

AMRITA VIDYALAYAM

AMRITA PRE BOARD EXAMINATION 2 - 2018 - '19

Class : XII

Marks : 70

Time : 3 hrs

INFORMATICS PRACTICES

All questions are compulsory.

Answer all the questions only after reading the questions carefully.

- 1.a) Which communication channel is suitable when very fast communication between two offices in two different countries are required? State two disadvantages of the channel. **2**
- b) Name the device which handles the connection between two or more networks which may have different protocols. Who provides the IP address to internet users and how many? **2**
- c) Write two advantages of optical fibre cable. **2**
- d) What precaution must be taken with regards to payments while shopping online? **2**
- e) Mr. Ram is interested in transferring songs from his mobile to Mr. Shyam's mobile. Suggest two suitable wireless options he may use for doing the same. **2**
- 2.a) While making a form in Netbeans, Ms Jayalakshmi wants to enter students roll no. and gender into a form. Name the controls that she will use in her form. **1**
- b) What will be the output in JTextArea1 when the object of class Hello invoke the function display()? **2**
- ```
public class Hello {
 int a;
 void set_a(int num) {
 a= num;
 }
 int get_a() {
 return a;
 }
 void display()
 {
 Hello ob1=new Hello();
 Hello ob2=new Hello();
 ob1.set_a(10);
 ob2.set_a(99);

 JTextArea1.append(""+ob1.get_a() +"\n");
 JTextArea1.append(""+ob2.get_a() +"\n");
 int x=ob1.get_a();
 JTextArea1.append(""+ ++x +"\n");
 JTextArea1.append(""+ x-);
 }
}
```
- c) Explain the following. **2**
- (i) `<tr>... </tr>` (ii) `<td>.....</td>`
- d) Mr.Satish wants to remove a column AC\_TYPE form **Account** table. What MySQL command should he use? **1**
- e) Define E-commerce. **1**
- 3.a) What is Polymorphism? Explain two examples of polymorphism with examples. **3**
- b) Carefully study the code given below. **2**

```
String Message = "Hello! How are you?",msg1,msg2;
msg1=Message.substring(7);
```

```
msg2=Message.substring(0,5);
```

What will be the content of variable msg1 and msg2 after the above statements are executed?

- c) What is JDBC? What is the importance of JDBC in establishing database connectivity? **2**  
d) Explain the term ResultSet with respect to a database. **1**  
e) Consider the following code and answer the questions that follow.

```
String Query="select name,email from contact; "
ResultSet rs=stmt.executeQuery(query); //Statement1
If(rs.next()) //Statement2
{
String name=rs.getString("name");
String email=rs.getString("email");
jTextField2.setText(name);
jTextField3.setText(Email);
}
```

- (i) Name the table from where the data is being retrieved. **1**  
(ii) How many objects of native String class have been declared in the code? Name the objects. **2**  
(iii) Identify the object name, class name and method name used in the statement labeled as Statement1. **2**  
(iv) Explain the function of the statement labeled as Statement2. **1**  
4.a) State reasons why Star topology requires more cable length than Bus topology. **2**  
b) "Open Source Software developers work for the good of community". Is this statement true? Give reason. **2**  
c) How is 'denial of service' attack, a threat to network security? **2**  
d) What is the difference between the following statements (i) and (ii)? **1**  
(i) a = 5;  
(ii) if (a == 5)  
x = 3;

- e) Sandhya is creating a webpage. She is entering HTML code on her computer. In between, she keeps pressing 'Refresh'/'Reload' button on her browser. What is the purpose? **1**  
5.a) What will be displayed in jTextField1 and jTextField2 after the following code is executed. **1**

```
int t;
int s;
s = 2;
t = (4*s++)/2;
jTextField1.setText(" "+t);
jTextField2.setText(" "+s);
```

- b) Given below is the 'Stu' table. **2**

| RNO | NAME |
|-----|------|
| 1   | AMIT |
| 2   | RAJU |

The following Statements are entered.

```
SET AUTOCOMMIT = 0;
INSERT INTO Stu VALUES(5,'Rahul');
COMMIT;
UPDATE Stu set name='Rahuliya' where Rno= 5;
SAVEPOINT A;
INSERT INTO Stu VALUES(6,'Cristina');
SAVEPOINT B;
INSERT into Stu values(7,'Fauzia');
```

```
SAVEPOINT C;
ROLLBACK TO B;
```

Now what will be the output of the following statement.

```
SELECT * FROM Stu;
```

- c) Distinguish between MAC address and IP address with an example for each. **2**
- d) Distinguish between Phonetic text entry and keymap entry for typing Indian language text. **2**
- e) Vijay has developed a software for planning personal budget. A screenshot of the same is shown below. **3**

Total Income, Expenses of Bills (Water / Electricity), Groceries, Entertainment, other expenses and whether money is to be sent to Hostel are entered by the user. Sum of Expenses, Grand Total of Expenses and Savings are calculated and displayed by the program.

Write the code to do the following :

(i) When 'CALCULATE' button is clicked, Sum of Expenses, Total Expenses and Savings should be calculated and displayed in appropriate text fields.

\* Sum of Expenses is calculated by adding expenses on Bills (Water / Electricity), Groceries, Entertainment and other expenses.

\* Grand Total of Expenses is calculated according to the following criteria.

If 'Money to be sent to Hostel' checkbox is selected, 3000.00 is to be added to the sum of expenses. If it is not selected, Grand Total of Expenses is the same as sum of expenses.

\* Savings = Total Income - Grand Total of Expenses.

- 6.a) In a database there are two tables 'Client' and 'Bill' as shown below.

Table : Client

| Client Id | Client Name | Client Address         | ClientPhone |
|-----------|-------------|------------------------|-------------|
| 1         | Akhilesh    | C4, Janak Puri, Delhi  | 9811078987  |
| 2         | Purnima     | B1, Ashok Vihar, Delhi | 9678678711  |
| 3         | Sumedha     | 33, South Ext., Delhi  | 6767655412  |

Table: Bill

| Bill No. | Client Id | Bill_Amt |
|----------|-----------|----------|
| 1        | 2         | 12000    |
| 2        | 1         | 15000    |
| 3        | 2         | 13000    |
| 4        | 3         | 13000    |
| 5        | 2         | 14000    |

- (i) How many rows and columns will be there in the Cartesian product of these two tables 'Chart' and 'Bill'? 1
- (ii) Which column in the 'Bill' table is the foreign key? 1
- b) Write the SQL command to create the table voter including its constraints. 2

Table : Voter

| Column Name | Data type | Size | Constraint  | Description                             |
|-------------|-----------|------|-------------|-----------------------------------------|
| V_ID        | INT       | 8    | Primary key | Voter identification                    |
| Vname       | VARCHAR   | 25   | NOT NULL    | Name of the Voter                       |
| Age         | INT       | 3    | CHECK>17    | Age should not less than or equal to 17 |
| Address     | VARCHAR   | 30   |             | Address of Voter                        |
| Phone       | VARCHAR   | 10   |             | Phone number of the voter               |

- c) With reference to the two tables given below, write commands in SQL for (i) and (ii) and output for (iii). 6

Table: CUSTOMER\_RECORD

| C_CODE | NAME    | ADDRESS          | CITY      | PHONE   |
|--------|---------|------------------|-----------|---------|
| C001   | Radha   | B-31-32 NV       | Delhi     | 6199408 |
| C002   | Ashok   | H-61 Arawalli    | New Delhi | 6129400 |
| C003   | Raman   | WZ-41 DBG Road   | Delhi     | 6133888 |
| C004   | Krishna | Q-31 Raj Pura    | New Delhi | 6144218 |
| C005   | Arjun   | L-21 VasantVihar | New Delhi | 6111228 |

Table: ORDER\_DETAIL

| O_CODE | C_CODE | ORD_DATE   | ITEMNAME | ORDQTY | AMOUNT |
|--------|--------|------------|----------|--------|--------|
| A001   | C003   | 2016-03-22 | BURGER   | 3      | 60.00  |
| A002   | C001   | 2016-03-24 | PIZZA    | 2      | 300.00 |
| A003   | C005   | 2016-04-25 | BURGER   | 5      | 100.00 |
| A004   | C004   | 2016-03-27 | BURGER   | 5      | 100.00 |
| A005   | C001   | 2016-04-09 | HOT-DOG  | 2      | 40.00  |

Answer the following.

- (i) Write a query to display the names of customers along their order code (O\_CODE) who lives in NEW DELHI.
- (ii) Write a query to display name of the customer who has paid maximum amount.
- (iii) Select C.NAME, C.ADDRESS, O.ITEMNAME from CUSTOMER\_RECORD C, ORDER\_DETAIL O, WHERE O.C\_CODE=C.C\_CODE and O.AMOUNT>200;
- e) Write the output that will be generated by the code given below. 2

```
int t;
int i;
```

```

for(i=5; i<= 10; i=i+5)
{
 t = i + 3;
 System.out.println(" "+ t);
}

```

7.a) What effect does SET AUTOCOMMIT have in transactions? **2**

b) The following code has some errors. Rewrite the correct code by underlining all the corrections made. **2**

```

int written, interview;
written =Integer.parseInt(jTextField1.getText());
interview =Integer.parseInt(jTextField2.getText());
if(written <80) OR (interview < 15)
{
 system.out.println(Not Selected);
}
Else;
{
 System.out.println(Selected);
}

```

c) How many times the following loop will be executed? **2**

```

int z =7, sum = 0;
do
{
 sum = sum + z;
 z = z + 2;
 System.out.println(" " + z);
}
While (z < = 12);

```

d) Rewrite the following program code using if else if instead of switch statement. **2**

```

String rem;
int code=Integer.parseInt(jTextField1.getText());
switch(code)
{
 case 1: rem="Classes start on 8th April"; break;
 case 2: rem="Classes start on 10th April"; break;
 case 3: rem="Classes start on 8th April";break;
 default: rem="Contact Admin Office";
}

```

e) Write the value of **sum** and **t** after execution of the following code. **1**

```

int sum, t;
sum=27;
t=3;
sum = sum + 2 * (++t);

```