

**(FOR THE CANDIDATES ADMITTED**

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20 UIT 6E6

DURING THE ACADEMIC YEAR 2020 ONLY)

**REG.NO. :**

**N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI**  
**END-OF-SEMESTER EXAMINATIONS : MAY 2023**  
**B.Sc. -INFORMATION TECHNOLOGY** **MAXIMUM MARKS: 70**  
**SEMESTER : VI** **TIME : 3 HOURS**

## **PART - III**

# **ARTIFICIAL INTELLIGENCE**

**SECTION – A (10 X 1 = 10 MARKS)**

## **ANSWER THE FOLLOWING QUESTIONS:**

## **MULTIPLE CHOICE QUESTIONS:**

1. The search algorithm which is similar to the minimax search, but removes the branches that don't affect the final output is known as \_\_\_\_\_.
  - Depth-first search
  - Breadth-first search
  - Alpha-beta pruning
  - None of the above
2. Which term describes the common-sense of the judgmental part of problem-solving?
  - Value-based
  - Critical
  - Analytical
  - Heuristic
3. In Artificial Intelligence, knowledge can be represented as \_\_\_\_\_.
  - Predicate Logic
  - Propositional Logic
  - Compound Logic
  - Machine Logic
  - Both I and II
  - Only II
  - Both II and III
  - Only IV
4. In an Unsupervised learning \_\_\_\_\_.
  - Specific output values are given
  - Specific output values are not given
  - No specific Inputs are given
  - Both inputs and outputs are given
5. Which of the given language is not commonly used for AI?
  - LISP
  - PROLOG
  - Python
  - Perl

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES**

6. What is an Expert System?
7. Define Frames.
8. What do you mean by Recursion?
9. List the t applications of AI.
10. What are the types of Knowledge Representation Properties?

Properties:  
(CONTD....2)

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**SECTION – B** **(5 x 5 = 25 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS:**

11.a. Define Artificial Intelligence. Explain AI Techniques.

**(OR)**

b. Describe Production System.

12. a. List and explain Approaches in Knowledge representation.

**(OR)**

b. Compare procedural and declarative knowledge.

13. a. Show Minimax Search Procedure.

**(OR)**

b. List the advantages of Frame-based expert system. State the difficulties involved in developing a frame-based expert system?

14. a. What are the fundamental characteristics of an Expert System?

**(OR)**

b. With a suitable example, describe backward chaining inference process used in an expert system.

15. a. Sketch the Arithmetic Operators in Prolog.

**(OR)**

b. Discuss List in Prolog AI.

**SECTION – C**

**(4 X 10 = 40 MARKS)**

**ANSWER ANY FOUR OUT OF SIX QUESTIONS:**

**(16<sup>th</sup> QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS**

**FROM Qn. 17 to 21)**

16. Prove Problem Reduction.

17. Conclude Mean-Ends Analysis with an example.

18. Discuss Logic Programming.

19. Examine Alpha-Beta Cutoff.

20. Draw and Explain an Expert System Architecture.

21. Explain (i).Dynamic Database (ii). I/O Streams

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