

**Note:** Answer the questions after carefully reading the text.

**Q 1.** Answer the following questions.

- a) A School would like to go in for network of all the computers. Which topology would you recommend and why? [2]
- b) What is communication channel? What choices do you have while choosing a communication channel for a network? [2]
- c) What do you mean by network topology? Name most popular topologies [2]
- d) Navneet is using software, which has been downloaded from internet and is available for one month. After one month he has to pay license fee for further use. What software Navneet is using? [1]
- e) Akhil is transferring songs from his mobile to his friend's mobile via Bluetooth connection. Name the network used by Akhil. [1]
- f) Which of the following is not a characteristic of open source software? [1]
- Its source code is available for modification
  - Its owned by a company or an individual
  - It can be downloaded by Internet
- g) Which protocol is used for transfer of hyper text documents on the internet? [1]

**Q 2.** Answer the following questions.

- a) Ms. Kiran has developed a Java application for a restaurant billing, in which check boxes and text fields are made on form. Items are shown through check boxes. Selecting check box displaying corresponding text fields. Name the property which Kiran should use to perform the same. [1]
- b) What is the purpose of break and continue statement in a loop? [1]
- c) Name the tag which is used to insert image in background of HTML document with example. [1]
- d) What is XML? How is it different from HTML? [1]
- e) What will be the value of sum after executing the following code? [2]
- ```
double i,sum=2
for(i=3;i<8;++i)
{ if(i%4==0)
{ break;
sum=Math.pow(sum,i);
}
else
sum+=i/2;
}
```
- f) Write a method in Java that takes a number as parameter and return sum of its divisors. [2]
- g) What are the use of the following tags- [2]
- <UL>, <HEAD>, <SUP>, <P>

**Q 3.** a) Which MySQL command helps you to see existing databases? [1]

b) Rakesh created a table in Mysql. Later he found that table is wrongly created and he wants to remove it. Name the command by which Rakesh can do it. [1]

c) Reena created a table named student, she wants to see those students whose name ending with p. She wrote a query- [1]

```
SELECT name.* FROM student WHERE name="%p";
```

Help Reena to run the query by removing the errors from the query and rewriting it.

d) Sanjeev is not able to reduce the salary of employee. Which constraint has he used while creating table? [1]

e) What is primary key? How is it different from candidate key? Explain with the help of suitable example. [2]

f) Emp\_no, Emp\_name and Basic of table "EMP" are given below [2]

| Emp_No | Emp_Name | Basic |
|--------|----------|-------|
| 6985   | Anuj     | 6700  |
| 5874   | Kirti    | 7500  |
| 6587   | Kiran    |       |
| 5478   | Krihsna  | 5500  |

Based on this information, find output of the following queries.

a) SELECT MAX(Basic) FORM EMP;

b) SELECT Name FROM emp WHERE Basic IS Null;

g) Define Degree and Cardinality. [2]

**Q 4.** a) What is Inheritance? Name the inheritance types which is not supported by Java. [1]

b) Marks of a student is stored in a string variable strMarks. Marks are to be used in calculation. Write the Java statement to convert marks into double variable dblMarks. [1]

c) Write the purpose of the following statements. [1]

i) JTextArea1.append("Hello"); ii) JTextArea1.setText("How \r\r \tU?");

d) Rewrite the following code using for loop. [2]

```
int i=0;
while(++i<20)
{
```

```

        if( i==8)
            break;
        System.out.println(i++);
    }

```

e) The following code has some error(s). Rewrite the correct code underlining all the corrections made. [2]

```

int y=3;
switch(y);
{ case 1: System.out.print("Yes its One");
  case >2: System.out.println("Yes its more than Two");
    break;
  case else: System.out.print("Invalid Number);

```

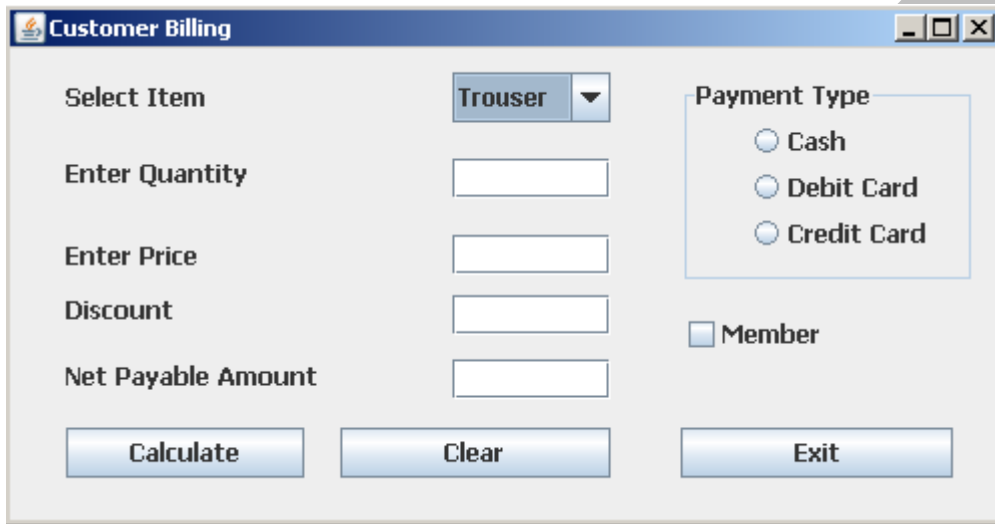
f) What will be the content of jTextField1 and jTextField2 after executing the following code: [2]

```

String st="New to Information Technology";
jTextField1.setText(st.replace("Technology","Practices"));
jTextField2.setText(st.substring(7));

```

g) Ms. Sheela works in a shopping mall. To calculate net payable amount she has developed the following GUI in NetBeans. [6]



The shop accepts payments in three modes- Cash, Debit Card, Credit Cards. The discount given as per mode of payment is as follows-

| Mode of payment | Discount |
|-----------------|----------|
| Cash            | 12%      |
| Debit Card      | Nil      |
| Credit Card     | 8%       |

If the Member check box is checked then the customer gets an additional discount of 5% on net payable amount.

- I. Write the code to make the textfields for Discount (txtDiscount) and Net Payable (txtNetPayable) uneditable.
- II. Write code to do the following-
  - a) When Calculate button is clicked the discount and net payable amount is calculated as per the given criteria and displayed in discount and net payable text boxes.
  - b) When Clear button is clicked all the text boxes should be clear.
  - c) Close the application when Exit button is pressed..

Q 5. a) Categorize the DDL and DML commands : CREATE, TRUNCATE, DELETE, GRANT, ROLLBACK, SELECT [2]

b) Write output of the following SQL queries : [2]

- i) SELECT TRUNCATE(22.78,1);
- ii) SELECT DAYOFMONTH('2010-10-17');
- iii) SELECT SUBSTRING('Common Wealth Games 2010',8,6);
- iv) SELECT CONCAT(LOWER('Class'),UPPER('xii'));

c) Consider the table **Flight** given below, write command in SQL for (1) to (4) and output for (5) to (8). [6]

Table : **FLIGHT**

| Flight_No | Origin   | Destination | Seats | FlightDate | Rate |
|-----------|----------|-------------|-------|------------|------|
| 1005      | Varanasi | Nepal       | 275   | 12-Dec-07  | 3000 |
| 2785      | Delhi    | Kerala      | 290   | 17-Jan-08  | 5500 |
| 6587      | Mumbai   | Varanasi    | 435   | 19-Feb-08  | 5000 |
| 1265      | Varanasi | Nepal       | 200   | 02-Jan-08  | 5400 |
| 4457      | Delhi    | Lucknow     | 150   | 22-Feb-08  | 4500 |
| 6856      | Varanasi | Mumbai      | 180   | 03-Mar-08  | 6000 |

- (1) To display Flight flying between Varanasi and Nepal.
- (2) To display the different Origin of Flights.
- (3) To display list of flights in descending order of Rate.
- (4) To display flight details of the flight whose flightdate is after Jan 2008.
- (5) SELECT Flight\_No, Destination FROM Flight WHERE Destination LIKE ' \_u%';
- (6) SELECT Origin, COUNT(\*) FROM Flight GROUP BY Origin;
- (7) SELECT Origin, Destination FROM Flight WHERE seats>400;

(8) SELECT SUM(Rate),MAX( Seats) FROM Flight;

Q 6. Answer the following question.

[2]

a) Write an SQL query to create the table “Books“ with the following structure-

| Field       | Type        | Constraint  |
|-------------|-------------|-------------|
| Book_Id     | Varchar(6)  | Primary Key |
| Book_Name   | Varchar(25) |             |
| Author_Name | Varchar(30) |             |
| Publisher   | Varchar(20) |             |
| Price       | Integer     |             |
| Type        | Varchar(15) |             |
| Quantity    | Integer     | Not Null    |

[2]

b) In a database there are two tables ‘Patient’ and ‘Doctors’ are shown below-

Table: Patient

| Name   | Patient_No | Date_Adm   | Doctor_No |
|--------|------------|------------|-----------|
| Kishor | P104       | 2009-05-15 | 502       |
| Ragini | P202       | 2010-01-11 | 165       |
| Reshu  | P754       | 2007-12-31 | 325       |
| Kanti  | P612       | 2010-04-22 | 165       |

Table: Doctor

| Doctor_No | Doctor_Name   | Speciality |
|-----------|---------------|------------|
| 122       | M. K Singh    | Dentist    |
| 165       | R. K. Tiwari  | Neurology  |
| 325       | V. K. Chauhan | Surgery    |
| 502       | N. Singh      | Nephrology |
| 530       | K. P. Sinha   | Urology    |

- Name the columns which can be made ‘Primary Key’ in both the tables.
- What will be the cardinality of Cartesian product of both the tables?

[6]

c) Consider the tables given below.

Table : STOCK

| Itcode | Iname            | Dcode | Qty | unitpr | Stkdate      |
|--------|------------------|-------|-----|--------|--------------|
| 444    | Drawing Copy     | 101   | 10  | 21     | 31-June-2009 |
| 445    | Sharpener Camlin | 102   | 25  | 13     | 21-Apr-2010  |
| 450    | Eraser Natraj    | 101   | 40  | 6      | 11-Dec-2010  |
| 452    | Gel Pen Montex   | 103   | 80  | 10     | 03-Jan-2010  |
| 457    | Geometry Box     | 101   | 65  | 65     | 15-Nov-2009  |
| 467    | Parker Premium   | 102   | 40  | 109    | 27-Oct-2009  |
| 469    | Office File      | 103   | 27  | 34     | 13-Sep-2010  |

Table : DEALERS

| Dcode | Dname                     | Location            |
|-------|---------------------------|---------------------|
| 101   | Vikash Stationers         | Lanka Varanasi      |
| 102   | Bharat Drawing Emporium   | Luxa Varanasi       |
| 103   | Banaras Books Corporation | Bansphatak Varanasi |

With reference to these tables, write commands in SQL for (i) and (ii) and output for (iii) below-

- To display the amount that has been spent to purchase Office file & Sharpener camlin.
- To display all the items of Vikash Stationers.
- SELECT DCODE,COUNT(QTY),AVG(UNITPR) FROM STOCK GROUP BY DCODE;

Q 7. a) What benefit does an e-business offers to the customers?

[1]

b) How has society benefited from e-governance?

[2]

c) Mr. Kartik is working as a Manager in Flash Telecomm. He wants to create the forms with the following functions. Choose appropriate controls from Text Field, Label, Radio Button, Check Box, List Box, Combo Box, Command Button and write in the third column.

[2]

| SNo | Control Used to              | Control |
|-----|------------------------------|---------|
| 1   | Enter Name of Customer       |         |
| 2   | Enter Mobile No.             |         |
| 3   | Select Connection Type       |         |
| 4   | Display total Amount of Bill |         |