

7. (a) Write Python statements to accept a roll number from the user and displays its name from the following dictionary *D* in which key represents roll number and value is name. (2)

`D={1: 'Amit', 2: 'Sumit', 5: 'Kavita'}`

- (b) (i) Find the output of the following code: (2+1)

```
def fn(x):
    try:
        print(5/x)
    except ZeroDivisionError:
        print("except block")
    else:
        print("else block")
    finally:
        print("finally block")
fn(0)
```

- (ii) What error is returned by the following statement if file "try.txt" does not exist?
`f=open("try.txt")`
- (c) Write two differences between lists and tuples? Give one example showing their usage. (4)
- (d) Write a user-defined function SUMSQUARES(*n*) in Python that accepts a number *n* as an argument. The function returns the sum of squares of the first *n* numbers. Also, write statement to call this function for *n*=5 and print the returned value. (6)

(500)

[This question paper contains 10 printed pages.]

Your Roll No.....

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D

Unique Paper Code : 2344001102

Name of the Paper : Programming With Python

Name of the Course : **Computer Science: Generic Elective**

Semester : I

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Question 1 in Section A is compulsory.
3. Attempt any 4 questions from Section B.
4. Answer all parts of a question together.

Section A

1. (i) What will be the output of the following code segment? (2)

`a=40`

P.T.O.

```
b=10
```

```
a=a+b
```

```
b=a+b
```

```
a=a+b
```

```
print(a,b)
```

- (ii) Give the output of the following code segment: (3)

```
total=0
```

```
N=10
```

```
for i in range(1, N+1):
```

```
    if i%2==0:
```

```
        continue
```

```
    for j in range (1, i+1):
```

```
        total+=1
```

```
        if j == i/2.0:
```

```
            break
```

```
print(total)
```

- (iii) Give the output of the following code segment:

```
a= [1, 2, 3]
```

```
b=a*2
```

```
print (b)
```

(2)

- (iv) Write a function to count the number of vowels in a string. (3)

- (v) Evaluate the following expressions: (5)

(i) `int (4.00/(2.0+2.0))`

(ii) Display the last element of 'T1'.

(iii) Display tuple 'T1' in reverse order.

(iv) Display 'b' from tuple 'T1'.

(v) Display 'Anil' from tuple 'T1'.

- (b) Write a function that takes two files, text1.txt and text2.txt, as input. The function must read the content of the file text1.txt line by line and should write them to another file text2.txt. Display the content of file text2.txt. Use appropriate exceptions for file handling. (5)

- (c) Write a function to print every character of a string entered by the user in a new line using the for loop. Also, display total number of characters in the string at the end. (5)

6. (a) What will be the output of the following code segment? (5)

```
for letter in 'programming with python':
```

```
    if letter=='a' or letter=='n':
```

```
        continue
```

```
    print('current letter:', letter)
```

- (b) Write a function that accepts a list (L) of 10 elements to find the frequency of each distinct element in L. Use dictionary to store element and its count in key-value pair form. Also, display the elements with maximum count using dictionary. (6+4)

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```

  * * *
 * * * * *
 * * * * * * *

```

```

(ii) 4 3 2 1
      3 2 1
      2 1
      1

```

(b) Consider the following strings to find the output of the following print statements: (5)

s = 'abcdefxyyzxyzxy'

- (i) print(s.islower)
- (ii) print(s.count('xy'))
- (iii) print(s.find('cd'))
- (iv) print(s.replace('xy', 'pq'))
- (v) print (s.split ('x'))

(c) Rewrite the following code using for loop: (4)

```

i=10
while(i>0):
    print('i=', i)
i=-1

```

5. (a) Consider tuple T1=(12, 3, 45, 'Hockey', 'Anil', ('a', 'b')) to answer the following: (5)

(i) Display the first element of 'T1'.

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(ii) $X=2+9*((3*12)-8)/10$

(iii) float (4+int (2.39) %2)

(iv) $2**(3**2)$

(v) $(2**3)**2$

(vi) Identify and Rectify the error (if any) in the given statements: (2)

```

>>>str="Hello python"
>>>str[6] ="S"

```

(vii) Write a function that accepts two numbers and returns its average. (2)

(viii) Identify valid/invalid identifiers from the following: (3)

(i) My_string_1

(ii) 2nd_string

(iii) Foo

(iv) _int_

(v) String%

(vi) It

(ix) What is the type of arguments used in the definition of function add(). Write the output that will be produced on the execution of the following code segment: (5)

```
def add(a=3, b=5, c=7):
    return(a+b+c)
print(add())
print(add(7))
print(add(6,8))
print(add(c=9))
```

- (x) Design a flow chart to display the largest factor of a positive number. (3)

Section B

2. (a) Write a function f1(n1,n2,n3) which returns the minimum and maximum of three arguments viz n1, n2, and n3. (5)
- (b) What will be the output of the following code: (5)

```
def f(x, l=[]):
    for i in range(x):
        l.append(i*i)
    print(l)
f(2)
f(3,[3,2,1])
f(3)
```

- (c) Write a function named FnSeriesSum(), which accepts an integer argument (n) to calculate the sum of the first n terms of the following series

and returns the computed sum. (5)

$$1 - 4 + 9 - 16 + 25 - 36 + \dots$$

3. (a) Use the given list L to find the output for the following methods. Write down the updated content of list L after applying each method. (5)

L = [1, 3, 2, 12, 2, 4, 3]

- (i) L.append(10)
 - (ii) L.count(2)
 - (iii) L.index(12)
 - (iv) L.insert(2,15)
 - (v) L.remove(2)
- (b) Write a function FnCommon() to find the common elements in given two lists, L1 and L2 and store them in third list L3. Also, function needs to return the computed list L3. (5)
- (c) Write a Python function, with appropriate comments, that takes the name and age of a person as input and displays an appropriate message whether the person is eligible to vote or not based on age where minimum age for voting is 18 years. Also check that input name must contain at least 4 characters, else display inappropriate name. (5)

4. (a) Write a function in Python to generate the following two patterns: (6)

(i) *