NALLA NARASIMHA REDDY
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Chowdariguda (V), Korremula 'X' Roads, Ghatkesar (M), Medchal-Malkajgiri Dist., Hyderabad, T.S. - 500 088.
(UGC AUTONOMOUS INSTITUTION)

Schoolof Engineering

DepartmentofElectronicsandCommunicationEngineering

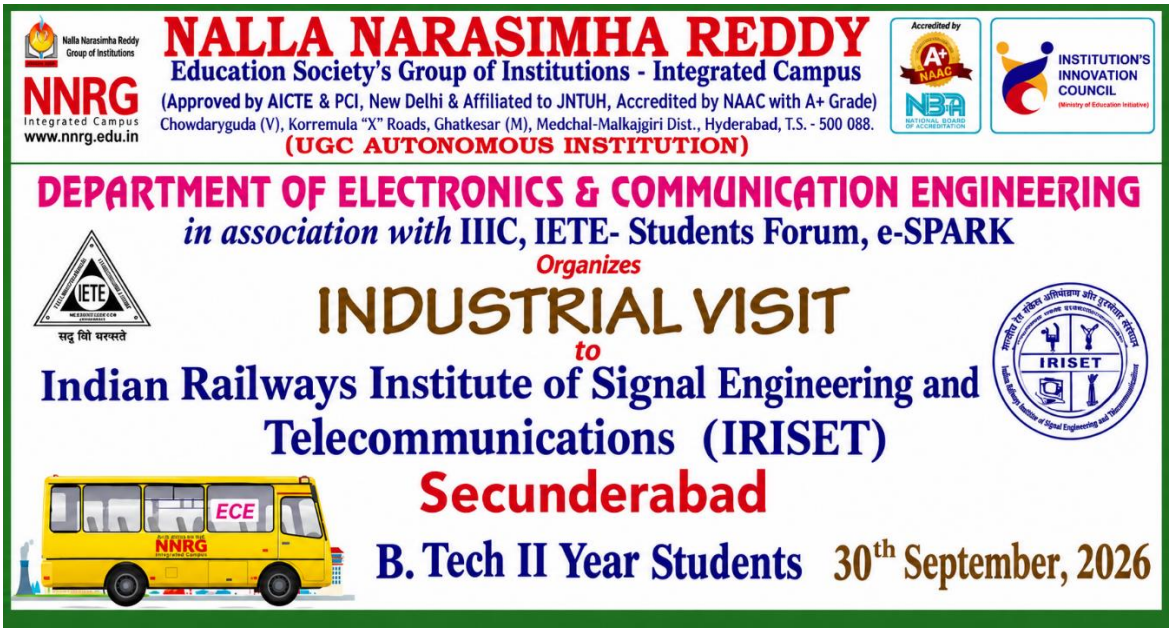
Date:1st October,2026

AReportonIndustrialVisit to

IndianRailwaysInstituteforSignalEngineering&Telecommunication(IRISET) – Tarnaka, Secunderabad

ProgramParticulars:

DateOrganized	Venue/Organization	Attendees
1st October2026 (Thursday)	Indian Railways Institute for Signal Engineering &Telecommunication(IRISET) – Tarnaka, Secunderabad	B. Tech. ECE selected students (56) &2 faculty/staff.



EventBanner

PurposeofVisit:

The Department of Electronics and Communication Engineering, in association with the Industry Institute Interaction Cell (IIIC), the Institute of Electrical and Electronics Engineers (IETE) Student Forum (ISF), and e-SPARK organized an industrial visit for the B.Tech II Year ECE students. The visit was conducted on 1st October 2026 (Thursday) to the, Indian Railways Institute for Signal Engineering &Telecommunication (IRISET)–Tarnaka,Secunderabad.

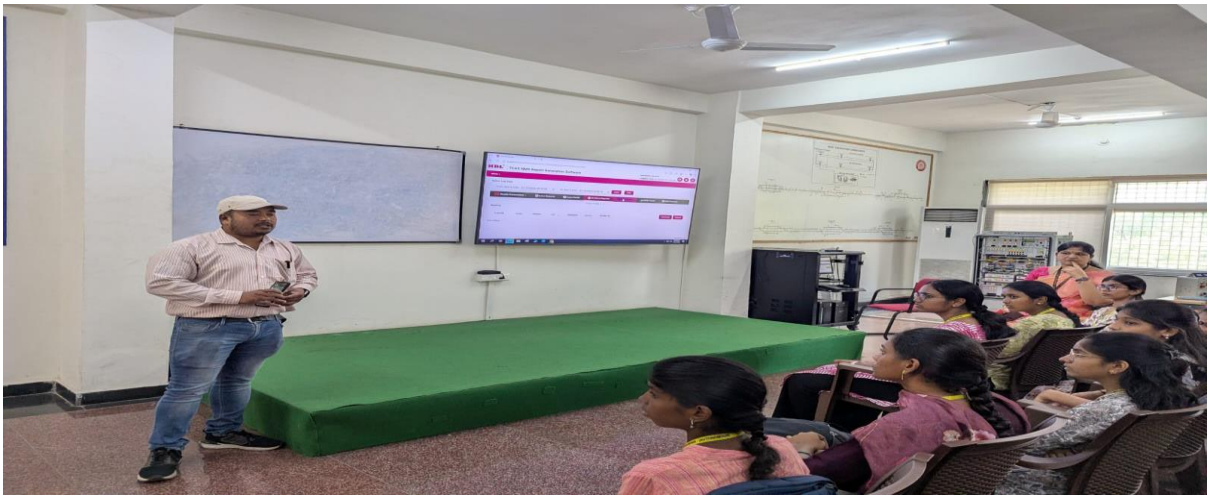
The 56 students were accompanied by Mrs. Madhavi K, Asst.Prof, Mr. Abraham Thomas, Asst.Prof,

This visit was aimed at providing students with exposure to practical industry knowledge with railway engineering processes and operations related to their field.



IndoorSignalingLabs

As part of the industrial visit, the students of the Electronics & Communication Engineering department visited key sections related to Railway signaling and Telecommunication systems. The visit effectively bridged the gap between theoretical concepts and real-world applications.



KavachUnitDemonstration

During the visit to the Outdoor Signaling Lab (ODS), students gained practical understanding of trackside signaling equipment, interlocking mechanisms, and their role in ensuring safe train movements. The Indoor Telecommunication Lab provided insights into communication networks, control panels, and safety-critical communication systems used in railway operations.

The session on Kavach units and modules was highly informative, where students learned about the indigenous Train Collision Avoidance System, its architecture, functionality, and importance in enhancing railway safety.



Interlocking System



Block Signaling Lab





Outdoor Signaling lab

Students observed the relay-based circuits and understood how different relays work together to implement the required interlocking conditions. They also learned how the system provides fail-safeoperation for railway signaling.

Students learned that electronic interlocking requires less space and wiring compared with conventional relay interlocking and provides better monitoring, diagnostics and flexibility. Students observed the relay-based circuits and understood how different relays work together to implement the required interlocking conditions. They also learned how the system provides fail-safeoperation for railway signaling. Students learned that electronic interlocking requires less space and wiring compared with conventional relay interlocking and provides better monitoring, diagnostics and flexibility.



GroupPhoto

ObjectivesoftheVisit:

1.To understand the basic working of **railway signaling systems**.

2. To learn about **Indoor Signaling Lab (IDS)** and its role in railway signaling.

3. To understand the working of **Relay Interlocking and Electronic Interlocking systems**.

4. To get practical knowledge about **Kavach railway safety systems and its modules**.

SectionsVisited:

IRSIEThasmainly5labsfor engineeringstudentsvisitexplanation.

1. IndoorSignaling Lab (IDS)
2. Interlocking Systems (Relay interlocking & Electronic Interlocking)
3. Block Signaling Lab
4. Outdoor Signaling Lab
5. KavachUnitsandmodules**.**

Outcome:

An individual overview report was collected from the students before the industrial visit to assess their existing knowledge, expectations, and interest in railway signaling and safety systems. After the industrial visit, feedback was collected from every student who attended the visit through a Google Form, and a consolidated feedback report was prepared to evaluate the effectiveness and learning outcomes of the visit.

Overall, the visit helped students gain a practical understanding of Indoor signaling Systems, Relay Interlocking, Electronic Interlocking, Block Signaling, Outdoor Signaling and Kavach technology. It enabled them to understand the real-time application of Electronics and Communication Engineering concepts in railway signaling and safety-critical systems. The industrial exposure enhanced their technical knowledge, practical understanding, awareness of railway safety technologies, and interest in pursuing careers in core engineering and emerging technology domains.

In-Charge

HoD-ECE

Dr.B.Ravi

AssociateProfessor