

Pre Board -1 Examination – December 2019

Roll No.

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Series SSR / 1

Code No. 265/ 1 / 1

- Please check that this question paper contains 9 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.

Informatics Practices (Old)

Class : XII
Date : 05-12-2019

Time allowed : 3 hrs.
Max marks : 70

Note:

- (i) All questions are compulsory, however Questions 2,4,6 have internal choices
- (ii) Answer the questions after carefully reading the text.

1) Answer the following questions:

- a) Write two ways used to make sure that the data is secure and is available only to the intended and authorized persons in a network. [2]
- b) Explain in brief any one freedom offered by Open Source Software. Write one example for each of the following:
 - i) An Open Source Operating System
 - ii) An Open Source Office Suite [2]
- c) Expand the following terms: [1]
 - i) GSM
 - ii) IP
- d) Name the devices: [1]
 - i) This device constantly looks at all the data entering and exiting your connection, can block or reject data in response to an established rule.
 - ii) This device connects multiple nodes to form a network. It redirects the received information only to the intended node(s).
- e) How a Phonetic text entry is different from Keymap based text entry? [1]
- f) Deepti is confused between the terms ASCII and Unicode. Help her by differentiating between ASCII and Unicode. [1]
- g) Daniel has just started his hands on practice of networking. Help him in the following:

- i) He has just connected 10 computers of his resource room to establish a network. Name the network (LAN/MAN/PAN/WAN) which will be formed. Mention any two main benefits which Daniel could achieve by establishing a network.
- ii) Help him in identifying the correct topology which has following characteristics:
 - It's very easy to diagnose the fault in this topology.
 - Failure of central hub/switch leads to failure of the entire network.

Depict the topology by drawing the diagram showing 4 interconnected computers through central hub/switch. [2]

2) Answer the following questions:

- a) Define the term 'database transaction'. What happens when ROLLBACK command is issued in a transaction process? What is MySQL used for? Abhay wants to start learning MySQL. From where can he obtain the MySQL software? [2]

- b) What will be the output from the following two codes? [1]

First Code:

```
int x=10;
while(x>1)
{x=x/3;
 ++x;}
System.out.println(x);
```

Second Code :

```
int i = 0;
int z = 10;
do{i = i+2;
 z--;}
while (i<10);
System.out.print(i+", "+z);
```

OR

Predict the output of the following code:

```
int a=5, b = 2;
while (a < 20)
{a = a + b;
 b = a - b;
 JOptionPane.showMessageDialog(null,a); }
```

- c) Given below is HTML code. Rewrite code after correcting errors. Underline each correction. [2]

```
<ol type = "A" start=D">
<li>Bake in oven for an hour
<li>Remove from oven
<li>Serve
```

OR

Mention any two main differences between HTML and XML. Also mention any two main features of XML for which it's used extensively now a days.

d) How many times will the loop execute? [1]

```
int value1 =7,value2=19;
do
{ JOptionPane.showMessageDialog(null,value1+value2);
  value1=value1+2;
  value2=value2-2; }
while(value1<=value2);
```

e) Study the following code and write the output produced by it: [2]

```
class Complex {double re,im;
               public Complex(double re, double im)
               {this.re = re;
                this.im = im;}
public String toString(){return "("+re+"+"+im+"i");}
}
```

```
Complex c = new Complex(10, 15);
System.out.println("Complex number is " + c);
Private members of a class are inherited to sub class. Explain.
```

OR

Find output of the following Java code snippet:

```
String City="Delhi", PinCode="110001", Str="";
City=City+" "+PinCode;
JOptionPane.showMessageDialog(null, City);
int l=City.length();
int i=0;
while(i<l)
{ Str=Str+City.substring(6);
  i=i+15; }
JOptionPane.showMessageDialog(null, Str);
```

f) Mention the purpose of the HTML tags
 and . [1]

OR

Explain the tags <HR> and <TABLE> in HTML.

g) Write Java code to declare a variable named Price of integer type. Assign a value 10 to this variable. Overwrite the value of variable with its double value. Decrease the value of variable by 5. [1]

OR

Help Manish in identifying the incorrect variable name with justification from the following:

- i) unit@price;
- ii) fee;
- iii)userid;
- iv) avg marks;

3) Answer the following questions:

a) Name any one Single row function and any one Aggregate function. Also mention the difference in their working. [1]

- b) Consider the following table names EXAM with details of marks. Write command of MySQL for (i) to (iv) and Output for (v) to (vii). [7]

Adno	SName	Percentage	Clsection	Stream
R001	Sushant	90.2	12A	Science
R002	Vaidyanath	80.5	12B	Humanities
R003	Miara	68.9	12B	Science
R004	Niara	96.0	12A	Commerce
R005	Shinjini	88.9	12D	Commerce

- To display all information of the students of humanities in descending order of percentage
- To display Adno, Name, Percentage and Stream of those students whose name is less than 6 characters long.
- To add another column BusFees with datatype and size as decimal (8,2).
- To increase percentage by 2% of all the humanities students.
- SELECT COUNT(*) FROM EXAM;
- SELECT Sname, Percentage FROM EXAM WHERE Name LIKE 'N%';
- SELECT ROUND(Percentage,0) FROM EXAM WHERE Adno="R005";

c) Name any two advantages of DBMS. [1]

d) Define equi join and natural join. [1]

4) Answer the following questions:

- a) Which property is to be used during design time to add a list of countries in the list box? Ms. Rachel is designing a frame in Netbeans in which she has used four Radio Button controls. She wants that only one radio button out of four should be selected at a time. Which property of the Radio Button should be selected to achieve the same? [1]

OR

Ms. Meena is not able to understand the statement "Java is a case sensitive language". Help her in understanding the above mentioned statement by giving suitable example.

- b) Mention any two basic methods commonly available with the four controls JButton, JLabel, JTextField, JCheckBox. [1]

OR

Mention any one advantage of JCheckBox control over JRadioButton control.

- c) Mr. Sahil, a programmer in a VISA processing company, has written the following code. Help him in rewrite the code using if else. [2]

```
int ch=Integer.parseInt(jTextField1.getText());
switch(ch)
{case 1: jTextField2.setText("Short Term Single Entry Visa
Granted");
case 2: jTextField2.setText("Short Term Multiple Entry Visa
Granted");
```

```
case 3: jTextField2.setText("Long Term Single Entry Visa  
Granted");  
case 4: jTextField2.setText("Long Term Multiple Entry Visa  
Granted");  
default: jTextField2.setText("Invalid Entry");}
```

OR

Rewrite the following code using for loop:

```
int attempt=0;  
while(attempt<=3)  
{ String login=jTextField1.getText();  
  String pwd=jTextField2.getText();  
  if(login.equals("XII") && pwd.equals("IP"))  
  { JOptionPane.showMessageDialog(null, "Welcome");  
    break; }  
  else  
  { JOptionPane.showMessageDialog(null, "Pls try again");  
    attempt++; } }
```

- d) What is the return type of Class.forName() method? What is Exception handling? [1]
- e) The following code has error(s). Rewrite the correct code underlining all the corrections made : [2]

```
value1=1, value2=2;  
while(value1<value2)  
jTextArea1.append("\n"+value1*value2;  
value1++ }
```

OR

Anju, a beginner in java programming has written following code with some mistakes:

```
int k=0;  
string s="Save Earth";  
int l=s.length;  
for(int i=0;k<l;i++)  
{   jTextField1.append(s+\n);  
  k++; };
```

Help her in identifying and correcting the errors.

- f) Study the following code and write the output: [1]

```
String str = "Java Programming";  
String str1 = "Java";  
System.out.println(str.substring(5, 9));  
System.out.println(str.replace('a', '9'));  
System.out.println(str.indexOf("a"));  
System.out.println(str1.compareTo(str));
```

OR

What will be displayed in JTextArea1 after the following code is executed:

```
int i;
for(i=10;i<50;i=i+30)
{
    i=i+15;
    JTextArea1.append(""+i);
}
JTextArea1.append("\n"+i);
```

g) Write the java code to print a Pyramid as given: [1]

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

h) Mr. Pawan works as a programmer in “ABC Marketing Company” where he has designed a Salary generator software to generate the salary of salesman in which Name and Salary are entered by the user. A screenshot of the same is shown below:

Units Sold	Commission (In Rs)
1 to 20	500
20 to 40	1000
>40	2000

Facility	Charges
Transport	500
Mess	2000

Help him in writing the code to do the following:

i) After selecting appropriate Radio Button, when ‘Commission’ button is clicked, commission should be displayed in the respective text field as each Salesman will get a commission based on the units sold according to the above criteria. [2]

ii) When ‘Gross Salary’ button is clicked, Gross Salary should be calculated and displayed in the respective text field as per the given formulae:

$$\text{Gross Salary} = \text{Salary} + \text{Commission} \quad [1]$$

iii) After required selection of Checkbox(es), when ‘Facility Charges’ button is clicked, Facility charges will be displayed in the respective text field according to the above criteria: [2]

- iv) Money will be deducted from the Gross Salary according to the facilities opted by the employee. When 'Net Salary' button is clicked, Net Salary should be calculated and displayed in the respective text field as per the given formulae: $\text{Net Salary} = \text{Gross Salary} - \text{Deductions}$ [1]

OR

Write java statement to make the Net Salary text field named txtNetSal un-editable at run time.

5) Answer the following questions:

- a) Write any one similarity and one difference between DDL and DML commands. While using SQL pattern matching, what is the difference between '_' (underscore) and '%' wildcard symbols? [2]
- b) Mr. Sanghi created two tables with CITY as Primary key in Table1 and Foreign Key in Table2. While inserting a row in Table2, Mr. Sanghi is not able to enter a value in the column CITY. What could be the possible reason for it? Write the SQL command to view the constraints of EMP table. [2]
- c) Consider the following table given below: [4]

Library

Bid	Name	Author	Price	Mem_name	Issue_Date	Status
B01	Wings of Fire	A.P.J Abdul Kalam	550	Sarita	2018-05-20	Returned
B02	The Monk who sold his Ferrari	Robin Sharma	340	Simmi	2018-03-15	Not Returned
B03	You can win	Shiv Khera	230	Rajat	2018-04-16	Returned
B04	Who moved my cheese	Spencer Jhonson	450	Ram	2018-03-17	Not Returned
B05	Real Success	Patrick Mather-Pike	250	Sia	2018-06-18	Not Returned

- i) Suggest the suitable data type for Bid column.
- ii) Suggest the suitable SQL command to remove the column named Mem_name.
- iii) Mention the significance of Bid column in table Library.
- iv) Suggest the suitable command to display a list of the books in a sequence so that first all the book's name should be displayed which has been returned and after that all the book's name which has not been returned should be displayed.
- d) Write the output of the following SQL queries: [3]
- i) `SELECT POW(INSTR('My_Database','_'),2);`
- ii) `SELECT TRUNCATE(8.975,2);`
- iii) `SELECT MID('HONESTY WINS',3,4);`

6) Answer the following questions:

a) Write SQL query to create a table "Job" with the following structure: [2]

Field name	Datatype	Size	Constraint
J Code	Integer	3	Primary Key
J Description	Varchar	25	Not Null
J Chg Hr	Integer		
J Lastupdate	Date		

OR

Write SQL query to create a table 'Player' with the following structure:

Field	Type	Constraint
playerid	Integer	Primary key
name	Varchar(50)	
height	Integer	
weight	Integer	
datebirth	Date	
teamname	Varchar(50)	

b) In a Bank's database, there are two tables 'Customer' and 'Transaction' as shown below.

Table : PATIENT

PCODE	NAME	PHONE	DTADMIT	TESTID
6473	Amit Sharma	912356899	19-JUN-2017	T102
7134	Rose Mathew	886744536	12-NOV-2017	T101
8786	Tina Sharma Arora	889088765	06-DEC-2017	T102
6477	Vijay Shah	714567445	07-DEC-2017	T502
7658	Venkat Fazal	865545343	31-DEC-2017	T101

Note : NAME holds the Names of patients.DTADMIT holds Dates on which a patient was admitted to hospital.TESTID holds Ids of Medical tests done on patients.

Table : TEST

TESTID	TESTNAME	COST
T101	Platelet Count	200.00
T102	Hemogram	190.00
T301	Malaria Detection	350.00
T502	Glucose Test	150.00

Consider these tables while attempting the questions given below:

i. Name the Primary keys in both the tables. State the reason for your choice.

OR

[1]

Briefly explain the concept of Candidate keys.

With reference to the above given tables write commands in SQL for (ii) to (v).

- ii. To display Names of Patients, TESTID and Test names for those Patients who were admitted between '01-DEC-2017' and '15-DEC-2017' (both dates inclusive). [1]

OR

Identify foreign key in 'PATIENT' table. Define foreign key.

- iii. To display Names of Patients, Test names and Cost of Test for those Patients who have "Sharma" in their names. [2]

OR

Write a query to display patient's name along with their test details.

- iv. To increase the cost of those tests in the table "TEST" by Rs. 50.00 that have cost below Rs. 200.00 [1]

OR

How many rows and column will be there in the Cartesian product of the above given tables. Also mention the degree and cardinality of the Cartesian product of the above given tables.

- v. Differentiate between where and having clauses. [2]

OR

Discuss the significance of having clause with group by statement with suitable example.

7) Answer the following questions:

- a) Observe the given domains carefully and identify the category it belongs out of e-Governance/e-Business/e-Learning:
i) AMAZON: www.amazon.in
ii) PMO (Prime Minister's office): www.pmo.gov.in [2]
- b) Mention any one major environmental benefits of ICT to Ms. Megha so that she can utilize it in her future "Save Earth" campaign. [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.



