05 1x17 ARTIFICIAL INTELLIGENCE Credit : 5

1. Introduction : Why AI, Importance of AI. LISP, Prolog and other programming language for AI.

Lecture : 3

2. Search Strategies : Representation Scheme, Blind Search technique, Heuristic Search technique, Game

search, Graph search (algorithm A and A*), Properties of A* algorithm, monotone – Specialized production systems –

AO * algorithm. Lecture : 15

3. Searching Game Trees : Minimax procedure, alpha-beta pruning – Introduction to predicate calculus –

Resolution refutation systems – Answer extraction. Lecture : 4

4. Knowledge Representation, Reasoning : Knowledge representation, Knowledge acquisition, Logical

Representation scheme, procedural representation schema, network representation scheme, STRIPS robot problem

solving system, Structured representations of knowledge (Semantic Nets, Frames, Scripts), KRR system, KR

language, Domain modeling, Semantic net. Lecture : 8

5. Uncertainly : Non monotonic & monotonic reasoning, confidence factors, Bayes theorem, Dempster & Shafer's,

Theory of evidence, Non-classical logic, Fuzzy reasoning. Lecture : 6

6. Natural Language Processing : An Introduction to Natural language Understanding, Perception, Learning.

Lecture : 4

7. Applications of Artificial Intelligence : Al in E-commerce, Al in Industry, Al in Medicine Lecture : 2

Text Books:

1. Introduction to Artificial Intelligence by Rajendra Akerkar, PHI

2. Introduction to Artificial Intelligence by Eugene Charniak, Pearson Education.
3. Artificial Intelligence by Rich & Knight. Tata McGraw Hills.
4. Introduction to Artificial Intelligence & Expert system by Dan W. Patterson, PHI Reference Book:

1. Artificial Intelligence. A Modern Approach by Stuart Russell. Peter Norving and Pearson Education.
2. Introduction to Expert System, Peter Jackson. Pearson Education.
3. Artificial Intelligence application programming by M. Tim Jones, Dreamtech Press

Programming Lab (AI) Implementation in all algorithms in LISP/Prolog