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

Paper ID : 91855

Date of Examination : 05-07-22

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) Reinforcement Learning

   b) Logistic Classification

   c) Random Forest

   d) Principal Component Analysis

   e) Python Functions

   f) Numpy

   g) Pandas

   h) Matplotlib

   i) Histogram

   j) Clustering.



## SECTION-B

2. What is Machine Learning? What is its relationship with Deep learning? Explain supervised and unsupervised learning with examples.

3. What is the difference between regression and classification? Explain linear regression.

4. Explain Naive Bayes classification technique. What are its advantages and disadvantages?

5. What are neural networks? Discuss the architecture of neural networks in detail.

## SECTION-C

6. Describe various kinds of operators and control structures in Python. How to find out whether a number is even or odd using python bitwise operators?

7. What are python arrays and how to use them? Discuss the concept of array indexing with examples in detail.

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

9. Write detailed notes on Matplotlib histograms and pie charts.

**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.**