# AMRITA VIDYALAYAM
## FIRST TERMINAL EXAMINATION 2018 - '19

**Class : XII**                                                     **Marks : 70**
                                                                    **Time   : 3 hrs**

## INFORMATICS PRACTICES

**1.**a)  Two teachers have connected their mobile phones to transfer the picture file of a student who scored A1 in all subjects. Name the type of network that will be formed. Which communication media should be used to form this network?  **2**

b)  After realizing the issues with proprietary software, Ms. Sunitha has decided to use only open source software. Suggest any one suitable open source software to her, for each of the following categories.  **2**
   (i) Operating System                              (ii) Browser

c)  Expand the following terms.  **2**
   (i) CDMA                                          (ii) WLL

d)  List the transmission media used in the following devices.  **2**
   (i) Garage openers                                (ii) Satellite

e)  How is phonetic text entry different from keymap text entry?  **2**

**2.**a)  Identify the invalid variable names and state the reason.  **1**
   (i) Total Quantity       (ii) _Number       (iii) While       (iv) 2 Marks

b)  While creating an application, Amal wants to hide the identity of character and intend to display it as "@" sign. Help him to identify the component to be used and the property to be set for achieving this.  **2**

c)  Write the output of the following Java code given in s1, s2, s3, s4.  **2**
```
String str1= "CORRECTION",str2 = "STATEMENTS";
jTextArea1.append(str1.substring(0,4));  //s1
jTextArea1.append(str2.substring(4));  //s2
jTextArea1.setText(jTextArea1.getText()+jTextArea1.getText().length());//s3
JOptionPane.showMessageDialog(null, jTextArea1.getText().length()); //s4
```

d)  What is the difference between enabled and editable property of jTextField component?  **2**

e)  Distinguish between ComboBox and ListBox. When would you prefer using them over Radiobutton and Checkbox?  **2**

f)  Rewrite the following code using if else without affecting the output of the code.  **2**
```
switch(wish)
{
      case 'a' :
      case 'e':
      case 'i':
      case 'o':
      case 'u': vowel++; break;
      default:con++;
}
```

**3.**a)  Write MySql query to view the constraints of Student table.  **1**

b)  Rewrite the following query after correcting errors (if any and Underline the correction).  **1**
   INSERT IN EMP(Ecode, Ename) VALUE ('100', "Hemanth");

c)  (i) Name the Data type that should be used to store Employee code like "A1001" of Employees
   (ii) Name two Data types that require data to be enclosed in quotes.  **2**

d)  Given the table 'Student' with the following columns. Write the output of the following SQL

statements. **4**

| PCODE | MARKS |
|-------|-------|
| 10    | 100   |
| 20    | NULL  |
| 30    | 90    |

(i) SELECT AVG(MARKS)FROM Student;
(ii) Select COUNT(MARKS) FROM Student;
(iii) Select COUNT(*) FROM Student;
(iv) Does the statements(ii) and (iii) give same result? Justify your reason.

e) Name SQL functions (for each of the following) that **2**
(i) Returns the position of first occurrence of the substring in the string.
(ii) Returns the current date and time in a specified format.
(iii) Returns names of days. For example: "Monday ", "Tuesday".
(iv) Returns weekday number. For example : 1 for Sunday, 2 for Monday, 3 for Tuesday.

**4.**a) Identify the error(s) in the following code and underline all the correction(s) made. **2**
```
int s=0,123n=5;
if(n>0);
S=S-123n;
else
S=+123n;
jTextField1.setText(""+S);
```

b) Find the value of 's' after executing the following code. **2**
```
int s=0,r,b=2002;
while(b>0)
{
      r=b%10;
      s=s+r;
      b=b/10;
}
```

c) Write the code given below using 'while' loop instead of 'for' loop. **2**
```
int i;
for(i = 1; i <= 5; i++)
{
      if(i * i == 4)
      jTextField1.setText(""+i);
}
```

d) What will be the output of the following code? **2**
```
int a=5,b=10;
for(int i=2;i<=2;i++)
{
      jTextArea1.append(""+a++ + "," + ─b);
}
```

e) What will be the values of a and b after the following code is executed? **2**
```
int  a=1,b=2;
if(++b<5)
{a=a*b;
}
```

f) Ms. Priya works as a programmer in 'Avon Education' where she has designed a software to compute fee charges to be paid by the students. A screenshot of the same is shown below.

• Name of the student is entered by the user.
• Any one Course out of Pharmacy, Architecture and Arts & Design is chosen by the user.
• If the student is eligible for Concession, the required checkbox is selected by the user. If the student is eligible for Concession, a concession of 7% of Fee per quarter is calculated as the concession amount, otherwise concession amount is 0.
• Fee to be paid is the Fee per quarter with the concession amount (if any) deducted from it.
• Based on the course selected, Fee Per Quarter is displayed in the appropriate textfield according to the following criterion.

| Course Fee | Per Quarter |
|---|---|
| Pharmacy | 2000 |
| Architecture | 2500 |
| Arts and Design | 2300 |

Help Ms. Priya in writing the code to do the following.

(i) When 'Calculate Charges' button is clicked, 'Fee per quarter', 'Concession Amount', 'Fee to be Paid' should be calculated and displayed in the respective text fields. **4**

(ii) When 'CLEAR ' button is clicked, all the textfields, radiobuttons and checkbox should be cleared. **1**

(iii) When 'Exit' button is clicked, the application should close after displaying a message "ALL THE BEST". **1**

5. Consider the following table 'Furniture'. Write SQL commands for the statements (i) to (viii) and write output for SQL queries (ix) and (x). **10**

| FCODE | NAME | PRICE | MANUFDATE | WCODE |
|---|---|---|---|---|
| 10023 | Coffee table | 4000 | 12-JAN-2017 | W03 |
| 10001 | Dining table | 20500 | 19-DEC-2016 | W01 |
| 10012 | Sofa | 35000 | 06-JUN-2016 | W02 |
| 10024 | Chair | 2500 | 07-APR-2017 | W03 |
| 10090 | Cabinet | 18000 | 31-MAR-2015 | W02 |

(i) To display FCODE, NAME and PRICE of items that have PRICE less than 5,000.
(ii) To display NAMES and PRICE of those Furniture Items that have 'table' anywhere in their names.
(iii) To display WCODE of Furniture Items. There should be no duplicate values.
(iv) To display the NAMES and PRICE increased by 500.00 of all the furniture items. (Price

should only be displayed as increased; there should be no increase in the data in the actual 'Furniture table)

(v) To display FCODE and NAME of each Furniture Item in descending order of FCODE.

(vi) To display the details of all the Furniture Items which have Manufacturing date (MANUFDATE ) between 01-JAN-2016 and 15-JUN-2017 (inclusive of both the dates).

(vii) To display the average PRICE of all the Furniture Items, which are made of Wood with WCODE as W02.

(viii) To display WCODE wise, WCODE and the highest price of Furniture Items.

(ix) SELECT SUM(PRICE) FROM Furniture WHERE WCODE= 'W03';

(x) SELECT COUNT(DISTINCT PRICE) FROM Furniture;

**6.** a) Consider the following tables PATIENT and TEST and answer the questions that follow. **2**

### Table: PATIENT

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

Note:  NAME holds the Names of patients.
DTADMIT holds Dates on which 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 |

Name the Primary keys in both the tables and foreign key in 'PATIENT' table. State the reason for your choice.

b) With reference to the above given tables, write commands in SQL for (i) to (iii). **6**

(i) 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).

(ii) To display Names of Patients, Test names and Cost of Test for those Patients who have "Sharma" in their names.

(iii) To increase the cost of those tests in the table 'TEST' by 50.00 that have cost below 200.00.

c) Write SQL query to create a table 'Student' with the following structure. **2**

| Field | Type | Constraint |
|-------|------|-----------|
| StudentId | Integer | Primary key |
| Student_Name | Varchar(50) | Should not be empty |
| Class | Integer | Can be 11 and 12 |
| Group | Char | Default Commerce |
| Roll_no | Integer | Foreign key with reference to Roll_no column in School Table |
| Total_Marks | Integer | It should be greater than 50 |

**7.** a) What is ResultSet? Explain any one method of ResultSet. **2**

b) What is Polymorphism? Give two examples. **1**