

Programme Code:	BCA	Programme Title:	Bachelor of Computer Applications	
Course Code:	23UBC3VA	Title	Batch:	2023 - 2026
Total Hrs:	30	Fundamentals of Artificial Intelligence	Credit	2

Course Objective

To understand the basic concepts of Artificial Intelligence and identify the AI problems and domains and provide search techniques to solve the problems. To represent and access the domain specific knowledge.

Course Outcomes (CO)

CO Number	CO Statement	Knowledge Level
CO1	Describe the nature of AI problems and techniques of AI, Problem space search and issues in design of search.	K1
CO2	Apply the appropriate Heuristic Search techniques to solve the problems by using various algorithms.	K3
CO3	Select the suitable knowledge representation method and issues.	K4
CO4	Explain Representing simple facts and logic computable functions and predicates using Predicate Logic.	K2
CO5	Compare the Procedural Versus Declarative knowledge, forward and backward reasoning and Matching by Representing the knowledge using Rules.	K4
K1 – Remember K2 – Understand K3 – Apply K4- Analyze K5 – Evaluate K6- Create		

Units	Content	Hrs
Unit I	Introduction: AI Problems – AI techniques – Criteria for success. Problems, Problem Spaces, Search: State space search– Issues in design of Search. Heuristic Search techniques: Generate and Test – Hill Climbing – Best-Fist, Problem Reduction, Constraint Satisfaction, Means-end analysis	10
Unit II	Knowledge representation issues: Representations and mappings – Approaches to Knowledge representations – Issues in Knowledge representations – Frame Problem.	10
Unit III	Using Predicate Logic: Representing simple facts in logic – Representing Instance and Is a relationship. Representing knowledge using rules: Procedural Vs Declarative knowledge – <i>Logic programming – Forward Vs Backward reasoning</i> – Matching.	10
Total Contact Hrs		30

Text Book

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHERS \\EDITION	YEAR OF PUBLICATION
1	Elaine Rich and Kelvin Knigh	Artificial Intelligence,	TMH, 2nd Edn	1991
2	Stuart Russell & Peter Norvig	Artificial Intelligence A Modern Approach	2nd Edition Perason Publication	2019

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