

**Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal**  
**Syllabus VII Semester**  
**Bachelor of Engineering (Information Technology)**  
**Credit based Grading System (CBGS)**

**IT 7005 (B) Elective –IV 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:** Probabilistic 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.