



CBCS SCHEME

18MCA32

Third Semester MCA Degree Examination, July/August 2022 Programming using Python

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the memory management and representation of variables in python. (06 Marks)
- b. What is string slicing? Discuss the types of string indexing in python. (06 Marks)
- c. Develop a python program to find the middle number i.e. other than maximum and minimum number out of three numbers. (04 Marks)
- d. Predict the output of the following:
(i) `help("modules")` (ii) `dir(__builtins__)`
(iii) `5 + 9 // 2 ** 3` (iv) `-39 % 4` (04 Marks)

OR

- 2 a. What is indentation error? Give an example. (04 Marks)
- b. Design a python user-defined function named `addComplex()` to find sum of two complex numbers that are passed as arguments. (08 Marks)
- c. Explain `join()` and `split()` methods with relevant examples. (08 Marks)

Module-2

- 3 a. Discuss `if.....elif.....else` statement along with syntax and example. (06 Marks)
- b. In what situation we need to reload a module? How do you reload a module? Explain. (06 Marks)
- c. Develop a python program to input length of three sides of a triangle and check whether a triangle can be formed or not. Also display the type of the triangle if it can be formed. (08 Marks)

OR

- 4 a. What is docstring? With an example, explain semi-automation testing using docstring. (06 Marks)
- b. State the rules while combining operators in python. (06 Marks)
- c. Write the difference between equality operator and identity operator. Illustrate the use of membership operator. (08 Marks)

Module-3

- 5 a. Justify the output of the following:
(i) `['H', 'He', 'Li'] + 'Be'`
(ii) `['Fe', 'Ni'] * 3`
(iii) `n, m = 3, 4`
`X = [[0 for j in range (n)]`
`for i in range (m)]`
`print (X)` (04 Marks)
- b. Write a python program to print all prime numbers between the range 10 to 50. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

- c. Use the for loop statement for the following instances:
- Loop over every character in a string
 - Loop over every element of a list
 - Loop over a range of numbers
 - Loop over list of lists
- (08 Marks)

OR

- 6 a. What is a ragged list? Write a code snippet to loop over a ragged list. (04 Marks)
- b. Develop a python program to reverse characters in each word, in a line of text.
Example:
Input : "The quick brown fox jumps over the lazy dog"
Output: "ehT kciuq nworb xof spmuj revo eht yzal god" (08 Marks)
- c. How do you use break and continue statements in loops? Explain. (08 Marks)

Module-4

- 7 a. What do you mean by inverting a dictionary? Write a python program to invert a dictionary. (06 Marks)
- b. Mention the differences between List and Set. (06 Marks)
- c. Design a python program to count and print all palindrome words in a text file. (08 Marks)

OR

- 8 a. How do you access a file over Internet? Explain. (06 Marks)
- b. Store the following data pairs in a list, a tuple, a set, and a dictionary.

18MCA31	DBMS
18MCA32	Python
18MCA33	ADA
18MCA34	SS

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- c. Write a python program to find the sum of elements in a set of integers. (06 Marks)

Module-5

- 9 a. State the purpose of operator overloading methods and their respective operators. (06 Marks)
- b. Discuss MVC pattern in Python GUI program. (06 Marks)
- c. Design a python program to evaluate an arithmetic expression using stack class. (08 Marks)

OR

- 10 a. Discuss the phases that involve in solving a problem using Object Oriented Programming in Python. (04 Marks)
- b. Explain any four tkinter widgets. (08 Marks)
- c. Define a class named Time with integer attributes hour, minutes and seconds. Design a method addTime() that takes two Time objects as arguments and returns their sum. (08 Marks)

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