CBSE Class 12 Informatics Practices 2011 - Set 90 (Series SOS)

Question Paper

Conducted by the Central Board of Secondary Education (CBSE)

Time Allowed: 3 Hours **Maximum Marks: 70**

General Instructions

(i) This question paper contains 7 questions.

(ii) All questions are compulsory, except where an internal choice is provided.

(iii) Read each question carefully before answering it.

Questions

1(a). Mr. Kant Sengupta 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). Seven Brothers Fashion Inc. is a fashion company with design unit and market unit 130 meters away from each other. The company recently connected their LANs using ethernet cable to share the stock related information. But after joining their LANs they are not able to share the information due to loss of signal in between. Which device out of the following should you suggest to be installed for a smooth communication ? (i) Modem (ii) Repeater (iii) UPS

1(c). Which of the following is not a feature of Networking ? (i) Resource Sharing (ii) Reliability (iii) Uninterrupted Power Supply (iv) Reduced cost

1(d). Name any two Indian scripts included in Unicode.

1(e). Ms. Vidya Chauhan is confused between Proprietary Software and Open Source Software. Mention at least two points of difference to help her understand the same.

1(f). Identify the type of Topology from the following :

(i) In it, each node is connected with the help of a single co-axial cable.

(ii) In it, each node is connected with the help of independent cable with the help of a central switching (communication controller).

1(g). Define the following with reference to Threats to Network Security :

(i) Worm

(ii) Trojan Horse

2(a). While working in Netbeans, Ms. Khorana wants to display 'Pass' or 'Needs to Reappear' message depending on the marks entered in jTextField. Help her to choose the more appropriate statement out of 'If statement' and 'Switch statement'.

2(b). How one can make a Text Field un-editable on a Frame ?

2(c). Which HTML tags are used for making a table and adding rows in a HTML document ?

2(d). How is <OL> tag different from <UL> tag of HTML ?

2(e). What will be the value of P and Q after execution of the following code ?

```
int P,Q=100;
for (P=10;P<=12;P++)
{
   Q+=P;
}
JOptionPane.showMessageDiaog(this,"P:"+P+"
Q:"+Q+"");
```

2(f). Differentiate between XML and HTML.

2(g). Write Java code that takes the cost of a pencil from jTextField1 and number of pencils from jTextField2 and calculates total amount as cost*number to be displayed in jTextField3 and 20% service tax out of total amount in jTextField4.

3(a). Write MySql command that will be used to open an already existing database "CONTACTS".

3(b). The Doc_name Column of a table Hospital is given below :

Doc_name
Avinash
Hariharan
Vinayak
Deepak
Sanjeev

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

(i) `SELECT doc_name FROM Hospital WHERE doc_name like "%v";`

(ii) `SELECT doc_name FROM Hospital WHERE doc_name like "%e%";`

3(c). A table "Transport" in a database has degree 3 and cardinality 8. What is the number of rows and columns in it ?

3(d). Differentiate between Alternate key and Candidate key.

3(e). Define a class with reference to Object Oriented Programming.

3(f). An employee_Id consisting of 5 digits is stored in a string variable strEmpId. Now Mr. Deb wants to store this Id in Integer type of variable IntEmpId. Write Java statement to do this.

3(g). Sarthak, a student of class XII, created a table "Class". Grade is one of the columns of this table. To find the details of students whose Grades have not been entered, he wrote the following MySql query, which did not give the desired result :

```
SELECT * FROM Class WHERE Grade ="Null";
```

Help Sarthak to run the query by removing the errors from the query and write the correct query.

4(a). What will be displayed in of jTextField1 after executing the following code ?

```
int m = 16;
m = m+1;
if (m < 15)

jTextField1.setText(Integer.toString(m));
else

jTextField1.setText(Integer.toString(m+15)
);
```

4(b). Rewrite the following program code using a Switch statement :

```
if (code == 1)
  Month = "January";
else if (code == 2)
  Month = "February";
else if (code == 3)
  Month = "March";
else if (code == 4)
  Month = "April";
else
  Month = "No Match";
```

4(c). What will be displayed in jTextArea1 after executing the following statement ?

```
jTextArea1.setText("cbse\nFinal_Exam\tIP")
;
```

4(d). The following code has some error(s). Rewrite the correct code underlining all the corrections made :

```
Int k = 2;sum = 0;//Declaring k and sum as
Integer
{
  sum = k;
  k += 2;
}
while (k=<20);
jTextField1(Integer.tostring(sum));
```

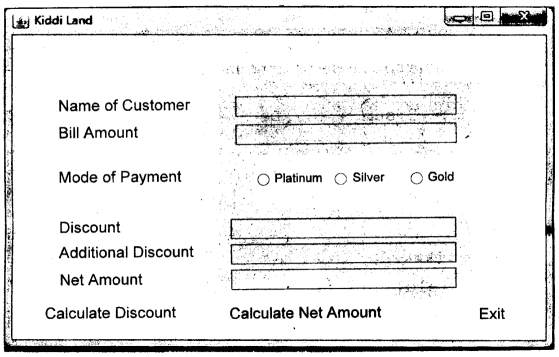
4(e). Given a String object namely 'subject', having value as "123" stored in it. What will be result of the following ?

```
JOptionPane.showMessageDialoge(null, " " +
(subject.length() +
Integer.parseInt(subject)));
```

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

```
int Sum=0, Step=5;
int I;
for (i = 0, i =< 5, i++)
{
  Step+=5,
  Sum+=Step;
}
jTextArea1.showText(" "+Sum);
```

4(g)(i). Mr. Radhey Shyam Bansal the owner of the Kiddi Land Enterprises has asked his programmer Ekta to develop the following GUI in Netbeans :



Mr. Bansal accepts payment through three types of credit cards The discount is given according to the following scheme :

Type of Card	Discount
Platinum	20% of amount
Gold	15% of amount
Silver	10% of amount

If the Bill amount is more than ₹ 25,000, then the customer gets an additional discount of 5%.

Write Java code for the following :

(i) To assign Additional Discount as 0 (jTextField4) and Net Amount as 0 (jTextField5). Also set them as un-editable.

4(g)(ii). Mr. Radhey Shyam Bansal the owner of the Kiddi Land Enterprises has asked his programmer Ekta to develop the following GUI in Netbeans :

Mr. Bansal accepts payment through three types of credit cards The discount is given according to the following scheme :

Type of Card	Discount
Platinum	20% of amount
Gold	15% of amount
Silver	10% of amount

If the Bill amount is more than ₹ 25,000, then the customer gets an additional discount of 5%.

Write Java code for the following :

(ii) [When "Calculate Discount" (jButton1) is clicked] To calculate discount as per the given criteria and display the same in jTextField3 To assign Additional Discount (jTextField4) as 5% of amount (jTextField2) as per the above condition. To enable "Calculate Net Amount" (jButton2) button

4(g)(iii). Mr. Radhey Shyam Bansal the owner of the Kiddi Land Enterprises has asked his programmer Ekta to develop the following GUI in Netbeans :

Mr. Bansal accepts payment through three types of credit cards The discount is given according to the following scheme :

Type of Card	Discount
Platinum	20% of amount
Gold	15% of amount
Silver	10% of amount

If the Bill amount is more than ₹ 25,000, then the customer gets an additional discount of 5%.

Write Java code for the following :

(iii) [When "Calculate Net Amount" (jButton2) button is clicked] To calculate Net Amount as [TotalCost (jTextField2) – Discount (jTextField3) – Additional Discount (jTextField4)] To display the Net Amount in jTextField5.

5(a). What is the purpose of ALTER TABLE command in MySql ? How is it different from UPDATE command ?

5(b). Table Employee has 4 records and Table Dept has 3 records in it. Mr. Jain wants to display all information stored in both of these related tables. He forgot to specify equi-join condition in the query. How many rows will get displayed on execution of this query ?

5(c)(i). Consider the table EXAM given below. Write commands in MySql for (i) to (iv) and output for (v) to (vii).

Table : EXAM

No.	Name	Stipend	Subject	Average	Division
1	Karan	400	English	68	FIRST
2	Aman	680	Mathematics	72	FIRST
3	Javed	500	Accounts	67	FIRST
4	Bishakh	200	Informatics	55	SECOND
5	Sugandha	400	History	35	THIRD
6	Suparna	550	Geography	45	THIRD

(i) To list the names of those students, who have obtained Division as FIRST in the ascending order of NAME.

5(c)(ii). Consider the table EXAM given below. Write commands in MySql for (i) to (iv) and output for (v) to (vii).

Table : EXAM

No.	Name	Stipend	Subject	Average	Division
1	Karan	400	English	68	FIRST
2	Aman	680	Mathematics	72	FIRST
3	Javed	500	Accounts	67	FIRST
4	Bishakh	200	Informatics	55	SECOND
5	Sugandha	400	History	35	THIRD
6	Suparna	550	Geography	45	THIRD

(ii) To display a report listing NAME, SUBJECT and Annual stipend received assuming that the stipend column has monthly stipend.

5(c)(iii). Consider the table EXAM given below. Write commands in MySql for (i) to (iv) and output for (v) to (vii).

Table : EXAM

No.	Name	Stipend	Subject	Average	Division
1	Karan	400	English	68	FIRST
2	Aman	680	Mathematics	72	FIRST
3	Javed	500	Accounts	67	FIRST
4	Bishakh	200	Informatics	55	SECOND
5	Sugandha	400	History	35	THIRD
6	Suparna	550	Geography	45	THIRD

(iii) To count the number of students, who have either Accounts or Informatics as Subject.

5(c)(iv). Consider the table EXAM given below. Write commands in MySql for (i) to (iv) and output for (v) to (vii).

Table : EXAM

No.	Name	Stipend	Subject	Average	Division
1	Karan	400	English	68	FIRST
2	Aman	680	Mathematics	72	FIRST
3	Javed	500	Accounts	67	FIRST
4	Bishakh	200	Informatics	55	SECOND
5	Sugandha	400	History	35	THIRD
6	Suparna	550	Geography	45	THIRD

(iv) To insert a new row in the table EXAM:
6,"Mohan",500,"English",73,"SECOND";

5(c)(v). Consider the table EXAM given below. Write commands in MySql for (i) to (iv) and output for (v) to (vii).

Table : EXAM

No.	Name	Stipend	Subject	Average	Division
1	Karan	400	English	68	FIRST
2	Aman	680	Mathematics	72	FIRST
3	Javed	500	Accounts	67	FIRST
4	Bishakh	200	Informatics	55	SECOND
5	Sugandha	400	History	35	THIRD
6	Suparna	550	Geography	45	THIRD

(v)
```
SELECT AVG(Stipend) FROM EXAM WHERE
DIVISION="THIRD";
```

5(c)(vi). Consider the table EXAM given below. Write commands in MySql for (i) to (iv) and output for (v) to (vii).

Table : EXAM

No.	Name	Stipend	Subject	Average	Division
1	Karan	400	English	68	FIRST
2	Aman	680	Mathematics	72	FIRST
3	Javed	500	Accounts	67	FIRST
4	Bishakh	200	Informatics	55	SECOND
5	Sugandha	400	History	35	THIRD
6	Suparna	550	Geography	45	THIRD

(vi)
```
SELECT COUNT (DISTINCT Subject) FROM
EXAM;
```

5(c)(vii). Consider the table EXAM given below. Write commands in MySql for (i) to (iv) and output for (v) to (vii).

Table : EXAM

No.	Name	Stipend	Subject	Average	Division
1	Karan	400	English	68	FIRST
2	Aman	680	Mathematics	72	FIRST
3	Javed	500	Accounts	67	FIRST
4	Bishakh	200	Informatics	55	SECOND
5	Sugandha	400	History	35	THIRD
6	Suparna	550	Geography	45	THIRD

(vii)
```
SELECT MIN (Average) FROM EXAM WHERE
Subject="English";
```

6(a). Write a MySql command for creating a table "BANK" whose structure is given below :

Table : BANK

Field Name	Datatype	Size	Constraint
Acct_number	Integer	4	Primary Key
Name	Varchar	3	
BirthDate	Date		
Balance	Integer	8	Not Null

6(b)(i). In a database there are two tables "ITEM" and "CUSTOMER" as shown below :

Table : ITEM

ID	ItemName	Company	Price
1001	Moisturiser	XYZ	40
1002	Sanitizer	LAC	35
1003	Bath Soap	COP	25
1004	Shampoo	TAP	95
1005	Lens Solution	COP	350

Table : CUSTOMER

C_ID	CustomerName	City	ID
01	Samridhh Ltd	New Delhi	1002
05	Big Line Inc	Mumbai	1005
12	97.8	New Delhi	1001
15	Tom N Jerry	Bangalore	1003

Write the commands in SQL queries for the following :

(i) To display the details of Item, whose Price is in the range of 40 and 95 (Both values included).

6(b)(ii). In a database there are two tables "ITEM" and "CUSTOMER" as shown below :

Table : ITEM

ID	ItemName	Company	Price
1001	Moisturiser	XYZ	40
1002	Sanitizer	LAC	35
1003	Bath Soap	COP	25
1004	Shampoo	TAP	95
1005	Lens Solution	COP	350

Table : CUSTOMER

C_ID	CustomerName	City	ID
01	Samridhh Ltd	New Delhi	1002
05	Big Line Inc	Mumbai	1005
12	97.8	New Delhi	1001
15	Tom N Jerry	Bangalore	1003

Write the commands in SQL queries for the following :

(ii) To display the CustomerName. City from table Customer, and ItemName and Price from table Item, with their corresponding matching ID.

6(b)(iii). In a database there are two tables "ITEM" and "CUSTOMER" as shown below :

Table : ITEM

ID	ItemName	Company	Price
1001	Moisturiser	XYZ	40
1002	Sanitizer	LAC	35
1003	Bath Soap	COP	25
1004	Shampoo	TAP	95
1005	Lens Solution	COP	350

Table : CUSTOMER

C_ID	CustomerName	City	ID
01	Samridhh Ltd	New Delhi	1002
05	Big Line Inc	Mumbai	1005
12	97.8	New Delhi	1001
15	Tom N Jerry	Bangalore	1003

Write the commands in SQL queries for the following :

(iii) To increase the Price of all the Products by 50.

6(c)(i). In a Database School there are two tables Employee and Dept as shown below :

Table : Employee

EmpId	Name	Sal	Deptno
T001	Vishakha	34000	10
T001	Mridul	32000	50
T001	Manish	45000	20

Table : Dept

Deptno	DName	LocationId
10	Lights	HH02
20	Dance	FF02
30	Production	AB01

(i) Identify the foreign key in the table Employee.

6(c)(ii). In a Database School there are two tables Employee and Dept as shown below :

Table : Employee

EmpId	Name	Sal	Deptno
T001	Vishakha	34000	10
T001	Mridul	32000	50
T001	Manish	45000	20

Table : Dept

Deptno	DName	LocationId
10	Lights	HH02
20	Dance	FF02
30	Production	AB01

(ii) What output, will you get, when an equi-Join query is executed to get the NAME from Employee table and corresponding DNAME from Dept table ?

7(a). Give one social impact of e-Business.

7(b). Write two advantages of e-Learning sites.

7(c). Write three important features of e-Governance. Give URL of one of the commonly used e-Governance portals.

7(d). Anuja is creating a form for her practical file. Help her to choose most appropriate controls from List Box, Combo Box, TextField, TextArea, Radio Button, Check box, Label and Command button for the following entries from user :

(i) A message "Enter Marks" in front of a Text Field.

(ii) An input to choose more than one subject from a set of choices.

(iii) An input for entering remarks.

(iv) An input for accepting Gender.

- End of Question Paper -