ARTIFICIAL INTELLIGENCE

Course Code	20EC6401D	Year	II	Semester	II
Course Category	HONORS	Branch	ECE	Course Type	Theory
Credits	4	L-T-P	3-1-0	Prerequisites	Neural networks
Continuous Internal Evaluation	30	Semester End Evaluation	70	Total Marks	100

Course Outcomes	
After successful completion of the course, the student will be able to	
CO1	Understand the basic principles of Artificial Intelligence L2
CO2	Apply different approaches to Intelligent Agents. L3
CO3	Make use of various Search Algorithms to solve real time applications. L3
CO4	Analyse different Search Algorithms and Constraint Satisfaction Problems L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3-High, 2: Medium, 1:Low)

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2
CO1	2									2				
CO2	2				2					2				2
CO3	3				3					3				3
CO4		3			3					3				3
Average* (Rounded to nearest integer)	2	3			3					3				3

Syllabus		
UNIT No.	Contents	Mapped COs
I	**Artificial Intelligence**: **Introduction** What is AI: - Acting humanly: The Turing Test approach, Thinking humanly: The cognitive modeling approach, Thinking rationally: The "laws of thought" approach, Acting rationally: The rational agent approach. The Foundations of Artificial Intelligence.	CO1, CO2
II	**Intelligent Agents:** Agents and Environments, Good Behavior: The Concept of Rationality, Performance measures, Ratioilality, Omniscience. Learning and autonomy, The Nature of Environments, Specifying the task environment, Properties of task environments, The Structure of Agents, Agent programs, Simple reflex agents, Model-based reflex agents, Goal-based agents, Utility-based agents, Learning agents.	CO1, CO2

III	**Solving Problems by Searching:** Problem-Solving Agents, Example Problems, Searching for Solutions, Uninformed Search Strategies.	CO1, CO3,CO4
IV	**Informed Search and Exploration:** Informed (Heuristic) Search Strategies, Heuristic Functions, Local Search Algorithms and Optimization Problems, Local Search in Continuous Spaces.	CO1, CO3,CO4
V	**Constraint Satisfaction Problems:** Constraint Satisfaction Problems, Backtracking Search for CSPs, Local Search for Constraint Satisfaction Problems, The Structure of Problems.	CO1, CO4

Learning Recourses
Text Book(s)
1. Stuart Russell Peter Norving, Artificial Intelligence A Modern Approch, 2nd Ed, Prentice Hall.
2. Elaine Rich, Kevin Knight, Shivasankar B Nair, Series in Artificial Intelligence, Tata Mc-Graw Hill publishing Company Limited.
References
1. Ela Kumar, Artificial Intelligence, , 3rd Ed., Pearson
E-Resources :
1. www.learnartificialIntelligence.com