

# GUJARAT TECHNOLOGICAL UNIVERSITY

## M.E. POWER ELECTRONICS

Semester: I

Subject Name: **Fundamental of Artificial Intelligence (Major Elective-I)**

Sr. No.	Course Content
1.	Basics of Artificial Intelligence.
2.	<b>Knowledge Representation:</b> Propositional Calculus, Predicate Calculus, Rules based KR, Knowledge Acquisition.
3.	<b>Search Techniques for AI:</b> Heuristic Search –needs, technique, classification. State Space Search – Strategies, Implementation, Applications & NLP.
4.	<b>Expert Systems:</b> Fundamentals & Applications of ES, Probability based ES, ES Tools.
5.	<b>Fuzzy Systems:</b> Classical and fuzzy sets, Fuzzy Rules, Fuzzy Logic Control Methods & Applications, Visual Motor Control using Fuzzy Network.
6.	<b>Neural Networks:</b> Foundation , Multi-layered NN, Radial Basis Function Networks, adaptive Learning Rate, Feedback networks , Visual Motor Control using NN.

### Reference Books:

1. Intelligent Systems and Control by L. Bahera
2. Artificial Intelligence and Intelligent Systems by N.P.PADHY  
OXFORD
3. Artificial Intelligence by Elaine Rich & Kelvin Knight TMH
4. Introduction to AI & Expert Systems by Dan Peterson PHI
5. Introduction to Turbo Prolog by Carl Townsend BPB
6. AI & Expert System by V.S. Jankiraman, K.Sarukesi, MacMillan