

SAMPLE PAPER

General Instruction:

1. Please check this question paper contains 35 questions
2. This question paper contains five sections, Section A to E.
3. Section A, consists of 18 questions (Q1 to Q18) carrying 01 mark each.
4. Section B, consists of 07 questions (Q19 TO Q25) carrying 02 marks each
5. Section C, consists of 05 questions (Q26 TO Q30) carrying 03 marks each.
6. Section D, consists of 03 questions (Q31 TO Q33) carrying 05 marks each.
7. Section E, consists of 02 questions (Q34 TO Q35) carrying 04 marks each.

All programming questions are to be answered using Python Language only

SECTION A – 18 MARKS

- Q1.** Which of the following is a valid data type in Python? 1
a. Real b. Floating Point c. Decimal d. Letter
- Q2.** What will the following expression be evaluated to in Python? 1
`2**2**2`
a. 16 b. 128 c. 64 d. 8
- Q3.** State True or False for the following statement: 1
“Python is a low-level language”
- Q4.** Write the output of the following: 1
`T = [1,2,3,4]`
`T1=T`
`T[0] = “A”`
`print(T)`
`print(T1)`
a. b.
`['A', 2, 3, 4]` `['A', 2, 3, 4]`
`[1, 2, 3, 4]` `['A', 2, 3, 4]`
c. d. Error
`[1, 2, 3, 4]`
`[1, 2, 3, 4]`
- Q5.** Write the output of the following: 1
`a=(6,8,9,"Sumanta",1)`
`for i in a:`
`print(str(i)*2)`
a.66 b.66 c. d.66
88 88 Error 88
99 99 .99
SumantaSumant Error SumantaSumanta
11 Error
- Q6.** IDLE stands for 1
a. Information Development Logic Environment
b. Interaction Development Logic Environment

- c. Integrated Development and Learning Environment
d. Interaction Developer and Logic Environment
- Q7.** The following code produces an error: 1
`a=int(input('Enter a number'))`
`c=a+b`
`print(b)`
 What is the name of the error?
 a. Name Error b. Undefined Error c. Type Error d. Syntax Error
- Q8.** Select the correct output for the following code: 1
`L=[]`
`for i in range(1,10):`
 `if i%2==0:`
 `L.append(i)`
`print(L,end='')`
 a. [2,4,6,8] b. [2 4 6 8 10] c. [1 2 3 4 5 6 7 8 9]
 d. [2 4 6 8]
- Q9.** Fill in the blank: _____ function is used to create an empty tuple. a. 1
 len() b. tuple() c. tup()
 d. T()
- Q10.** Which of the following will give output as [23,2,9,75] . If 1
`L=[6,23,3,2,0,9,8,75]`
 A. `print(list1[1:7:2])` B. `print(list1[0:7:2])` C. `print(list1[1:8:2])` D.
`print(list1[0:8:2])`
- Q11.** What is the length of the given tuple ? >>>t1=(1,2,9,(3,4,5)) 1
 a. 5, b. 3 c. 4 d. 6
- Q12.** What will be the output of the following code 1
`t=('Computer', 'Science')`
`print(max(t))`
 a. Computer
 b. Science
 c. No Output
 d. None of the above
- Q13.** The base values of binary, octal and hexadecimal are 1
 a. 10, 80 and 160 respectively.
 b. 4, 8 and 16 respectively.
 c. 2, 8 and 16 respectively.
 d. 1, 8 and 16 respectively.
- Q14.** Ram wanted to make a program which takes in two numbers from the 1
 user and print the two numbers as shown below:
 Input: Enter number 1=>23
 Enter number 2=>24
 Output: 23.0,24.0

He wrote the following code but doesn't know what the last line is supposed to be

```
a=float(input('Enter number 1=>'))
b=float(input('Enter number 2=>'))
...
```

What would be the last line of his code which produces his desired output?

a. `print(a+b)` b. `print(a,b)` c. `print('a', ' ', 'b')` d. `print(a,b,sep=', ')`

Q15. Which gates return true if both inputs are similar otherwise false 1
a) NAND b) NOR c) XOR d) None of the above

Q16. When we convert 10010 binary numbers to decimals. Then the solution is : 1
a) 20 b) 18 c) 14 d) 16

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as

- a) Both A and R are true and R is the correct explanation for A
- b) Both A and R are true and R is not the correct explanation for A
- c) A is True but R is False
- d) A is false but R is True

Q17. Assertion: Python is not a low level language 1
Reasoning: It uses English like words and simple syntax which is very easy to understand to humans.

Q18. Assertion: A dictionary is a mapping of keys to values . 1
Reasoning: A dictionary can be created by using curly braces and colon separated pairs of keys and values..

SECTION B – 14 MARKS

Q19. Rewrite the following operations in a syntax followed by Python: 2
a. $2^{23} - \left(\frac{2}{75} \times 3\right)$ b. $\frac{17 \times 34^7}{24}$

OR

Evaluate the following operations as a Python interpreter would:

a. `2//3*6+9` b. `(2+2)**(2-1)/2`

Q20. Khaled wrote the following code to input a number and check whether it is a prime number or not. His code is having errors. 2

Rewrite the correct code and underline the corrections made.

```
n=int(input("Enter number to check="))
for i in range (2, n//2):
    if n%i==0:
        print(Number is not prime)
    break
else:
```

print("Number is prime")

Q21. Write two differences in the functions of pop() and remove(). 2

OR

Write two differences in the functions of sort() and sorted()

Q22. Write the output of the following code: 2

i) a=6

b=2

for i in range(1,a):

if a+b>=6:

print('*')

print(',',end='')

ii) list=['Red','Green','Magenta','Blue','Cyan','Yellow']

print(list[-6:-2])

Q23. Write a program to display the given pattern: 2

*

**

Q24. Predict an output of the following 2

j=12

c=9

while(j):

if(j>5):

c=c+j-2

j=j-1

else:

break

print(j,c)

print(c)

Q25. Draw the logic circuit diagram for the following expression: 2

(i) $XYZ' + Y.(X+Z')$

(ii) $AB' + C'D'$

SECTION C – 15 MARKS

Q26. a) Predict the output of the following code: 3

tuple1 = (11, 22, 33, 44, 55 ,66)

[1 +

list1 =list(tuple1)

2]

new_list = []

for i in list1:

if i%2==0:

new_list.append(i)

```
new_tuple = tuple(new_list)
print(new_tuple)
```

- b) Write a program to find and print the grade of a student when the user inputs their percentage. Grades are allocated as given in the table below

Percentage of Marks	Grade
Above 90%	A
80% to 90%	B
70% to 80%	C
60% to 70%	D
50% to 60%	E

- Q27.** Write output of the following: 3

```
a='Mummy?Papa?Brother?Sister?Uncle'
print(a.split())
print(a.split('?'))
print(a.split('?',1))
print(a.split('?',3))
print(a.split('?',10))
print(a.split('?',-1))
```

- Q28.** Write a python code to create a dictionary with the following data: 3

Aman	12
Riya	78
Raveena	56
Pranjol	68
Kumar	27

Add a new key-value pair ('Ranjan':42)

- Q29.** Write a program that interactively creates a nested tuple to store the marks in three subjects for five students, i.e tuple will look somewhat like: 3

Marks=((45,45,40),(35,40,38),(36,30,38),(25,27,20),(10,15,20))

And find the mean of each and every nested tuple.

OR

Sankalp has a terrible habit of deleting the last two letters of a word beginning with 'E' and adding a single letter 'O' in their place. Write a program to convert a given word Exterminate or Ellipse according to Sankalp habit.

- Q30.** Write a program to find the 2nd largest number from the list of the numbers entered through keyboard. 3

SECTION D – 15 MARKS

- Q31.** (i) Write a program to create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have marks above 75 5 [3+2]

- (ii) How are lists different from strings when both are sequences?
- Q32.** (i) A Dudeney number is a positive integer that is a perfect cube such that the sum of its digits is equal to the cube root of the number. 5 [3+2]

Write a program to input a number and check and print whether it is a Dudeney number or not.

Example:

Consider the number 512.

Sum of digits = $5 + 1 + 2 = 8$

Cube root of 512 = 8

As Sum of digits = Cube root of Number

hence 512 is a Dudeney number.

- (iii) Write a program in Python which accept string from user 'Python String Programs' and display it according to given pattern:

Python

Python String

Python String Program

- Q33.** Explain and prove Demorgan's theorem with the help of Truth table. 5
- Draw the logic circuit diagram for expressions.

SECTION E – 8 MARKS

- Q34.** (i) What do you understand by true copy of a list? How is it different from shallow copy? 4 [2+2]

- (ii) Find an output of the following:

```
T= "Mind@work!"
R=" "
l=len(T)
print("Original : ",T)
for i in range(l):
    if T[i].isalpha()==False:
        R+='*'
    elif T[i].isupper()==True:
        R+=chr(ord(T[i])+1)
    else:
        R+= T[i+1]
print("Final : ",R)
```

Q35

(i) Write a program in Python which accept any string and count no of alphabets & digit present in it.

4
[2+2]

(ii) Write a program to separate the character and numeric value from a given list and store them in a separate list.

A=[1,'f',2,'b',3,4,'h','j',6,9,0,'k']