[This question paper contains 12 printed pages.]

Your Roll No. 2023020107005

Sr. No. of Question Paper : 2393 G

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. (a) Draw a flow chart to find whether a positive integer is even or odd. (3)

(b) Construct logical expression for representing the following condition : (3)

RollNo should not be negative and Marks should be in between 0 and 100.

(c) Identify valid/invalid identifiers from the following :

(i) First Number

(ii) Number1

(iii) Number#List

(iv) Pass

(v) _Number

(vi) Del

(3)

(d) List any 3 operators of dictionary that can be used only with the keys of the dictionary. Give example of one operator with its usage. (3)

Key
range

(e) Consider a tuple t = ("Harry", "Jack", [40,35])

Indicate error (if any) in the following code segments else write no error. Justify your answer.

(i) t[1] = "Rinni"
print(t)

(ii) t[2][0] = 45
print(t)

(3)

(f) Describe three modes used for opening a text file. (3)

(g) Consider a dictionary : (3)

papers = {'GE1' : 'Python File', 'GE2': 'DBMS', 'GE3': 'Computer Networks', 'GE4': 'Information Security'}

What will be the output of the following function calls :

(i) print(papers.get('GE5'))

(ii) print(papers.get('GE5', "No such paper exist"))

(h) Identify two exceptions that may be raised while executing the following statement and justify your answer. (3)

product = x/y

(i) Consider a string : (3)

str1 = "SEC, Front End Web Design and Development"

Find the output of the following statements :

(i) str1[17:]

(ii) str1[–len(str1) : len(str1)]

(j) Consider the following : (3)

names = ["Abhinav", "Riya", "Kirti", "Divya"]

rollno = (101, 104, 106, 109)

subject = ["Maths", "English", "Chemistry", "Economics"]

What will be the output of the following statements :

(i) data = list(zip(names, rollno, subject))
print(data)

(ii) names.sort()
print(names)

Section – B

2. (a) Write a function FnStr() in Python to accept a string from the user. Replace all the consonants in the given string with the symbol "#". Return the modified string from the function. (5)

(b) Consider three sets : (5)

set1 = {1,2,3}

set2 = {4,5,6,2,3}

set3 = {4,5,7,8,9,2}

What will be the output of the following :

(i) set.intersection(set1, set2, set3)

(ii) set1.intersection(set2.intersection (set3))

(iii) set.difference(set3, set2, set1)

(iv) set3.difference(set2.difference(set1))

(v) set3.difference(set2.union(set1))

(c) Differentiate between extend() and append() functions of the list, with the help of an example for each. (5)

3. (a) Write a function to print the following pattern: (5)

```
  0 1 2 3 4
0 5 5 5 5 5
1 4 4 4 4
2 3 3 3
3 2 2
4 1
```

i=0 J=4
i=1 J=3
i=2 J=2

(b) Consider the following function : (6)


```
def funct():
    name = int(input("Enter your name"))
    salary = 25000
    salary = salary + incentive
    info = name + salary
    print(info)
funct()
```

Identify and describe 3 exceptions that can be raised while executing the above function funct().

(c) What will be the output/error (if any) of the following code segment : (4)

```
marks = 65
def func(marks, IA):
    IA = 23
    marks = marks + IA
    return marks
```

(i) print(func(57))

(ii) print(func(53, 24))

P.T.O.

(iii) print(func(IA = 12))

(iv) print(func(67, 20, 5))

4. (a) Write a function Fnreverse() that accepts a number from the user and print the reverse of the entered number.

(b) Consider the following string :

Pname = "Programming with python"

What will be the output of the following:

(i) Pname.count('P')

(ii) Panme.partition(' ')

(iii) Pname.swapcase()

(iv) Pname.rfind('n')

(v) Pname.split (' ')

(c) Differentiate between copy( ) and deepcopy( ) functions of the list, with the help of an example. (5)

(a) Write a function FnFactor() that accepts a number as input parameter and print its factors. (4)

(b) What will be the output of the following code segments : (6)

(i)
```
x = [1,2,3,4,5,6,7,8,9,10]
result = 0
for i in x:
    if i%2 != 0:
        result += i
print(result)
```

(ii)
```
series = [i for i in range(1, 50) if i%5 == 0]
print(series)
```

(c) Identify the output/error (if any) for the following. Justify your answer if it is an error. (5)

(i)
```
set1 = {"Word", "Excel", "PowerPoint"}
print(set1[2])
```

```
def count_greater_than 50(L):
    count = 0
    for element in L:
        if element > 50:
            count += 1
    return count
L = [ ]
count_greater_than
```

(iii)
```
total = 0
total = total + x
print(total)
```

(iv)
```
if age > 18
    print("Eligible for License")
```

(c) Write a function in Python that accepts a list of integers L from the user. The function should count and return the number of elements that are greater than 50. (5)

(a) Write a function in Python that takes a digit (from 0 to 9) as an input parameter and returns the corresponding text in words. For example, on input 5, the function should return 'Five'. Use a dictionary for mapping digits to their string representation. (5)

(b) What will be the output of the following code segment if the file being opened does not exist : (5)

(i) try:

```
    f = open('file1.txt', 'r')
except IOError:
    print("Problem with input output")
else:
    printf("No problem with input output")
```

(ii) try:

```
    f = open(file1.txt', 'w')
except IOError:
    print("Problem with input output")
else:
    print("No problem with input output")
```

(c) Write statements in Python to accept two strings S1 and S2 from the user. Subsequently, display distinct characters in both the strings in ascending order. (5)

```
S1 = input( )
S2 = input ( )
def distinct-character = [ ]
```