CS 513: ARTIFICIAL INTELLIGENCE (3-0-0: 3)

Problem Analysis and Representation, Basic Problem Solving Methods, Structured Representation of Knowledge

State Space Search, Uninformed and Informed Search

Constraint satisfaction problems

Propositional Logic and First Order Predicate Logic (FOPL), Production Systems, Semantic Nets, Resolution in Predicate Logic, Unification, Strategies for Resolution by Refutation

Probabilistic Inference, Bayes Networks, Reasoning of Uncertain Information

Fuzzy Logic and Reasoning

Planning algorithms, Rule based Systems, Machine Learning, preliminary understanding of unsupervised learning

Artificial Intelligence applications: Decision Tree, Artificial Neural Networks, Expert Systems and Robotics

Text Books and References

1. Elaine Rich, K. Knight, "Artificial Intelligence," TMH.
2. S. Russell and P. Norvig, "Artificial Intelligence: A Modern Approach," Prentice Hall
3. Andrew C. Staugaard, Jr., "Robotics and AI: An Introduction to Applied Machine Intelligence," Prentice Hall.
4. K. Boyer, L. Stark, H. Bunke, "Applications of AI, Machine Vision and Robotics," World Scientific Pub. Co.
5. D. W. Patterson, "Introduction to artificial intelligence and expert systems," Prentice Hall.