Roll No. ☐☐☐☐☐☐☐☐☐☐ Total No. of Pages : 02

Total No. of Questions : 09

MCA   (Sem.–4)

MACHINE LEARNING AND DATA ANALYTICS USING PYTHON

Subject Code : PGCA-1976

M.Code : 91855

Date of Examination : 22-12-2022

Time : 3 Hrs.   Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION - B & C have FOUR questions each.**
3. **Attempt any FIVE questions from SECTION B & C carrying TEN marks each.**
4. **Select atleast TWO questions from SECTION - B & C.**

SECTION-A

1. **Write short notes on :**

   a) Supervised Learning

   b) Linear Classification

   c) Decision Tree

   d) Naive Bayes

   e) Python Modules

   f) Python Arrays

   9) Data Frames

   h) Subplot

   i) Scatter

   j) Random Forest

SECTION-B

2. Explain Principal Component Analysis taking any real world application as example.

3. What is the difference between Regression and Classification? Explain logistic regression.

4. Explain K nearest neighbour clustering technique. What are its advantages and disadvantages?

5. Explain Reinforcement Learning. Discuss the differences between reinforcement learning and supervised learning.

SECTION-C

6. Compute all possible prices of flooring that can have lengths of 2, 4, 6 and 8 meters and widths of 1, 1.5 and 2 meters if the flooring costs $32.19 per square meter. Store the result in a 2D array. The lengths should increase from top to bottom and widths should increase from left to right.

7. Explain python strings, lists, dictionaries and tuples in detail.

8. Write a Pandas program to create Data Frames that contains random values, contains missing values, contains datetime values and contains mixed values.

9. Explain various matplotlib concepts such as line, labels; grid, subplot, scatter and bars.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.