# END TERM EXAMINATION

### SIXTH SEMESTER [BCA] JULY-2023

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| 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 Climbng

(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)

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BCA-312

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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