

AMRITA VIDYALAYAM

AMRITA PRE BOARD EXAMINATION 2019 - 20

Class : XII

Marks : 70

Time : 3 hrs

INFORMATICS PRACTICES (265)

- 1.a) Jyothirmayi Education Institutions has linked computers in all their institutions in Trivandrum to form a network. Out of the following which one is MOST likely to be the type of network formed? WAN (Wide Area Network), LAN (Local Area Network), MAN (Metropolitan Area Network). Also suggest an economic communication media that can be used to form the network which will not be much affected by weather conditions. 2
- b) 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
- c) Write the functions of the following pieces of network hardware. 2
(i) Network Interface Card / Unit (ii) Gateway
- d) Explain in brief any two freedom offered by open source software. 2
- e) Write one point of similarity and one point of difference between ASCII and UNICODE. 2
- 2.a) Identify the invalid variable name from the following. State reason(s) if it is for the invalid. 1
(i) BREAK (ii) Net Amount (iii) String (iv) _Balance2
- b) (i) Write one difference and one similarity between checkbox and radiobutton. 2
(ii) Varun finds that on his friends JFrame, while typing text in TextArea the text is moving to next line without breaking. What property should Varun add to do the same? 1

OR

- c) Radha added a jTable on her form, using which property she can add rows to it? 2
Write the output of the following.

```
<HTML>
<HEAD>
    <TITLE>Registration</TITLE>
</HEAD>
<BODY>
    <CENTER><H1>QUICK REGISTER</H1><BR>
    <FORM NAME="FORM1" ACTION="THANK YOU .html" METHOD="GET" >
        NAME:<INPUT TYPE="TEXT" ><BR>
        GENDER:<INPUT TYPE="RADIO" NAME="R1" CHECKED>MALE
        <INPUT TYPE="RADIO" NAME="R1" >FEMALE<BR>
        EMAIL:<INPUT TYPE="TEXT" ><BR>
        <INPUT TYPE="SUBMIT" VALUE="REGISTER" >
    </FORM>
</CENTER>
</BODY>
</HTML>
```

OR

Observe the code given below and answer the following questions.

```
<SCHOOL>
<STUDENT ROLLNO=1>
    <NAME>AMRITA</NAME>
    <CLASS>XII A</CLASS>
</STUDENT>
<STUDENT ROLLNO=2>
```

```

    <NAME>CHINMAYI</NAME>
    <CLASS>XII A</CLASS>
</STUDENT>
</SCHOOL>

```

- (i) Identify the root element and any two child elements.
(ii) Mention any one attribute.
- d) Rewrite the following code using if..else..if. 2

```

switch (code)
{
case 'W' :
case 'R' : Z=Z+1;
           break;
case 'S' : Z=Z+2;
           break;
default :  Z=Z+3;
}

```

- e) Write the output in variables X, R, Z and W. 2

```

String S="THINK BEFORE YOU WRITE", X,Z,Y="AND",W;
X=S.substring(6,21);
float R=X.length()/5*3;
Z=S.substring(0,5)+Y+S.substring(16);
Z=Z.concat(" carefully");
W=Z.toUpperCase();

```

- 3.a) Name SQL Single Row functions for the following. 1

(i) returns name of day (ii) returns a number

OR

(i) Name the Data Type that should be used to store Cust_ID like C0012 of Customers.

(ii) Name the Data Type that should be used to store Arrival Time of a Flight.

- b) What will be the size of the column : NAME after the execution of the following queries? 1

(i) ALTER TABLE STUDENT MODIFY NAME CHAR (20);

UPDATE STUDENT SET NAME="AJAY";

(ii) ALTER TABLE STUDENT MODIFY NAME VARCHAR (20);

UPDATE STUDENT SET NAME="AJAY";

- c) Consider the following table Employee. 2

Table : EMPLOYEE

EMP_ID	ENAME	DEPT	DATE_OF_JOIN	PHONE
E101	Akash Sharma	Sales	2017-07-01	8129999601
E102	Manish Dutt	Purchase	2014-12-01	7215787878
E103	Suparna Iyyer	Executive	2016-10-01	6213344571

Write SQL queries to:

(i) Start a new Transaction.

(ii) Insert a new row into the Employee table.

OR

Change the department of E103 to "MANAGER".

(i) Create a point BMARK1, so that you can rollback to this point in case of any failure.

(ii) Semi commits the transaction till BMARK1.

- d) Consider the following table and write the output of the following queries. 2

Table : SPORTS

Player	Game	Wins	Loss
Aman	Football	3	1
Shyam	Cricket	1	2
Sanjay	Cricket	4	2
Pranav	Football	3	NULL
Riya	Table Tennis	2	2

- (i) SELECT GAME , COUNT(LOSS) FROM SPORTS GROUP BY GAME;
(ii) SELECT GAME, SUM(WINS) AS 'TOTAL WINS' FROM SPORTS GROUP BY GAMES HAVING COUNT(*)>=2;
- e) Rama has created a table Hospital with PAT_ID as the primary key. Now he wants to change the primary key to PHONE_NO. Write SQL query which will help him do the above. **2**
- f) 'EMPLOYEE' table has a column named DEPT that stores department in which each employee is appointed. Sreenath has written the following query to delete the Employees who haven't been enrolled to any department.
DELETE * FROM EMPLOYEE WHERE DEPT="NULL";
However he is getting error. Rewrite the correct statement. **2**
- 4.a)

```
int p,q,r=5%2;
p = ++r + 2;
do
{
    q = p / 2 + 5 * 3;
    p -= 2;
}while(p>0);
```

What will be the value of p, q and r after the execution? How many times the above loop will execute? **2**
- OR
- b) Convert the above code to 'for' loop.
What will be displayed in jTextField1 and jTextField2 after the following code is executed? **2**
- ```
int digits=1, N=35;
while(N>12)
{
 digits *= 2;
 N-=10;
}
jTextField1.setText(""+digits);
jTextField2.setText(""+N);
```
- c) Write the value of P and Q after the following code is executed. **2**
- ```
int P=3, Q=6;
switch(Q)
{
    case 1 : P=P+1;
            break;
    case 3 : P=P+3;
            break;
    case 6 : P=P+6;
    default : P=P+10;
}
```

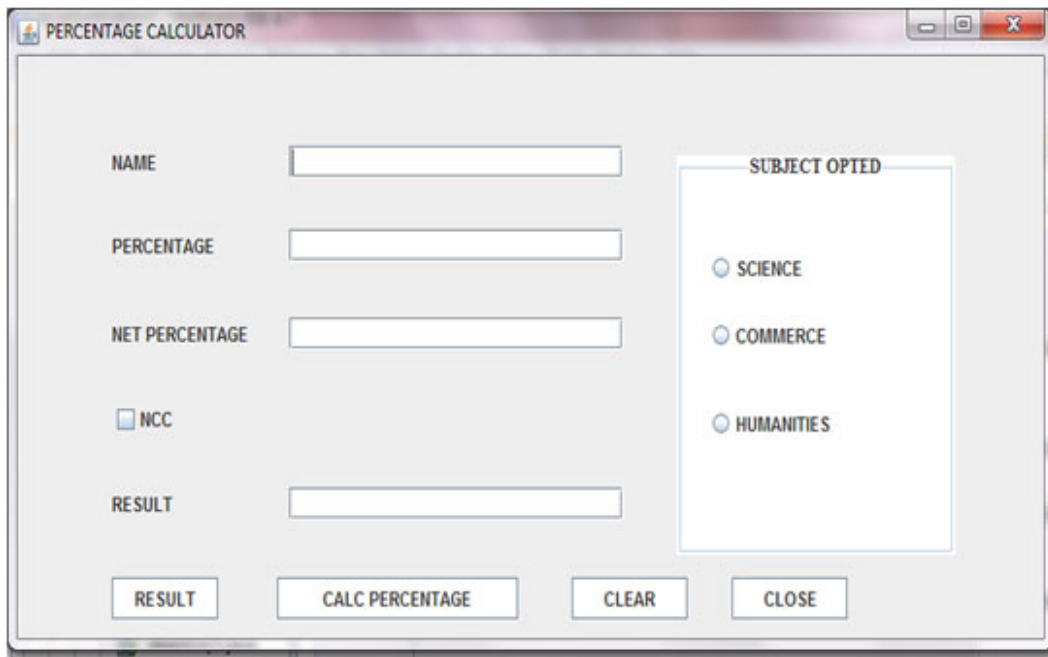
- d) What happens if **break** statement is omitted with a case in switch Statement? 2
 The following code has error(s). Rewrite the correct code underlining all corrections made.

```
int sum; value; inct;
int i
for(i==0 ; i<10; i++)
sum = sum + I;
inct++;
```

- e) Write the output of the following code. 2

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

- f) ABC School uses the following interface built in java to check the eligibility of a student for a particular stream from Science, Commerce and Humanities. The user first enters the total percentage and selects the desired stream by selecting the appropriate option button. An additional 5% mark is given to students of NCC.



Write java code for the following.

- (i) On Action Event of the button 'Calc Percentage' Net Percentage of the student is calculated and displayed in appropriate textfield. Net Percentage is same as that of the actual percentage if student does not opt for NCC otherwise 5% is added to actual percentage. 2
 (ii) On Action Event of the button 'Result', the application checks the eligibility of the student. And display the result in the appropriate textfield. Minimum percentage for Science is 70, 60 for Commerce and 40 for Humanities. 2
 (iii) On the Click Event of Clear button, all the textfield and the checkbox get cleared. 1
 (iv) On the Click Event of Close button, application get closed with a THANK YOU message. 1
- 5.a) Write the output of the following SQL queries. 2

- (i) SELECT ROUND (522.78, -2);
 (ii) SELECT MONTH ("2019-12-10");
 (iii) SELECT INSTR ("KNOWLEDGE IS POWER", "IS");

- (iv) SELECT UPPER (MID (“My Hobby”,5, 4))
- b) Consider the table given below. Write SQL queries for (i) to (vi) and output for (vii) to (viii). 8
- Table : TEACHER

No.	Name	Age	Department	Date-of-join	Salary	Sex
1	Jugal	34	Computer	2019-01-10	12000	M
2	Sharmila	31	History	2017-03-24	20000	F
3	Sandeep	32	Maths	2014-12-12	30000	M
4	Sangeetha	35	History	2012-07-01	40000	F
5	Rakesh	42	Maths	2011-09-05	25000	M
6	Shyam	50	History	2010-06-27	30000	M

- (i) Display the Name and date of join of those teachers who are in history department, arranged as the most experienced ones comes first.
- (ii) Display the male teachers in history department.
- (iii) Display the average age of all teachers in the table.
- (iv) Enter new joiner Amrit with current date in Computer Department with salary 21000 at the age of 26.
- (v) Increase the salary of all teachers by 5% who joined before 2015.
- (vi) Add a new attribute Extra Curricular of String type to the table.
- (vii) SELECT DEPARTMENT, MAX (SALARY) FROM TEACHER GROUP BY DEPARTMENT HAVING DEPARTMENT IN(‘HISTORY’, ‘MATHS’);
- (viii) SELECT NAME, DEPARTMENT , DATE_OF_JOIN FROM TEACHER WHERE NAME LIKE ‘_A%’;
- 6.a) Mr. Rahul has to create a table named ‘CRICKET’ with columns to store PLAYER_ID, PNAME, AGE, CITY, RUNS and WICKETS. PLAYER_ID is the Primary key and PNAME cannot be NULL.
- Some of the rows that will be inserted are shown below. 2

PLAYER_ID	PNAME	AGE	CITY	RUNS	WICKETS
P1001	Sachin Tendulkar	39	Mumbai	15216	105
P1002	Virendra Sehwag	37	Delhi	6244	82
P1003	M.S. Dhoni	32	Ranchi	5219	3

Write SQL query to create the above table with appropriate data types and sizes of columns.

OR

Mr. Kannan is Hospital admin of X-tra Care Hospital, he want to create a table named “PATIENT” to store the details of the patient. Identify any 4 columns for the table along with their suitable data types and constraints.

- b) Consider the following tables WORKSHOP and PARTICIPANT and answer the questions that follow.

Table : Workshop

WorkshopID	Title	NumSpeakers	MeantFor	Fee
551	Capacity Building Program	2	CS Teachers	2000
553	Time Management	3	Managers	5000
554	Planning	3	Principals	7000
556	Capacity Building Program	2	IP Teachers	2000
557	Resource Building Program	1	CS Teachers	1000

Table: Participant

ParticipantID	Name	WorkshopID
100	Prabat Shekar	551
101	Devika Sen	554
102	Amrita Sharma	555
103	Raja Mohan	553
104	Shyam Sundar	551

When the table Workshop was created the column TITLE was planned as the Primary key but later WorkshopID has to be set up as Primary key. Explain the reason. **1**

OR

Is there any discrepancy in the data entry made in Participant table? Give reason for your answer.
c) With reference to the above given table, write command in SQL for (i) to (iii). **1**

(i) Display the WorkshopID along with the number of participants in each workshop from Participant table. **2**

OR

Find the cardinality and degree of the Cartesian product of the two tables in consideration here.

(ii) Display names of participants, workshop title and fee of workshop for only those workshops that have more than 2 speakers. **2**

(iii) Display ParticipantID, participant name and WorkshopID for those workshops that have fees in the range of 4000.00 and 7000.00. **2**

7.a) How popularity of E-Commerce has benefitted a common man? **1**

b) 'Use of E-Governance has created its social and economic impact'. Justify. **2**

c) Ms. Anupama is creating a form for accepting Visa application. Help her to choose most appropriate controls for the following entries. **2**

SNo.	Function
1	To enter EMAIL ID
2	To choose gender
3	To enter Nationality from countries given as options
4	To enter REMARKS in the form of a paragraph about the purpose of visit.