

# SHRI GNANAMBICA DEGREE COLLEGE: MADANAPALLE



(AUTONOMOUS)

Course 8: Artificial Intelligence: The Modern Approach(MAJOR)

SEMESTER III

(W.E.F.2024-25)

Program: BCA (AI)



Hours per week: 4

Credits: 3

## Course Objectives:

- To introduce the fundamental concepts of AI.

## Course Outcomes:

Upon completion of the course, the students should be able to:

1. Apply searching techniques for solving a problem
2. Design Intelligent Agents
3. Develop Natural Language Interface for Machines
4. Design mini robot
5. Summarize past, present and future of Artificial Intelligence

### UNIT- I

Knowledge Representation: Introduction, Approaches to KnowledgeRepresentation, Knowledge Representation using Semantic Network,Extended Semantic NetworksforKnowledge Representation, Knowledge Representation usingFrames.

### UNIT- II

Representing Knowledge Using Rules: Procedural versus DeclarativeKnowledge, Logic Programming, Forward Versus Backward Reasoning,Matching, Control Knowledge

### UNIT- III

Natural Language Processing: Language Models, Text Classification,Information Retrieval, Information Extraction. Natural Language for Communication: Phrase structure grammars,Syntactic Analysis, Augmented Grammars and semantic Interpretation,Machine Translation, Speech Recognition

### UNIT-IV

Introduction: Introduction to Expert System, Definitions, Importance of Expert System, Characteristic features of Expert System, Applications ofExpert System, Different Categories of Expert Systems.

### UNIT-V

Expert System and Applications: Introduction, Phases in Building ExpertSystems, Expert System Architecture, Expert Systems versus TraditionalSystems, Rule Based Expert Systems, Blackboard Systems, TruthMaintenance Systems.



*c Mahesh Babu*  
**CHAIRMAN**  
**BOARD OF STUDIES**  
**Shri Gnanambica Degree College (A)**  
**MADANAPALLE- 517 325**

### References:

1. Stuart J. Russell, Peter Norvig, "Artificial Intelligence A Modern Approach", 3rd Edition, Pearson Education, 2019.
2. Nilsson, Nils J., and Nils Johan Nilsson. Artificial intelligence: a new synthesis. Morgan Kaufmann, 1998.
3. Johnson, Benny G., Fred Phillips, and Linda G. Chase. "An intelligent tutoring system for the accounting cycle: Enhancing textbook homework with artificial intelligence." Journal of Accounting Education 27.1(2009):30-39.



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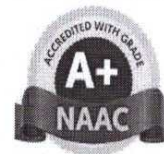
(AUTONOMOUS)

Course 8: Artificial Intelligence: The Modern Approach(MAJOR)-Practicals

SEMESTER III

(W.E.F.2024-25)

Program: BCA (AI)



Hours per week: 2

Credits: 1

## List of Experiments

1. Write algorithm to implement DFS
2. Write algorithm to implement BFS.
3. Write algorithm to implement BST.
4. Write algorithm to implement to Towers of Hanoi problem.
5. Write algorithm to find the solution for travelling salesman Problem
6. Write a program to implement 8 puzzle problem.
7. Write a program to implement A\*Algorithm
8. Write a program to implement Hill Climbing Algorithm
9. Write a program to implement Simulated Annealing Algorithm



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# SHRI GNANAMBICA DEGREE COLLEGE: MADANAPALLE

(AUTONOMOUS)

Course 8: Artificial Intelligence: The Modern Approach(MAJOR)

SEMESTER III

(W.E.F.2024-25)

Program: BCA (AI)

Question Paper – Blue Print

Time : 3 Hrs

Marks : 70

## PART-A

Answer any 4 of the 8. Each Question Carries 5 marks.

(4 x 5 =20)

1. Question
2. Question
3. Question
4. Question
5. Question
6. Question
7. Question
8. Question

## PART-B

Answer one from each unit. Each Question Carries 10 marks.

(5X10=50)

### UNIT 1

9. Question

OR

10. Question

### UNIT 2

11. Question

OR

12. Question

### UNIT 3

13. Question

OR

14. Question

### UNIT 4

15. Question

OR

16. Question

### UNIT 5

17. Question

OR

18. Question



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