



School of Engineering and Technology,  
Gujarat Technological University

**Report on**  
**Industrial Visit to Institute for Plasma Research (IPR),**  
**Gandhinagar**

### **1. Introduction**

An industrial visit to the Institute for Plasma Research (IPR), Gandhinagar, was organized on September 15, 2025, for students, accompanied by faculty members. The primary objective of the visit was to provide students with practical exposure to advanced research activities in plasma physics, nuclear fusion, and related technologies, thereby bridging the gap between theoretical knowledge and real-world applications.

#### **Visit Details:**

- **No. of Participating Students:** 18
- **Faculty Coordinator:** Prof. Dhvani Modi and Dr. Dipak Dabhi
- **Branch/Semester:** B.E Computer 5<sup>th</sup> semester, M.E AIDS/CS 3<sup>rd</sup> Semester
- **Organized By:** GTU-School of Engineering and Technology

### **2. About IPR**

The Institute for Plasma Research (IPR), an autonomous research organization under the Department of Atomic Energy, Government of India, is dedicated to research in the field of plasma physics and allied technologies. It is recognized for its significant contributions to the ITER project, nuclear fusion research, plasma applications, and development of cutting-edge technologies in superconductivity, cryogenics, and high-power systems.

### **3. Objectives of the Visit**

- To gain insight into plasma science and its applications.
- To understand the working of nuclear fusion devices and experimental setups.
- To learn about advanced research projects undertaken at IPR.
- To interact with scientists and researchers for academic enrichment.



#### 4. Activities During the Visit

- **Orientation Session:** Students attended an introductory presentation on plasma physics, its importance, and IPR's contribution to global research.
- **Laboratory Tour:** A guided tour was conducted where students observed different laboratories and facilities such as tokamak systems, superconducting technologies, and plasma diagnostic tools.
- **Demonstrations:** Live demonstrations of plasma discharge experiments and applications in industries were shown.
- **Interaction with Experts:** Students had an interactive session with scientists, where queries related to plasma applications in medicine, material processing, and energy were addressed.





## 5. Key Takeaways for Students:

- Practical understanding of nuclear fusion research and plasma behavior.
- Exposure to high-technology systems like cryogenics, vacuum technology, and superconducting magnets.
- Awareness of real-time applications of plasma in energy, healthcare, electronics, and environmental sustainability.
- Insight into research opportunities and the role of India in the global ITER mission.

## 6. Student Feedback

Students expressed that the visit was highly informative and motivational. It provided them with a deeper appreciation of advanced scientific research and inspired them to explore opportunities in research and development fields.

## 7. Conclusion

The industrial visit to the Institute for Plasma Research (IPR) on 15th September 2025 was a highly enriching experience. It successfully met its objectives by providing students with valuable exposure to cutting-edge research and technologies. Such visits foster curiosity, enhance learning beyond the classroom, and motivate students to pursue careers in research and innovation.