

7812

8

Give the output for the following :

(i) `z = {"abc", "pqr", "xyz"}`

`print(z.discard("aby"))`

`print(z.remove("aby"))`

[This question paper contains 8 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7812

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Unique Paper Code : 6202451101

Name of the Paper : Programming Using Python

Name of the Course : **B.Voc Software
Development**

Semester : I

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. The paper has **two** sections. **Section A** is compulsory.
3. Attempt any **three** questions from **Section B**. Each question is of **15** marks.

Section A

1. (a) WAP to print the pattern using loops. (2)

54321

54321

54321

54321

54321

- (b) Give the output for the following given below

`print(7.00 / 2.0)`

`print(7.000 // 2.00)` (2)

- (c) What are comments in Python? List two ways to write a single-line comment. (2)

- (d) Write a program that uses a function named calc to compute and return both the square and cube of a given number. (3)

Also illustrate how operator precedence and associativity affect the evaluation of expressions by providing at least one expression and showing its step-by-step evaluation. (7)

6. (a) Given string NAME = "I LOVE PYTHON !!"

(i) Count the no of spaces present in the string.

(ii) Replace the spaces with "#" character.

(iii) Count the no of vowels present in the above string.

(iv) Reverse the given string with the help of loops. (8)

- (b) Define what a dictionary is in Python with suitable example and an advantage of using it. Discuss two similarity features between set and dictionary with valid reason. (7)

(ii) 1 1 1 1 1

2 2 2 2

3 3 3

4 4

5

5. (a) Define what a function is in programming and demonstrate with a practical example how functions facilitate code reusability and support modular programming principles. Write a Python program that defines a function called test which takes a number as input and returns a string indicating whether the number is positive, negative, or zero. Test this function with the specific values: -7, 0, and 7, and display the results for each. (8)

- (b) Explain the concept and importance of operators in Python and compare among identity and membership operators in Python.

- (e) What is the concept of indentation in python and why it is important. (3)

- (f) Write the purpose of the following pre-defined functions with an example.

(i) abs()

(ii) range()

(iii) input() (3)

Section B

2. (a) Describe exception handling in Python, its significance, and demonstrate the functionality of try, except, finally, and else blocks using a comprehensive code example. (8)

- (b) Explain the concept of file handling in Python, its significance in programming, and demonstrate with practical examples the complete process of opening a file, reading its contents, and modifying them. (7)

A Scenario

Python.txt file having data

I Love Python.

Python is great having embedded feature of ML and AI.

```
f = open("Python.txt")
```

```
print(f.readline(100)) # output :.....
```

```
f.seek(3) # output :.....
```

3. (a) Describe the fundamental principles of Object-Oriented Programming (OOP) with practical examples, and explain the purpose and significance of the init method in Python classes, including its common use cases. (8)

- (b) Compare and contrast for loops and while loops in Python, providing atleast three differences with practical examples for each. Additionally discuss which type of loop is more efficient in which scenarios given below:

(i) Known sequence iteration

(ii) Efficient for real-time conditions

(iii) Unknown iterations (7)

4. (a) Explain the term with suitable examples

(i) import

(ii) return

(iii) global

(iv) Python is Dynamically Typed (8)

- (b) WAP for the given pattern below (7)

(i) 5 4 3 2 1

5 4 3 2

5 4 3

5 4

5