

LECTURE PLAN

ARTIFICIAL INTELLIGENCE

L T P

PAPER CODE: ETCS-310

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S.No	Topics to be Covered	Lectures	Tutorials
First Term			
UNIT I			
1.	Introduction to Intelligent agent	2	
2.	Problem solving, State Space search, production system.	2	1
3.	Solving problem by searching, state space formulation.	2	1
4.	Informed Search Strategies: Breadth first search, Depth first search,	1	
5.	Uninformed search: Heuristic based search, Hill climbing, Best First Search, Problem reduction, A* Algorithm.	3	1
6.	Constraint Satisfaction problem : Crypt arithmetic puzzle, color map problem	1	1
7.	Iterative deepening, Means End Analysis.	1	
UNIT II			
8	Logical Agents: Propositional logic, Inferencing in propositional logic.	3	1
9	First order logic, Inference in FOL	2	1
10	Unification, Modus Ponens, Modus Tollens, Predicate Logic, Resolution in Predicate Logic, Conflict Resolution.	3	1
11	Forward Chaining, Backward Chaining	2	
Second Term			
UNIT III			
12	Game playing: Game tree, Mini max algorithm, alpha beta cutoff, Horizon Effect, Futility Cut-off.	2	1
13	Natural Language Processing: Phases of Natural Language Processing, Parsing Techniques, syntactic processing, semantic processing, pragmatic processing.	4	1
14.	Vision and speech processing, robotics	1	1
15.	AI Techniques: abstraction, search knowledge, abstraction	1	
16.	Expert system: Expert system architecture, knowledge acquisition, Types of Expert system, Case Studies: MYCIN, DENDRAL.	4	1
UNIT IV			
17.	Learning: Concept of learning, Inductive learning, Learning decision trees.	3	2
	Computational Learning, Explanation based learning, Genetic Algorithm.	2	
18.	Application of AI: Neural Network, Robotics.	3	1
19.	Environmental Sciences, Aerospace, Medical Sciences	2	

TextBook:

1. E. Rich and K. Knight, "Artificial Intelligence", TMH, 2nd Ed., 1992.
2. S. Russel & P. Norvig, "Artificial Intelligence", A Modern Approach, Second Edition, Pearson Education

Reference Book:

1. KM Fu, "Neural Networks in Computer Intelligence", McGrawHill.
2. Russel and Norvig, "Artificial Intelligence: A modern Approach", Pearson Education.