- 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 minute 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)   Two doctors have connected their mobile phones to transfer a picture file of a person suffering from a skin disease. What type of network is formed ? Which communication media out of Coaxial cable, Optical fiber, Bluetooth, Satellite link should be used to transfer the file ?   **2**

   (b)   State reason why Star topology requires more cable length than Bus topology.   **2**

   (c)   "Open Source Software developers work for the good of community". Is this statement true ? Give reason.   **2**

   (d)   What happens during 'Domain Name Resolution' ?   **2**

   (e)   How is 'Denial of service' attack, a threat to Network security ?   **2**

2.   (a)   Identify the odd one out of the following statements. State reason for your choice.   **1**

      (i)   switch

      (ii) do while

      (iii) while

      (iv) for

(b) What is the difference between setVisible() and setEnabled() methods ? **1**

(c) What is the difference between the following statements (i) and (ii). **1**

(i)   `a=5;`

(ii)   `if(a = = 5)`
    `x=3;`

(d) Write the output in jTextField1 if depcode is 3. **1**

```
switch (depcode)
  {
    case 1 :
      allowance=4000;
      break;
    case 2 :
      allowance=3200;
      break;
    default :
      allowance=1000;
        }
  jTextFieldl.setText( " " +allowance);
```

(e) Sandhya is creating a webpage. She is entering HTML code on her computer. In between, she keeps pressing 'Refresh' / 'Reload' button on her browser. What is the purpose ? **2**

(f) What does 'XML' stand for ? How is the purpose of HTML different from XML ? **2**

(g) Write Java code (statements) to declare Y as integer variable. Then, assign the value 30 to a variable Y. Increase the value of Y by 5 and store the increased value in Z. **2**

3. (a) What is MySQL ? **1**

(b) Charvi is inserting "Sharma" in the "LastName" column of the "Emp" table but an error is being displayed. Write the correct SQL statement. **1**

   `INSERT INTO Emp('Sharma')VALUES(LastName) ;`

(c) Kunal created the following table with the name 'Friends' : **1**

Table : Friends

FriendCode	Name	Hobbies
F101	Bijoy	Swimming
F102	Abhinav	Reading books
F103	Jyotsna	Dancing

Now, Kunal wants to delete the 'Hobbies' column. Write the MySQL statement.

(d) Mrs. Sen entered the following SQL statement to display all Salespersons of the cities "Chennai" and 'Mumbai' from the table 'Sales'. **1**

Table : Sales

Scode	Name	City
101	Aakriti	Mumbai
102	Aman	Chennai
103	Banit	Delhi
104	Fauzia	Mumbai

```
SELECT * FROM Sales
WHERE City='Chennai'
AND City='Mumbai';
```

Rewrite the correct statement, if wrong or write statement is correct.

(e) (i) Name two Aggregate (Group) functions of SQL. **2**

(ii) Consider the table :

Table : Company

SID	SALES
S101	20000
S103	NULL
S104	10000
S105	15000

What output will be displayed by the following SQL statement ?

```
SELECT AVG(SALES) FROM Company;
```

(f) Given below is the 'Stu' table : **2**

RNO	NAME
1	Amit
2	Bhishm

The following statements are entered :

```
SET AUTOCOMMIT = 0;
INSERT INTO Stu VALUES(5, 'Rahul');
COMMIT;
UPDATE Stu set name='Rahuliya' where Rno= 5;
SAVEPOINT A;
INSERT INTO Stu VALUES(6, 'Cristina');
SAVEPOINT B;
INSERT INTO Stu VALUES(7, 'Fauzia');
SAVEPOINT C;
ROLLBACK TO B;
```

Now what will be the output of the following statement ?

```
SELECT * FROM Stu;
```

(g) Consider the table 'Hotel' given below : **2**

Table : Hotel

EMPID	Category	Salary
E101	MANAGER	60000
E102	EXECUTIVE	65000
E103	CLERK	40000
E104	MANAGER	62000
E105	EXECUTIVE	50000
E106	CLERK	35000

Mr. Vinay wanted to display average salary of each Category. He entered the following SQL statement. Identify error(s) and Rewrite the correct SQL statement.

```
SELECT Category, Salary
FROM Hotel
GROUP BY Category;
```

4. (a) When is if-else if statement preferred over switch statement ? **1**

(b) What is the purpose of break statement ? **1**

(c) What will be displayed in jTextField1 and jTextField2 after the following code is executed: **2**

```
int t;
int s;
s = 2;
t = (4*s++)/2;
jTextField1.setText(" "+t);
jTextField2.setText(" "+s);
```

(d) Write the contents of jTextField1, jTextField2, jTextField3 and jTextField4 when the following statements are executed : **2**

```
String x;
String str = "Java";
x = str.concat ("study");
double a = 7.8765;
    jTextField1.setText (x.length()+" ");
    jTextField2.setText (x.toUpperCase () );
    jTextField3.setText (x.substring (2,5));
    jTextField4.setText (Math.round(7.8765)+" ");
```

(e) Rewrite the following code using WHILE loop : **2**

```
int sum = 0;
for(int i=9;i>=1;i--)
{
  if(i%3==0)
     sum=sum + i;
  else
     sum=sum - i;
}
```

(f) The following code has error(s). Rewrite the correct code underlining all the corrections made : **2**

```
int x=10;
int y=50;
  do;
     {
     x+5=x;
     y-5=y;
  while(x<=y);
```

(g) Vijay has developed a software for planning personal budget. A screenshot of the same is shown below :

Total Income, Expenses of Bills (Water/Electricity), Groceries, Entertainment, other expenses and whether money is to be sent to Hostel are entered by the user. Sum of Expenses, Grand Total of Expenses and Savings are calculated and displayed by the program.

Write the code to do the following :

(i) When 'CALCULATE' button is clicked, Sum of Expenses, Total Expenses and Savings should be calculated and displayed in appropriate text fields. **3**

   • Sum of Expenses is calculated by adding expenses on Bills (Water/Electricity), Groceries, Entertainment and other expenses.

- Grand Total of Expenses is calculated according to the following criteria :

  If 'Money to be sent to Hostel' checkbox is selected, 3000.00 is to be added to the sum of expenses. If it is not selected, Grand Total of Expenses is the same as sum of expenses.

- Savings = Total Income – Grand Total of Expenses.

(ii) When 'CLEAR' button is clicked, all text fields and checkbox should be cleared. **1**

(iii) When 'CLOSE' button is clicked, the application should close. **1**

5. (a) Anita has created the following table with the name 'Order'. **2**

Table : Order

Column Name	Constraint
OrderId	Primary Key
OrderDate	Not Null
OrderAmount	
StoreId	

One of the rows inserted is as follows :

OrderId	OrderDate	OrderAmount	StoreId
O101	2015-02-12	34000	S104

(i) What is the data type of columns OrderId and OrderDate in the table Order ?

(ii) Anita is now trying to insert the following row :

OrderId	OrderDate	OrderAmount	StoreId
O102	NULL	59000	S105

Will she be able to successfully insert it ? Give reason.

(b) Write the output of the following SQL queries : **2**

(i) `SELECT MID('BoardExamination',2,4);`

(ii) `SELECT ROUND(67.246,2);`

(iii) `SELECT INSTR('INFORMATION FORM','FOR');`

(iv) `SELECT DAYOFYEAR('2015-01-10');`

(c) Write commands in SQL for (i) to (iv) and output for (v) and (vi). **6**

Table : Store

StoreId	Name	Location	City	NoOfEmployees	DateOpened	SalesAmount
S101	Planetfashion	KarolBagh	Delhi	7	2015-10-16	300000
S102	Trends	Nehru Nagar	Mumbai	11	2015-08-09	400000
S103	Vogue	Vikas Vihar	Delhi	10	2015-06-27	200000
S104	Superfashion	Defence Colony	Delhi	8	2015-02-18	450000
S105	Rage	Bandra	Mumbai	5	2015-09-22	600000

(i) To display name, location, city, SalesAmount of stores in descending order of SalesAmount.

(ii) To display names of stores along with SalesAmount of those stores that have 'fashion' anywhere in their store names.

(iii) To display Stores names, Location and Date Opened of stores that were opened before 1st March, 2015.

(iv) To display total SalesAmount of each city along with city name.

(v) `SELECT distinct city FROM store;`

(vi) `SELECT Name, length (name), left (name, 3) FROM Store where NoOfEmployees<3;`

6. (a) Write SQL query to create a table 'Event' with the following structure : **2**

Field	Type	Constraint
EventId	Varchar(5)	PRIMARY KEY
EventName	Varchar(30)	NOT NULL
Location	Varchar(50)	
ClientID	Integer	
EventDate	Date	

(b) Consider the tables given below : **2**

Table : Faculty

TeacherId	Name	Address	State	PhoneNumber
T101	Savita Sharma	A-151, Adarsh Nagar	Delhi	991019564
T102	Deepak Ghai	K-5/52, Vikas Vihar	Mumbai	893466448
T103	MahaLakshmi	D-6	Delhi	981166568
T104	Simi Arora		Mumbai	658777564

Table : Course

CourseId	Subject	TeacherId	Fee
C101	Introductory Mathematics	T101	4500
C103	Physics	T101	5000
C104	Introductory Computer Science	T102	4000
C105	Advance Computer Science	T104	6500

(i) Which column is used to relate the two tables ?

(ii) Is it possible to have a primary key and a foreign key both in one table ? Justify your answer with the help of table given above.

(c) With reference to the above given tables, write commands in SQL for (i) and (ii) and output for (iii) : **6**

(i) To display CourseId, TeacherId, Name of Teacher, Phone Number of Teachers living in Delhi.

(ii) To display TeacherID, Names of Teachers, Subjects of all teachers with names of Teachers starting with 'S'.

(iii)
```
SELECT CourseId, Subject,TeacherId,Name,PhoneNumber FROM
Faculty,Course WHERE Faculty.TeacherId = Course.TeacherId
AND Fee>=5000;
```

7. (a) "In e-Business, customers should shop only when they trust the e-store provider for payment methods"-Justify the statement. **1**

(b) Which of the following statements is NOT true in e-Governance ? Rewrite the statement after correcting it. **2**

(i) Online applications and tracking of status of applications should be provided.

(ii) Citizens should not be required to submit documents in physical form.

(iii) Online Forms should be made tricky so that only well educated users can enter data.

(iv) Government should interact with citizens and enlighten them about different schemes through social media and web based platforms.

(c) Ms. Arora is creating a form for accepting Visa applications. Help her to choose most appropriate controls out of ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox, Label and CommandButton for the following entries : **2**

S. NO.	Function
1.	To enter EMAIL ID
2.	To choose GENDER
3.	To enter NATIONALITY from countries given as options.
4.	To enter REMARKS in the form of a paragraph about the purpose of visit.