Unit- I

Chapter 1 : Introduction 1-1 to 1-31

Syllabus : Introduction to Artificial Intelligence, Foundations of Artificial Intelligence, History of Artificial Intelligence, State of the Art, Risks and Benefits of AI, Intelligent Agents, Agents and Environments, Good Behavior : Concept of Rationality, Nature of Environments, Structure of Agents.

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Unit- II

Chapter 2 : Problem-Solving 2-1 to 2-46

Syllabus : Solving Problems by Searching, Problem-Solving Agents, Example Problems, Search Algorithms, Uninformed Search Strategies, Informed (Heuristic) Search Strategies, Heuristic Functions, Search in Complex Environments, Local Search and Optimization Problems.

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Unit- III

Chapter 3 : Adversarial Search and Games 3-1 to 3-26

Syllabus : Game Theory, Optimal Decisions in Games, Heuristic Alpha - Beta Tree Search, Monte Carlo Tree Search, Stochastic Games, Partially Observable Games, Limitations of Game Search Algorithms, Constraint Satisfaction Problems (CSP), Constraint Propagation : Inference in CSPs, Backtracking Search for CSPs.

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Unit - IV

Chapter 4 : Knowledge 4-1 to 4-24

Syllabus : Logical Agents, Knowledge-based Agents, The WUMPUS World, Logic, Propositional Logic : A Very Simple Logic, Propositional Theorem Proving, Effective Propositional Model Checking, Agents Based on Propositional Logic, First-Order Logic, Representation Revisited, Syntax and Semantics of First-Order Logic, Using First-Order Logic, Knowledge Engineering in First-Order Logic.

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Chapter 5 : Reasoning 5-1 to 5-26

Syllabus : Inference in First-Order Logic, Propositional vs. First-Order Inference, Unification and First-Order Inference, Forward Chaining, Backward Chaining, Resolution, Knowledge Representation, Ontological Engineering, Categories and Objects, Events, Mental Objects and Modal Logic, Reasoning Systems for Categories, Reasoning with Default Information

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Unit - VI

Chapter 6 : Planning **6-1 to 6-31**

Syllabus : Automated Planning, Classical Planning, Algorithms for Classical Planning, Heuristics for Planning, Hierarchical Planning, Planning and Acting in Nondeterministic Domains, Time, Schedules, and Resources, Analysis of Planning Approaches, Limits of AI, Ethics of AI, Future of AI, AI Components, AI Architectures.

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