

HALF YEARLY EXAMINATION 2019-20
COMPUTER SCIENCE (083)
CLASS XI

Time: 3 hours

Maximum Marks: 70

General Instructions: (i) All questions are compulsory (ii) Programming Language: PYTHON

Q1 What will be output of following statements: [1/2+1/2=1]

- (i) >>> "2"+3
- (ii) >>> "2"*3

Q2 What is output from the following code: [1/2*4=2]

- (i) range(6) (iii) range(5,20,4)
- (ii) range(7,100) (iv) range(12,1,-2)

Q3 What will be stored in variables a,b,c,d,e,f after following statements? [1/2*6=3]

```
perc=[88,85,80,88,83,86]
a=perc[2:2]
b=perc[2:]
c=perc[:2]
d=perc[:-2]
e=perc[-2:]
f=perc[2:-2]
```

Q4(a) Differentiate interactive mode and script mode in python? [1]

(b) How variable is differ than identifier . [1]

(c) Differentiate between isdigit() and isalpha(). [1]

(d) How many kilobyte is there in 1 Megabyte? [1]

(e) What would be produced by following code? [1]

```
>>>type(5)
```

(f) Write two characteristics of cloud computing. [1]

(g) What do you understand by term immutable? Explain with a suitable example. [1]

Q5 (a) How many times is the following loop executed? [1]

```
for i in range(100,10-10):
    print(a)
```

(b) Name the function/method required to [1+1]

- (i) Check if a string contains only alphabets.
- (ii) Give the total length of the list.

Q6 What do you mean by Syntax errors and Semantics errors? Answer with example. [1+1]

Q7 Convert the following: [1+1]

- (i) 1011010₂ to decimal
- (ii) 738₈ to Decimal

Q8(a) What is the difference between break and continue statement in Python? Explain with suitable example. [1+1]

(b) What will be output of following:

```
word="Amazing"
print(word[0:3])
print(word[-5:1])
```

[1+1]

(c) Refer the following code for answering the questions below:

```
>>>a=[1,2,3]
>>>b=[4,5,6]
>>>c=a+b
>>>d=c[0:3]
>>>e=d
>>>a[0]=10
>>>c[4]=20
>>>e[2]=30
```

What will be the output of following statements?

[1*4=4]

- (i) print(a[1])
- (ii) print(b[0])
- (iii) print(d)
- (iv) print(c[:])

Q9 Write the names of list methods to perform the following :

[1+1]

- (i) Delete a given element from the list.
- (ii) Add an element in the end of the list.

Q10 Write the corresponding Python expressions for the following mathematical expressions: [1+1]

- (i) $2 - ye^{2y} + 4y$
- (ii) $|e^2 - x|$

Q11 Observe the following program and answer the questions that follows:

```
import random
x=3
n=random.randint(1,x)
for i in range(n):
    print(i,'#',i+i)
```

- (a) What is the minimum and maximum number of times the loop will execute? [1]
- (b) Find out, which line of output(s) out of (i) to (iv) will not be expected from the program? [1]

- (i) 0#1
- (ii) 1#2
- (iii) 2#3
- (iv) 3#4

Q12 (a) List two logical operators in python with an example.

[2]

(b) From the following, find out the valid identifier. Give reasons, if invalid:

[2]

`_abc_d`, `break`, `1rak`, `doc14`, `a2bc5`, `_punc`, `ray.dat`

(c) Write the following program using while loop.

[2]

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

(d) Rewrite the following code after removing syntactical errors. Underline each correction done in the code. [2]

```
For name in [amar, shweta, parag]
    if name[0]='s':
        print(name)
```

(e) What is the output produced by the following code?

[2]

```

x=1
if x>3:
    if x>4:
        print("A",end="")
    else:
        print("B",end="")
elif x<2:
    if (x!=0):
        print("C",end="")
print("D",end="")

```

(f) Consider the following Python program and give the output [2]

```

N= int(input("Enter N:"))
i=1
sum = 0
while i<N:
    if i%2==0:
        sum = sum+i
    i= i+1
print(sum)

```

- (i) when the input value is 5
(ii) when the input value is 0

Q13 (a) List some common data types used in Python. [2]

(b) Explain the use of following functions in list with example: [2+2]

- (i) insert () (ii) pop ()

Q14 (a) WAP to delete all the even nos from a numeric list. [3]

(b) Write a program to count total number of characters in an input string. [3]

(c) Write a program to check number of 'H' present in a string: [3]
HELPS HEALS WITHOUT HURTING

The output will be displayed as:
Total number of 'H' is: 4

(d) Write a program to perform linear search on given list [3]
[10,51,2,18,4,31,13,13,5,23,64,29]

(e) To input a number and test if it is a prime number. [3]

(f) Write programs using nested loops to produce the following patterns: [3]

```

A
A B
A B C
A B C D
A B C D E
A B C D E F

```