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II Semester M.C.A. Degree Examination, December - 2022

COMPUTER SCIENCE

Artificial Intelligence

(CBCS 2020-21 Scheme Y2K20)

Paper: 2 MCA 6

Time : 3 Hours

Maximum Marks : 70

*Instructions to Candidates:*

Answer All Parts.

**PART - A**

Answer any FIVE. Each carries SIX marks.

(5×6=30)

1. Briefly explain the characteristics of Artificial Intelligence.
2. What is the minimax strategy for game playing? Explain.
3. Explain different types of knowledge.
4. Convert the following sentence into predicate logic.
  - a) John likes all kind of food.
  - b) Apple and vegetable are food.
  - c) Anything anyone eats and not killed is food.
  - d) Anil eats peanuts and still aliye.
  - e) Harry eats everything that Anil eats.
  - f) Prove by resolution that: John likes peanuts.
5. Differentiate between Forward and Backward chaining.
6. Give an example for non-monotonic reasoning.
7. Why synthetic processing is required in Natural Language processing? Explain with an example.
8. With a neat diagram explain Neural Network architecture.

[P.T.O]



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**PART - B**

Answer any **FOUR**. Each carries **TEN** marks:

(4×10=40)

9. Write a short note on:

- a) A\* Algorithm (5)
- b) Alpha - Beta Pruning. (5)

10. What is an Expert system? Discuss the components and architecture of an expert system. (10)

- 11. a) Discuss different forms of Learning. (6)
- b) Define Fuzzy logic. (4)

- 12. a) With a neat diagram describe the Biological Neuron. (5)
- b) Write the Mathematical representation of a single Neuron with the help of a diagram. (5)

13. Define natural language processing. Discuss the steps in processing a natural language sentence with an example. (10)

14. Trace the execution of ATN for the sentence "The long file has printed". (10)

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