Unit / Item No.	Topic	Book Reference	No. of periods

SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Narsapur, West Godavari District, A.P. 534280

DEPARTMENT OF INFORMATION TECHNOLOGY

TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
20IT5T02	Artificial Intelligence	V	IT	6	2024-2025	05-06-2024

COURSE OUTCOMES

1	Define the fundamentals of AI techniques and search techniques.
2	Use appropriate search algorithms for any AI problem.
3	Represent a problem using first order and predicate logic.
4	Understand the concepts of non-monotonic reasoning.
5	Acquire the knowledge of various AI applications

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Reference	Contact Hours	Delivery Method
I	CO – 1	1	**Introduction**			Chalk & Board; Power point presentations; Assignment; Test
		1.1	Artificial Intelligence definition - Introduction	T1,T2,T3	2	
		1.2	AI problems, Problem Spaces	T1,T2,T3	1	
		1.3	Defining the Problem as a State Space Search,	T1,T2,T3	1	
		1.4	Problem characteristics, production Systems.	T1,T2,T3	2	
		1.5	Future of Artificial Intelligence	T1,T2,T3	1	
		1.6	Characteristics of Intelligent Agents	T1,T2,T3	2	
		1.7	Typical Intelligent Agents – Problem Solving	T1,T2,T3	2	
		1.8	Approach to Typical AI problems	T1,T2,T3	2	
		1.9	Cryptarithmetic problem	T1,T2,T3	2	
		1.10	Missionaries and Cannibals problem	T1,T2,T3	1	
		1.11	Problem solving	T1,T2,T3	1	
				Total	17	
II	CO – 2	2	**Problem solving Methods**			Chalk & Board; Power poin presentatio
		2.1	Issues in the design of search program	T1,T2,T3	1	
		2.2	Search Strategies- Uninformed (BFS and DFS	T1,T2,T3	1	
		2.3	Informed (Heuristic) - Local Search Algorithms and Optimization Problems	T1,T2,T3	1	
		2.4	Generate-And- Test, Hill	T1,T2,T3	1	

Signature

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			Climbing			Assignment Test
		2.5	Best-First Search, A* Algorithm	T1,T2,T3	2	
		2.6	Problem Reduction, AO*Algorithm)	T1,T2,T3	2	
		2.7	Constraint Satisfaction Problems,	T1,T2,T3	2	
		2.8	Backtracking Search	T1,T2,T3	1	
		2.9	Game Playing - Optimal Decisions in Games –	T1,T2,T3	1	
		2.10	Minimax Search, Alpha - Beta Pruning	T1,T2,T3	1	
		2.11	Stochastic Games	T1,T2,T3	1	
				Total	14	
II	CO – 3	3	**Knowledge Representation**			Chalk & Board Power point presentations Assignment Test
		3.1	Knowledge Representation	T3,R1	1	
		3.2	Representing Simple Facts in Predicate Logic	T3,R1	1	
		3.3	First Order Predicate Logic(FOPL)	T3,R1	1	
		3.4	Prolog Programming Unification	T3,R1	1	
		3.5	Forward Chaining, Backward Chaining	T3,R1	1	
		3.6	Resolution	T3,R1	1	
		3.7	Natural Deduction	T3,R1	1	
		3.8	Ontological Engineering, Categories and Objects	T3,R1	1	
		3.9	Events, Mental Events and Mental Objects	T3,R1	1	
		3.10	Reasoning Systems for Categories	T3,R1	1	
		3.11	Reasoning with Default Information	T3,R1	1	
				Total	11	
IV	CO – 4	4	**Uncertain Knowledge and Reasoning**			Chalk & Board Power point presentations Assignment Test
		4.1	Introduction to Non-Monotonic Reasoning	T1,T2,T3	1	
		4.2	acting under Uncertainty	T1,T2,T3	1	
		4.3	Basic Probability Notation	T1,T2,T3	1	
		4.4	Inference Using Full Joint Distributions	T1,T2,T3	1	
		4.5	Bayes' Rule and Its Use, Independence	T1,T2,T3	1	
		4.6	Representing Knowledge in an Uncertain Domain	T1,T2,T3	1	
		4.7	Probability and Bayes Theorem	T1,T2,T3	1	
		4.8	The Semantics of Bayesian	T1,T2,T3	1	

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mic r	Date of commencement of Semester
025	05-06-2024

Conta ct lours	Delivery Method
2	Chalk & Board Power point presentations Assignment Test
1	
1	
2	
1	
2	
	Chalk & Board Power poin presentatio

Unit / Item No.	Topic	Book Reference	No. of periods

			Networks			
				Total	**8**	
V	CO – 5	**5.1**	**AI Applications**			
		5.2	Language Models	**T1,T3,R1**	**2**	C
		5.3	Information Retrieval	**T1,T3,R1**	**1**	
		5.4	Information Extraction	**T1,T3,R1**	**1**	B
		5.5	Expert Systems	**T1,T3,R1**	**1**	
		5.6	Natural Language Processing	**T1,T3,R1**	**1**	Powe
		5.7	Machine Translation- Speech Recognition	**T1,T3,R1**	**1**	prese
		5.8	Robot-Hardwar, Perception, Planning, Moving	**T1,T3,R1**	**2**	Assig T
				Total	**09**	
				CUMULATIVE PROPOSED PERIODS	**60**	

Signature

TEACHING PLAN

me of Staff Member : R. Uma Aruna Devi

partment : IT Course & Branch B. Tech & I T

mester : V Section - Subject AI Code 20IT5T02

th effect from 5/6/2024 Last working day 11/10/2024

. of Weeks 15 No. of Classes 66

r Books : 1.

Text Books:

S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	S. Russell and P. Norvig, "Artificial Intelligence: A Modern Approach‖, Prentice Hall, Third Edition, 2009.
2	Saroj Kaushik, "Artificial Intelligence", Cengage Learning India, 2011
3	Artificial Intelligence, Elaine Rich, Kevin Knight, Shiva Sankar B. Nair, The McGraw Hill publications, Third Edition, 2017.
4	Bratko, —Prolog: Programming for Artificial Intelligence‖, Fourth edition, Addison-Wesley Educational Publishers Inc., 2011.

Reference Books:

S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	George F. Luger, Artificial Intelligence: Structures and Strategies for Complex Problem Solving, Pearson Education, 6th ed., 2009.
2	David Poole and Alan Mackworth, "Artificial Intelligence: Foundations for Computational Agents", Cambridge University Press 2010.

Web Details:

1	https://nptel.ac.in/courses/106105077
2	https://nptel.ac.in/courses/106106126
3	https://aima.cs.berkeley.edu
4	https://ai.berkeley.edu/project_overview.html

		Name	Signature with Date
i.	Course Coordinator	Mrs. R.Uma Aruna Devi	R.Uma
ii.	Module Coordinator	Dr. RVVSV Prasad	RVSprasad
iii.	Programme Coordinator	Dr. RVVSV Prasad	RVSprasad