

7. How the value can be declared, assigned and retrieved from lists ?

**UNIT – IV**

8. How 2-D and 3-D visualization is done using python ?  
Illustrate with example.

9. Discuss the concept of working with database in MySQL. How connectivity is established using Python ?

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Roll No. ....

**67197-N**

**MCA 4th Semester 2 Yr. Course  
Examination – July, 2022**

**MACHINE LEARNING & PYTHON PROGRAMMING (I)**

Paper : 21MCA24DB1

Time : Three Hours ] [ Maximum Marks : 80

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt five questions in all. Question No. 1 is compulsory. In addition to compulsory question, attempt four more questions, selecting one question from each Unit. All questions carry equal marks.

**1. Compulsory Question :**

(a) What are different types of machine learning algorithms ?

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- (b) Differentiate between classification and regression.
- (c) What is ensemble learning ?
- (d) How bagging is different from boosting ?
- (e) What are lists and tuples ? What is the key difference between the two ?
- (f) What is lambda in Python ? Why is it used ?
- (g) Define pandasdata frame.
- (h) How an object can be copied ?

#### UNIT - I

2. (a) What is machine learning ? Explain the steps in designing a learning system ? Also, discuss the paradigms of machine learning.
- (b) How SVM can be used for classification of linearly separable data ?
3. (a) Explain the perspectives and issues related to machine learning.

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- (b) Define Bayes theorem. Elaborate Naïve bayes classifier working with example.

#### UNIT - II

4. (a) Describe the random forest algorithm to improve classifier accuracy.
- (b) Compare feature extraction and feature selection techniques. Explain how dimensionality can be reduced using subset selection procedure.
5. (a) What is manifold learning ? Explain the learning approaches with an example.
- (b) Explain the concept of penalty and award in reinforcement learning.

#### UNIT - III

6. Discuss the concept of branching and looping in Python with example.

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