CBSE Class 12 Informatics Practices 2017 - Set-4 (Series GBM/C), Code 90 - Compartment

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.
(iii) Read the text carefully before answering each question.
(iv) Marks are indicated against questions and subparts.

Questions

1(a). What happens to the Network with Star topology if the following happens:

(i) One of the computers on the network fails?

(ii) The central hub or switch to which all computers are connected, fails?

1(b). Write the purpose of http.

1(c). Write the purpose of the following devices:

Network Interface Card

Repeater

1(d). How does Open source software emphasize collaboration and sharing?

1(e). Explain 2 measures that a school should take to ensure security of their computer network.

2(a). Write the value that will be assigned to variable x after executing the following statement:

```
x = 3 + 36/12 + 2*5;
```

2(b). Distinguish between parselnt() and parseDouble() methods.

2(c). What is the difference between a PasswordField and a TextField?

2(d). Consider the statement:

```
fname = "Rishabh";
```

(i) What is the datatype of fname?

(ii) Is 456 the same as "456"? Give reason.

2(e). Given below is HTML code. Rewrite code after correcting errors. Underline each correction.

```
<html>
<title>HTML
</head>
<body>
</title>
<p>Learning HTML is fun
```

2(f). Expand XML. How are XML tags different from HTML tags? Write two points.

2(g). What values will be assigned to b, r and t after execution of the following code:

```
for(int i = 0; i <= 2; i++) {
    switch(i) {
    case 1:
    {
    b=i;
    break;
    }
    case 2:
        {
        r=i;
        break;
        }
        default:{
        t=i; }
        }
}
```

3(a). What is the relationship between SQL and MySQL?

3(b). Define the term 'database transaction'.

3(c). Rashi wants to add another column 'Hobbies' with datatype and size as VARCHAR(50) in the already existing table 'Student'. She has written the following statement. However it has errors. Rewrite the correct statement.

```
MODIFY TABLE Student Hobbies VARCHAR;
```

3(d). Write SQL query to display employee details from table named 'Employee' whose 'firstname' ends with 'n' and firstname contains a total of 4 characters (including n).

3(e). Identify Single Row functions of MySQL amongst the following:

```
TRIM(), MAX(), COUNT(*), ROUND()
```

3(f). Write the following statement using 'OR' logical operator:

```
SELECT first_name, last_name, subject
FROM studentdetails
WHERE subject IN ('Maths', 'Science');
```

3(g). Consider an "Employee" table with "Location" column. Entering data for the Location column is optional.

If one enters data for a row with no value for the "Location" column, what value will be saved in the "Location" column?

Write SQL statement to display the details of rows in the "employee" table whose location is left blank.

3(h). Given below is the 'Department' table:

DEPCODE	DEPNAME
101	ADMIN
102	RECEPTION
103	PERSONNEL

```
SET AUTOCOMMIT = 0;
UPDATE Department SET DEPNAME = 'OFFICE'
WHERE
DEPNAME = 'ADMIN';
INSERT INTO Department VALUES (104,
'HRD');
UPDATE Department SET DEPNAME = 'FRONT
OFFICE' WHERE DEPNAME = 'RECEPTION';
COMMIT;
DELETE FROM Department WHERE DEPNAME =
'FRONT OFFICE';
ROLLBACK;
SELECT * FROM Department;
```

What will be the output of the above given SELECT statement?

4(a). Write the values of num2 and num3 after execution of following code:

```
int num1, num2, num3;
num1 = 100;
num2 = ++num1;
num3 = num2++ + ++num1;
```

4(b). Write the purpose of lineWrap property of TextArea.

4(c). What will be displayed in jTextField1 after the following code is executed?

```
int i, p, n;
n=3;
p=1;
if(n < 0)
jTextField1.setText("Not Valid");
else
    {
        for(i=1; i<=n; ++i)
        {
        p = p* i;
        }
    }
jTextField1.setText(" "s+p);
```

4(d). Write the values that will be assigned to a, b, c and m after executing the following Java code:

```
String p, q, r, a, b, c;
int m;
p = "AISSE2017";
q = "Learning Java";
r = "            ProgrammingFun
";
a = p.substring(3,6);
b = q.concat(p);
c = r.trim();
m = c.length();
```

4(e). Write the value that will be stored in variable p after execution of following code. How many times will the loop execute?

```
int y, x, p;
    y = 3;
    x = 5;
    p = 0;
do
{
    p = p + x;
    y = y - 1;
    }
while (y > 0);
```

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

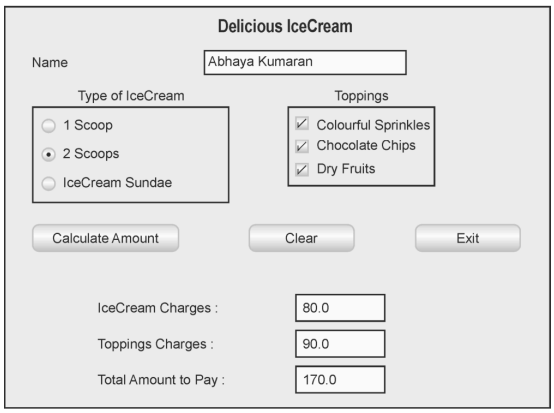
```
while num > 0;
    {
        remainder assigned = num % 10;
        reverse = reverse * 10 +
remainder;
        num / 10 = num;
    }
```

4(g). Mr. Kunal works as a programmer in "Delicious IceCream" parlour where he has designed a software to compute charges to be paid by the customer. A screenshot of the same is shown below:

A customer can take any icecream out of 1 Scoop/ 2 Scoops/ IceCream Sundae.

A customer can also opt for one, two or all three toppings over IceCream. Charges of toppings are extra. Each toppings is for 30.00. For example if two toppings are chosen, 60.00 will be displayed as Toppings Charges.

Help Mr. Kunal in writing the code to do the following:



4(g)(i). (i) After selecting appropriate Radio Button and checkbox(es), (if required), when 'Calculate Amount' button is clicked, IceCream charges, Toppings Charges and 'Total Amount to Pay' should be calculated and displayed in the respective text fields.

Charges for IceCreams are as follows:

Type of IceCream	IceCream Charges
1 Scoop	60.00
2 Scoops	80.00
IceCream Sundae	120.00

Total Amount to Pay = IceCream Charges + Toppings Charges.

4(g)(ii). (ii) When 'CLEAR' button is clicked, all the textfields, radio buttons and checkboxes should be cleared.

4(g)(iii). (iii) When 'Exit' button is clicked, the application should close.

5. Consider the Table "Gym" shown below. Write commands in SQL for (i) to (viii) and output for (ix) and (x):

Table : Gym

Mcode	Mname	Gender	Age	FeeGiven	Type	DtAdmit
1	Amit	Male	35	6000	Monthly	2016-01-23
2	Rashmi	Female	25	8000	Monthly	2016-09-23
3	George	Male	42	24000	Yearly	2011-06-27
4	Fawad	Male	27	12000	Quarterly	2012-10-16
5	Samit	Male	54	6000	Monthly	2015-09-20
6	Lakshmi	Female	43	4500	Monthly	2016-01-15
7	Samita	Female	22	500	Guest	2017-01-23
8	Michael	Male	51	24000	Yearly	2013-07-18
9	Daya Chand	Male	44	100000	Life	2012-09-08
10	Ajit	Male	33	12000	Quarterly	2015-06-26

5(i). (i) To display Mname, Age, FeeGiven of those members whose fee is above 12,000.

5(ii). (ii) To display Mcode, Mname, Age of all female members of the Gym with age in descending order.

5(iii). (iii) To list names of members and their date of admission of those members who joined after 31st December, 2015.

5(iv). (iv) To count the number of members of the Gym of each type.

5(v). (v) To display the Mname, FeeGiven of all those members of the Gym whose age is less than 40 and are monthly type members of the Gym.

5(vi). (vi) To display the type alongwith maximum and minimum fees of each type.

5(vii). (vii) To display names of members who have 'mit' anywhere in their names. For example: Amit, Samit.

5(viii). (viii) To display types of memberships available. Duplicate values should not be displayed.

5(ix). (ix)

```
SELECT MID(Mname,1,2)from Gym;
```

5(x). (x)

```
SELECT Type, AVG FeeGiven FROM Gym
GROUP BY Type;
```

6(a). "XYZ" Company has organized their Annual Conference. Participants are coming from different parts of the country to attend. Write SQL query to create a table 'Participant' with the following structure:

Field	Type	Constraint
ParticipantID	Integer	Primary key
Name	Varchar(50)	
ArrivalDate	Date	
DepartureDate	Date	
Phone	Integer	
EmailID	Varchar(30)	

6(b). Consider the tables given below. Table workshop is created before the workshops are organized. Table "WrapUp" is created after the workshops to summarize about the actual number of participants who attended the workshops and the highest designation amongst all the participants who attended the workshops.

Consider the tables given below.

Table : Workshop

WorkshopId	Title	NumSpeakers	NumberInvites
551	Time Management	3	50
552	App Development	1	40
553	Development & Planning	2	20
554	Marketing Strategies	2	25

Table : WrapUP

WorkshopId	ActualAttendees	HighestAttendee
551	39	Associate Director
552	32	CEO
553	18	Sr. Executive
554	20	Sales Manager

ActualAttendees column stores : Actual number of Attendees.

HighestAttendee column stores : highest designation amongst participants.

6(b)(i). (i) Name the Primary keys in both the tables.

6(b)(ii). (ii) What should be the data type of 'ActualAttendees' column and 'HighestAttendee' column?

6(c). With reference to the above given tables (in Q.6-(b)), write commands in SQL for (i), (ii) and (iii) given below:

Table : Workshop

WorkshopId	Title	NumSpeakers	NumberInvites
551	Time Management	3	50
552	App Development	1	40
553	Development & Planning	2	20
554	Marketing Strategies	2	25

Table : WrapUP

WorkshopId	ActualAttendees	HighestAttendee
551	39	Associate Director
552	32	CEO
553	18	Sr. Executive
554	20	Sales Manager

(i) To display WorkshopId, Title, NumberInvites, ActualAttendees for those workshops in which number of invites were more than 20.

(ii) To display WorkshopId, Title and Actual number of Attendees for those that have 'Development' anywhere in their titles.

(iii) To display WorkshopId and title, for those workshops whose actual attendees were in the range 30 to 40.

7(a). List two main requirements that a company needs to put in place to offer an on-line shopping facility to customers.

7(b). Write two examples where e-governance has reduced Paper work.

7(c). Ms. Varuna is creating a form for a Sports Club application. Help her to choose most appropriate controls from ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox, Label and Command Button for the following entries:

S. No.	Function
1	To enter NAME
2	To enter EMAIL ID
3	To allow user to choose MEMBERSHIP DURATION out of 1 Month, 3 Months, 6 Months, 1 year.
4	To choose PRE-EXISTING MEDICAL CONDITIONS out of Diabetes, Heart Disease, Chest Pain, Shortness of Breath, Epilepsy, Others.

- End of Question Paper -