**JAMIA HAMDARD**
**Department of Computer Science and Engineering**
**School of Engineering Sciences & Technology**
**New Delhi-110062**

**Examination - Even Semester 2021**

**Paper Name: Introduction to Artificial Intelligence** **Paper Code: BCA 402**
**Time: 3 Hours** **Maximum Marks: 75**

***Note: Mobile Phones or programmable calculator or any equipment with memory are not allowed inside the examination hall.***

**SECTION: A (35 Marks)**

***All questions are compulsory* (35)**

**A. State whether True or False**

1. Artificial Intelligence was coined in 1955. [1]
2. John McCarthy has introduced Artificial Intelligence. [1]
3. Machine translation is an example of natural language processing. [1]
4. "Does a system act as if it is human?" is tested by Turing test. [1]
5. Eureka - a cry of joy or satisfaction when one finds or discovers something. [1]
6. The minimax search procedure is depth first, depth limited search procedure [1]
7. Pruning is the process of elimination of a branch of search tree. [1]
8. In alpha beta pruning, upper bound is termed as Alpha. [1]
9. Taxi driver on a busy day traffic and a good traffic day, is an example of supervised learning. [1]
10. There is no significant difference between semantic and syntax. [1]

**B. Fill in the blank; assigned marks are written in the right.**

11. A program passes Turing test if it fools interrogator _____% of the time. [1]
12. Eliza, Mgonz, Pfizer and Natachat; which one you would say odd one out. [1]
13. The process of building a knowledge base is called _____ engineering. [1]
14. *Brother (Richard, John)* is an example of _____ sentence. [1]
15. Formula for conditional probabilities P(X\ Y) is given as _____. [1]
16. For 3 discs and 3 rods, no. of steps required to solve Tower of Hanoi is _____. [1]
17. Travelling sales man problem is an example of _____ search. [1]
18. In heuristic search, we test to see if this possible solution is a real solution by comparing the state reached with the set of _____ states. [1]
19. For all x and all y, if x is the parent of y then y is the child of x, in predicate logic it is written as _____. [2]
20. Bayes theorem is given as _____. [2]
21. _____ _____ pruning is used in Minimax search algorithm. [2]
22. Forms of learning are _____ learning, _____ learning, and _____learning. [3]
23. _____, _____, _____ and _____are properties of knowledge representation. [4]
24. ANN, ANI, AGI, and ASI stand for _____, _____, _____, and _____ [4]

## SECTION-B (4x5=20 Marks)
**Attempt any FOUR Questions.**

1) Discuss the evolution of AI with respect to time.
2) Differentiate between supervised learning and unsupervised learning.
3) Write short notes on Neural Network.
4) In propositional logic, what is de Morgan law and double negation, show with symbol.
5) How will you write the following in predicate logic?
   a. All men are mortal
   b. There are some people who do not like cricket.

## SECTION-C (2x10=20 Marks)
**Attempt any TWO Questions.**

1) What are the approaches, issues and challenges in Knowledge representation, Explain
2) Why we use Minimax search. Explain with example.
3) What do you mean by learning? Explain decision tree with examples.
4) A problem is given to you. What will choose? ANN, decision tree or Minimax search? Explain your answer with clear reasoning.