

**A Report on Outreach Activity Report on
Guest Lecture: "Basic Electronics and Electronic Components"
Organised by Department of Physics
at Government ZP High School, CTM Village
on 29th October 2024**



Report Submitted by: Dr. Charan Kuchi, Assistant Professor, Department of Physics.

Supporting Students: Two ECE Department Students from MITS

Time: 3:00 PM - 4:00 PM

Audience: 9th and 10th Standard Students

Report Received on 05.11.2024

Mode of Conduct: Offline

Objective of the Outreach Activity:

The primary objective of this outreach activity was to introduce 9th and 10th standard students at Government ZP High School to the fundamentals of electronics and basic electronic components. This activity aimed to inspire interest in science and technology, enhance understanding of practical electronics, and motivate students to explore further studies in STEM (Science, Technology, Engineering, and Mathematics) fields.

Summary of Activities:

1. Guest Lecture by Dr. Charan Kuchi:

- The session began with an introductory talk by Dr. Charan Kuchi, who provided a foundational overview of electronics and its significance in modern technology.
- The topic, "Basic Electronics and Electronic Components," covered the essentials of electronic circuits, components such as resistors, capacitors, transistors, Supercapacitors, and diodes, as well as an explanation of their roles within electronic devices.
- Dr. Charan Kuchi used simple analogies to make the technical content accessible and engaging for young students, fostering a positive learning environment.
- A brief Q&A session allowed students to clarify their doubts, and Dr. Charan Kuchi responded enthusiastically to their questions, further encouraging them to think critically and explore practical applications of electronics.

2. Demonstration of ECE Projects by MITS Students:

- Two students from Dept. of Electronics and Communication Engineering (ECE), MITS accompanied Dr. Charan Kuchi for this outreach activity and presented their projects to the high school students.
- The projects demonstrated included:

Project 1: (K. Bhargavi (21691A0437) – Smart Kitchen using nodemcu)

Project 2: (B. Sai Dheeraj (22695A0406) – Smart Street light system)

- The MITS students provided a live demonstration of the circuits, explaining each component's function and showing how the circuit operated in real time.
- High school students observed the projects with enthusiasm, asking questions about how these projects could be scaled or used in real-world applications.

Engagement and Feedback:

- The session was highly interactive, with many students interested in electronics.
- Teachers at the school commended the approach taken by Dr. Charan Kuchi and the MITS students, highlighting that the practical explanations made complex concepts easier for the students to understand.
- Feedback from students was positive; they appreciated the live demonstrations and expressed a desire to learn more about electronics.
- By engaging with young students and introducing them to fundamental concepts in electronics, we are inspiring the next generation of engineers and scientists and establishing MITS as a community-oriented institution committed to advancing education beyond its campus.
- This interaction strengthens MITS's reputation as a leading technical institution that actively supports local schools, fostering a positive image and building valuable connections within the community. Additionally, it provides our students, who presented their projects during the session, with an opportunity to develop essential communication and leadership skills, which are vital for their professional growth. Such outreach initiatives help to promote STEM education, encourage future enrolment at MITS, and contribute to the overall mission of MITS to be a centre of excellence in education and community engagement.

