KENDRIYA VIDYALAYA SANGATHAN, CHENNAI REGION

CLASS XII – COMMON PRE-BOARD EXAMINATION

Sub : Informatics Practices (065)     Time allowed : 3 hours     Maximum Marks : 70

Marking Scheme

1. (a) Mrs Shasikala is working in a Global Organization. She wants to login in his office computer from her home. Suggest the protocol for the same.
   answer : TELNET

(b) Which device is used for connecting multiple networks over different protocols?
   answer : Router

(c) Identify the following topologies.
   (1) A signal / data packet transmitting from one end to other end in linear way.
   (2) Each node is connected to two and only two neighboring nodes in circular form.
   answer : (1) BUS topology (2) Ring / Circular topology

(d) Write any two scripts included in Indian Languages on Unicode.
   answer : Devanagiri, Tamil, Malayalam, Gujarati, Telugu, Assamese etc.

(e) Explain following terms.
   (1) Apache Server (2) Linux
   answer : Apache Server : It is an open source web server for many platforms such as Linux, Unix, Microsoft Windows and other platforms.
   Linux: It is a popular open source computer operating system. Freely available, freely used it, modify it and redistribute it.
   - 1 Mark each

(f) List out any four advantages of Open Standards.
   answer :
   1) Making the data accessible to all.
   2) Application and Platform independence
   3) Diversity and inter operability in the industry
   4) Offers diverse choices for users.

(g) Differentiate between Dedicated and Non-dedicated server.
   answer :
   Non-Dedicated Server: On a small networks, a workstation which serve as a server as well as normal workstation is known as non-dedicated server. It is nor completely dedicated for serving.
   Dedicated Server: On big Network, a server reserved only for server’s different activities of server is known as dedicated server.
   - 1 mark each

2. (a) Which property of the radio button should be set to make the radio buttons mutually exclusive?
   Ans: Button Group
   (1 mark for correct answer)
(b) What is the difference between `<P>` and `<BR>` tag?
Ans: The "BR" tag inserts a single line break into the web document. The "P" tag defines a paragraph, but the paragraph is typically automatically given space before and after by the browser.
(1/2 marks for each correct answer)

(c) Write some features of XML.
Ans:
XML is designed to carry data, Not to display data.
- XML does not DO anything
- XML is self descriptive
- XML is platform independent.
- XML can be used to Create new Languages
(1/2 marks for each any two)

(d) Which HTML tag is used to for producing a Radio Button in an HTML form? Write one example.
Ans:
`<INPUT>` tag is used.
en: `<INPUT type = "Radio" name = "uname" />` (1/2 Mark)

(e) How many times does the following loop execute? What is its type (Entry controlled or Exit controlled )?
int x=2,y=20;
while( x <= y)
{
    JOptionPane.showMessageDialog(null, " x + x);
}
Ans: Infinite loop (1 marks)
Entry controlled (1 marks)

(f) Write a function in java that takes an integer number as parameter and returns its sum of digits.
Ans: 2 marks for correct answer

(g) Write the HTML code to provide the hyperlink to a website www.kvsangathan.nic.in.
Ans: `<A HREF= "www.kvsangathan.nic.in"> KVS Website</A>`

3. (a) How can we see the list of existing tables in current database?
Ans: Show Tables;

(b) While creating a table “STUDENT”, Kavi forgot to set primary key for the table on ROLLNO key. Write the statement to set the column MobileNo as the primary key of the table.
Ans: Alter Table STUDENT Add Primary Key( MobileNo);
(1 marks for correct Alter table command and 1 marks for add primary key)

(c) A student of class XII has created a table “PARTICIPANTS”. CITY is one of the columns in table. She wants to find out the names of participants who have not come from Mumbai, Delhi, Ahmedabad.

SELECT NAME FROM PARTICIPANTS WHERE CITY NOT IN('Mumbai', 'Delhi', 'Ahmedabad');
Find out the errors and rewrite the above query.
Ans: SELECT NAME FROM PARTICIPANTS WHERE CITY  NOT IN('Mumbai', 'Delhi', 'Ahmedabad');
(1 marks for IN identification and 1 marks for correct single quotes)
Other correct answer also acceptable.

(d) Predict the output of the query:
SELECT ROUND(65.95,1) - TRUNCATE(65.95,1);
Ans: 0.1
(1/2 marks for each correct answer)

(e) Write the difference between Char and Varchar data types.
Ans : Char create fixed length string. Varchar create variable length string.
(1/2 marks for each correct answer)

(f) Write the MySQL query to calculate the Cartesian Product of given two tables.
Ans: SELECT * FROM <TABLE1>, <TABLE2>; OR SELECT * FROM <TABLE1> CROSS JOIN <TABLE2>;
Consider the table HOTEL given below:

<table>
<thead>
<tr>
<th>Room_No</th>
<th>Cust_Name</th>
<th>Room_Type</th>
<th>Room_Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>204</td>
<td>Rajesh</td>
<td>Single</td>
<td>700</td>
</tr>
<tr>
<td>308</td>
<td>Anuja</td>
<td>Double AC</td>
<td>1600</td>
</tr>
<tr>
<td>105</td>
<td>Vinamra</td>
<td>Single NAC</td>
<td>500</td>
</tr>
<tr>
<td>202</td>
<td>Soma</td>
<td>Single</td>
<td>700</td>
</tr>
</tbody>
</table>

Based on this information, find output of the following queries:

(I) SELECT Room_Type, AVG(Room_Rent) FROM HOTEL GROUP BY Room_Type;
Ans:

<table>
<thead>
<tr>
<th>Room_Type</th>
<th>AVG(Room_Rent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>700</td>
</tr>
<tr>
<td>Double AC</td>
<td>1600</td>
</tr>
<tr>
<td>Single NAC</td>
<td>500</td>
</tr>
</tbody>
</table>

(II) SELECT Room_no FROM HOTEL WHERE Cust_Name LIKE '%a%';
Ans:

<table>
<thead>
<tr>
<th>Room_No</th>
</tr>
</thead>
<tbody>
<tr>
<td>204</td>
</tr>
<tr>
<td>308</td>
</tr>
<tr>
<td>105</td>
</tr>
<tr>
<td>202</td>
</tr>
</tbody>
</table>

4 (a) Define Polymorphism concept in Object Oriented Programming.
Ans: (1 mark for correct definition.)

(b) Rewrite the following if else statement using conditional operator
int i=("I am a student of Kendriya Vidyalaya".length());
if(i>25)
    System.out.println("Above Average");
else
    System.out.println("Below Average");
Ans:
int i=("I am a student of Kendriya Vidyalaya".length());
System.out.println((i>25)? "Above Average": "Below Average");
(1 mark for correct answer.)

(c) Given a string Object namely month having value as “11” stored in it. What will be the result of following code?

JOptionPane.showMessageDialog(null,"" +(month.length()+Integer.parseInt(month)));
Ans:13
(1 mark for correct answer.)

(d) Rewrite the following code using switch:

```java
char ch = Character.parseCharacter( charTF.getText( ) );
if ( ch == 'A' ) || ( ch == '1')
    System.out.println( "One" );
else if( ch == 'B' ) (ch == '2')
    System.out.println( "Two" );
else
    System.out.println( "None" );
```
Ans: char ch = Character.parseCharacter( charTF.getText( ) );
switch(ch)
(e) The following code has some error(s). Rewrite the correct code underlining all the correction made:

```java
int K=2; Sum=0;
do {
    Sum=K;
    K+=2;
} while(K<20);
JTextField1(Integer.toString(Sum));
```

Ans:

```java
int K=2; __Sum=0; // OR int K=2 __Sum=0;
do {
    __Sum=K;
    K+=2;
} while(K<=20);
JTextField1.setText(Integer.toString(__Sum));
```

(1/2 marks for each correction )

(f) What will be the value of P and Q after execution of the following code:

```java
int P,Q=100;
for(P=10;P<=12;P++)
    Q+=P;
JOptionPane.showMessageDialog(null, "P:" + P + "Q:" + Q + ");
```

Ans: P:13 Q:133

(1 mark for each correct answer)

(g) Rajani is a programmer in GeSoft Ltd. She designed a GUI to display employees having salary in the given range.

![Employee Details](image)

Write the code for the following

1) Mention the name of all the components used to create above JFrame (1)
2) Write the java statements to execute the query to display the records in the
JFrame, if the database name is Firm and table name is Employee. (4)
3) Display code for clear and exit buttons (1)

   Ans:
   1) jTable, jLabel, jButton, jTextField - 1 marks for all correct ans
   2) Complete code including try catch 4 marks for correct answer
   3) ½ marks for clear and ½ marks for exit code

5. (a) What do you understand by primary key and candidate key?
Ans: Primary Key: use to set unique value in each row. And use to refer in other table as a foreign key.
Candidate key is use to set unique value in each row.

(b) Write the output of the following MySQL statements:
(i) SELECT MOD(ROUND(124.60),5);
Ans: 4.6
(ii) SELECT SUBSTR(TRIM('     I LOVE PROGRAMMING     ' ),3,5);
Ans: LOVE
(iii) SELECT CONCAT("KENDRIYA ", "VIDYALAYA") "FULL NAME";
Ans:

<table>
<thead>
<tr>
<th>FULL NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>KENDRIYA VIDYALAYA</td>
</tr>
</tbody>
</table>

(iv) SELECT WEEKDAY(CURDATE());
Ans:

<table>
<thead>
<tr>
<th>WEEKDAY(CURDATE())</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 for Monday .......</td>
</tr>
<tr>
<td>6 for Sunday</td>
</tr>
<tr>
<td>As per exam date day</td>
</tr>
</tbody>
</table>

(c) Consider the table STUDENT given below, write MySQL Commands for (i) to (v) and output for (vi) to (viii):

<table>
<thead>
<tr>
<th>Name</th>
<th>Class</th>
<th>DOB</th>
<th>Sex</th>
<th>City</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nanda</td>
<td>X</td>
<td>6/6/95</td>
<td>M</td>
<td>Agra</td>
<td>551</td>
</tr>
<tr>
<td>Saurabh</td>
<td>XII</td>
<td>7/5/93</td>
<td>M</td>
<td>Mumbai</td>
<td>462</td>
</tr>
<tr>
<td>Sanal</td>
<td>XI</td>
<td>6/5/94</td>
<td>F</td>
<td>Delhi</td>
<td>400</td>
</tr>
<tr>
<td>Trisla</td>
<td>XII</td>
<td>8/8/95</td>
<td>F</td>
<td>Mumbai</td>
<td>450</td>
</tr>
<tr>
<td>Store</td>
<td>XII</td>
<td>8/10/95</td>
<td>M</td>
<td>Delhi</td>
<td>369</td>
</tr>
<tr>
<td>Marisla</td>
<td>XI</td>
<td>12/12/94</td>
<td>M</td>
<td>Dubai</td>
<td>250</td>
</tr>
<tr>
<td>Neha</td>
<td>X</td>
<td>8/12/95</td>
<td>F</td>
<td>Moscow</td>
<td>377</td>
</tr>
<tr>
<td>Nishant</td>
<td>X</td>
<td>12/6/95</td>
<td>M</td>
<td>Moscow</td>
<td>489</td>
</tr>
</tbody>
</table>

(i) To display all the information of males whose city is NEITHER Delhi or
Mumbai. (1)
Ans: SELECT * FROM STUDENT WHERE Sex='M' AND NOT City IN('Delhi', 'Mumbai');

(ii) To display the details of all the students whose date of birth is after Nishant’s Birth date 12/6/95. (1)
Ans: SELECT * FROM STUDENT WHERE DOB> ‘12/6/95’;

(iii) To Display all information about class XII students rankwise (descending order).
(1/2)
Ans: SELECT * FROM STUDENT WHERE Class = 'XII' order by Marks desc;

(iv) List names of all students in agewise. (1/2)
Ans: SELECT Name FROM STUDENT ORDER BY DOB ;
or
Ans: SELECT Name FROM STUDENT ORDER BY DOB DESC;

(v) To count the number of students in XII Class of Mumbai city. (1/2)
Ans: SELECT COUNT(*) FROM STUDENT WHERE Class = 'XII' AND City = 'Mumbai';

(vi) SELECT DISTINCT (Sex) FROM STUDENT. (1/2)
Ans:

Distinct (Sex)
M
F

(vii) SELECT AVG(Marks), Class FROM STUDENT GROUP BY class. (1)
Ans:

<table>
<thead>
<tr>
<th>AVG(Marks)</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>459</td>
<td>X</td>
</tr>
<tr>
<td>427</td>
<td>XII</td>
</tr>
<tr>
<td>325</td>
<td>XI</td>
</tr>
</tbody>
</table>

(viii) SELECT COUNT(*) FROM STUDENT WHERE Class = 'XI' (1)
Ans:
count (*)
2

6. (a) Table Employee

<table>
<thead>
<tr>
<th>Column Name</th>
<th>EmpID</th>
<th>EmpName</th>
<th>EmpAdd</th>
<th>EmpPhone</th>
<th>EmpSal</th>
<th>DeptID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Type</td>
<td>Primary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Foreign</td>
</tr>
<tr>
<td>Null/Unique</td>
<td>Not Null</td>
<td>Unique</td>
<td></td>
<td></td>
<td></td>
<td>Department</td>
</tr>
<tr>
<td>Foreign Key Table Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign Key Column</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DeptID</td>
</tr>
<tr>
<td>Data type</td>
<td>Integer</td>
<td>Char</td>
<td>Varchar</td>
<td>Integer</td>
<td>Double</td>
<td>Integer</td>
</tr>
<tr>
<td>Length</td>
<td>6</td>
<td>20</td>
<td>30</td>
<td>10</td>
<td>9.2</td>
<td>2</td>
</tr>
<tr>
<td>Constraint</td>
<td>&lt;20000</td>
<td>&lt;20000</td>
<td>&lt;20000</td>
<td>&lt;20000</td>
<td>&lt;20000</td>
<td>&lt;20000</td>
</tr>
</tbody>
</table>

Create Table Employee as per following Table Instance Chart.

Ans:
Create Table Employee(EmpID Integer(6) Primary Key, EmpName Char(20) Not Null, EmpAdd Varchar(30), EmpPhone Integer(10) Unique, EmpSal Double(9,2) CHECK EmpSal<20000, DeptID Integer(2), Foreign Key (DeptID) References Department(DeptID));
(2 marks for correct answer partial correct answer partial marks cut.)
In a database there are two tables Books and Issued as shown below.

<table>
<thead>
<tr>
<th>Books</th>
<th>Issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book_Id</td>
<td>Book_name</td>
</tr>
<tr>
<td>C001</td>
<td>Fast Cook</td>
</tr>
<tr>
<td>F001</td>
<td>The Tears</td>
</tr>
<tr>
<td>T001</td>
<td>C++</td>
</tr>
<tr>
<td>T002</td>
<td>VB</td>
</tr>
<tr>
<td>F002</td>
<td>NetBeans</td>
</tr>
</tbody>
</table>

(i) Identify the foreign key column in the table Issued.

Ans: Book_Id

(ii) How many rows and columns will be there in the Natural Join of these two tables?

Ans: Rows:3 , Columns: 4

(1/2 marks for each correct answer)

(c) Study the following table TEACHER and SALARY and write the MySQL commands for the questions (i) and (ii) and give outputs for MySQL queries (iii) and (iv).

Table : TEACHER

<table>
<thead>
<tr>
<th>SID</th>
<th>NAME</th>
<th>DEPT</th>
<th>SEX</th>
<th>EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Siddharth</td>
<td>Computer</td>
<td>M</td>
<td>12</td>
</tr>
<tr>
<td>104</td>
<td>Raghav</td>
<td>Physics</td>
<td>M</td>
<td>5</td>
</tr>
<tr>
<td>107</td>
<td>Naman</td>
<td>Chemistry</td>
<td>M</td>
<td>10</td>
</tr>
<tr>
<td>114</td>
<td>Nupur</td>
<td>Computer</td>
<td>F</td>
<td>3</td>
</tr>
<tr>
<td>109</td>
<td>Janvi</td>
<td>Physics</td>
<td>F</td>
<td>9</td>
</tr>
<tr>
<td>105</td>
<td>Rama</td>
<td>Accounts</td>
<td>M</td>
<td>10</td>
</tr>
<tr>
<td>117</td>
<td>James</td>
<td>Computer</td>
<td>F</td>
<td>3</td>
</tr>
<tr>
<td>111</td>
<td>Binoy</td>
<td>Accounts</td>
<td>F</td>
<td>12</td>
</tr>
<tr>
<td>130</td>
<td>Samuel</td>
<td>Computer</td>
<td>M</td>
<td>15</td>
</tr>
</tbody>
</table>

Table : SALARY

<table>
<thead>
<tr>
<th>SID</th>
<th>BASIC</th>
<th>ALLOWANCE</th>
<th>DA</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>12000</td>
<td>1000</td>
<td>300</td>
</tr>
<tr>
<td>104</td>
<td>23000</td>
<td>2300</td>
<td>500</td>
</tr>
<tr>
<td>107</td>
<td>32000</td>
<td>4000</td>
<td>500</td>
</tr>
<tr>
<td>114</td>
<td>12000</td>
<td>5200</td>
<td>1000</td>
</tr>
<tr>
<td>109</td>
<td>42000</td>
<td>1700</td>
<td>200</td>
</tr>
<tr>
<td>105</td>
<td>18900</td>
<td>1690</td>
<td>300</td>
</tr>
<tr>
<td>130</td>
<td>21700</td>
<td>2600</td>
<td>300</td>
</tr>
</tbody>
</table>

(i) Display NAME and DA of all staff who are in Accounts department and having more than 10 years of experience and DA is more than 300.

Ans: Select NAME, DA from TEACHER T, SALARY S Where DEPT= 'Accounts' AND EXPERIENCE >10 AND DA>300 AND S.SID=T.SID;

(2 marks for correct answer and 1 marks for partial correct answer)

(ii) Display the NAME and SALARY of all staff whose salary is more than average salary. (SALARY=BASIC +ALLOWANCE+ DA)

Ans: Select NAME, BASIC+ALLOWANCE+DA AS 'SALARY' from TEACHER T, SALARY S Where (BASIC+ALLOWANCE+DA)>(select AVG(BASIC +ALLOWANCE+ DA) from salary);

(2 marks for correct answer and 1 marks for partial correct answer)

(iii) Select NAME, DA, BASIC from TEACHER, SALARY Where BASIC>20000 and TEACHER.SID=SALARY.SID;

(1)
<table>
<thead>
<tr>
<th>NAME</th>
<th>DA</th>
<th>BASIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raghav</td>
<td>500</td>
<td>23000</td>
</tr>
<tr>
<td>Naman</td>
<td>500</td>
<td>32000</td>
</tr>
<tr>
<td>Janvi</td>
<td>200</td>
<td>42000</td>
</tr>
<tr>
<td>Samuel</td>
<td>300</td>
<td>21700</td>
</tr>
</tbody>
</table>

(iv) Select NAME, DEPT, SEX, BASIC, DA from TEACHER, SALARY Where DEPT LIKE ‘%o%’ and DA >=500 and TEACHER.SID=SALARY.SID;

Ans:

<table>
<thead>
<tr>
<th>NAME</th>
<th>DEPT</th>
<th>SEX</th>
<th>BASIC</th>
<th>DA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nupur</td>
<td>Computer</td>
<td>F</td>
<td>12000</td>
<td>1000</td>
</tr>
</tbody>
</table>

7. (a) Write any two social impact of e-business.

Answer:
1. Un-shortened supply chain.
2. Improved customer service

(b) Define front – end of an information system.

Answer:
This is the user interface that the user sees and which is responsible for interacting with the user. The front end is responsible for receiving user’s queries, requests etc and passing it over to the back-end. The front-end basically includes graphical user interfaces and the input forms, through which users interact with the system. The interface allows users to issue commands to the system and view the results, and in case of the input forms, enter and modify data.

(c) Mrs. Ranjeeta is developing a software for the Company. She wishes to create controls on a form for the following functions. Choose appropriate controls from Text field, Label, Radio button, Check box, List box, Combo box, Button and write in the third column.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Control used to</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enter Employee number</td>
<td>Text Field</td>
</tr>
<tr>
<td>2</td>
<td>Employee Name</td>
<td>Text Field</td>
</tr>
<tr>
<td>3</td>
<td>Select Department</td>
<td>list box/combo box/radio button</td>
</tr>
<tr>
<td>4</td>
<td>Select Manager Name</td>
<td>list box/combo box/radio button</td>
</tr>
</tbody>
</table>

Answer:

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