The file is opened in 'r+' mode and the operations below are performed sequentially. What will be the output after each operation?

(i) f.write('12345')

(ii) f.read()

(iii) f.seek(0)

(iv) f.read(5)

(v) f.read()

(c) What are the following functions used for : (5)

(i) *eval* function

(ii) *append* in lists

(iii) *reverse* in lists

(iv) *isalpha* in strings

(v) *encode* in strings



[This question paper contains 12 printed pages.]

09.01.24(M)



**Your Roll No.....**

**Sr. No. of Question Paper : 1672** **G**

Unique Paper Code : 2343012001

Name of the Paper : Python Programming for Data Handling

Name of the Course : **Common Prog Group (DSE/GE)**

Semester : III

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. Attempt **All** questions from **Section A**.
3. Attempt any **4** questions from **Section B**.
4. **All** the parts of a question must be answered together.

## Section A

1. (a) What is a dictionary in python? Explain using an example. (3)

(b) Give output of the following code : (2)

(i)
```
n = [1,2,3,4,5,6,7,8,9,10]
r = 0
for i in range(0, 10):
    if (n[i]%2 == 0):
        r += c[i]
print(r)
```

(ii) (3)
```
gv = 10
def func():
    lv = 20
    gv = 30
    print(gv)
    print(lv)
func()
print(gv)
```

(c) Write a function in python to find the sum and maximum of three integers. (2)

(d) Explain the following functions of files in python : (6)





(iv)
```
for a in range(7, 20):
    if (a = 6):
        print('EXITING")
        Continue
    print(a)
```

(v) print('%5d', % 12345)

(c) Write short note on : (5)

(i) map and reduce operations

(ii) islower, lower, istitle functions of strings

7. (a) Write a python program to performs the following operations : (5)

(i) Create a file 'File1.txt' and write the following text in it :

***Python is a popular language***

(ii) Read 'file1.txt' and copy the contents of the file to output file 'file2.txt'.

(b) Consider the file 'vowels.txt' having following line : (5)

***aeiouAEIOU***

(b) Identify the error, if any, in the following code segments : (5)

(i) #SET

```
grade= ("A+", "A", "A-"}
grade 1 = grade + {1}
print(grade1)
print(grade[2:])
```

(ii) #FUNCTION

```
def example(a):
a = a + '2'
a = a*2
return a
example("hello")
```

(iii) #TUPLE

```
t=([40,50], "Ram", [40,30])
t[0][1]= "Ram"
print(t)
```



(i) f.seek()

(ii) f.tell()

(iii) f.readline()

(e) Differentiate between : (6)

(i) startswith() and endswith()

(ii) break and continue

(iii) Radiobutton and Checkbutton

(f) Evaluate the following expressions : (4)

(i) abs(-5.4)

(ii) math.floor(25.7)

(iii) x=2+9*((3*12)-8)/10

(iv) 5 % 10 + 10 - 25 * 8 // 5

(g) What is the use of a layout manager in Tkinter? Briefly discuss the 'grid' layout manager and the purpose of 'row' and 'column' parameters. (4)

**Section B**

2. Consider the code segment given below for a student form :

```
import tkinter as tk
root = tk.Tk()

#Name of the Student
name_var = tk. StringVar(root)
name_inp = tk.Entry(root, textvariable=name_var)

#Roll Number of the Student
rollno_var = tk.IntVar(root)
rollno_var = tk.Entry(root, textvariable=rollno_var)
```

(a) Identify all the Tkinter Control Variables in the code above. Write python code for adding a 'Save' button. (5)

(b) Write a callback function 'on_save' for the 'Save' button which does the following :

(i) Collect 'name' and 'rollno' from the form using 'get' and store it in a Python dictionary object. (5)

(ii) Using the CSV DictWriter class, write the students record ('Name', 'Roll No') collected in a dictionary object to file 'students.csv'. Create a new file if the file doesn't exist. Also write a header in the 'students.csv' file using the dictionary keys. (5)



(iv) print(match.index('n'))

(v) print(match.partition('/'))

(b) Differentiate between the following : (5)

(i) append() and extend()

(ii) x=10 and x==10.

(c) Write a python function to return the sum of the digits of a number, passed to it as an argument. (5)

6. (a) Consider the following function : (5)

```
def nfunc( a = 0, num = 1):
    return a * num
```

Give the output produced for each of the following function calls :

(i) nfunc(5)

(ii) nfunc(5, 6)

(iii) nfimc(num = 7)

(iv) nfimc(num = 6, a = 5)

(v) nfunc(5, num = 6)

(a) Error

(b) 12

(c) 15

(d) 1512

(ii) x = [i for i in range(3)]

for i in x:

print(i)

(a) 0 1 2

(b) Error

(c) 0 1 2 0 1 2

(d) None of the mentioned

(iii) math.ceil(54.6)

(a) 54

(b) Error

(c) 55

(d) 54.5

(iv) 5 % 10 + 10 < 50 and 29 >= 29

(a) True

(b) False



(c) Error

(d) None of the above.

(v) T = 0

count = 20

while count > 5:

T += count

count -= 1

print(T)

(a) Error

(b) 190

(c) 195

(d) 196

4. (a) Write an assignment statement using a single conditional expression for the following *if - else* code : (5)

if marks >=70:

remarks = 'good'

else:

remarks = 'Average'

(b) What is the difference between a Mutable data type and an Immutable data type? Explain giving an example of each type. (5)

(c) Write a python program to print the following pattern : (5)

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

5. (a) Consider the following code segment: (5)

```
Msg = "Happy New Year 2024 !!"
```

Determine the output or indicate error on executing the following statements :

(i) print(match.lower())

(ii) print(match[::2])

(iii) print(match[-4:-11])



3. (a) Consider the code segment given below :

```
import tkinter as tk
window = tk.Tk()
myform = tk.Frame(window)
myform.grid()
tk.Label(myform, text="Welcome").pack()
tk.Entry(myform, text="Enter some Text").pack()
window.mainloop()
```

(i) What is the widget hierarchy? Identify the different widgets and their child widgets in the code above. (5)

(ii) Draw the graphical user interface created by the program. Sizes of widgets doesn't need to be precise but ensure that the positioning of widgets relative to one another is correct. (5)

(b) Choose the best option : (5)

(i) def fl():

```
    x=15
    print(x)
    x=12
fl()
```