AMRITA VIDYALAYAM
AMRITA PRE BOARD EXAMINATION 2017 - '18

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

INFORMATICS PRACTICES

> *GENERAL INSTRUCTIONS:*
> *1. All questions are compulsory.*
> *2. Answer all the questions only after reading the questions carefully.*

1.a) What are the advantages of 4G over 3G Mobile Telecommunication Technologies in terms of speed and services? **2**

b) Explain the difference between physical and logical address of a computer with example. **2**

c) In Bluetooth transmission line of sight between communicating devices is not required. Why? **2**

d) Mr. Das is confused between freeware and free open source software. Mention at least two points of difference to help him understand the same. **2**

e) Ms. Rakhi is trying to log on to her Gmail account. But she is denied of access to her account, in spite of having a swift internet connection. What do you think the reason behind this problem and suggest her few simple precaution in order to overcome any such type of network security threats. **2**

2.a) Identify the incorrect variable name with justification for the following. **2**

(i) float　　　　　　　　　　(ii) avg marks　　　　　　　　　　(iii) balance
(iv) sum@result　　　　　　　(v) Net_Amt

b) Write a java code to declare two integer variables X,Y. Then assign the value 10 to variable Y and 20 to variable X. Increase the value of Y by 2 and decrease the value of X by 10. Add the two variables and store the result in variable Z. **2**

c) Rewrite the following code using `switch` instead of `if else if` statement. **2**

```
int day =Integer.parseInt(jTextField1.getText());
if(day>=1 || day<=5)
      JOptionPane.showMessageDialog(null,"Working day");
else if(day>=6 || day<=7)
      JOptionPane.showMessageDialog(null,"Off day");
else
      JOptionPane.showMessageDialog(null,"Invalid Entry");
```

d) Given below is a code. **2**

```
<catalog>
<cd>
      <title>Empire Burlesque</title>
      <artist>Bob Dylanc</artist>
      <price>40.90</price>
</cd>
</catalog>
```

Which language is used to write the above code? What are `<catalog>, </catalog>, <cd>, </cd>, <title>, </title>`?

e) Write the output for the below HTML code. **2**

```
<TABLE align="center">
<CAPTION>Mathematics in a fun way</CAPTION>
<TR>
      <TH>Shapes</TH>
```

```
        <TH>Images</TH>
</TR>
<TR>
        <TD>Circle</TD>
        <TD rowspan=2>
        <imgsrc ="circle.jpg">
        <COMMENT>Displays image of a circle</COMMENT>
</TD>
</TR>
<TR>
        <TD>Sphere</TD>
</TR>
</TABLE>
```

3.a) Write MySQL command to view the current database in use. **1**

b) Manu created a new table named 'CUST', he has been asked to change the value of a column named CUST_TYPE to "Gold" whose purchase amount is greater than 25000.

He wrote the following query for the same.

```
ALTER TABLE CUST ADD CUST_TYPE="Gold" WHERE P_AMT>25000;
```

Is this the correct query? Justify. **1**

c) What is the significance of foreign key in a table? Explain with an example. **2**

d)
```
START TRANSACTION;
CREATE TABLE Customer(CustIDvarchar(5),CustNamevarchar(25));
ROLLBACK;
```
Do the above ROLLBACK statement successfully executes? Explain. **2**

e) (i) Name any two Multiple Functions of MySQL.
(ii) Consider the table Corporate.

CID	TAX
C001	25000
C002	5000
C003	1500
C004	NULL

Is there any difference in the outputs for the query of the following program? If yes, why?

```
SELECT COUNT(TAX) FROM CORPORATE;
SELECT COUNT(*) FROM CORPORATE;
```
2

f) Given below is the STUDENT table. **2**

RegNo	Name
1001	Anu
1002	Abhijith

```
SET AUTOCOMMIT = 0;
UPDATE STUDENT SET REGNO=1003 WHERE NAME="Anu";
INSERT INTO STUDENT VALUES(1001,'Aditya');
COMMIT;
INSERT INTO STUDENT VALUES(1004,'Bima');
ALTER TABLE ADD GRADE CHAR(1);
ROLLBACK;
INSERT INTO STUDENT VALUES(1005,'Bhrama');
SAVEPOINT A;
```

2 - XII IP

```
UPDATE STUDENT SET GRADE='A' WHERE REGNO=1001;
SAVEPOINT B;
ROLLBACK TO A;
SELECT * FROM STUDENT;
```
Predict the output for the above select statement?

4.a) Write the values of r and s after the execution of the following code. **1**
```
int x=5,y=10,r,s;
r=x++;
s=++y;
r++;
++s;
```

b) What will be displayed in jTextField1 and jTextArea1 after the execution of the following code. **2**
```
int i=10;
while(i<=50)
{
     i=i+15;
     jTextField1.setText(" "+i);
     jTextArea1.append(" "+i);
i += 20;
} jTextArea1.append("\n"+i);
```

c) Write the value of C after executing the following code. **2**
```
int P,R=8,oddNum,C=0;
for(P=1;P<R;P=P+3)
{
     oddNum=P%2;
     if(oddNum==1)
     {
          C=C+1;
     }
}
```

d) The following code has error(s). Rewrite the correct code underlining all the correction made. **2**
```
int first=5; last =25;
do(first<=last)
{
first + = first;
}while;
```

e) Write the value that will be stored in the variable t after the execution of the following code. How many times will the loop execute? **2**
```
int sum =0, score=0;
double t;
while(score<=3)
{
     score += 1;
     sum += score;
}
t=sum/3;
```

f) Common Wealth International is a bank. The bank provides three types of loans: Car Loan, Education Loan and House Loan. The following is the interest rate and discount calculation form.

(i) Write the code for Clear button to clear all the textboxes and set Car Loan as default loan type. **1**

(ii) When the Exit button is clicked, the application should close. Before the application close a message "Thank you. Visit again" should be displayed. **1**

(iii) Write the code for Show interest Amount button to show the interest rate according to the following criteria. **2**

Car Loan – 10%

House Loan – 8.5%

Education Loan – 5%

(iv) Write the code for Calculate Discount button to find the discount amount. Bank provides discount on loan amount according to following criteria. **2**

If loan amount <= 1000000 then discount amount is 0.20% of loan amount.

If loan amount > 1000000 then discount amount is 0.25% of loan amount.

The Net Amount = Interest Amount – Discount Amount.

5.a) Write the output of the following query. **1**

```
SELECT LENGTH(MID('My_Database',-8,5));
```

b) Is NULL and 0(zero) same? Justify your answer. **1**

c) Mr. Krishnan has just created a table named STUDENT containing columns Stud_Name, RegNo, Percentage. After creating the table, he realized that he has forgotten to add a primary key column in that table. Help him in writing SQL command to add a primary key column RegNo. Also state the importance of primary key in a table. **2**

d) Consider the table "FirstCry" shown below. **6**

ICODE	ITEM	PURCHASEDATE	UNITPRICE	DISCOUNT
101	Frock	2016-01-23	700	10
102	Cot	2015-09-23	5000	25
103	Soft Toy	2016-06-17	800	10
104	Baby Socks	2014-10-16	100	7
105	Baby Suits	2015-09-20	500	5

Note: Discount column stores discount%

Write commands in SQL for (i) to (iv) and output for (v) to (vi).

(i) To display the price and names of items that have "Baby" anywhere in their item name.

(ii) To list the names of items and their date of purchase that were purchased after 31ˢᵗ December 2015.

(iii) To increase the unit price of each item by 10% of their unit price.

(iv) Add a new column brand with appropriate type and size.

(v) `SELECT AVG(UNITPRICE) FROM FirstCry where PURCHASEDATE>"2015-01-01";`

(vi) `SELECT MAX(UNITPRICE), MIN(UNITPRICE) FROM FirstCry WHERE YEAR (PURCHASEDATE)=2016;`

6.a) Write SQL query to create a table "JOB" with the following structure. **2**

Field Name	Data type	Size	Constraint
J_Code	Integer	3	Primary Key
J_Description	Varchar	25	NOT NULL
J_Chg_Hr	Integer		
J_LastUpdate	Date		

b) Consider the table given below which are linked with each other and maintain referential integrity. **6**

Table: CRM

CRMID	ItemCode	ItemName	StorageLoc
C1001	I001	Receiver	W12-B3
C1002	I002	Transponder	W13-B7
C1003	I003	Battery Bank	W21-B1
C1004	I004	Inverter	W21-B11
C1005	I005	Genset	W22-B15

Table:STORE

StoreID	ItemCode	StoreLocation	ReceivedDate
S201	I001	Hauz Khas	2016/05/20
S202	I002	Rajouri Garden	2016/06/14
S203	I003	Rohini	2016/05/06
S204	I004	Hauz Khaas	2016/07/15
S205	I005	Rajendra Place	2016/05/27

With reference to the above given table, write commands in SQL for (i) and (ii) and output for (iii) below.

(i) To display the ItemCode, ItemName and ReceivedDate of all the items.

(ii) To display CRMID ,ItemName, StorageLocation of all the items whose ReceivedDate is after 2nd May 2016.

(iii) `SELECT CRMID, ItemName, StoreID FROM CRM,STORE WHERE CRM.ItemCode = STORE.ItemCode and StoreLocation="Hauz Khaas";`

c) Provide right suggestions to Miss. Sajitha in identifying the wrong statement with reference to UNION clause. **1**

(i) Each SELECT statement within UNION must have the same number of columns.

(ii) The column must also have similar data types.

(iii) The columns in each SELECT statement must also be in the same order.

(iv) By default, the UNION operator selects all the values.

d) Mr. Sanjay is trying to insert a new record in the table STORE through following query.

`INSERT INTO STRORE VALUES ('S206','I006','Karol Bagh','2016/07/25');`

Is there any discrepancy in the above query? Justify. **1**

7.a) Observe the given domain carefully and identify the category it belongs out of e-Governance / e-Business/e-Learning. **1**
www.gcflearnfree.org
www.irctc.co.in

b) Write down any two benefits of on-line banking. **1**

c) List two disadvantages of e-governance to a disabled person. **1**

d) Hema works in a store. She wishes to create controls on a form for the following functions which control she should use? Choose appropriate controls from Text box, Label, Radio button, Check box, Combo Box, List Box and Command button. **2**

Sno	Control used to
1	Bill Number
2	Select product bought from a list of products
3	Customers type (Regular Customer/New Customer)
4	Purchase date