20IT2702A - FUNDAMENTALS OF ARTIFICIAL INTELLEGENCE

Offering Branches	IT		
Course Category:	Open Elective -IV	Credits:	3
Course Type:	Theory	Lecture-Tutorial-Practical:	3-0-0
Prerequisites:	-	Continuous Evaluation:	30
		Semester End Evaluation:	70
		Total Marks:	100

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	Know the challenges and concepts of AI.	K2
CO2	Solve problems using heuristics search algorithms	K3
CO3	Transform knowledge into rules.	K3
CO4	Demonstrate Symbolic reasoning under uncertainty	K3
CO5	Acquainted with expert systems.	K3

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3												2	3
CO2		3											3	3
CO3		3											3	3
CO4		3					3						3	3
CO5				3									3	3
Avg.	**3**	**3**		**3**			**3**						**3**	**3**

1- Low **2-Medium** **3-High**

Course Content

UNIT-1	What is AI: The AI Problems, What is an AI Techniques, Criteria for Successes? Problems and problem spaces and Search: Problem as a state space search, Production systems, Problem Characteristics, Production system characteristics.	CO1
UNIT-2	Heuristic search technique: Generate and test, Hill climbing, Best First search, problem reduction, Constraint satisfaction.	CO1, CO2
UNIT-3	Knowledge Representation issues: Representations and mappings. Representing knowledge using rules: Procedural knowledge Vs Declarative knowledge, Forward Vs Backward reasoning, matching.	CO3
UNIT-4	Symbolic reasoning under uncertainty: Introduction to Non monotonic reasoning, Implementation in DFS and BFS. Weak, strong slot and filler structures: Semantic nets, Frames, Conceptual dependency, Scripts.	CO4
UNIT-5	Planning: Goal stack planning, Hierarchical planning Expert Systems: Expert system shells, Knowledge acquisition.	CO5

Learning Resources

Text Books	1. Artificial Intelligence, 2nd Edition, E.RichandK. Knight (TMH).
Reference Books	1. Artificial Intelligence and Expert Systems–Patterson PHI 2. Expert Systems Principles and Programming-Fourth Edn, Giarrantana/Riley,Thomson

	3. PROLOG Programming for Artificial Intelligence. Ivan Bratka- Third Edition–Pearson Education.
E-Resources & other digital material	1. http://www.jntuk-coeerd.in/ 2. http://nptel.ac.in/video.php?subjectId=106105079 3. http://nptel.iitk.ac.in/courses/Webcourse-contents/IIT%20Kharagpur/Artificial%20intelligence/New_index1.html