

KENDRIYA VIDYALAYA SANGATHAN- CHENNAI REGION
INFORMATICS PRACTICES
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ANSWER KEY

- Q.1 a. What is protocol? 1
- Ans: A set of rules of communication is protocol.
1 mark for correct answer
- b. In a school the computer lab was connected to the resource room. Which type of network has been formed?
LAN, WAN, MAN, PAN 1
- Ans: LAN
(1 mark for correct answer)
- c. Arrange the following communication channels in ascending order of their cost.
Ethernet Cable, Optical Fiber, Co-axial cable 1
- Ans: Ethernet cable, Co-axial cable, Optical Fiber
(1 mark for correct answer)
- d. Write any two characteristics of Open Source Software. 1
- Ans: 1. Allows user to modify the software as per the requirement.
2. Allows user to distribute the modified software
(1/2 mark each for any two correct characteristics)
- e. Peter is setting up a network for his office and is confused if to use Hubs or Switches. Which of these devices would be more efficient one? Justify. 1
- Ans: Switch. The switch reduces the amount of unnecessary traffic that would have occurred if the same information had been sent from every port (as with a hub).
1 mark for correct answer
1 mark for correct justification
- f. Why is repeater used in a computer network? 2
- Ans: A repeater is a device that is used to regenerate signals on its way through a communication channel. A repeater regenerates the received signal and retransmits it to its destination.

(2 mark for correct answer)

g. What are two advantages of star topology? 2

Ans: The advantages of star topology are

1. Centralized management
2. Better performance than Bus.

(These or any two correct advantages. 1 mark each)

Q.2 a. Which HTML tag is used to insert hyperlink in a web page? Give one example. 1

Ans: 'href' is the tag used to insert a hyperlink in a web page.

E.g. `Visit W3Schools`

Name of the tag ½ mark.

Any correct example ½ mark.

b. Give any two examples of country specific domain names. 1

Ans: .in India
.us USA

Any correct domain name ½ mark.

c. Which of the following is a container control? 1
i. TextField ii. Label iii. Frame iv. Button

Ans : Frame

1 mark for correct answer.

d. While making a Form in Netbeans, Mr Jack wants to display a list of countries for users to select one from. Suggest a most appropriate control. 1

Ans: ComboBox

1 mark for correct answer.

e. How can you declare the variable in JAVA for the following; 2
(i) If you want to store the salary of an employee.
(ii) If you want to store the name of an employee.

Ans: i. float sal;
ii. string ename;

1 mark each for correct answer.

f. What is web browser? Give any two examples of web browsers.
2

Ans: Web browser is software that is used to retrieve, present and traverse contents on the www.
E.g. Internet Explorer, Google Chrome or any other correct answer

1 mark for correct definition and 1 mark for correct examples(1/2 mark each).

g. Write a Java code that takes a number from jTextField1 and displays its multiplication table up to 10 multiples. 2

Ans: int i,no;

```
no=Integer.parseInt(jTextField1.getText());
for(i=1;i<=10;i++)
{
    System.out.println(no+"*"+i+"="+i*no);
}
```

1 mark for correct input from the jTextField
1 mark for correct 'for' loop

Q.3 a. In a database there is a table Cabinet. The data entry operator is not able to put duplicate values in a column of Cabinet? What may be the possible reason(s)?
1

Ans: The column may be having unique or primary key constraint.

1 mark for correct answer.

b. What is a function that can be used in MySql to get current date and time?
1

Ans: now()

1 mark for correct answer.

c. What is the difference between HAVING and WHERE clauses?
1

Ans: Where clause is used to select particular rows that satisfy condition whereas having clause is used in connection with aggregate function, group by clause.

1 mark for correct answer.

d. Is the following statement correct(Yes/No)? If 'No' then write a corrected statement else leave it unchanged.

DELETE ALL FROM TABLE EMP; 1

Ans: No. The correction required is

DELETE FROM EMP;

½ mark for identifying that the statement has error and ½ mark for correction.

e. Write a table representing Cartesian product of the following two tables. 2

Sno	Name	Class
1	Rohit	12
2	Mohit	12

ID	Sno	Marks
123	1	65
143	1	54
122	2	62

Ans:

Sno	Name	Class	ID	Sno	Marks
1	Rohit	12	123	1	65
1	Rohit	12	143	1	54
1	Rohit	12	122	2	62
2	Mohit	12	123	1	65
2	Mohit	12	143	1	54
2	Mohit	12	122	2	62

2 mark for correct answer.

f. What do you understand by following terms? 2

- i. Attribute ii. Cardinality

Ans: Attribute is property of a table represented using column of the table.

Cardinality is number of tuples of a table.

1 mark each for correct answer.

g. The table 'Items' has following data. What will be the output of the following queries. 2

ITEMNO	COST
101	1000
151	NULL

121	1200
131	1400
141	NULL

- i. SELECT AVG(COST) FROM ITEMS;
- ii. SELECT COST *10 FROM ITEMS WHERE ITEMNO=101;

Ans: i. 1300
ii. 10000

1 mark each for correct answer.

- Q.4 a. A programmer stored roll number of 10 digits in a string variable strRoll. Now it is required to be stored in numeric form using Long variable. Write a Java code to do this. 2

Ans: long rollno =Long.parseLong(strRoll);

2 marks for correct answer.

- b. Rewrite the following code snippet using If statement. 2

```
int P = jComboBox1.GetSelectedIndex();

switch(P)
{
    case 0: amount = P; break;
    case 1: amount = P*10; break;
    case 2: amount = P*20; break;
    default: amount =0;
}
```

Ans: int P = jComboBox1.GetSelectedIndex();

```
if(P==0)
    Amount=P;
else if(P==1)
    Amount=P*10;
else if (P==2)
    Amount=P*20;
else
    Amount=0;
```

2 mark for correct answer(Deduct ½ mark for any syntax error).

- c. What would be the contents of jTextField1 after execution of following code. 1
- ```
jTextField.SetText(Math..round(2.3)+ “ “);
```

Ans: 2

**1 mark for correct answer.**

d. How many times would the following while loop execute 1

```
int i=5;
int j=45;
while(i<=j)
{
 i+=5;
}
```

Ans: 10 times

**1 mark for correct answer.**

e. Find the output of the following Java code. 2

```
public static void main(String []args)
{
 long a=78345,s1=0,s2=0,r;
 while(a>0)
 {
 r=a%10;
 if (r%4==0)
 s1+= r;
 else
 s2+=r;
 a/=10;
 }
 System.out.println("S1 =" + s1);
 System.out.println("S2 =" + s2);
}
```

Ans: S1=12

S2=15

**1 mark for each line of correct answer.**

f. Write the code to make the textfields for Discount( txtDiscount ) and Net Payable (txtNetPayable) uneditable. 2

Ans: txtDiscount = setEditable(False);  
txtNetPayable = setEditable(False);

**1 mark for each line of correct answer.**

g. Prachar Store is a Magazine distributor for Bharat Today. The distributor plans to computerize its billing system. A programmer is required to make the following GUI interface to calculate the

Discount Amount & Bill Amount to be paid by the subscriber as shown below:

The annual subscription of Bharat Today for one year is Rs.1400/- without any discount. Under the current scheme discounts are being offered as follows:

| <b>Subscription Period in years</b> | <b>Discount</b> |
|-------------------------------------|-----------------|
| One                                 | 10%             |
| Two                                 | 15%             |
| Four                                | 25%             |

| <b>Control</b> | <b>Name</b>   | <b>Description</b>              |
|----------------|---------------|---------------------------------|
| jTextField1    | txtName       | To store Subscribers Name       |
| jTextField2    | txtAddress    | To display the address          |
| jTextField3    | txtTot        | To display Total Amount         |
| jTextField4    | txtDisc       | To display Discount Amount      |
| jTextField5    | txtNet        | To display Net Amount           |
| jComboBox1     | cmbPeriod     | To choose "one"/ "Two" / "Four" |
| jCheckBox1     | chkMember     | To become a member              |
| jButton1       | btnCalTotDisc | To Calculate Total & Discount   |
| jButton2       | btnCalNet     | To display Net Amount           |

Create the above interface in Java(using NetBeans) and set/write code for the questions that follow:

- i Ensure at design time that the textfields for Total Amount (txtTot) Discount Amount(txtDisc) and Net Amount(txtNet) are uneditable and btnCalNet is not active 2

Ans:     txtTot.setEditable(False);  
           txtDisc.setEditable(False);  
           txtNet.setEditable(False);  
           btnCalNet.setEnabled(False);

**1/2 mark for each line of correct answer.**

- ii When “Calculate Total & Discount” button(btnCalTotDisc) is clicked, calculate and display the Total amount and discount in their corresponding textfields(txtTot & txtDisc) 2

Ans:     float total, discount, net, sub;  
           sub=1400;  
           String value=comboBox.getSelectedItemAt().toString();  
           if(value.equals(“One”))  
           {  
           total=sub;  
           discount = 0.1\*sub;  
           txtTotal.setText(sub+””);  
           txtDisc.setText(discount+””);



```

 }

 if(value.equals("Two"))
 {
 total=sub*2;
 discount = 0.15*sub;
 txtTot.setText(sub+""");
 txtDisc.setText(discount+""");
 }
 if(value.equals("Three"))
 {
 total=sub * 3;
 discount = 0.25*sub;
 txtTot.setText(sub+""");
 txtDisc.setText(discount+""");
 }

```

**½ mark for getting value from comboBox**

**½ mark each for correct calculations**

- iii When "Calculate Net" button (btnCalNet) is clicked display the Net amount in the textField txtNet . 1

Ans : `int total=txtTot.getText();`  
`int dis=txtDisx.getText();`  
`int net = total + dis;`  
`txtNet.setText(net+""");`

**1 mark for correct answer.**

- Q.5 a. Write the output of following SQL queries. 2

- i. `SELECT ROUND(1.289,1) ;`
- ii. `SELECT MID('Discovery Channel',4,6) ;`
- iii. `SELECT DAYOFMONTH ('2011-03-30');`
- iv. `SELECT TRUNCATE (7.727,1);`

Ans: i. 1.3  
 ii. covery  
 iii. 3  
 v 7.7

**½ mark for correct answer.**

- b. What is the purpose of DROP TABLE? 1

Ans: DROP TABLE is a DDL command to delete the structure of the table.

**1 mark for correct answer.**

- c. Consider the table PROJECTS given below. Write SQL commands for i) to iv) and output of v) to vii) (1X 7 = 7)

**PROJECTS**

| PID | PRJNAME      | PRJSIZE | STARTDATE | ENDDATE  | COST   |
|-----|--------------|---------|-----------|----------|--------|
| 1   | Payroll-MMS  | Medium  | 03/17/06  | 09/16/06 | 60000  |
| 2   | Payroll-ITC  | Large   | 02/12/08  | 01/11/09 | 500000 |
| 3   | IDMgmt-LITL  | Large   | 06/15/08  | 04/21/06 | 300000 |
| 4   | Recruit-LITL | Medium  | 03/31/06  | 08/22/06 | 50000  |
| 5   | IDMgmt-MTC   | Small   | 03/25/07  | 05/16/07 | 20000  |
| 6   | Recruit-ITC  | Medium  | 03/01/07  | 06/27/07 | 50000  |

- i. Display information of all medium size projects.

Ans:

```
SELECT * FROM PROJECTS WHERE PRJSIZE="Medium";
```

- ii. Display project size of projects whose project name ends with 'ITC'.

Ans:

```
SELECT PRJSIZE FROM PROJECTS WHERE PRJNAME LIKE '%ITC';
```

- iii. Display project name, size and cost in ascending order of cost.

Ans :

```
SELECT PRJNAME, PRJSIZE FROM PROJECTS ORDER BY COST;
```

- iv. Count the number of 'Large' sized projects.

Ans:

```
SELECT COUNT(*) FROM PROJECTS WHERE PRJSIZE="Large";
```

- v. SELECT MAX(COST) FROM PROJECTS WHERE PRJSIZE="MEDIUM";

Ans:

60000

- vi. SELECT PRJNAME,STARTDATE FROM PROJECTS WHERE COST>100000 ORDER BY STARTDATE;

Ans:

```
Payroll-ITC 2008-2-12 500000
```

```
IDMgmt-LITLLarge 2008-6-15 300000
```

- vii. SELECT PRJSIZE,COST FROM PROJECT WHERE STATEDATE BETWEEN '1/1/2007' AND '31/12/2007';

Ans:

```
Small 20000
```

```
Medium 50000
```

**1 mark each for correct answer.**

Q.6 a. Write MySql command to create 'TEAM' table.

2

| Name of column | Type    | Size | Constraint |
|----------------|---------|------|------------|
| Tid            | Integer |      | Primay Key |
| Name           | Varchar | 10   |            |
| Game           | Varchar | 10   |            |
| Noofmembers    | Integer |      | Not Null   |

Ans : CREATE TABLE TEAM  
(Tid INT NOT NULL,  
Name VARCHAR(10),  
Game VARCHAR(10),  
Noofmembers INT NOT NULL  
Primary Key(Tid));

**2 mark for correct answer.**

b. Study the following table TEACHER and SALARY and write the SQL commands for the questions (i) and (ii) and give outputs for SQL queries (iii) and (iv)

Table : TEACHER

| SID | NAME      | DEPT      | SEX | EXPERIENCE |
|-----|-----------|-----------|-----|------------|
| 101 | Siddharth | Computer  | M   | 12         |
| 104 | Raghav    | Physics   | M   | 5          |
| 107 | Naman     | Chemistry | M   | 10         |
| 114 | Nupur     | Computer  | F   | 3          |
| 109 | Janvi     | Physics   | F   | 9          |
| 105 | Rama      | Accounts  | M   | 10         |
| 117 | James     | Computer  | F   | 3          |
| 111 | Binoy     | Accounts  | F   | 12         |
| 130 | Samuel    | Computer  | M   | 15         |

Table : SALARY

| SID | BASIC | ALLOWANCE | DA   |
|-----|-------|-----------|------|
| 101 | 12000 | 1000      | 300  |
| 104 | 23000 | 2300      | 500  |
| 107 | 32000 | 4000      | 500  |
| 114 | 12000 | 5200      | 1000 |
| 109 | 42000 | 1700      | 200  |
| 105 | 18900 | 1690      | 300  |
| 130 | 21700 | 2600      | 300  |

i. Display NAME and DA of all staff who are in Accounts department and having more than 10 years of experience and DA is more than 300. 2

Ans: SELECT NAME, DA FROM TEACHER, SALARY  
WHERE TEACHER.SID=SALARY.SID AND DEPT='Accounts';

**2 mark for correct answer.**

ii. Display the NAME and salary of all staff working in physics department and salary more than average salary.  
(SALARY=BASIC +ALLOWANCE+ DA) 2

Ans: SELECT NAME, BASIC+ALLOWANCE+DA FROM  
TEACHER, SALARY WHERE TEACHER.SID=SALARY.SID  
AND DEPT='Physics' AND (BASIC+DA+ALLOWANCE) >  
(SELECT AVG(BASIC+DA+ALLOWANCE) FROM SALARY);

**2 mark for correct answer.**

iii. Select NAME, DA, BASIC from TEACHER, SALARY  
Where BASIC>20000 and TEACHER.SID=SALARY.SID; 1

Ans : Raghav            500    23000  
          Naman            500    32000  
          Janvi             200    42000  
          Samuel           300    21700

**1 mark for correct answer.**

iv. Select NAME, DEPT, SEX, BASIC, DA from TEACHER,  
SALARY Where DEPT LIKE '%o%' and DA >=500 and  
TEACHER.SID=SALARY.SID; 1

Ans: Nupur 1000 12000

**1 mark for correct answer.**

c. In a database there are two tables 'Company' and 'Model'

Table : Company

| CompId | CompName | CompHQ    | ContPerson |
|--------|----------|-----------|------------|
| 1      | Honda    | Chennai   | A B Patel  |
| 2      | Suzuki   | Mumbai    | B B Roy    |
| 3      | Toyota   | Bangalore | G G Mehta  |

Table: Model

| ModelId | CompId | ModelCost |
|---------|--------|-----------|
| T102    | 3      | 30000     |
| A10     | 1      | 20000     |
| P261    | 2      | 40000     |
| S111    | 3      | 25000     |

- i. Identify the foreign key in the table model. 1

Ans : CompId in table Model

**1 mark for correct answer.**

- ii. What steps are to be taken to delete the company with CompId = 1. Justify. 1

Ans : Delete all the dependent tuples first and then delete the company.

**1 mark for correct answer.**

- Q.7 a. Give any two guidelines given by NIC for multi-lingual websites. 2

**1 mark each for correct guideline.**

- b. What is importance of e-learning? Give any one e-learning site. 2

**1 mark for correct importance and 1 mark for e-learning site.**

- c. Mr Patel has to design an interface for a software he is designing for a advertisement company. Choose an appropriate control from Label, TextBox, Radio Button, CheckBox, ListBox, CommandButton and write in third column. 2

| S.No. | Control used to                | Control |
|-------|--------------------------------|---------|
| 1     | Enter name, address and salary |         |
| 2     | Select gender                  |         |
| 3     | Select Department              |         |
| 4     | Clear form                     |         |

**½ mark each for correct answer.**

