

## SAMPLE PAPER - 2023-24

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**General Instruction:**

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 02 questions carrying 04 marks each.
7. Section E has 03 questions carrying 05 marks each.

All programming questions are to be answered using Python Language only

### **SECTION A(18 MARKS)**

- Q1. Name the Python Library module which needs to be imported to invoke the following function - (i) lower( ) (ii) sin( ) 1
- Q2. \_\_\_\_\_ Functions are also known as fruitful functions. 1
- Q3. Which function is used to remove leading and trailing whitespaces of a string? 1
- Q4. What is the utility of built-in function help ()? 1
- Q5. Name the function/method required to: 1
- (i) Check if a string contains only digits. (ii) To remove the item from the given position in the list.
- Q6. Predict the output of following code snippet: 1
- ```
Lst = [10,20,30,40,50,60,70,80,90]
print(Lst[:3])
```
- Q7. Which of the following term is immutable? 1
- a)Tuples      b)Strings      c)List      d)Tuples and String
- Q8. Write the output of the following: 1
- ```
T1=('a')*3
print(T1)
print(type(T1))
```
- a)aaa; <class str>      b)333; <class str>      c)aaa;< 'str'>      d)aaa;<class int>
- Q9. Write the output of the following: 1
- ```
T1=(1,2,3,4,5,6,7,8)
print(T1[:])
```
- a)(1,2,3,4,5,6,7,8)      b>()      c)(2,3,4,5,6,7,8)      d)(1,2,3,4,5,6,7)
- Q10. In which of the file mode existing data will be intact in binary file? 1
- a)ab      b)a      c)w      d)wb

- Q11. Which operator performs pattern matching in MYSQL? 1  
 a) BETWEEN b) LIKE c) EXIST d) None of the mentioned
- Q12. To fetch the multiple records from the result set you may use-- method in SQL? 1  
 a) fetch() b) fetchmany() c) fetchmultiple() d) None of the mentioned
- Q13. Data structure stack is also known as 1  
 a. First in First Out b). First in Last Out c). Last in First Out d). All
- Q14. What will be the output of the following Python code? 1  
`print('abcdefcdgh'.partition('cd'))`  
 a) ('ab', 'cd', 'ef', 'cd', 'gh') b) ('ab', 'cd', 'efcdgh')  
 c) ('abcdef', 'cd', 'gh') d) error
- Q15. What will be the output of the following Python code? 1  
`def f1():  
 x=15  
 print(x)  
 x=12  
 f1()`  
 a) Error b) 12 c) 15 d) 1512
- Q16. What is the use of tell() method in python? 1  
 a. tells you the current position within the file  
 b. tells you the end position within the file  
 c. tells you the file is opened or not  
 d. none of the mentioned
- Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as  
 i. Both A and R are true and R is the correct explanation for A  
 ii. Both A and R are true and R is not the correct explanation for A  
 iii. A is True but R is False  
 iv. A is false but R is True
- Q17. Str1= "class" + "work" 1  
 ASSERTION: Value of str1 will be "ClassWork".  
 REASONING: Operator '+' adds the operands, if both are numbers & concatenates the string if both operands are strings
- Q18. ASSERTION: CSV (Comma Separated Value) is a file format for data storage which looks like a text file. 1  
 REASON: The information is organized with one record on each line and each field is separated by semi-colon

### SECTION B(14 MARKS)

- Q19. Vivek has written a code to input a number and check whether it is even or odd number. His code is having errors. Rewrite the correct code and underline the corrections made. 2  
`Def checkNumber(N):  
 status=N%2  
 return  
num =int(input("enter a number to check:))  
k=checkNumber(num)  
if k=0:  
 Print("this is even number")  
else:  
 Print("this is odd number")`
- Q20. Consider the following code and then answer the questions follow. 2  
`mydict={'a':27, 'b':43, 'c':25, 'd':30}  
valA=' '  
for i in mydict:  
 if(i>valA):`

```

valA=i
valB=mydict[i]
print(valA)           #Line1
print(valB)           #Line2
print(30 in mydict)   #Line3
mylist=list(mydict.items())
mylist.sort()         # Line4
print(mylist[-1])     #Line 5

```

- Q21. i) What does the Line 1 produce?  
 ii) What output does Line 2 produces  
 iii) What does the Line 3 produce?  
 iv) What does the Line 5

a. Find output generated by the following code: 2

```

mystr = "Hello I am a Human."
print(mystr[::-3])

```

- b. Write the output of the code given below:

```

p=10
q=20
p*=q//3
p=q**2
q+=p
print(p,q)

```

Q22. Differentiate between DDL and DML with one Example each. 2

Q23. a) What is the use of count(),max() and sum() function in SQL 2

b) What is the use of DISTINCT keyword in SQL.

Q24. Predict the output of the following code: 2

```

def CALLME(n1=1,n2=2):
    n1=n1*n2
    n2+=2
    print(n1,n2)
CALLME()
CALLME(3)

```

OR

```

mylist = [2,14,54,22,17]
tup = tuple(mylist)
for i in tup:
    print(i%3, end=",")

```

Q25. Answer the following : 2

- i) Name the package imported for connecting Python with MySQL database  
 ii) What is the purpose of cursor object?

OR

What is primary key in MySQL database? Give an example

### SECTION C - 15 MARKS

Q26. Consider the following tables Trainer and Course: 3

| TID | TNAME      | CITY       | HIREDATE   | SALARY |
|-----|------------|------------|------------|--------|
| 101 | SUNAINA    | MUMBAI     | 15/10/1998 | 90000  |
| 102 | ANAMIKA    | DELHI      | 24/12/1994 | 80000  |
| 103 | DEEPTI     | CHANDIGARH | 21/12/2001 | 82000  |
| 104 | MEENAKSHI  | DELHI      | 25/12/2002 | 78000  |
| 105 | RICHA      | MUMBAI     | 12/01/1996 | 95000  |
| 106 | MANIPRABHA | CHENNAI    | 12/12/2001 | 69000  |

#### COURSE

| CID | CNAME | FEES | STARTDATE | TID |
|-----|-------|------|-----------|-----|
|-----|-------|------|-----------|-----|

|      |         |       |            |     |
|------|---------|-------|------------|-----|
| C201 | AGDCA   | 12000 | 02/07/2018 | 101 |
| C202 | ADCA    | 15000 | 15/07/2018 | 103 |
| C203 | DCA     | 10000 | 01/10/2018 | 102 |
| C204 | DDTP    | 9000  | 15/09/2018 | 104 |
| C205 | DHN     | 20000 | 01/08/2018 | 101 |
| C206 | O LEVEL | 18000 | 25/07/2018 | 105 |

What will be the output of the following statement?

a. SELECT \* FROM TRAINER NATURAL JOIN COURSE;

b. Write the Outputs of the MySQL queries (i) to (iv) based on the given above tables:

i. SELECT DISTINCT(CITY) FROM TRAINER WHERE SALARY>80000;

ii. SELECT TID, COUNT(\*), MAX(FEES) FROM COURSE GROUP BY TID HAVING COUNT(\*)>1;

iii. SELECT T.TNAME, C.CNAME FROM TRAINER T, COURSE C WHERE T.TID=C.TID AND T.FEES<10000;

iv. SELECT COUNT(CITY),CITY FROM TRAINER GROUP BY CITY;

Q27. Write a method/ function SHOW\_TODO() in python to read contents from a text file ABC.TXT and display those lines which have occurrence of the word "TO" or "DO". 3

For example :

If the content of the file is

"THIS IS IMPORTANT TO NOTE THAT SUCCESS IS THE RESULT OF HARD WORK. WE ALL ARE EXPECTED TO DO HARD WORK. AFTER ALL EXPERIENCE COMES FROM HARDWORK."

The method/function should display:

THIS IS IMPORTANT TO NOTE THAT

WE ALL ARE EXPECTED TO DO HARD WORK.

OR

Write a function linecount() in python which read a file 'data.txt' and count number of lines starts with character 'P'.

Q28. Write definition of a method/function AddOddEven(VALUES) to display sum of odd and even values separately from the list of VALUES. 3

For example :

If the VALUES contain [15, 26, 37, 10, 22, 13] The function should display

Even Sum: 58

Odd Sum: 65

Q29. Write SQL commands for (a) and (b) and write output for (c) on the basis of TRANSPORT table 3

| RTNO | AREA_COVERED  | CAPACITY | NOOFSTUDENTS | DISTANCE | TRANSPORTER   | CHARGES |
|------|---------------|----------|--------------|----------|---------------|---------|
| 1    | Vasant kunj   | 100      | 120          | 10       | Shivamtravels | 100000  |
| 2    | Hauz Khas     | 80       | 80           | 10       | Anand travels | 85000   |
| 3    | Pitampura     | 60       | 55           | 30       | Anand travels | 60000   |
| 4    | Rohini        | 100      | 90           | 35       | Anand travels | 100000  |
| 5    | Yamuna Vihar  | 50       | 60           | 20       | Bhalla Co.    | 55000   |
| 6    | Krishna Nagar | 70       | 80           | 30       | Yadav Co.     | 80000   |
| 7    | Vasundhara    | 100      | 110          | 20       | Yadav Co.     | 100000  |
| 8    | Paschim Vihar | 40       | 40           | 20       | Speed travels | 55000   |
| 9    | Saket         | 120      | 120          | 10       | Speed travels | 100000  |
| 10   | Jank Puri     | 100      | 100          | 20       | Kisan Tours   | 95000   |

a) To show all information of students where capacity is more than the no of student in order of rtno.

b) To show area\_covered for buses covering more than 20 km., but charges less than 80000.

c) select sum(distance) from schoolbus where transporter= "Yadav Co.";

Q30. Write PushOn(Book) and Pop(Book) methods/functions in Python to add a new Book and delete a Book from a List of Book titles, considering them to act as push and pop operations of the Stack data structure. 3

OR

Write a program to implement a stack for the students (studentno, name). Just implement Pop and display.

**SECTION D - 15 MARKS**

Q31. Table-Student

| SNO | NAME    | STIPEND | STREAM       | AVGMARKS | GRADE | CLASS |
|-----|---------|---------|--------------|----------|-------|-------|
| 1   | KARAN   | 400.00  | Medical      | 78.5     | B     | 12B   |
| 2   | DIVAKAR | 450.00  | Commerce     | 89.2     | A     | 11C   |
| 3   | DIVYA   | 300.00  | Commerce     | 68.6     | C     | 12C   |
| 4   | ARUN    | 350.00  | Inhumanities | 73.1     | B     | 12C   |
| 5   | SABINA  | 500.00  | Nonmedical   | 90.6     | A     | 11A   |
| 6   | JOHN    | 400.00  | Medical      | 75.4     | B     | 12B   |
| 7   | ROBERT  | 250.00  | Humanities   | 64.4     | C     | 11A   |
| 8   | RUBINA  | 450.00  | Nonmedical   | 88.3     | A     | 12A   |
| 9   | VIKAS   | 500.00  | NonMedical   | 92.0     | A     | 12A   |

5  
[2+3]

Write the SQL command for the following on the basis of given table Student

- Select all the nonmedical stream students from student.
- List the names of the those students who are in class 12 sorted by stipend
- List all the student sorted by avgMark in descending order.
- Update stipend by 300 whom stream is medical.

(II) Give the Output of the following SQL statements

- Select min(avgmarks) from student where avgmarks >= 75
- Select sum(stipend) from student where Grade = 'B'
- Select count(DISTINCT) from student.

Q32. a. Write the output of following python code:

```
def result(s):
    n = len(s)
    m = ''
    for i in range(0, n):
        if (s[i] >= 'a' and s[i] <= 'm'):
            m = m + s[i].upper()
        elif (s[i] >= 'n' and s[i] <= 'z'):
            m = m + s[i-1]
        elif (s[i].isupper()):
            m = m + s[i].lower()
        else:
            m = m + '#'
    print(m)
```

result('Cricket')

b. Avni is trying to connect Python with MySQL for her project. Help her to write the python statement on the following:

- Name the library, which should be imported to connect MySQL with Python.
- Name the function, used to run SQL query in Python.
- Write Python statement of connect function having the arguments values as :  
Host name : 192.168.11.111

User : root Password: Admin

Database : MYPROJECT

5  
[2+3]

**OR**

- Find the output  
Msg1 = "WeLcOME"  
Msg2 = "GUeSTs" Msg3 = " "

```

for l in range(0,len(Msg2)+1):
    if Msg1[l]>="A" and Msg1[l]<="M":
        Msg3=Msg3+Msg1[l]
    elif Msg1[l]>="N" and Msg1[l]<="Z":
        Msg3=Msg3+Msg2[l]
    else:
        Msg3=Msg3+"*" print(Msg3)

```

- (b) Your friend Jagdish is writing a code to fetch data from a database Shop and table name Products using Python. He has written incomplete code. You have to help him write complete code:

```

import -----as m # Statement-1
object1 = m.connect( host="localhost", user="root", password="root", database="Shop"
)
object2 = object1.----- # Statement-2
query = "SELECT * FROM Products WHERE NAME LIKE "A%";"
object2.----- (query) # Statement-3
object1.close()

```

- Q33. a. What is the advantage of using pickle module? 5  
b. Write a program to write into a CSV file "one.csv" Rollno, Name and Marks separated by comma. It should have header row and then take input from the user for all following rows. The format of the file should be as shown if user enters 2 records. [2+3]

```

Roll.No, Name, Marks
20, Ronit, 67
56, Nihir, 69

```

OR

- a. What is difference between tell() and seek() methods?  
b. Write a program to read all content of "student.csv" and display records of only those students who scored more than 80 marks. Records stored in students is in format :

[Rollno, Name, Marks]

#### SECTION E - 8 MARKS

- Q34. ABC Gym has created a table TRAINER. Observe the table given below and answer the following questions accordingly. 4

| TID | TNAME     | CITY        | HIREDATE   | SALARY |
|-----|-----------|-------------|------------|--------|
| 101 | SUNAINA   | MUMB AI     | 15/10/1998 | 90000  |
| 102 | ANAMIKA   | DELHI       | 24/12/1994 | 80000  |
| 103 | DEEPTI    | CHANDI GARH | 21/12/2001 | 82000  |
| 104 | MEENAKSHI | DELHI       | 25/12/2002 | 78000  |
| 105 | RICHA     | MUMB AI     | 12/01/1996 | 95000  |
| 106 | MANIPRAB  | CHENNAI     | 12/12/01   | 69000  |

- a. What is Degree and Cardinality of the above table?  
b. Which field should be made as the primary key? Justify your answer.  
c. Write the query to:  
i. Insert a record: (107,Bhoomi,Delhi,2001-12-15,90000)  
ii. Increase the salary by 1% for the trainers whose salary is more than 80000

OR (part c only)

- i. Delete the record of Richa  
ii. Add new column remarks of VARCHAR type with 50 characters.

- Q35. Priti of class 12 is writing a program to create a CSV file "emp.csv". She has written the following code to read the content of file emp.csv and display the employee record whose name begins from "S" also show no. of employee with first letter "S" out of total record. As a programmer, help her to successfully execute the given task. 4

Consider the following CSV file (emp.csv):

```

1,Peter,3500
2,Scott,4000

```

```

3,Harry,5000
4,Michael,2500
5,Sam,4200
import -----# Line-1
def snames():
    with open(-----) as csvfile: # Line-2
        myreader = csv.-----(csvfile, delimiter=",") # Line-3
        count_rec=0
        count_s=0
        for row in myreader:
            if row[1][0].lower() == "s":
                print(row[0],",",row[1],",",row[2])
                count_s += 1
                count_rec += 1
        print(count_rec, count_s)

```

- i. What should be written in Line-1?
- ii. In which mode should Priti open the file to print the data?
- iii. What should be written in Line-2 and Line-3?