

Lesson Plan Odd Semester 2025

Stream : CSE
Subject : Artificial Intelligence
Subject Code : PEC-IT501B

Lecture No. (L)	Description	Reference(s) Text
L1	Overview Intelligent Systems. Turing Test. Application of AI.	Te1(Chapter 1), Te2, Te3
L2	Concept of problem solving with AI technique.	Te1 (Chapter 1)
L3	Agents and environment. Different type of agents.	Te1 (Chapter 2)
L4	State space search, Defining the problem as state space search	Te1 (Chapter 3), Te4
L5	Problem solving with state space search technique	Te1 (Chapter 3)
L6	Uniform search strategies: BFS,DFS ,iterative deepening	Te1 (Chapter 3)
L7	Depth limited search, bi-directional search	Te1 (Chapter 3), Te4
L8	Heuristic Search Techniques, Heuristic functions	Te1 (Chapter 3)
L9	Hill Climbing method, Best first search, simulated annealing	Te1 (Chapter 4), Te3
L10	A* search algorithm & their applications	Te1 (Chapter 4)
L11	Constraint satisfaction problems, Evolutionary algorithm(GA)	Te1 (Chapter 4,6)
L12	Game planning optimal decisions & strategies in games	Te1 (Chapter 5)
L13	The minimax search procedure	Te1 (Chapter 5)
L14	Alpha beta cut-off, Additional refinements	Te1 (Chapter 5)
L15	Definition of hypothesis, knowledge, types of knowledge	Te1 (Chapter 7)
L16	Knowledge representation, Representing simple fact in logic	Te1 (Chapter 7)
L17	Propositional logic, WFF	Te1 (Chapter 7)
L18	CNF, DNF, Inference rules, logical consequence	Te1 (Chapter 7)
L19	Predicate Logic, FOPL & its examples	Te1 (Chapter 8)
L20	Universal & existential quantifier, equivalence, WFF	Te1 (Chapter 8)
L21	Representation of complex statements using FOPL	Te1 (Chapter 8)
L22	Normal form PNF,PCNF,PDNF	Te1 (Chapter 8)
L23	Representation in clausal form, Resolution	Te1 (Chapter 9)), Te2
L24	Representing knowledge using rules, ISA rule	Te1 (Chapter 12)
L25	Reasoning under uncertainty. Probabilistic reasoning concepts	Te1 (Chapter 13)
L26	Bayesian Network design and problem solving	Te1 (Chapter 14)
L27	Dumpster-Shafer theory	Te1 (Chapter 14)
L28	Overview of planning, Planning based systems	Te1 (Chapter 10)
L29	Learning by induction	Te1 (Chapter 18)
L30	Learning decision trees	Te1 (Chapter 18)
L31	Overview of machine learning with Artificial neural network	Te1 (Chapter 18)
L32	Explanation based learning	Te1 (Chapter 19)
L33	Natural language processing	Te1 (Chapter 22)
L34	Expert systems	Te3 (Chapter 10)
L35	Basic concept of Prolog programming	Te3 (Chapter 10)
L36*	Genetic Algorithm – different operators	Te4
L37*	Natural language processing, discourse & pragmatic processing	Te1 ,Te3
L38*	The semantics of Bayesian networks	Te1 , Te2

Te1: Artificial Intelligence : A modern approach – S. Russel & P. Norvig (Pearson Education)

Te2: Artificial Intelligence-By E. Rich & K. Knight (Tata Mc.Graw Hill Publication)

Te3: Introduction to Artificial Intelligence & Expert Systems-By Dan W. Patterson (Prentice Hall of India)

Te4: Artificial Intelligence and Soft computing Behavioral and Cognitive Modeling of the Human Brain – Amit Konar (CRC Press)

Te4: Wikipedia and Internet