

Code No.: EC57301PE

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II-M.TECH-I-Semester End Examinations (Regular) - Feb- 2023
AI & MACHINE LEARNING (PE-V)
(VLSI SD)

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) List the different types of supervised learning. [2M]
- b) Define decision trees. [2M]
- c) What are the main types of unsupervised learning? [2M]
- d) How PCA is used in machine learning? [2M]
- e) What is meant by boosting in machine learning? [2M]
- f) Why model selection is used in machine learning? [2M]
- g) What activation function used in radial basis function networks? [2M]
- h) How does a neural network function in a biological system? [2M]
- i) Make a comparison between the Fuzzy Set verses Crisp Set. [2M]
- j) Define fuzzy logic. [2M]

PART-B

(50 Marks)

2. Describe the role of information gain in decision tree learning. [10M]
- OR**
3. Explain the linear regression and logistic regression. [10M]
4. Discuss the matrix factorization and matrix completion. [10M]
- OR**
5. Explain the PCA and kernel PCA. [10M]
6. Elaborate the methods of statistical learning. [10M]
- OR**
7. List and explain the types of boosting. [10M]
8. Explain the LMS and Back propagation. [10M]
- OR**
9. List and explain the applications of Artificial neural networks. [10M]
10. Distinguish between fuzzification and defuzzification. [10M]
- OR**
11. Explain the fuzzy neural networks. [10M]
