Instructions: (i) All questions are compulsory.
(ii) Programming language: IP

1. Consider the tables given below and answer the question:

BOOK

| Book_id | Book name | Author_name | Publisher | Price |
| :--- | :--- | :--- | :--- | :--- |
| C0001 | Fast Cook | LataKapoor | EPB | 355 |
| F0001 | The Tears | William Hopkins | First Publi. | 650 |
| T0001 | My First c++ | Brain \& Brooke | FPB | 350 |
| T0002 | C++ Brain works | A.W. Rossaine | TDH | 350 |
| F0002 | Thunderbolts | Anna Roberts | First Publ. | 750 |

i) What output will you get when an equi join query is executed to get book name from the book table andcust_name from the table issue?

ISSUE

| Issue_No | Book_id | Cust_name |
| :--- | :--- | :--- |
| 101 | C0001 | Hans |
| 102 | F0001 | Suman |
| 103 | F0005 | Rohan |

ii) Display book_name , cust_name, publisher and price of the books
iii)Display book_name and cust_name whose price in within the range 400 to 700 in descending order of book name
iv) Increase the price of all the books by $20 \%$
v) Identify the primary key and foreign key in the table Issue
vi) Write command to add a new column named Cust_addr in table ISSUE of type varchar(30)
vii) Check the field Book_Id of both the tables, find if there is any descrepency or not. If yes write the reason.
viii) What is the degree and cardinality of cross join (Cartesian product ) ofboth the tables?
2. Seema works for a Sports company. She wants to create controls on a form for the following functions. Choose appropriate controls from Text Field, Label, Radio Button, Check box, List, Combo Box, Button and write in the third column.

| S. No. | Controls used to | Control |
| :---: | :--- | :--- |
| 1 | Select one from three Team name |  |
| 2 | Select Sports type |  |
| 3 | Enter Number of Member |  |
| 4 | To save the details |  |

3. Write coding for the jFrame designed for a shop.

a) Write coding for jButton 3 ( unedit ) to clear all the jTextFields
b) Write coding for jButton4 ( Stop ) to exit the application
c) Write coding to for jButton 1 (Calculate Discount ) based on the Payment type selected by the user from the jComboBox1:-

Mode of PaymentDiscount (given on Bill Amount )
Cash 20\%
Credit Card 15\%
Debit Card
$10 \%$
d) Write coding to for jButton2 ( Calculate Net Amount ) :-

Net Amount $=$ Bill amount - Discount
4. a) i. If you have not executed the COMMIT command, executing which command will reverse all updates made during the current work session in MySQL?
ii. What effect does SET AUTOCOMMIT have in trasactions?
b) Write the value of z after execution of following code:
int $\mathrm{j}=4, \mathrm{z}$; $\mathrm{z}=(4 * \mathrm{j}) \% 3$;
c) Write the difference between statement 1 and statement 2 given below : Statement $1 \rightarrow \mathrm{~A}=10$ and $\quad$ Statement $2 \rightarrow \mathrm{if}(\mathrm{A}==10)$
d) Write two examples of RDBMS software.
e) Table 'Club' has 4 rows and 3 columns. Table 'Member' has 2 rows and 5 columns. What will be the cardinality of the Cartesian product of them?
f) A numeric data field CHANGER contains 25565.7765. Write a command to round off CHANGER. [2] i. up to 2 decimal places(i.e., expected result 25565.78)
ii. Whole number (i.e., expected result 25566 )
g) Name the methods used to perform the following in NetBeans:
i. To set jRadioButton1 true at run time.
ii. To return the index value of the selected item from the list.
h) Gopi Krishna is using a table Employee. It has the following columns:

Code, Name, Salary, Deptcode
He wants to display maximum salary department wise.
He wrote the following command
SELECT Deptcode, Max(Salary) FROM Employee;
But he did not get the desired result.
Rewrite the above query with necessary changes to help him get the desired output.
i) How is NULL value different from 0 (zero) value?
j) Write the UPDATE statement in MySQL to increase commission by 100.00 in the "Commission" column in the 'Emp' table.
k) When using the LIKE clause, which wildcard symbol represents any sequence of none, one or more characters?

1) Rewrite the following SQL statement after correcting error(s). Underline the corrections made.

> INSERT IN STUDENT VALUE (5, ajay ,78.5);
$\mathrm{m})$ What values will the following statements return?

| Employee_ID | NAME | Commission |
| :--- | :--- | :--- |
| 101 | Sabhyata Sharma | NULL |
| 102 | DivyaArora | 8900 |
| 103 | Faisal Zaidi | NULL |

SELECT COUNT(*) FROM Employee;
SELECT COUNT(Commission) FROM Employee;
5. Mc Donald computerized all the available dishes to be purchased and to calculate the net amount to be paid by the customer as shown in below figure.

a)Write the code for jButton1 to display the Major Dishes and Starters names and amount in
$j$ TextArea1.
Also calculate the total amount to be paid by the customer for the selected dishes and starters. Display the total amount calculated in jTextArea 1 and in a dialog box also.
b) Write coding to clear the value of jTextArea1.
6.a) What value will be stored in $j$ TextField2 and $j$ TextField3 after executing the following code:

String name="Sid Nayar";
int T=name.length ();
intN=150-T;
jTextField2.setText(Integer.toString(T));
jTextField3.setText(Integer.toString(N));
b) Write the output:

System.out.printIn(Math.pow(4.0,2.0));
System.out.printIn(Math.round(6.459));
c) Difference between:
i. jComboBox and jList ii. isSelected () and getSelectedIndex ()
d) What will be displayed in jTextArea1 after executing the following statement?
jTextArea1.setText("cbse\nFinal_Exam\tIP");
e) How can you display multiple lines of un-editable text?
f) Given a string object named Salary having value as " 55000 " stored in it. Write output of following.

JOptionPane.showMessageDialog(null," " + Salary.length( )+Integer.parseInt(Salary));
g) What will be the content of the jTextAreal after executing the following code:
int $\mathrm{n}=89$;
jTextArea1.setText(Integer.toString(++n));
h) Rewrite the following program code using Switch Case statement:
int choice=Interger.parseInt(jTextField1.getText()); if $($ choice $==1)$
jTextField2.setText("January");
else if (choice==2)
jTextField2.setText("Fabruary");
else if (choice==3)
jTextField2.setText("March");
else if (choice==4)
jTextField2.setText("April");
else if (choice==5) jTextField2.setText("May"); else jTextField2.setText("Only 1 to 5 please");
i) Write Java statement to make a jTextField1 uneditable during execution.
7. Create table SchoolBus with the following structure (with constraints given below) :

| Column Name | Datatype | Size |
| :---: | :--- | :--- |
| Rtno | Int | 2 |
| Area_Covered | Varchar | 20 |
| Capacity | Int | 3 |
| Noofstudents | Int | 3 |
| Distance | Int | 2 |
| Transporter | Varchar | 15 |
| Charges | Float |  |

## Ensure the following constraints:

a) Area_Covered should not be blank.
b) Rtno should be primary key.
c) Transporter should be within the list of values ('Air', 'Bts', 'Tel')
8. Write command for the question (i) to (vi) and write output for (vii) to (x)

SchoolBus

| Rtno | Area_covered | Capacity | Noofstudents | Distance | Transporter | Charges |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | Vasantkunj | 100 | 120 | 10 | Air | 100000 |
| 2 | HauzKhas | 80 | 80 | 10 | Bts | 85000 |
| 3 | Pitampura | 60 | 55 | 30 | Tel | 60000 |
| 4 | Rohini | 100 | 90 | 35 |  | 100000 |
| 5 | Yamuna Vihar | 50 | 60 | 20 | Air | 55000 |
| 6 | Vasantkunj | 70 | 80 | 10 | Air | 80000 |

i) Display highest and lowest charges each transporter and area covered.
ii) Display area covered for buses covering more than 20 km ., but charges less than 80000 .
iii) Display total of Noofstudents traveling for each transporter in descending order of transporter.
iv) Display total number of Area Covered and total charges for each transporter in ascending order of by total charges.
v) Add a new record with following data:

| Rtno | Area_covered | Capacity | Noofstudents | Distance | Transporter | Charges |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 11 | Motibagh | 35 | 32 | 10 |  | 35000 |

vi) Select count(*), Min(Noofstudents) from SchoolBus ;
vii) To show rtno, area_covered and average cost per student for all routes where average cost per student is - charges/noofstudents.
viii) Select Area_Covered, charges from SchoolBus where transporter like '_ t _';
ix) Select transporter from SchoolBus where Rtno in $(1,5)$;
x) Select count( distinct transporter ), count(transporter) from SchoolBus;

