

**Time Allowed: 3 hours**

**Sample Question Paper - 4**  
**Class: XII Session: 2023-24**  
**Computer Science (083)**

**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]  
Mathematical operations can be performed on a string.
2. What does DML stand for? [1]  
a) Data Model Language                      b) Data Mode Lane  
c) Different Mode Level                      d) Data Manipulation language
3. The set of records retrieved after executing an SQL query over an established database connection is called \_\_\_\_\_. [1]  
a) table    b) resultset  
c) sqlresult    d) result
4. Which method should I use to convert String "Python programming is fun" to "Python Programming Is Fun"? [1]  
a) upper()    b) capitalize()  
c) istitle()    d) title()
5. Traditionally, Internet checksum is [1]  
a) 24-bit    b) 16-bit

6. To read the entire remaining contents of the file as a string from a file object `infi`, we use **[1]**
- a) `infi.readlines( )`
  - b) `infi.read(all)`
  - c) `infi.readline( )`
  - d) `infi.read( )`
7. Which of the following is not a character data type in SQL? **[1]**
- a) `VARCHAR1`
  - b) `VARCHAR`
  - c) `CHAR`
  - d) `VARCHAR2`
8. In SQL, which command is used to `SELECT` only one copy of each set of duplicable rows? **[1]**
- a) `SELECT DIFFERENT`
  - b) All of these
  - c) `SELECT UNIQUE`
  - d) `SELECT DISTINCT`
9. Which of the following mode will refer to binary data? **[1]**
- a) `b`
  - b) `w`
  - c) `+`
  - d) `r`
10. What is the output of the functions shown below? **[1]**
- `float('-infinity')`  
`float('inf')`
- a) `-infinity` and `inf`
  - b) Error and Error
  - c) `-inf` and `inf`
  - d) Error and Junk value
11. Which of the following can add a list of elements to a list? **[1]**
- a) none of these
  - b) `append()`
  - c) `extend()`
  - d) `add()`
12. Which of the following functions does not necessarily accept only iterables as arguments? **[1]**
- a) `chr()`
  - b) `max()`

13. State true or false:  
SSL provides a safe passage for data over Internet. [1]
14. What is the value of this expression,  $3^{**}1^{**}3$ ? [1]  
a) 9 b) 27  
c) 1 d) 3
15. Fill in the blanks: [1]  
\_\_\_\_\_ function returns the largest value from the selected column.
16. Find EVEN parity bit for 10010001 [1]  
a) 1 b) none of these  
c) 2 d) 0
17. **Assertion (A):** Creating an empty set is a bit different than creating a dictionary. [1]  
**Reason (R):** Python provides the set() method used without an argument to create an empty set.  
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):** pandas is defined as an open-source library that is built on top of the NumPy library. [1]  
**Reason (R):** pandas provides fast analysis, data cleaning, and preparation of the data for the user.  
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 the amplitude modulation? [1]  
ii. What is carrier wave? What is a modulated wave? [1]

20. List the most common parameters and the usage that are passed to communicate with the database. [2]

21. What would be the output of following code? [2]

```
ntpl = ("Hello", "Nita", "How's", "life ?")
(a, b, c, d) = ntpl
print("a is:", a)
print("b is:", b)
print("c is:", c)
print("d is:", d)
ntpl= (a, b, c, d)
print(ntpl[0][0]+ntpl[1][1], ntpl[1])
```

OR

Find the error(s).

```
L1 = [7, 2, 3, 4]
L2 = L1 + 2
L3 = L1 * 2
L = L1. pop(7)
```

22. **Answer:** [2]

(i) How is a database connection established? [1]

(ii) Write a checklist before connecting to a database? [1]

23. Write a Python program to remove the characters of odd index values in a string. [2]

OR

What is indexing in context to Python strings? Why is it also called two-way indexing?

24. A given text file "data.txt" contains: [2]

```
Line 1\n
\n
Line 3
Line 4
\n
Line 6
```

What would be the output of the following code?

```
fh = open ("data.txt" "r")
1st = fh.readlines()
print(1st[0], end = "")
print(1st[2], end = "")
print(1st[5], end = "")
print(1st[1], end = "")
print(1st[4], end = "")
print(1st[3])
```

OR

Write a function to count the number of alphabets present in a text file "NOTES.txt".

25. Write a function LShift(Arr, n) in Python, which accepts a list Arr of numbers and n is a numeric value by which all elements of the list are shifted to left. [2]

**Sample Input Data of the list**

Arr = [10, 20, 30, 40, 12, 11], n = 2

**Output**

Arr = [30, 40, 12, 11, 10, 20]

### Section C

26. **Answer:** [3]
- (i) For asking a user to answer Yes or No to a question such as **Are you ready to provide your credit card number?** [1.5]
- (ii) Find the errors in the following code and write the correct code. [1.5]
- ```
l = ['a', 'b', 'c', 'd']
v = 6
for i in len(`):
    l[i] += v
    v = v - l
print("v = ",v, "l=", l)
```
- i. Underline the corrections
- ii. Write the reason!error next to it in comment form.
27. What are different types of arguments/parameters that a function can have? [3]
28. Consider the following table BATSMEN: [3]

| PNO | NAME      | SCORE |
|-----|-----------|-------|
| P1  | RISHABH   | 52    |
| P2  | HUSSAIN   | 45    |
| P3  | ARNOLD    | 23    |
| P4  | ARNAV     | 18    |
| P5  | GURSHARAN | 52    |

- Identify and write the name of the Candidate Keys in the given table BATSMEN.
- How many tuples are there in the given table BATSMEN?

OR

Write the disadvantages of SQL.

29. Write a function to write numbers into a binary file and read the same. **[3]**

30. Find the errors in code given below: **[3]**

- ```
def minus(total, decrement)
    output = total - decrement
    print(output)
    return (output)
```
- ```
def check()
    N = input ('Enter N:')
    i = 3
    answer = 1 + i * * 4/N
    Return answer
```
- ```
def alpha(n, string = 'xyz', k = 10) :
    return beta(string)
    return n
def beta (string)
    return string == str(n)
print(alpha("Valentine's Day"))
print(beta (string = 'true'))
print(alpha(n=5, "Good-bye") :)
```

3 . Discuss how IPv4 is different from IPv6. [5]

3 . Write SQL queries for (i) to (vii) on the basis of tables given below: [5]

1

**Table: PRODUCTS**

2

PID	PNAME	QTY	PRICE	COMPANY	SUPCODE
101	DIGITAL CAMERA 14X	120	12000	RENBIX	S01
102	DIGITAL PAD I I i	100	22000	DIGI POP	S02
104	PEN DRIVE 16 GB	500	1100	STOREKING	S01
106	LED SCREEN 32	70	28000	DISPEXPERTS	S02
105	CAR GPS SYSTEM	60	12000	MOVEON	S03

**Table: SUPPLIERS**

SUPCODE	SNAME	CITY
S01	GET ALL INC	KOLKATA
S03	EASY MARKET CORP	DELHI
S02	DIGI BUSY GROUP	CHENNAI

- i. To display the details of all the products in ascending order of product names (i.e., PNAME).
- ii. To display product name and price of all those products, whose price is in the range of 10000 and 15000 (both values inclusive).
- iii. To display the number of products, which are supplied by each supplier, i.e., the expected output should be;
  - S01 2
  - S02 2
  - S03 1
- iv. To display the price, product name, and quantity (i.e., qty) of those products which have a quantity of more than 100.
- v. To display the names of those suppliers, who are either from DELHI or from CHENNAI.
- vi. To display the name of the companies and the name of the products in descending order of company names.

PRODUCTS and SUPPLIERS above.

- a. SELECT DISTINCT SUPCODE FROM PRODUCTS;
- b. SELECT MAX (PRICE), MIN (PRICE) FROM PRODUCTS;
- c. SELECT PRICE\*QTY FROM PRODUCTS WHERE PID = 104;
- d. SELECT PNAME, SNAME FROM PRODUCTS P, SUPPLIERS S WHERE P. SUPCODE = S. SUPCODE AND QTY >100;

OR

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

**Table : ITEM**

I_ID	ItemName	Manufacturer	Price
PC01	Personal Computer	ABC	35000
LC05	Laptop	ABC	55000
PC03	Personal Computer	XYZ	32000
PC06	Personal Computer	COMP	37000
LC03	Laptop	PQR	57000

**Table : CUSTOMER**

C_ID	CustomerName	City	IJD
01	N Roy	Delhi	LC03
06	H Singh	Mumbai	PC03
12	R Pandey	Delhi	PC06
15	C Sharma	Delhi	LC03
16	K Agarwal	Banglore	PC01

- i. SELECT DISTINCT City FROM Customer ;
- ii. SELECT ItemName, MAX(Price), Count(\*)  
FROM Item GROUP BY ItemName ;
- iii. SELECT CustomerName, Manufacturer  
FROM Item, Customer  
WHERE Item.I\_ID = Customer.I\_ID ;
- iv. SELECT ItemName, Price \* 100  
FROM Item WHERE Manufacturer = 'ABC';



3

- (i) i. Expand the following abbreviation:

i. SQL

ii. DML

- ii. 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 :

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

- i. Write a query that counts the number of sales people registering orders for each day. (If a salesperson has more than one order on a given day, he or she should be counted only once.). [1]
- ii. Consider the following tables STORE and SUPPLIERS and answer (a) and (b) parts of this question: [4]

**Table: STORE**

ItemNo	Item	Scode	Qty	Rate	LastBuy
2005	Sharpener Classic	23	60	8	31-Jun-09
2003	Ball Pen 0.25	22	50	25	01-Feb-10
2002	Gel Pen Premium	21	150	12	24-Feb-10
2006	Gel Pen Classic	21	250	20	11-Mar-09
2001	Eraser Small	22	220	6	19-Jan-09
2004	Eraser Big	22	110	8	02-Dec-09
2009	Ball Pen 0.5	21	180	18	03-Nov-09

**Table: SUPPLIERS**

Scode	Sname
21	Premium Stationers
23	Soft Plastics
22	Tetra Supply

- a. Write SQL commands for the following statements:
  - i. To display details of all the items in the STORE table in ascending order of LastBuy.
  - ii. To display ItemNo and Item name of those items from STORE table whose Rate is more than 15 Rupees.
  - iii. To display the details of those items whose supplier code (Scode) is 22 or Quantity in Store (Qty) is more than 110 from the table Store.
  - iv. To display minimum Rate of items for each supplier individually as per Scode from the table STORE.

- b. Give the output of the following SQL queries:
- SELECT COUNT(DISTINCT Scode) FROM STORE;
  - SELECT Rate\* Qty FROM STORE WHERE ItemNo = 2004;
  - SELECT Item, Sname FROM STORE S, Suppliers P WHERE S.Scode= P.Scode AND ItemNo = 2006;
  - SELECT MAX>LastBuy) FROM STORE;

### Section

- 3 . Write a function to push any student's information to stack. [4]
- 3 . Consider the following table named "SOFTDRINK". Write commands of SQL for (i) to (iv). [4]

**Table : SOFTDRINK**

DRINKCODE	DNAME	PRICE	CALORIES
101	Lime and Lemon	20.00	120
102	Apple Drink	18.00	120
103	Nature Nectar	15.00	115
104	Green Mango	15.00	140
105	Aam Panna	20.00	135
106	Mango Juice Bahaar	12.00	150

- To display names and drink codes of those drinks that have more than 120 calories.
- To display drink codes, names and calories of all drinks, in descending order of calories.
- To display names and price of drinks that have price in the range 12 to 18 (both 12 and 18 included).
- Increase the price of all drinks in the given table by 10%.

## Section A

# Answers

1.

**(b)** False

**Explanation:** False, we can't perform a mathematical operation on the string.

2.

**(d)** Data Manipulation language

**Explanation:** Data Manipulation language which is used to manipulate data itself.

3.

**(b)** resultset

**Explanation:** resultset

4.

**(d)** title()

**Explanation:** title()

5.

**(b)** 16-bit

**Explanation:** The IPv4 header checksum is a checksum used in version 4 of the Internet Protocol (IPv4) to detect corruption in the header of IPv4 packets. It is carried in the IP packet header and represents the 16-bit result of the summation of the header words.

6.

**(d)** infi.read( )

**Explanation:** read( ) function reads the whole file and returns the text of the file as a string.

7. **(a)** VARCHAR1

**Explanation:** VARCHAR1 is not a character data type.

8.

**(d)** SELECT DISTINCT

**Explanation:** To remove duplicates from a result set, we use the DISTINCT operator in the SELECT clause.

9. **(a)** b

**Explanation:** b, binary mode is referred for binary data.

10.

**(c)** -inf and inf

**Explanation:** The output of the first function will be -inf and that of the second function will be inf.

11.

**(c)** extend()

**Explanation:** extend()

whereas the function `chr()` throws an error on receiving an iterable as an argument. Also note that the function `chr()` accepts only integer values.

13. **(a)** True

**Explanation:** True, SSL provides a mechanism for encrypting and authenticating data sent between processes running on a client and server, as well as mediating the secure exchange of private keys for session encryption through the use of an SSL certificate issued by a trusted certificate authority.

14.

**(d)** 3

**Explanation:** 3

15. 1. MAX

16. **(a)** 1

**Explanation:** Parity refers to the number of bits set to 1 in the data item

Even parity - an even number of bits are 1

Odd parity - an odd number of bits are 1

A parity bit is an extra bit transmitted with a data item, chose to give the resulting bits even or odd parity

Even parity - data: 10010001, parity bit 1

17.

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

**Explanation:** Creating an empty set is a bit different because empty curly {} braces are also used to create a dictionary as well. So, Python provides the `set()` method used without an argument to create an empty set.

18.

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

**Explanation:** pandas is defined as an open-source library that is built on top of the NumPy library and it provides fast analysis, data cleaning, and preparation of the data for the user.

### Section B

19. Answer:

- (i) i. When a high-frequency carrier wave's amplitude is varied in accordance with the amplitude of the information (wave) to be transmitted, keeping the frequency and phase of the carrier wave unchanged, this process is called Amplitude Modulation.
- ii. The high frequency wave whose characteristics are altered to superimpose message information, is the carrier wave and after altering the characteristics, the new resultant wave is called the modulated wave.

(ii)

**OR**

i. Advantage:

- i. It is highly suitable for harsh industrial environments.

- i. It is difficult to install and maintain since they are quite fragile.
- ii. It is most expensive of all cables.

20.

Parameter	Usage
Dsn	Data source name. This usually includes the name of your database and the server where it's running.
Host	Host, or network system name, on which the database runs.
Database	The name of a valid user for the database.
User	User name for connecting to the database
Password	The password for the user name that you provided to connect to the database.

21. Output of the above code is:

a is: Hello  
b is: Nita  
c is: How's  
d is: life?  
Hi Nita

OR

**Error 1**  $L2 = L1 + 2$  because + operator cannot add list with other type as number or string.

**Error 2**  $L = L1.pop(7)$  parentheses puts index value instead of element. In the given list, maximum index value is 3 and 7 is out of index range.

22. Answer:

- (i) Each database module needs to provide a connect function that returns a connection object. The parameter that are passed to connect vary by the module and what is required to communicate with the database.  
Connection-Object= `mysql.connector.connect(host = <host-name> , user = <username> , password = <password> )`
- (ii) Before connecting to a MySQL database make sure
  - i. You have created a database
  - ii. You have created a table
  - iii. This table has fields
  - iv. Python module MySQLdb is installed properly on your machine.

23. `str1 = input("Enter the string:")`  
`final = ""`

```
final = final + str1[i]
print("Modified string is :", final)
```

OR

In Python strings, each individual character is given a location number, called index and this process is called indexing. Python allocates indices in two directions:

- i. in the forward direction, the indexes are numbered as 0, 1, 2,... length-1.
- ii. in the backward direction, the indexes are numbered as -1, -2, -3.... length.

Python allocates indices in two directions so it is known as two-way indexing.

```
24. Line 1\n
    Line 3
    Line 6 \n
    \n
    Line 4
```

OR

```
def count_alphabet():
file_name="NOTES.txt"
ctr = 0
with open(file_name, 'r') as fileObject:
for line in fileObject:
for word in line:
for char in word:
if char.isalpha():
ctr = ctr + 1
print(ctr)
```

```
25. def LShift(Arr,n):
    L = len(Arr)
    for x in range(0, n):
        y = Arr[0]
        for i in range(0, L - 1):
            Arr[i] = Arr[i + 1]
        Arr[L - 1] = y
    print(Arr)
```

### Section C

26. Answer:

```
(i) ans = input ("Are you ready to provide your credit card number (1 = Yes/0 = No): ")
    print ("Your choice:", ans)
    if(ans == '1'):
        print ("Now we will continue the processing of transaction")
```

## Output

Are you ready to provide your credit card number (1 = Yes/0 = No):0

Your choice: 0

Now we will not continue the processing of transaction

(ii) correct code for above code:-

```
l = ['a', 'b', 'c', 'd']
```

```
v = 6
```

```
for i in range(len(l)): # len(l) will return an integer not an iterator;
```

```
# range(len(l)) will return an iterator
```

```
l[i] += str(v) # l[i] contains a string and an int can't be
```

```
# added to a string
```

```
v = v - 1
```

```
print("v = ", v, "l =", l)
```

27. A function can have following types of arguments/parameters:

- i. **Positional (regular) arguments:** These are the passed argument values in the actual arguments, which are copied to formal arguments by their position in the function call. That is, 1st argument value is given to the 1st parameter, 2nd argument's value is given to the 2nd parameter and so on, e.g., in the following code, argument 5 will be given to the parameter a and argument 7 will be given to the parameter b.

```
def add(a, b):
```

```
    return a + b
```

```
add(5, 7)
```

- ii. **Default Arguments:** These are the default values defined in the function definition for a parameter. Python uses these defaults if corresponding actual arguments are not passed in the function call, e.g., in the following code, the third argument is passed and hence its default value 3 will be taken by the function for the third parameter c:

```
def add(a, b, c = 3):
```

```
    return a + b + c
```

```
add(5, 7)
```

- iii. **Keyword Arguments:** Also called named arguments, the Keyword arguments are passed by it's name instead of their position as opposed to positional arguments in the function call and the position of arguments is irrelevant when calling a function, e.g.,



add(b = 5, a = 7)

28. i. To identify the candidate keys in the given table BATSMEN, we need to determine the attributes that uniquely identify each tuple. In this case, the PNO (Player Number) attribute appears to be unique for each player. Therefore, the candidate key for the table BATSMEN is PNO.
- ii. As for the number of tuples in the table BATSMEN, we can count the number of rows in the table. From the given data, we can see that there are 5 tuples (rows) in the BATSMEN table.

OR

#### Disadvantages of SQL

- **Difficulty in interfacing** Interfacing a SQL database is more complex than adding a few lines of code.
  - **More features implemented in proprietary way** Although SQL databases conform to ANSI and ISO standards, some databases go for proprietary extensions to standard SQL to ensure vendor lock-in.
29. #pickle library helps to convert any kind of python objects into byte streams (0s and 1s)
- ```
def binary_file():  
    import pickle  
    file = open('data.dat','wb')  
    while True:  
        n = int(raw_input("Enter number"))  
        pickle.dump(n, file)  
        ans = raw_input('Want to enter more data Y / N')  
        if ans.upper() == 'N' : break  
    file.close()# line 5  
    binary_file()  
    print("Reading from file")  
    file = open('data.dat','rb') # line 6  
    try:# line 7  
        while True:# line 8  
            y = pickle.load(file) # line 9  
            print(y) # line 10  
    except EOFError:# line 11  
        pass  
    file.close()
```
30. i. Syntax error. Colon ( : ) missing in the end of function header. Colon should be added to end of function header.
- ii. Syntax error. Keyword to define a function is def ( not define).  
Also, colon ( : ) missing in the end of function header.

Multiple return statements are syntactically legal. But in the above code, the second return statement is unreachable. You can return multiple values by using return value1, value2.

In function beta()'s definition, Colon (:) missing in the end of function header.

In \_\_main\_\_part, the colons at the end of first and third print( ) statements is invalid (not enclosed in quotes)

In third print( ) statement, in the function call of alpha( ), positional argument follows keyword argument, which is a syntax error.

## Section

- 3 . Internet Protocol (IP) is a set of technical rules that define how computers communicate over a network. There are currently two versions: IP version 4 (IPv4) and IP version 6 (IPv6).

### D

- 1 IPv4 was the first version of Internet Protocol to be widely used and still accounts for most of today's Internet traffic. There are just over 4 billion IPv4 addresses. While that is a lot of IP addresses, it is not enough to last forever. IPv4 and IPv6 are internet protocol version 4 and internet protocol version 6, IP version 6 is the new version of Internet Protocol, which is way better than IP version 4 in terms of complexity and efficiency.

IPv6 is a newer numbering system to replace IPv4. It was deployed in 1999 and provides far more IP addresses, which should meet the need well into the future.

The major difference between IPv4 and IPv6 is the number of IP addresses. Although there are slightly more than 4 billion IPv4 addresses, there are more than 16 billion-billion IPv6 addresses.

|                     | Internet Protocol version 4 (IPv4)         | Internet Protocol version 6 (IPv6)                |
|---------------------|--------------------------------------------|---------------------------------------------------|
| Address size        | 32-bit number                              | 128-bit number                                    |
| Address format      | Dotted decimal notation :<br>192.168.0.202 | Hexadecimal notation:<br>3FFE:0400:2807:8AC9::/64 |
| Number of addresses | 2 <sup>32</sup>                            | 2 <sup>128</sup>                                  |

- ii. SELECT PNAME, PRICE FROM PRODUCTS WHERE ((PRICE = > 10000) AND (PRICE = < 15000));
- 2 iii. SELECT SUPCODE, COUNT (PID) FROM PRODUCTS GROUP BY SUPCODE;
- iv. SELECT PRICE, PNAME, QTY FROM PRODUCTS WHERE (QTY > 100);
- v. SELECT SNAME FROM SUPPLIERS WHERE ((CITY = "DELHI") OR (CITY = "CHENNAI"));
- vi. SELECT COMPANY, PNAME FROM PRODUCTS ORDER BY COMPANY DESC;
- vii. a. S03  
b. 28000  
1100  
c. 550000

d.

| PNAME              | SNAME      |
|--------------------|------------|
| DIGITAL CAMERA 14X | GETALL INC |
| PENDRIVE 16 GB     | GETALL INC |

OR

- i. City  
Delhi  
Mumbai  
Bangalore

ii.

| ItemName          | Price | count |
|-------------------|-------|-------|
| Personal Computer | 37000 | 3     |
| Laptop            | 57000 | 2     |

iii.

| CustomerName | Manufacturer |
|--------------|--------------|
| N Roy        | PQR          |
| H Singh      | XYZ          |
| R Pandey     | COMP         |
| C Sharma     | PQR          |
| K Agarwal    | ABC          |

iv.

| ItemName          | Price * 100 |
|-------------------|-------------|
| Personal Computer | 3500000     |
| Laptop            | 5500000     |

- (i) i. i. SQL - Structured Query Language  
 ii. DML - Data Manipulation Language

3

- ii. i. 3

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

- iv. ParticipantsNum

16

10

12

- (ii) **OR**

- i. SELECT ord\_date, salesman\_id , count (DISTINCT salesman\_code) FROM orders  
 GROUP BY ord\_date,salesman\_id;

- ii. a. i. SELECT \* FROM STORE ORDER BY LastBuy;

- ii. SELECT ItemNo, Item FROM STORE WHERE Rate > 15;

- iii. SELECT \* FROM STORE WHERE (Scode = 22 OR Qty > 110);

- iv. SELECT Sname, MIN(Rate) FROM STORE, SUPPLIERS WHERE STORE. Scode =  
 SUPPLIERS.Scode GROUP BY Snam

- b. i. 3

- ii. 880

|      |                 |                    |
|------|-----------------|--------------------|
| iii. | <b>Item</b>     | <b>Sname</b>       |
|      | Gel Pen Classic | Premium Stationers |

- iv. 24-Feb-10

### Section

- 3 . def push (stack):

s = [ ]

print "STACK BEFORE PUSH"

display(stack)

E

- 4 s.append(input("Enter student rollno?"))

```

s.append(raw_input("Enter student grade"))
stack.append(s)
def display (stack):
l=len (stack)
print ("STACK CONTENTS")
for i in range(1-l,-1,-1):
print(stack[i])
stack = [ ]
print ("Creating Stack")
n=input("Enter the number of students")
for i in range (n)
student = [ ]
student.append (input("Enter student rollno?"))
student.append(raw_input("Enter student name"))
student. append(raw_input("Enter student grade"))
stack.append(student)
push(stack)
display(stack)

```

- 3 . i. SELECT DNAME, DRINKCODE FROM SOFTDRINK WHERE CALORIES > 120 ;
- ii. SELECT DRINKCODE, DNAME, CALORIES FROM SOFTDRINK ORDER BY CALORIES DESC ;
- 5 iii. SELECT DNAME, PRICE FROM SOFTDRINK WHERE PRICE BETWEEN 12 and 18 ;
- iv. UPDATE SOFTDRINK SET PRICE = PRICE + 0.10 \* PRICE ;