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Roll No

MCADD-605

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

Examination, May 2023

Artificial Intelligence

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Define Artificial intelligence. Also discuss its area of applications. 7
b) How to define a problem as state space search? Discuss it with the help of an example. 7
2. Define the following problems. What types of control strategy is used in the following problem?
a) The Tower of Hanoi 7
b) Crypto-arithmetic 7
3. Discuss the following search Technique with the help of an example. Also discuss the benefits and shortcoming of each.
a) Breadth First Search 7
b) Depth First Search 7
4. a) Illustrate the use of predicate logic to represent the knowledge with suitable example. 7

- b) Define the heuristic search. Discuss benefits and short comings. 7
5. a) Translate these sentences into formulas in predicate logic 7
- i) John likes all kinds of food
 - ii) Apples are food
 - iii) Chicken is food
 - iv) Anything anyone eats and isn't killed by is food
- b) Explain the Unification used for reasoning under predicate logic with example. 7
6. a) Explain AO* algorithm with an example. 7
- b) Write a short note on: 7
- i) Expert systems
 - ii) Knowledge Acquisition
7. a) What is production system? Explain it with an example. Discuss the Characteristics of a production system. 7
- b) Explain Hill climbing method. Compare it with generate and test method. 7
8. a) Explain unification algorithm used for reasoning under predicate logic with an example. 7
- b) Discuss the heuristic function. Explain how the heuristic function helps during search procedure. 7
