

G-3/372/22

Roll No.

III Semester Examination, January 2022

M.Sc.

INFORMATION TECHNOLOGY

Paper II

(Python Programming Language)

Time : 3 Hours]

[Max. Marks : 100

Note : *All questions are compulsory. Question Paper comprises of 3 Sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.*

SECTION A

1×10=10

(Objective Type/Multiple Choice Questions)

Choose the correct answer :

1. Which of the following is the correct extension of the Python file ?
- (a) *p*
 - (b) *.py*
 - (c) *.pi*
 - (d) Python

P.T.O.

[2]

2. What will be the output of the following Python code ?

```
l = [1, 0, 2, 0, 'hello', '', []]
list(filter(bool, l))
```

- (a) [1, 0, 2, 'hello', '', []]
 - (b) Error
 - (c) [1, 2, 'hello']
 - (d) [1, 0, 2, 0, 'hello', '', []]
3. In which language is Python written ?
- (a) English
 - (b) PHP
 - (c) C
 - (d) All of these
4. What is the method inside the class in python language ?
- (a) Object
 - (b) Function
 - (c) Attribute
 - (d) Argument
5. What is the output of the following python code ?

```
x = "abcdef"
i = "a"
```

while i in x:

```
x = x[: - 1]
print (i, end = " ")
```

- (a) *iiiii*
- (b) *aaaaaa*
- (c) *aaaaa*
- (d) None of the mentioned

G-3/372/22

6. What is the type of `sys.argv` ?
- (a) set (b) list
(c) tuple (d) string
7. Which of the following operators has its associativity from right to left ?
- (a) + (b) / /
(c) % (d) **
8. Which of the following declarations is incorrect in python language ?
- (a) `xyzp = 5,000,000`
(b) `x y z p = 5000, 6000, 7000, 8000`
(c) `x, y, z, p = 5000, 6000, 7000, 8000`
(d) `x_y_z_p = 5,000,000`
9. Which module in the python standard library parses options received from the command line ?
- (a) `getarg` (b) `getopt`
(c) `main` (d) `os`
10. What will be the output of the following Python expression ?
- `round (4.576)`
- (a) 4 (b) 4.6
(c) 5 (d) 4.5

SECTION B

6×5=30

(Short Answer Type Questions)

Note : Answer the following questions in **250** words.

Unit-I

1. What are different applications of Python ? Give examples.

Or

Write a Python program to convert height in feet and inches to cm.

Unit-II

2. Explain about different Logical operators in python with appropriate examples.

Or

Write a python script to print the following pattern ?

```
* * * *
* * *
* *
*
```

Unit-III

3. Explain about methods in Lists of Python with appropriate examples.

[5]

Or

Write a Python program that calculates number of seconds in a day.

Unit-IV

4. Explain in detail about Python type conversion and type casting.

Or

Write Python program that accepts a sentence and calculate the number of words, digits, uppercase letters and lowercase letters.

Unit-V

5. How to create and open a new file in Python ? Explain with example.

Or

Write a Python Program to Check if a given string is binary string or not.

SECTION C

12×5=60

(Long Answer Type Questions)

Note : Answer the following questions in **500** words.

Unit-I

1. Why need operator ? Discuss membership and bitwise operators with example.

G-3/372/22

P.T.O.

[6]

Or

Write a Python program that creates a GUI with a textbox, Ok button and Quit button. On clicking Ok, the text entered in textbox is to be printed in Python shell; on clicking Quit, the program should terminate.

Unit-II

2. What is the purpose of else clause for a loop ? Explain how else works with while and for loops, with examples.

Or

What is string slice ? How is it useful ? Write a python script that traverses through an input string and prints its characters in different lines—two characters per line.

Unit-III

3. What is a list in Python ? How to create nested lists ? Demonstrate how to create and print a three-dimensional matrix with lists.

Or

How can you say that a tuple is an ordered list of objects ? Also write a python program that creates a tuple storing first 9 items of Fibonacci Series.

G-3/372/22

Unit-IV

4. What are the different function prototypes ?
Explain with suitable examples.

Or

What type of parameter passing is used in Python ? Justify your answer with suitable example. Also write a Python function that prints all factors of a given number.

Unit-V

5. Write a function called oops that explicitly raises a Index Error exception when called. Then write another function that calls oops inside a try/except statement to catch the error. What happens if you change oops to raise Key Error instead of Index Error ? Where do the names Key Error and Index Error come from ?

Or

List the features and explain about different Object Oriented features supported by Python.

★ ★ ★ ★ ★ c ★ ★ ★ ★ ★