

INTERNATIONAL INDIAN SCHOOL, DAMMAM

Preliminary Examination - January 2013

Informatics Practices

Class XII

Set A

Time: 3 Hrs

Marks: 70

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1. (a) Amit has been observing the keystrokes when his sister is opening her laptop to learn her password. What is the name of the security issue in this context? (1)
 - (b) Two companies A and B 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) _____ is a short distance wireless media that can communicate only between two devices at a time. (1)
 - (i) Radio wave
 - (ii) Microwave
 - (iii) Bluetooth
 - (iv) Infrared
 - (d) What is BOSS? (1)
 - (e) Compare proprietary software and shareware. (2)
 - (f) Name two open source software each in the following categories: (2)
 - (i) Graphics/Photo editor
 - (ii) Programming language
 - (g) Explain the following terms in the context of network security: (2)
 - (i) Denial of service attacks
 - (ii) File permissions
-
2. (a) While designing a GUI application, Ankita included a list in her frame. Now she wants to make it single selection. Which property of list should she use and how? (1)
 - (b) What is the use of default clause in a switch-case statement? (1)
 - (c) What is the difference between <td> and <th> tags? (1)
 - (d) Write any two features of XML. (1)

- (e) Write the HTML statements for the following output: (2)

Admno	Name	Class
1001	Shreya	12G
1002	Ankush	12H

- (f) What will be the contents of jTextField1 after the following code is executed? (2)

```
int num1=10,num2=7;
int sum = num1 + num2--;
int diff = ++num1 - num2;
if (sum>16 || diff<=5)
jTextField1.setText("Code Worked");
else if(sum>=diff)
jTextField1.setText("Code MightWork");
else
jTextField1.setText("Code will not Work");
```

- (g) Write the java code that takes a number as input in a text fields numTF and calculates its cube if the number is even, or its square if its is even. (2)
3. (a) Write the MySQL command to clear the entire contents from table 'Furniture'. (1)
- (b) What is the MySQL command to make the autocommit mode off? (1)
- (c) The table 'Dress' has 10 rows and 6 columns. The table 'Material' has 7 rows and 4 columns. What will be the Degree and Cardinality of their Cartesian Product? (1)
- (d) While entering data in the table 'Residents', Sandhya tried to fill the same value for ParkingNo in two rows. It was not accepted the second time. What could be the reason for it? (1)
- (e) While creating a table 'Staff', Vinay set the column 'PostID' as Primary Key. Write the MySQL statement(s) to change the Primary Key to the column 'Sid'. (2)
- (f) While working with a table 'Item', Sandra executed the following queries: (2)
- i. SELECT COUNT(Mfg) FROM Item WHERE qty>500;
 - ii. SELECT COUNT(*) FROM Item WHERE qty>500;

She got different results for the two queries. Explain.

- (g) Consider the columns taken from the table 'Scores': (2)

PId	Points
101	10
104	0
107	40
114	NULL
109	12
105	14
130	26

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

- (i) `SELECT AVG(Points) FROM Scores WHERE Points<15;`
(ii) `SELECT COUNT(PId) FROM Scores WHERE Points != 0;`

4. (a) Rewrite the following code using while loop: (1)

```
int a,b,res;
for(a=0,b=10;b>0;a++,b--)
res=res+(b-a);
resLbl.setText(""+res);
```

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

- (c) What will be the contents of the text field jTF1 and jTF2 after the following code is executed? (2)

```
int x=40, y=25;
jTF1.setText(""+x+y);
jTF2.setText(""+(x+y));
```

- (d) Define the following with respect to Object Oriented Programming: (2)
(i) Abstract class (ii) Inheritance

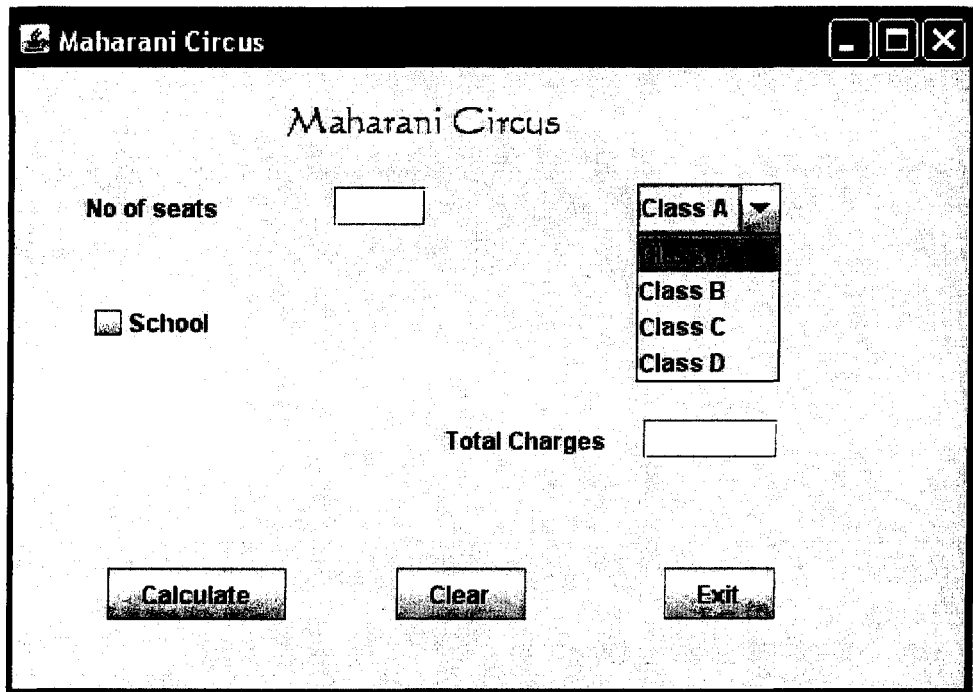
- (e) What will be the contents of jTextField1 and jTextField2 after executing the following code: (2)

```
String txt1= "Commerce Stream";
jTextField1.setText(txt1.substring(3,7));
double num=6.347;
jTextField2.setText(""+Math.round(num*10)/10.0);
```

- (f) Rewrite the following code after correcting the errors(if any): (2)

```
int x=2; y=6;
If (x>y);
x-=y;
else
x+=y;
resTF.setText(x);
```

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



The various controls used in the for are listed below:

Variable Name	Control Type	Remarks
seatsTF	JTextField	To enter the no of seats
totTF	JTextField	To display the total charges
classCmB	JComboBox	To select the class
schoolCB	JCheckBox	To select 'School' category
calcBtn	JButton	To calculate the total charges
clearBtn	JButton	To clear the text fields and check box
exitBtn	JButton	To exit the application

Write the event handler codes for:

i) calcBtn to calculate total charges.

(3)

The rates for the seats of various classes (in Rupees) are as follows:

Class	Rate
A	400
B	200
C	150
D	75

A discount of 15% is given to schools that bring their students. No other category has discount.

Total charge=no on seats * rate * (1 - discount/100)

ii) clearBtn to clear the text fields and to clear the checkbox selection.

(1)

iii) exitBtn to exit the application.

(1)

5. (a) Write the output of the following SQL queries: (2)
- (i) SELECT ROUND(1827.80, -2);
 - (ii) SELECT POW(4, 2);
 - (iii) SELECT DAYOFYEAR('2014-02-02');
 - (iv) SELECT INSTR('Class 12', 'las');

(b) What is a constraint in the context of tables in MySQL? Give two examples. (2)

(c) Consider the table given below and write MySQL queries for questions (i) to (iv) and outputs for queries (v) to (viii) (6)

Staff

No	Name	Age	Department	Dateofjoin	Salary	Sex
1	Jugal	34	Computer	1997/01/10	12000	M
2	Sharmila	31	History	1998/03/24	20000	F
3	Sandeep	32	Maths	1996/12/12	30000	M
4	Sangeeta	35	History	1999/07/01	40000	F
5	Rakesh	42	Maths	1997/09/05	25000	M
6	Shyam	50	History	1998/06/07	30000	M
7	Shivam	44	Computer	1997/02/25	21000	M
8	Shalakra	33	Maths	1997/07/31	20000	F

- (i) To display the average salary of male staff.
- (ii) To find the no of maximum age of staff members in each department.
- (iii) To increase the salary of all senior (above age 40) staff members by 10%.
- (iv) To delete the rows where Name ends with 'am'.
- (v) SELECT Name FROM Staff WHERE Dateofjoin < '1997-01-31';
- (vi) SELECT DISTINCT MONTH(Dateofjoin) FROM Staff;
- (vii) SELECT No, Name FROM Games WHERE Salary between 30000 AND 40000;
- (viii) SELECT Sex, MIN(Salary) FROM Staff GROUP BY Sex;

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

TABLE: STUDENT

Column Name	Data type	Constraint
First Name	Char(15)	} Together forms the Primary Key (Composite key)
Last Name	Char(15)	
Class	Integer(2)	No null values
Section	Single char	
Score	Integer	

(b) Consider the tables given below and answer the questions from (i) to(v)

TABLE: Item

ItemNo	Item	Dcode	Qty	UnitPrice	StockDate
5005	Ball Pen 0.5	102	100	16	31-Mar-10
5003	Ball Pen 0.25	102	150	20	01-Jan-10
5002	Gel Pen Premium	101	125	14	14-Feb-10
5006	Gel Pen Classic	101	200	22	01-Jan-09
5001	Eraser Small	102	210	5	19-Mar-09
5004	Eraser Big	102	60	10	12-Dec-09
5009	Sharpener Classic	103	160	8	23-Jan-09

TABLE: Dealers

Dcode	Dname	City
101	Reliable Stationers	Delhi
102	Class Plastics	Mumbai
103	Clear Deals	Mumbai
104	Southern Traders	Chennai

- (i) Suggest Primary key for table Dealers. Justify your answer. (2)
 (ii) What is the foreign key for table Item. (1)

Write queries to:

- (iii) Display the item numbers along with their unit prices and dealer names. (2)
 (iv) Display the names of items whose dealers are from Mumbai. (2)

Find the output for the following query:

- (v) `Select Dname, Item from Item I, Dealers D where I.Dcode=D.Dcode && UnitPrice>=20;` (1)

7. (a) Mention any two characteristics of a good frontend? (1)
 (b) List two disadvantages of e-Learning? Give two examples of e-learning sites. (2)
 (c) Anant is designing a form for online admissions. Suggest the appropriate control (out of Text Field, Text Area, Check Boxes, Label, Combo Box, Button) he can use for each of the following inputs: (2)

Sl. No	Input	Control
i	Name	
ii	Choice of stream	
iii	Choice of Subjects	
iv	Clear the form	