
Department of Electrical Engineering

Activity: "Innovative Teaching Learning Pedagogy"**Date & Day:** 25/09/2024, Wednesday**Activity Name:** Thermal Power Plant Efficiency Game**Subject :** Power Generation Technologies**Venue:** Class Room**Activity conducted by:** Mr. Sachin Jadhav**Objectives:**

- Recall the definition of heat rate and its role in thermal power plant efficiency.
- Identify common factors that affect the heat rate of a thermal power plant.
- Explain how changes in plant operation or equipment impact heat rate and efficiency.
- Calculate the heat rate after applying changes described in different operational scenarios.
- Compare the effects of various factors to determine which have a greater influence on thermal efficiency.

Photographs:

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Outcome:
Students will be able to

- Define and explain key transmission line concepts such as skin effect, proximity effect, GMR, GMD, and the role of transposition
- Apply standard formulas to compute inductance and capacitance for various transmission line configurations.
- Analyze the impact of conductor arrangement, spacing, and bundling on the electrical behavior of transmission lines.
- Apply theoretical concepts and standard formulas to select suitable transmission line configurations for given practical scenarios.

Mapping of Pedagogy with POs and PSOs:

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
3	2	1	-	-	-	2	-	2	2	-	3	3	-	2

Mapping of POs and PSOs with Justification:

POs and PSOs Mapped	Justification
PO1: Engineering Knowledge	Students apply thermodynamic and energy conversion principles to evaluate power plant perform.
PO2: Problem Analysis	The game encourages identification and analysis of factors reducing plant efficiency.
PO3: Design/Development of Solutions	Students design scenarios or select operational parameters to optimize plant efficiency.
PO7: Environment and Sustainability	The game emphasizes sustainable practices in optimizing plant efficiency, highlighting the importance of understanding the impact of engineering solutions in societal and environmental contexts and the need for sustainable development.
PO9: Individual and Team Work	The game promotes teamwork and collaboration, as students work in groups to solve complex problems, enhancing their ability to function effectively as individuals and as members or leaders in diverse teams and multidisciplinary

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	settings.
PO10: Communication	Effective communication is fostered through discussions and presentations of strategies, enabling students to communicate effectively on complex engineering activities with the engineering community and society at large.
PO12: Life-long Learning	The game promotes continuous learning through evolving scenarios and challenges, encouraging students to recognize the need for and engage in independent and lifelong learning in the broadest context of technological change.
PSO1	The game emphasizes analytical understanding and logical evaluation of transmission line parameters like inductance and capacitance through problem-solving, derivations, and real-world application discussions.
PSO3	The game integrates concepts from thermodynamics, mechanical engineering, environmental science, and economics, providing a comprehensive, multidisciplinary approach to understanding thermal power plant efficiency.


Course Coordinator


DAC


HOD