CBSE Class 12 Informatics Practices 2018 - Set-4 (Series SGN/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, except where an internal choice is provided.

(iii) Read each question carefully before answering it.

Questions

1(a). An organization is planning to link its head office situated in Mumbai with branch office in Delhi. Which type of network out of LAN, MAN, WAN will be formed? Which communication media should be used to connect the two offices?

1(b). Expand following terms:

(i) OSS (ii) FLOSS

1(c). Define Network security. How Firewall help in network security?

1(d). (i) Which hardware component in a computer lets a computer connect to a network?

(ii) Which device connects multiple nodes to form a network and redirects the received information only to the intended node(s)?

1(e). How does File Permission help in Data Security? Explain with the help of example.

2(a). What is Netbeans?

2(b). Identify invalid variable names. State reason if invalid.

(i) sales

(ii) Product_1

(iii) Sales 1

(iv) 1sales

2(c). Which component automatically adds vertical or horizontal scroll bars as and when required during run time? Write one example when you would use such a component.

2(d). Name the loop being referred in the following statements:

(i) If the condition is false at the beginning of the loop, the loop is never executed.

(ii) The loop will always execute at least one time.

2(e). What is the difference between "=" and "==" operators? Explain with the help of example.

2(f). Distinguish between Parent control and Child control. Write one example of each.

2(g). Write the purpose of HTML. Write one example each of Container element and Empty element of HTML.

3(a). Kiya could not take the Half Yearly examination for Informatics Practices. In the column "HyMarks", for Kiya's marks, should the Data entry operator enter the value 0 or NULL? What is the difference?

3(b). Saumya wanted to add a column "Address" in an already created table "Employee". She wrote the following SQL statement:

```
ALTER TABLE Employee ADD Address;
```

Rewrite the correct statement if there is any error.

3(c). Given the table PERSON with the following columns:

Table: PERSON

RollNo	Name
1	Sangita
2	GEETA
3	Gital
4	mitali
5	ALVITA

Write the output or the following statement:

```
SELECT Name FROM PERSON WHERE LOWER(Name)
like '%ita%;'
```

3(d). Every year Ms. Haroon uses a table "TwelveIP" with columns RollNo, Name, MarksHY, MarksFinal to hold marks in Informatics Practices for Half Yearly and Final examination along with Roll numbers and names of students of Class XI.

After one academic year was over, Ms. Haroon wanted to delete the rows of students of previous year and store data for new students in the same table. She entered the following statement:

```
DROP TABLE TwelveIP;
```

Now, Ms. Haroon is not able to add new records. Find error(if any) in the SQL statement. Rewrite the correct statement.

3(e). Given the table 'Student' with the following columns:

RollNo	MARKS
1	20
2	NULL
3	40

Write the output of the following statements:

```
(i) SELECT AVG (MARKS)
FROM Student;
(ii) Select COUNT(*) FROM Student;
```

3(f). 'Emp' table has the following columns and no rows

EMPCODE	EMPNAME	SALARY

The following SQL statements are entered:

```
SET AUTOCOMMIT = 0;
INSERT INTO Emp VALUES('E101', 'Aamir',
70000)
INSERT INTO Emp VALUES('E102', 'Bani',
50000)
SAVEPOINT abc;
UPDATE Emp
SET salary =salary+2000
WHERE EMPNAME = 'Aamir';
UPDATE Emp
SET salary =salary+2000
WHERE EMPNAME = 'Bani';
SELECT sum(SALARY) FROM Emp;
ROLLBACK To SAVEPOINT abc;
SELECT sum(SALARY) FROM Emp;
```

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

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

```
(i) if a = 1 initially ii) if a = 7
initially
b=2;
if (a>b)
    a=a+2;
a = a+1;
```

4(b). Write the values of x, y, p and q after execution of the following code:

```
int x = 5,y,p,q;
y = ++x;
p=5;
q=p++;
```

4(c). What values will be displayed in JOptionPane when the following code is executed?

```
int fib = 2,step = 1;
while (fib<13)
{
fib = fib+step;
step = step+2;
JOptionPane.showMessageDialog(null,fib);
}
```

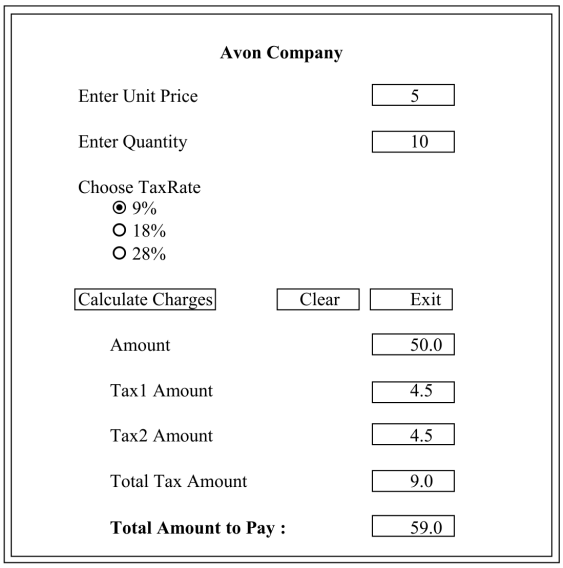
4(d). The following code has error(s). Rewrite the correct code underlining all the corrections made:

```
switch score
{
case 10: grade =='A';
case 9:  grade =='B';
         break;
else :   grade=='N';
         break;
}
```

4(e). How many times will the loop execute? What will be displayed in jTextField1?

```
int a=5, b = 2;
while (a < 20)
{
        a = a + b;
        b = a - b;
}
    jTextFieldl.setText (""+a);
```

4(f). Ms. Priya works as a programmer in a Company and has designed a software to compute tax and amount to be paid by the customer. A screenshot of the same is shown below:



- Amount is calculated as Unit Price * Quantity of items bought.
- TaxRate of items is selected by the user. Out of 9%, 18%, 28% any one Tax rate is chosen.
- Tax1 Amount is calculated on the basis of Tax Rate Chosen. For example if 9% Tax rate is chosen, Tax1 Amount is 9% of Amount.
- Tax2 is the same as Tax1.
- Total Tax Amount is the sum of Tax1 Amount and Tax2 Amount.
- Total Amount to Pay is the sum of Amount and Total Tax Amount.

4(f)(i). (i) When 'CLEAR' button is clicked, all the textfields, radio buttons should be cleared.

4(f)(ii). (ii) When 'EXIT' button is clicked, the application should close.

5. Consider the table given below. Write SQL queries for (i) to (viii) and output for (ix) and (x)

Table : Employee

EID	NAME	DOJ	DOB	GENDER	DCODE
1001	Smita Khan	2013-09-02	1967-09-01	MALE	D01
1002	Firdaus Sen	2012-12-11	1974-12-15	FEMALE	D02
1003	Mohit Pandey	2013-02-03	1987-09-04	MALE	D05
1007	Priya Sen Sareen	2016-01-16	1984-10-19	MALE	D04
1004	Jamaal Khanna	2012-12-09	1986-11-14	FEMALE	D01
1005	Surya Jacob	2013-11-18	1987-03-31	MALE	D02
1006	Radhey Venkat	2014-06-09	1985-06-23	FEMALE	D05

Columns EID stores Employee Id, DOJ stores Date of Joining, DOB stores Date of Birth. DCODE stores Department codes.

5(i). (i) To display EID, NAME, GENDER in descending order of EID.

5(ii). (ii) To display Names of all FEMALE Employees.

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5(iii). (iii) To display EID and NAMES of those Employees who were born between '1967-01-01' and '1987-12-01'.

5(iv). (iv) To count and display the number of MALE Employees who have joined after '2013-01-01'.

5(v). (v) To display codes of Departments in which Employees are working. (Duplicate Department Codes should not be displayed).

5(vi). (vi) To display EID and NAMES of all employees whose names start with 's'.

5(vii). (vii) To display the names of all the employees who are working in department with code D02 and have 'Sen' anywhere in their names.

5(viii). (viii) To display the names and Department codes of those employees who are working in Departments with code 'D01' or 'D05';

5(ix). (ix)

```
SELECT COUNT(*) ,DCODE FROM EMPLOYEE GROUP
BY DCODE;
```

5(x). (x)

```
SELECT MAX(DOJ),MIN(DOB)FROM EMPLOYEE;
```

6(a). Write SQL query to create a table 'Customer' with the following structure:

Field	Type	Constraint
CustomerId	Integer	Primary key
CustomerName	VARCHAR(50)	NOT NULL
Address	VARCHAR(50)	
City	VARCHAR(50)	
State	VARCHAR(25)	
PinCode	CHAR(10)	
DateofBirth	DATE	

6(b). Consider the following tables Furniture and Wood and answer questions that follow:

Table : Furniture

FCODE	NAME	PRICE	WCODE	MANUFDATE
10023	Table	4000	W03	19-DEC-2016
10001	Dining Table	12500	W01	12-JAN-2017
10012	Sofa	35000	W02	06-JUN-2016
10024	Chair	2500	W03	07-APR-2017
10090	Cabinet	18000	W02	31-MAR-2015

Table: Wood

WCODE	TYPE
W02	BIRCH
W04	CEDAR
W03	PINE
W01	MAPLE

(i) Name the Primary key in table Furniture. State reason for naming it.

(ii) Name the Foreign key in table Furniture. State reason for naming it.

6(c). With reference to the above given tables (in Q6 b), write SQL statements for (i) to (iii).

Table : Furniture

FCODE	NAME	PRICE	WCODE	MANUFDATE
10023	Table	4000	W03	19-DEC-2016
10001	Dining Table	12500	W01	12-JAN-2017
10012	Sofa	35000	W02	06-JUN-2016
10024	Chair	2500	W03	07-APR-2017
10090	Cabinet	18000	W02	31-MAR-2015

Table: Wood

WCODE	TYPE
W02	BIRCH
W04	CEDAR
W03	PINE
W01	MAPLE

6(c)(i). (i) To display Name, Type and Manufacturing date (MANUFDATE) of Furniture Items for those items that were manufactured between '01-JAN-2016' and '30-JUN-2016' (both dates inclusive).

6(c)(ii). (ii) To display Name, Wood Code (WCODE) and Type of wood for those furniture items that have 'Table' in their names.

6(c)(iii). (iii) To display Name, Price and Type of wood (WCODE) for only those furniture items whose price is below Rs. 5000.00.

7(a). List two advantages of e-learning.

7(b). Define e-Governance.

7(c). Ms. Mathew is creating a form for an application to be used in a Hospital. 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 Patient Id
2	To enter Patient Name
3	To allow user to choose Tests to be done out of Liver Test, Cardiac Test and Hormones Test. (More than one Test may be chosen)
4	To choose one Department in which patient is admitted out of Gynaecology, General, Nephrology, Neurology, Cardiac.

- End of Question Paper -