XII INFORMATICS PRACTICES
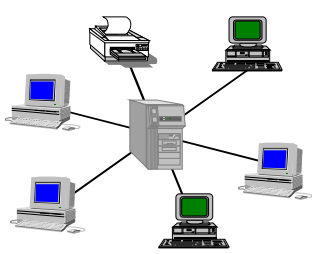## CBSE Board – 2012

[Time allowed: 3hours]   *[Maximum Marks: 70]*

Instructions   (*i*)   **All** *questions are compulsory*
                   (*ii*) *Programming Language: Java*

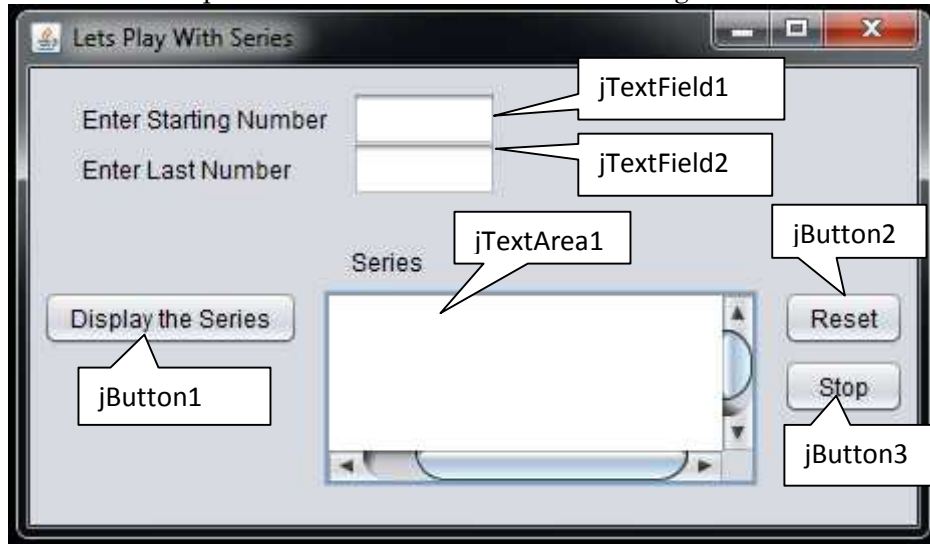|		
1(a)	Raj kamal International school is planning to connect all computers, each spread over distance within 45 meters. Suggest an economical cable type having high-speed data transfer, which can be used to connect these computers.	1
Ans.	Coaxial Cable	
(b)	Name two Indian Script included in UNICODE.	1
Ans.	Devnagari, Bengali, Gurmukhi, Gujarati, Kannada, Malayalam, Oriya, Tamil, Arabic, Telugu	
(c)	Write examples of one Proprietary and one Open Source Software.	1

Ans	Open source software:
	  ✓ Linux
	  ✓ My Sql
	Proprietary Software
	  ✓ Microsoft Office
	  ✓ Oracle	

(d)	Name any two most popularly used internet browsers.	1
Ans.	✓ Firefox ✓ Internet Explorer	

(e)	Ms. Rani Sen, General Manager of Global Nations Corporate recently discovered that the communication between her company's accounts office and HR office is extremely slow and signals drop quite frequently. These offices are 125 meters away from each other and connected by an Ethernet cable.
	    (i) Suggest her a device, which can be installed in between the offices for smooth communication.
	    (ii) What type of network is formed by having this kind of connectivity out of LAN,MAN and WAN?
		2

Ans.	(i) Switch (ii) LAN	
(f)	Give an advantage of using Star topology over Bus topology. Show a network layout of star topology to connect 5 computers.	2
Ans:	In star topology, Failure of one node or link doesn't affect the rest of network whereas in the bus topology, if the network cable breaks, the entire network will be down. 	
(g)	Give suitable example of URL and Domain name.	2
Ans:	URL - http://www.microsoft.com/en-in/default.aspx Domain – Microsoft	

2(a)	While making a Form in Netbeans, Mr. Harihar Jha wants to display a list of countries to allow the users to select their own country. Suggest him to choose most appropriate control out of ListBox and ComboBox.	1
Ans.	ComboBox.	
(b)	What is the purpose of break keyword while using Switch Case Statement? Illustrate with the help of an example.	1
Ans.	✓ The purpose of Break statement is used to terminate the switch block statement.	

```
switch(grade)
      {
            case 'A' :
                      System.out.println("Excellent!");
                      break;
            case 'B' :
                      System.out.println("Well done");
                      break;
            case 'D' :
                      System.out.println("You passed");
                      break;
         default :
                      System.out.println("Invalid grade");
      }
```

(c)	Write the name of HTML tag used to include numbered list in a HTML Web Page.	1
Ans.	<OL>	
(d)	Write HTML code for the following: To provide hyperlink to a website :http://www.cbse.nic.in"	1
Ans.	www.cbse.nic.in	

(e)	What will be the content of the jTextArea1 after executing the following code (Assuming that the jTextArea1 had no content before executing this code)?
	    for(int c=1;c=4;c++)
	    {
	      jTextArea1.setText(
	        jTextArea1.getText()+""+Integer.toString(c*c));
	    }
		2

Ans.	This code will give error because in for loop in place of relation operator (==), assignment operator (=) is used. If you replace the assignment operator (=) with relational operator(==) then output will be blank text area because condition will be c==4 which is false and loop will not execute. For execution of a loop condition must be true.	

(f)	Which of the following units measures the speed with which data can be transmitted from one node to another node of a network? Also give the expansion of the suggested unit.
	    (i) KMph
	    (ii) KMpl
	    (iii) Mbps
		2

Ans.	Mbps	
(g)	Write java code that takes value for a number (n) in jTextField1 and cube (n*n*n) of it to be displayed in jTextField2.	2

Ans.	`int n=Integer.parseInt(jTextField1.getText());`
	`int cube=n*n*n;`
	`jTextField2.setText(""+cube);`	

3(a)	Write MySql command to open an existing database.	1

Ans.	USE<database name>;	
(b)	Ms. Mirana wants to remove the entire content of a table "BACKUP" alongwith its structure to release the storage space. What MySql statement should she use?	1
Ans.	DROP TABLE BACKUP;	
(c)	Give one difference between ROLLBACK and COMMIT commands used in MySql.	1
Ans.	<table><tr><td>ROLLBACK</td><td>COMMIT</td></tr><tr><td>✓ ROLLBACK command is used to end the current transaction and undo all the changes we made since the current transaction began. ✓ Rollback is used to revert the last transaction in the Sql.</td><td>✓ COMMIT command is used to make all the changes permanent to the underlying database which we made during the current transaction. ✓ Commit is used to save all the recent transactions.</td></tr></table>	
(d)	A table STUDENT has 4 rows and 2 columns and another table TEACHER has 3 row and 4 columns. How many rows and columns will be there if we obtain the Cartesian product of these two tables?	1
Ans.	12 rows and 6 columns	
(e)	Mr. Sanghi created two tables with CITY as Primary key in Table1 and Foreign Key in Table2. While inserting a row in Table2, Mr. Sanghi is not able to enter a value in the column CITY. What could be the possible reason for it?	2
Ans.	Mr. Sanghi was trying to enter the name of CITY in Table2 which is not present in Table1.	
(f)	Item code consisting of 5 digits is stored in an integer type variable intItemCode. Mr. Srikant wants to store this Item code in a String type variable called strItemCode. Write appropriate java statement(s) to help her in performing the same.	2
Ans.	`String strItemCode=Integer.toString(intItemCode);`	
(g)	Mr. Janak is using a table with following columns: Name, Class, Course_Id, Course_name He needs to display names of students, who have not been assigned any stream or have been assigned Course_name that ends with "economics". He wrote the following command, which did not give the desired result. SELECT Name, Class FROM Students WHREE Course_name=Null OR Course_name="%economics"; Help Mr.Janak to run the query by removing the error and write the correct query.	2
Ans.	`SELECT Name FROM Students WHERE Course_name IS NULL OR Course_name LIKE '%economics';`	

4(a)	What message will be displayed after the execution of the following code?
	int Age=64,Relaxation=4;
	int ModiAge=Age – Relaxation;
	if (ModiAge<60)
	    jOptionPane.showMessageDialog(Null,"NOT eligible");
	else
	    jOptionPane.showMessageDialog(Null,"eligible");
		2

Ans.	eligible	
(b)	Rewrite the following program code using a If statement. int c=jComboBox1.getSelectedIndex();	2

	switch(c)
	{
	    case 0 : Amount=Bill; break;
	    case 1 : Amount=0.9*Bill; break;
	    case 2 : Amount=0.8*Bill; break;
	    default : Amount=Bill;
	}	

Ans.	```int c=jComboBox1.getSelectedIndex();```
	```if(c==0)```
	    ```Amount=Bill;```
	```else if(c==1)```
	    ```Amount=0.9*Bill;```
	```else if(c==2)```
	    ```Amount=0.8*Bill;```
	```else```
	    ```Amount=Bill;```	

(c)	How many times does the following while loop get executed?
	int K=5;
	int L=36;
	while(K<=L)
	{
	    K+=6;
	}
		1

Ans.	6 // explanation: value of K 5,10,15,20,25,30,35 than it increased than L	
(d)	What will be displayed in jTextArea1 after executing the following statement? jTextArea1,setText("GREAT\n COUNTRY\tINDIA");	1
Ans.	GREAT COUNTRY..........INDIA Note:(........... denotes the blank tab space given by \t dots will not display in output)	

(e)	What will be the values of variables 'm' and 'n' after the execution of the following code?
	int P,Q=0;
	for(P=1;P<=4;P++)
	{
	    Q+=P;
	    Q--;
	}
		2

Ans.	This question is doubtfull, if we consider the question same as it is in question paper than this is an error because 'm' and 'n' variable is not used in code istead of 'm' and 'n', 'P' and 'Q' is used whch will give error of variable not found. And if we consider as it is printing mistake in place of 'm' and 'n', we take 'P' and 'Q' then output will be P is 4 Q is 6	
(f)	Given a string object named Pay having value as "68000" stored in it. Obtain the output of the following: JOptionPane.showMessageDialog(null, " "+Salary.length()+Integer.parseInt(Salary));	2
Ans.	568000 // explanation length and Salary is concatenated with " "which represent blank string, so they are not calculated as number.	

(g)	Janav Raj is a programmer at Path Educo Enterprises. He created the following GUI in NetBeans. Help him to write code for the following:	5

| i. | To display series of odd or even number (depending on Starting Number-jTextField1 is even or odd) in the jTextArea on the click of command button [Display The Series]. | 2 |

For example:

If the Start Number is 5 and Last Number is 11

Text Area Content will be

5 7 9 11

If the Start Number is 2 and Last Number is 10

Text Area Content will be

2 4 6 8 10

| ii. | To clear both the text fields and text area, on clicking [Reset] button. | 2 |
| iii. | To terminate the application on the click of [stop] button. (Assume suitable names for the various controls on the Form) | 1 |

Ans.	

```
i.    int num1=Integer.parseInt(startTextField.getText());
      int num2=Integer.parseInt(stopTextField.getText());
      seriesTextArea.setText(null);
      if((num1 % 2)==0)
      {
          for(int i=num1;i<=num2;i=i+2)
          {
                seriesTextArea.append(i+" ");
          }
      }
      else
      {
          for(int i=num1;i<=num2;i=i+2)
          {
                seriesTextArea.append(i+" ");
          }
      }
```

	ii. `seriesTextArea.setText(null);`
	`startTextField.setText(null);`
	`stopTextField.setText(null);`
	
	iii. `System.exit(0);`	

5(a)	What is the purpose of ORDER BY clause in MySql? How is it different from GROUP BY clause?	2
Ans.	✓ Order by clause is used to sort a particular field in either ascending order or descending order. **Difference:** ✓ ORDER BY is used in MySQL query to sort the result in specified columns name whereas GROUP BY is used to group your result in specified columns. ✓ The GROUP BY clause must come after any WHERE clause and before any ORDER BY clause while ORDER BY takes the name of one or more columns by which to sort the output.	
(b)	Table SCHOOL has 4 rows and 5 columns. What is the Cardinality and Degree of this table?	1
Ans.	Cardinality = 4 and Degree = 5	
(c)	Consider the Table SHOPPE given below. Write command in MySql for (i) to (iv) and output for (v) to (vii)	7

Table SHOPPE:

Code	Item	Company	Qty	City	Price
102	Biscuit	Hide & Seek	100	Delhi	10.00
103	Jam	Kissan	110	Kolkata	25.00
101	Coffee	Nestle	200	Kolkata	55.00
106	Sauce	Maggi	56	Mumbai	55.00
107	Cake	Britannia	72	Delhi	10.00
104	Maggi	Nestle	150	Mumbai	10.00
105	Chocolate	Cadbury	170	Delhi	25..

i.	To display names of the items whose name starts with 'C' in ascending order of Price.	1
ii.	To display code, Item name and City of the products whose quantity is less than 100.	1
iii.	To count distinct Company from the table.	1
iv.	To insert a new row in the table Shoppe '110','Pizza','Papa Jones',120,"Kolkata",50.0	1
v.	Select Item from Shoppe where Item IN("Jan","Coffee");	1
vi.	Select Count(distinct(City)) from Shoppe;	1
vii.	Select MIN(Qty) from Shoppe where City="Mumbai";	1

Ans.

i. `SELECT Item FROM SHOPPE WHERE Item LIKE 'c%' ORDER BY Price;`

ii. `SELECT Code,Item,City FROM SHOPPE WHERE Qty<100;`

iii. `SELECT COUNT(DISTINCT(Company)) FROM SHOPPE;`

iv. `INSERT INTO SHOPPE VALUES (110,'Pizza' ,'Papa Jones',120,'kolkata' ,50.0);`

v.
```
Item
Jam
Coffee
```

vi. 3

vii.	MIN (QTY		
	56		

6(a)	Write a MySql command to creat the Table STOCK including its Constraints. **Table STOCK:**				2

Name of Column	Type	Size	Contraint
Id	Decimal	4	Primary Key
Name	Varchar	20	
Company	Varchar	20	
Price	Decimal	8	Not Null

Ans.	`CREATE TABLE STOCK (Id Decimal(4) PRIMARY KEY , Name VARCHAR(20) , Company VARCHAR(20) , Price Decimal(8) NOT NULL) ;`

(b)	In a database there are two tables:	6

Table ITEM:

ICode	Iname	Price
101	Television	75000
202	Computer	42000
303	Refrigerator	90000
404	Washing Machine	27000

Table BRAND:

ICode	Brand
101	Sony
202	HP
303	LG
404	IFB

Write MySql queries for the following:

(i) To display ICode,IName and corresponding Brand of those Items, whose price is between 20000 and 45000 (both values inclusive). **2**

(ii) To display ICode, Price and BName of the item which has IName as "Television"? **2**

(iii) To increase the price of all the Items by 15%. **2**

Ans.	(i) Select Item.ICode,IName,Brand.Brand from Item,Brand where item.icode=brand.icode and Item.Price Between 20000 AND 45000;

(ii) Select Item.ICode,Price,Brand.Brand from Item,Brand where item.icode=brand.icode and Item.Iname Like 'Television';

(iii) UPDATE ITEM SET Price=Price+(Price*15/100);

(c)	Given below is a Table Patient.	2

Name	P_No	Date_Adm	Doc_No
Vimal Jain	P0001	2011-10-11	D201
Ishita Kohli	P0012	2011-10-11	D506
Vijay Verma	P1002	2011-10-17	D201
Vijay Verma	P1567	2011-10-22	D233

i. Identify Primary Key in the table given above. **1**

ii. Write MySql query to add a column Department with data type varchar and size 30 in the table Patient. **1**

Ans.	(i) P_No
	(ii) ALTER TABLE Patient ADD(Department varchar(30));

7(a)	What social impact does e-Governance have on society?	1
Ans.	✓ 'E-governance' programs have improved the efficiency of administration and service delivery. ✓ People have also benefitted from e-governance in the form of reduced cost of availing the services. ✓ E-governance has proved successful in keeping a tab on corruption to some extent.	
(b)	Write two important feature of e-Business. Give two most commonly used e-Business sites.	2
Ans.	Feature of e-Business: i. Offers opportunity to increase sales ii. Offer opportunity to access new market across the globe iii. Allows 24 x 7 access to the firm's products and services iv. Reduce inventory v. Improves speed of response Few most commonly used e-Business sites are – i. www.licindia.com ii. www.statebankofindia.com iii. www.amazon.com iv. www.ebay.com v. www.sharekhan.com vi. www.westernunion.com	
(c)	Mr. Anurag Das working as Manager in Vivian Enterprises wants to create a form in NetBeans to take various inputs from user. Choose appropriate controls from Label, TextBox, Radio Button, CheckBox, ListBox, ComboBox & Command Button and write them in the third column:	2

SNO	Control used to	Control
1.	Enter Name, Address and Salary	
2.	Select Gender (Male / Female)	
3.	Select Department from available List	
	Choose Hobby of Employee (Singing/Dancing/Skating/Swimming)	

Ans.	1. TextBox 2. Radio Button 3. ComboBox 4. CheckBox	