

CLASS XII

SAMPLE PAPER

INFORMATICS PRACTICES

Instructions :

1. Please check that this question paper contains **6** printed pages.
2. This question paper is divided into **3** sections and **7** Questions.
3. All questions are compulsory.
4. All parts of a question must be done in continuation.
5. Answer the questions after carefully reading the text.

Section A

- Q1. a) Which communication channel is suitable when very fast communication between two offices in two different countries is required? [1]
- (b) Name the device which handles the connection between two or more networks which may have different protocols. [1]
- (c) Identify the type of topology from the following : [2]
- (i) in it, the message passes through all nodes.
 - (ii) in it, each node is connected with at least two nodes.
- (d) Read the following activities carefully and mention whether the activity is snooping or eavesdropping : [2]
- (i) Getting someone's login information by casually watching what he/she is typing.
 - (ii) Setting up unauthorized parallel telephone lines.
 - (iii) Installing some software/hardware which captures the data while on its way.
 - (iv) Reading the files on someone's computer in an unauthorized manner.
- (e) Mr. Ram is interested in transferring songs from his mobile to Mr. Shyam's mobile. Suggest two suitable wireless options he may use for doing the same. [1]
- (f) How does denial of service affect Internet Access? [1]
- (g) Expand the following abbreviations: [2]
- (i) LAMP
 - (ii) W3C
 - (iii) FSF
 - (iv) GNU
- Q2. Answer the following :
- (a) Rajan has typed the following code :

```
int ch=Integer.parseInt(jTextField1.getText());
switch(ch)
{
    case 1: jTextField2.setText("Service");
    case 2: jTextField2.setText("Complain");
    case 3: jTextField2.setText("Operator"); break;
    default: jTextField2.setText("Not a valid Entry");
}
```

on entering the value 1,2 or 3 , he is getting the same output. Mention the possible reason for the same. [1]

- (b) Kalpesh, a student of class XII want to prepare an ordered list starting with 'c'. Help him by writing the code. [1]
- (c) Write a Java code that take any three digit number from the user in jTextField1 and calculate the sum of the digits and display it in jTextField2. [2]
- (d) What will be the effect of executing the following code ? [1]
- ```
String s1= new String ("Vidhyashram");
String s2= new String ("Jodhpur");
s1=s1 + s2;
System.out.print(s1);
```
- (i) S2 will be concatenated at the end of s1 and stored in s1.
- (ii) S1 will be concatenated at the end of s2 and stored in s1.
- (iii) S1 will be concatenated at the end of s2 and stored in s2.
- (iv) S2 will be concatenated at the end of s1 and stored in s2.
- (e) Write the HTML code to display 3 pixel thick horizontal line centralized across covering 50% of the window in 2D.[1]
- (f) What is the use of break and continue in a loop? Explain with the help of an example. [2]

(g) Which HTML tag and attributes is used to perform the following : [1]

- (i) to insert a blank line in a webpage.
- (ii) to set background color of the webpage.

(h) What will be the values of variable num1 and num2 after executing the following code? [2]

```
int num1=1, num2=num1;
do
{
 num1=num1+num2;
 num2 -- ;
}while(num2>num1);
```

Q3. (a) Write a command in MySQL to create a database 'VIS' if it does not exist already . [1]

(b) Explain the difference between ALTER TABLE and UPDATE command. [1]

(c) Explain the difference between HAVING and WHERE clause. [1]

(d) Pooja, a student of class XII has created a table "FRIENDS". Country is one of the columns of the table. She wants to see the names of all the foreigner friends. For that she has written the following query, but it is giving error. Help her by writing the correct query: [1]

Select name from friends whose country is not equal to "INDIA";

(e) A numeric column "Price" contains 34567.789. Write a query to do the following and also predict the output. [2]

- i) round off price fully.
- ii) round off price to nearest 10.
- iii) truncate price to nearest thousand.
- iv) truncate price to whole number.

(f) Manita wants to modify the "STUDENT" table and she want to change the column name "DATE\_OF\_BIRTH" instead of "DOB". The datatype and size will remain same i.e. DATE. Write the query for her. [1]

(g) The NAME column of STUDENT table is as shown below:

|             |
|-------------|
| <b>NAME</b> |
| SHREYANSH   |
| SNEHA       |
| HIMANSHU    |
| FATIMA      |
| JAHANVI     |
| AKANSHA     |

Based on the above information, give the output of following queries: [1]

- (i) Select Name from Student Where Name like '%A' order by Name;
- (ii) Select Name from Student Where Name like '%H%' order by Name;

(h) What is a Transaction ? Write 4 commands to manage a transaction . [1]

(i) Observe the given statements carefully :

- (i) Select \* from EMPL where sal between 2000 and 3000;
- (ii) Select \* from EMPL where sal IN( 2000,3000);
- (iii) Select \* from EMPL where sal >=2000 AND sal<=3000;
- (iv) Select \* from EMPL where sal =2000 OR sal=3000;

Make pairs of the equivalent statements given above (Which give the same output) and place each pair in a group. [1]

## Section B

Q4.(a) Given a String Object named "SUBJECT" having values as "32000" in it. What will be the result of the following ? [1]

JOptionPane.showMessageDialog(null, ""+(SUBJECT.length() + Integer.parseInt(SUBJECT)));

(b) Find the output of the following java code : [2]

```
String word ="INFORMATICS";
String wordcase=word.toLowerCase();
for (int i=0; i< wordcase.length(); i +=4)
{
 String exstr = wordcase.substring(i,i+2);
 jTextArea1.append("\n"+exstr);
}
```

(c) What will be the output of the following java code ? [2]

```
(i) int x, y;
 x = 5;
 y = 1;
 while (x > 0)
 {
 x = x - 1;
 y = y * x;
 jTextArea1.append(String.valueOf(y) + "\n");
 }
```

```
(iii) int i = 0, x = 0;
 for (i = 1; i < 10; i *=2)
 {
 x++;
 jTextArea1.setText ("\n"+String.valueOf(x));
 }
```

(d)What will be displayed in jTextArea1 after the execution of the following code ? [2]

```
int X=1;
do
{
 jTextArea1.setText(Integer.toString(X++));
 X = X+1;
}while(X<=5);
```

(e) Rewrite the following program code using an if statement. [1]

```
(i) int C=jComboBox1.getSelectedIndex();
```

switch(C)

```
{
 case 0 : FinalAmt=BillAmt ; break;
 case 1 : FinalAmt=0.9 *BillAmt ; break;
 case 2 : FinalAmt=BillAmt * 0.8 ; break;
 default : FinalAmt=BillAmt ;
}
```

(ii) Convert the following segment into an equivalent do....while loop. [1]

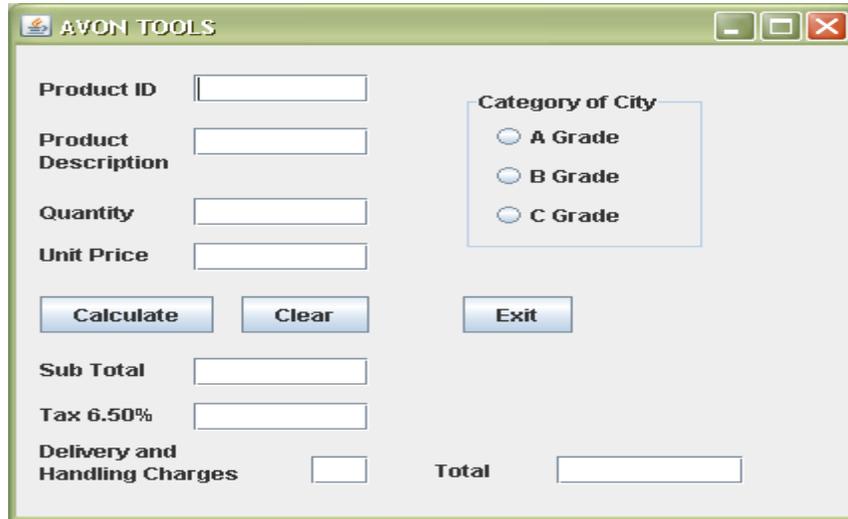
```
int x, c;
for(x = 10; c = 20; c > = 20; c = c - 2)
x++;
```

(f) How many times will the loop execute? [1]

```
int value1 =7,value2=19;
do
{
 JOptionPane.showMessageDialog(null,value1+value2);
 value1=value1+2;
 value2=value2-2;
}while(value1<=value2);
```

(g) **Read the following case study carefully and answer the questions that follows –**

Read the following case study and answer the questions that follow : AVON Tools has computerized its billing. The following is the data entry screen used by them :



Write code to implement the following :

- (a) when user clicks Clear button , all the values stored in text fields and radio buttons should be cleared. **(1 Mark)**
- (b) Ensure that value entered in quantity text field is positive only. **(1 Mark)**
- (c) Close the application when exit button is clicked. **(1 Mark)**
- (d) when calculate button is clicked , sub total , tax ( 6.50% of Sub Total), delivery and handling charges and total amount are computed and displayed in respective text fields. **(2 Marks)**

The criterion of Delivery and Handling charges is as given below :

| Category of City | Charges   |
|------------------|-----------|
| A                | Rs. 2000. |
| B                | Rs. 3000  |
| C                | Rs. 3500  |

Q5. (a) Table employee contains 10 records and 5 columns and table Dept contains 5 records and 4 columns. Mr. Khanna wants to see the details stored in both the tables. `SELECT * FROM employee, Dept;`

But he forgot to specify the join condition. What will be the degree and cardinality on execution of above query? [1]

(b) Write the output for the following queries: [2]

- (i) `Select SUBSTR('VIDHYASHRAM', INSTR('Informatics','or'), Length('Hi to All'));`
- (ii) `Select POWER (5,5);`
- (iii) `Select TRUNCATE(1997.9987,-2);`

(iv) Select ROUND(1999,998,2);

(c) Consider the following table BANK. Write the SQL commands for the statement (i) to (iv) and give outputs for SQL Queries (vi) to (ix). [7] **Table: Bank**

| AccNo | CName   | BName              | Amount | DateofOpen | Transactions |
|-------|---------|--------------------|--------|------------|--------------|
| 1     | Karan   | Bank of Baroda     | 15000  | 1998-01-12 | 10           |
| 2     | Puneet  | Oriental Bank      | 17000  | 1999-02-01 | 9            |
| 3     | Anirban | Oriental Bank      | 17000  | 1999-07-15 | 5            |
| 4     | Yatin   | Standard Chartered | 38000  | 1998-02-10 | 11           |
| 5     | Sunny   | State Bank         | 47000  | 1998-08-10 | 15           |
| 6     | Jayant  | UCO Bank           | 34000  | 1999-01-02 | 7            |
| 7     | Nikhil  | Bank of Baroda     | 56000  | 1999-01-02 | 12           |
| 8     | Tarun   | Oriental Bank      | 22000  | 1999-04-04 | 8            |
| 9     | Jishan  | UCO Bank           | 34500  | 1998-01-05 | 11           |

- (i) Display record of customer who has opened the account first. [1]  
(ii) Display record of customer having highest amount in bank. [1]  
(iii) To count the number of customers in each bank. [1]  
(iv) Display the CName, Bank Name and dateofopen for all the customers whose account is opened in 1998. [1]  
(v) Display the Bank name and the total amount in that Bank.[1]  
(vi) SELECT CNAME , AMOUNT FROM BANK WHERE BNAME LIKE 'S%'; [1/2]  
(vii) SELECT COUNT (DISTINCT BNAME) FROM BANK; [1/2]  
(viii) SELECT BNAME, SUM (AMOUNT) FROM BANK                      [1/2]  
                GROUP BY BNAME HAVING COUNT(\*) < 3;  
(ix) SELECT MIN (AMOUNT) FROM BANK WHERE AMOUNT > 30000; [1/2]
6. (a) Write SQL Command to create the table "Toyz" with the following structure and constraint: [2]

**Table: Toys**

| Column Name | Data Type(Size) | Constraints                          |
|-------------|-----------------|--------------------------------------|
| Toy_no      | Int (10)        | Primary Key                          |
| Toy_name    | Varchar (20)    | Unique                               |
| Type        | Char (10)       | Can only be 'Soft Toy', 'Electronic' |
| Price       | Decimal (8, 2)  | >=1                                  |
| Colour      | Varchar (15)    | Default Red                          |
| Stock       | Int(3)          |                                      |

(b) In a Database – SAMS and VENDOR are two tables with the following information. Write MySQL queries for (i) to (iii), based on tables SAMS and VENDOR.[8]

**Table: SAMS**

| ICode | IName           | Price | Colour | VCode |
|-------|-----------------|-------|--------|-------|
| S001  | Refrigerator    | 20000 | Blue   | P01   |
| S002  | Mobile Phone    | 45000 | Black  | P02   |
| S003  | LCD             | 65000 | Silver | p03   |
| S004  | Washing Machine | 12500 | Smoke  | P01   |
| S005  | Air Conditioner | 16000 | White  | P03   |

**Table : VENDOR**

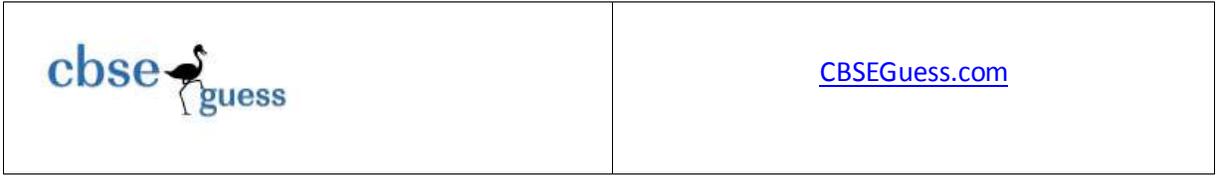
| VCode | VName  |
|-------|--------|
| P01   | Satish |
| P02   | Manoj  |
| P03   | Subodh |
| P04   | Jacob  |

- (i) To display ICode , IName and VName of all the vendors, who manufacture “Refrigerator”. [2]
- (ii) To display IName, VName and Price of all the products whose price is more than 20000. [2]
- (iii) To display vendor names and names of all items manufactured by vendor whose item code is “P03”. [2]
- (iv) With reference to SAMS table, which column should be set as the Primary Key? Which column is foreign key? Give reasons. [2]

### Section C

- 7.
- (a) Define e-Business. Explain its benefits to Customer and Business and also Name one popularly used e-Business website. [2]
  - (b) How does e-governance help in reducing corruption. Write two points. [2]
  - (c) Suruchi works for a Shopping Mart. She wants to create controls on a form for the following operations :  
Choose most appropriate controls out of Text Box, Label, Radio Button, List Box, combo Box, Check Box and Command Button. [1]

| S. No | Function                              | Control Name |
|-------|---------------------------------------|--------------|
| 1     | Enter the Item Code                   |              |
| 2     | Select Item Size (from list of sizes) |              |
| 3     | Enter Quantity                        |              |
| 4     | Submit the form                       |              |



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