

Sample paper (TERM-1 EXAMINATION)

SESSION-2019-20

CLASS-XI

M.M:70

Q1

- a) Write the advantages of python programming language. (1)
b) Why is python called a dynamic type language? (1)
c) Define keyword with example. (1)
d) What are variables? How we can create variable in python give examples. (1)
e) The following code is not giving desired output. We want to input value as 20 and obtain output as 40. Identify the problem and do the required correction in the code (1)

```
x=input("Enter number :")  
y = x*4
```

```
print(y)
```

- f) What will be the output of the following code? (1)

```
x=45
```

```
y=x+1
```

```
x=20,y+x
```

```
print(x,y)
```

- g) Predict the output? (2)

```
x =10
```

```
x= x+15
```

```
x=x-5
```

```
print(x)
```

```
x,y = x-2 , 22
```

- Q2.a)** Define identifiers. Identify the valid and invalid identifiers in the following list. (2)

i) x_y_z

ii) x_abc@1

iii) 1abc_d3

iv) continue

- b)** Write a program in python to obtain the principal amount, rate and time and calculate the compound interest.. (2)

Q3

- a) Explain the use of // (floor division) operator and = = operator with example. (1)

b) Explain mutable and immutable data types in python. (1)

c) Identify the type of following literals? (2]

i) 45.789 ii) 23789 iii) "True" iv) 0XFACE

d) Explain implicit and explicit type casting . (2)

e) Write the equivalent python expression for the following expressions. (2)

i) $\sqrt{a^2+b^2+c^2}$ ii) $(p + q) / (r+s)^4$

f) What will be the output produced by following code? (2)

a,b,c,d =9.2 , 2.0 , 4 , 21

print (a/2) print(a//4)

print(b**c) print(a%c)

Q4

a)Write a program to find the factorial of a number. (4)

b)Write a program in python to calculate the telephone bill of a customer based on the following criteria. (4)

- i. For the first 100 calls the minimum bill amount is 100 Rs.
- ii. For the next 50 calls Rs. 0.40 per call will be charged extra.
- iii. For the next 50 calls Rs. 0.50 per call will be charged extra.
- iv. For the calls beyond 200 Rs. 0.60 per call will be charged extra.

c)Write a program python to find the roots of a quadratic equation ax^2+bx+c . (3)

d)Write a program in python to perform arithmetic operations (+, -, *, /, %). (3)

e)Write a program in python to enter a number and check whether it is positive or negative. (3)

Q5

a) Write a program in python to enter a number and check whether it is prime number or not(4)

b) Write a program to find the sum of natural numbers between 1 to n separately. (3)

c) Define what are iteration statements .Write the syntax of while loop . (2)

d) Write the following program using while loop. (2)

```
for l in range(1,16):
    if i%3 == 0 :
        print(i)
```

Q6 Predict Output :-

(2x4=8)

a) for i in '123':

```
print("guru99",i,)
```

b) for j in range (10,6,-2):

```
print(j*2)
```

c) for x in range (10,20):

```
    if(x%2==0):
```

```
        continue
```

```
    print(x)
```

d) count=0

```
while count<10:
```

```
    print("Hello")
```

```
    count+=1
```

Q7. (a) State and verify Involution law (using truth table) (2)

(b) Give dual form for the following: (2)

(i) $X+X'Y$ (ii) $XY+XY'+X'Y$ (iii) $(A+0).(A.1.A')$ (iv) $AB+A'B'$

(c) Draw Logic circuit diagram for the following expression: (1)

$$Y=ab+b'c+c'a'$$

(d) Represent $(X+Y)(Y+Z)(Z+X)$ using NOR to NOR form. (2)

(e) Name the law shown below and verify it using truth table: (2)

$$A+B.C = (A+B).(A+C)$$

Q8. Perform the following conversions. (1x5=5)

(a) $(335)_{10} = (?)_2$

(b) $(2C9)_{16} = (?)_8$

(c) $(110001.101)_2 = (?)_{10}$

(d) $(3674)_8 = (?)_2$

(e) $(FACE)_{16} = (?)_2$

