

22478

22232

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Figures to the right indicate full marks.
 - (4) Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1. Attempt any FIVE of the following :

5 × 2 = 10

- (a) List any 4 features of Python.
- (b) State the intersection set operator with one example.
- (c) Define syntax of overdefined function in python.
- (d) Define :
 - (i) Class
 - (ii) Methods of class
- (e) State the function of w+ mode.
- (f) Give the syntax of If...Elif...else in Python.
- (g) Define Dictionary with syntax.

2. Attempt any THREE of the following :

3 × 4 = 12

- (a) Explain membership operator with example.
- (b) Explain the following Tuple operators with example :
 - (i) [:] Range Slice
 - (ii) * Repetition
- (c) Explain method inheritance with an example.



(d) The given dictionary is:

```
numbers = {1: "One", 2: "Two", 3: "Three", 4: "Four", 5: "Five", 6: "Six"}
```

(i) Display the length of the dictionary.

(ii) add dates 7: "Seven".

(iii) Display all the values in dictionary.

(iv) Delete all the elements in the dictionary while retaining the empty object.

(e) Define tuple and explain different operations on tuple.

3. Attempt any THREE of the following :

3 × 4 = 12

(a) Explain the following string methods with example :

(i) upper()

(ii) title()

(b) Explain method overriding with an example.

(c) Compare local and global variables w.r.t., Scope, Lifetime, Data sharing and Modification of variable value.

(d) Explain different modes of opening a file.

(e) Explain use of Numpy package with example.

4. Attempt any THREE of the following :

3 × 4 = 12

(a) Write a Python program to print Fibonacci series.

(b) (i) Write a Python program to get the smallest number from a list.

(ii) Write a Python program to reverse a list.

- (c) Write a Python program that will calculate area and circumference of circle Using built-in math Module.
- (d) Python program to read and print students information using two classes using simple inheritance.
- (e) Print the following patterns using loop :

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

5. Attempt any TWO of the following :

2 × 6 = 12

- (a) Explain the following w.r.t., list each with one example :
 - (i) append()
 - (ii) insert()
 - (iii) remove()
- (b) List and explain any three standard python packages.
- (c) Explain finally keyword and raise statement in python with its syntax and one example to demonstrate it.
- (d) Develop python program to print prime numbers from 1 to 20.
- (e) Explain following building blocks in python with example :
 - (i) Indention
 - (ii) Comments

P.T.O.

6. Attempt any TWO of the following :

2 × 6 = 12

- (a) Write a python program to plot sine wave using matplotlib.
 - (b)
 - (i) Develop a program to demonstrate multiple inheritance in python.
 - (ii) Explain constructor in python.
 - (c)
 - (i) Write a Python program to Check for Zero Division Error Exception.
 - (ii) Write a Python program to create user defined exception that will check whether the password is correct or not.
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