

**Sample Question Paper - 2**  
**Class: XII Session: 2023-24**  
**Computer Science (083)**

**Time Allowed: 3 hours**

**Maximum Marks: 70**

**General Instructions:**

- Please check this question paper contains 35 questions.
- The paper is divided into 4 Sections- A, B, C, D and E.
- Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.
- Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.
- Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.
- Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.
- Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.

**Section A**

1. State true or false: [1]  
Python loops can also have else clause.
2. Which of the following is an advantage of SQL? [1]  
a) Client/server language                      b) High speed  
c) All of these                                      d) Easy to learn
3. What is the output of following code? [1]  

```
l1 = [[4,1],[2,3],[3,5],[6,0.5]]  
l1.sort()  
print(l1)
```

  
a) [[2,3],[3,5],[4,1],[6,0.5]]                      b) None of these  
c) [[0.5,1],[2,3],[3,4],[5,6]]                      d) [[6,0.5],[4,1],[2,3],[3,5]]
4. What is the output of the function shown below? [1]  

```
hex(15)
```

  
a) 0xF    b) 0xf  
c) 0Xf    d) f
5. The virus that uses MS Office suite as its host to replicate is known as? [1]

a) Trojan

b) Worm

c) Macro Virus

d) Word Virus

6. Which function is used to write all the characters? [1]

a) writecharacters( )

b) writeall( )

c) write( )

d) writeallchars( )

7. Which method returns the next row from the result set as tuple? [1]

a) fetchone()

b) rowcount

c) fetchall()

d) fetchmany()

8. Which statement of SQL provides statements for manipulating the database objects? [1]

a) DCL

b) TCL

c) DML

d) DDL

9. Suppose the content of a text file "Rhymes.txt" is as follows [1]

Jack & Jill

went up the hill

What will be the output of the following Python code?

```
F = open("Rhymes.txt")
```

```
L = F.readlines()
```

```
for i in L:
```

```
S=i.split()
```

```
print(len(S),end="#")
```

a) 2#

b) 7#

c) 3#4#

d) 2#4#

10. Which of the following function headers is correct? [1]

a) def f(a = 1, b = 1, c = 2):

b) def f(a = 1, b, c = 2):

c) def f(a = 1, b = 1, c = 2, d):

d) def f(a = 1, b):

11. Which of the following real time examples is based on Insertion sort? [1]

- a) database scenarios and distributes scenarios      b) arranging books on a library shelf
- c) real-time systems      d) arranging a pack of playing cards
12. Following set of commands are executed in shell, what will be the output? [1]  
 >>> str = "hello"  
 >>> str[:2]
- a) he      b) llo  
 c) ello      d) hel
13. State true or false: [1]  
 A LAN is connected to large geographical area.
14. Which of the following is not a keyword? [1]  
 a) assert      b) nonlocal  
 c) pass      d) eval
15. Fill in the blanks: [1]  
 The \_\_\_\_\_ statement is used with the aggregate functions to group the result set by one or more columns.
16. The checksum of 0000 and 0000 is \_\_\_\_\_. [1]  
 a) 1110      b) 0111  
 c) 1111      d) 0000
17. **Assertion (A):** We can declare multiple exceptions in except statement. [1]  
**Reason (R):** The try block may contain the statements which throw different type of exceptions.
- a) Both A and R are true and R is the correct explanation of A.      b) Both A and R are true but R is not the correct explanation of A.  
 c) A is true but R is false.      d) A is false but R is true.
18. **Assertion (A):** In the case of write mode, the file pointer exists at the end of the file. [1]  
**Reason (R):** In the case of append mode, the file pointer exists at the end of the file.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false.

d) A is false but R is true.

### Section B

19. **Answer:** [2]

(i) i. What is a communication channel? [1]

ii. What is the difference between packet and message switching? [1]

(ii) **OR**  
i. Give the full form for the following: [2]

i. FM

ii. AM

iii. NFS

iv. FTP

20. Write Python code to insert following records into the order-details table. [2]

Database → sales

User id → Admin

Password → salar345

table name → order-details

| ORDNUMB | PARTNUMB | NUMBORD | QUOTPRIC |
|---------|----------|---------|----------|
| 12489   | AX12     | 11      | 14.95    |
| 12495   | BT04     | 1       | 402.99   |
| 12491   | BZ66     | 1       | 311.95   |
| 12498   | CX11     | 2       | 57.95    |

21. Python is dynamic typed. Explain it. [2]

**OR**

What are immutable and mutable types? List immutable and mutable types of Python.

22. **Answer:** [2]

(i) How fetchone() method is differ from fetchall() method? [1]

(ii) What will the following code do ? [1]

```
import mysql.connector
```

```
db = mysql.connector.connect(...)
```

```

cursor = db.cursor( )
sql = "update category set name= '%s' WHERE ID=%s" % ('CSS',2)
cursor.execute(sql)
db.commit()
print("Rows affected:", cursor.rowcount)
db.close( )

```

23. Write a program that rotates the elements of a list so that the element at the first index moves to the second index, the element in the second index moves to the third index, etc., and the element in the last index moves to the first index. [2]

OR

Find the errors in following code and write the correct code.

```

def extract_lesser (l, v):
for num in l:
if:
less_list.append(num)
Return less_list

```

- i. Underline the corrections.
- ii. Write the reason!error next to it in comment form.

24. Write a function to read the content of a text file "DELHI.txt" and display all those lines on screen, which are either starting with 'D' or 'M'. [2]

OR

Write a method in python to read the content from a text file diary.txt line by line and display the same on-screen.

25. Find the output of the following program: [2]

```

def calresult ():
i = 9
while i > 1:
if (i % 2 == 0):
x = i % 2
i = i - 1
else:
i = i - 2
x = i
print(x**2)

```

### Section C

26. **Answer:** [3]

- (i) Predict the output of following code fragment: [1.5]

```
fruit = { }  
f1 = ['Apple', 'Banana', 'apple', 'Banana']  
for index in f1:  
    if index in fruit:  
        fruit [index] += 1  
    else:  
        fruit[index] =1  
print(fruit)  
print (len(fruit))
```

- (ii) Write a program to sort the list alphabetically in a dictionary. [1.5]

27. What do you understand by the local and global scope of variables? How can you access a global variable inside the function, if the function has a variable with the same name? [3]

28. Give output for the following SQL queries as per given table(s) : [3]

**Table: FLIGHTS**

| FL_NO | STARTING  | ENDING     | NO_FLIGHTS | NO_STOPS |
|-------|-----------|------------|------------|----------|
| IC301 | MUMBAI    | DELHI      | 8 1        | 0        |
| IC799 | BANGALORE | DELHI      | 2          | 1        |
| MC101 | INDORE    | MUMBAI     | 3          | 0        |
| IC302 | DELHI     | MUMBAI     | 8          | 0        |
| AM812 | KANPUR    | BANGALORE  | 3          | 1        |
| IC899 | MUMBAI    | KOCHI      | 1          | 4        |
| AM501 | DELHI     | TRIVANDRUM | 1          | 5        |
| MU499 | MUMBAI    | MADRAS     | 3          | 3        |
| IC701 | DELHI     | AHMEDABAD  | 4          | 0        |

**Table: FARES**

| FL_NO | AIRLINES         | FARE  | TAX% |
|-------|------------------|-------|------|
| IC701 | Indian Airlines! | 6500  | 10   |
| MU499 | Sahara           | 9400  | 5    |
| AM501 | Jet Airways      | 13450 | 8    |
| IC899 | Indian Airlines  | 8300  | 4    |
| IC302 | Indian Airlines  | 4300  | 10   |
| IC799 | Indian Airlines  | 10500 | 10   |

|       |                 |      |   |
|-------|-----------------|------|---|
| MC101 | Deccan Airlines | 3500 | 4 |
|-------|-----------------|------|---|

- i. SELECT FL\_NO, NO\_FLIGHTS, AIRLINES from FLIGHTS, FARES  
where STARTING = "DELHI" AND FLIGHTS.FL\_NO = FARES.FL\_NO.
- ii. SELECT count(distinct ENDING) from FLIGHTS

OR

Gopi Krishna is using a table Employee. It has the following columns:

Code, Name, Salary, Deptcode

He wants to display maximum salary departmentwise. He wrote the following command :

SELECT Deptcode, Max(Salary) FROM Employee ;

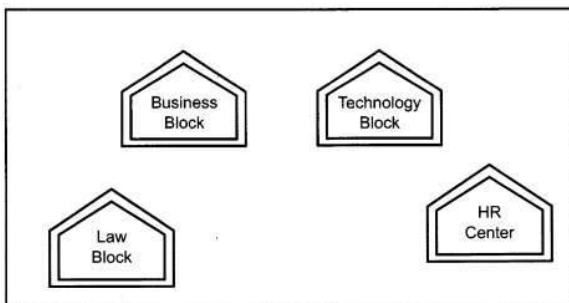
But he did not get the desired result.

Rewrite the above query with necessary changes to help him get the desired output.

29. A file phonebook.dat stores the details in the following format: [3]  
Name Phone  
Jivin 86666000  
Kriti 101001  
Write a program to edit the phone numbers of Arvind in the file. If there is no record for Arvind report error.
30. Write a function that receives two tuples and creates a third that contains all elements of the first followed by all elements of the second. [3]

### Section D

31. Quick Learn University is setting up its Academic blocks at Prayag Nagar and planning to set up a network. The university has 3 academic blocks and one Human Resource Center as shown in the diagram below: [5]



Center to center distances between various blocks is as follows:

|                                    |       |
|------------------------------------|-------|
| Law Block to Business Block        | 40 m  |
| Law Block to Technology Block      | 80 m  |
| Law Block to HR Center             | 105 m |
| Business Block to Technology Block | 30 m  |
| Business Block to HR Center        | 35 m  |
| Technology Block to HR Center      | 15 m  |

Number of Computers in each of the Blocks/Center is as follows:

|                  |     |
|------------------|-----|
| Law Block        | 15  |
| Technology Block | 40  |
| HR Center        | 115 |
| Business Block   | 25  |

- i. Suggest the most suitable place (i.e., Block/Center) to install the server of this university with a suitable reason.
- ii. What type of network will be formed if all these blocks are connected?
- iii. Which device you will suggest to be placed/installed in each of these blocks/center to efficiently connect all the computers within these blocks/center?
- iv. The university is planning to connect its admission office in the closest big city, which is more than 250 km from university, which type of network out of LAN, MAN or WAN will be formed? Justify your answer.

32. Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables: [5]

#### DVD

| DCODE | DTITLE            | DTYPE     |
|-------|-------------------|-----------|
| F101  | Henry Martin      | Folk      |
| Cl 02 | Dhrupad           | Classical |
| C101  | The Planets       | Classical |
| F102  | Universal Soldier | Folk      |
| R102  | A day in the life | Rock      |



**MEMBER**

| MID | NAME        | DCODE | ISSUEDATE  |
|-----|-------------|-------|------------|
| 101 | AGAM SINGH  | R102  | 2017-11-30 |
| 103 | ARTH JOSEPH | F102  | 2016-12-13 |
| 102 | NISHA HANS  | C101  | 2017-07-24 |

- i. To display all details from the table MEMBER in descending order of ISSUEDATE.
- ii. To display the DCODE and DTITLE of all Folk Type DVDs from the table DVD.
- iii. To display the Dtype and number of DVDs in each DTYPE from the table DVD.
- iv. To display all NAME and ISSUEDATE of those members from the table MEMBER who have DVDs issued (i.e., ISSUEDATE) in the year 2017.
- v. SELECT MIN (ISSUEDATE) FROM MEMBER;
- vi. SELECT DISTINCT DTYPE FROM DVD;
- vii. SELECT D.DCODE, NAME, DTITLE: FROM DVD D, MEMBER M WHERE D.DCODE=M.DCODE;
- viii. SELECT DTITLE FROM DVD WHERE DTYPE NOT IN ("Folk", "Classical");

OR

Consider the following tables CABHUB and CUSTOMER. Write SQL commands for the following statements.

Table: **CABHUB**

| Vcode | VehicleName | Make     | Color  | Capacity | Charges |
|-------|-------------|----------|--------|----------|---------|
| 100   | Innova      | Toyota   | WHITE  | 7        | 15      |
| 102   | SX4         | Suzuki   | BLUE   | 4        | 14      |
| 104   | C Class     | Mercedes | RED    | 4        | 35      |
| 105   | A-Star      | Suzuki   | WHITE  | 3        | 14      |
| 108   | Indigo      | Tata     | SILVER | 3        | 12      |

Table: **CUSTOMER**

| CCode | CName       | Vcode |
|-------|-------------|-------|
| 1     | Hemant Sahu | 101   |
| 2     | Raj Lai     | 108   |
| 3     | Feroza Shah | 105   |
| 4     | Ketan Dhal  | 104   |

- i. To display the names of all the white colored vehicles.
- ii. To display name of vehicle, make and capacity of vehicles in ascending order of their seating capacity.
- iii. To display the highest charges at which a vehicle can be hired from CABHUB.
- iv. To display the customer name and the corresponding name of the vehicle hired by them

33. **Answer:**

[5]

- (i) i. What do you understand by the terms Primary Key and Degree of a relation in relational database?

[1]

- ii. Give output for following SQL queries as per given table(s):

[4]

**Table : CLUB**

| COACH-ID | COACHNAME | AGE | SPORTS     | DATEOFAPP  | PAY  | SEX |
|----------|-----------|-----|------------|------------|------|-----|
| 1.       | KUKREJA   | 35  | KARATE     | 27/03/1996 | 1000 | M   |
| 2.       | RAVINA    | 34  | KARATE     | 20/01/1998 | 1200 | F   |
| 3.       | KARAN     | 34  | SQUASH     | 19/02/1998 | 2000 | M   |
| 4.       | TARUN     | 33  | BASKETBALL | 01/01/1998 | 1500 | M   |
| 5.       | ZUBIN     | 36  | SWIMMING   | 12/01/1998 | 750  | M   |

|     |         |    |            |            |      |   |
|-----|---------|----|------------|------------|------|---|
| 6.  | KETAKI  | 36 | SWIMMING   | 24/02/1998 | 800  | F |
| 7.  | ANKITA  | 39 | SQUASH     | 22/02/1998 | 2200 | F |
| 8.  | ZAREEN  | 37 | KARATE     | 22/02/1998 | 1100 | F |
| 9.  | KUSH    | 41 | SWIMMING   | 13/01/1998 | 900  | M |
| 10. | SHAILYA | 37 | BASKETBALL | 19/02/1998 | 1700 | M |

- i. SELECT COUNT (DISTINCT SPORTS) FROM CLUB;
- ii. SELECT MIN(AGE) FROM CLUB WHERE SEX = "F";
- iii. SELECT AVG(PAY) FROM CLUB WHERE SPORTS = "KARATE";
- iv. SELECT SUM(PAY) FROM CLUB WHERE DATEOFAPP > {31/01/98};

(ii)

**OR**

- i. In SQL, write the name of the aggregate function which will display the cardinality of a table. **[1]**
- ii. Consider the following tables STUDENT and STREAM. Write SQL commands for the statements (i) to (v). **[4]**

**TABLE: STUDENT**

| SCODE | NAME    | AGE | STRODE | POINTS | GRADE |
|-------|---------|-----|--------|--------|-------|
| 101   | Amit    | 16  | 1      | 6      | NULL  |
| 102   | Arjun   | 13  | 3      | 4      | NULL  |
| 103   | Zaheer  | 14  | 2      | 1      | NULL  |
| 105   | Gagan   | 15  | 5      | 2      | NULL  |
| 108   | Kumar   | 13  | 6      | 8      | NULL  |
| 109   | Rajesh  | 17  | 5      | 8      | NULL  |
| 110   | Naveen  | 13  | 3      | 9      | NULL  |
| 113   | Ajay    | 16  | 2      | 3      | NULL  |
| 115   | Kapil   | 14  | 3      | 2      | NULL  |
| 120   | Gurdeep | 15  | 2      | 6      | NULL  |

**TABLE: STREAM**

| STRCDE | STRNAME      |
|--------|--------------|
| 1      | SCIENCE+COMP |
| 2      | SCIENCE+BIO  |
| 3      | SCIENCE+ECO  |

|   |                |
|---|----------------|
| 4 | COMMERCE+MATHS |
| 5 | COMMERCE+SOCIO |
| 6 | ARTS+MATHS     |
| 7 | ARTS+SOCIO     |

- i. To display the name of streams in alphabetical order from table STREAM.
- ii. To display the number of students whose POINTS are more than 5.
- iii. To update GRADE to 'A' for all those students, who are getting more than 8 as POINTS.
- iv. ARTS+MATHS stream is no more available. Make necessary change in table STREAM.
- v. To display student's name whose stream name is science and computer.

### Section E

34. Write a program to print a string in reverse order. [4]
35. Consider the following tables ACTIVITY and COACH and answer the following parts of this question : [4]

**Table: ACTIVITY**

| Acode | ActivityName  | Stadium     | ParticipantsNum | PrizeMoney | ScheduteDate |
|-------|---------------|-------------|-----------------|------------|--------------|
| 1001  | Relay 100 × 4 | Star Annex  | 16              | 10000      | 23-Jan-04    |
| 1002  | High jump     | Star Annex  | 10              | 12000      | 12-Dec-03    |
| 1003  | Shot Put      | Super Power | 12              | 8000       | 14-Feb-04    |
| 1005  | Long Jump     | Star Annex  | 12              | 9000       | 01-Jan-04    |
| 1008  | Discuss Throw | Super Power | 10              | 15000      | 19-Mar-04    |

**Table : COACH**

| Pcode | Name          | Acode |
|-------|---------------|-------|
| 1     | Ahmad Hussain | 1001  |
| 2     | Ravinder      | 1008  |
| 3     | Janila        | 1001  |
| 4     | Naaz          | 1003  |

Give the output of the following SQL queries :

- i. `SELECT COUNT (DISTINCT ParticipantsNum) FROM ACTIVITY;`
- ii. `SELECT MAX(ScheduleDate), MIN(ScheduleDate) FROM ACTIVITY;`
- iii. `SELECT Name, ActivityName FROM ACTIVITY A, COACH C  
WHERE A.Acode = C.Acode AND A.ParticipantsNum = 10;`
- iv. `SELECT DISTINCT ParticipantsNum FROM ACTIVITY;`

# Answers

## Section A

1. (a) True

**Explanation:** True

2.

(c) All of these

**Explanation:** All of these

3. (a) [[2,3],[3,5],[4,1],[6,0.5]]

**Explanation:** Sorting is done by giving preference to first value of each list.

4.

(b) 0xf

**Explanation:** The function hex() is used to convert the given argument into its hexadecimal representation, in lower case. Hence the output of the function hex(15) is 0xf.

5.

(c) Macro Virus

**Explanation:** These viruses infect and replicate using the MS Office program suite, mainly MS Word and MS Excel. The virus inserts unwanted words or phrases in the document.

6.

(c) write( )

**Explanation:** The write() method writes specified text to the file.

7. (a) fetchone()

**Explanation:** fetchone()

8.

(c) DML

**Explanation:** DML (Data Manipulation Language)

9.

(c) 3#4#

**Explanation:** 3#4#

10. (a) def f(a = 1, b = 1, c = 2):

**Explanation:** def f(a = 1, b = 1, c = 2):

11.

(d) arranging a pack of playing cards

**Explanation:** arranging a pack of playing cards

12. (a) he

**Explanation:** str[:2] prints only the values at index 0 and 1 (as 2 is exclusive) of string and hence the answer is "he".

13.

**(b)** False

**Explanation:** LAN, consists of a computer network at a single site, typically an individual office building.

14.

**(d)** eval

**Explanation:** eval is not a keyword in python.

15. 1. GROUP BY

16.

**(c)** 1111

**Explanation:** 1111, 1's complement arithmetic to get the sum.

17. **(a)** Both A and R are true and R is the correct explanation of A.

**Explanation:** We can declare multiple exceptions in except statement since the try block may contain statements which throw different type of exceptions. We can also specify an else block along with the try-except statement, which will be executed if no exception is raised in the try block and Finally block, which always gets executed either exception is generated or not.

18.

**(d)** A is false but R is true.

**Explanation:** In the case of write mode, the file pointer exists at the beginning of the file as the content of file is removed and file is treated as a new file. In the case of append mode, the file pointer exists at the end of the file as data is added at the end of file.

### Section B

19. Answer:

- (i) i. Communication channels mean the connecting cables that link various workstations. There are three basic types of cables.
- ii. In packet switching, all the packets are stored in the main memory instead of the disk while in message switching, data is stored in the buffer from.

(ii)

**OR**

- i. **FM:** Frequency Modulation
- ii. **AM:** Amplitude Modulation
- iii. **NFS:** Network File Server
- iv. **FTP:** File Transfer Protocol

20. import MySQLdb

```
db=MySQLdb.connect('localhost', 'sales', 'Admin', 'salar345')
```

```
cursor= db. cursor (prepared= TRUE)
```

```
sql_query= """INSERT INTO order-details (ORDNUMB, PARTNUMB,  
NUMBORD,QUOTPRIC) VALUES ('%s', '%s', '%s','%s')"""
```

```
rec_inst= [('12489', 'AX12', '11', '14.95'), ('12491', 'ABT04', '1', '402.99'), ('12495', 'BZ66',
```

```
'1','311.95'),
('12498', 'CX11', '2','57.95')]
try:
    cursor.executemany(sql_query, rec_inst)
    print(cursor.rowcount, "Record inserted successfully")
    db.commit()
except:
    db.rollback()
    cursor.close()
    db.close()
```

21. A language is dynamically typed if the type is associated with run-time values and not named variables/fields etc. This means that you as a programmer can write a little quicker because you do not have to specify types every time. Python is a dynamically type language. It does not know about the type of the variable until the code is run, so declaration is no use. It stores that value at some memory location and then binds that variable name to that memory container.

We have assigned three values to three variables:

```
>>> a = 10
>>> name = "Neha"
>>> x = 34.6
```

But what types are these variables? Let's use the `type()` module to find out:

### **Syntax**

`type(variable_name)`

OR

The immutable types are those that can't be changed after it is created. In Python, the following types are immutable: integers, floating-point numbers, Booleans, strings, tuples.

The mutable types are those whose values can be changed in place. Only three types are mutable in Python, these are lists, dictionaries, and sets.

22. Answer:

- (i) `fetchone()` method returns the next row from the result set as tuple while `fetchall()` fetches all the rows of a query result.
- (ii) It will print the number of rows affected by update statement.

23. `lis = eval(input("Enter list:"))`  
`last = lis[-1]`  
`for i in range(len(lis) -1, 0, -1):`  
`lis[i] = lis[i - 1]`  
`lis[0] = last`  
`print(lis)`



OR

```
def extract_lesser (l, v):  
    less_list = [] # a list must be defined before being appended  
    for num in l:  
        if num < v : # (i) wrong indentation, (ii) condition missing with if  
            less_list.append(num)  
    return less_list # (i)wrong indentation, (ii) return must be in lowercase
```

24. def CountDorM():

```
    ctr = 0  
    with open('DELHI.txt', 'r') as file_obj:  
        while True:  
            line=file_obj.readline()  
            if not line: break  
            if line[0] == 'D' or line[0] == 'M' :  
                ctr = ctr + 1  
            if count == 0:  
                print("no line starts with D or M")  
            else:  
                print ("Number of lines starting with D or M =",ctr)  
Here, Function CountDorM returns the number of lines starting with D or M in  
"DELHI.txt" file.
```

OR

```
file = open("diary.txt", "r")  
lines = file.readlines()  
for line in lines:  
    print(line)
```

25. **Output**

```
49  
25  
9  
1
```

### Section C

26. Answer:

```
(i) {'Apple' : 1}  
    {'Apple' : 1, 'Banana' : 1}  
    {'Apple' : 1, 'Banana' : 1, 'apple' : 1}  
    {'Apple' : 1, 'Banana' : 2, 'apple' : 1}  
    3
```

```
(ii) dict = {  
    "L1" : [78, 54, 65, 89, 11],
```

```

"L2" : [22, 65, 45, 78, 95],
"L3" : [32, 4, 89, 45, 2]
}
print ("\n Before sorting:")
for i in dict.items ():
    print(i)
print("\n After sorting:")
for a, b in dict.items():
    dictl = {a.sorted(b)}
    print(dictl)

```

27. A global variable is a variable that is accessible globally. A local variable is one that is only accessible to the current scope, such as temporary variables used in a single function definition.
- A variable declared outside of all the functions or in global scope is known as a global variable. A global variable can be accessed inside or outside of the function whereas local variables can be used only inside of the function. If a function has a local variable name as a global variable, then in that function scope, the local variable will hide the global variable with the same name. We can access a global variable having the same name as a local variable by declaring its name with the keyword global, e.g., as global A. Global variables are declared outside any function, and they can be accessed (used) on any function in the program. Local variables are declared inside a function and can be used only inside that function. It is possible to have local variables with the same name in different functions.
28. i. ERROR - Column 'FL\_NO' in field list is ambiguous as FL\_NO field is present in both the tables we require to qualify the column name by its table name. Assuming the FL\_NO field is qualified as FLIGHTS.FL\_NO or FARES.FL\_NO the output will be :

| FL_NO | NO_FLIGHTS | AIRLINES        |
|-------|------------|-----------------|
| AM501 | 1          | Jet Airways     |
| IC302 | 8          | Indian Airlines |
| K707  | 4          | Indian Airlines |

ii. 7

OR

```
SELECT Deptcode, Max( Salary ) FROM Employee GROUP BY Deptcode ;
```

29. fp1 = open("phonebook.dat", 'w+')  
list = " "  
while list:  
pos = ftell()  
list = fp1.readline ()  
name, phone = list.split ()

```

if name == "Arvind":
    phone = raw_input ("Enter a number:")
    fp.seek (pos,o)
    fp.write (name)
    fp.write (" ")
    fp.write (phone)
    fp.close ()
    break
else:
    print ("Name\"Arvind\" not found")

```

```

30. def appendTuple(tuple1, tuple2):
    """This function will join two tuples into one"""
    tuple3 = tuple1 + tuple2
    return tuple3

```

### Section D

31. i. The most suitable place to install the server is HR Centre because it has maximum number of computers
  - ii. LAN
  - iii. Switch
  - iv. WAN as it is another city . LAN and MAN cannot cover 250 km.
32. i. SELECT \* FROM MEMBER ORDER BY ISSUEDATE DESC
  - ii. SELECT DCODE, DTITLE FROM DVD WHERE DTYPE = 'Folk'
  - iii. SELECT DTYPE, COUNT(\*) FROM DVD GROUP BY DTYPE
  - iv. SELECT NAME, ISSUEDATE FROM MEMBER, WHERE ISSUEDATE LIKE '2017%'
  - v. MIN (ISSUEDATE) 2016-12-13
  - vi. DISTINCT (DTYPE)
    - Folk
    - Classical
    - Rock

vii.

| DCODE | name        | DTITLE            |
|-------|-------------|-------------------|
| R102  | AGAM SINGH  | A day in the life |
| F102  | ARTH JOSEPH | Universal Soldier |
| C101  | NISHA HANS  | The Planets       |

viii. DTITLE

A day in the life

OR

- i. SELECT VehicleName FROM CABHUB WHERE Color = "WHITE" ;
- ii. SELECT VehicleName, Make, Capacity FROM CABHUB ORDER BY Capacity ;
- iii. SELECT Max(Charges) FROM CABHUB ;
- iv. SELECT CName, VehicleName FROM CUSTOMER, CABHUB WHERE CUSTOMER.Vcode = CABHUB.Vcode ;

33. Answer:

- (i) i. **The primary key** is a column (or columns) in a table that uniquely identifies each row. A primary key value is unique and cannot be null.

**Degree.** The number of attributes in a relation is called its degree.

ii. OUTPUT

- i. 4
- ii. 34
- iii. 1100
- iv. 7800

(ii)

OR

- i. The aggregate function that can display the cardinality (number of rows) of a table in SQL is COUNT.
- ii. i. SELECT STRNAME FROM STREAM ORDER BY STRNAME;
- ii. SELECT COUNT(\*) FROM STUDENT WHERE POINTS > 5;
- iii. UPDATE STUDENT SET GRADE = 'A' WHERE POINTS > 8;
- iv. DELETE FROM STREAM WHERE STRNAME='ARTS + MATHS';
- v. SELECT NAME FROM STUDENT WHERE STUDENT.STRCDE = STREAM. STRCDE AND STRNAME="SCIENCE + COMP";

### Section D

34. To print a string in Reverse order:-

```
def pushstack(stack, ch):
    stack.append(ch)
    top=len(stack)-1
    return
def popstack (stack):
    if isempty(stack):
        return
```

```

else
top=len(stack)-1
for a in range(top, -1, -1)
print stack[a],
return
def isempty (stack):
if stack==[]:
else:
return True
else:
return False
#.....main.....
str=[]
top=None
str=raw_input("Enter a string")
while a in str:
pushstack(stk, str)

```

print "----- Reverse-----"

popstack(stk)

35. i. 3

|      |                   |                   |
|------|-------------------|-------------------|
| ii.  | MAX(ScheduleDate) | MIN(ScheduleDate) |
|      | 19-Mar-04         | 12-Dec-03 *       |
| iii. | NAME              | ACTIVITYNAME      |
|      | Ravinder          | Discuss Throw     |

iv. ParticipantsNum

16

10

12