REGN NO.:

LEVEL:

# O LEVEL Python Programming (M3-R5) Practical

## MODEL PAPER JULY 2022

Tin	ne Allotted: 03 Hours Max. Marks: 100
	(80 Marks for Practical Exercise + 20 Marks for Viva-voce)
1.	Write your Registration Number and Level in the space provided on the top.
2.	All the three questions are compulsory. In case of Question No. 3, the candidate must attempt the
	question based on the subject as opted by him/her in theory examination.
3.	The 'Question Paper-cum-Worksheet' can be used for writing algorithms/flowcharts and
	documentation of program and the output results with relevant headings etc.
4.	The maximum marks allotted for each question is given in the parentheses.

- 5. Candidate must return the 'Question Paper-cum-Worksheet' to the examiner before leaving the exam hall.
- 6. All the questions should be solved on the desktop PC and demonstrated to the Examiner and Observer.
- 7. Wherever values/data have not been given in the Questions, the candidate can assume the data.

#### TO BE FILLED BY THE EXAMINER

The Identity of the candidate has been verified as per the Admit card / Attendance Sheet. The candidate has also filled all the relevant columns correctly.

Name of the Examiner

Signature

	Marks o	btained	
Q.No	Examiner	Observer	Total
	(40 marks)	(40 marks)	
1			
2			
3			
	Viva Marks (20 Ma	rks)	
	Over all Total (Out o	f 100)	

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1. Write a program to compute the wages of a daily laborer as per the following rules :-

Hours Worked Rate Applicable Upto first 8 hrs Rs100/-

- a) For next 4 hrs Rs30/- per hr extra
- b) For next 4 hrs Rs40/- per hr extra
- c) For next 4 hrs Rs50/- per hr extra
- d) For rest Rs60/- per hr extra

#### OR

Write a program to multiply two numbers by repeated addition

e.g.  $6^*7 = 6+6+6+6+6+6+6$ 

(25)

Write a function to obtain sum n terms of the following series for any positive integer value of X
 X +X3 /3! +X5 /5! ! +X7 /7! + ...

OR

Write a program to print all Armstrong numbers in a given range. Note: An Armstrong number is a number whose sum of cubes of digits is equal to the number itself. E.g. 370=33+73+03

(25)

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3. Write a program that takes in a sentence as input and displays the number of words, number of capital letters, no. of small letters and number of special symbols.

#### OR

Write a Python program to combine two dictionary adding values for common keys.

d1 = {'a': 100, 'b': 200, 'c':300} d2 = {'a': 300, 'b': 200, 'd':400} Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})

(30)

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# SOLUTION

1. Write a program to compute the wages of a daily laborer as per the following rules :-

Hours Worked Rate Applicable Upto first 8 hrs Rs100/-

- a) For next 4 hrs Rs30/- per hr extra
- b) For next 4 hrs Rs40/- per hr extra
- c) For next 4 hrs Rs50/- per hr extra
- d) For rest Rs60/- per hr extra

#### **Solution**

initWage=100

tempHour=0

tempWage=0

```
totalWage=0
```

name=input("Enter Name of Labourer:")

hours=int(input("Enter total hours worked:"))

# <sub>if hours<=8:</sub> अपनी Online Class

totalWage = initWage elif (hours>8) and (hours<=12): tempHour = hours-8 tempWage = tempHour\*30 totalWage =tempWage + initWage

```
elif hours>12 and hours<=16:

tempHour = hours-12

tempWage = 4*30

totalWage = initWage + tempWage + (tempHour*40)

elif hours>16 and hours<=20:

tempHour = hours-16

tempWage = (4*30) + (4*40)

totalWage = initWage + tempWage + (tempHour*50)

else:
```

```
tempHour = hours-20
tempWage = (4*30) + (4*40) + (4*50)
totalWage = initWage + tempWage + (tempHour*60)
```

```
print("Total Wage:", totalWage);
```

# **Output:**

```
Enter Name of Labourer: Amit
Enter total hours worked:15
Total Wage: 340
```

### OR

Write a program to multiply two numbers by repeated addition e.g. 6\*7 = 6+6+6+6+6+6

#### Solution

```
num1=int(input("Enter First numbers:"))
num2=int(input("Enter Second numbers:"))
i=1
ml=0
while(i <= num2):
    ml=ml+num1
    i=i+1
print("Multiplication of:",num1,"&",num2,"is",ml)</pre>
```

Write a function to obtain sum n terms of the following series for any positive integer value of X X +X3 /3! +X5 /5! ! +X7 /7! + ...

```
Solution
```

import math

```
n= int(input("Enter range : "))
```

```
x=2
```

i=1

sum=0

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```
for p in range(n):
```

```
sum=sum+((x*i)/math.factorial(i))
```

i=i+2

```
print("The sum of series is:",sum)
```

#### OR

Write a program to print all Armstrong numbers in a given range. Note: An Armstrong number is a number whose sum of cubes of digits is equal to the number itself. E.g. 370=33+73+03

#### **Solution**

```
lower_Range = int(input("Enter lower range : "))
upper_Range = int(input("Enter upper range : "))
for n in range(lower_Range,upper_Range + 1):
    sum = 0
    temp = n
    while temp > 0:
        digit = temp % 10
        sum = sum + digit ** 3
        temp = temp // 10
    if n == sum:
    print(n)
```

3. Write a program that takes in a sentence as input and displays the number of words, number of capital letters, no. of small letters and number of special symbols.

## Solution

```
str=input("Enter String: ")
wCount = 0
ICount = 0
upper=0
```

```
lower=0
special=0
num=0
len = len(str)
for i in range(len):
  ch = str[i]
 if (ch == ' '): #Word Count
   wCount+=1
 elif(str[i]>='A' and str[i]<='Z'): #check upper case letters
   upper+=1
 elif(str[i]>='a' and str[i]<='z'): #check lower case letter
   lower+=1
 elif(str[i]>='1' and str[i]<='9'): #check numeric value
    num+=1
  else:
   special+=1 #check special character
wCount+=1
print("No. of words = ", wCount)
print("Upper case letters: ",upper)
print("Lower case letters: ",lower)
print("Numbers: ",num)
print("Special characters: ",special)
```

# Output:

Enter String: Welcome to GyanXp YouTube Channel @123 No. of words = 6 Upper case letters: 6 Lower case letters: 24 Numbers: 3 Special characters: 1

### OR

Write a Python program to combine two dictionary adding values for common keys. d1 = {'a': 100, 'b': 200, 'c':300} d2 = {'a': 300, 'b': 200, 'd':400} Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})

# **Solution**

from collections import Counter d1 = {'a': 100, 'b': 200, 'c':300} d2 = {'a': 300, 'b': 200, 'd':400} d = Counter(d1) + Counter(d2) print(d)

# Output:

Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})