

ELECTIVE-I CS-5005(3) ARTIFICIAL INTELLIGENCE

Unit I

Meaning and definition of artificial intelligence, various types of production systems, Characteristics of production systems, Study and comparison of breadth first search and depth first search. Techniques, other Search Techniques like hill Climbing, Best first Search. A* algorithm, AO* algorithms etc, and various types of control strategies.

Unit II

Knowledge Representation, Problems in representing knowledge, knowledge representation using propositional and predicate logic, comparison of propositional and predicate logic, Resolution, refutation, deduction, theorem proving, inferencing, monotonic and nonmonotonic reasoning.

Unit III

Probabistic reasoning, Baye's theorem, semantic networks scripts schemas, frames, conceptual dependency, fuzzy logic, forward and backward reasoning.

Unit IV

Game playing techniques like minimax procedure, alpha-beta cut-offs etc, planning, Study of the block world problem in robotics, Introduction to understanding and natural languages processing.

Unit V

Introduction to learning, Various techniques used in learning, introduction to neural networks, applications of neural networks, common sense, reasoning, some example of expert systems.

References:

1. Rich E and Knight K, Artificial Intelligence, TMH, New Delhi.
2. Nelsson N.J., Principles of Artificial Intelligence, Springer Verlag, Berlin.
3. Waterman D.A., A guide to Expert System, Addison Wesley, Reading (Mars).
4. Giarratand & Riley, Expert Systems: Principles and Programming, Thomson.