

Total No. of printed pages = 03

Monsoon, 2023

MCA Semester Examinations

PROGRAMMING TECHNIQUES USING PYTHON

Course Code: MCA23501T

Full Marks – 60

Time – 2½ hours

The figure in the margin indicates full marks for the questions.

Part A

Answer ALL questions

Multiple Choice (10 x 1mark = 10marks)

Q.1 Choose the correct alternatives from the following (10 x 1=10)

(i) Who developed Python Programming Language?

- a) Wick van Rossum
- b) Rasmus Lerdorf
- c) Guido van Rossum
- d) Niene Stom

(ii) What will be the value of the following Python expression?

4 + 3 % 5

- a) 7
- b) 2
- c) 4
- d) 1

(iii) Which of the following is not a core data type in Python programming?

- a) Tuples
- b) Lists
- c) Class
- d) Dictionary

(iv) Which of the following functions is a built-in function in python?

- a) factorial()
- b) print()
- c) seed()
- d) All of the above

(v) Which type of Programming does Python support?

- a) object-oriented programming
- b) structured programming
- c) functional programming

d) all of the mentioned

(vi) What will be the output of the following Python code?

```
x = 'abcd'
for i in x:
    print(i.upper())
```

- a) a B C D
- b) a b c d
- c) error
- d) A B C D

(vii) Which keyword is used for function in Python language?

- a) function
- b) def
- c) fun
- d) define

(viii) What will be the output of the following Python code snippet?

```
for i in [1, 2, 3, 4][::-1]:
    print(i, end=' ')
```

- a) 4 3 2 1
- b) Error
- c) 1 2 3 4
- d) None of the Above

(ix) Is Python case sensitive when dealing with identifiers?

- a) No
- b) Yes
- c) Machine Dependent
- d) None of the Above

(x) What will be the output of the following Python code?

```
i = 1
while True:
    if i%3 == 0:
        break
    print(i)

    i += 1
```

- a) 1 2 3
- b) Error
- c) 1 2
- d) None of the Above

Part B

***Answer ANY FOUR questions
(4x 5 mark = 20 marks)***

- Q.2 Give a comparison between List and Tuple in Python (5)
- Q.3 Explain in brief the features of Python Programming Language (5)
- Q.4 What are the different loop control statements available in python? Explain with suitable examples. (5)
- Q.5 What are the different operations that can be performed on a list as a Stack? Explain with examples (5)
- Q.6 Explain the use of List in Python using the following functions (5)
 - (a) range() function
 - (b) iter() function
- Q.7 What are the rules for naming a variable in Python? (5)

Part C

***Answer ANY TWO questions
(2 x10 Mark = 20 Marks)***

- Q.8 (a) Explain the following functional programming tools that works on all list item in Python (2 x 3=6)
 - i. map()
 - ii. filter()
 - iii. reduce()(b) List four advantages of Tuple over List (4)
- Q.9 (a) What are Python's dictionaries? Explain the different operations of deleting item from a dictionary in Python with suitable Python Program (2+4=6)
- (b) What is Polymorphism in Python? Explain overriding with suitable example in Python (4)
- Q.10 (a) Write in brief about Set in python. Explain the Union, Intersection, Difference and Symmetric Difference using suitable examples of Set in Python (5)
- (b) Explain the use of the following built-in function with suitable example in Python (5)
 - (a) zip() function in tuple
 - (b) enumerate() function in list

Part D

Short Notes
(2 x5 Mark = 10 Marks)

- Q.11 Write short-notes on ***any two*** (2 x 5 =10)
- (a) Strings and its Operations in Python
 - (b) Inheritance and its Type in Python
 - (c) Applications of Python in the real-world
 - (d) Object Oriented features supported by Python
