**SET-4**

Code No. **90**

Roll No. ☐☐☐☐☐☐☐

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 :*

*(i)*    **All** *questions are compulsory.*

*(ii)*   *Answer the questions after carefully reading the text.*

**1.**  (a)  A school with 20 stand-alone computers is considering networking them together and adding a server. State 2 advantages of doing this.    *1*

(b)  Distinguish between LAN and WAN.    *1*

(c)  What is the purpose of Modem in network ?    *1*

(d)  Write one example of IP Address.    *1*

(e)    Define 'Domain Name Resolution'.    *2*

(f)    Name two threats to security in a network. What is the role of Firewall in Network security ?    *2*

(g)    Write one advantage and one disadvantage of Open Source software over Proprietary software.    *2*

**2.**    (a)    Write the value of variable 'c' after execution of the following code :    *1*

```
int d;
int c;
d=7;
c = (5*++d)%3;
```

(b)    What is the difference between jTextField and jPasswordfield components ?    *1*

(c)    In a SWITCH statement, what is the purpose of 'default' section ?    *1*

(d)    After typing the HTML code using a text editor, how do you see how it would look as a web page ?    *1*

(e)    Write Java code to assign the value 500 to variable x. Increase the value of x by 50 and store it in variable y.    *2*

(f)    Write the output that will be generated by the code given below :    *2*

```
int i;
i = 7;
int r;
r=8;
while (i<=10)
    {
    System.out.println(r*i);
    i = i+2;
    }
```

(g)    "With XML there are no predefined tags" – Explain in brief with the help of an example.    *2*

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

(b) Is NULL value the same as 0 (zero) ? Write the reason for your answer. *1*

(c) Write the UPDATE command to increase the commission (Column name : COMM) by 500 of all the Salesmen who have achieved Sales (Column name : SALES) more than 200000. The table's name is COMPANY. *1*

(d) While using SQL pattern matching, what is the difference between '_' (underscore) and '%' wildcard symbols ? *1*

(e) How is Primary key constraint different from Unique key constraint ? *2*

(f) Write one similarity and one difference between CHAR and VARCHAR data types. *2*

(g) What is a Transaction ? Which command is used to make changes done by a Transaction permanent on a database ? *2*

**4.** (a) The following code has some error(s). Rewrite the correct code underlining all the corrections made. *2*

```
int marks, temperature;
marks = jTextField1.getText());
temperature = Integer.parseInt(jTextField2.getText());
        if (marks < 80) and (temperature >= 40)
        {
        System.out.println("Not Good");
        }
        else;
        {
           System.out.println("OK");
        }
```

(b) How many times will the following WHILE loop execute ?  *2*

```
int y = 7, sum = 0;
while (y<= 15)
        {
        sum = sum + y;
        y = y+2;
        }
```

(c) Rewrite the following program code using IF ELSE IF instead of SWITCH statement :  *2*

```
String tour;
int cl = Integer.parseInt(jTextField1.getText());
switch (cl)
{
 case 8:  tour = "\n You are going to Camp Ramgarh";
          break;
 case 9:  tour = "\n You are going to Manali, Rohtang
          Pass"; break;
 case 10: tour = "\n You are going to Chail";
          break;
 default: tour = " No School tour for you this time";
}
```

(d) Write the values of sum and x after execution of the following code :  *2*

```
int sum,x;
sum = 7;
x = 5;
sum = sum + (x++);
```

(e) What will be the contents of jTextField1 and jTextField2 after executing the following code :  *2*

```
String s = "Best";
jTextField1.setText(s.length()+" ");
jTextField2.setText(s.toUpperCase());
```

(f)    The students of "Shiksha Vidyalaya" work for different extra curricular activities like 'Community Outreach Programme', 'Swachh Bharat Abhiyan' and 'Traffic Safety Club'. The Programmer at the school has developed a GUI application as shown below :



- A student can participate in more than one activities.

- Each student gets 10 points for each activity – namely Community Outreach Programme, Swachh Bharat Abhiyan and Traffic Safety Club.

Help the programmer to write code for the following :

(i)    When 'Calculate Total Score' button is clicked, the points for each activity (that is selected) should be displayed in the text field in front of that activity's checkbox and the Total Score should be displayed in the appropriate Text field.    *3*

(ii)   When Clear button is clicked, all the Textfields and Checkboxes should be cleared.    *1*

(iii)  When Stop button is clicked, the application should close.    *1*

**5.** (a) Distinguish between Single Row and Aggregate functions of MySQL. Write one example of each. *2*

(b) Consider the following table named "SOFTDRINK". Write commands of SQL for (i) to (iv) and output for (v) to (vii).

Table : SOFTDRINK

| DRINKCODE | DNAME | PRICE | CALORIES |
|-----------|-------|-------|----------|
| 101 | Lime and Lemon | 20.00 | 120 |
| 102 | Apple Drink | 18.00 | 120 |
| 103 | Nature Nectar | 15.00 | 115 |
| 104 | Green Mango | 15.00 | 140 |
| 105 | Aam Panna | 20.00 | 135 |
| 106 | Mango Juice Bahaar | 12.00 | 150 |

(i) To display names and drink codes of those drinks that have more than 120 calories. *1*

(ii) To display drink codes, names and calories of all drinks, in descending order of calories. *1*

(iii) To display names and price of drinks that have price in the range 12 to 18 (both 12 and 18 included). *1*

(iv) Increase the price of all drinks in the given table by 10%. *1*

(v) **SELECT COUNT(DISTINCT(PRICE)) FROM SOFTDRINK;** *1*

(vi) **SELECT MAX (CALORIES) FROM SOFTDRINK;** *1*

(vii) **SELECT DNAME FROM SOFTDRINK WHERE DNAME LIKE "%Mango%";** *1*

(c) What is the degree and cardinality of 'SOFTDRINK' TABLE ? *1*

**6.** (a) Write MySQL command to create the Table 'LIBRARY' with given constraints. *2*

Table : LIBRARY

| COLUMN_NAME | DATATYPE(SIZE) | CONSTRAINT |
|-------------|----------------|------------|
| BookId | Int(10) | Primary Key |
| BookName | Varchar(40) | Not Null |
| Type | Char(4) | |
| Author | Varchar(40) | |
| No_Copies | Int(6) | |
| Price | Decimal(8,2) | |

(b)    In a Database Company, there are two tables given below :

Table : SALES

| SALESMANID | NAME | SALES | LOCATIONID |
|---|---|---|---|
| S1 | ANITA SINGH ARORA | 250000 | 102 |
| S2 | Y.P. SINGH | 1300000 | 101 |
| S3 | TINA JAISWAL | 1400000 | 103 |
| S4 | GURDEEP SINGH | 1250000 | 102 |
| S5 | SIMI FAIZAL | 1450000 | 103 |

Table : LOCATION

| LOCATIONID | LOCATIONNAME |
|---|---|
| 101 | Delhi |
| 102 | Mumbai |
| 103 | Kolkata |
| 104 | Chennai |

Write SQL queries for the following :

(i)     To display SalesmanID, names of salesmen, LocationID with corresponding location names. *2*

(ii)    To display names of salesmen, sales and corresponding location names who have achieved Sales more than 1300000. *2*

(iii)   To display names of those salesmen who have 'SINGH' in their names. *2*

(iv)    Identify Primary key in the table SALES. Give reason for your choice. *1*

(v)     Write SQL command to change the LocationID to 104 of the Salesman with ID as S3 in the table 'SALES'. *1*

**7.** (a) How does e-learning allow students to study at their own pace ? *2*

(b) How does e-governance empower citizens ? Write one point. *1*

(c) Sabeena is creating a form for the hotel where she works. 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 input name |
| 2 | To allow enter gender out of M or F |
| 3 | To allow selecting type of room out of Deluxe, SemiDeluxe, General |
| 4 | To allow entering preferences of guest in the form of a paragraph |

# CBSE AISSCE 2015 Marking Scheme - Informatics Practices
## (Sub Code:065  Paper Code 90/Outside Delhi)

**General Instructions:**

- Marking scheme is the final document for all references with regard to evaluation and cannot be altered under any circumstances.
- The answers given in the marking scheme are SUGGESTIVE, Examiners are requested to award marks for all alternative correct Solutions/Answers conveying the similar meaning.
- All programming questions have to be answered with respect to Java Language only.
- In Java, ignore case sensitivity for identifiers (Variables / Functions / Structures / Class Names).
- In SQL related questions :
    a. Both ways of text/character entries should be acceptable. For example: "AMAR" and 'amar' both are acceptable.
    b. All date entries should be acceptable for example: 'YYYY-MM-DD', 'YY-MM-DD', 'DD-Mon-YY', "DD/MM/YY", 'DD/MM/YY', "MM/DD/YY", 'MM/DD/YY' and {MM/DD/YY} are correct.
    c. Semicolon should be ignored for terminating the SQL statements.
    d. Ignore case sensitivity for commands.
    e. Ignore headers in output questions.

| 1 | (a) | A school with 20 stand-alone computers is considering networking them together and adding a server. State 2 advantages of doing this. | 1 |
|---|---|---|---|
| | Ans | <ul><li>Resource Sharing - Both Hardware and Software</li><li>Cost Saving</li><li>Collaborative use and interaction</li><li>Time saving</li><li>Increased storage</li></ul> | |
| | | *( ½ mark each for any two correct advantages)* | |
| | (b) | Distinguish between LAN and WAN. | 1 |
| | Ans | | |
| | | *( 1 mark for any one correct difference )* | |
| | (c) | What is the purpose of Modem in network? | 1 |
| | Ans | It modulates/converts a digital signal into analog signal and vice versa. | |
| | | *( 1 mark for correct answer )* | |

Table for (b):

| | LAN | WAN |
|---|---|---|
| Stands For | Local Area Network | Wide Area Network |
| Covers | Limited geographical areas within an organisation or campus only | Very Large geographic areas |
| Example | Network in an office building | Internet |
| Ownership | Single person or organization | Collective or distributed ownership |

| | | | |
|---|---|---|---|
| | **(d)** | Write one example of IP Address. | **1** |
| | **Ans** | 198.162.1.1 | |
| | | *( 1 mark for any correct example of IP Address)*<br>*Note: Range of IP Address 0.0.0.0 to 255.255.255.255* | |
| | **(e)** | Define 'Domain Name Resolution'. | **2** |
| | **Ans** | Domain Name Resolution is the process of getting corresponding IP address from a domain name. | |
| | | *( 2 marks for correct answer )*<br>*OR*<br>*(2 marks for any valid example illustrating the same )* | |
| | **(f)** | Name two threats to security in a network. What is the role of Firewall in Network security? | **2** |
| | **Ans** | Threats to security in a network :<br>&bull; Virus / Malicious software<br>&bull; Denial of Service (DoS) attack<br>&bull; Snooping<br>&bull; Eavesdropping<br><br>*Note : Intrusion problems mentioned in place of Snooping / Eavesdropping to be accepted .*<br><br>Role of firewall in Network security :<br>A Firewall permits only that data to enter or leave a computer/Network for which permissions have been granted by the computer/network administrator. | |
| | | *( ½ mark each for any two correct threats)*<br>*(1 mark for correct Role of Firewall)* | |
| | **(g)** | Write one advantage and one disadvantage of Open Source software over Proprietary software. | **2** |
| | **Ans** | Advantages of Open Source software over Proprietary software<br>&bull; Free to use, distribute, and modify<br>&bull; No dependence on the developer for updates, support, and fixes.<br>&bull; Uses Open Standards<br><br>Disadvantages of Open Source software over Proprietary software<br>&bull; Lack of Software Support<br>&bull; Generally low Security | |
| | | *(1 mark for advantage )*<br>*(1 mark for disadvantage )* | |
| **2** | **(a)** | Write the value of variable 'c' after execution of the following code: | **1** |

| | | | |
|---|---|---|---|
| | | `int d;`<br>`int c;`<br>`d=7;`<br>`c = (5*++d)%3;` | |
| | Ans | 1 | |
| | | *(1 mark  for correct answer)*<br>*OR*<br>*( ½ mark to be awarded if 2 is given as answer on account of student's knowledge about * and % operators)* | |
| (b) | | What is the difference between jTextField and jPasswordField components? | 1 |
| | Ans | **jTextField** displays input / output  characters as they are.<br>**jPasswordfield** does masking of keyboard input from user, using an echo character '**\***' by default. | |
| | | *(1 mark  for correct difference)*<br>*OR*<br>*( ½ mark for explaining any one)* | |
| (c) | | In a SWITCH statement, what is the purpose of 'default' section? | 1 |
| | Ans | 'default' section is used to execute statement(s), when none of the specified cases mentioned match. | |
| | | *(1 mark  for correct answer)* | |
| (d) | | After typing the HTML code using a text editor, how do you see how it would look as a web page? | 1 |
| | Ans | Open the HTML file using any Web browser/in preview mode of web design tool.<br>Note : Any valid example of Web browser/Web Design Tool should also be accepted. | |
| | | *(1 mark  for correct answer)* | |
| (e) | | Write Java code to assign the value 500 to variable x. Increase the value of x by 50 and store it in variable y. | 2 |
| | Ans | `x = 500;`<br>`x += 50;`<br>`y = x;`<br>OR<br>`x = 500;`<br>`x = x + 50;`<br>`y = x;` | |
| | | *( ½  mark for assigning 500 to x)*<br>*( 1  mark for increasing value of x by 50)*<br>*( ½  mark for assigning increased value to y)* | |

| | | | |
|---|---|---|---|
| | **(f)** | Write the output that will be generated by the code given below:<br><br>`int i;`<br>`i = 7;`<br>`int r;`<br>`r=8;`<br>`while (i<=10)`<br>`{`<br>`   System.out.println(r*i);`<br>`   i = i+2;`<br>`}` | **2** |
| | **Ans** | 56<br>72 | |
| | | *(1 mark for each correct line of output)*<br>*OR*<br>*(Full 2 marks to be given if 56 72 mentioned in the same line)*<br>*OR*<br>*(Full 2 marks to be awarded if any part of Question 2 is attempted correctly)* | |
| | **(g)** | "With XML there are no predefined tags" - Explain in brief with the help of an example. | **2** |
| | **Ans** | XML tags are created by the user as there are no standard tags.<br>For example :<br>To store name , the tag <name> may be used as :<br>`<name> Sumedha </name>` | |
| | | *( 2 marks for explanation with the help of example )*<br>*OR*<br>*(Full 2 marks should be awarded if only explanation is given)* | |
| **3** | **(a)** | What is MySQL? | **1** |
| | **Ans** | MySQL is an Open Source Relational Database Management System (RDBMS) that uses Structured Query Language (SQL) for adding, accessing and managing content in a database.<br>OR<br>It is an Open Source RDBMS Software. It is available free of cost. | |
| | | *(1 mark for any correct answer)* | |
| | **(b)** | Is NULL value the same as 0 (zero) ? Write the reason for your answer. | **1** |
| | **Ans** | No.<br>Reason : NULL is used to mean that the field has no value / unknown value.<br>0 is a numeric value. | |

| | | | |
|---|---|---|---|
| | | *(½ mark for stating NO)*<br>*(½ mark for any correct reason)* | |
| **(c)** | | Write the UPDATE command to Increase the commission (Column name : COMM) by 500 of all the Salesmen who have achieved Sales (Column name : SALES) more than 200000.The table's name is COMPANY. | **1** |
| | **Ans** | `UPDATE COMPANY SET COMM = COMM + 500`<br>`WHERE SALES > 200000;`<br>OR<br>`UPDATE COMPANY SET COMM = COMM + 500`<br>`WHERE SALES > 200000 AND JOB="Salesmen";` | |
| | | *( ½ mark for correct use of UPDATE SET)*<br>*( ½ mark for correct use of WHERE)* | |
| **(d)** | | While using SQL pattern matching, what is the difference between '_' (underscore) and '%' wildcard symbols? | **1** |
| | **Ans** | "_" is used to represent a single character whereas "%" is used to represent any sequence of zero or more characters. | |
| | | *( 1 mark for stating any correct difference )*<br>*OR*<br>*( 1 mark for stating the difference with the help of example)*<br>*OR*<br>*( ½ mark for any one correct example of either wildcards without explanation)* | |
| **(e)** | | How is Primary key constraint different from Unique key constraint ? | **2** |
| | **Ans** | In a table, there is only one Primary Key constraint whereas, it may have more than one unique key constraint.<br>**OR**<br>Primary Key constraint used to identify a tuple uniquely, can not be null. Unique Key constraint makes sure that duplicate values in the specified column are not accepted, however it may be null | |
| | | *( 2 marks for stating any correct difference)*<br>*OR*<br>*( 2 marks for only defining Primary Key constraint)* | |
| **(f)** | | Write one similarity and one difference between CHAR and VARCHAR data types. | **2** |
| | **Ans** | Similarity :<br>• Both are used for storing non numeric data.<br>• Both can store 1 to 255 characters.<br>• Values must be enclosed in single quotes or double quotes. | |

|  |  | Difference : |  |  |
|---|---|---|---|---|
|  |  | **CHAR** | **VARCHAR** |  |
|  |  | Used for fixed-length string | Used for variable-length string |  |
|  |  | Padded to the specified length when stored | No padding takes place |  |
|  |  | *( 1 mark for stating any one correct similarity.)*<br>*( 1 mark for stating any one correct difference.)*<br>*Note : Full 2 marks to be awarded if similarity / difference explained with the help of example.* |  |  |
|  | **(g)** | What is a Transaction ? Which command is used to make changes done by a Transaction permanent on a database? |  | 2 |
|  | **Ans** | A Transaction is a unit of work that must be done in logical order and successfully as a group or not done at all.<br>COMMIT command is used to make changes done by a transaction permanent on a database. |  |  |
|  |  | *( 1 mark for defining Transaction)*<br>*( 1 mark for stating COMMIT)* |  |  |
| **4** | **(a)** | The following code has some error(s). Rewrite the correct code underlining all the corrections made.<br><pre>int marks, temperature;<br>marks = jTextFieldl.getText());<br>temperature =<br>Integer.parseInt(jTextField2.getText());<br>if (marks < 80) and (temperature >= 40)<br>{<br>   System.out.println("Not Good");<br>}<br>else;<br>{<br>   System.out.println("OK");<br>}</pre> |  | 2 |
|  | **Ans** | <pre>int  marks , temperature ;<br>marks =<br><u>Integer.parseInt(</u>jTextField1.getText());<br>temperature =<br>Integer.parseInt(jTextField2.getText());<br>if <u>(</u>(marks <80)<u> && </u>(temperature >= 40)<u>)</u><br>{<br>   System.out.println("Not Good");<br>}<br><u>else</u></pre> |  |  |
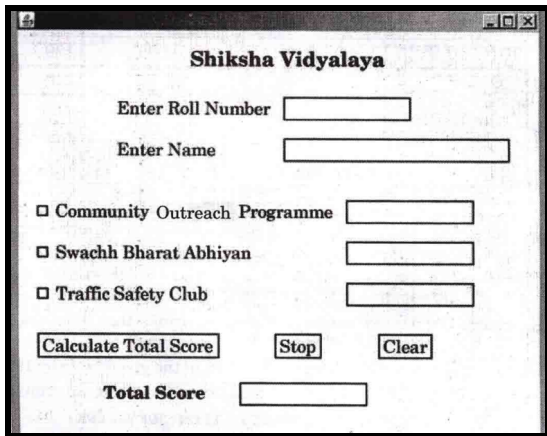
<table>
<tr><td colspan="2"></td><td>

```
{
    System.out.println("OK");
}
```
</td><td></td></tr>
<tr><td colspan="2"></td><td>

*( ½ mark each for correcting any four errors)*

**OR**

*(1 mark for only identifying any four errors – without making any corrections)*

**NOTE:**

System.out.println may also be accepted as an error.
</td><td></td></tr>
<tr><td>(b)</td><td></td><td>

How many times will the following WHILE loop execute ?

```
int y = 7, sum = 0;
while (y<=15)
{
    sum = sum + y;
    y = y+2;
}
```
</td><td>2</td></tr>
<tr><td>Ans</td><td></td><td>

5 times
</td><td></td></tr>
<tr><td colspan="2"></td><td>

*( 2 Marks for correct no.of times)*
</td><td></td></tr>
<tr><td>(c)</td><td></td><td>

Rewrite the following program code using IF ELSE IF instead of SWITCH statement :

```
String tour;
int c1 =
Integer.parseInt(jTextField1.getText());
switch (c1)
{
  case 8: tour= "\n You are going to Camp
          Ramgarh";
          break;
  case 9: tour="\n You are going to Manali,
          Rohtang Pass"; break;
  case 10:tour="\n You are going to Chail";
            break;
default:tour="No School tour for you this time";
}
```
</td><td>2</td></tr>
<tr><td>Ans</td><td></td><td>

```
String tour ;
int c1=Integer.parseInt(jTextField1.getText());
if (c1==8)
  tour="\n You are going to Camp Ramgarh";
else if (c1 == 9)
```
</td><td></td></tr>
</table>

|  |  | ```
tour="\n You are going to Manali, Rohtang
Pass";
else if (c1==10)
 tour="\n You are going to Chail";
else
 tour=" No school tour for you this time";
``` |  |
|  |  | *( ½  mark for correct use of if -else statement)*<br>*( ½  mark for each correct condition )* |  |
| **(d)** |  | Write the values of sum and x after execution of the following code:<br>```
int sum,x;
sum = 7;
x = 5;
sum = sum + (x++);
``` | **2** |
|  | **Ans** | ```
sum = 12
x = 6
``` |  |
|  |  | *(1 mark for correct value of sum)*<br>*(1 mark for correct value of x)* |  |
| **(e)** |  | What will be the contents of jTextField1 and jTextField2 after executing the following code:<br>```
String s = "Best";
jTextField1.setText(s.length()+" ");
jTextField2.setText(s.toUpperCase());
``` | **2** |
|  | **Ans** | ```
4
BEST
``` |  |
|  |  | *(1 mark for each correct output)* |  |
| **(f)** |  | The students of "Shiksha Vidyalaya" work for different extra curricular activities like 'Community Outreach Programme', 'Swachh Bharat Abhiyan' and 'Traffic Safety Club'. The Programmer at the school has developed a GUI application as shown below:<br> |  |

|  |  |  |  |
|---|---|---|---|
|  |  | • A student can participate in more than one activities.<br>• Each student gets 10 points for each activity - namely Community Outreach Programme, Swachh Bharat Abhiyan and Traffic Safety Club.<br>**Help the programmer to write code for the following:** |  |
|  | (i) | When 'Calculate Total Score' button is clicked, the points for each activity (that is selected) should be displayed in the text field in front of that activity's checkbox and the Total Score should be displayed in the appropriate Text field. | 3 |
|  | Ans | ```<br>int Total=0;<br>if(jCheckBox1.isSelected())<br>{<br>    jTextField3.setText("”+10);<br>    Total=Total+10;<br>}<br>if(jCheckBox2.isSelected())<br>{<br>    jTextField4.setText("”+10);<br>    Total=Total+10;<br>}<br>if(jCheckBox3.isSelected())<br>{<br>    jTextField5.setText("”+10);<br>    Total=Total+10;<br>}<br>jTextField6.setText("”+Total);<br>``` |  |
|  |  | *( 1 mark for correct use of if statement)*<br>*( ½ mark for correct use of setText() for displaying 10,10,10)*<br>*( 1 mark for calculation of Total)*<br>*( ½ mark for displaying Total)* |  |
|  | (ii) | When Clear button is clicked, all the Textfields and Checkboxes should be cleared. | 1 |
|  | Ans | ```<br>jTextField1.setText("”);<br>jTextField2.setText("”);<br>jTextField3.setText("”);<br>jTextField4.setText("”);<br>jTextField5.setText("”);<br>jCheckBox1.setText(false);<br>jCheckBox2.setText(false);<br>jCheckBox3.setText(false);<br>jTextField6.setText("”);<br>```<br>**Note: NULL in place of " " should also be accepted.** |  |
|  |  | *( ½  mark for clearing any text field)*<br>*( ½  mark for clearing any check box)* |  |

| | (iii) | When Stop button is clicked, the application should close. | 1 |
|---|---|---|---|
| | Ans | `System.exit(0);` | |
| | | *(1 mark for correct answer)* | |
| 5 | (a) | Distinguish between Single Row and Aggregate functions of MySQL. Write one example of each. | 2 |
| | Ans | | |

| Single Row function | Aggregate function |
|---|---|
| Works on a single value / row | Works on multiple values in a single column |
| Returns one value for each row | Returns one value after operating on single/multiple rows |
| Accepts one or more arguments | Accepts only one argument |

Example of Single row function
`ROUND(X),CONCAT(str1,str2,..)` or any other suitable example of Numeric,String  or Date and Time functions.
Example of Aggregate function
`MAX(), MIN(), AVG(), SUM(), COUNT()`

| | | *(1 mark for any one correct difference)* | |
|---|---|---|---|
| | | *(½  mark each for any one example of Single row function and Aggregate function)* | |
| | | *OR* | |
| | | *(2 marks for any one correct difference explained with the help of example)* | |
| | (b) | Consider the following table named "SOFTDRINK". Write command of SQL for (i) to (iv) and output for (v) to (vii).<br>Table  : SOFTDRINK | |

| DRINKCODE | DNAME | PRICE | CALORIES |
|---|---|---|---|
| 101 | Lime and Lemon | 20.00 | 120 |
| 102 | Apple Drink | 18.00 | 120 |
| 103 | Nature Nectar | 15.00 | 115 |
| 104 | Green Mango | 15.00 | 140 |
| 105 | Aam Panna | 20.00 | 135 |
| 106 | Mango Juice Bahaar | 12.00 | 150 |

| | (i) | To display names and drink codes of those drinks that have more than 120 calories. | 1 |
|---|---|---|---|
| | Ans | `SELECT DNAME, DRINKCODE`<br>`FROM SOFTDRINK`<br>`WHERE CALORIES > 120;` | |
| | | *( ½  mark for `SELECT`)*<br>*( ½  mark for `WHERE`)* | |
| | (ii) | To display drink codes, names and calories of all drinks, in descending order of calories. | 1 |

| | | | |
|---|---|---|---|
| | Ans | SELECT DRINKCODE, DNAME, CALORIES<br>FROM SOFTDRINK<br>ORDER BY CALORIES DESC; | 1 |
| | | *( ½ mark for* SELECT*)*<br>*( ½ mark for* ORDER BY*)* | |
| (iii) | | To display names and price of drinks that have price in the range 12 to 18 (both 12 and 18 included). | 1 |
| | Ans | SELECT DNAME, PRICE<br>FROM SOFTDRINK<br>WHERE PRICE BETWEEN 12 AND 18;<br>OR<br>SELECT DNAME, PRICE<br>FROM SOFTDRINK<br>WHERE PRICE>= 12 AND PRICE<= 18;<br>OR<br>SELECT DNAME, PRICE<br>FROM SOFTDRINK<br>WHERE PRICE>= 12 && PRICE<= 18; | |
| | | *( ½ mark for* SELECT*)*<br>*( ½ mark for correct use of* BETWEEN *OR* >= *and* <=*)* | |
| (iv) | | Increase the price of all drinks in the given table by 10% | 1 |
| | Ans | UPDATE SOFTDRINK<br>SET PRICE = 1.10 * PRICE;<br>OR<br>UPDATE SOFTDRINK<br>SET PRICE = PRICE + .10 * PRICE;<br>OR<br>UPDATE SOFTDRINK<br>SET PRICE = PRICE + 10/100 * PRICE; | |
| | | *( ½ mark for* UPDATE*)*<br>*( ½ mark for* SET*)* | |
| (v) | | SELECT COUNT(DISTINCT(PRICE))FROM SOFTDRINK; | 1 |
| | Ans | <u>COUNT(DISTINCT PRICE)</u><br>        4 | |
| | | *(1 mark for correct output)* | |
| (vi) | | SELECT MAX(CALORIES) FROM SOFTDRINK; | 1 |
| | Ans | <u>MAX (CALORIES)</u><br>        150 | |
| | | *(1 mark for correct output)* | |
| (vii) | | SELECT DNAME FROM SOFTDRINK<br>WHERE DNAME LIKE "%Mango%"; | 1 |

| | | | |
|---|---|---|---|
| | Ans | <u>DNAME</u><br>Green Mango<br>Mango Juice Bahaar | |
| | | *(1 mark for correct output)* | |
| | (c) | What is the degree and cardinality of 'SOFTDRINK' TABLE ? | 1 |
| | Ans | Degree = 4  , Cardinality = 6 | |
| | | *( ½  mark each for correct Degree and Cardinality)* | |
| 6 | (a) | Write MYSQL command to create the table 'LIBRARY' with given constraints.<br>Table : LIBRARY<br><table><tr><td>COLUMN_NAME</td><td>DATATYPE(SIZE)</td><td>CONSTRAINT</td></tr><tr><td>BookId</td><td>Int(10)</td><td>Primary Key</td></tr><tr><td>BookName</td><td>Varchar(40)</td><td>Not Null</td></tr><tr><td>Type</td><td>Char(4)</td><td></td></tr><tr><td>Author</td><td>Varchar(40)</td><td></td></tr><tr><td>No_Copies</td><td>Int(6)</td><td></td></tr><tr><td>Price</td><td>Decimal(8,2)</td><td></td></tr></table> | 2 |
| | Ans | ```
CREATE TABLE LIBRARY
(
      BookId Int(10) Primary Key,
      BookName Varchar(40) Not Null,
      Type Char(10),
      Author Varchar(40),
      No_Copies Int(6),
      Price Decimal(8,2)
);
``` | |
| | | *( ½  mark for* `CREATE TABLE`*)*<br>*( ½ mark for Column Names with Data Types)*<br>*( ½ mark for* `PRIMARY KEY` *Constraint)*<br>*( ½ mark for* `NOT NULL` *Constraint)* | |
| | (b) | In a Database Company, there are two tables given below:<br>Table : SALES<br><table><tr><td>SALESMANID</td><td>NAME</td><td>SALES</td><td>LOCATIONID</td></tr><tr><td>S1</td><td>ANITA SINGH ARORA</td><td>250000</td><td>102</td></tr><tr><td>S2</td><td>Y.P.SINGH</td><td>1300000</td><td>101</td></tr><tr><td>S3</td><td>TINA JAISWAL</td><td>1400000</td><td>103</td></tr><tr><td>S4</td><td>GURDEEP SINGH</td><td>1250000</td><td>102</td></tr><tr><td>S5</td><td>SIMI FAIZAL</td><td>1450000</td><td>103</td></tr></table> | |

| | | Table : LOCATION | |
|---|---|---|---|
| | | <table><tr><td>LOCATIONID</td><td>LOCATIONNAME</td></tr><tr><td>101</td><td>Delhi</td></tr><tr><td>102</td><td>Mumbai</td></tr><tr><td>103</td><td>Kolkata</td></tr><tr><td>104</td><td>Chennai</td></tr></table><br>**Write SQL queries for the following:** | |
| | (i) | To display SalesmanID, names of salesmen, LocationID with corresponding location names | 2 |
| | Ans | SELECT SALESMANID, NAME, S.LOCATIONID, LOCATIONNAME<br>FROM SALES S, LOCATION L<br>WHERE S.LOCATIONID = L.LOCATIONID;<br>OR<br>SELECT SALESMANID, NAME,<br>     SALES.LOCATIONID, LOCATIONNAME<br>FROM SALES, LOCATION<br>WHERE SALES.LOCATIONID = LOCATION.LOCATIONID;<br>OR<br>SELECT SALESMANID, NAME,<br>     LOCATION.LOCATIONID,LOCATIONAME<br>FROM SALES, LOCATION<br>WHERE SALES.LOCATIONID = LOCATION.LOCATIONID;<br>OR<br>SELECT SALES.SALESMANID,SALES.NAME,<br>     SALES.LOCATIONID, LOCATION.LOCATIONNAME<br>FROM SALES, LOCATION<br>WHERE SALES.LOCATIONID = LOCATION.LOCATIONID;<br>OR<br>SELECT SALESMANID, NAME,<br>     L.LOCATIONID, L.LOCATIONNAME<br>FROM SALES S, LOCATION L<br>WHERE S.LOCATIONID = L.LOCATIONID;<br>OR<br>SELECT S.SALESMANID, S.NAME,<br>     S.LOCATIONID, LOCATIONNAME<br>FROM SALES S, LOCATION L<br>WHERE S.LOCATIONID = L.LOCATIONID; | |
| | | *(1 mark for SELECT)*<br>*(½ mark for FROM)*<br>*(½ mark for correct use of join)* | |

| | (ii) | To display names of salesmen, sales and corresponding location names who have achieved Sales more than 1300000. | 2 |
|---|---|---|---|
| | Ans | `SELECT S.NAME, S.SALES, L.LOCATIONNAME`<br>`FROM SALES S, LOCATION L`<br>`WHERE S.LOCATIONID = L.LOCATIONID`<br>`AND S.SALES > 1300000;`<br>OR<br>`SELECT NAME, SALES, LOCATIONNAME`<br>`FROM SALES, LOCATION`<br>`WHERE SALES.LOCATIONID = LOCATION.LOCATIONID`<br>`AND SALES > 1300000;`<br>OR<br>`SELECT SALES.NAME, SALES.SALES,`<br>`LOCATION.LOCATIONNAME`<br>`FROM SALES, LOCATION`<br>`WHERE SALES.LOCATIONID = LOCATION.LOCATIONID`<br>`AND SALES > 1300000;`<br>OR<br>`SELECT NAME, SALES, LOCATIONNAME`<br>`FROM SALES S, LOCATION L`<br>`WHERE S.LOCATIONID = L.LOCATIONID`<br>`AND S.SALES > 1300000;` | |
| | | *(½ mark for SELECT)*<br>*(½ mark for FROM)*<br>*(½ mark for correct use of join)*<br>*(½ mark for sales>1300000 condition)* | |
| | (iii) | To display names of those salesmen who have 'SINGH' in their names. | 2 |
| | Ans | `SELECT NAME FROM SALES`<br>`WHERE NAME LIKE "%SINGH%";` | |
| | | *(½ mark for SELECT)*<br>*(½ mark for FROM)*<br>*(1 mark for condition)* | |
| | (iv) | Identify Primary key in the table SALES. Give reason for your choice. | 1 |
| | Ans | Primary Key(Table:SALES)– `SALESMANID`<br>Reason: It can uniquely identify each row in the table SALES. | |
| | | *(½ mark for stating SALESMANID)*<br>*(½ mark for valid reason)* | |

| | | | |
|---|---|---|---|
| | (v) | Write SQL command to change the LocationID to 104 of the Salesman with ID as S3 in the table 'SALES'. | 1 |
| | Ans | `UPDATE SALES`<br>`SET LOCATIONID=104`<br>`WHERE SALESMANID="S3";` | |
| | | *( ½ mark for* `UPDATE SET`*)*<br>*( ½ mark for* `WHERE`*)* | |
| 7 | (a) | How does e-learning allow students to study at their own pace ? | 2 |
| | Ans | E-Learning at own pace allows a student:<br>• Learning any time<br>• Learning any topic<br>• Evaluation at own pace | |
| | | *(2 marks for any one valid point)* | |
| | (b) | How does e-governance empower citizens? Write one point. | 1 |
| | Ans | e-Governance empowers citizen by providing:<br>• Access to all government instructions and rules<br>• Facility to contact government officials<br>• Lauge request/complaint<br>• Online registrations for various government services | |
| | | *(1 mark for any one valid point)* | |
| | (c) | Sabeena is creating a form for the hotel where she works. Help her to choose most appropriate controls from ListBox, ComboBox, TextField, TextArea, RadioButton, Checkbox, Label, and Command Button for the following entries:<br><br>| S.No. | Function |<br>|---|---|<br>| 1 | To input name |<br>| 2 | To allow enter gender out of M or F |<br>| 3 | To allow selecting type of room out of Deluxe, SemiDeluxe, General |<br>| 4 | To allow entering preferences of guest in the form of a paragraph | | 2 |
| | | | S.No. | Control/s |<br>|---|---|<br>| 1 | TextField |<br>| 2 | ComboBox / RadioButton |<br>| 3 | ComboBox / RadioButton |<br>| 4 | TextArea | | |
| | | *( ½ mark for each correct control)* | |