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(FOR THE CANDIDATES ADMITTED

24PCS312

DURING THE ACADEMIC YEAR 2024 ONLY)

REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS : NOVEMBER 2025

M.Sc. Computer Science(SF)

MAXIMUM MARKS: 75

SEMESTER: III

TIME : 3 HOURS

24PCS312 -ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Section - A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

MULTIPLE CHOICE QUESTIONS.

- 1) What is the goal of Heuristic Search techniques?
 - a) To find all solutions
 - b) To search randomly
 - c) To reduce the search space
 - d) To follow exhaustive search
- 2) Which of the following is not a challenge in Knowledge representation?
 - a) Uncertainty
 - b) Consistency
 - c) Redundancy
 - d) Accuracy
- 3) Which logic is used in AI for reasoning with uncertainty?
 - a) Predicate logic
 - b) Propositional logic
 - c) Fuzzy logic
 - d) Classical logic
- 4) Which of the following is a Supervised Learning Algorithm?
 - a) K-Means
 - b) PCA
 - c) Linear Regression
 - d) Apriori
- 5) Which algorithm is used for classification problems and finds an Optimal Separating Hyperplane?
 - a) K-NN
 - b) SVM
 - c) K-Means
 - d) PCA

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

- 6) What do you mean by AI problem formulation?
- 7) Relate the role of mapping in Knowledge Representation.
- 8) What is Backward chaining?
- 9) What is the use of Dimensionality Reduction.
- 10) What is meant by bagging in Ensemble Learning.

SECTION – B

(5 X 5 = 25 MARKS)

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

- 11) a) Elucidate the issues in the design of search programs.
(OR)
b) Highlight the various techniques in Artificial Intelligence.
- 12) a) Determine the issues in Knowledge Representation.
(OR)
b) Evaluate the salient features of Baye's Theorem.

Ethical paper

(CONT...2)

13) a) Summarize the Natural deduction in Predicate Logic.

(OR)

b) Estimate the representation simple facts in Logic programming.

14) a) Identify the various types of Machine Learning.

(OR)

b) Outline the Curse of Dimensionality.

15) a) Illustrate the steps to constructing decision trees.

(OR)

b) Describe the requirements of K-Means algorithm.

SECTION-C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)

16) a) Elaborate on defining the problem as a State Space Search.

(OR)

b) Analyze the problem characteristics in Artificial Intelligence.

17) a) Generalize the approaches in Knowledge Representation.

(OR)

b) Assess the general architecture of Bayesian networks.

18) a) Compare and construct Forward and Backward reasoning.

(OR)

b) Examine the Representation Instance and ISA relationships.

19) a) Discover the Turning Data into Probabilities.

(OR)

b) Review the basic concept of Principal Components Analysis (PCA).

20) a) Integrate the requirements of Random Forest Algorithm.

(OR)

b) Explain the implementation of Classification Algorithm for problems in Financial domain.

Ethical paper