

22478

12425

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Illustrate your answers with neat sketches wherever necessary.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.

**Marks**

**1. Attempt any FIVE of the following :**

**10**

- (a) List features of Python (any four).
- (b) Differentiate between Tuple and list any two points.
- (c) Define a user defined function with its syntax.
- (d) Define class with syntax in Python.
- (e) Write syntax to open( ) file with w mode in Python.
- (f) Give syntax for while loop.
- (g) State the steps to create a dictionary in Python. Give one example.

**2. Attempt any THREE of the following :**

**12**

- (a) Explain two relational and two identity operators in Python with appropriate example.
- (b) Explain the following list methods with an example :
  - (i) sort( )
  - (ii) insert( )



- (c) Explain inheritance with an example.
- (d) Write a Python program to :
  - (i) Find min value from list  
consider list : `mylist = [100, 90, 75, 20, 300, 40]`
  - (ii) Select the odd items of a list.

**3. Attempt any THREE of the following :**

**12**

- (a) List data types in Python. Explain mutable and immutable data types.
- (b) Differentiate between method overloading and method overriding.
- (c) Write a Python program to add two numbers using function.
- (d) Write a Python program to check for Zero Division Error Exception.

**4. Attempt any THREE of the following :**

**12**

- (a) Write a Python program to print the factorial of the entered number using a while loop.
- (b) Write the output for the following :
  - (i) 

```
>> a = {1, 2, 3, 4}
>> b = { 4, 5, 6}
>> c = a | b
>> print(c)
>> print(a.symmetric-difference(b))
```
  - (ii) 

```
t1 = [3, 5, 6, 7]
>> print (t1 [-1])
>> print (t1 [:])
```
- (c) Write a Python program to demonstrate the use of any six built in math functions.

- (d) Python program to read and print employee information using two classes using single inheritance.
- (e) Write program to display odd numbers from 1 to 100 using for loop.

**5. Attempt any TWO of the following :**

**12**

- (a) Explain following w.r.t. set each with one example :
  - (i) add( )
  - (ii) update( )
  - (iii) clear( )
- (b) Explain following w.r.t. function in Python :
  - (i) calling a function
  - (ii) creating a function
  - (iii) function with return value
- (c) Explain finally keyword and raise statement with its syntax and one example.

**6. Attempt any TWO of the following :**

**12**

- (a)
    - (i) Write program for importing module for addition and subtraction of two numbers.
    - (ii) Write a program to plot a sine wave using matplotlib and Numpy.
  - (b)
    - (i) Create a class named student, use the `__init__( )` function to assign values for name, rollno and marks.
    - (ii) Create a class named student with firstname and lastname properties and a printname method.
  - (c)
    - (i) Write a Python program to read contents of 'abc.txt' file and write same content in 'xyz.txt' file.
    - (ii) Write a Python program to create user defined exception that will check whether the password is correct or not.
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