# FUNDAMENTALS OF ARTIFICIAL INTELLEGENCE

Course Code	20IT2702A	Year	IV	Semester	I	
	<b>Open Elective-</b>					
Course Category	IV	Branch	EEE	Course Type	Theory	
Credits	3	L-T-P	3-0-0	Prerequisites	-	
Continuous Internal		Semester				
<b>Evaluation:</b>	30	End	70	Total Marks:	100	
Evaluation.	30	Evaluation:	70	Total Marks:	100	

	Blooms TaxonomyLevel		
Upon suce			
CO1	Know the challenges and concepts of AI.	L2	
CO2	Solve problems using heuristics search algorithms	L3	
CO3	Transform knowledge into rules.	L3	
CO4	Demonstrate Symbolic reasoning under uncertainty	L3	
CO5	Acquainted with expert systems.	L3	

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of Correlations (3:Substantial, 2: Moderate, 1:Slight)														
	PO 1	PO2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO1 2	PSO1	PSO 2
CO1	3												2	3
CO2		3											3	3
CO3		3											3	3
CO4		3					3						3	3
CO5				3									3	3

Syllabus						
Unit No	Contents					
		CO				
	What is AI: The AI Problems, What is an AI Techniques, Criteria	CO1				
I	for Successes? Problems and problem spaces and Search:					
	Problem as a state space search, Production systems, Problem					
	Characteristics, Production system characteristics.					
	Heuristic search technique: Generate and test, Hill climbing, Best	CO1				
II	First search, Problem reduction, Constraint satisfaction.	, CO2				
III	Knowledge Representation issues: Representations and	CO3				
	mappings.					
	Representing knowledge using rules: Procedural knowledge Vs					
	Declarative knowledge, Forward Vs Backward reasoning,					
	matching.					
	Symbolic reasoning under uncertainty: Introduction to Non	CO4				
13.7	monotonic reasoning, Implementation in DFS and BFS. Weak,					
IV	strong slot and filler structures: Semantic nets, Frames,					
	Conceptual dependency, Scripts					
	Planning: Goal stack planning, Hierarchical planning					
V	Expert Systems: Expert system shells, Knowledge acquisition.	CO5				

## **Learning Recourses**

### **Text Books**

1. Artificial Intelligence, 2<sup>nd</sup> Edition, E.RichandK. Knight (TMH).

### References

- 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–PearsonEducation.

### e-Resources & other digital material

http://www.jntuk-coeerd.in/

http://nptel.ac.in/video.php?subjectId=106105079

http://nptel.iitk.ac.in/courses/Webcourse-

contents/IIT%20Kharagpur/Artificial%20intelligence/New\_index1.html