

MCA I Year II Semester Subject Code: 24MCA2007 Elective - I ARTIFICIAL INTELLIGENCE

| Contact Hour | Unit No. | Topic Name | Teaching Methodology | Remarks |
|--------------|----------|--|----------------------|---------|
| 1 | 1 | History, Intelligent Systems, Foundations of AI | Blackboard | |
| 2 | 1 | Applications of AI | Blackboard | |
| 3 | 1 | Tic-Tac-Toe Game Playing | Blackboard | |
| 4 | 1 | Development of AI Languages | Blackboard | |
| 5-6 | 1 | Current Trends in AI | Blackboard | |
| 7 | 2 | Problem Solving by Searching, State-Space Problem | Blackboard | |
| 8-9 | 2 | BFS and DFS | Blackboard | |
| 10 | 2 | Iterative Deepening Search | Blackboard | |
| 11-14 | 2 | Hill Climbing, Simulated Annealing | Blackboard | |
| 15-16 | 2 | Heuristic Search – A* Algorithm | Blackboard | |
| 17 | 2 | AO* Algorithm | Blackboard | |
| 18 | 3 | Logic Concepts Introduction, Propositional Calculus | Blackboard | |
| 19-20 | 3 | Propositional Logic – Natural Deduction, Axiomatic System | Blackboard | |
| 21 | 3 | Semantic Tableau System in Propositional Logic | Blackboard | |
| 22-23 | 3 | Resolution Refutation in Propositional Logic | Blackboard | |
| 24-25 | 3 | Predicate Logic | Blackboard | |
| 26 | 4 | Introduction to Knowledge Representation | Blackboard | |
| 27-28 | 4 | Approaches to KR, Semantic Network, Extended Semantic Networks | Blackboard | |
| 29 | 4 | KR Using Frames | Blackboard | |
| 30 | 4 | Advanced KR Techniques – Introduction | Blackboard | |
| 31 | 4 | Conceptual Dependency Theory | Blackboard | |
| 32-33 | 4 | Script Structure, CYC Theory, Case Grammars, Semantic Web | Blackboard | |
| 34-35 | 5 | Expert Systems – Introduction, Phases in Building Expert Systems | Blackboard | |
| 36 | 5 | Expert vs Traditional Systems | Blackboard | |
| 37-38 | 5 | Fuzzy Sets – Introduction, Set Operations, Membership Functions | Blackboard | |
| 39 | 5 | Multi-Valued Logic | Blackboard | |
| 40-41 | 5 | Fuzzy Logic – Linguistic Variables, Hedges, Fuzzy Propositions | Blackboard | |
| 42-45 | 5 | Inference Rules for Fuzzy Propositions, Fuzzy Systems | Blackboard | |