their technical knowledge, practical skills, problem-solving abilities, and awareness of current industry requirements.

Narsimha Reddy Engineering College (NRCM), Hyderabad, looks forward to organizing more such skill-oriented workshops and training programmes to provide students with industry-relevant knowledge and help them stay updated with emerging technologies and current industry trends.

Coordinator

Mr.M.Nataraj

Hod -EEE

Dr.C.Sasikala

Maisammaguda (V), Dhulapally (P)
Near Kompally, Medchal (M), Secunderabad – 500 100.

✉ principal@nrcmec.org

☎ 9949092454  www.nrcmec.org

