B.M.S COLLEGE FOR WOMEN
BENGALURU – 560004

V SEMESTER END EXAMINATION – JAN/FEB- 2024

B.Voc.-IT: ARTIFICIAL INTELLIGENCE
(NEP Scheme 2021-22 onwards)

Course Code: BVIT5DSC13　　　　　　　　　　　　　　　　**QP Code: 5048**
Duration: 2 ½ Hours　　　　　　　　　　　　　　　　　**Max. Marks: 60**

Instructions: Answer all the sections

SECTION - A

I.　Answer any TEN questions. Each question carries TWO marks.　　　**(10X2=20)**

1. What is AI?
2. Define the terms Alpha and Beta.
3. Mention the two kinds of Quantifiers.
4. Consider the following production rule: IF green THEN walk. What is the consequent of this rule?
5. What is Fuzzy set ($\tilde{A}$)?
6. What are STRIPS?
7. Define Opacity of an image.
8. What are the Activation Functions used in Neural Networks?
9. State the problem of Long-Term Dependencies.
10. What is NLP?
11. Write the Mathematical notation of Q-Learning.
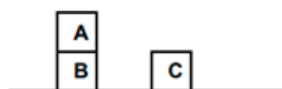12. Define Expert Systems.

SECTION - B

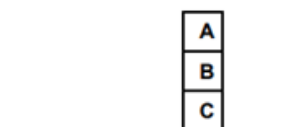**II.　Answer any FIVE questions. Each question carries FOUR marks.**　　　**(5X4=20)**

13. Differentiate between Forward Chaining and Backward Chaining.
14. Explain AO* search.
15. Explain Resolution Rule of Inference with example.
16. For the given Blocks World Problem apply Situation Calculus.

INITIAL STATE

GOAL STATE

17. Describe Knowledge Based Agents.

18. Explain semantic Analysis with example.

19. Explain the Prominence of Expert System with a Case Study on DENDRAL.

SECTION – C

III. **Answer any TWO questions. Each question carries TEN marks.**   **(2X10=20)**

20. Explain the following:
    a. What is Convolutional Neural Network?
    b. How Does CNN Recognize Images?
    c. Layers in a Convolutional Neural Network.

21. Describe the five types of reasoning in Artificial Intelligence with example.

22. Explain the following:
    a. What is Unification?
    b. Apply Unification for the problem: "Who does John know?"
    c. Wumpus World problem.

23. Explain supervised learning and unsupervised learning with suitable example.

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