

# END TERM EXAMINATION

SIXTH SEMESTER [BCA] JULY-2023

Paper Code: BCA-312

Subject: Artificial Intelligence

Time: 3 Hours

Maximum Marks: 75

**Note: Attempt five questions in all including Q. no. 1 which is compulsory. Select one question from each unit.**

- Q1 Attempt **any Five** from the following (5x5=25)
- (a) What is Production System explain its characteristics?
  - (b) Compare Depth first Search with Best First Search by providing suitable applications?
  - (c) Describe Constraint Satisfaction Problem with Example?
  - (d) Describe Some applications of AI? With its Types?
  - (e) How AI is different form Machine Learning?
  - (f) What is the Difference between Syntactic and Semantic Processing
  - (g) What are State space? Why they are important? Show the State spaces for TIC -TOE game?

## UNIT-I

- Q2 (a) Explain the following search algorithms with example: (3x2=6)
- (i) A\*
  - (ii) Hill Climbing
- (b) What are the Various Heuristic Search Techniques? Explain with Suitable Example? (6.5)
- Q3 (a) What are the various types of agents in AI? Write PEAS for Driverless Vehicle? (6)
- (b) Discuss various problems in Hill Climbing Algorithm and how they can be prevented? (6.5)

## UNIT-II

- Q4 (a) What is representing instances and is-a relationship? (6.5)
- (b) Difference between Predicate and Propositional Logic? Provide example. (6)
- Q5 (a) What Knowledge Representation is necessary? Explain with Example? (6.5)
- (b) What are the Various types for Knowledge representations? (6)

## UNIT-III

- Q6 (a) What is Natural Language Processing? and Explain its applications? (6.5)
- (b) Write a short notes on different types of Learnings? (6)

P.T.O.

- Q7 (a) How learning with example is different from Rote Learning? **(6.5)**  
(b) What is the difference between Discourse and pragmatic processing?  
Explain with suitable example? **(6)**

**UNIT-IV**

- Q8 (a) Write a LISP for computing the Average of first five Whole Numbers? **(6)**  
(b) Differentiate between Simulation and Synthesis? And Describe any one language used for AI Modelling ? **(6.5)**
- Q9 (a) Draw the Block diagram for Expert System? And Explain each Block? **(6)**  
(b) Explain any one application of Expert system in Detail? **(6.5)**

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