

Series SOS

Code No. 90

Candidates must write the Code on the title page of the answer-book.

Roll No.

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- Please check that this question paper contains **11** printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains **7** questions.
- **Please write down the Serial Number of the question before attempting it.**
- 15 minutes time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the students will read the question paper only and will not write any answer on the answer script during this period.

INFORMATICS PRACTICES

Time allowed : 3 hours

Maximum Marks : 70

Note :

- (i) *All questions are compulsory.*
- (ii) *Answer the questions after carefully reading the text.*

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 ? 1
- (i) Modem
 - (ii) Repeater
 - (iii) UPS
- (c) Which of the following is *not* a feature of Networking ? 1
- (i) Resource Sharing
 - (ii) Reliability
 - (iii) Uninterrupted Power Supply
 - (iv) Reduced cost
- (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. 2
- (f) Identify the type of Topology from the following : 2
- (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).
- (g) Define the following with reference to Threats to Network Security : 2
- (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'. 1
- (b) How one can make a Text Field un-editable on a Frame ? 1
- (c) Which HTML tags are used for making a table and adding rows in a HTML document ? 1
- (d) How is tag different from tag of HTML ? 1
- (e) What will be the value of P and Q after execution of the following code ? 2
- ```
int P,Q=100;
for (P=10;P<=12;P++)
{
 Q+=P;
}
JOptionPane.showMessageDialog(this,"P:"+P+" Q:"+Q+"");
```
- (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. 2
3. (a) Write MySQL command that will be used to open an already existing database "CONTACTS". 1
- (b) The Doc\_name Column of a table Hospital is given below : 2

| 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%";`

- (c) A table "Transport" in a database has degree 3 and cardinality 8. What is the number of rows and columns in it ? 2
- (d) Differentiate between Alternate key and Candidate key. 1
- (e) Define a class with reference to Object Oriented Programming. 1
- (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. 1
- (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. 2

4. (a) What will be displayed in of jTextField1 after executing the following code ? 2

```
int m = 16;
m = m+1;
if (m < 15)
 jTextField1.setText(Integer.toString(m));
else
 jTextField1.setText(Integer.toString(m+15));
```

- (b) Rewrite the following program code using a Switch statement : 2

```
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";
```

- (c) What will be displayed in JTextArea1 after executing the following statement ? 1

```
JTextArea1.setText("cbse\nFinal_Exam\tIP");
```

- (d) The following code has some error(s). Rewrite the correct code underlining all the corrections made : 2

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

- (e) Given a String object namely 'subject', having value as "123" stored in it. What will be result of the following ? 1

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

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

2

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

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

The screenshot shows a Java Swing window titled "Kiddi Land". The window contains a form with the following elements:

- Name of Customer**: A text input field.
- Bill Amount**: A text input field.
- Mode of Payment**: Three radio buttons labeled "Platinum", "Silver", and "Gold".
- Discount**: A text input field.
- Additional Discount**: A text input field.
- Net Amount**: A text input field.
- Calculate Discount**: A button.
- Calculate Net Amount**: A button.
- Exit**: A button.

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. 1
- (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 2
- (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. 2
5. (a) What is the purpose of ALTER TABLE command in MySql ? How is it different from UPDATE command ? 2
- (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 ? 1

- (c) 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. 1
- (ii) To display a report listing NAME, SUBJECT and Annual stipend received assuming that the stipend column has monthly stipend. 1
- (iii) To count the number of students, who have either Accounts or Informatics as Subject. 1
- (iv) To insert a new row in the table EXAM:  
6, "Mohan", 500, "English", 73, "SECOND"; 1
- (v) SELECT AVG(Stipend) FROM EXAM WHERE DIVISION="THIRD"; 1
- (vi) SELECT COUNT (DISTINCT Subject) FROM EXAM; 1
- (vii) SELECT MIN (Average) FROM EXAM WHERE Subject="English"; 1



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

2

**Table : BANK**

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

- (b) 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). 1
- (ii) To display the CustomerName, City from table Customer, and ItemName and Price from table Item, with their corresponding matching ID. 2
- (iii) To increase the Price of all the Products by 50. 2

(c) 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. 1
  - (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 ? 1
7. (a) Give one social impact of e-Business. 1
- (b) Write two advantages of e-Learning sites. 1
- (c) Write three important features of e-Governance. Give URL of one of the commonly used e-Governance portals. 2

(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 :

2

- (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.