

(Please write your Exam Roll No.)

Exam Roll No. 00911604422

END TERM EXAMINATION

SECOND SEMESTER [MCA] JULY-2023

Paper Code: MCA-106

Subject: Python Programming

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.no.1 is compulsory.
Select one question from each unit.

- Q1 Answer all the following questions briefly:- (2.5x10=25)
- (a) Write the syntax of for loop statement.
 - (b) Illustrate membership operator.
 - (c) Discuss importance of docstring.
 - (d) Demonstrate any two operations on strings with example.
 - (e) Make use of comprehension to create a dictionary. Give suitable example.
 - (f) Briefly explain seek() and tell() methods.
 - (g) Discuss indexing and slicing with example.
 - (h) Differentiate between exception and error.
 - (i) Discuss grid() method of tkinter.
 - (j) Compare and contrast append() and insert() methods of numpy library.
[arr, value] [order, value, axis]

UNIT-I

- Q2 (a) Explain the concept of scope and lifetime of variables in Python Programming language with a suitable example. (6.5)
(b) Write a python program to find roots of quadratic equation. (6)
- Q3 (a) Write short note on short circuit evaluation performed by python when evaluating combined comparisons. Support your answer by giving suitable example. (6.5)
(b) Define the term data type. Explain the basic data types available in Python with examples. (6)

UNIT-II

- Q4 (a) Demonstrate any four methods of Dictionary. (6.5)
(b) Write Python program to perform a linear search for a given number in the list and report Success or Failure. (6)
- Q5 (a) Illustrate the difference between fully qualified path and relative path with an example. (6.5)
(b) "Lists are Heterogeneous". Support the statement with an example. (6)

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UNIT-III

- Q6 (a) Write a class Square that finds the square of a number. Throw an exception if instead of the number, user enters a character. (6.5)
- (b) Discuss polymorphism as implemented in Python programming language with an example. Write Python Program to Create a Class Called as Complex and Implement `__add__()` Method to Add Two Complex Numbers. Display the result by overloading the Operator. (6)
- Q7 (a) Discuss thread synchronization in python. Also discuss event object. (6.5)
- (b) Write a program of bank account to create new account, display account, deposit amount and withdraw using class and function. (6)

UNIT -IV

- Q8 (a) Mention the different types of Data Structures in Pandas? Demonstrate how missing data is handled in Pandas. (6.5)
- (b) Explain `show()`, `figure()`, `plot()`, `savefig()`, `xlabel()`, `ylabel()` with suitable example. (6)
- Q9 (a) Explain applications of lambda function. Discuss `map()`, `filter()` and `reduce()` methods. (6)
- (b) With an example, discuss different components of tkinter module. Write a GUI application with a button labeled "GoodBye". When the button is clicked, the window closes. (6.5)

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