



CBCS SCHEME

18MCA32

Third Semester MCA Degree Examination, Dec.2023/Jan.2024 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. List any 5 unique features of Python (05 Marks)
- b. How function calls are handled in Python? Explain with a memory model. (10 Marks)
- c. How does a computer execute a python program? (05 Marks)

OR

- 2 a. Evaluate the following expression showing steps and association:
i) $x = 2 + 9 * ((3 * 12) - 8) / 10$ ii) $M = \text{float}(4 + \text{int}(2.39)\%2)$
iii) $y = 4 + 2 * * 5 // 10$ iv) $z = 24 // 4 // 2$ (08 Marks)
- b. Write a python program to read a number and compute $n + nn + nnn$. (06 Marks)
- c. Explain the following : (06 Marks)
i) Multiple line string ii) Quotes iii) Escape sequence characters.

Module-2

- 3 a. Following the functional definition recipe, define a function that has n parameters, both of which are number and return the absolute value of the difference of the two numbers. (08 Marks)
- b. Write a python program to display the grades by accepting marks in 5 subjects. (04 Marks)
- c. With proper example for each, explain any 8 string related methods. (08 Marks)

OR

- 4 a. Write a python program to illustrate the working of exclusive OR (X-OR) expression by accepting two input values. (06 Marks)
- b. How do you test the program semiautomatically for converting the temperature from Fahrenheit to Celsius? (10 Marks)
- c. With a proper example differentiate between method and a module in python. (04 Marks)

Module-3

- 5 a. Variable VTU refers to the list
[4353, 2314, 2956, 3382, 9362, 3900]
Write the method for the following :
i) Remove 3382 from the list.
ii) Insert 4499 in the list after 9362
iii) Get the index of 9362
iv) Extend the list by adding [5566, 1830]
v) Reverse the list
vi) Sort the list
vii) Sort the list in reverse order
viii) Remove the last item.
ix) Remove all the elements from the list
x) Count number of elements from the list. (10 Marks)
- b. Write a python program to multiply 2 matrices. (10 Marks)

OR

- 6 a. What are lists? With example explain any 6 methods that can be used with lists. (08 Marks)
b. With a suitable example, explain break and continue statement within a for loop in python. (06 Marks)
c. Write a python program to check for a sparse matrix. (06 Marks)

Module-4

- 7 a. What are sets? With suitable example explain any 4 methods of sets. (06 Marks)
b. How str, list, tuple, set, dictionary are different from each other? (10 Marks)
c. How do you open files in python? (04 Marks)

OR

- 8 a. What are dictionary in python? Explain pop(), get(), setdefault() method with respect to dictionary. (08 Marks)
b. Write a python program to read line from a file and write the respected lines to another file if it is not a comment line. (12 Marks)

Module-5

- 9 a. What is object oriented programming? Explain different phases involved in object oriented programming. (06 Marks)
b. List and explain any 8 widgets of tkinter. (08 Marks)
c. With a suitable example explain model, view controller. (06 Marks)

OR

- 10 a. With a program explain encapsulation inheritance and polymorphism in python. (08 Marks)
b. How do you use mutable variables with widgets from tkinter (04 Marks)
c. Write a python program to simulate a counter by incrementing and decrementing a value using tkinter widgets. (08 Marks)
