Roll No. ☐☐☐☐☐☐☐

- Please check that this question paper contains 7 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 students will read the question paper only and will not write any answer on the answer script during this period.

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First Pre-Board Examination, 2017-2018

Informatics Practices

Grade : 12   **Time: 3 hours**

Date: 00.00.0000   **Max Marks:70**

General Instructions:

    i.   *All questions are compulsory.*

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

1. a) Which of the following are valid IP addresses? Give reason(s) if invalid.

    i)   121.23.1.45
    ii) 192.168.0. 254
    iii) 192.168.0.1
    iv) 198.-1.1.1   (1)

  b) How do Computer networks reduce hardware costs of an organization? Explain with the help of an example.   (1)

  c) What is the use of a repeater in a network?   (1)

d) Draw a network layout of bus topology to connect 5 client computers and one server computer.   (1)

e) Why is switch called an intelligent hub?   (2)

f) Distinguish between Phonetic text entry and keymap based entry for typing Indian language text.   (2)

g) Explain the terms Firewall and Cyber Law.   (2)

2. a) Write the value that will be assigned to variable **C** after executing the statement:
    C = 25-5*4/2-10+4;   (1)

b) While working in Netbeans IDE, Amit wants the text in a Text Area should move to the next line without breaking the word. Which properties would help him do that?   (1)

c) What is the purpose of **continue** in a loop?   (1)

d) Explain the meaning of the following statement with the help of an example. "Tags are not predefined in XML"   (1)

e) What will be displayed in jTextField1 after the following code is executed ? Also write how many times will the loop execute.   (2)

```
a = 5;
b = 2;
while (b != 0)
{      r = a%b;
       a = b;
       b = r;
}      jTextField1.setText( "" +a);
```

f) Write the output of the following HTML code: (2)

```
<ol  type = I start="4">
<li>Bake the mixture in oven for an hour</li>
<li>Remove from oven</li>
<li>Allow the mixture to stand for ten minutes</li>
<li>Serve</li>
</ol>
```

g) Write a Java code that takes principal, rate and time as inputs from textfields, calculates and displays the compound interest in a dialog box.   (2)

3. a) Write the MySQL command to view the constraints of EMP table.   (1)

b) Define polymorphism with respect to object oriented programming.   (1)

c) Given a string object named VALUE having value as "65000"stored in it. Obtain the output of the following: (1)

JOptionPane.showMessageDialog(null, " "+VALUE.length() +Integer.parseInt(VALUE));

d) Charvi wants to delete the records which have Rama as the first_ name in the EMP table. She wrote the following SQL command which resulted in error. Rewrite the correct command.

DELETE Rama first_name FROM EMP; (1)

e) Rajesh created a table **Student** in MySQL with three columns. Later on he realized that there should have been one more column named **stud_Id** Char(3) as the first column. Write the MySQL command that he should write now to add this column to the table. (1)

f) Harish is not able to change the value in a column of a table to NULL. What can be the possible constraints that might be specified for that column. (1)

g) Predict the output of the following MySQL commands: (1)

   i. Select round(12345.7895,2)+ mod(12.12,3);

   ii. Select concat(left("Information",5),right("Technology",5));

h) Table CUSTOMER has 8 rows and 6 columns, Table BANK has 4 rows and 6 columns. If two columns are added to the BANK table and four CUSTOMERS delete their accounts then what will be the cardinality and degree of the Cartesian product of the two tables? (1)

i) Differentiate between ALTER and UPDATE commands of MySQL. (2)

4. a) What is Resultset? (1)

b) What values will be assigned to the variables x, y, z and t after execution of the following code: (2)

```
String s1, s2, s3, x, y, z;
int t;
s1 = "classxii";
s2 = "cbseboard";
s3 = "aisse2016 ";
x = s1.substring(5, 7);
y = s2.concat(s1);
z = s3.concat(y.substring(3,6));
t = z.length();
```

c) Rewrite the following code using **while** loop: (2)

```
int s=0, m=4;

for(int i=9;i>=6;i- - )

{   if (i%3==0)

       s=s+i;

    else     s=s-i;   }
```

d) Write a java program to accept a string and count the number of vowels in it. (2)

e) The following code has some errors. 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; }  }
```

f) Ms. Angela works as a programmer in a Bus Tour Company named "**Heritage Experiences**". A group may choose **any one** destination out of Alwar, Jaipur and Udaipur. Angela has designed a software to compute charges to be paid by the entire group. A screenshot of the same is shown below, help her in writing the code: (6)

i. When 'Calculate Charges' button is clicked, '**Total Charges'** , '**Discount Amount'**, '**Amount to Pay'** should be calculated and displayed in the respective textfields. The Charges per person for various destinations are as follows:

Destination	Amount
Alwar	200
Jaipur	500
Udaipur	900

- '**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 pressed all the textfields should be cleared and when the **Exit** button is pressed the application should close.

5. a) Distinguish between single row and aggregate functions of MySQL. (1)

   b) How is ON clause different from USING clause? (2)

   c) Consider the following Table Item and write MySQL commands for (i) to (iv) and output for (v) to (vii) (7)

Table: Item

ItemCode	Itemname	Deptcode	Qty	UnitPrice	StockDate
444	Drawing Copy	101	10	21	2001-06-13
445	Sharpner	102	25	13	2002-07-04
446	Natraj Eraser	103	12	20	2001-08-26
450	Geometry Box	102	45	30	2002-06-07
455	Office File	103	15	10	2002-05-08

(i) To display ItemCode, ItemName with Unit Price in descending order of Unit Price.

(ii) Display total number of items department wise.

(iii) Display ItemCode and ItemName of those items that were stocked in 2002.

(iv) Display those items whose name is atleast 6 characters long.

(v) SELECT sum(UnitPrice) from Item

   group by Deptcode

   having sum(UnitPrice)>=30 ;

(vi) SELECT Dayofmonth(StockDate)

   from Item

   where Qty between 10 and 25;

(vii) SELECT Substr(Itemname,2,3) from Item where Qty>=25;

6. a) Write MySQL command to create the table **LOAN** with the following structure. (2)

Field Name	Data type	Size	Constraint
Loan_Number	Integer	4	Primary key
Payment_Number	Varchar	3	Unique

Payment_Date	Date		
Payment_Amount	Decimal	8,2	Not Null

b) Consider the given table **Department:** (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?

c) Consider the tables **Hospital** and **Doctor** given below. Write MySQL commands for the following: (6)

Table:Hospital

Name	Patient_No	Date_of_adm	Doctor_No
Shama	P144	2009-05-23	333
Rahul	P232	2008-03-04	555
Arvind	P355	2008-03-03	777
Pooja	P705	2009-04-05	567

Table : Doctor

Doctor_No	Doctor_Name	Specialty	Fees

555	M. K. Singh	Ortho	400
333	P. Rajesh	Dental	350
777	Sara A	Paediatrics	560
567	Paresh	ENT	450

i) Identify the Primary keys and the foreign key from the given tables. Justify your answer.

ii) Display Patient Name ,Doctor's name and their specialty whose fees >300.

iii) Increase the fees of those doctors by 10% whose names end with 'h'.

7. a) How does e-Business help organizations in providing better customer services? (1)

b) List two advantages of e-Governance to a disabled person. (2)

c) Sara works for a company. She wishes to create controls on a form for the following functions. Suggest controls to her. Choose appropriate controls from Text box, Label, Radio button, Check box, List box, Combo box, Text Area, Command button. (2)

SNO	Control used to	Name of control
1	Enter Customer Name	
2	Choose Gender(Male/Female)	
3	Choose department from a list of available departments	
4	To enter address in the form of paragraph	