

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI**END-OF-SEMESTER EXAMINATIONS : MAY – 2024****B.Sc. – COMPUTER 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.****(K1)**

1. _____ is a branch of Science which deals with helping machines finding solutions to complex problems in a more human-like fashion.
 - a) Cognition
 - b) Artificial Intelligence
 - c) Philosophy
 - d) Mathematics
2. _____ the ability to represent all of the kinds of knowledge that are needed in that domain.
 - a) Inferential Adequacy
 - b) Inferential Efficiency
 - c) Acquisitional Efficiency
 - d) Representational Adequacy
3. In a _____, information is represented as a set of nodes connected to each other by a set of labeled arcs, which represent relationships among the nodes.
 - a) semantic nets
 - b) Frame
 - c) Alpha cutoff
 - d) Beta cutoff
4. _____ is the process of inferring unknown truths from known conclusions by moving backward from a solution to determine the initial conditions and rules.
 - a) Expert system
 - b) Prolog
 - c) Backward chaining
 - d) Lists
5. _____ is an ordered data structure with elements separated by a comma and enclosed within square brackets.
 - a) List
 - b) Variable
 - c) Constant
 - d) Database

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

6. What are the things taken into account of state-space search?
7. What is Acquisitional Efficiency?
8. Define a Frame.
9. Define an expert system.
10. Expand: Prolog

(CONTD 2)

SECTION – B (5 X 4 = 20 MARKS)**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING****QUESTIONS.****(K3)**

11. a) Describe production system characteristics.
(OR)

b) What is Means –Ends analysis?

12. a) What are the issues in knowledge representation?
(OR)

b) How will you represent simple facts in login?

13. a) What is conceptual dependency?
(OR)

b) Write short notes on Semantic nets.

14. a) Describe characteristics of an expert system.
(OR)

b) Discuss expert system tools.

15. a) Write short notes on recursion.
(OR)

b) Describe the dynamic databases.

SECTION – C (4 X 10 = 40 MARKS)**ANSWER ANY FOUR OUT OF SIX QUESTIONS.****(K4 / K5)****(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS.**

16. Discuss Hill Climbing heuristic search technique in detail.

17. Explain the concept of best first search in detail.

18. Discuss Forward versus Backward reasoning.

19. Explain the Minimax Search procedure in detail.

20. Discuss the architecture and description of modules of an expert systems.

21. Explain the control structures in Prolog.