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(FOR THE CANDIDATES ADMITTED **23PCS3E1**

DURING THE ACADEMIC YEAR 20 ONLY) **REG.NO. :**

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : NOVEMBER 2024

MSC.COMPUTER SCIENCE **MAXIMUM MARKS: 75**

SEMESTER-III **TIME : 3 HOURS**

23PCS3E1-ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1_____ is used to search an optimal solution to a problem within a space.

a) Heuristic search b) Binary search c) Optimal search d) Greedy search

2. A probabilistic graphical model that represents a set of variables and their conditional dependencies via a Directed Acyclic Graph is_____

a) Neural network b) Bayesian network c) Convolutional neural networks d) Deep belief network

3. _____ infers facts from existing data.

a) Reasoning b) Matching c) Learning d) Resolution

4. _____is the inability of the model due to some difference or error value and actual value between the predicted.

predicted _____

a)Correlation b)White space c)Bias d)Regression

5.Training multiple models independently and combining their predictions through averaging or voting _____.

a) Boosting b) Bagging c) Learning d) Testing

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. What is Heuristic Search?

7. Define Fuzzy Logic.

8. What is meant by Control Knowledge?

9. What is meant by Unsupervised Learning?

10. Define Decision Tree?

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) What are the criteria for Problem success?

(OR)

b) Explain Means-End Analysis.

12. a) Discuss the approaches to knowledge representation.

(OR)

b) Write note on Explain Rule Based System?

13. a) Explain Computable function and predicates?

(OR)

b) Compare between procedural and declarative learning?

14. a) Analyse Supervised LearningConcept.

(OR)

b) Discuss Nearest Neighbor Methods.

15. a) Write a note on Kernel?

(OR)

b) Summarize on Bayesian networks?

SECTION – C (5 X 8 = 40 MARKS)

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

(K4 (Or) K5)

16. a) State the characteristics of an Algorithm?

(OR)

b) Explain Best-First Algorithm in detail.

17. a) Elaborate Representations and mapping.

(OR)

b) Discuss the issues in knowledge representation?

18. a) How to represent instance and ISA logic? Explain.

(OR)

b) Distinguish between Forward vs. Backward Reasoning?

19. a) Infer various types of Machine learning.

(OR)

b) Explain Linear Regression in detail.

20. a) How will you to construct a Decision Trees? Explain with an example.

(OR)

b) Describe K-means algorithm.

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Ethical paper