QP CODE: 24800001

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Reg No : .....

Name : .....

MCA DEGREE EXAMINATIONS, DECEMBER 2023

Third Semester

Master of Computer Application

Core - MCACT301 - MACHINE LEARNING TECHNIQUES

2020 Admission Onwards

9A97D8F0

Time: 3 Hours Maximum: 75 Marks

Part A

*Answer any **ten** questions*

*Each question carries **3** marks*

1. What do you mean by reinforcement learning?
2. How to build a Machine Learning Model?
3. Illustrate the concept of Vapnik-Chervonenkis (VC) Dimension?
4. Can decision tree be used for regression? If yes, explain how.
5. What are support vectors?
6. What is the use of Dimensionality Reduction?
7. Explain about factor analysis?
8. Define Euclidean distance .with an example
9. What do you mean by Divisive clustering ? Give an example.
10. What do mean by Directly density reachable?
11. Explain about Feedforward neural network with a diagram
12. Explain about the architecture of Backpropagation network

(10×3=30 marks)

Part B

*Answer **all** questions*

*Each question carries **9** marks*

13. a) Distinguish between supervised learning and Reinforcement learning. Illustrate with an example.

OR

b) Define Machine Learning? Explain with example why Machine Learning is important

14. a) Explain Naïve Bayes Classifier with an Example.

OR

b) Explain Lazy Learners mechanism taking k-Nearest-Neighbor classifiers as example.

15. a) Explain about feature selection through function approximation.

OR

b) Explain about the reason for reducing the dimensionality of the data set as a separate process in preprocessing

16. a) Describe hierarchical clustering with an example.

OR

b) Explain DBSCAN algorithm for density-based clustering.

17. a) Discuss about the fundamental concept and architecture of Artificial Neural Network.

OR

b) Explain about multilayer feedforward neural network with diagram.

(5×9=45 marks)