



Institute Name: L.J.Polytechnic

1. Title of the Activity: Industrial Visit to Gandhinagar Thermal Power Station.

2. Name of the Faculty/Coordinator: Mr. Ramesh Kumar, Mr. Ashish Vegadava

3. Department / Program Name: E.C. and Electrical Engineering.

4. Date & Duration of the Activity: Date(s): 31/12/2025 From: 1.00 pm To: 5:00 pm

5. Objectives of the Activity:

- Understand Power Generation Process.
- Familiarize with Plant Layout and Operations.
- Learn About Efficiency and Safety Measures.
- Gain Industrial Exposure.

6. Description of the Activity:

1. Introductory Briefing Session

- Welcome talk by plant officials.
- Overview of Gandhinagar Thermal Power Plant's history, capacity, and operations.
- Safety instructions and required protective equipment briefing.

2. Plant Orientation and Layout Discussion

- Presentation on process flow from coal storage to electricity transmission.
- Discussion on major units: boiler, turbine, generator, cooling tower, ash handling system.

3. Guided Plant Tour

- **Coal Handling Area** – observe unloading, crushing, and feeding of coal.
- **Boiler and Turbine Section** – study combustion, steam generation, and turbine operation.
- **Control Room Visit** – understand monitoring systems, load management, and automation.
- **Cooling and Water Treatment Facilities** – learn how water quality is maintained.
- **Environmental Protection Units** – observe electrostatic precipitators, ash handling, and emission control systems.

4. Interactive Q&A with Plant Engineers

- Students ask questions about real-time issues, efficiency measures, and maintenance practices.
- Discussion on technology upgrades such as supercritical boilers and emission reduction systems.

5. Observation and Data Collection

- Recording operational parameters (temperature, pressure, capacity utilization).
- Understanding performance metrics like heat rate, plant load factor (PLF), and efficiency.

6. Safety and Emergency Protocol Demonstration

- Overview of firefighting systems, alarms, and evacuation routes.
- Emphasis on personal protective equipment (PPE) usage.

7. Closing Session and Feedback

- Summary of key learnings.
- Interaction regarding future projects, internships, or research opportunities.
- Group photo or documentation for institutional records.

7. External Participation:

a) Resource Person:

Name: Mr. Maheshbhai

Designation: JE, Gandhinagar, GSECL

Affiliation: Gujarat State Electricity Corporation Limited.

b) Number of External Participants: 00

8. Internal Participation:

a) Number of Faculties involved: 02

b) Number of Non-Teaching Employees involved: 00

c) Number of Students involved: 30

d) Mode of Participation: Offline

9. Learning Outcome Achieved:

1. Practical Understanding of Power Generation.

2. Knowledge of Plant Layout and Workflow.

3. Awareness of Efficiency and Performance Metrics.

4. Exposure to Industrial Safety Standards.

5. Insight into Environmental Protection Measures.

6. Enhanced Problem-Solving and Analytical Skills.

7. Industry Interaction and Career Awareness.

10. Photographs / Screenshots:

(Attach minimum 2 photographs with tag line as evidence – activity in progress, student involvement, faculty facilitation)



11. Feedback from Students (if any):-

12. Attendance Sheet: Hard-copy Attached with Report.

13. Activity Brochure/Notice: Not Applicable.

14. Outcome Summary:

The Gandhinagar Thermal Power Station is located at Gandhinagar, the capital of Gujarat near Ahmedabad. It is a Coal Based Power Station. The original installed capacity of the Station is 870 MW, comprising of units of 120 MW each (Unit no.1 & 2), three units of 210 MW each (Unit no. 3, 4 & 5) with a total installed capacity of 870 MW. The Commissioning dates of unit no. 1 to 5 are 13.03.1977, 10.04.1977, 20.03.1990, 20.07.1991 and 17.03.1998 respectively.

The 2 x 120 MW Unit no 1 & 2 have been retired from service w e f 03.09.2016 & the Station Capacity has reduced to 630 MW w e f 03.09.2016.
