



# Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)  
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B  
Coimbatore - 641 043, Tamil Nadu, India

## Continuous Internal Assessment Test II – October 2025 I SEMESTER

Class : I UG  
Major : B.Voc(AI&ML)

Time: 2 hours  
Maximum Marks: 60

### 23VAIC03 Fundamentals of Artificial Intelligence

#### Course Outcomes:

At the end of the course, students will:

1. Understand the basics of Artificial Intelligence.
2. Be familiar with the Prolog Programming Language and build logic using same.
3. Understand the Basic Heuristic Search Techniques.
4. Understand the Advanced Heuristic Search Techniques.
5. Be familiar with the Expert Systems and its Applications.

#### Part-A

6x1=6

#### Choose the correct answer

1. Which programming paradigm does Prolog primarily belong to? CO3K1  
a) Object-Oriented Programming b) Functional Programming  
c) Logic Programming d) Imperative Programming
2. In Prolog, a statement that declares a truth about the world is called a: CO3K2  
a) Rule b) Query c) Fact d) Clause
3. When will Hill-Climbing algorithm terminate? CO4K1  
a) Stopping criterion met b) Global Min/Max is achieved  
c) No neighbor has higher value d) All of the mentioned
4. What is the problem space of mean and analysis. CO4K2  
a) An initial state and one are more goal state b) Two are more initial states and one goal state  
c) Two are more initial state and more goal state d) None of the above
5. Which is not a property of representation of knowledge? CO5K2  
a) Representational Verification b) Representational Adequacy  
c) Inferential Adequacy d) Inferential Efficiency
6. Probabilistic reasoning is based on CO5K1  
a) Certainty b) Uncertainty c) Fuzzy logic d) Temporal logic

#### Part- B

3x6=18

#### Answer ALL Questions

Each answer should not exceed 400 words or two pages

- 7.a. Write the purpose of a "rule" in Prolog with example. (or) CO3K3
- 7.b. Write a simple program in Prolog CO3K2
- 8.a. Write about generate and test approach. (or) CO4K2
- 8.b. Briefly write about A\* search techniques. CO4K3
- 9.a. Write about Forwarded versus backward reasoning? (or) CO5K2
- 9.b. Elucidate Knowledge Representation issues CO5K2

#### Part-C

3x12=36

#### Answer ALL questions

Each answer should not exceed 800 words or four pages

- 10.a. Describes the role of Prolog in Artificial Intelligence?. (or) CO3K1
- 10.b. Elaborate Prolog's backtracking with simple example. CO3K3
- 11.a. Explain In detail about Hill climbing techniques. (or) CO4K1
- 11.b. Give a detailed account on AO\* algorithm? CO4K3
- 12.a. Illuminate Frames in Representing Knowledge Structures. (or) CO5K4
12. b. Write in detail about Fundamentals of Inductive learning. CO5K1

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