

SET - 4

Series : GBM/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 **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-book during this period.

INFORMATICS PRACTICES

Time allowed : 3 hours]

[Maximum Marks : 70

General Instructions :

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

1. (a) How do Computer networks reduce hardware costs of an organization ? Explain with the help of example. 2
- (b) Compare BUS topology with STAR topology. Give example. 2
- (c) (i) Why is a switch called an intelligent hub ? 2
- (ii) When is a repeater used in a computer network ?
- (d) Expand following term : 2
- (i) OSS
- (ii) HTTP
- (e) Explain the term Firewall and Cyber Law. 2

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[P.T.O.]

2. (a) Write the value that will be assigned to variable C after executing the following statement : 1
- `C = 25-5*4/2-10+4;`
- (b) Consider the statement : 1
- `first_name = "Ayana";`
- (i) What is the datatype of first_name ?
- (ii) Is 325 the same as "321" ? Give reason.
- (c) Radhika changed the "Text" property of a Checkbox named jCheckBox1 to "Reading". What change (if any) will be reflected in its name property ? 1
- (d) Ariya has typed the following comments. Write the comments using another way. 1
- `//This is a comment spreading`
- `//over two lines`
- (e) Given below is HTML code. Rewrite the correct code underlining all the corrections done. 2
- `<ol type = "A" start="D">`
- `Bake in oven for an hour`
- `Remove from oven`
- `Serve`
- (f) Explain the meaning of the following statement with the help of example. 2
- "Tags are not predefined in XML"
- (g) Name two properties and two methods that are common in jTextField and jLabel. 2

3. (a) What is the relationship between SQL and MySQL ? 1
- (b) Write SQL statement that gives the same output as the following SQL statement but uses 'IN' keyword. 1
- ```
SELECT NAME FROM STUDENT WHERE STATE = 'VA' ;
```
- (c) Which one of the following SQL queries will display all Employee records containing the word "Amit", regardless of case (whether it was stored as AMIT, Amit, or amit etc.) ? 1
- (i) `SELECT * from Employees WHERE EmpName like UPPER '%AMIT%';`
- (ii) `SELECT *from Employees WHERE EmpName like '%AMIT%' or '%AMIT%' OR '%amit%';`
- (iii) `SELECT * from Employees WHERE UPPER (EmpName) like '%AMIT%';`
- (d) If there are 10 rows in 'Emp' table and 5 rows in 'Department' table, how many rows will be displayed by the following query ? 1
- ```
SELECT * FROM Emp, Department;
```
- Write the term used for the join being used on the two tables mentioned above.
- (e) Kunal has entered the following SQL command on Table 'STUDENT' that has TotalMarks as one of the columns. 2
- ```
SELECT COUNT (*) FROM STUDENT;
```
- The output displayed is 20.
- Then, Kunal enters the following command :
- ```
SELECT COUNT (*) FROM STUDENT WHERE TotalMarks <100;
```
- The output displayed is 15.
- Then, Kunal enters the following command :
- ```
SELECT COUNT (*) FROM STUDENT WHERE TotalMarks >= 100;
```
- He predicts the output of the above query as 5. Do you agree with Kunal ? Give reason for your answer.

- (f) In a hospital, patients are allocated to wards. A database named 'Hospital' is created. One table in this database is : WARD with WardId, WardName, NumOfBeds as columns and WardId as the primary key. 2

Write another suitable table you could expect to see in 'Hospital' database, with 3 suitable columns identifying Primary key and Foreign key.

- (g) Given below is the 'Department' table : 2

| 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 ?

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

1

```
int a = 1;

int b = 2 ;

int c;

int d;

c = ++b;

d = a++;

c++;
```

(b) What is the difference between `getSelectedIndex()` and `getSelectedItem()` methods ?

1

(c) What will be displayed in `(jTextField1)` after the following code is executed ? Also write how many times will the loop execute.

1

```
a = 5;

b = 2;

While (b !=0)

{

 r = a%b;

 a = b;

 b = r;

}

jTextField1.setText(" "+a);
```

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[P.T.O.]

- (d) Write the values that will be assigned to x, y, z and t after executing the following Java code : 2

```
String s1, s2, s3, x, y, z;

int t;

S1 = "classxii";
S2 = "cbseboard";

S3 = " aisse2016 ";

x = s1.substring(5, 8);
y = s2.concat(s1);
z = s3.trim();
t = z.length();
```

- (e) Write the value that will be stored in variable num and sum after execution of following code : 2

```
int sum=0, num = -2;

do

{

sum = sum + num;
num++;

}

while (num < 1);
```

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

```
integer counter=0;

for(num =i; num>=1; num--);

 {

 If i%num = 0

 {

 counter = counter + 1;

 }

 }
```

- (g) Ms. Angela works as a programmer in a Bus Tour Company named “Heritage Experiences”. Groups of people come and reserve seats. There are 3 stopovers for the bus. First stop is at Alwar, second at Jaipur, third at Udaipur. A group may choose any one destination out of Alwar, Jaipur and Udaipur.

Ms. Angela has designed a software to compute charges to be paid by the entire group. A screenshot of the same is shown below :

**Heritage Experiences**

Organization / Group Name

Number of People in Group

This Group is travelling to :

Alwar

Jaipur  Frequent Traveller Group

Udaipur

Total Charges :

Discount Amount :

Amount to Pay :

A group can opt for one destination out of Alwar / Jaipur / Udaipur. If the group is “Frequent Traveller Group”, the group gets a 10% discount on Total charges.

Help Ms. Angela in writing the code to do the following :

- (i) After selecting appropriate Radio Button and checkbox (if required), when 'Calculate Charges' button is clicked, 'Total Charges', 'Discount Amount', 'Amount to Pay' should be calculated and displayed in the respective text fields. The Charges per person for various destinations are as follows :

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| Destination | Amount(in ₹)      |
|-------------|-------------------|
| Alwar       | 200.00 per person |
| Jaipur      | 500.00 per person |
| Udaipur     | 900.00 per person |

'Total Charges' is obtained by multiplying 'Number of People in Group' with Amount per person.

If 'Frequent Traveller Group' checkbox is selected. 'Discount Amount' is calculated as 10% of 'Total Charges'. Otherwise 'Discount Amount' is 0.

'Amount to Pay' is calculated as :

Amount to Pay = Total Charges – Discount Amount.

- (ii) When 'CLEAR' button is clicked, all the textfields, radio button and checkbox should be cleared. 1
- (iii) When 'EXIT' button is clicked, the application should close. 1

5. Consider the table given below :

Write Answer to (i). Write SQL queries for (ii) to (viii) and output for SQL queries (ix) and (x).

(Table : Salesperson)

| SID  | Name            | Phone       | DOB        | Salary   | Area  |
|------|-----------------|-------------|------------|----------|-------|
| S101 | Amit Kumar      | 98101789654 | 1967-01-23 | 67000.00 | North |
| S102 | Deepika Sharma  | 99104567834 | 1992-09-23 | 32000.00 | South |
| S103 | Vinay Srivastav | 98101546789 | 1991-06-27 | 35000.00 | North |
| S104 | Kumar Mehta     | 88675345789 | 1967-10-16 | 40000.00 | East  |
| S105 | Rashmi Kumar    | 98101567434 | 1972-09-20 | 50000.00 | South |

**Note :** Columns SID and DOB contain Sales Person Id and Data of Birth respectively.

- (i) Write the data types of SID and DOB columns. 1
- (ii) Display names of Salespersons and their Salaries who have salaries in the range 30000.00 to 40000.00 1
- (iii) To list Names, Phone numbers and DOB (Date of Birth) of Salespersons who were born before 1<sup>st</sup> November, 1992. 1
- (iv) To display Names and Salaries of Salespersons in descending order of salary. 1
- (v) To display areas in which Salespersons are working. Duplicate Areas should not be displayed. 1
- (vi) To display SID, Names along with Salaries increased by 500. (Increase of ₹ 500 is only to be displayed and not to be updated in the table) 1
- (vii) To display Area along with number of Salespersons working in that area. 1
- (viii) To display Names of Salespersons who have the word 'Kumar' anywhere in their names. 1
- (ix) `SELECT Name, LENGTH(Name) FROM Salesperson;` 1
- (x) `SELECT Area, COUNT (*)  
FROM Salesperson  
GROUP BY Area  
HAVING COUNT (*) > 1;` 1

6. (a) “ABC” Event Management Company requires data of events that are to be organized. Write SQL query to create a table ‘Event’ with the following structure :

2

| Field         | Type        | Constraint  |
|---------------|-------------|-------------|
| EventId       | Integer     | Primary key |
| Event         | Varchar(50) |             |
| DateEvent     | Date        |             |
| NumPerformers | Integer     |             |

- (b) Consider the tables given below and answer the questions that follow

**Table : Workshop**

| WorkshopId | Title                | NumSpeakers | MeantFor            | Fee  |
|------------|----------------------|-------------|---------------------|------|
| 551        | Time Management      | 3           | Senior Manager      | 7000 |
| 553        | App Development      | 1           | Computer Programmer | 9000 |
| 554        | Planning             | 2           | Senior Manager      | 8000 |
| 556        | Marketing Strategies | 2           | Junior Manager      | 9000 |

**Table : Participant**

| ParticipantId | Name           | WorkshopId |
|---------------|----------------|------------|
| 100           | Prabhu Shankar | 551        |
| 101           | Dev Sen        | 554        |
| 102           | Fauzia Khan    | 551        |
| 103           | Tom Winters    | 553        |

- (i) WorkshopId ‘552’ is missing in the table workshop. Is there any discrepancy (something not correct) ? Give reason for your answer. 1
- (ii) WorkshopId ‘551’ is present twice in the table Participant. Is there any discrepancy ? Give reason for your answer. 1

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

(i) To display names of Participants along with workshop titles for only those workshops that have more than 2 speakers.

(ii) To display ParticipantId, Participant's name, WorkshopId for workshops meant for Senior Managers and Junior Managers.

(iii) To display WorkshopId, title, ParticipantId for only those workshops that have fees in the range of 5000.00 to 8000.00

7. (a) (i) Define e-governance.

(ii) List two advantages of e-governance to a disabled person. 2

(b) How does E-business help organizations to provide better customer services ? 1

(c) Ms. Fauzia is creating a form for an application to be used in a Gym. Help her to choose most appropriate controls from ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox, Label and Command Button for the following entries : 2

| S. No. | Function                                                                                                                     |
|--------|------------------------------------------------------------------------------------------------------------------------------|
| 1      | To enter NAME                                                                                                                |
| 2      | To enter EMAIL ID                                                                                                            |
| 3      | To allow user to choose any one 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 Paie, Shortness of Breath, Epilepsy, Others. |

