MCA   (Sem.–5)
MACHINE LEARNING & DATA ANALYTICS USING PYTHON
Subject Code : PGCA1957
M.Code : 90816
Date of Examination : 12-01-22

Time : 2 Hrs.   **Max. Marks : 70**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE question(s), each question carries 14 marks.**

1. Compare and draw differences between supervised, unsupervised and reinforcement learning. Suggest an appropriate machine learning technique for predicting prices of houses, given the dataset regarding square footage, number of rooms, whether a house has a garden or not, and so on? Justify your suggestion.

2. Explain the process of machine learning based linear regression in detail with the help of an example. Discuss the metrics used to evaluate the performance of a linear regression algorithm.

3. Write in detail about decision boundary in logistic regression. Give some examples of multiclass classification using logistic regression.

4. Explain the working of decision tree clustering algorithm using information gain as attribute selection measure.

5. Differentiate between classification and clustering. Give a step-by-step explanation of the KNN clustering algorithm.

6. Explain the conditional structures and iterative structures available in python giving suitable examples of their usage.

7. Define (a) Pandas Series (b) Pandas Dataframe. Write the code for creating a simple Pandas Series from a list. Also write the code for creating a simple Pandas DataFrame.

8. Discuss the parameters of the Matplotlib function used to create pie charts. Write the code to display the pie chart of the list of students enrolled for various computer language courses.

Note: Any student found attempting answer sheet from any other person(s), using incriminating material or involved in any wrong activity reported by evaluator shall be treated under UMC provisions.

Student found sharing the question paper(s)/answer sheet on digital media or with any other person or any organization/institution shall also be treated under UMC.

Any student found making any change/addition/modification in contents of scanned copy of answer sheet and original answer sheet, shall be covered under UMC provisions.