

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: III

Mechanical Engineering (CAD/CAM)

Subject Name: **Artificial Intelligence**

Sr.No	Course content
1.	<b>OBJECTIVES:</b> AI is an exciting and rewarding discipline. Students can use AI to solve complex problems in CAD/CAM and Engineering.
2.	<b>ITS ROOTS AND SCOPE:</b> Definitions, overview of AI application areas, AI as Representation and search: the predicate calculus, application.
3	<b>STRUCTURES AND STRATEGIES FOR STATE SPACE SEARCH:</b> Introduction, Graph theory, Strategies for state space search using the state space to represent, Reasoning with the Predicate Calculus.
4	<b>HEURISTIC SEARCH:</b> algorithm, admissibility, informedness, using heuristic in Games and complexity issues.
5	<b>CONTROL AND IMPLEMENTATION OF STATE SPACE SEARCH:</b> Recursion based Search, Pattern-Directed search and production systems.
6	<b>MACHINE LEARNING:</b> Symbol based, connectionist, social and emigrant.
7	<b>ADVANCED TOPICS:</b> AI Problem Solving: Automated reasoning and Understanding natural language.
8	<b>RECENT DEVELOPMENT:</b> Knowledge based systems, Expert Systems and AI in manufacturing as case studies published in research papers.

## Reference Books:

1. Artificial Intelligence- Structures and Strategies for Complex Problem Solving  
George F. Luger-Pearson Education Asia.
2. Artificial Intelligence by Elaine Rich & Kevin Knight, Tata McGraw Hills.
3. Introduction to Artificial Intelligence by Dan W. Pettersen, PHI Publishers