

SET – 4

Series : ONS/1

Code No. 90/1

Roll No.

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

- Please check that this question paper contains **8** 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 minute 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-book during this period.

INFORMATICS PRACTICES

Time allowed : 3 hours

Maximum marks : 70

Instructions :

- All questions are compulsory.*
- Answer the questions after carefully reading the text.*

- Two doctors have connected their mobile phones to transfer a picture file of a person suffering from a skin disease. What type of network is formed ? Which communication media out of Coaxial cable, Optical fiber, Bluetooth, Satellite link should be used to transfer the file ? **2**
 - State reason why Star topology requires more cable length than Bus topology. **2**
 - “Open Source Software developers work for the good of community”. Is this statement true ? Give reason. **2**
 - What happens during ‘Domain Name Resolution’ ? **2**
 - How is ‘Denial of service’ attack, a threat to Network security ? **2**
- Identify the odd one out of the following statements. State reason for your choice. **1**
 - switch
 - do while
 - while
 - for

- (b) What is the difference between setVisible() and setEnabled() methods ? **1**
- (c) What is the difference between the following statements (i) and (ii). **1**

- (i) a=5;
- (ii) if(a == 5)
x=3;

- (d) Write the output in jTextField1 if deocode is 3. **1**

```
switch (deocode)
{
    case 1 :
        allowance=4000;
        break;
    case 2 :
        allowance=3200;
        break;
    default :
        allowance=1000;
}
jTextField1.setText( " " +allowance);
```

- (e) Sandhya is creating a webpage. She is entering HTML code on her computer. In between, she keeps pressing 'Refresh' / 'Reload' button on her browser. What is the purpose ? **2**
- (f) What does 'XML' stand for ? How is the purpose of HTML different from XML ? **2**
- (g) Write Java code (statements) to declare Y as integer variable. Then, assign the value 30 to a variable Y. Increase the value of Y by 5 and store the increased value in Z. **2**

3. (a) What is MySQL ? **1**

- (b) Charvi is inserting "Sharma" in the "LastName" column of the "Emp" table but an error is being displayed. Write the correct SQL statement. **1**

```
INSERT INTO Emp('Sharma')VALUES(LastName) ;
```

- (c) Kunal created the following table with the name 'Friends' : **1**

Table : Friends

| FriendCode | Name | Hobbies |
|------------|---------|---------------|
| F101 | Bijoy | Swimming |
| F102 | Abhinav | Reading books |
| F103 | Jyotsna | Dancing |

Now, Kunal wants to delete the 'Hobbies' column. Write the MySQL statement.

- (d) Mrs. Sen entered the following SQL statement to display all Salespersons of the cities "Chennai" and 'Mumbai' from the table 'Sales'. 1

Table : Sales

| Scode | Name | City |
|-------|---------|---------|
| 101 | Aakriti | Mumbai |
| 102 | Aman | Chennai |
| 103 | Banit | Delhi |
| 104 | Fauzia | Mumbai |

```
SELECT * FROM Sales
WHERE City='Chennai'
AND City='Mumbai';
```

Rewrite the correct statement, if wrong or write statement is correct.

- (e) (i) Name two Aggregate (Group) functions of SQL. 2
(ii) Consider the table :

Table : Company

| SID | SALES |
|------|-------|
| S101 | 20000 |
| S103 | NULL |
| S104 | 10000 |
| S105 | 15000 |

What output will be displayed by the following SQL statement ?

```
SELECT AVG(SALES) FROM Company;
```

- (f) Given below is the 'Stu' table : 2

| RNO | NAME |
|-----|--------|
| 1 | Amit |
| 2 | Bhishm |

The following statements are entered :

```
SET AUTOCOMMIT = 0;
INSERT INTO Stu VALUES(5, 'Rahul');
COMMIT;
UPDATE Stu set name='Rahuliya' where Rno= 5;
SAVEPOINT A;
INSERT INTO Stu VALUES(6, 'Cristina');
SAVEPOINT B;
INSERT INTO Stu VALUES(7, 'Fauzia');
SAVEPOINT C;
ROLLBACK TO B;
```

Now what will be the output of the following statement ?

```
SELECT * FROM Stu;
```

- (g) Consider the table 'Hotel' given below : 2

Table : Hotel

| EMPID | Category | Salary |
|-------|-----------|--------|
| E101 | MANAGER | 60000 |
| E102 | EXECUTIVE | 65000 |
| E103 | CLERK | 40000 |
| E104 | MANAGER | 62000 |
| E105 | EXECUTIVE | 50000 |
| E106 | CLERK | 35000 |

Mr. Vinay wanted to display average salary of each Category. He entered the following SQL statement. Identify error(s) and Rewrite the correct SQL statement.

```
SELECT Category, Salary
FROM Hotel
GROUP BY Category;
```

4. (a) When is if-else if statement preferred over switch statement ? 1
(b) What is the purpose of break statement ? 1
(c) What will be displayed in jTextField1 and jTextField2 after the following code is executed: 2

```
int t;
int s;
s = 2;
t = (4*s++)/2;
jTextField1.setText(" "+t);
jTextField2.setText(" "+s);
```

- (d) Write the contents of jTextField1, jTextField2, jTextField3 and jTextField4 when the following statements are executed : 2

```
String x;
String str = "Java";
x = str.concat ("study");
double a = 7.8765;
jTextField1.setText (x.length()+" ");
jTextField2.setText (x.toUpperCase ( ) );
jTextField3.setText (x.substring (2,5));
jTextField4.setText (Math.round(7.8765)+" ");
```

- (e) Rewrite the following code using WHILE loop : 2

```
int sum = 0;
for(int i=9;i>=1;i--)
{
    if(i%3==0)
        sum=sum + i;
    else
        sum=sum - i;
}
```

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

```
int x=10;
int y=50;
do;
{
    x+5=x;
    y-5=y;
while(x<=y);
```

- (g) Vijay has developed a software for planning personal budget. A screenshot of the same is shown below :

The screenshot shows a window titled "PERSONAL BUDGET PLAN". At the top left, there is a label "Total Income" followed by a text input field. Below this is a section titled "EXPENSES" containing four labels: "Bills(Water/Electricity)", "Groceries", "Entertainment", and "Other Expenses", each followed by a text input field. To the right of these input fields is a checkbox labeled "Money to be sent to Hostel". Below the input fields are three buttons: "CALCULATE", "CLEAR", and "CLOSE". At the bottom of the window, there are three labels: "SUM OF EXPENSES", "GRAND TOTAL OF EXPENSES", and "SAVINGS", each followed by a text input field.

Total Income, Expenses of Bills (Water/Electricity), Groceries, Entertainment, other expenses and whether money is to be sent to Hostel are entered by the user. Sum of Expenses, Grand Total of Expenses and Savings are calculated and displayed by the program.

Write the code to do the following :

- (i) When 'CALCULATE' button is clicked, Sum of Expenses, Total Expenses and Savings should be calculated and displayed in appropriate text fields. 3
- Sum of Expenses is calculated by adding expenses on Bills (Water/Electricity), Groceries, Entertainment and other expenses.

- Grand Total of Expenses is calculated according to the following criteria :

If 'Money to be sent to Hostel' checkbox is selected, 3000.00 is to be added to the sum of expenses. If it is not selected, Grand Total of Expenses is the same as sum of expenses.

- Savings = Total Income – Grand Total of Expenses.

- (ii) When 'CLEAR' button is clicked, all text fields and checkbox should be cleared. 1
- (iii) When 'CLOSE' button is clicked, the application should close. 1

5. (a) Anita has created the following table with the name 'Order'. 2

Table : Order

| Column Name | Constraint |
|-------------|-------------|
| OrderId | Primary Key |
| OrderDate | Not Null |
| OrderAmount | |
| StoreId | |

One of the rows inserted is as follows :

| OrderId | OrderDate | OrderAmount | StoreId |
|---------|------------|-------------|---------|
| O101 | 2015-02-12 | 34000 | S104 |

- (i) What is the data type of columns OrderId and OrderDate in the table Order ?
- (ii) Anita is now trying to insert the following row :

| OrderId | OrderDate | OrderAmount | StoreId |
|---------|-----------|-------------|---------|
| O102 | NULL | 59000 | S105 |

Will she be able to successfully insert it ? Give reason.

- (b) Write the output of the following SQL queries : 2

- (i) `SELECT MID('BoardExamination', 2, 4);`
- (ii) `SELECT ROUND(67.246, 2);`
- (iii) `SELECT INSTR('INFORMATION FORM', 'FOR');`
- (iv) `SELECT DAYOFYEAR('2015-01-10');`

(c) Write commands in SQL for (i) to (iv) and output for (v) and (vi).

6

Table : Store

| StoreId | Name | Location | City | NoOfEmployees | DateOpened | SalesAmount |
|---------|---------------|----------------|--------|---------------|------------|-------------|
| S101 | Planetfashion | KarolBagh | Delhi | 7 | 2015-10-16 | 300000 |
| S102 | Trends | Nehru Nagar | Mumbai | 11 | 2015-08-09 | 400000 |
| S103 | Vogue | Vikas Vihar | Delhi | 10 | 2015-06-27 | 200000 |
| S104 | Superfashion | Defence Colony | Delhi | 8 | 2015-02-18 | 450000 |
| S105 | Rage | Bandra | Mumbai | 5 | 2015-09-22 | 600000 |

- To display name, location, city, SalesAmount of stores in descending order of SalesAmount.
- To display names of stores along with SalesAmount of those stores that have 'fashion' anywhere in their store names.
- To display Stores names, Location and Date Opened of stores that were opened before 1st March, 2015.
- To display total SalesAmount of each city along with city name.
- SELECT distinct city FROM store;
- SELECT Name, length (name), left (name, 3) FROM Store where NoOfEmployees<3;

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

2

| Field | Type | Constraint |
|-----------|-------------|-------------|
| EventId | Varchar(5) | PRIMARY KEY |
| EventName | Varchar(30) | NOT NULL |
| Location | Varchar(50) | |
| ClientID | Integer | |
| EventDate | Date | |

(b) Consider the tables given below :

2

Table : Faculty

| TeacherId | Name | Address | State | PhoneNumber |
|-----------|---------------|---------------------|--------|-------------|
| T101 | Savita Sharma | A-151, Adarsh Nagar | Delhi | 991019564 |
| T102 | Deepak Ghai | K-5/52, Vikas Vihar | Mumbai | 893466448 |
| T103 | MahaLakshmi | D-6 | Delhi | 981166568 |
| T104 | Simi Arora | | Mumbai | 658777564 |

Table : Course

| CourseId | Subject | TeacherId | Fee |
|----------|-------------------------------|-----------|------|
| C101 | Introductory Mathematics | T101 | 4500 |
| C103 | Physics | T101 | 5000 |
| C104 | Introductory Computer Science | T102 | 4000 |
| C105 | Advance Computer Science | T104 | 6500 |

- Which column is used to relate the two tables ?
- Is it possible to have a primary key and a foreign key both in one table ? Justify your answer with the help of table given above.

(c) With reference to the above given tables, write commands in SQL for (i) and (ii) and output for (iii) : **6**

(i) To display CourseId, TeacherId, Name of Teacher, Phone Number of Teachers living in Delhi.

(ii) To display TeacherID, Names of Teachers, Subjects of all teachers with names of Teachers starting with 'S'.

(iii) `SELECT CourseId, Subject, TeacherId, Name, PhoneNumber FROM Faculty, Course WHERE Faculty.TeacherId = Course.TeacherId AND Fee >= 5000;`

7. (a) "In e-Business, customers should shop only when they trust the e-store provider for payment methods"-Justify the statement. **1**

(b) Which of the following statements is NOT true in e-Governance ? Rewrite the statement after correcting it. **2**

(i) Online applications and tracking of status of applications should be provided.

(ii) Citizens should not be required to submit documents in physical form.

(iii) Online Forms should be made tricky so that only well educated users can enter data.

(iv) Government should interact with citizens and enlighten them about different schemes through social media and web based platforms.

(c) Ms. Arora is creating a form for accepting Visa applications. Help her to choose most appropriate controls out of ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox, Label and CommandButton for the following entries : **2**

| S. NO. | Function |
|--------|---|
| 1. | To enter EMAIL ID |
| 2. | To choose GENDER |
| 3. | To enter NATIONALITY from countries given as options. |
| 4. | To enter REMARKS in the form of a paragraph about the purpose of visit. |