

Best Preparation for exams
CLASS: XII [INFORMATICS PRACTICES]

Time: 3 Hours

M.M.: 70

1.
 - a. kamal is confused as he is unable to send the signal of a network of computers and other devices that is confused to a relatively small space -an Office. Help him do that.
 - b. Most common communication protocol on internet that ensures end -to- end communication , is ?
 - c. Differentiate between LAN ,WAN and WAN.
 - d. What type of address is the following ? Also define it.
20 : B9 : F1 : 63 : 2F : FB
 - e. What are DoS attacks ?
 - f. What is an open standard ? Give some example.
 - g. Name two encoding used for Indian language computing.
 - h. Define Topology. Difference between star and bus topology.

2.
 - a. What's wrong with the following constructor definition for the class PlayInfo?

```
public void PlayInfo(int sticks)
{
    nsticks= sticks;
}
```

2.
 - b. What will be the output of following :

```
class MAIN ()
{
    public MAIN ()
    {
        calculate ();
        System.out.println("Constructor ");
    }

    void calculate ()
    {
        show();
        System.out.println("Calculating");
    }

    void show ()
    {
        System.out.println("I am displaying ");
    }

    public static void main ( Strirng args [])
    {
        MAIN one = new MAIN ();
    }
}
```

2.
 - c. public class Date

```

{
    public int day;
    public int month;
    public int year;

    public Date ( int d, int m ,int y )
    {
        day = d;
        month = m;
        year = y;
    }
}

```

- a) How many instance variables does it have?
 - b) Create a Date Object corresponding to 9th June 1991.
- d. While working in Net Beans IDE , kamal wants that in the text area, the text Should move to next line once it is filled widthwise and then to without breaking the word .What property will help him do that ?
- e. The absence of break statement in the cases of switch statement. Give rise to a mechanism known as ?
- f. Write a function in java that takes two numbers as parameters. It then returns that num whose square is greater than the square of other number. In case of equality either number is returned.

3.

- a. Kamal is not clear about the difference between the following two statements:
 - (i) `SELECT (9 – 6) * 12;`
 - (ii) `SELECT (9 – 6) * 12 FROM empl ;`
 Help him understand the difference between these two statements.
- b. Garvit wants to add the salary and commission for all the salesmen whose details are stored in Sales table as shown below:

S.No	Name	Salary	Commission
1	Raghav	8000	2000
2	Navjot	8000	6000
3	Garvit	8000	NULL
4	Rahman	9000	NULL
5	Anand	9000	3000

But when she issues the query:

```
SELECT SNo, Salary + Commission FROM Sales;
```

The result shown is:

```

10000
14000
NULL
NULL
12000

```

She is getting total only for salesmen Raghav, Navjot and Anand and for others, she is not getting the total rather she is getting just NULL. What is the problem with the query? What is the solution for this problem?

- c. Indicate what is incorrect in the following CREATE TABLE statement:
 - (i) `CREATE TABLE T1`

```

        (
            C1 INTEGER NOT NULL,
            C2 INTEGER NOT NULL UNIQUE,
            C3 INTEGER NOT NULL,
            PRIMARY KEY ( C1,C4)
        );
(ii) CREATE TABLE T2
    (    C1 INTEGER NOT NULL PRIMARY KEY,
        C2 INTEGER NOT NULL,
        C3 INTEGER UNIQUE,
        PRIMARY KEY ( C1,C2,C1) );

```

d. When a PRIMARY KEY constraint is include in a table, what other constraint dose this imply?

4.

- a. Why was the concept of inheritance introduced in object oriented language.
- b. What is difference between an abstract class and an interface?
- c. Differentiate between method overloading and method overriding.
- d. Give an int variable K with value 253. It is to be converted into equivalent stringi.e., "253". What are the two ways of doing that?

e. Which of the following statement would set the text as 'AB'?

- (i) JTF.setText ('A' + 'B');
- (ii) JTF.setText ("A" + 'B');
- (iii) JTF.setText ("A" + "B");
- (iv) JTF.setText (" " + ("A" + 'B'));

f. What will be the output of the following code fragment if the value of ch is 'a'

```

:
:
switch ( ch ) {
    case 'a' : System.out.println(" It is a . ");
    case 'b' : System.out.println(" It is b . ");
    case 'c' : System.out.println(" It is c . ");
    break;
    case 'd' : System.out.println(" It is d . ");
    break;
    default : System.out.println(" Not a b c d ");
}

```

:
:

g. Identify the errors in the following code and tell the output after correction the code.

```

num1TF contains "12"
num2TF contains "34"

```

JOptionPane.showMessageDialog (null, " " + (value + 1));

h. Mr. persi of super store decided to computerize the billing department. The accounts manager at super store is creating a billing software to generate the bill during the sale period. A new bill is generated for each item sold. The discount is given based on the item category. An additional discount 5% is given to the store Membership Card Holders. The Following is the Data entry screen used at the store.

Object Type	Object Name	Description
TextField	BillnoTF	To enter bill Number
TextField	BillDateTF	To display system date
TextField	NameTF	To input item Name
TextField	PriceTF	To input item price
TextField	DiscTF	To Display Discount
TextField	FinalTF	To Display Final Price
Radio Button	MensRB	To select men's category
Radio Button	WomensRB	To select Women's Category
Radio Button	KidsRB	To select Kid's Category
Check Box	MemberCB	To be checked for member
Button	CalcBTN	To calculate discount and final price
Button	ClearBTN	To Clear all text field
Button	ExitBTN	To exit from the application

- (i) Write the code for ClearBTN button to clear all the text fields except the BillDateTF text Field.
- (ii) Write the code for the CalcBTN button to display the discount and final price in the DiscTF and FinalTF text fields respectively . Note the final price is calculated as price – discount and the discount is calculated based on the category and price according to the following table. Also remember to give an additional 5% discount for membership card holder i.e, if the MemberCB checkbox is checked.

Category	Price	Discount
Men's	<1000	30%
	>=1000	50%
Women's	<1500	40%
	>=1500	50%
Kid's	<500	20%
	>=500	30%

- i. Differentiate between ENABLED and EDITABLE property of a TEXTFIELD and how they are changed at the run time.
- 5.
- What do you understand by the terms cardinality and Degree of a relation in relational database ? if a table has 4 rows and 7 columns than what's its cardinality and degree.
 - What is the ACID properties of a transaction.
 - Write the resulting output of the following:
 - SELECT SUBSTR(TRIM(' INDIA IS GREAT ',10);
 - SELECT ROUND(76.9878,2);
 - SELECT TRUNCATE(87.5976,1)
 - 'COMM' is a column in a table "EMPL". The queries
SELECT COUNT(*) FROM EMPL; and SELECT COUNT (COMM) FROM EMPL;
Given the result 28 & 27 respectively. What may be the possible reason for this? How many records are present in the table – 27 or 28?
 - Consider the table LAB given below. Write commands in SQL for (i) to (vi) and output for (vii)

No	ItemName	CostPerItem	Quantity	DateOfPurchase	Warranty	Operational
1	Computer	60000	9	2010-05-21	2	7
2	Printer	15000	3	2009-05-21	4	2
3	Scanner	18000	1	2007-08-29	3	1
4	Camera	21000	2	2011-06-13	1	2
5	Hub	NULL	1	2009-04-13	2	1
6	UPS	5000	5	2010-05-21	1	4
7	Plotter	25000	2	2011-01-11	2	2

- To select the ItemName purchased after 31-Oct-2010.
 - To list the ItemName, which are within the warranty period till present date.
 - To list the ItemName in ascending order of the date of purchase where quantity is more than 3.
 - To display ItemName, CostPerItem, and Quantity whose warranty is over.
 - To count the number of Items whose cost is more than 10000.
 - To increase the quantity of computer, printer and UPS with 5.
 - Give the output of following SQL commands:
 - SELECT AVG(CostPerItem) FROM Lab;
 - SELECT * FROM LAB WHERE ItemName like '%r';
 - SELECT COUNT(*) FROM LAB WHERE CostPerItem > 15000;
 - SELECT DateOfPurchase, SUM(Quantity) FROM LAB GROUP BY DateOfPurchase;
- 6.
- Write an SQL query to create a table 'TEACHER' with following structure:

Field	Type	Constraint
T_Code	Varchar(5)	PRIMARY KEY
T_Name	Varchar(30)	NOT NULL
Age	Int(3)	
Department	Varchar(20)	NOT NULL
DateOfJoin	Date	NOT NULL
Salary	Decimal(10,2)	
Sex	Char(1)	

ii. Consider the two tables given below:

Table : Item

Item_Code	Item_Name	Price
111	Refrigerator	15000
222	TV	25000
333	Computer	35000
444	Refrigerator	16000

Table : Brand

Brand_Code	BrandName
111	Godrej
222	BPL
333	HCL
444	BPL

- i. Identify the foreign key column in the table Brand.
- ii. How many rows and columns will be there in the Cartesian product of these two tables?

iii. Consider the following Tables:-

Table: CONSULTANT

ID	NAME	DEPT	SEX	EXPERIENCE
E01	Garvit	ENT	M	12
C04	Kamal	ORTHPEDIC	M	5
C07	Maria	CARDIOLOGY	F	10
C07	Methew	ENT	F	3

Table : SALARY

ID	BASIC	ALLOWANCE	CONSULTATION
E01	12000	1000	300
O04	23000	2300	400
C07	32000	4000	500
E14	12000	5200	100

With reference to these tables, write commands in SQL for (i) and (ii) and output for (iii) below:

- i. Display NAME and BASIC of all staff who are in 'ENT' having more than 9 years experience and BASIC is more than 20000.
- ii. Write a query to display the name of those employee who got maximum salary.
- iii.

```
SELECT CON.DEPT,SUM(SAL.BASIC),COUNT(*)
FROM CONSULTANT CON , SALARY SAL
WHERE CON.ID=SAL.ID
GROUP BY DEPT;
```

7

- a. How is e-learning beneficial to students ? Give the name of some major e-learning portals.
- b. List of features of a good programming interface.
- c. ABC sports complex wants to computerized its complex. They wants to create a form with following functions. Choose appropriate controls from Text Box, Label, Option Button, Check Box , List Box, Combo Box, Command Button and write in the third column.

Sno	Control used to :	Control
1	Enter Name of customer	
2	Choose Gender (M/F)	
3	Select any number of facility from six available facilities	

4	Display total fees to be paid	
5	Submit Form	