Roll No. ☐☐☐☐☐☐☐

Candidates must write the Code on the title page of the answer-book.

- Please check that this question paper contains **8** printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains **7** questions.
- **Please write down the Serial Number of the question before attempting it.**
- 15 minutes time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the students will read the question paper only and will not write any answer on the answer-book during this period.

# INFORMATICS PRACTICES

Time allowed : 3 hours ]                                                                 [ Maximum marks : 70

**Instructions :**     (i)    *All questions are compulsory.*

             (ii)   *Answer the questions after carefully reading the text.*

1. (a) Which wireless communication channel is most appropriate in each of the following situations ?                                                                                                   1

    (i)   Communication in a hilly area.

    (ii)  Very fast communication between two offices in two different countries.

   (b) With what aim UNICODE was developed ?                                        1

   (c) Expand the following file extensions :                                           1

    (i)   ODF

    (ii)  XML

   (d) Give one example of URL and one example of domain name.            1

   (e) What is the use of repeater in a Network ? How is it different from Hub ?   2

   (f) Give two characteristics of Star Topology. Also, show it using a diagram with interconnection of 5 computers.                                                          2

   (g) What is Snooping ?                                                               2

2. (a) Name method is used to extract value of Index while using ListBox in Java.    1

(b) What is the difference between the use of isSelected and setSelected methods used with JCheckBox in Java ?    1

(c) Name any two commonly used methods of JComboBox control.    1

(d) Name any two attributes used in <img> tag of HTML.    1

(e) How many times the following loops will execute the statements inside it ? Which one of them is Entry Control and which one is Exit Control ?    2

| Loop 1. | Loop 2. |
|---|---|
| ```int j=8,total=0;``` ```while(j>1)``` ```{``` ```    total+=j;``` ```    j-=2;``` ```}``` | ```int j=8,total=0;``` ```do``` ```{``` ```    total+=j;``` ```    j-=2;``` ```}``` ```while (j>1);``` |

(f) What will be displayed in jTextField1 and jTextField2 after the execution of the following loop ?    2

```
int Total=0,End=10;
for(int Turn=1;Turn<=End;Turn+=2)
    Total++;
jTextField1.setText(Integer.toString(Total));
jTextField2.setText(Integer.toString(Turn));
```

(g) Differentiate between the <BR> and <HR> tags of HTML with suitable example.    2

3. (a) Write a command to add a NOT NULL constraint on FEES column of a student table.    1

(b) Write SQL command to create a SAVEPOINT called A1.    1

(c) Define Foreign Key with reference to RDBMS.    1

(d) Table BANK has 2 rows and 3 columns. Table CUSTOMER has 4 rows and 3 columns. What will be the cardinality and degree of the Cartesian product of them ? **1**

(e) There is a column HOBBY in a Table CONTACTS. The following two statements are giving different outputs. What may be the possible reason ? **2**

```
SELECT COUNT(*) FROM CONTACTS;

SELECT COUNT(HOBBY)FROM CONTACTS;
```

(f) Name the methods used to convert one type of data to another in the following statements of Java. **2**

```
int Num=Integer.parseInt(jTextFieldl.getText());

jTextField2.setText(Integer.toString(Num));
```

(g) Mr. Tondon is using table EMP with the following columns. **2**

```
ECODE,DEPT,ENAME,SALARY
```

He wants to display all information of employees (from EMP table) in ascending order of ENAME and within it in ascending order of DEPT. He wrote the following command, which did not show the desired output.

```
SELECT * FROM EMP ORDER BY NAME DESC,DEPT;
```

Rewrite the above query to get the desired output.

4. (a) What will be the content of jTextArea1 and TextField1 after the execution of the following statements ? **2**

   (i)  jTextAreal. setText ("Go\tGreen\nINDIA") ;

   (ii) String Message="All The Best";

       jTextFieldl.setText((Message.length()-6)+" ");

(b) Rewrite the following programme code using a while loop statement : **2**

```
int Last=Integer.parseInt(jTextFieldl.getText());

for (int C=1;C<=Last;C++)

jTextAreal.setText(Integer.toString(C));
```

(c) Observe the following code carefully and find which statement will never get executed in the code. **1**

```
int Count=1;                              //Statement 1
do                                        //Statement 2
{                                         //Statement 3
    if (Count<15)                         //Statement 4
        jTextFieldl.setText("Jump");      //Statement 5
    else                                  //Statement 6
        jTextFieldl.setText("Stop");      //Statement 7
    Count+=4;                             //Statement 8
}                                         //Statement 9
while(t<=15);                             //Statement 10
```

(d) Write Java statement to make jButton1 disabled. **1**

(e) What will be displayed in jTextFieldl after the execution of the following code ? **2**

```
int Sum,One=3,Two=5;

Sum = One + Two++;

jTextFieldl.setText(Integer.toString(Sum));

jTextField2.setText(Integer.toString(Two));
```

(f) What will be the contents of Text1 and Text2 after the following code is executed ? **2**

```
String Text2,Textl;

Textl= "Good Morning";

Text2= "India";

Textl=Text2.concat(Textl);
```

(g) Shekher is a junior programmer at ducom Enterprises. He created the following GUI in Netbeans.



Help him to write code for the following :

(i) To calculate Income Tax to be paid and display in jTextField4 on the click of Command Button "Calculate Income Tax" as per the following condition : 2

If the Basic is less than 50000 then IncomeTax =Basic*0.2

And if is greater or equal to 50000 then IncomeTax=Basic*0.3

(ii) To calculate Salary and display in jTextField5 on the click of Command Button "Calculate_Salary". 2

Hint:

Salary =

(Basic+ DearnessAllowance+HouseRentAllowance)-IncomeTax.

(iii) To Clear all Text Fields on the click of Command Button "Clear". 1

5. (a) What is the use of UPDATE statement in SQL ? How is it different from ALTER statement ? 2

(b) Mr. Shankar created a table VEHICLE with 3 rows and 4 columns. He added 1 more rows to it and deleted one column. What is the Cardinality and Degree of the Table VEHICLE ? 1

(c) Consider the following table named "GYM" with details about fitness items being sold in the store. Write command of SQL for (i) to (iv) and output for (v) to (vii).    7

Table GYM:

| ICODE | INAME | PRICE | BRANDNAME |
|-------|-------|-------|-----------|
| G101 | Power Fit Exerciser | 20000 | Power Gymea |
| G102 | Aquafit Hand Grip | 1800 | Reliable |
| G103 | Cycle Bike | 14000 | Ecobike |
| G104 | Protoner Extreme Gym | 30000 | Coscore |
| G105 | Message Belt | 5000 | MessagExpert |
| G106 | Cross Trainer | 13000 | GTCFitness |

(i) To display the names of all the items whose name starts with "A".

(ii) To display ICODEs and INAMEs of all items, whose Brandname is Reliable or Coscore.

(iii) To change the Brandname to "Fit Trend India" of the item, whose ICODE as "G101".

(iv) Add a new row for a new item in GYM with the details: "G107", "Vibro exerciser",21000,"GTCFitness"

(v) SELECT COUNT (DISTINCT (BRANDNAME) ) FROM GYM;

(vi) SELECT MAX (PRICE) FROM GYM;

(vii) SELECT INAME FROM GYM WHERE INAME LIKE "%t";

6. (a) Write SQL command to create the table Vehicle with given constraint.    2

Table: CHALLAN

| COLUMN_NAME | DATATYPE(SIZE) | CONSTRAINT |
|-------------|----------------|------------|
| Challan_No | Decimal(10) | Primary Key |
| Ch_date | Date | |
| RegNo | Char(10) | |
| Offence | Decimal(3) | |

(b) In a Database Karnataka_Sangam there are two tables with the instances given below :

**Table : STUDENTS**

| ADMNO | NAME | CLASS | SEC | RN | ADDRESS | PHONE |
|-------|------|-------|-----|-----|---------|--------|
| 1211 | Meena | 12 | D | 4 | A-26 | 2345678 |
| 1212 | Vani | 10 | D | 1 | B-25 | 5456789 |
| 1213 | Meena | 12 | A | 1 | | |
| 1214 | Karish | 10 | B | 3 | AB-234 | 4567890 |
| 1215 | Suraj | 11 | C | 2 | ZW12 | 4345677 |

**Table : SPORTS**

| ADMNO | GAME | COACHNAME | GRADE |
|-------|------|-----------|-------|
| 1215 | Cricket | Mr.Rai | A |
| 1213 | Vollyball | Ms. Chadha | B |
| 1211 | Vollyball | Mr. Govardhan | A |
| 1212 | Basket Ball | Mr. Tiwani | B |

Write SQL queries for the following :

(i) To count how many addresses are not having NULL values in the address column of students table.      2

(ii) To display Name, Class from STUDENT table and the corresponding Grade from SPORTS table.      2

(iii) To display Name of the student and their corresponding Coachnames from STUDENTS and SPORTS tables.      2

(c) Answer the questions (i) and (ii) based on the following table :

**Table : FACULTY**

| FNO | FNAME | AGE | DEPARTMENT | GRADE |
|-----|-------|-----|------------|-------|
| 111 | Moksha | 40 | Biology | A |
| 123 | Malini | 35 | Maths | A |
| 125 | Akshit | 43 | English | B |
| 130 | Nishant | 27 | Maths | B |

(i) Identify the Primary Key in the Table Faculty.      1

(ii) Write SQL Command to change the Grade of Nishant to "A".      1

7. (a) How popularity of e-Commerce has benefitted a common man ? Give the domain name of one popular e-Commerce site. **2**

(b) Give two addresses of most commonly used e-Learning sites. **1**

(c) Shobhit is creating a form for his company. Help her to choose most appropriate controls from ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox, Label and Command Button for the following entries. **2**

| S.No | Function |
|------|----------|
| 1 | To select citizenship from a list of countries |
| 2 | To allow to input grade out of 'A' to 'D' |
| 3 | To allow selecting one or many food items |
| 4 | To allow entering Feedback in the form of a paragraph |