

**2211000608040001**  
**EXAMINATION MARCH-APRIL 2024**  
**MASTER OF SCIENCE (IT) (EIGHTH SEMESTER)**  
**ARTIFICIAL INTELLIGENCE-LEVEL 4**

[Time: As Per Schedule]

[Max. Marks: 70]

**Instructions:**

1. Fill up strictly the following details on your answer book
  - a. Name of the Examination : **MASTER OF SCIENCE (IT) (EIGHTH SEMESTER)**
  - b. Name of the Subject : **ARTIFICIAL INTELLIGENCE-LEVEL 4**
  - c. Subject Code No : **2211000608040001**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. All questions have same weightage

Seat No:

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Student's Signature

**Q.1 Answer any Two**

**14**

- A. What do you mean by AI? Explain its goal, advantage and disadvantage.
- B. Write a short note on: "History of AI"
- C. Differentiate Model based reflex agent v/s Learning Agent.

**Q.2 Answer any Two**

**14**

- A. Explain PEAS representation for following AI applications:
  - Local Language Speaking Robot.
  - Intelligent Room Cleaner.
- B. What is heuristic search? Explain A\* algorithm with proper example.
- C. Explain 'Tabu Search' algorithm with its 'Forbidding' and 'Freeing' strategies using proper example

**Q.3 Answer any Two**

**14**

- A. What is 'Adversarial Search'? Explain characteristics of 'Zero Sum Game' in detail with proper example.
- B. Explain Min-Max algorithm with proper example. Also explain how 'Alpha-Beta' algorithm can act in better way than that of Min-Max algorithm.
- C. Explain Comparative operator, Arithmetic operator and conditional operator of PROLOG in detail with proper example

**Q.4 Answer any Two**

**14**

- A. In context of AI planning, differentiate FSSP and BSSP.
- B. Explain 'Expert System Development Life Cycle'
- C. Explain Genetic algorithm in detail with proper example

**Q.5 Write short note (Any Two)**

**14**

1. Cryptarithmic problem as CSP
2. Fuzzy Logic.
3. Alpha-Beta adversarial search algorithm.
4. Knowledge Based Agent

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