AMRITA VIDYALAYAM
AMRITA PRE BOARD EXAMINATION 1 - 2018 - '19

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

INFORMATICS PRACTICES

1.a) Classify the following into open standards and propriety standards.   **1**
      JPEG, ASX, AIFF, ODF

b)   Two neighbourhood schools at a distance of 120 meters from each other, decided to join their
      LANs using UTP cable so that they can share their E-learning resources. But after joining their
      LANs they are not able to share their resoures due to loss of signal in-between. Which device
      should they use to amplify the signal?   **1**

c)   Write the web address of national portal of India.   **1**

d).   Indian Tour and Travels company has setup its new branch office in Bangalore where different
      buildings are spanned over in the radius of 900 meter in Bangalore. Name the network formed in
      the following situations.   **1**
      (i) The branch office is connected with the regional office in New Delhi.
      (ii) All the buildings of branch office are connected to each other.

e)   Name any four Indian scripts included in Unicode.   **2**

f)   Define any two threats to Network security.   **2**

g)   Sujata says that the following numbers indicate an address.
       208.77.188.166
      What is the above address called? To which object / device is it assigned?   **2**

2.a) (i) Identify the invalid variable name from the following and write the reason.   **4**
          (a) switch   (b) break   (c) for   (d) 1abc
      (ii) State the difference between statement1 and statement2 and name the operator used in
           statement1 and statement2.
          (a)   int a=5;   //statement1
                 a==5   //statement2

b)   Predict the output of Loop1 and Loop2 after executing the following code and state the reason. **2**

Loop1   Loop2
```
int j=10;                                               int j=10;
while(j<10)                                              do
{                                                        {
     j++;                                                     j++;
     System.out.prinln(j);                                    System.out.prinln(j);
}                                                        }while(j<10);
```

                                       OR

Predict the output of the following code.
```
int p=1,f=0;
for(p=1;p<=5;p++)
{
     p=p*5;
     f=f+p;
}
jTextField1.setText(""+p);
jTextField2.setText(""+f);
```

c)   Observe the code given below and answer the following questions.   **4**

```
<School>
<student id=1>
<name>Aromal</name>
<class>XII</class
</student>
<student id=2>
<name>Arunima</name>
<class>XII</class
</student>
</School>
```

(i) Are these tags part of HTML code or XML code?
(ii) Identify the root element.
(iii) Mention any two child elements.
(iv) Mention any one attributes.

<div align="center">OR</div>

Mention any two differences between HTML and XML.

3.a)   In today's digitized world with a need to store data electronically, it is very important to store the data in the databases. SQL is used to interact with the Database Management System. Classify the following commands according to their type. (DDL / DML)   **4**

(i) INSERT INTO   (ii) ALTER TABLE

b)   Which clause would you use with Select to achieve the following.
(i) To select the values that match with any value in a list of specified values.
(ii) Used to display non repeated values of a column from a table.

c)   Arunima has created a table named Orders, she has been asked to increase the value of a column named sales amount by 20. She has written the following query for the same.

```
Alter table Orders, Add sales_amount = sales_amount + 20;
```

Is it the correct query? Justify.

d)   Mr. Anand, a database administrator in 'Indian Educational and Training Institute' has created following table named 'Training' for the upcoming training schedule.   **4**

<div align="center">Training</div>

Training_Id	Name	Email_Id	Topic	City	Fee
T01	Mr Soman	soman@gmail.com	Cyber Security	New Delhi	10000
TR01	Ms Thara	thara@yahoo.com	ICT in Education	Gurugram	15000
RT01	Ms. Akhila	akhila@rediff.com	Cyber Security	Faridabad	12000
ND02	Mr Vinayan	NULL	ICT in Education	New Delhi	13000
GU02	Mr Praveen	pav@gmail.com	Cyber Security	Gurugram	NULL

Help him in writing SQL query for the following purpose.
(i) To count how many female candidates will be attending the training.
(ii) To display list of free trainings.
(iii) To display all the cities where Cyber Security training is scheduled along with its fee.
(iv) To add a column feedback with suitable data type.

e)   Name any one Single row function and any one Aggregate function. Also mention the difference in their working.   **2**

4.a)   Rahul has placed two radio button on a feedback form designed in Netbeans to accept gender (F/M). During runtime, he is able to select both. What is the solution for the problem?   **1**

<div align="center">OR</div>

Mention any one advantage of jList control over jCombobox control.

b)   Parvathy is working with following swing controls.

        jLabel, jTextField, jPasswordField

Suggest her any two basic methods commonly available with all the three controls mentioned above.   **1**

<div align="center">OR</div>

How jTextField is different from jPasswordField control at runtime?

c)   What will be the output of the following code if value of variable val is 5?   **1**

```
switch (val)
{
default :    jTextField1.setText("Any Number");
case 1 :     jTextField1.setText("One");
case 2 :     jTextField1.setText("Two");
             break;
case 3:      jTextField1.setText("Three");
}
```

<div align="center">OR</div>

Rewrite the following code using if statements.

```
Switch(value)
{
case 1:      System.out.Println("one");
             break;
case 2:      System.out.Println("Two");
             break;
default:     System.out.Println("Not one and Two");
}
```

d)   (i) Find out the error(s) and underline each correction.   **4**

```
int  k;
for(int k=0,k<5;k++);
{
     jTextField1.Text("IP Exam");
};
```

(ii) Convert the correct code into while loop statement.

<div align="center">OR</div>

Observe the given code.

```
int i = 5;
do
{
     i += 10;
}
while (i < 5);
```

Attempt the following question based on the above given code.

(i) How many times the above given loop will run and what will be the value of i, immediately after exiting from the loop?

(ii) Identify whether the above loop statement is entry controlled or exit controlled. Justify your answer.

e)   Study the following code and answer the questions that follow.   **2**

```
String str = "INFORMATICS PRACTICES";
int len = str.length();
jTextField1.setText(str.toLowerCase());
jTextField2.setText(Integer.toString(len));
```

(i) Predict the output displayed in textfields named jTextField1 and jTextField2 after running the above code.

(ii) Identify and name any two method of string class used in the above code.

<div align="center">OR</div>

Explain the purpose of pow( ) method with the help of suitable java code. Also mention that pow() method belongs to which class.

f)   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.

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 following criteria.   **2**

Units sold	Commission (in `)
1 to 20	500
20 to 40	1000
>	2000

(ii) When 'Gross Salary' button is clicked, Gross Salary should be calculated and displayed in the respective text field as per the given formula.   **1**

Gross Salary = Salary + Commission

(iii) After required selection of Checkbox(es), when 'Facility Charges' button is clicked, Facility charges will be displayed in the respective text filed a according to the following criteria.   **1**

Facility	Charges
Transport	500
Mess	2000

(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 formula.   **2**

Net Salary = Gross Salary - Deductions

5.a)   Consider the following table.   **4**

PharmaDB

RxID	DrugID	DrugName	Price	PharmacyName	PharmacyLocation
R1000	5476	Amlodipine	100.00	RxPharmacy	Delhi
R1002	2345	Paracetamol	15.00	RajMedicos	Bangalore
R1003	1236	Asprin	60.00	MyChemist	Delhi
R1004	6512	VitaPlus	150.00	MyChemist	Haryana
R1005	5631	Cetrezine	110.00	RxPharma	Mumbai

Write commands in MySQL for (i) to (iv)

(i) To increase the price of Amlodipine by 50.

(ii) To display all those medicines whose price is in the range 100 to 150.

(iii) To display the Maximum price offered by Pharmacy located in Haryana.

(iv) To display the Drug ID, DrugName and PharmacyName of all the records in descending order of their price.

b)   On the basis of the Table Pharma, write the output(s) produced by executing the following queries.

(i) `SELECT RxID, DrugName, Price from PharmaDB where PharmacyName IN ("Rx Parmacy", "Raj Medicos");`   **1**

(ii) `SELECT PharmacyName, COUNT(*) FROM PharmaDB GROUP BY PHARMACYNAME.`   **1**

c)   What is the use of COMMIT statement in MySQL? How is it different from ROLLBACK statement?   **2**

d)   Write any one similarity and one difference between primary key and unique constraint.   **2**

6.a)   Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables.   **6**

TRAINER

TID	TNAME	CITY	HIREDATE	SALARY
101	SUNAINA	MUMBAI	1998-10-15	90000
102	ANAMIKA	DELHI	1994-12-24	80000
103	DEEPTI	CHANDIGAR	2001-12-21	82000
104	MEENAKSHI	DELHI	2002-12-25	78000
105	RICHA	MUMBAI	1996-01-12	95000
106	MANIPRABHA	CHENNAI	2001-12-12	69000

COURSE

CID	CNAME	FEES	STARTDATE	TID
C201	AGDCA	12000	2018-07-02	101
C202	ADCA	15000	2018-07-15	103
C203	DCA	10000	2018-10-01	102
C204	DDTP	9000	2018-09-15	104
C205	DHN	20000	2018-08-01	101
C206	O LEVEL	18000	2018-07-25	105

(i) Display the Trainer Name, City and Salary in descending order of their Hiredate.

(ii) To display the TNAME and CITY of Trainer who joined the Institute in the month of December 2001

(iii) To display the TNAME, HIREDATE, CNAME, STARTDATE from tables TRAINER and COURSE of all those courses whose FEES is less than or equal to 10000.

(iv) To display the number of trainers from each City.

(v) `SELECT TID, TNAME FROM TRAINER WHERE CITY NOT IN ("DELHI", "MUMBAI");`

(vi) `SELECT DISTINCT TID FROM COURSE:`

(vii) `SELECT TID,COUNT(*), MIN(FEES)FROM COURSE GROUP BY TID HAVING COUNT (*)>1;`

(viii) `SELECT COUNT(*),SUM(FEES) FROM COURSE WHERE STARTDATE <'2018-09-15';`

b) What will be the degree and cardinality of the cartesian product formed while combining both the above given tables 'TRAINER' and 'COURSE'? **1**

c) Among both the tables which table has the foreign key and write the foreign key name. **1**

d) 'XYZ' Company conducts workshops for employees of organizations. The company requires data of workshops that are organized. Write SQL query to create a table 'Workshop' with the following structure. **2**

Field	Type	Constraint
WorkshopId	Integer	Primary key
Title	Varchar (50)	
DateWorkshop	Date	
NumSpeakers	Integer	

7.a) How is E-learning benefical to students? Write one point. **1**

b) List two features of a good interface. **2**

c) Ms. Rachna, works as a programmer in 'Plan My Trip' travel company. She wishes to design a flight booking page. Help her in choosing appropriate controls for the specified task from Text field, Label, Radio button, Check box, List box. **2**

Sl No	Controls to be chosen for the specified tasks
1	Traveler's Name
2	Source city / destination city
3	Trip type (One way / Round trip / Multi city or stop over)
4	Booking Class (Economy / Premium Economy / Business Class)