SUB: INFORMATICS PRACTICES
CLASS: XI

**General Instructions:**
1. All questions are compulsory.
2. Marks are indicated against each question.
3. Programming must be done in Java.

**SET A**

Q1.

a) What is a nibble? 

b) 1 TB = ________ GB

c) Explain different types of language processors.

d) Write down the four major functions of an operating system.

e) Write short note on Device Driver.

f) What is a worm?

g) Compare Digital Signature and Digital Certificate.

Q2.

a) Explain the method toString( ) with the help of an example.

b) Define the term Inspector Window.

c) Write a Java code that takes the cost of an apple from JTextField1 and quantity of apples from JTextField2 and calculates total amount to be paid as cost * Quantity to be displayed in JTextField3.

Q3.

a) Explain the method setEditable( ) with example.

b) Write the Java code for the following application:

![Image](image.png)

**CALCULATE LENGTH AND BREADTH OF RECTANGLE**

LENGTH

BREADTH

AREA

PERIMETER

[CALCULATE]
1. Write the equivalent `do-while` loop for the following:
   
   ```
   int i = 5;
   for (int i = 1; i <= 10; i++)
   t = i * t;
   ```

2. Write the equivalent `switch` statement for the following:
   
   ```
   if (grade == 'O')
       jTextField1.setText("Outstanding!!!");
   else if (grade == 'A')
       jTextField1.setText("Excellent!");
   else if (grade == 'B')
       jTextField1.setText("Good");
   else if (grade == 'C')
       jTextField1.setText("Fair");
   else
       jTextField1.setText("Work Hard");
   ```

3. How many times will the following loop get executed?
   
   ```
   i = 5;
   x=10;
   do
     
     x = i + x;
   i++;
   while(i<10);
   ```

4. An electronic shop has announced the following seasonal discounts on the purchase of certain items:

<table>
<thead>
<tr>
<th>Purchase amount in Rs.</th>
<th>Discount on TV</th>
<th>Discount on Music System</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 25000</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>25001 - 50000</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>More than 50000</td>
<td>15%</td>
<td>30%</td>
</tr>
</tbody>
</table>

   1. Develop an application based on the above criteria, to input amount of purchase and the type of purchase (TV or Music System using JRadioButton) by a customer.
   2. Compute and print the net amount to be paid by a customer along with his name accepted in a text field in a Message Box.
   3. Close the application when Clear button is pressed.
v. Write a java code to take an input in TextField for a number. If the number is even then display its square otherwise its cube in a MessageBox.

vi. What will be the values of variables ‘m’ and ‘n’ after the execution of the following code?

```java
int m=0;
for (m=1; m<=4; m++)
{
    n=m;
    n++;   
}
```

vii. The following code has some error(s). Rewrite the correct code underlining all the corrections made.

```java
int sum = 0, count = 0
l=1;
do
{
    sum = + l;
    l++;
}while(l < 10)
```

viii. What is the difference between showInputDialog() and showConfirmDialog()?

ix. What is the main difference between a while loop and a do while loop? Explain with an example.
Q5.

a) Define Candidate Key with example. 2
b) Distinguish between Row and Column with example. 2
c) If software is released under open source, it means 1

Q6.

a) While making a form in NetBeans, Ms. Pooja wants to enter students roll number and gender (Male/Female) into a form. Name the controls that she will use in her form. 1
b) Mr. Satish wants to remove a column AC_Type from Account table. What MYSQL command should he use? 1
c) Name the commands:
   1. To describe the structure of the table.
   2. To delete the table physically. 2
d) Explain the IN clause with example. 2
e) Ms. Rita is working in a software company. She works under MySQL database. She forgot to know the tables which she worked in last week. What MySQL statement she should use to know the tables? 1
f) A table “Vehicle” in a database has degree 4 and cardinality 7. What is the number of rows and columns in it? 1
g) Navin, a student of class XI, created a table “Book”. Price is a column of this table. To find the details of books whose prices have not been entered, he wrote the following query:
   Select * from Book where Price = NULL;

   Help Navin to run the query by removing the errors from the query and rewriting it. 1

h) If a database “Employee” exists, which MySQL command helps you to start working in that database? 1
i) The LastName column of a table “Directory” is given below:

<table>
<thead>
<tr>
<th>LastName</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batra</td>
</tr>
<tr>
<td>Sehgal</td>
</tr>
<tr>
<td>Bhatia</td>
</tr>
<tr>
<td>Sharma</td>
</tr>
<tr>
<td>Mehta</td>
</tr>
</tbody>
</table>

Based on this information, find the output of the following queries:
A) SELECT LastName FROM Directory where LastName like 'a%';
B) SELECT LastName FROM Directory where LastName not like 'a%';

j) What is the purpose of a Column Alias? Write an example. 2
k) Define the term Keyword. 1
11. Consider the following table: "BANK".

**TABLE: BANK**

<table>
<thead>
<tr>
<th>Acc_No</th>
<th>CName</th>
<th>BName</th>
<th>Amount</th>
<th>DateOfOpen</th>
<th>Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Karan</td>
<td>Bank of Baroda</td>
<td>15000</td>
<td>1998-01-12</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Puneet</td>
<td>State Bank</td>
<td>25000</td>
<td>1997-02-01</td>
<td>09</td>
</tr>
<tr>
<td>3</td>
<td>Anirban</td>
<td>Oriental Bank</td>
<td>17000</td>
<td>1999-07-15</td>
<td>05</td>
</tr>
<tr>
<td>4</td>
<td>Yatin</td>
<td>Standard Chartered</td>
<td>38000</td>
<td>1999-02-10</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Sunny</td>
<td>State Bank</td>
<td>47000</td>
<td>1998-02-06</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>Jayant</td>
<td>UCO Bank</td>
<td>34000</td>
<td>1998-08-10</td>
<td>07</td>
</tr>
<tr>
<td>7</td>
<td>Nikhil</td>
<td>Bank of Baroda</td>
<td>56000</td>
<td>1999-01-02</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>Tarun</td>
<td>Oriental Bank</td>
<td>22000</td>
<td>1999-04-04</td>
<td>08</td>
</tr>
<tr>
<td>9</td>
<td>Jisha</td>
<td>UCO Bank</td>
<td>34500</td>
<td>1998-01-05</td>
<td>11</td>
</tr>
</tbody>
</table>

Write the SQL commands for (i) to (viii) and write output for (ix to xii) on the basis of the table BANK:

8 + 2 = 10

i. Display data for all customers whose transaction is between 8 and 11.

ii. Display data for all customers sorted by their dateofopen.

iii. To list CName, BName, Amount for all the clients whose amount is less than 20000.

iv. To display Acc_No, CName, BName. Total transaction in descending order of amount.

v. Add another column LOAN of type integer in the Bank table.

vi. Change the amount as 48000 for the customer Yatin.

vii. Display the Acc_No, BName, CName and Amount for the customers whose CName ends with 'n'.

viii. Display the number of transactions of various account holders from the table Bank. A transaction should appear only once.

ix. SELECT CNAME, BNAME AS BANKING_WITH, TRANSACTIONS FROM BANK;

x. SELECT * FROM BANK WHERE CNAME LIKE '_a%';

xi. SELECT ACC_NO, CNAME, BNAME FROM BANK WHERE BNAME = 'UCO BANK' OR BNAME = 'STATE BANK';

xii. SELECT CNAME, DATEOFOPEN, TRANSACTIONS FROM BANK WHERE B_NAME <> 'ORIENTAL BANK';