

# Report on Industrial Visit to Government College of Engineering, Chandrapur

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Organized By: Electronics and Telecommunication Students Association (ETSA)

Visited College: Government College of Engineering, Chandrapur

Date of Visit: 11th October 2024

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### 1. Introduction:

The Electronics and Telecommunication Students Association (ETSA) organized an industrial visit for the students of Government College of Engineering, Nagpur to Government College of Engineering, Chandrapur on 11th October 2024. The objective of the visit was to provide hands-on exposure to practical aspects of mobile communication systems, GSM modules, AT commands, and calling systems. Additionally, the visit included a tour of the Centre for Invention, Innovation, Incubation, and Training (CIIT), enhancing the learning experience with exposure to advanced labs and innovative projects.

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### 2. Objectives of the Visit:

The key objectives of the industrial visit were as follows:

- Study and Identification of Mobile Phone Components:

To understand and identify various sections and components of mobile phones, including hardware modules, circuit boards, and communication systems.

- GSM Module Interfacing with ECU:

To study the interfacing of GSM modules with the Engine Control Unit (ECU) and understand the data transmission processes involved.

- AT Command Set Analysis:

To learn and perform AT command sets, essential for controlling GSM modules and other communication devices.

- Calling System Study and Execution:

To implement and test calling systems using GSM modules, understanding the underlying protocols and processes.

- Visit to CIIT:

To explore advanced labs and interact with experts on modern communication systems, IoT-based applications, and innovation projects.

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### **3. Details of the Visit:**

The students departed from Government College of Engineering, Nagpur at 7:30 AM and reached Government College of Engineering, Chandrapur by 10:30 AM. Upon arrival, they were welcomed by the faculty and staff of the electronics department.

The visit was divided into two primary sections: the Communication Systems Lab and the CIIT.

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### **4. Sessions Conducted:**

#### **Session 1: Mobile Phone Components Identification:**

The students were provided with dismantled mobile phone units to identify and study various components such as the motherboard, battery, camera module, speaker, and antenna system. They learned about the functional roles of each component and how they work together to facilitate communication.

#### **Session 2: GSM Module Interfacing:**

The students observed and participated in the process of interfacing GSM modules with ECUs. They were introduced to the communication protocols and data transmission methods involved in the process. Practical demonstrations included connecting GSM modules to microcontrollers and analyzing data flow.

#### **Session 3: AT Command Set Analysis:**

The students were guided through the implementation of AT commands to control GSM modules. They executed basic commands to initiate calls, send messages, and access network information. This session provided insights into the syntax and functionality of AT commands.

## **Session 4: Calling System Execution:**

The students practiced initiating calls through GSM modules using specific AT commands. They learned the importance of command syntax and the functioning of calling systems in mobile communication, gaining hands-on experience in setting up a basic calling system.

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## **5. Visit to CIIT – Centre for Invention, Innovation, Incubation, and Training:**

During the visit, the students also explored the CIIT at Government College of Engineering, Chandrapur. The centre is equipped with state-of-the-art laboratories and innovative training facilities aimed at skill development in emerging technologies.

The students observed demonstrations of advanced communication systems, microcontroller programming, and IoT-based applications. They also interacted with trainers and faculty members, discussing various ongoing projects and potential career opportunities in the field of electronics and telecommunication.

The visit to CIIT not only provided exposure to modern tools and equipment but also inspired the students to engage in research and innovation, aligning with the latest industry trends.

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## **6. Outcome of the Visit:**

- Gained practical exposure to mobile phone components and their respective functions.
  - Understood the interfacing of GSM modules with ECU and its application in communication systems.
  - Developed hands-on skills in using AT commands to control GSM modules.
  - Acquired practical knowledge in setting up and executing basic calling systems.
  - Explored advanced labs and innovative projects at CIIT, motivating students to engage in technical research and skill development.
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## **7. Conclusion:**

The industrial visit to Government College of Engineering, Chandrapur was highly informative and provided substantial practical exposure to the students of ETSA. The combination of communication systems lab sessions and the visit to CIIT allowed students to bridge the gap between theoretical learning and real-world applications. The faculty members at CIIT encouraged students to participate in upcoming projects and emphasized the importance of innovation in the field of electronics and telecommunication.

The visit was concluded with a feedback session where students shared their experiences and learning outcomes. The knowledge gained during the visit will significantly contribute to the students' academic and professional development.

### 7. Stills of the Visit:

