



MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : BCAC403 Python Programming

UPID : 400088

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

1. Answer any ten of the following :

[1 x 10 = 10]

- (I) What is the output when we execute `list("hello")`?
- (II) In which language is Python written?
- (III) What will be the output of the following Python code snippet?

```
bool('False')
bool()
```

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

```
print('11'.isnumeric())
```

- (V) _____ is used to create an object.
- (VI) What will be the output of the following Python code?

```
>>> a={i: i*i for i in range(6)}
>>> a
```

- (VII) How to find the last element of list in Python? Assume 'bikes' is the name of list.

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

```
>>> a=[14, 52, 7]
>>>> b=a.copy()
>>> b is a
```

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

```
class Demo:
    def __init__(self):
        pass
    def test(self):
        print(__name__)
obj = Demo()
obj.test()
```

- (X) The expression `2**2**3` is evaluated as `(2**2)**3`. The statement is _____. (True / False)

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

```
What will be the output of the following code.
Str="pyThOn"
print(Str.swapcase())
```

- (XII) What is the output of the following python code?

```
x = 27
y = 9
while x < 30 and y < 15:
    x = x + 1
    y = y + 1
print(x,y)
```

Group-B (Short Answer Type Question)

Answer any three of the following :

[5 x 3 = 15]

2. If `list1 = ['x', 'y', 'z']`, `list2 = ['x', 'y', 'z']` and `list3 = []`, what will be displayed when the following print statements are executed? Explain briefly why it is so displayed.

[5]

- (i) `print(list1 is list2)`
- (ii) `print(not list3)`

3. What is Indentation in Python? What is Nested loop? [5]
4. What are the differences between list and tuples in Python? [5]
5. Write a python program to print fibonacci series of n number using recursion. [5]
6. What is a class? What is an object? Explain with example [5]

Group-C (Long Answer Type Question)

Answer *any three* of the following :

[15 x 3 = 45]

7. (a) How do you create a class in Python? [5]
(b) What is init method in python? [5]
(c) How do you access parent members in the child class? [5]
8. (a) How to take user input in python. Write a python program to describe and what will be the type of that input value. [4]
(b) Define String. How String slicing in Python works. [6]
(c) How To Import Modules in Python 3 [5]
9. (a) Which of the following are legal python variable names? If a name is not legal, state the reason. [5]
cse1, 1cse, his_name, her-name, pass
(b) With example explain Identity operator and Membership operator. [5]
(c) Write a python program to find the maximum, minimum and average of three numbers without using library functions. [5]
10. (a) Write a python program to implement a class Point with x, y as instance variables. Use of special function `__str__` to print object and `__add__`, `__sub__` magic methods to perform addition and subtraction between two objects. [8]
(b) With example explain the concept of multiple inheritance in Python. [7]
11. (a) What is if-elif-else? [5]
(b) Why do we use loop? [3]
(c) Write down about the Logical operators of the Python Programming Language? [7]

*** END OF PAPER ***