UTTARANCHAL UNIVERSITY, DEHRADUN
UTTARANCHAL INSTITUTE OF MANAGEMENT
MID TERM EXAMINATION
ODD SEMESTER 2024-25
BCA | 3rd Semester
PROGRAMMING USING PYTHON | BCA – S303

Time: 1:15 Hour **Max. Marks: 30**

Note: All questions are compulsory.

Q.1- Answer the following questions. **(1 x 6 = 6 Marks)**

Multiple Choice Questions

a) How can you convert a list to a tuple? (CO-2, BL-5)

a. tuple(list_name) b. list(list_name)
c. convert(list_name) d. tuple.from_list(list_name)

b) Give the output of code snippet (CO-2, BL-3)

```
my_list = [1, 2, 3]
my_list.append([4, 5])
print(my_list)
```

a. [1, 2, 3, 4, 5] b. [1, 2, 3, 4, 5, []]
c. [1, 2, 3, [4, 5]] d. Error

c) Give the output of code snippet (CO-2, BL-3)

```
def add(a: int, b: int) -> int:
    return a + b
print(add(5, 3))
```

a. 8.0 b. TypeError
c. None d. 8

State True/ False

d) Function annotations are enforced by the Python interpreter. (CO-2, BL-3)

e) Python 1.0 was released after the introduction of Java. (CO-1, BL-1)

f) A higher-order function can return another function. (CO-2, BL-2)

Q.2-Write short note on any two (up to 70 words) **(2 x 3 = 6 Marks)**

a) If you try to modify an element in a tuple, what will happen? (CO-1, BL-4)

b) Can you combine *args and **kwargs in a single function definition? (CO-2, BL-5)

c) How does the continue statement affect the flow of a loop?. (CO-1, BL-3)

Q.3-Attempt any one of the following **(1 x 6 = 6 Marks)**

a) Explain the concept of function composition in Python. Can two functions be combined into a single composite function? (CO-2, BL-5)

5

OR

b) Discuss the various methods available for manipulating dictionaries in Python. (CO-2, BL-4)

Q.4- Attempt any one of the following. **(1 x 6 = 6 Marks)**

a) Write a Python Program to check whether a given number is a Happy Number or Not (CO- 1, BL-5)

5

OR

b) Create a Python function to generate a random password with a maximum length of 6 characters, ensuring it contains at least one uppercase letter and one digit. (CO- 2, BL-4)

Q.5- Attempt any one of the following. **(1 x 6 = 6 Marks)**

a) Explore the use of nested loops in Python. What are nested loops, and how do they work? (CO- 1, BL-3)

5

OR

b) Explain the fundamental concepts of classes and objects in Python. (CO- 2, BL-3)

3

30