Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

MCADD-605

M.C.A. (Integrated), VI Semester

Examination, November 2023

Artificial Intelligence

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What is "Artificial Intelligence and Artificial Intelligence Technique". List out some of the task domain of AI. 7

   b) Enumerate Classical "Water jug Problem". Describe the state space for this problem and also give the solution. 7

2. Define the following problems. What types of control strategy is used in the following problem?

   a) The Missionaries and cannibals problems 7

   b) 8-puzzle problem 7

3. a) What is LISP? Why it is used in AI? Give some examples of applications built in LISP. 7

   b) Give an example of a problem for which breadth first search would work better than depth first search. 7

4. Explain the following search strategies:

   a) best first search 7

   b) A* search 7

5. a) Explain briefly the difference between procedural and declaration knowledge. 7

   b) Discuss various approaches and issues in knowledge representation. Also discuss various Problems in representing knowledge. 7

6. a) Explain the algorithm of predicate logic resolution. 7

   b) Write unification algorithm and explain resolution in predicate logic. 7

7. a) Represent the following statements in predicate logic: 7

   i) Marcus tried to assassinate Caesar.

   ii) All Pompeian's were Roman.

   iii) All Romans were either loyal to Caesar or hated him.

   iv) Everyone is loyal to someone.

   v) People only try to assassinate rulers they are not loyal to.

   b) Give the Algorithm for BFS and DFS and explain it in detail. 7

8. a) Write AO* algorithm and explain with suitable example. 7

   b) Write the unification algorithm and explain. 7

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