INTERNATIONAL INDIAN SCHOOL, DAMMAM
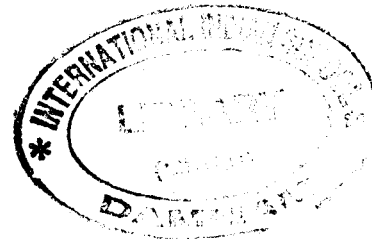## Preliminary Examination – February 2013   Time: 3 Hrs
Informatics Practices – Class XII   Marks: 70
Set A

1. (a) Mr. Shankar wants to prevent unauthorized access to/from his company's local area network. Write the name of a system (software/hardware), which he should install to do the same.   *(1)*

   (b) Companies X, Y, and Z do business with each other and therefore they want to interconnect their computer networks. Which device out of the following should you suggest to be installed for communication between them?   *(1)*
   - (i) Hub
   - (ii) Switch
   - (iii) Gateway

   (c) Which of the following media of communication is line of sight?   *(1)*
   - (i) Radio wave
   - (ii) Microwave
   - (iii) Bluetooth
   - (iv) None of the above

   (d) What is ODF?   *(1)*

   (e) Compare proprietary software and shareware.   *(2)*

   (f) Compare Bus topology and Tree topology.   *(2)*

   (g) Explain the following terms in the context of network security: *(2)*
   - (i) Authorization
   - (ii) Authentication

2. (a) While designing a GUI application, Celine has kept the button nextBtn inactive by default. She wants it to be active at runtime only if the user has checked the checkbox acceptCB. Write the statement(s) to do this?   *(1)*

   (b) What is an exit controlled loop? Give an example   *(1)*

   (c) What is the difference between <p> and <br> tags?   *(1)*

   (d) What does XML stand for? Write any two features of XML.   *(1)*

(e) Write the HTML statements for the following output:
  I.   Science
       ▪ Biology
       ▪ Computer Science
  II. Commerce
       ▪ Mathematics
       ▪ Informatics Practices
  III. Humanities
       ▪ Geography
       ▪ Psychology

(f) What will be the output of the following code: (2)
```
int x=18;
while(x>10)
{
  y=--x;
  System.out.println(x--);
  System.out.println(y);
}
```

(g) Write the java code that takes two numbers as input in two text fields n1TF (2)
and n2TF and displays the larger of the two in a third text field largeTF. If
the numbers happen to be equal, an appropriate message is to be displayed
in a dialog box.

3. (a) Write the MySQL command to remove the table 'Purchases' along with its (1)
contents from the database 'Hospital'.

(b) What is the MySQL command to make the autocommit mode off? (1)

(c) The table 'Courses' has 8 rows and 5 columns. The table 'Teachers' has 11 (1)
rows and 7 columns. What will be the Degree and Cardinality of their
Cartesian Product?

(d) Before entering data into a table 'Furniture', Mr. Sam wants to view the (1)
constraints which are imposed on the table at the time of creation. Write the
MySQL command he can do for that.

(e) While creating a table 'Doctors', Amit set the column 'PostID' as Primary (2)
Key. Write the MySQL statement(s) to change the Primary Key to the
column 'Did'.

(f) While working with a table 'Item', Sheba executed the following queries: (2)
```
i.  SELECT COUNT(Make) FROM Item WHERE Price>1000;
ii. SELECT COUNT(*) FROM Item WHERE Price>1000;
```

She got different results for the two queries. Explain.

(g)   Consider the columns taken from the table 'Salary':

Id	Allowance
101	1000
104	0
107	4000
114	NULL
109	1200
105	1400
130	2600

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

(i)   SELECT AVG(Allowance) FROM Salary WHERE
       Allowance<1500;

(ii)   SELECT COUNT(Id) FROM Salary WHERE Allowance <> 0;

4.   (a)   Rewrite the following code using do-while: *(1)*

```
int i,j,k=0;
for(i=4,j=10;i<j;i++,j--)
{
  k+=(i*j);
  System.out.println(i+":"+j+":"+k);
}
```

(b)   What are the JDBC classes required for creating a database connectivity   *(1)*
application?(Any two)

(c)   What will be the contents of the text field jTF1 and jTF2after the following   *(2)*
code is executed?

```
int p=25, q=10;
jTF1.setext(""+p+q);
jTT2.setText(""+(p+q));
```

(d)   Define the following with respect to Object Oriented Programming: *(2)*
(i)Class   (ii) Inheritance

(e)   What will be the contents of jTextField1 and jTextField2 after executing the   *(2)*
following code:

```
String txt1= "Plan your work";
jTextField1.setText(txt1.substring(4,10).trim());
int x=4,y=3;
jTextField2.setText(""+Math.pow(x,y));
```

(f) Rewrite the following code after correcting the errors(if any):

```
int p=25;q=10;
if(p>15);
{
 jTF1.setText(p+q);
 if(q=0)

   jTF2.setText("q not valid");
}
else
  jTF1.setText("p not valid");
```

(g) Consider the following screen shot and answer the questions given below:

Variable Name	Control Type	Remarks
aggTF	JTextField	To enter the aggregate marks
sciTF	JTextField	To enter Science marks
ssTF	JTextField	To select Social Science marks
sciRB	JRadioButton	To select Science Stream
comRB	JRadioButton	To select Commerce Stream
nccCB	JCheckBox	To select NCC
sportCB	JCheckBox	To Select Sports
artCB	JCheckBox	To Select Performing Arts
totTF	JTextField	To display total points
calcBtn	JButton	To trigger the calculation
resBtn	JButton	To display the result

Write the event handler codes for:
i) sciRB and comRB as follows:

- When user selects sciRB, only science mark can be entered and SS marks cannot be entered.
- When user selects ssRB, only SS mark can be entered and Science marks cannot be entered.

ii) calcBtn to calculate and display the total points as follows:　　　　(2)
The subject marks (either Science or SS as per the stream selected) is added to the Aggregate marks.
NCC cadets get extra 10 bonus points. Sports and arts persons get bonus points of 5 each. (Multiple selections can be made from the check boxes)

iii) resBtn to display the result as "Eligible" or "Not Eligible" in a dialog box.　*(1)*
If total points are more than 350, the person is eligible.

5.　(a)　Write the output of the following SQL queries:　　　　(2)
　　　　(i)　SELECT ROUND(6.5675, 2);
　　　　(ii)　SELECT TRUNCATE(5.3656, 1);
　　　　(iii)　SELECT DAYOFMONTH('2009-08-25');
　　　　(iv)　SELECT MID('Class 12', 2,3);

　　(b)　How is equijoin different from a Cartesian product?　　　　*(1)*

　　(c)　Cosider the table given below and write MySQL queries for questions (i) to　*(7)*
　　　　(iv) and outputs for queries (vi) to (vii)

Games

GCode	GameName	GameType	Number	PrizeMoney	ScheduleDate
101	Carrom	Indoor	2	5000	2014-01-23
102	Badminton	Indoor	2	12000	2013-12-12
103	Table Tennis	Indoor	4	8000	2014-02-12
104	Cricket	Outdoor	22	5000	2013-04-23
105	Chess	Indoor	2	9000	2014-01-01
106	Volley ball	Outdoor	12	12000	2013-02-14
108	Lawn Tennis	Outdoor	4	25000	2014-03-19

(i) To display the average prize money of indoor games.

    (iii)   To display the total prize money (Number*Prizemoney) of all games with the heading 'Team Money'.

    (iv)   To delete the row of 'Carrom' from the table.

    (v)   `SELECT GameName FROM Games WHERE ScheduleDate < '2013-12-31';`

    (vi)   `SELECT DISTINCT MONTH(ScheduleDate) FROM Games;`

    (vii)   `SELECT GCode,GameName FROM Games WHERE PrizeMoney between 8000 AND 10000;`

6.   (a)   Write the MySQL command to create the table 'Restaurant' with the given constraints: (2)

TABLE: STUDENT

Column Name	Data type	Constraint
ItemId	Whole number	Primary Key
ItemName	String	Cannot be null
Description	String	
Category	Single letter	
Unit	String	
Price	Decimal number	

    (b)   Consider the tables given below and write SQL queries for (i) to (iv)   (8)

TABLE: CABHUB

Vcode	VName	Make	Colour	Capacity	Charges
100	Innova	Toyota	WHITE	7	250
102	SX4	Suzuki	BLUE	4	240
104	C Class	Mercedes	RED	4	350
105	A-Star	Suzuki	WHITE	3	140
108	Indigo	Tata	SILVER	3	120

TABLE: CUSTOMER

CCode	CName	VCode
1	Hemant Sahu	101
2	Raj Lal	108
3	Feroza Shah	105
4	Ketan Dhal	104

    (i) Display the vehicle names, colours and their customer names.

(ii) Display the names of customers who have been charged more than 200.

(iii)   Decrease the charges of all vehicles with capacity 3 by 25.

(iv)   Change the data type of CCode column from integer to string of 3 characters.

7.   (a)   Mention any two characteristics of a good front end?   *(1)*

     (b)   List two advantages e-Learning? Give two examples of e-Learning sites.   *(2)*

     (c)   Ashwin is designing a form for online purchase. Suggest the appropriate   *(2)*
           control (out of Text Field, Text Area, PasswordField , List, Combo Box,
           Radio Buttons,) he can use for each of the following inputs:

Sl. No	Input	Control
i	Name	
ii	Choice of Items	
iii	Country of Residence	
iv	Customer Password	