

Courses covered on InfyTQ under the Foundation Courses section are

Programming Fundamentals, Object-Oriented Programming, Data Structures and Algorithms using Python, and Learning DBMS and SQL.

1. **Programming Fundamentals using Python**

- a. Introduction to Programming
- b. Algorithms
- c. Pseudocode
- d. Control Structures
- e. Eclipse Plug-in
- f. Debugging
- g. Collections
- h. Functions
- i. Exception Handling
- j. Recursion
- k. Libraries and Functions
- l. File Handling

2. **Object-Oriented Programming Retail**

- a. Introduction
- b. OOP Basics
- c. Encapsulation
- d. Using Objects
- e. Eclipse tips
- f. Static
- g. Relationships
- h. Inheritance
- i. Abstract class
- j. Exception Handling

3. **Data Structures and Algorithms**

- a. Introduction to Data Structures

- b. List Data Structure
- c. Stack
- d. Queue
- e. Non-linear Data structures
- f. Hashing and hash table
- g. Search algorithm
- h. Sort algorithm
- i. Algorithm technique

4. **Learning DBMS and SQL**

- a. Entities and Relationships diagram
- b. SQL basics
- c. DDL statements
- d. DML statements
- e. Joins
- f. Subquery
- g. Transactions
- h. Modular query writing
- i. Normalization
- j. No SQL databases

Infosys Infyqtq exam is a 3-hour comprehensive exam consisting of the two sections – Objective & Hands-on coding.

Rounds	Number of Questions	Time duration
Objective (Programming MCQs)	20	3 hours in total.
Hands-on Coding (Coding)	2	3 hours in total.

- In the objective programming MCQs round, students will have to answer 20 MCQs. These 20 MCQs will be asked from OOPs, Data Structures, DBMS, SQL & Fundamentals of Python. Infyqtq programming MCQs section is of easy to medium difficulty level.
- In the Hands-on coding round, students will have to answer 2 coding questions. These 2 questions should be coded only using Python 3 language. Students will not have the option to code using other languages like C, C++, Java, etc.



---

### Test-I -Infy DBMS

The below table holds the result of an assessment of 3 students.

Table: Assessment

StudentId	Marks
1001	99
1002	33
1003	88

A requirement is given to 3 developers Tom, Dick and Harry to generate a report as follows:

StudentId	Marks
1001	99
1002	FAIL
1003	88

If a student has scored less than 50, his status must be shown as 'FAIL'.  
Otherwise, his mark must be displayed.

The 3 developers wrote the following queries:

Tom:

```
SELECT STUDENTID,CASE WHEN MARKS < 50 THEN 'FAIL' ELSE  
TO_CHAR(Marks) END AS STATUS FROM ASSESSMENT
```

Dick:

```
SELECT STUDENTID,CASE WHEN MARKS < 50 THEN 'FAIL' ELSE Marks  
END AS STATUS FROM ASSESSMENT
```

Harry:

```
SELECT STUDENTID,CASE WHEN MARKS > 50 THEN 'FAIL' ELSE Marks  
END FROM ASSESSMENT
```

Which one of them will get the desired output?



Dick



Harry



Tom



None of them

## Q2 of 25

outlined\_flag

Consider the following code written for creating the table:

```
CREATE TABLE ACCOUNT (ACCNO INT , ACCNAME VARCHAR(30) NOT  
NULL,BALANCE );
```

The table is NOT getting created, identify the reason.



BALANCE must be NOT NULL



ACCNO must be NOT NULL



Primary key is missing for ACCOUNT



BALANCE must have a datatype

Q3 of 25

outlined\_flag

Tables course and student have 1-N relationship respectively. Cid is the primary key of course table and Sid is the primary key of student table. To which table the foreign key should be added?

Course
Cid
Cname

Student
Sid
Sname



Either Student or Course



In 1-N relationship foreign key cannot be established



Only Student



Only Course

Q4 of 25

outlined\_flag

Rajesh created a table EMP in order to record employee details.

The table creation script for the same is given below:

```
CREATE TABLE EMP(  
empid NUMBER(10) PRIMARY KEY,  
empname VARCHAR2(50),  
cabinnnumber NUMBER(20) UNIQUE  
);
```

Currently table has some data as given below:

empid	empname	cabinnnumber
1001	Hari	789
1002	Varun	145
1003	Shyam	458

Select the right option for inserting a new row into the table.

INSERT INTO EMP VALUES (1004,'Lali',789);

INSERT INTO EMP VALUES (1004,'Lali',NULL);

INSERT INTO EMP VALUES (NULL,'Lali',456);

INSERT INTO EMP VALUES (1003,'Lali',578);

Q5 of 25

outlined\_flag

A table Employee has the following data:

The following queries were executed on the table successfully :

```
UPDATE EMPLOYEE SET DEPARTMENT = 'HR' WHERE DEPARTMENT = 'Marketing' ;
```

```
DELETE FROM EMPLOYEE WHERE DEPARTMENT = 'HR' AND SALARY = 1000;
```

What will be the output of the following query?

```
SELECT COUNT(*) FROM EMPLOYEE;
```

- 5
- 6
- 4
- 2



Q6 of 25

outlined\_flag

Consider the following statements with respect to a candidate key:

- a. Candidate key identifies rows in a relation uniquely.
- b. There can be only one candidate key in a relation.
- c. A candidate key can be a combination of more than one attribute in a relation.

Identify the statement/(s) which are TRUE.



Only a and c



Only a and b



only a



Only b and c

Q7 of 25

outlined\_flag

Consider the below table SalesPerson:

```
SELECT DISTINCT Id, Amount FROM SalesPerson ORDER BY Amount  
ASC;
```

Based on the output of the above query, identify the correct statement.

1005 will be 3rd record

1009 will be 4th record

1002 will be 1st record

1001 will be 4th record

Q8 of 25

outlined\_flag

Consider the following "employee" table and the code given below:

```
BEGIN
```

```
  UPDATE Employee SET Salary=5000 WHERE EmpId = 1;
```

```
  COMMIT;
```

```
  UPDATE Employee SET Name='Dravid', Salary = 5000 WHERE EmpId = 3;
```

```
  INSERT INTO Employee VALUES(3, 'Yuvraj', 2500);
```

```
EXCEPTION
```

```
  WHEN OTHERS THEN
```

```
    COMMIT;
```

```
END;
```

What will happen when the above code gets executed?

First update will be successful

Both the updates will be successful

Neither update nor insert will be successful

Both the updates and insert will be successful

Q9 of 25

outlined\_flag

Consider the tables vehtype and vehicle given below:

vehtype(vid ,vtype) with vid being the primary key.

vehicle(id, vid, brand, model, price) with id being the primary key and vid foreign key to the vehtype table.

Consider the below join query:

```
select brand from vehicle v join vehtype vt
on v.vid=vt.vid
group by brand
having count(vtype)>1
```

Choose an equivalent subquery that would achieve the functionality performed by the above join query.

Note: The only difference between the options is in the 'WHERE' clause.

SELECT brand FROM vehicle WHERE vid in (SELECT vid FROM vehtype HAVING COUNT(vtype)>1);

SELECT brand FROM vehicle WHERE vid in (SELECT vid FROM vehtype GROUP BY vid HAVING COUNT(vtype)>1)

SELECT brand FROM vehicle WHERE vid IN (SELECT vid FROM vehtype) HAVING COUNT(vid)>1;

SELECT brand FROM vehicle WHERE vid in (SELECT vid FROM vehtype) GROUP BY brand HAVING COUNT(vid)>1

Q10 of 25

outlined\_flag

Consider the tables emp and dept given below:

Which of the following queries will execute successfully?

```
INSERT INTO emp VALUES(1006, 'Fedrick', 10, 2000);  
INSERT INTO emp VALUES (1008, 'Fedrick', NULL, 3000);  
INSERT INTO dept (deptno) VALUES (40);  
INSERT INTO dept VALUES (NULL, 'HR');
```

Q11 of 25

outlined\_flag

Consider the table toys given below:

What will be the output of the below query?

```
SELECT * FROM toys t1 WHERE price = (SELECT MAX(price) FROM toys t2  
WHERE t1.categoryid=t2.categoryid );
```

A)

B)

C)

D)



A



B



C



D

Q12 of 25

outlined\_flag

Consider the following relational schema along with functional dependencies:

OrderDetails(OrderId, DateOrdered, QuantityOrdered, ItemNumber, ItemName, ItemPrice, CustomerId, CustomerName)

{OrderId, ItemNumber} -> QuantityOrdered

OrderId -> CustomerId, DateOrdered

ItemNumber -> ItemName, ItemPrice

CustomerId -> CustomerName

What would be the resulting relational schema after converting to 3NF?

A) TableA (OrderId, CustomerId)

TableB (OrderId, ItemNumber, QuantityOrdered, ItemPrice)

TableC (ItemNumber, ItemName)

TableD (CustomerId, CustomerName)

TableE (OrderId, DateOrdered)

B) TableA (OrderId, CustomerId, DateOrdered, CustomerName)

TableB (OrderId, ItemNumber, QuantityOrdered)

TableC (ItemNumber, ItemName)

TableD (CustomerId, CustomerName)

TableE (ItemNumber, ItemPrice)

C) TableA (OrderId, DateOrdered)

TableB (OrderId, ItemNumber, QuantityOrdered)

TableC (ItemNumber, ItemName)

TableD (CustomerId, CustomerName)

TableE (ItemNumber, ItemPrice)

D) TableA (OrderId, CustomerId, DateOrdered)

TableB (OrderId, ItemNumber, QuantityOrdered)

TableC (ItemNumber, ItemName)

TableD (CustomerId, CustomerName)

TableE (ItemNumber, ItemPrice)



A



B



C



D



Q13 of 25

outlined\_flag

Cray Retail is a retail chain. They have a table in their database that has the following data:

Three developers Tom, Dick and Harry are given the task of finding the average salary of the employees in the company. They have been told that a NULL in the salary column means that those employees should not be considered.

They write the following queries:

Tom: `SELECT SUM(Salary)/COUNT(*) from EMPLOYEE WHERE Salary IS NOT NULL ;`

Dick: `SELECT SUM(Salary)/COUNT(*) from EMPLOYEE;`

Harry: `SELECT AVG(Salary) from EMPLOYEE;`

Which of them have got the query correct?

Tom and Harry have got it right

Only Harry has got it right

Tom and Dick have got it right

Only Dick has got it right

Q14 of 25

outlined\_flag

Consider a table named Measurement with the following structure and data;

The following procedure is created in the database successfully:

```
CREATE OR REPLACE PROCEDURE dataInsert_sp(v_Num1
NUMBER,v_Num2 NUMBER,v_Num3 NUMBER,p_Status OUT NUMBER)
IS
  v_Sum NUMBER;
BEGIN
  v_Sum := v_Num1 + v_Num2;
  IF (v_Sum >= v_Num3 ) THEN
    p_Status := -2;
    RETURN;
  ELSE
    INSERT INTO Measurement VALUES (v_Num1,v_Num2,v_Num3);
    p_Status := -3;
  END IF;
  EXCEPTION
    WHEN OTHERS THEN
      p_Status := -4;
END;
```

What will be the value of p\_Status when the procedure is executed with the input set **(v\_Num1,v\_Num2,v\_Num3) = (1,3,6)**

-4

NULL

-2

-3

Q15 of 25

outlined\_flag

Consider the tables product and orders with the data as follows:

Choose the query which will generate the output given below:

SELECT p.prdid, p.prddname, MIN(o.quantityordered) quantity FROM product p INNER JOIN orders o ON p.prdid=o.prdid GROUP BY p.prdid, p.prddname having MIN(o.quantityordered)>10;

SELECT p.prdid, p.prddname, MIN(o.quantityordered) quantity FROM product p INNER JOIN orders o ON p.prdid=o.prdid GROUP BY p.prdid, p.prddname;

SELECT p.prdid, p.prddname, SUM(o.quantityordered) quantity FROM product p INNER JOIN orders o ON p.prdid=o.prdid GROUP BY p.prdid, p.prddname having SUM(o.quantityordered)<10;

SELECT p.prdid, p.prddname, MIN(o.quantityordered) quantity FROM product p INNER JOIN orders o ON p.prdid=o.prdid GROUP BY p.prdid, p.prddname having MIN(o.quantityordered)<10;

Q16 of 25

outlined\_flag

Consider the table broker given below:

Which of the following will be one of the rows in the output of the below SQL query?

```
SELECT BrokerNo, COUNT(NVL(Comission,0)) Commission  
FROM Broker GROUP BY BrokerNo;
```

A.

B.

C.

D.



A



B



C



D

Q17 of 25

outlined\_flag

Consider the below table named Destination:

DestId is the PRIMARY KEY.

Another table Travel holds the list of tour packages as given below:

DestId in the Travel table references the DestId of the Destination table using a FOREIGN KEY.

Given the above details which of the following queries will execute successfully.

Choose 2 CORRECT options.

DELETE FROM Destination where destId = 102

UPDATE Destination SET destId = 105 where destId = 103

DELETE FROM Destination where destId = 104

UPDATE Destination SET destId = 105 where destId = 102

Q18 of 25

outlined\_flag

Consider the table Teacher given below:

How many rows will get updated when the below query is executed?

- 1
- 4
- 3
- 2

Q19 of 25

outlined\_flag

Consider the tables given below:

Determine the output of the below query.

```
SELECT customer.customerid,NVL(booking.bookingid,'Not Yet') FROM  
customer LEFT OUTER JOIN booking ON customer.customerid =  
booking.customerid ;
```

A.

B.

C.

D.



A



B



C



D



Q20 of 25

outlined\_flag

Consider the table products given below:

**Note:** modelno is the PRIMARY KEY of products table.

What will be the output of the following query?

```
SELECT prodtype FROM products
GROUP BY prodtype
HAVING COUNT(modelno) = (SELECT MIN(COUNT(modelno)) FROM
products GROUP BY prodtype);
```

PC

PC <br> Printer

Laptop

Printer

Q21 of 25

outlined\_flag

Consider the tables SUPPLIER and ORDERS given below:

Identify the query to fetch the details of all the suppliers along with order details. Include the suppliers who haven't ordered any items also.



SELECT s.supplier\_id, o.supplier\_id, o.order\_date FROM supplier s RIGHT OUTER JOIN orders o on s.supplier\_id=o.supplier\_id



SELECT s.supplier\_id, o.supplier\_id, o.order\_date FROM orders o LEFT OUTER JOIN supplier s on s.supplier\_id=o.supplier\_id;



SELECT s.supplier\_id, o.supplier\_id, o.order\_date FROM orders o FULL OUTER JOIN supplier s on s.supplier\_id=o.supplier\_id;



SELECT s.supplier\_id, o.supplier\_id, o.order\_date FROM supplier s LEFT OUTER JOIN orders o on s.supplier\_id=o.supplier\_id;

Q22 of 25

outlined\_flag

Consider the tables customer and subscription given below:

What is the output of the below query?

```
SELECT customerName
FROM customer c JOIN subscription s ON s.customerId=c.customerId
WHERE s. customerId NOT IN
(SELECT customerId
FROM subscription GROUP BY customerId HAVING COUNT (customerId)
=
(SELECT MAX(COUNT(customerId)) FROM subscription GROUP
BY customerId));
```

Jack

Hary

Tom

Peter

Q23 of 25

outlined\_flag

Consider the tables Bank, CustAccountDetails and AccountDetails given below:

What would be the output of below query?

```
SELECT CustAcclId, Balance, BankName, ad.AcclId FROM
CustAccountDetails cd
INNER JOIN Bank ba ON ba.BankCode = cd.BankCode INNER JOIN
AccountDetails ad
ON cd.AcclId = ad.AcclId
WHERE Balance >
(
SELECT AVG(Balance) FROM CustAccountDetails
INNER JOIN Bank
ON Bank.BankCode = CustAccountDetails.BankCode
WHERE BankName = ba.BankName
) AND ad.AccType = 'Saving';
```

A.

B.

C.

D. No rows will be selected



A



B



C



D

Q24 of 25

outlined\_flag

Consider the following tables:

What will be the output of the following query?

```
SELECT B.BankName,AD.AccType,SUM(Balance)
FROM CustAccountDetails CA INNER JOIN Bank B ON CA.BankCode =
B.BankCode
INNER JOIN AccountDetails AD ON CA.AcclId = AD.AcclId
GROUP BY B.BankName,AD.AccType HAVING SUM(Balance) =
(SELECT MIN(SUM(Balance)) from custAccountDetails GROUP BY
BankCode,AcclId);
```

A.

B.

C.

D.



A



B



C



D

Q25 of 25

outlined\_flag

Consider following tables:

There is a requirement to display donor id, donor name of those donors who donated the blood.

Also display the patient id who have received blood from these donors.

The following query was written to solve the above requirement.

```
SELECT DISTINCT d.donorid, donername, patientid FROM donor d INNER  
JOIN bloodtransaction b ON d.donorid = b.donorid;
```

What is the output of the above query?

A.

B.

C. Query written is correct but fetches no rows

D. Query written does not satisfy the stated requirement

A

B

C

D



### Test-II -Infy Programming

#### Question 1:

Given a string, find the substring based on following conditions,

1. The substring must be the longest one of all the possible substring in the given string.
2. There must not be any repeating characters in the substring.
3. If there is more than one substring satisfying the above two conditions, then print the substring which occurs first.
4. Length of the substring must be minimum 3.

If there is no substring satisfying all the aforementioned conditions then print -1.

#### Question 2:

Given an array of integers, find the combination of integers forming a sequence which satisfies the below conditions:

1.
  1. The  $i$ th integer must satisfy the given equation in the sequence
$$X[i] = X[i - 1] + X[i - 2] \quad (1)$$
  2. The length of the sequence must be maximum possible
  3. If there is more than one sequence satisfying above two conditions then print that sequence which contains least integers.  
In case there is no combination of integers possible then print -1.  
See the example below:

2. Example 1:  
If the given integers are 4, 2, 7, 5, 3, 8, 10, 11, 19 then the possible combinations of integers satisfying above conditions are 2, 3, 5, 8 and 3, 8, 11, 19 and hence the output must be 2, 3, 5, 8. Here you cannot form any other combination of integers whose length is greater than 4 and satisfies the given equation.  
Example 2:  
If the given integers are 1,5,6,10 then print -1.

**Question 3** Given a string in which random numbers are present and we have to find the product and the number(one is lesser and one is greater) who already present in the string. Confusing, Let's see the example:

E.g. Given a string contains **1203456**. The multiplication of 3 and 4(one is lesser and one is greater) product become 12 and it's present in the string. Like 4 and 5(one is lesser and one is greater) the product is 20 and it's present in the string and so on. In such a way, We have to find



all the numbers and in the output just we have to store the only product in the list like[ '12', '20'].

If we haven't found the product then print **-1**.

**Question 4** :Given a list of string and numbers, rotate the string by one position to the right if the sum of squares of digits of the corresponding number is even and rotate it twice to the left if the sum of the squares of the digits of the corresponding number is odd.

**Question 5**: Given an array, find the sub array which can be a square matrix with maximum sum. If there are multiple results print the matrices in the order of their orders( i.e, 3×3 matrix will be printed first, then 2X2...so on)

**Question 6**: Given an alphanumeric string, extract all numbers, remove the duplicate digits, and from that set of digits construct the largest even number possible.

**Question 7** :Given a mxn matrix select an element if the same element appears at 4 consecutive position again. Return the minimum element from all the gathered elements. What is consecutive? It's horizontal, vertical and all possible diagonals.

**Question 8**: State whether a giving string contains matching braces or not. In case mismatch is present then output the index of mismatch position.

**Question 9**:Longest Alphabetic Sequence.

**Question 10**: From a alphanumeric string extract all digits, From the smallest odd number with no repeats.

**Question 11**:A simple String rotation type question where INPUT will be given in the form of Dictionary and based on the value of the Dictionary the STRING should be rotated either clockwise or anti-clockwise.

**Question 12** It is based on matrix which i felt a bit difficult. We have to find the number which occur consecutively 4 times either in a ROW, COLUMN, DIAGONAL and more importantly REVERSE DIAGONAL. If there are multiple such elements find the minimum among them.If there is no such element print "-1".

**Question 13**: Ques 2: Given a string of brackets (, ), {, }, [, ], find the position in the string where the orders of brackets breaks.

I/p: ( )

O/p: 3

I/p: (){}{}(

O/p: 8

### **Question 14 Coding Task**

Write a C program to print the first half of an array at last and last half of the array at first.

Input format:

First-line contains the size of the array.

The second line contains elements of array separated by space.

Output Format:

Modified Array

Sample Input

**If n = odd**

5

12345

Expected Output:

45312

Sample Input

**If n = even**

6

146235

Expected Output:

235146

### **Question 15 Coding Task**

Write a program to remove the given word from the input string. If the substring is not present in the input string, then print the input string as is.

Input Format:

First-line consists of the sentence.

Second line consists of the words which we want to remove from the given sentence.

Output Format:

Sentence after the given word is removed.

**Sample Input:**

Conduira is an online learning platform.

learning

**Expected Output:**

Conduira is an online platform.

**Question 16:** Given array-(2,6,3,5,8,9)

Possible XSeries-(2,3,5), (2,3,5,8)

Output-Longest XSeries (2,3,5,8)

**#XSeries -where sum of two numbers results in next number.**

**Question 17:** Find longest substring of unique characters which is case insensitive.

**Question 18:** Generation of OTP.

**Question 19:** Reversing a string leaving the special characters in the same place.

**Question 20:** For a given list of numbers, find its factors and add the factors. Then if the sum of factors is present in the original list, sort it and print it.

Example:

Input: 0,1,6

Factors of 0 = 0. Thus sum = 0

Factors of 1 = 1. Thus sum = 1

Factors of 6 = 1,2,3. Thus sum = 6

Output = 1,6

If the sum numbers are not present in original list, then return -1.

**Question 21:** Maximum number of swaps will be given and an list of digits will be given. We have to swap numbers to get the lowest number possible by using all digits from the list.

**Question 22:** Input a matrix. Check if do we get the same number consecutively at least 4 times in any fashion (Vertical, Horizontal, Diagonal). Record those sets.

- If we get such multiple sets then print the number which is the least one
- If we get such a single set then print the same number
- If we get such no set then print -1

Example1

Input m x n. Let's take

1 3 3 3 9

1 6 9 2 3 9

1 2 2 5 4 9

2 2 4 5 7 9

2 4 5 6 7 2

Sets we get here [3 3 3 3] horizontally in the first line, [9 9 9 9] vertically in the last column,[2 2 2 2] diagonally. Hence, we'll print  $\min(3,9,2) = 2$  here.

Example2

Input m x n. Let's take

1 2 3 7

4 5 5 8

6 6 6 6

9 1 3 4

Sets we get here [6 6 6 6] only horizontally in 3rd row. Hence, we'll print 6 here.

Example3

Input m x n. Let's take

1 2 3 4

5 6 7 8

9 1 2 3

3 2 1 4

So we get NO set here. Hence, we'll print -1 here.

**Question 23:** Input type String. Output type number. Print out the maximum even number which can be generated by making combinations of numbers present in the given string. Each number can be used only once ie. No Redundancy.

Example1

Input String = Infytq@218412

Intermediate step (List of numbers *//redundancy removed*) = [2,1,8,4]

Output Number = 8412

Example2

Input String = someString&337

Intermediate step (List of numbers *//redundancy removed*) = [3,7]

Output Number = -1

**Question 24:** Given m\*n matrix where m defines number of rows and n defines number of columns. Your job is to check whether a number is consecutive for 3 times either in row, column, or diagonal. If there are more than one such numbers then print the minimum one.

Note :  $n = m+1$

Input :

First Input : m, displaying number of rows

Second Input : m\*n matrix

**Output :**

Integer

Sample Testcases :

I/P 1:

2 3 4 5 6 2 4 3

2 3 4 7 6 7 6 2

2 3 5 5 5 5 2 5

2 3 1 1 2 1 3 6

1 1 1 1 9 0 3 5

2 3 1 1 5 1 2 7

O/P 1 : 1

Note : Make combinations with 4 integers only.

Solution :

```
r = int(input())
mat = []
for i in range(r):
    mat.append(list(map(int,input().split())))
c = r+1
res=[]
for i in range(r):
    for j in range(c-2):
        if mat[i][j] == mat[i][j+1] == mat[i][j+2]:
            res.append(mat[i][j])
for i in range(r-2):
    for j in range(c):
        if mat[i][j] == mat[i+1][j] == mat[i+2][j]:
            res.append(mat[i][j])
for i in range(r-2):
    for j in range(c-2):
        if mat[i][j] == mat[i+1][j+1] == mat[i+2][j+2]:
            res.append(mat[i][j])
print(res)
```

**Question 25:** Given a special set of numbers and a special sum. Find all those combinations from the given set, equaling the given sum.

Input :

First Input : Set of numbers

Second Input : Special Sum

Output :

Combinations satisfying criteria

Sample Testcases :

I/P 1:

-1, 1, 0, 0, 2, -2

0

O/P 1

3

Explanation : Following combinations are satisfying (-1,1,2,-2), (0, 0, 1, -1), (0, 0, -2, 2)

Note : Make combinations with 4 integers only.

Solution :

```
import itertools

l=list(map(int,input().split(",")))

s=int(input())

res=list(itertools.combinations(l,4))

c=0

for i in res:

    u=sum(i)

    if u == s:

        c+=1

print(c)
```

**Question 26:** You are given a list of numbers from 1 to 9, in which each word is seperated by ‘;’. Your job is to find the sum of two numbers. These two numbers are needed to be calculated as per following rules :

1. First number should be calculated as :

Add all the numbers that do not come between 5 and 8 in the input.

2. Second number should be calculated as :

Append all the numbers to each other that comes between 5 and 8 (inclusive).

Find the sum of both numbers.

Note : 5 always comes before 8.

Number of 5's = Number of 8's.

Input :

First Input : List of numbers

Output :

“Sum of both numbers”

Sample Testcases :

I/P 1:

3,4,5,2,7,9,8,3,2

O/P 1:

52810

Solution :

```
#taking list as input where each element is seperated by ','
```

```
lst = list(map(int,input().split(",")))
```

```
#find sum of numbers that occur before 5
```

```
a = sum(lst[:lst.index(5)])
```

```
#find sum of numbers that occur after 8
```

```
b = sum(lst[lst.index(8)+1:])
```



```
#finding first number
n1 = a+b

#finding second number
rest = lst[lst.index(5):lst.index(8)+1]
n2 = ""
for i in rest:
    n2+=str(i)
print(int(n2)+n1)
```

**Question 27:** Given a row/column count and a matrix, your job is to find those possible 2\*2 matrix where each should follow the given rule :

-> Each element of matrix should be divisible by sum of its digits.

Input :

First Input : Row count, Column Count

Second Input : Matrix

Output :

2\*2 matrices satisfying the rule.

Sample Testcases :

I/P 1:

4 3

40 42 2

30 24 27

180 190 40

11 121 13

O/P 1:

40 42

30 24

30 24

180 190

24 27

190 40

**Question 28:** You are provided with a mathematical expression, your job is to solve this expression.

Input :

First Input : String

Output : Result

Sample Testcases :

I/P 1:

$(4+3)*(12/6)+100$

O/P 1:

114

Solution :

```
exp=str(input())
```

```
res=int(eval(exp))
```

```
print(res)
```

**Question 29:** You are provided with a string of numbers, check whether it is a palindrome or not. If it is not a palindrome, then, reverse the string, add it to the original string and check again. You are required to repeat the process until it becomes palindrome. Find the length of palindromic string.

Input :

First Input : String

Output : Length of Palindrome

Sample Testcases :

I/P 1:

1

O/P 1:

1

I/P 2:

145

O/P 2:

3

Explanation :

Given string is 145, it is not a palindrome. Reversing and adding,  $145+541 = 686$ , Hence it is a palindrome.

Solution :

```
def palincheck(num):
```

```
    s=str(num[::-1])
```

```
    if s==num:
        return True
    return False
n=(input())
val=0
k=0
while(True):
    if(palincheck(n)):
        val=len(n)
        print(val)
        break
    else:
        s1 = str(n[::-1])
        k=int(n)+int(s1)
        n=str(k)
        palincheck(n)
```

**Question 30:** You will be given a string of characters and special characters, your task is to reverse the string leaving special characters in same place.

Input :

First Input : String

Output : Special Reverse of string

Sample Testcases :

I/P 1:

dsd\$^f#

O/P 1:

fds\$^d#

Solution :

```
s=input()
d=dict()
res=""
for i in range(len(s)):
    if s[i].isalnum()==False:
        d.update({i:s[i]})
    else:
        res+=s[i]
res=list(res[::-1])
for i,j in d.items():
    res.insert(i,j)

print("".join(res))
```

**Question 31:** You will be given a number in the form of string, extract out digits at odd places, square & merge them. First 4 digits will be the required OTP.

Input :

First Input : String

Output : 4 digit OTP

ample Testcases :

I/P 1:

34567

O/P 1:

1636

Solution :

```
n=input()
s=""
i=0
for i in range(0,len(n)):
    if int(i)%2==1:
        s+=str(int(n[i])**2)

print(s[:4])
```

**Question 32:** For a given list of numbers, find its factors and add the factors. Then if the sum of factors is present in the original list, sort it and print it else print -1.

Input :

First Input : List of numbers

Output : List of factors

Sample Testcases :

I/P 1:

1,2,4,7

O/P 1:

[1,4]

I/P 2:

2,4

O/P 2:

-1

Solution :

```
def findfactsum(n):
    s=1
    for j in range(2,n+1):
        if n%j==0:
            s+=j
    return s

res=[]
l=list(map(int,input()))
for i in l:
    val=findfactsum(i)
    if val in l:
        res.append(i)
if(len(res)==0):
    print("-1")
else:
    print(sorted(res))
```

**Question 33:** Find longest substring of unique characters which is case insensitive.

For "ABDEFGABEF", the longest substring are "BDEFGA" and "DEFGAB", with length 6.

For "BBBB", the longest substring is "B", with length 1.

For "CDEF", the longest substring is "CDEF" with length 4.

Input :

First Input : String

Output : Length of longest substring

Sample Testcases :

I/P 1:

CDEF

O/P 1:

4

Solution :

```
s=input()
```

```
s1=""
```

```
for i in range(len(s)):
```

```
    if(s[i] in s1):
```

```
        break;
```

```
    else:
```

```
        s1+=s[i]
```

```
print(len(s1))
```

**Question 34:** Given a string of random numbers, your job is to find the product of the numbers(one is lesser and one is greater) who is already present in the string.



For instance, a pronic number is a number which is the product of two consecutive integers, that is, a number of the form  $n(n + 1)$ . Like 6 is the pronic number as  $2*3 = 6$ .

Input :

First Input : String of random numbers

Output : List of pronic numbers

Sample Testcases :

I/P 1:

123456

O/P 1:

[2,6,12]

I/P 2:

4567

O/P 2:

-1

Solution :

```
import itertools
list1=[]
s=str(input())
res = [s[i: j] for i in range(len(s))
        for j in range(i + 1, len(s) + 1)]
def pronic(s1):
    set1=[]
    set2=[]
    for p in range(0,len(s1)-1):
```

```
a=int(s1[p])
b=int(s1[p+1])
mul=int(a*b)
mul=str(mul)
if mul in res:
    set1.append(mul)
if (len(set1)==0):
    print("-1")
else:
    print(set1)
pronic((s))
```

**Question 35:** Given a string and it contains the digits as well as non-digits. We have to find the largest even number from available digits after removing the duplicates. If not possible, print -1.

Input :

First Input : String

Output :

Largest number

Sample Testcases :

I/P 1:

%#32%#%2

O/P 1:

32

I/P 2:

%#2373#@

O/P 2:

732

Solution :

```
def largeeven(lst):
```

```
    if(res[-1]%2==0 or res[-1]==0):
```

```
        return res
```

```
    else:
```

```
        for j in range(1,len(lst)+1):
```

```
            if(res[-j]%2==0 or res[-j]==0):
```

```
                ev=res.pop(-j)
```

```
                res.append(ev)
```

```
                return res
```

```
            else:
```

```
                return -1
```

```
s1=set()
```

```
s=str(input())
```

```
for i in s:
```

```
    if i.isdigit():
```

```
        s1.add(int(i))
```

```
res=sorted(s1,reverse=True)
```

```
print(largeeven(s1))
```

POSTED ON

**Question 36:** You are given a string of brackets (, ), {, }, [, ], your job is to find the position of string where order of brackets breaks.

Input :

First Input : String of Brackets

Output :

Position where order breaks. (keep 1-based indexing in mind)

Sample Testcases :

I/P 1:

[[(((O)))]

O/P 1:

12

I/P 2:

{[]}0

O/P 2:

3

Solution :

```
s1=[]
```

```
op=['(','{','['
```

```
cl=[')','}',']']
```

```
def validate(s):
```

```
    for i in range(len(s)):
```

```

if s[i] in op:
    s1.append(s[i])
elif s[i] in cl:
    res=cl.index(s[i])
    if(len(s1)>0) and (op[res]==s1[len(s1)-1]):
        s1.pop()
    else:
        return (i+1)
if(len(s1)==0):
    return 0
else:
    return len(s)+1

s=str(input())
print(validate(s))

```

**Question 37:** Given a string s, find length of the longest prefix which is also suffix. The prefix and suffix should not overlap.

Input :

First Input : String

Output :

“Length of prefix-suffix”

Sample Testcases :

I/P 1:

codecode

O/P 1:

4 (code is only prefix-suffix & has length 4)

I/P 2:

wwwwww

O/P 2:

3 (www is only prefix-suffix & has length 3)

Solution :

```
def longestPreSuf(s) :
```

```
    n = len(s)
```

```
    prsf = [0] * n
```

```
    l = 0
```

```
    i = 1
```

```
    while (i < n) :
```

```
        if (s[i] == s[l]) :
```

```
            l = l + 1
```

```
            prsf[i] = l
```

```
            i = i + 1
```

```
        else :
```

```
            if (l != 0) :
```

```
                l = prsf[l-1]
```

```
            else :
```

```
                prsf[i] = 0
```

```
                i = i + 1
```

```
    res = prsf[n-1]
```

```
    if(res > n/2) :
        return n//2
    else :
        return res
s = str(input())
print(longestPreSuf(s))
```

**Question 38:** You are provided two or more strings, where each string is associated with the number (seperated by :). If sum of square of digits is even then rotate the string right by one position, and if sum of square of digits is odd then rotate the string left by two position.

Input :

Accept multiple values in the form of String:Integer seperated by ','

Output :

Rotated Strings.

Sample Testcases :

I/P 1 :

abcde:234,pqrs:246

O/P 1 :

cdeab

spqr

Explanation :

For first teststring, 'abcde' associated integer is 234, squaring  $4+9+16=29$ , which is odd, so we rotate string left by two positions. For second teststring, 'spqr' associated integer is 246, squaring  $4+16+36=56$ , which is even, so we rotate string right by one position.

**Solution :**

```
s=input().split(",")
sa=[]
num=[]
for i in s:
    s1,n=i.split(":")
    sa.append(s1)
    num.append(n)

def rotate(s2,n):
    n=list(str(n))
    s=0
    for i in n:
        s+=int(i)**2
    if s%2==0:
        return s2[-1:]+s2[:-1] #right rotate
    else:
        return s2[2:]+s2[:2] #left rotate
for i in range(len(num)):
    print(rotate(sa[i],num[i]))
```





SARASWATI Education Society's  
**SARASWATI** College of Engineering

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

---

### Test-III -Infy Pythom MCQ

1. Python was invented by :

- GV Rossum
- Dennis Ritchie
- Bjarne Stroustrup
- James Gosling

2. Predict the output of following code :

**a = 8.3**

**b = 2**

**print a//b**

- 4.15
- 4
- 4.1
- 4.0

3. Which of the following statement about Python is True ?

- Python is the successor of Java Language.
- Python is an object based programming language
- Python is an object oriented programming language
- None of the above

4. Hexadecimal values in Python are represented as :

- Ox
- oX
- 0x
- Ohex

5. It raises x value to the next higher integer value :

- pow()
- ceil()
- floor()
- round()

6. It converts angle value x from radians to degrees.

- rad2deg()
- degrees()
- degree()
- None of the above

7. In the function pow(x,y,z), 'z' represents :

- Division operation
- Step up operation
- MOD operation
- None of the above

8. Predict the output of following code :

```
s='pythonn'  
print(s[0:7:2])
```

- pythonn2
- pythonn
- pton
- 2

9. Predict the output of following code :

```
l = ["one", "two", "three"]  
s = "-".join(l)  
print(s)
```

- Type Error : join() not applicable for lists
- [one-two-three]
- one-two-three

-one-two-three-

10. It is used to know whether a string is ending with a substring or not.

ends\_with()

end\_with()

endswith()

None of these

11. For formatting the output screen, we use :

modified()

formatted()

format\_output()

format()

12. Which one of these is a valid syntax :

'{}-{}'.format(id,name,sal)

{}-{}-{}.format(id,name,sal)

'{}-{}-{}'.formats(id,name,sal)

None of these

13. For sorting a string we use :

sort()

sorted()

None of the above

Both

14. Predict the output :

```
l = [10,20,30]
```

```
print(l*2)
```

[10,20,30,10,20,30]

[20,40,60]

10 20 30 10 20 30

10 20 3010 20 30

15. Which of the following method does not work with list ?

- push()
- pop()
- extend()
- None of the above

16. Predict the output of following code :

```
s = set("code of geeks")  
print(s.difference("geeks "))
```

- 8
- {'c', 'o', 'f', 'd', ' '}
- {'c', 'o', 'f', 'd'}
- {'g', 'e', 'k', 's'}

17. Predict the output of following code :

```
s = set("code of geeks")  
print(s.intersection("geeks "))
```

- Error : Operation Intersection not defined
- {'g', 'e', 'k', 's', ' '}
- {'k', 'o', 'g', 'd', 'f', 'e', 's', ' ', 'c'}
- None of these

18. Predict the output of following code :

```
r = lambda g: g * 2  
s = lambda g: g * 3  
x = 2  
x = r(x)  
x = s(x)  
x = r(x)  
x = s(x)  
print(x)
```

- 4
- 24
- 72
- Compilation Error

19. Identify the line which has error :

```
a=1
s=1
for i in (2,3,5):
    s=a++
    print(s)
```

- 2
- 3
- 4
- 5

```
20. s1 = {2,3,4,5}
s1[2] = 3
print(s1)
```

Predict the output.

- {2,3,4,5}
- {2,3,3,5}
- Type Error
- None of these

21. In Python, objects can be instantiated using :

- Garbage Collection
- Destructor
- Constructor
- Self

22. To work with regular expressions, we have to import :

- regex
- rg
- re
- @regex

23. Which line of code has error ?

```
import re
```

```
s = 's'  
x = re.search('a',s)  
print(x.start())
```

- 1
- 2
- 4
- No error

24. Predict the output of following code :

```
print('code'.replace('cde', '1'))
```

- 1
- cde
- code
- Error : String 'cde' not present in original string

25. Predict the output of following code :

```
def int():  
print("CODE")  
int  
int()
```

- Unknown reference to 'int'
- Error : int can't be a variable name
- CODE
- None of these

26. Decorators generally starts with :

- !
- @
- \$
- #

27. Which of the following expressions can be used to multiply a given number 'a' by 4?

- a>>2
- a>>4

- a<<4
- a<<2

28. Find the value returned in both case :

```
sum(2,4,23)
sum({1,2,7})
```

- 29 10
- 29 Error
- Error 10
- None of these

29. Predict the output of the code :

```
def outer():
    global glo
    glo = 20
    def inner():
        global glo
        glo = 30
        print(glo)
glo = 10
outer()
print( glo)
```

- 10
- 20
- 30
- None of these

30. Predict the output of following code :

```
dicts = dict()
for I in enumerate(range(2)):
    dicts[I[0]] = I[1]
    dicts[I[1]+7] = I[0]
print(dicts)
```

- {0:0, 1:1, 2:1, 3:0}
- {0:0, 1:1, 8:1, 7:0}
- Error : Dictionary index can not be modified

None of These

31. Which dictionary method returns an object that contains key-value pairs of dictionary ?

items()

keys()

elements()

element()

32. We can convert two lists into dictionary using :

list2dict()

zip()

ping()

ord()

33. This method computes the cartesian product of input iterables.

intersection()

multiply()

product()

vector\_product()

34. Which of the following is not a keyword in Python ?

yield

None of the above

raise

nonlocal

35. Which function is used to read the single line as a input ?

readline()

readlines()

read()

None of these

36. Predict the output for following code :

```
print('{a}{b}{a}'.format(a='code', b='of geeks'))
```



- code of geekscode
- code of geeks code
- codeof geekscode
- None of the above

37. Predict the output of following code :

```
int = 1
def randommethod():
    global int
    for i in (1, 2, 3):
        int += 1
    randommethod()
print(int)
```

- Compile Time Error
- 1
- Type Error
- 4

38. To open a text file for writing operation, we use :

- `fil = open("filename.txt", 'w')`
- `fil = open_file("filename.txt", 'w')`
- `fil = open("filename.txt", 'r')`
- None of these

39. Predict the output of following code :

```
class stud:
    def __init__(self, roll_no, grade):
        self.roll_no = roll_no
        self.grade = grade
    def display (self):
        print("Roll no : ", self.roll_no, ", Grade: ", self.grade)
stud1 = stud(28, 'acode')
stud1.age=24
print(hasattr(stud1, 'age'))
```

- 28
- Error

- 24
- None of these

40. Predict the output of following code :

```
List = ['code','of','codeofgeeks']  
print(List[2][-6])
```

- codeofgeeks
- f
- Error - Unidentified operation on List
- o

41. Predict the output of following code :

```
lst = [1, 2, 3]  
lst.append([5,6,7,8,9,10])  
print(len(lst))
```

- 3
- 9
- 4
- Error

42. Predict the output of following code :

```
print(bool)  
print(bool())
```

- True
- Error True
- False
- Error False

43. Predict the output of following code :

```
key = 100  
try:  
    key = key/0  
except ZeroDivisionError:  
    print('Hacked ', end = "")
```

```
else:  
    print('Division successful ', end = "")
```

```
try:  
    key = key/5  
except:  
    print('Hacked 1 ', end = "")  
else:  
    print('Coder', end = "")
```

- Hacked Coder
- Hacked Hacked1
- Hacked Coder Hacked1
- None of these

44. Predict the output of following code :

```
dig = 0  
for i in range(0, 5, 0.1):  
    dig += i  
    i+=0  
print(dig)
```

- 5
- 0.1 + 0.2 + ..... + 4.99
- 0.1 + 0,2 + ..... + 4.00
- Error

45. To execute a python program using command prompt, which command is used ?

- execute python filename
- python
- run python
- None of these

46. Predict the output of following code :

```
s= 'codeofgeeks'  
for i in range(len(s)):  
    s[i].upper()  
print (s)
```

- Codeofgeeks
- codeofgeeks
- CODEOFGEEKS
- Type Error

47. Predict the output of following code :

```
import re
s = "code of geeks code of geeks code of geeks"
x = re.sub("geeks", "god", s, 2)
print(x)
```

- code of geeks code of god code of geeks
- code of god code of god code of geeks
- code of geeks code of geeks code of god
- Runtime Error

48. Which of the following is not a Python Flavor

- pypy
- Jython
- numpy
- CPython

49. It removes the key 'k' and its value from 'dict'.

- dict.remove(k,v)
- dict.pop(k,v)
- dict.delete(k,v)
- dict.erase(k,v)

**Answers of above 1-50 questions**

**Python was invented by :**

Correct Answer: GV Rossum

**Predict the output of following code :**

```
a = 8.3  
b = 2  
print a//b
```

Answer Provided:

Correct Answer: 4.0

**Which of the following statement about Python is True ?**

Answer Provided:

Correct Answer: Python is an object oriented programming language

**Hexadecimal values in Python are represented as :**

Answer Provided:

Correct Answer: 0x

**It raises x value to the next higher integer value :**

Answer Provided:

Correct Answer: ceil()

**It converts angle value x from radians to degrees.**

Answer Provided:

Correct Answer: degrees()

**In the function pow(x,y,z), 'z' represents :**

Answer Provided:

Correct Answer: MOD operation

**Predict the output of following code :**

```
s='pythonn'
```

**print(s[0:7:2])**

Answer Provided:

Correct Answer: pton

**Predict the output of following code :**

```
l = ["one", "two", "three"]
```

```
s = "-".join(l)
```

```
print(s)
```

Answer Provided:

Correct Answer: one-two-three

**It is used to know whether a string is ending with a substring or not.**

Answer Provided:

Correct Answer: endswith()

**For formatting the output screen, we use :**

Answer Provided:

Correct Answer: format()

**Which one of these is a valid syntax :**

Answer Provided:

Correct Answer: None of these

**For sorting a string we use :**

Answer Provided:

Correct Answer: Both

**Predict the output :**

```
l = [10,20,30]
```

```
print(l*2)
```

Answer Provided:

Correct Answer: [10,20,30,10,20,30]

**Which of the following method does not work with list ?**

Answer Provided:

Correct Answer: push()

**Predict the output of following code :**

```
s = set("code of geeks")
print(s.difference("geeks "))
```

Answer Provided:

Correct Answer: {'c', 'o', 'f', 'd'}

**Predict the output of following code :**

```
s = set("code of geeks")
print(s.intersection("geeks "))
```

Answer Provided:

Correct Answer: {'g', 'e', 'k', 's', ' '}

**Predict the output of following code :**

```
r = lambda g: g * 2
s = lambda g: g * 3
x = 2
x = r(x)
x = s(x)
x = r(x)
x = s(x)
print(x)
```

Answer Provided:

Correct Answer: 72

**Identify the line which has error :**

```
a=1
s=1
for i in (2,3,5):
    s=a++
    print(s)
```

Answer Provided:

Correct Answer:

```
s1 = {2,3,4,5}
s1[2] = 3
print(s1)
```

**Predict the output.**

Answer Provided:

Correct Answer:

**In Python, objects can be instantiated using :**

Answer Provided:

Correct Answer:

**To work with regular expressions, we have to import :**

Answer Provided:

Correct Answer: re

**Which line of code has error ?**

```
import re
s = 's'
x = re.search('a',s)
print(x.start())
```

Answer Provided:

Correct Answer: No error

**Predict the output of following code :**

```
print('code'.replace('cde', '1'))
```

Answer Provided:

Correct Answer: code

**Predict the output of following code :**

```
def int():
print("CODE")
int
int()
```

Answer Provided:

Correct Answer: CODE

**Decorators generally starts with :**

Answer Provided:

Correct Answer: @

**Which of the following expressions can be used to multiply a given number 'a' by 4?**

Answer Provided:

Correct Answer: a<<2



**Find the value returned in both case :**

**sum(2,4,23)**

**sum({1,2,7})**

Answer Provided:

Correct Answer: Error 10

**Predict the output of the code :**

```
def outer():  
    global glo  
    glo = 20  
    def inner():  
        global glo  
        glo = 30  
        print(glo)  
glo = 10  
outer()  
print( glo)
```

Answer Provided:

Correct Answer: 20

**Predict the output of following code :**

```
dicts = dict()  
for I in enumerate(range(2)):  
    dicts[I[0]] = I[1]  
    dicts[I[1]+7] = I[0]  
print(dicts)
```

Answer Provided:

Correct Answer: {0:0, 1:1, 8:1, 7:0}

**Which dictionary method returns an object that contains key-value pairs of dictionary ?**

Answer Provided:

Correct Answer: items()

**We can convert two lists into dictionary using :**

Answer Provided:

Correct Answer: zip()

**This method computes the cartesian product of input iterables.**

Answer Provided:

Correct Answer: product()

**Which of the following is not a keyword in Python ?**

Answer Provided:

Correct Answer: None of the above

**Which function is used to read the single line as a input ?**

Answer Provided:

Correct Answer: readlines()

**Predict the output for following code :**

```
print('{a}{b}{a}'.format(a='code', b='of geeks'))
```

Answer Provided:

Correct Answer: codeof geekscore

**Predict the output of following code :**

```
int = 1
def randommethod():
    global int
    for i in (1, 2, 3):
        int += 1
    randommethod()
    print(int)
```

Answer Provided:

Correct Answer: 4

**To open a text file for writing operation, we use :**

Answer Provided:

Correct Answer: fil = open("filename.txt", 'w')

**Predict the output of following code :**

```
class stud:
    def __init__(self, roll_no, grade):
        self.roll_no = roll_no
        self.grade = grade
    def display (self):
        print("Roll no : ", self.roll_no, ", Grade: ", self.grade)
    stud1 = stud(28, 'acode')
    stud1.age=24
```

```
print(hasattr(stud1, 'age'))
```

Answer Provided:

Correct Answer: Error

**Predict the output of following code :**

```
List = ['code','of','codeofgeeks']
```

```
print(List[2][-6])
```

Answer Provided:

Correct Answer: f

**Predict the output of following code :**

```
lst = [1, 2, 3]
```

```
lst.append([5,6,7,8,9,10])
```

```
print(len(lst))
```

Answer Provided:

Correct Answer: Error

**Predict the output of following code :**

```
print(bool)
```

```
print(bool())
```

Answer Provided:

Correct Answer: False

**Predict the output of following code :**

```
key = 100
```

```
try:
```

```
    key = key/0
```

```
except ZeroDivisionError:
```

```
    print('Hacked ', end = "")
```

```
else:
```

```
    print('Division successful ', end = "")
```

```
try:
```

```
    key = key/5
```

```
except:
```

```
    print('Hacked 1 ', end = "")
```

```
else:
```

```
    print('Coder', end = "")
```

Answer Provided:  
Correct Answer: Hacked Coder

**Predict the output of following code :**

```
dig = 0
for i in range(0, 5, 0.1):
    dig += i
    i+=0
print(dig)
```

Answer Provided:  
Correct Answer: Error

**Predict the output of following code :**

```
int = 1
def randommethod():
    global int
    for i in (1, 2, 3):
        int += 1
    randommethod()
print(int)
```

Answer Provided:  
Correct Answer: 4

**To execute a python program using command prompt, which command is used ?**

Answer Provided:  
Correct Answer: python

**Predict the output of following code :**

```
s= 'codeofgeeks'
for i in range(len(s)):
    s[i].upper()
print (s)
```

Answer Provided:  
Correct Answer: codeofgeeks

**Predict the output of following code :**

```
import re
s = "code of geeks code of geeks code of geeks"
x = re.sub("geeks", "god",s,2)
```

**print(x)**

Answer Provided:

Correct Answer: code of god code of god code of geeks

**Which of the following is not a Python Flavor**

Answer Provided:

Correct Answer: numpy

**It removes the key 'k' and its value from 'dict'.**

Answer Provided:

Correct Answer: dict.pop(k,v)



---

### Test-IV -Infytq

1) What will be the output of the code below?

```
class ClassA:
    def _init_(self, val1) :
        self.value = val1
    def method_a(self) :
        return 10+self.value
class ClassB:
    def _init_(self, val2):
        self.num=val2
    def method_b(self, obj):
        return obj.method_a()+self.num

obj1=ClassA(20)
obj2=ClassB(30)
print(obj2.method_b(obj1))
```

- a) 60
- b) 50
- c) 30
- d) 40

2) Consider the relational schema along with the functional dependencies given below:

gaming (garnename, gametype, amount, playerno, playertype, discount, duration)

- playerno -> playertype, discount
- gamename -> gametype, duration, amount
- playertype -> discount

How many tables will result when the relation is in 3NF?

- a) 2
- b) 4
- c) 3
- d) 1

3) Consider the Hashing methods given below:

- i)  $h(\text{key}) = \text{key} \% 10$
- ii)  $h(\text{key}) = \text{key} \% 25$
- iii)  $h(\text{key}) = \text{key} \% 50$

Which of the hashing methods would **NOT** lead to collision when the following values are to be stored in the hash table?

80, 20, 35, 45, 25, 90

- a) Only
- b) Both ii) and iii)
- c) Both i) and iii)
- d) All i), ii) and iii)

4) Number 14 needs to be searched using BINARY SEARCH in the following sorted list of numbers:

1, 3, 7.9, 14, 19, 45

How many comparisons will be required to conclude that the number 14 is found at the 5th position?

Note: We have used integer division for finding the middle element and the index starts with 0 (zero)

- a) 2
- b) 3
- c) 4
- d) 1

5) Consider a Patient table with attributes patientid (primary key), patientname, city, dateofbirth, and phone. Except patientid no columns are unique. The table has three indexes as follows:

IDX1 – patientid

IDX2 – patientname, dateofbirth

IDX3 – dateofbirth, phone

Which of the following queries will result in INDEX UNIQUE SCAN?

- a) WHERE city <> 'Mumbai' AND dateofbirth > '30-Mar-1995'
- b) WHERE patientid = 'P1007' AND dateofbirth '30-Mar-1995'
- c) WHERE patientname = 'Sam' AND dateofbirth = '30-Mar-1995'
- d) WHERE patientname LIKE 'R%'

Q6

What gets printed? name = "snow storm" name[5] = 'X' print name

**Ans D**

- A) snow storm
- B) snowXstorm
- C) snow Xtorm
- D) ERROR, this code will not run

Q7

What gets printed? var = 100 if ( var == 100 ) : print "Value of expression is 100"

**Ans C**

- A) Nothing
- B) An Error
- C) Value of expression is 100
- D) NONE

**Ans:- D**

Q8

What is the output of the following Python program? num1 = 5 if num1 >= 91: num2 = 3 else: if num1 < 6: num2 = 4 else: num2 = 2 x = num2 \* num1 + 1 print (x,x%7)

**Ans B**

- A) 21 3
- B) 21 0
- C) 21 21
- D) NONE

Q9



slicing operations can be used on strings as well?

Ans A

- A) True
- B) False

Q10

strings can be enclosed within single, double or triple quotes?

Ans A

- A) True
- B) False

Q11

What gets printed? `unichr(1234)`

Ans A

- A) 1234
- B) abcd
- C) u04d2
- D) None of the above

Q12

What are BIFs?

Ans B

- A) Back Index Format
- B) Built In Functions
- C) Bored Inline Functions
- D) Boost Index File

Q13

Which of these is not a core datatype?

**Ans C**

- A) Lists
- B) Dictionary
- C) Tuples
- D) Class

Q14

9.  
What gets printed? a = 10 b = 2 print a if b else 0

**Ans A**

- A) 10
- B) 2
- C) 0
- D) Error

Q15

What is the python file format?

**Ans C**

- A) TXT
- B) DAT
- C) PY
- D) JAVA

Q16

What gets printed? def myfunc(x, y, z, a): print x + y nums = [1, 2, 3, 4] myfunc(\*nums)

**Marks B**

- A) 1
- B) 3
- C) 4

- D) 5

Q17

What gets printed? if False: print('Hi') elif True: print('Hello') else: print('Howdy')

Ans V

- A) Nothing
- B) Hi
- C) Hello
- D) Howdy

Q18

What gets printed? print "hello" 'world'

Ans B

- A) The text, "hello world" in one line
- B) The text, "helloworld" in one line
- C) "hello" in one line and "world" in the next line
- D) Syntax Error. This Python program will not run.

Q19

what gets printed? a = range(5) b = range(10) print(zip(a,b))

Ans B

- A) 5 10
- B) 1 2 3 4 5
- C) [(0, 0), (1, 1), (2, 2), (3, 3), (4, 4)]
- D) 0, 0, 1, 1, 2, 2, 3, 3, 4, 4

Q20

What gets printed? `def addItem(listParam): listParam += [1] mylist = [1, 2, 3, 4] addItem(mylist) print len(mylist)`

**Ans D**

- A) 1
- B) 3
- C) 4
- D) 5

Q21

What gets printed? `while a = 10: print('Howdy')`

**Ans C**

- A) Howdy
- B) Nothing
- C) An Error
- D) 10

Q22

What gets printed? `def dostuff(param1, *param2): print type(param2) dostuff('apples', 'bananas', 'cherry', 'dates')`

**Ans C**

- A) str
- B) int
- C) tuple
- D) list

Q23

String in python is immutable?

**Ans A**

- A) True
- B) False

Q24

What sequence of numbers is printed? `values = [1, 2, 1, 3]` `nums = set(values)` `def checkit(num):` `if` `num in nums:` `return True` `else:` `return False` `for i in filter(checkit, values):` `print i`

**Ans B**

- A) 1 2 3
- B) 1 2 1 3
- C) 1 2 13 1 2 1 3
- D) Error

Q25

What gets printed? `name = 'python'` `while bool(name) == False:` `print('hi')`

**Ans B**

- A) hi
- B) true
- C) false
- D) nothing



## Test IV

**Level of Exam:** Moderate difficulty

**Total Questions:** 20 questions from Quantitative Aptitude, Logical Reasoning and Verbal Ability sections

**Negative Marking** – No, There is no negative marking in the paper.

Q1. Look at this series: 12, 11, 13, 12, 14, 13, ... What number should come next? A. 10 B. 16 C. 13 D. 15	Q2. Look at this series: 36, 34, 30, 28, 24, ... What number should come next? A. 22 B. 26 C. 23 D. 20
Q3. Look at this series: 7, 10, 8, 11, 9, 12, ... What number should come next? A. 7 B. 12 C. 10 D. 13	Q4. Look at this series: 2, 1, (1/2), (1/4), ... What number should come next? A. (1/3) B. (1/8) C. (2/8) D. (1/16)
Q5. Look at this series: 80, 10, 70, 15, 60, ... What number should come next? A. 20 B. 25 C. 30 D. 50	Q6. Which word does NOT belong with the others? A. index B. glossary C. chapter D. book
Q7. Which word is the odd man out? A. trivial B. unimportant C. important D. insignificant	Q8. Which word does NOT belong with the others? A. wing B. fin C. beak D. rudder
Q9. Which word is the odd man out? A. hate B. fondness C. liking D. attachment	Q10. Pick the odd man out? A. just B. fair C. equitable D. biased
Q11. CUP : LIP :: BIRD : ?	Q12. Paw : Cat :: Hoof : ?

<p>A. GRASS B. FOREST C. BEAK D. BUSH</p>	<p>A. Lamb B. Horse C. Elephant D. Tiger</p>
<p>Q13. Safe : Secure :: Protect : A. Lock B. Guard C. Sure D. Conserve</p>	<p>Q14. Melt : Liquid :: Freeze : A. Ice B. Solid C. Condense D. Push</p>
<p>Q15. Parts : Strap :: Wolf : A. Flow B. Animal C. Wood D. Fox</p>	<p>Q16. An Informal Gathering occurs when a group of people get together in a casual, relaxed manner. Which situation below is the best example of an Informal Gathering?</p> <p>A. A debating club meets on the first Sunday morning of every month. B. After finding out about his salary raise, Jay and a few colleagues go out for a quick dinner after work. C. Meena sends out 10 invitations for a bachelorette party she is giving for her elder sister. D. Whenever she eats at a Chinese restaurant, Roop seems to run into Dibya.</p>
<p>Q17. A Tiebreaker is an additional contest carried out to establish a winner among tied contestants. Choose one situation from the options below that best represents a Tiebreaker.</p> <p>A. At halftime, the score is tied at 2-2 in a football match. B. Serena and Maria have each secured 1 set in the game. C. The umpire tosses a coin to decide which team will have bat first. D. RCB and KKR each finished at 140 all out.</p>	<p>Q18. The Sharks and the Bears each finished with 34 points, and they are now battling it out in a five-minute overtime.</p> <p>A. When he is offered a better paying position, Jacob leaves the restaurant he manages to manage a new restaurant on the other side of town. B. Catherine is spending her junior year of college studying abroad in France. C. Malcolm is readjusting to civilian life after two years of overseas military service. D. After several miserable months, Sharon decides that she can no longer share an apartment with her roommate Hilary.</p>
<p>Q19. Reentry occurs when a person leaves his or her social system for a period of time and then returns. Which situation below best describes Reentry?</p> <p>A. When he is offered a better paying position, Javed leaves the hotel he manages to manage another one in a neighboring city. B. Charan is spending her final year of college studying abroad in China.</p>	<p>Q20. Posthumous Award occurs when an award is given to someone, after their death. Choose one situation below as the best example of Posthumous Award.</p> <p>A. Late yesteryear actress Sridevi was awarded with a Lifetime Achievement Award posthumously in Filmfare 2019. B. Chitra never thought she'd live to receive a third booker prize for her novel.</p>

C. Manan is readjusting to civilian life after 2 years of overseas merchant navy service.

D. After 5 miserable months, Sneha decides that she can no longer share her room with roommate Hital.

C. Emanuel has been honored with a prestigious literary award for his writing career and his daughter accepted the award on behalf of her deceased father.

D. Meenal's publisher canceled her book contract after she failed to deliver the manuscript on time.





## Test V

**Level of Exam:** Moderate difficulty

**Total Questions:** 20 questions from Quantitative Aptitude, Logical Reasoning and Verbal Ability sections

**Negative Marking** – No, There is no negative marking in the paper.

<p>Q1. The 'A' state government has chalked out a plan for the underdeveloped 'B' district where 66% of the funds will be placed in the hands of a committee of local representatives.</p> <p>Courses of action:</p> <p>I. The 'A' state government should decide guidelines and norms for the functioning of the committee.</p> <p>II. Other state government may follow similar plan if directed by the Central government.</p> <p>A. If only I follows B. If only II follows C. If either I or II follows D. If neither I nor II follows E. If both I and II follow</p>	<p>Q2. The car dealer found that there was a tremendous response for the new XYZ's car booking with long queues of people complaining about the duration of business hours and arrangements. Courses of action:</p> <p>I. People should make their arrangement of lunch and snacks while going for car XYZ's booking and be ready to spend several hours.</p> <p>II. Arrangement should be made for more booking desks and increase business hours to serve more people in less time.</p> <p>A. If only I follows B. If only II follows C. If either I or II follows D. If neither I nor II follows E. If both I and II follow</p>
<p>Q3. The 'M' state government has decided hence forth to award the road construction contracts through open tenders only.</p> <p>Courses of action:</p> <p>I. The 'M' state will not be able to get the work done swiftly as it will have to go through tender and other procedures.</p> <p>II. Hence forth the quality of roads constructed may be far better.</p> <p>A. If only I follows</p>	<p>Q4. Iert villagers nabbed a group of bandits armed with murderous weapons. Courses of action:</p> <p>I. The villagers should be provided sophisticated weapons.</p> <p>II. The villagers should be rewarded for their courage and unity.</p> <p>A. If only I follows B. If only II follows C. If either I or II follows D. If neither I nor II follows</p>

<p>B. If only II follows  C. If either I or II follows  D. If neither I nor II follows  E. If both I and II follow</p>	<p>E. If both I and II follow</p>
<p>Q5. 10 coaches of a passenger train have got derailed and have blocked the railway track from both ends. Courses of action:  I. The railway authorities should immediately send men and equipment and clear the spot  II. All the trains running in both directions should be diverted immediately via other routes.</p> <p>A. If only I follows  B. If only II follows  C. If either I or II follows  D. If neither I nor II follows  E. If both I and II follow</p>	<p>Q6. If a legislature decides to fund agricultural subsidy programs, national radio, and a small business loan program, what 2 other programs can they fund?</p> <p>A. harbor improvements and school music program  B. harbor improvements and international airport  C. hurricane preparedness and international airport  D. hurricane preparedness and school music program  E. harbor improvements and hurricane preparedness</p>
<p>Q7. Statement: Anger is energy, in a more proactive way and how to channelize it is in itself a skill.  Assumptions: I. Anger need to be channelized.  II. Only skillful people can channelize anger to energy.</p> <p>A) If only assumption I is implicit.  B) If only assumption II is implicit.  C) if either I or II is implicit.  D) if neither I or II is implicit.  E) if both I and II are implicit.</p>	<p>Q8. Statement: Medicine 'P' is a drug which is causing ripples in the medical field.  Assumptions: I. No other drug is causing ripples in the medical field.  II. Medicine 'P' is a great drug.</p> <p>A) If only assumption I is implicit.  B) If only assumption II is implicit.  C) if either I or II is implicit.  D) if neither I or II is implicit.  E) if both I and II are implicit.</p>
<p>Q9. A train 110 m long is running with a speed of 60 km/hr. At what time will it pass a man who is running at 6 km/hr in the direction opposite to that in which the train is going?</p> <p>a)5 sec  b)6 sec  c)7 sec  d)10 sec</p>	<p>Q10. A, B, and C started a business with capitals of Rs. 8000, Rs. 10000, and Rs. 12000 respectively. At the end of the year, the profit share of B is Rs. 1500. The difference between the profit shares of A and C is?</p> <p>a.Rs. 300  b.Rs. 400  c.Rs. 500  d.Rs. 600  e.None of these</p>
<p>Q11.If Rs. 510 be divided among A, B, C in such a way that A gets <math>\frac{2}{3}</math> of what B gets, and B gets <math>\frac{1}{4}</math> of what C gets, then their shares are respectively?</p> <p>a)Rs. 120, Rs. 240,  b) Rs. 150Rs. 60, Rs. 90,  c)Rs. 360Rs. 150, Rs. 300, Rs. 60</p>	<p>Q12. The current of a stream runs at the rate of 4 kmph. A boat goes 6 km and back to the starting point in 2 hours, then find the speed of the boat in still water?</p> <p>a)10 kmph  b)21 kmph  c)8 kmph</p>

d) None of these	d)12 kmph
Q13. In how much time would the simple interest on a certain sum be 0.125 times the principal at 10% per annum? a)1 1/4 years b) 1 3/4 years c)2 1/4 years d) 2 3/4 years	Q14Find the cost of fencing around a circular field of diameter 28 m at the rate of Rs.1.50 a meter? a)Rs.150 b)Rs.132 c)Rs.100 d)Rs.125
Q15. A pupil's marks were wrongly entered as 83 instead of 63. Due to the average marks for the class got increased by half. The number of pupils in the class is? a)10 b)20 c)40 d)73	Q16. The H.C.F of two numbers is 11, and their L.C.M is 7700. If one of the numbers is 275, then the other is? a)279 b)283 c)308 d)318
Q17. If the sum of the two numbers is 22 and the sum of their squares is 404, then the product of the numbers is? a)40 b)44 c)80 d)88	Q18. Three pipes A, B and C can fill a tank from empty to full in 30 minutes, 20 minutes and 10 minutes respectively. When the tank is empty, all the three pipes are opened. A, B and C discharge chemical solutions P, Q and R respectively. What is the proportion of solution R in the liquid in the tank after 3 minutes? a)5/11 b)6/11 c)7/11 d)8/11
Q19. The principle that amounts to Rs. 4913 in 3 years at 6 1/4 % per annum C.I. compounded annually, is? a)Rs. 3096 b)Rs. 4076 c)Rs. 4085 d)Rs. 4096	Q20. The radius of a wheel is 22.4 cm. What is the distance covered by the wheel in making 500 revolutions? a) 252 m b) 704 m c) 352 m d) 808 m e) None of these

Solution Link : <https://www.firstnaukri.com/career-guidance/65-logical-reasoning-questions-and-answers-for-freshers>

From Question 9 onwards:

<https://www.allindiajobs.in/2015/11/infosys-placement-papers-2016.html>



## Test 6

**Level of Exam:** Moderate difficulty

**Total Questions:** 20 questions from Quantitative Aptitude, Logical Reasoning and Verbal Ability sections

**Negative Marking** – No, There is no negative marking in the paper.

1. Jake left point A for point B. 2 hours and 15 minutes later, Paul left A for B and arrived at B at the same time as Jake. Had both of them started simultaneously from A and B travelling towards each other, they would have met in 120 minutes. How much time (hours) did it take for the slower one to travel from A to B if the ratio of speeds of the faster to slower is 3:1?	2. A completes a work in 2 days, B in 4 days, C in 9 and D in 18 days. They form group of two such that difference is maximum between them to complete the work. What is difference in the number of days they complete that work?
3. . How many 4 digit numbers contain number 2. a. 3170 b. 3172 c. 3174 d. 3168	4. How many three digit numbers abc are formed where at least two of the three digits are same.
5. How many kgs of wheat costing Rs.24/- per kg must be mixed with 30 kgs of wheat costing Rs.18.40/- per kg so that 15% profit can be obtained by selling the mixture at Rs.23/- per kg	6. What is the next number of the following sequence 7, 14, 55, 110, ....?
7. How many numbers are divisible by 4 between 1 to 100	8. $(11111011)_2 = ( )_8$
9. There are 1000 junior and 800 senior students in a class. And there are 60 sibling pairs where each pair has 1 junior and 1 senior. One student is	10. $161?85?65?89 = 100$ , then use + or - in place of ? and take + as m,- as n then find value of m-n

chosen from senior and 1 from junior randomly. What is the probability that the two selected students are from a sibling pair?	
11. In a cycle race there are 5 persons named as J,K,L,M,N participated for 5 positions so that in how many number of ways can M finishes always before N?	12. Rahul took a part in cycling game where $\frac{1}{5}$ ahead of him and $\frac{5}{6}$ behind him excluding him. Then total number of participants are:
13. If a refrigerator contains 12 cans such that 7 blue cans and 5 red cans. In how many ways can we remove 8 cans so that atleast 1 blue can and 1 red can remains in the refrigerator.	14. There are 16 people, they divide into four groups, now from those four groups select a team of three members, such that no two members in the team should belong to same group.
15. How many five digit numbers are there such that two left most digits are even and remaining are odd and digit 4 should not be repeated.	16. 7 people have to be selected from 12 men and 3 women, Such that no two women can come together. In how many ways we can select them?
17. Tennis players take part in a tournament. Every player plays twice with each of his opponents. How many games are to be played?	18. Find the unit digit of product of the prime number up to 50 .
19. If $[x^{(1/3)}] - [x^{(1/9)}] = 60$ then find the value of x.	20. A family X went for a vacation. Unfortunately it rained for 13 days when they were there. But whenever it rained in the mornings, they had clear afternoons and vice versa. In all they enjoyed 11 mornings and 12 afternoons. How many days did they stay there totally?

Solution Link : <http://www.alpingi.com/wp-content/uploads/2016/04/Infosys-Placement-Paper-1.pdf>



## Test7

**Level of Exam:** Moderate difficulty

**Total Questions:** 20 questions from Quantitative Aptitude, Logical Reasoning and Verbal Ability sections

**Negative Marking** – No, There is no negative marking in the paper.

1. 125 small but identical cubes are put together to form a large cube. This large cube is now painted on all six faces.	
(i) How many of the smaller cubes have no face painted at all. (a) 27 (b) 64 (c) 8 (d) 36	(ii) How many of the smaller cubes have exactly three faces painted? (a) 98 (b) 100 (c) 96 (d) 95
(iii) How many of the smaller cubes have atleast one side painted? (a) 4	

(b) 8	
(c) 9	
(d) 27	

2. Directions : Study the following information and answer the question given below: In a certain code, the symbols for 0 (zero) is @ and for 1 is \$. There are no other symbols for all other number greater than one. The numbers greater than 1 are to be written only by using the two symbols given above. The value of the symbol for 1 doubles itself every time it shifts one place to the left. Study the following examples: '0' is written as @, '1' is written as \$, '2' is written as @\$, '@'3' is written as \$\$\$ '4' is written as \$\$\$\$ and so on

=> Which of the following represents 14?

- (a) \$\$\$\$
- (b) \$\$\$@
- (c) \$\$@@
- (d) \$\$\$#

3. 7528 : 5306 :: 4673 : ?	4. $x^2 - y^2 = 16$ and $xy = 15$ so find out $x + y$ ?
a) 2367	a) 5
b) 2451	b) 3
c) 2531	c) 8
d) 2489	d) 9

--	--

<p>5. Census population of a district in 1981 was 4.54 Lakhs, while in year 2001 it was 7.44 Lakhs. What was the estimated mid-year population of that district in year 2009.</p> <p>a)6.8Lacs b)9.5 Lacs c)8.6 Lacs d)5.9 Lacs</p>	<p>6. Based on the statement in the question, mark the most logical pair of statement that follow "Either he will shout or they will fire".</p> <p>(1) He shouted. (2) He did not shout. (3) They fired (4) They did not fire</p> <p>(a) 1,4 (b) 2,3 (c) 4,1</p>
<p>7. Gautham passes through seven lane to reach his school. He finds that YELLOW lane is between his house and KAMA lane. The third lane from his school is APPLE lane. PEACOCK lane is immediately before the PARK lane. He passes ASH lane at the end. KAMA lane is between YELLOW lane and PEACOCK lane. The sixth lane from his house is RAO lane.</p>	
<p>I. How many lane are there between KAMA lane and RAO lane ?</p> <p>a) one b) two c) three d) four</p>	<p>II. After passing the park lane how many lane does Gautham cross to reach the school ?</p> <p>a) 4 b) 3 c) 2 d) 1</p>
<p>III. After passing the YELLOW lane how many lane does Gautham cross to reach the school ?</p>	<p>IV. Which lane is between PARK lane and RAO lane ?</p> <p>a) YELLOW lane</p>



<p>a) 4</p> <p>b) 6</p> <p>c) 2</p> <p>d) 1</p>	<p>b) KAMA lane</p> <p>c) APPLE lane</p> <p>d) PEACOCK lane</p>
<p>V. If the house of Gautham, each lane and his school are equidistant and he takes 2 min to pass one lane then how long will he take to reach school from his house ?</p> <p>a) 18 min</p> <p>b) 16 min</p> <p>c) 14 min</p> <p>d) 12 min</p>	
<p>8. Find the maximum value of <math>n</math> such that <math>50!</math> is perfectly divisible by <math>2520^n</math>.</p> <p>a) 8</p> <p>b) 9</p> <p>c) 4</p> <p>d) 5</p>	<p>9. Find the no of ways in which 6 toffees can be distributed over 5 different people namely A,B,C,D,E.</p>
<p>10. A train covered a distance at a uniform speed .if the train had been 6 km/hr faster it would have been 4 hour less than schedule time and if the train were slower by 6 km/hr it would have been 6 hrs more.find the distance.</p>	<p>11. A girl leaves from her home. She first walks 30 metres in North-west direction and then 30 metres in South-west direction. Next, she walks 30 metres in South-east direction. Finally, she turns towards her house. In which direction is she moving?</p>

<p>a) 720 Km  b) 830 Km  c) 1000Km  d) 540 Km</p>	<p>Option</p> <p>A) North-east  B) North-west  C) South-east  D) South-west  E) None of these</p>
<p>12. There are two containers on a table. A and B. A is half full of wine, while B, which is twice A's size, is one quarter full of wine. Both containers are filled with water and the contents are poured into a third container C. What portion of container C's mixture is wine?</p> <p>a) 33.3% of wine  b) 33.33% of wine  c) 44.5% of wine  d) 55.55% of wine</p>	<p>13. Four persons A,B,C,D were there. All were of different weights. All Four gave a statement. Among the four statements only the person who is lightest in weight of all others gave a true statement.</p> <p>A Says : B is heavier than D.  B Says : A is heavier than C.  C Says : I am heavier than D.  D Says : C is heavier than B.</p> <p>Find the lightest and List the persons in ascending order according to their weights ?</p>
<p>14. There is well of depth 30 m and frog is at bottom of the well. He jumps 3 m in one day and falls back 2 m in the same day. How many days will</p>	<p>15. Find the next term in the given series 47, 94, 71, 142, 119, 238, _ ?</p>

<p>it take for the frog to come out of the well?</p> <p>a) 26 days</p> <p>b) 27 days</p> <p>c) 28 days</p> <p>d) 29 days</p>	<p>a) 331</p> <p>b) 360</p> <p>c)320</p> <p>d)340</p>
<p>16. A train leaves Meerut at 5 a.m. and reaches Delhi at 9 a.m. Another train leaves Delhi at 7 a.m. and reaches Meerut at 10.30 a.m. At what time do the two trains travel in order to cross each other ?</p> <p>a) 7.56 am</p> <p>b) 8.56 am</p> <p>c) 5.56 am</p> <p>d) 4.56 am</p>	<p>17. 'A' and 'B' started a business in partnership investing Rs 20000/- and Rs 15000/- respectively. After six months 'C' jointed them with Rs 20000/- . What will be B's share in the total profit of Rs 25000/- earned at the end of two years from the starting of the business?</p> <p>a) 7500</p> <p>b) 5500</p> <p>c) 4500</p> <p>d) 6500</p>
<p>18. b,x,e,u,h,_?</p> <p>Note that a=1,b=2,c=3...z=26.</p> <p>a) p=17</p> <p>b) q=18</p> <p>c) r=18</p> <p>d) s=17</p>	<p>19. A Jar contains 18 balls. 3 blue balls are removed from the jar and not replaced. Now the probability of getting a blue ball is <math>\frac{1}{5}</math> then how many blue balls jar contains initially ?</p> <p>a) 6</p> <p>b) 4</p> <p>c) 8</p> <p>d) 2</p>

Solution Link : <http://www.alpingi.com/wp-content/uploads/2016/04/Infosys-Placement-Paper-2.pdf>



## Test 8

**Level of Exam:** Moderate difficulty

**Total Questions:** 20 questions from Quantitative Aptitude, Logical Reasoning and Verbal Ability sections

**Negative Marking** – No, There is no negative marking in the paper.

<p>1. 4, 6, 10, 14, 22, 26, 34, 38, 46, _ ? What is next term in the series.</p> <p>a) 56 b) 58 c) 57 d) 59</p>	<p>2. y, _?, q, m, i</p> <p>a) w b) u c) t d) l</p>
<p>3. What is the next number in the series 3,7,13,19...</p> <p>a) 39 b) 29 c) 49 d) 59</p>	<p>4. Data Sufficiency Question: Is w a Whole number? Statement 1: <math>3w</math> is an Odd number. Statement 2: <math>2w</math> is an Even number</p> <p>a) Only A statement is enough b) Only B statement is enough c) Both A and B are required d) Neither A or B is sufficient</p>
<p>5. Joe's age, Joe's sister's age and Joe's father's age sums up to a century. When</p>	<p>6. The sum of series represented as</p>

<p>son is as old as his father, Joe's sister will be twice as old as now. When Joe is as old as his father then his father is twice as old as when his sister was as old as her father. Age of her father ?</p> <p>a) 50 b) 60 c) 70 d) Data insufficient</p>	<p><math>1/(1 \times 5) + 1/(5 \times 9) + 1/(9 \times 13) + \dots + 1/(221 \times 225)</math> is: :</p> <p>a) 28/221 b) 56/221 c) 56/225 d) None of these</p>
<p>7. What are the next three terms in the series 3, 6, 7, 12, 13, 18, 19, 24, ___?</p> <p>a) 26,31,32 b) 25,30,31 c) 27,32,33 d) 24,29,30</p>	<p>8. What is the next number in the series. a, b, d, h, ___?</p> <p>a=1, b=2, c=3.....z=26.</p> <p>a) q b) p c) r d) s</p>
<p>9. The number of zeros at the end of the product of all prime numbers between 1 and 1111 is?</p> <p>a) 11 b) 111 c) 1 d) 111.1</p>	<p>10. A train goes from stations A to B. One day there is a technical problem at the very beginning of the journey &amp; hence the train travels at <math>3/5</math> of its original speed and so it arrives 2 hours late. Had the problem occurred after 50 miles had been covered, the train would have arrived 40 min earlier (i.e., only <math>120 - 40 = 80</math> min late). What is the distance between the 2 stations?</p> <p>a) 150 miles b) 120 miles c) 160 miles d) 100 miles</p>

<p>11. Due to some defect in our elevator, I was climbing down the staircase. I'd climbed down just 7 steps when I saw a man on the ground floor. Continuing to walk down, I greeted the man and I was surprised to see that when I was yet to get down 4 steps to reach the ground floor, the man had already finished climbing the staircase. He perhaps climbed up 2 steps for every 1 of mine. How many steps did the staircase have?</p> <p>a) 22 steps b) 11 steps c) 33 steps d) 44 steps</p>	<p>12. In the Garbar Jhala, Ahmadabad a shopkeeper first raises the price of Jewellery by <math>x\%</math> then he decreases the new price by <math>x\%</math>. After one such up down cycle, the price of a Jewellery decreased by Rs. 21025. After a second updown cycle the jewellery was sold for Rs. 484416. What was the original price of the jewellery.</p> <p>a) 100000,841. b) 525625, 841. c) 525625, 100. d) None</p>																												
<p>13. Three football teams are there. Given below is the group table.</p> <p>Fill in the x's</p> <p>P - Played W – Won L - Lost D - Draw F - Goals For A - Goals Against</p> <table border="1" style="margin-left: 40px;"> <tr> <td></td> <td>P</td> <td>W</td> <td>L</td> <td>D</td> <td>F</td> <td>A</td> </tr> <tr> <td>A</td> <td>2</td> <td>x</td> <td>x</td> <td>x</td> <td>1</td> <td></td> </tr> <tr> <td>B</td> <td>2</td> <td>x</td> <td>x</td> <td>1</td> <td>2</td> <td>4</td> </tr> <tr> <td>C</td> <td>2</td> <td>x</td> <td>x</td> <td>x</td> <td>3</td> <td>7</td> </tr> </table>		P	W	L	D	F	A	A	2	x	x	x	1		B	2	x	x	1	2	4	C	2	x	x	x	3	7	<p>14. A dog takes 4 leaps for every 5 leaps of hare but 3 leaps of dog is equal to 4 leaps of hare compare speed?</p> <p>a) 14:15 b) 16:17 c) 18:19 d) 20:11</p>
	P	W	L	D	F	A																							
A	2	x	x	x	1																								
B	2	x	x	1	2	4																							
C	2	x	x	x	3	7																							

<p>15. A bird keeper has got P pigeons, M mynas and S sparrows. The keeper goes for lunch leaving his assistant to watch the birds. Suppose <math>p = 10</math>, <math>m = 5</math>, <math>s = 8</math> when the bird keeper comes back, the assistant informs the <math>x</math> birds have escaped. The bird keeper exclaims: "Oh no! All my sparrows are gone." How many birds flew away? When the bird keeper comes back, the assistant told him that <math>x</math> birds have escaped. The keeper realized that atleast 2 sparrows have escaped. What is minimum no of birds that can escape?</p> <p>a) 10 pigeon, 5 myna and 2 sparrows.  b) 5 pigeon, 10 myna and 2 sparrows.  c) 2 pigeon, 10 myna and 5 sparrows.  d) 4 pigeon, 9 myna and 4 sparrows.</p>	<p>16. 3,4,7,10,13,16,19,22, . . . Find 10th term in series.</p> <p>a) 38  b) 48  c) 28  d) 8</p>
<p>17. a,d,i,p,? what is next term</p> <p>a) q  b) r  c) s  d) t</p>	<p>18. A shop has 4 shelf, 3 wardrobes, 2 chairs and 7 tables for sell. You have to buy ?</p> <p>i. 1 shelf  ii. 1 wardrobe  iii. either 1 chair or 1 table</p> <p>How many selection can be made?</p> <p>a) 108  b) 144  c) 256</p>



	d)72
--	------

Solution Link : <http://www.alpingi.com/wp-content/uploads/2016/04/Infosys-Placement-Paper-3.pdf>



Test9

**Level of Exam:** Moderate difficulty

**Total Questions:** 20 questions from Quantitative Aptitude, Logical Reasoning and Verbal Ability sections

**Negative Marking** – No, There is no negative marking in the paper.

<p>1. <math>XZY + XYZ = YZX</math>. Find the three digits</p> <p>a) <math>X = 4, Y = 9, Z = 5</math> b) <math>X = 1, Y = 1, Z = 1</math> c) <math>X = 5, Y = 2, Z = 1</math> d) <math>X = 5, Y = 5, Z = 5</math></p>	<p>2. In a 5 digit number, 3 pairs of sum is 11 each. last digit is 3 times first one, 3rd digit is 3 less than 2nd, 4th digit is 4 more than the second one. Find the number.</p> <p>a) 34186 b) 12345 c) 24186 d) None</p>
<p>3. GOOD is coded as 164 then BAD as 21. If UGLY coded as 260 then JUMP?</p> <p>a)140 b)240 c)320 d)540</p>	<p>4. Supposing a clock takes 7 seconds to strike 7. How long will it take to strike 10?</p> <p>a)10 1/2 seconds. b)11 1/2 seconds c)9 1/2 seconds d) 7 1/2 seconds</p>

<p>5. An escalator is descending at constant speed. A walks down and takes 50 steps to reach the bottom. B runs down and takes 90 steps in the same time as A takes 10 steps. How many steps are visible when the escalator is not operating?</p> <p>a)200 b)100 c)300 d)500</p>	<p>6. Albert and Fernandes have two leg swimming race. Both start from opposite ends of the pool. On the first leg, the boys pass each other at 18 m from the deep end of the pool. During the second leg they pass at 10 m from the shallow end of the pool. Both go at constant speed but one of them is faster. Each boy rests for 4 seconds at the end of the first leg. What is the length of the pool?</p> <p>a) 55 m b) 44 m c) 33 m d) 66m</p>
<p>7. 16, 36, 100, 324, _ ? Find the next term.</p> <p>a) 1156 b) 1120 c) 2000 d) 5000</p>	<p>8. How many ways can one arrange the word EDUCATION such that relative positions of vowels and consonants remains same?</p> <p>a)2880 b)3220 c)1000 d)8820</p>
<p>9. There are 8 digits and 5 alphabets. In how many ways can you form an alphanumeric word using 3 digits and 2 alphabets?</p> <p>a)2621 b)4200 c) 43200 d)none</p>	<p>10. What is the next number of the following sequence 7, 14, 55, 110, _ ?</p> <p>a)121 b)1221 c)1331 d)111</p>
<p>11. In an Octagon the number of possible diagonals are?</p>	<p>12. How many numbers are divisible by 4 between 1 to 100</p>

<p>a) <math>{}^8C_2 - 8</math>  b) <math>{}^8C_4 - 8</math>  c) <math>{}^8C^1 - 8</math>  d) <math>{}^8C_2 - 2</math></p>	<p>a) 34  b) 14  c) 24  d) 44</p>
<p>13. 5 cars are to be parked in 5 parking slots. there are 3 red cars, 1 blue car and 1 green car. How many ways the car can be parked?</p> <p>a) 20 ways  b) 50 ways  c) 10 ways  d) 120 ways</p>	<p>14. 12 persons can complete the work in 18 days. after working for 6 days, 4 more persons added to complete the work fast. in how many more days they will complete the work?</p> <p>a) 10 days  b) 30 days  c) 9 days  d) 20 days</p>
<p>15. A set of football matches is to be organized in a "round-robin" fashion, i.e., every participating team plays a match against every other team once and only once. If 21 matches are totally played, how many teams participated?</p> <p>a) 9  b) 5  c) 9  d) 11</p>	<p>16. Next term in series 3, 32, 405, _</p> <p>a) 5155  b) 6144  c) 2222  d) 4416</p>
<p>17. A cube is divided into 729 identical cubelets. Each cut is made parallel to some</p>	<p>18. Find the radius of the circle inscribed in a triangle ABC. Triangle ABC is a right-angled</p>

<p>surface of the cube . But before doing that the cube is colored with green color on one set of adjacent faces ,red on the other set of adjacent faces, blue on the third set. So, how many cubelets are there which are painted with exactly one color?</p> <p>a)306</p> <p>b)294</p> <p>c)100</p> <p>d)729</p>	<p>isosceles triangle with the hypotenuse as 62V</p> <p>a) Radius is 2 cm</p> <p>b) Radius is 4 cm</p> <p>c) Radius is 6 cm</p> <p>d) Radius is 8 cm</p>
<p>19. How many boys are there in the class if the number of boys in the class is 8 more than the number of girls in the class, which is five times the difference between the number of girls and boys in the class.</p> <p>a)80</p> <p>b)40</p> <p>c)60</p> <p>d)10</p>	<p>20. If dolly works hard then she can get A grade</p> <p>1. If dolly does not work hard then she can get A grade</p> <p>2. If dolly gets an A grade then she must have worked hard</p> <p>3. If dolly does not gets an A grade then she must not have worked hard</p> <p>4. Dolly wishes to get A grad.</p> <p>a)Option 2 is correct as it is contranegative of given statement.</p> <p>b) Option 3 is correct as it is contrapositive of the given statement.</p> <p>c) Option 1 is correct as it is contrapositive of the given statement.</p> <p>d) Option 2 is correct as it is contranegative of given statement.</p>

--	--

Solution Link : <http://www.alpingi.com/wp-content/uploads/2016/04/Infosys-Placement-Paper-4.pdf>



## Test 10

**Level of Exam:** Moderate difficulty

**Total Questions:** 20 questions from Quantitative Aptitude, Logical Reasoning and Verbal Ability sections

**Negative Marking** – No, There is no negative marking in the paper.

<p>1. The hour hand lies between 3 and 4. The difference between hour and minute hand is 50 degree. What are the two possible timings?</p> <p>a) Substitute the <math>\theta = 8011, 28011</math> b) Substitute the <math>\theta = 7011, 18011</math> c) Substitute the <math>\theta = 6011, 38011</math> d) Substitute the <math>\theta = 58011, 48011</math></p>	<p>2. Jack and Jill went up and down a hill. They started from the bottom and Jack met Jill again 20 miles from the top while returning. Jack completed the race 1 min ahead of Jill. If the hill is 440 miles high and their speed while down journey is 1.5 times the up journey. How long it took for the Jack to complete the race ?</p> <p>a) 12.6 min b) 11.6 min c) 13.6 min d) None</p>
<p>3. Data Sufficiency question: A, B, C, D have to stand in a queue in descending order of their heights. Who stands first? I. D was not the last, A was not the first. II. The first is not C and B was not the tallest.</p> <p>a) Person A b) Person B c) Person C</p>	<p>4. One of the longest sides of the triangle is 20 m. The other side is 10 m. Area of the triangle is 80 m<sup>2</sup>. What is the another side of the triangle?</p> <p>a) Assume <math>a=20, b=10</math> b) Assume <math>a=30, b=20</math></p>

<p>d) Person D</p>	<p>c) Assume <math>a=40, b=20</math> d) Assume <math>a=60, b=10</math></p>
<p>5. Data Sufficiency Question:</p> <p>a and b are two positive numbers. How many of them are odd?</p> <p>I. Multiplication of b with an odd number gives an even number. II. <math>a^2 - b</math> is even.</p> <p>a. None of a and b are odd b. None of a and b are even c. Either a or b odd d. None of the above statement is true</p>	<p>6. Mr. T has a wrong weighing pan. One arm is lengthier than other. 1 kilogram on left balances 8 melons on right, 1 kilogram on right balances 2 melons on left. If all melons are equal in weight, what is the weight of a single melon.</p> <p>a) 300gm b) 400gm c) 200gm d) 600gm</p>
<p>7. If <math>ABC = C^3</math> and <math>CAB = D^3</math>, Then find <math>D^3 \div B^3</math></p> <p>a) 74 b) 64 c) 84 d) 54</p>	<p>8. There are three trucks A, B, C. A loads 10 kg/min. B loads <math>13 \frac{1}{3}</math> kg/min. C unloads 5 kg/min. If three simultaneously works then what is the time taken to load 2.4 tones?</p> <p>a) 2 hrs 10 mins b) 2 hrs 30 mins c) 4 hrs 10 mins d) 4 hrs 30 mins</p>
<p>9. HERE = COMES – SHE, (Assume S = 8) Find value of R + H + O</p> <p>a) 24 b) 14 c) 34 d) 44</p>	<p>10. A person is 80 years old in 490 and only 70 years old in 500 in which year is he born?</p> <p>a) 400 BC b) 550 BC c) 570 BC d) 440 BC</p>
<p>11. Lucia is a wonderful grandmother and her age is between 50 and 70. Each of her sons have as many sons as they have brothers. Their combined ages give Lucia's present age. what is the age?</p> <p>a) Approx 64. b) Approx 84 c) Approx 54</p>	<p>12. A family X went for a vacation. Unfortunately it rained for 13 days when they were there. But whenever it rained in the mornings, they had clear afternoons and vice versa. In all they enjoyed 11 mornings and 12 afternoons. How many days did they stay there totally?</p>



d) Approx 94	a)9 days b) 21 days c)18 days d)27 days
13. Find the unit digit of product of the prime number up to 50 . a) 1 b) 2 c) 5 d) 0	14. Complete the series.. 2 2 12 12 30 30 ? a)1*2=2 b)6*5=30 c)7*8=56 d)8*9=72

Solution Link : <http://www.alpingi.com/wp-content/uploads/2016/04/Infosys-Placement-Paper-5.pdf>



## Test 11

1. Which of the following creates a virtual relation for storing the query ?

- A.** Function
- B.** View
- C.** Procedure
- D.** None of the mentioned

Answer: Option B

Explanation:

View

Any such relation that is not part of the logical model, but is made visible to a user as a virtual relation, is called a view.

2. Which of the following is the syntax for views where v is view name ?

- A.** Create view v as “query name”;
- B.** Create “query expression” as view;
- C.** Create view v as “query expression”;
- D.** Create view “query expression”;

Answer: Option C

Explanation:

Create view v as “query expression”;

is any legal query expression. The view name is represented by v

3. Materialised views make sure that

- A.** View definition is kept stable
- B.** View definition is kept up-to-date
- C.** View definition is verified for error

**D.** View is deleted after specified time

**Answer & Explanation**

---

Answer: Option B

Explanation:

View definition is kept up-to-date

4. Updating the value of the view

**A.** Will affect the relation from which it is defined

**B.** Will not change the view definition

**C.** Will not affect the relation from which it is defined

**D.** Cannot determine

Answer: Option A

Explanation:

Will affect the relation from which it is defined

5. SQL view is said to be updatable (that is, inserts, updates or deletes can be applied on the view) if which of the following conditions are satisfied by the query defining the view?

**A.** The from clause has only one database relation.

**B.** The query does not have a group by or having clause.

**C.** The select clause contains only attribute names of the relation, and does not have any expressions, aggregates, or distinct specification.

Answer: Option D

Explanation:

All of the mentioned

All of the conditions must be satisfied to update the view in sql.

6. Which of the following is used at the end of the view to reject the tuples which do not satisfy the condition in where clause ?

**A.** With

**B.** Check

**C.** With check

**D.** All of the mentioned

Answer: Option C

Explanation:

With check

Views can be defined with a with check option clause at the end of the view definition; then, if a tuple inserted into the view does not satisfy the view's where clause condition, the insertion is rejected by the database system.

1. Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?

**A.** Candidate key

**B.** Sub key

**C.** Super key

**D.** Foreign key

Answer: Option C

Explanation:

Super key

Super key is the superset of all the keys in a relation.

2. Consider attributes ID , CITY and NAME . Which one of this can be considered as a super key ?

**A.** NAME

**B.** ID

**C.** CITY

**D.** CITY , ID

Answer: Option B

Explanation:

ID

Here the id is the only attribute which can be taken as a key. Other attributes are not uniquely identified .

3. The subset of super key is a candidate key under what condition ?

**A.** No proper subset is a super key

- B.** All subsets are super keys
- C.** Subset is a super key
- D.** Each subset is a super key

Answer: Option A

Explanation:

No proper subset is a super key

The subset of a set cannot be the same set. Candidate key is a set from a super key which cannot be the whole of the super set

4. A \_\_\_\_\_ is a property of the entire relation, rather than of the individual tuples in which each tuple is unique.

- A.** Rows
- B.** Key
- C.** Attribute
- D.** Fields

Answer: Option B

Explanation:

Key

Key is the constraint which specifies uniqueness.

5. Which one of the following attribute can be taken as a primary key ?

- A.** Name
- B.** Street
- C.** Id
- D.** Department

Answer: Option C

Explanation:

Id

The attributes name , street and department can repeat for some tuples. But the id attribute has to be unique .So it forms a primary key.

6. Which one of the following cannot be taken as a primary key ?

- A. Id
- B. Register number
- C. Dept\_id
- D. Street

Answer: Option D

Explanation:

Street

Street is the only attribute which can occur more than once.

7. A attribute in a relation is a foreign key if the \_\_\_\_\_ key from one relation is used as an attribute in that relation .

- A. Candidate
- B. Primary
- C. Super
- D. Sub

Answer: Option B

Explanation:

Primary

The primary key has to be referred in the other relation to form a foreign key in that relation .

8. The relation with the attribute which is the primary key is referenced in another relation. The relation which has the attribute as primary key is called

- A. Referential relation
- B. Referencing relation
- C. Referenced relation
- D. Referred relation

Answer: Option B

Explanation:

Referencing relation

9. The \_\_\_\_\_ is the one in which the primary key of one relation is used as a normal attribute in another relation .

- A.** Referential relation
- B.** Referencing relation
- C.** Referenced relation
- D.** Referred relation

Answer: Option C

Explanation:

Referenced relation

10. A \_\_\_\_\_ integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.

- A.** Referential
- B.** Referencing
- C.** Specific
- D.** Primary

Answer: Option A

Explanation:

Referential

A relation, say  $r_1$ , may include among its attributes the primary key of another relation, say  $r_2$ . This attribute is called a foreign key from  $r_1$ , referencing  $r_2$ . The relation  $r_1$  is also called the referencing relation of the foreign key dependency, and  $r_2$  is called the referenced relation of the foreign key.

1. The \_\_\_\_\_ condition allows a general predicate over the relations being joined.

- A.** On
- B.** Using
- C.** Set
- D.** Where

Answer: Option A

Explanation:

On

On gives the condition for the join expression.

2. Which of the join operations do not preserve non matched tuples.

A. Left outer join

B. Right outer join

C. Inner join

Answer: Option C

Explanation:

Inner join

INNER JOIN: Returns all rows when there is at least one match in BOTH tables

3. What type of join is needed when you wish to include rows that do not have matching values?

A. Equi-join

B. Natural join

C. Outer join

D. All of the mentioned

Answer: Option C

Explanation:

Outer join

An outer join does not require each record in the two joined tables to have a matching record.

4. How many tables may be included with a join?

A. One

B. Two

C. Three



**D.** All of the mentioned

Answer: Option D

Explanation:

All of the mentioned

Join can combine multiple tables.

5. Which are the join types in join condition:

**A.** Cross join

**B.** Natural join

**C.** Join with USING clause

**D.** All of the mentioned

Answer: Option D

Explanation:

All of the mentioned

There are totally four join types in SQL.

6. How many join types in join condition:

**A.** 2

**B.** 3

**C.** 4

**D.** 5

Answer: Option D

Explanation:

5

Types are inner join, left outer join, right outer join, full join, cross join.

7. Which join refers to join records from the right table that have no matching key in the left table are include in the result set:

**A.** Left outer join

**B.** Right outer join

**C.** Full outer join

**D.** Half outer join

Answer: Option B

Explanation:

Right outer join

RIGHT OUTER JOIN: Return all rows from the right table, and the matched rows from the left table.

8. The operation which is not considered a basic operation of relational algebra is

**A.** Join

**B.** Selection

**C.** Union

**D.** Cross product

Answer: Option A

Explanation:

Join

9. In SQL the statement `select * from R, S` is equivalent to

**A.** `select * from R natural join S`

**B.** `select * from R cross join S`

**C.** `select * from R union join S`

**D.** `select * from R inner join S`

Answer: Option B

Explanation:

`select * from R cross join S`

---

1. A \_\_\_\_\_ consists of a sequence of query and/or update statements.

A. Transaction

B. Commit

C. Rollback

D. Flashback

Answer: Option A

Explanation:

Transaction

Transaction is a set of operation until commit.

2. Which of the following makes the transaction permanent in the database ?

A. View

B. Commit

C. Rollback

D. Flashback

Answer: Option B

Explanation:

Commit

Commit work commits the current transaction.

3. In order to undo the work of transaction after last commit which one should be used ?

A. View

B. Commit

C. Rollback

D. Flashback

Answer: Option C

Explanation:

Rollback

Rollback work causes the current transaction to be rolled back; that is, it undoes all the updates performed by the SQL statements in the transaction.

4. Consider the following action:

Transaction.....

Commit;

Rollback;

What does Rollback do?

A. Undoes the transactions before commit

B. Clears all transactions

C. Redoes the transactions before commit

D. No action

Answer: Option D

Explanation:

No action

Once a transaction has executed commit work, its effects can no longer be undone by rollback work.

5. In case of any shut down during transaction before commit which of the following statement is done automatically ?

A. View

B. Commit

C. Rollback

D. Flashback

Answer: Option C

Explanation:

Rollback

Once a transaction has executed commit work, its effects can no longer be undone by rollback work.

6. In order to maintain the consistency during transactions database provides

A. Commit

B. Atomic

**C.** Flashback

**D.** Retain

Answer: Option B

Explanation:

Atomic

By atomic , either all the effects of the transaction are reflected in the database, or none are (after rollback).

7. Transaction processing is associated with everything below except

**A.** Conforming a action or triggering a response

**B.** Producing detail summary or exception report

**C.** Recording a business activity

**D.** Maintaining a data

Answer: Option A

Explanation:

Conforming a action or triggering a response

8. A transaction completes its execution is said to be

**A.** Committed

**B.** Aborted

**C.** Rolled back

**D.** Failed

Answer: Option A

Explanation:

Committed

A complete transaction always commits.

9. Which of the following is used to get back all the transactions back after rollback ?

**A.** Commit

- B.** Rollback
- C.** Flashback
- D.** Redo

Answer: Option C

Explanation:

Flashback

10. \_\_\_\_\_ will undo all statements up to commit?

- A.** Transaction
- B.** Flashback
- C.** Rollback
- D.** Abort

Answer: Option C

Explanation:

Rollback

Flashback will undo all the statements and Abort will terminate the operation.

1. What is the purpose of index in sql server

- A.** To enhance the query performance
- B.** To provide an index to a record
- C.** To perform fast searches
- D.** All of the mentioned

Answer: Option D

Explanation:

All of the mentioned

A database index is a data structure that improves the speed of data retrieval operations on a database table at the cost of additional writes.

2. How many types of indexes are there in sql server?

A. 1

B. 2

C. 3

D. 4

Answer: Option B

Explanation:

2

They are clustered index and non clustered index.

3. How non clustered index point to the data?

A. It never points to anything

B. It points to a data row

C. It is used for pointing data rows containing key values

Answer: Option C

Explanation:

It is used for pointing data rows containing key values

Nonclustered indexes have a structure separate from the data rows. A nonclustered index contains the nonclustered index key values and each key value entry has a pointer to the data row that contains the key value.

4. Which one is true about clustered index?

A. Clustered index is not associated with table

B. Clustered index is built by default on unique key columns

C. Clustered index is not built on unique key columns

D. None of the men

Answer: Option B

Explanation:

Clustered index is built by default on unique key columns

Nonclustered indexes have a structure separate from the data rows. A nonclustered index contains the nonclustered index key values and each key value entry has a pointer to the data row that contains the key value.

5. What is true about indexes?

- A.** Indexes enhance the performance even if the table is updated frequently
- B.** It makes harder for sql server engines to work to work on index which have large keys
- C.** It doesn't make harder for sql server engines to work to work on index which have large keys

Answer: Option B

Explanation:

It makes harder for sql server engines to work to work on index which have large keys  
Indexes tend to improve the performance.

6. Does index take space in the disk ?

- A.** It stores memory as and when required
- B.** Yes, Indexes are stored on disk
- C.** Indexes are never stored on disk
- D.** Indexes take no space

Answer: Option B

Explanation:

Yes, Indexes are stored on disk  
Indexes take memory slots which are located on the disk.

7. What are composite indexes ?

- A.** Are those which are composed by database for its internal use
- B.** A composite index is a combination of index on 2 or more columns
- C.** Composite index can never be created
- D.** None of the mentioned

Answer: Option B



Explanation:

A composite index is a combination of index on 2 or more columns

A composite index is an index on two or more columns of a table.

8. If an index is \_\_\_\_\_ the metadata and statistics continue to exist

A. Disabling

B. Dropping

C. Altering

D. Both a and b

Answer: Option A

Explanation:

Disabling

A database index is a data structure that improves the speed of data retrieval operations on a database table at the cost of additional writes.

9. In \_\_\_\_\_ index instead of storing all the columns for a record together, each column is stored separately with all other rows in an index.

A. Clustered

B. Column store

C. Non clustered

D. Row store

Answer: Option B

Explanation:

Column store

A database index is a data structure that improves the speed of data retrieval operations on a database table at the cost of additional writes.

10. A \_\_\_\_\_ index is the one which satisfies all the columns requested in the query without performing further lookup into the clustered index.

A. Clustered

B. Non Clustered

C. Covering

## D. B-Tree

Answer: Option C

Explanation:

Covering

A covered query is a query where all the columns in the query's result set are pulled from non-clustered indexes.

1. This set of Database Questions & Answers focuses on "SQL Data Types and Schemas" Dates must be specified in the format

A. mm/dd/yy

B. yyyy/mm/dd

C. dd/mm/yy

D. yy/dd/mm

Answer: Option B

Explanation:

yyyy/mm/dd

yyyy/mm/dd is the default format in sql

2. An \_\_\_\_\_ on an attribute of a relation is a data structure that allows the database system to find those tuples in the relation that have a specified value for that attribute efficiently, without scanning through all the tuples of the relation.

A. Index

B. Reference

C. Assertion

D. Timestamp

Answer: Option A

Explanation:

Index

Index is the reference to the tuples in a relation.

3. Which of the following is used to store movie and image files ?

**A.** Clob

**B.** Blob

Answer: Option B

Explanation:

Blob

SQL therefore provides large-object data types for character data (clob) and binary data (blob). The letters “lob” in these data types stand for “Large Object.”

4. The user defined data type can be created using

**A.** Create datatype

**B.** Create data

**C.** Create defintype

**D.** Create type

Answer: Option D

Explanation:

Create type

The create type clause can be used to define new types. Syntax : create type Dollars as numeric(12,2) final; .

5. Values of one type can be converted to another domain using which of the following ?

**A.** Cast

**B.** Drop type

**C.** Alter type

**D.** Convert

Answer: Option A

Explanation:

Cast

Example of cast : cast (department.budget to numeric(12,2)). SQL provides drop type and alter type clauses to drop or modify types that have been created earlier.

6. Which of the following closely resembles Create view ?

- A.** Create table . . .like
- B.** Create table . . . as
- C.** With data
- D.** Create view as

Answer: Option B

Explanation:

Create table . . . as

The 'create table . . . as' statement closely resembles the create view statement and both are defined by using queries. The main difference is that the contents of the table are set when the table is created, whereas the contents of a view always reflect the current query result.

7. In contemporary databases the top level of the hierarchy consists of \_\_\_\_\_, each of which can contain \_\_\_\_\_.

- A.** Catalogs, schemas
- B.** Schemas, catalogs
- C.** Environment, schemas
- D.** Schemas, Environment

Answer: Option A

Explanation:

Catalogs, schemas

8. Which of the following statements creates a new table temp\_instructor that has the same schema as instructor.

- A.** create table temp\_instructor;
- B.** Create table temp\_instructor like instructor;
- C.** Create Table as temp\_instructor;
- D.** Create table like temp\_instructor;

Answer: Option B

Explanation:

Create table temp\_instructor like instructor;

1. In the \_\_\_\_\_ normal form, a composite attribute is converted to individual attributes.

- A.** First
- B.** Second
- C.** Third
- D.** Fourth

Answer: Option A

Explanation:

First

The first normal form is used to eliminate the duplicate information.

2. A table on the many side of a one to many or many to many relationship must:

- A.** Be in Second Normal Form (2NF)
- B.** Be in Third Normal Form (3NF)
- C.** Have a single attribute key
- D.** Have a composite key

Answer: Option D

Explanation:

Have a composite key

The relation in second normal form is also in first normal form and no partial dependencies on any column in primary key.

3. Tables in second normal form (2NF):

- A.** Eliminate all hidden dependencies
- B.** Eliminate the possibility of a insertion anomalies
- C.** Have a composite key
- D.** Have all non key fields depend on the whole primary key

Answer: Option A

Explanation:

Eliminate all hidden dependencies

The relation in second normal form is also in first normal form and no partial dependencies on any column in primary key.

4. Which-one of the following statements about normal forms is FALSE?

- A.** BCNF is stricter than 3 NF
- B.** Lossless, dependency -preserving decomposition into 3 NF is always possible
- C.** Loss less, dependency – preserving decomposition into BCNF is always possible
- D.** Any relation with two attributes is BCNF View Answer

Answer: Option C

Explanation:

Loss less, dependency – preserving decomposition into BCNF is always possible

We say that the decomposition is a lossless decomposition if there is no loss of information by replacing  $r(R)$  with two relation schemas  $r_1(R_1)$  and  $r_2(R_2)$ .

5. Functional Dependencies are the types of constraints that are based on \_\_\_\_\_

- A.** Key
- B.** Key revisited
- C.** Superset key
- D.** None of these

Answer: Option A

Explanation:

Key

Key is the basic element needed for the constraints.

6. Which is a bottom-up approach to database design that design by examining the relationship between attributes:

- A.** Functional dependency
- B.** Database modeling
- C.** Normalization

## D. Decomposition

Answer: Option C

Explanation:

Normalization

Normalisation is the process of removing redundancy and unwanted data.

7. Which forms simplifies and ensures that there is minimal data aggregates and repetitive groups:

A. 1NF

B. 2NF

C. 3NF

D. All of the mentioned

Answer: Option C

Explanation:

3NF

The first normal form is used to eliminate the duplicate information.

8. Which forms has a relation that possesses data about an individual entity:

A. 2NF

B. 3NF

C. 4NF

D. 5NF

Answer: Option C

Explanation:

4NF

A Table is in 4NF if and only if, for every one of its non-trivial multivalued dependencies  $X \twoheadrightarrow Y$ , X is a superkey—that is, X is either a candidate key or a superset thereof.

9. Which forms are based on the concept of functional dependency:

A. 1NF

**B.** 2NF

**C.** 3NF

**D.** 4NF

Answer: Option C

Explanation:

3NF

The table is in 3NF if every non-prime attribute of R is non-transitively dependent (i.e. directly dependent) on every superkey of R.

10. Empdt1(empcode, name, street, city, state,pincode). For any pincode, there is only one city and state. Also, for given street, city and state, there is just one pincode. In normalization terms, empdt1 is a relation in

**A.** 1 NF only

**B.** 2 NF and hence also in 1 NF

**C.** 3NF and hence also in 2NF and 1NF

**D.** BCNF and hence also in 3NF, 2NF and 1NF View Answer

Answer: Option B

Explanation:

2 NF and hence also in 1 NF

The relation in second normal form is also in first normal form and no partial dependencies on any column in primary key.

1. To include integrity constraint in a existing relation use :

**A.** Create table

**B.** Modify table

**C.** Alter table

Answer: Option C

Explanation:

Alter table



SYNTAX – alter table table-name add constraint , where constraint can be any constraint on the relation.

2. Which of the following is not a integrity constraint ?

- A.** Not null
- B.** Positive
- C.** Unique
- D.** Check 'predicate'

Answer: Option B

Explanation:

Positive

Positive is a value and not a constraint.

3. Foreign key is the one in which the \_\_\_\_\_ of one relation is referenced in another relation.

- A.** Foreign key
- B.** Primary key
- C.** References
- D.** Check constraint

Answer: Option B

Explanation:

Primary key

The foreign-key declaration specifies that for each course tuple, the department name specified in the tuple must exist in the department relation.

4. Domain constraints, functional dependency and referential integrity are special forms of \_\_\_\_\_.

- A.** Foreign key
- B.** Primary key
- C.** Assertion
- D.** Referential constraint

Answer: Option C

Explanation:

Assertion

An assertion is a predicate expressing a condition we wish the database to always satisfy.

5. Which of the following is the right syntax for assertion?

- A.** Create assertion 'assertion-name' check 'predicate';
- B.** Create assertion check 'predicate' 'assertion-name';
- C.** Create assertions 'predicates';
- D.** All of the mentioned

Answer: Option A

Explanation:

Create assertion 'assertion-name' check 'predicate';

6. Data integrity constraints are used to:

- A.** Control who is allowed access to the data
- B.** Ensure that duplicate records are not entered into the table
- C.** Improve the quality of data entered for a specific property (i.e., table column)
- D.** Prevent users from changing the values stored in the table

Answer: Option C

Explanation:

Improve the quality of data entered for a specific property (i.e., table column)

7. Which of the following can be addressed by enforcing a referential integrity constraint?

- A.** All phone numbers must include the area code
- B.** Certain fields are required (such as the email address, or phone number) before the record is accepted
- C.** Information on the customer must be known before anything can be sold to that customer
- D.** When entering an order quantity, the user must input a number and not some text (i.e., 12 rather than 'a dozen')

Answer: Option C

Explanation:

Information on the customer must be known before anything can be sold to that customer. The information can be referred and obtained.

8. \_\_\_\_\_, express the number of entities to which another entity can be associated via a relationship set.

**A. Mapping Cardinality**

Answer: Option A

Explanation:

Mapping Cardinality

Mapping cardinality is also called as cardinality ratio.

9. An entity in A is associated with at most one entity in B, and an entity in B is associated with at most one entity in A. This is called as

**A. One-to-many**

**B. One-to-one**

**C. Many-to-many**

**D. Many-to-one**

Answer: Option B

Explanation:

One-to-one

Here one entity in one set is related to one one entity in other set.

10. An entity in A is associated with at most one entity in B. An entity in B, however, can be associated with any number (zero or more) of entities in A.

**A. One-to-many**

**B. One-to-one**

**C. Many-to-many**

**D. Many-to-one**

Answer: Option D

Explanation:

Many-to-one

Here more than one entity in one set is related to one one entity in other set.

11. Data integrity constraints are used to

- A.** Control who is allowed access to the data
- B.** Ensure that duplicate records are not entered into the table
- C.** Improve the quality of data entered for a specific property
- D.** Prevent users from changing the values stored in the table

Answer: Option C

Explanation:

Improve the quality of data entered for a specific property

The data entered will be in a particular cell (i.e., table column) .

12. Establishing limits on allowable property values, and specifying a set of acceptable, predefined options that can be assigned to a property are examples of:

- A.** Attributes
- B.** Data integrity constraints
- C.** Method constraints
- D.** Referential integrity constraints

Answer: Option B

Explanation:

Data integrity constraints

Only particular value satisfying the constraints are entered in column .

13. Which of the following can be addressed by enforcing a referential integrity constraint?

- A.** All phone numbers must include the area code
- B.** Certain fields are required (such as the email address, or phone number) before the record is accepted

**C.** Information on the customer must be known before anything can be sold to that customer

**D.** Then entering an order quantity, the user must input a number and not some text (i.e., 12 rather than 'a dozen')

Answer: Option C

Explanation:

Information on the customer must be known before anything can be sold to that customer

14. \_\_\_\_\_ is a special type of integrity constraint that relates two relations & maintains consistency across the relations.

**A.** Entity Integrity Constraints

**B.** Referential Integrity Constraints

**C.** Domain Integrity Constraints

**D.** Domain Constraints

Answer: Option B

Explanation:

Referential Integrity Constraints

15. Which one of the following uniquely identifies the elements in the relation?

**A.** Secondary Key

**B.** Primary key

**C.** Foreign key

**D.** Composite key

Answer: Option B

Explanation:

Primary key

Primary key checks for not null and uniqueness constraint

16. Drop Table cannot be used to drop a table referenced by a \_\_\_\_\_ constraint.

**A.** Local Key

**B.** Primary Key

**C.** Composite Key

**D.** Foreign Key

Answer: Option D

Explanation:

Foreign Key

Foreign key is used when primary key of one relation is used in another relation .

17. \_\_\_\_\_ is preferred method for enforcing data integrity

**A.** Constraints

**B.** Stored Procedure

**C.** Triggers

**D.** Cursors

Answer: Option A

Explanation:

Constraints

Constraints are specified to restrict entries in the relation.

---

1. Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?

**A.** Candidate key

**B.** Sub key

**C.** Super key

**D.** Foreign key

Answer: Option C

Explanation:

Super key

Super key is the superset of all the keys in a relation.

2. Consider attributes ID , CITY and NAME . Which one of this can be considered as a super key ?

- A. NAME
- B. ID
- C. CITY
- D. CITY , ID

Answer: Option B

Explanation:

ID

Here the id is the only attribute which can be taken as a key. Other attributes are not uniquely identified .

3. The subset of super key is a candidate key under what condition ?

- A. No proper subset is a super key
- B. All subsets are super keys
- C. Subset is a super key
- D. Each subset is a super key

Answer: Option A

Explanation:

No proper subset is a super key

The subset of a set cannot be the same set. Candidate key is a set from a super key which cannot be the whole of the super set

4. A \_\_\_\_\_ is a property of the entire relation, rather than of the individual tuples in which each tuple is unique.

- A. Rows
- B. Key
- C. Attribute
- D. Fields

Answer: Option B

Explanation:

Key

Key is the constraint which specifies uniqueness.

5. Which one of the following attribute can be taken as a primary key ?

A. Name

B. Street

C. Id

D. Department

Answer: Option C

Explanation:

Id

The attributes name , street and department can repeat for some tuples. But the id attribute has to be unique .So it forms a primary key.

6. Which one of the following cannot be taken as a primary key ?

A. Id

B. Register number

C. Dept\_id

D. Street

Answer: Option D

Explanation:

Street

Street is the only attribute which can occur more than once.

7. A attribute in a relation is a foreign key if the \_\_\_\_\_ key from one relation is used as an attribute in that relation .

A. Candidate

B. Primary



C. Super

D. Sub

Answer: Option B

Explanation:

Primary

The primary key has to be referred in the other relation to form a foreign key in that relation .

8. The relation with the attribute which is the primary key is referenced in another relation. The relation which has the attribute as primary key is called

A. Referential relation

B. Referencing relation

C. Referenced relation

D. Referred relation

Answer: Option B

Explanation:

Referencing relation

9. The \_\_\_\_\_ is the one in which the primary key of one relation is used as a normal attribute in another relation .

A. Referential relation

B. Referencing relation

C. Referenced relation

D. Referred relation

Answer: Option C

Explanation:

Referenced relation

10. A \_\_\_\_\_ integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.

- A.** Referential
- B.** Referencing
- C.** Specific
- D.** Primary

Answer: Option A

Explanation:

Referential

A relation, say r1, may include among its attributes the primary key of another relation, say r2. This attribute is called a foreign key from r1, referencing r2. The relation r1 is also called the referencing relation of the foreign key dependency, and r2 is called the referenced relation of the foreign key.

The situation where the lock waits only for a specified amount of time for another lock to be released is

- A.** Lock timeout
- B.** Wait-wound
- C.** Timeout
- D.** Wait

Answer: Option A

Explanation:

Lock timeout

The timeout scheme is particularly easy to implement, and works well if transactions are short and if longwaits are likely to be due to deadlocks.

1. A relational database consists of a collection of

- A.** Tables
- B.** Fields
- C.** Records
- D.** Keys

Answer: Option A

Explanation:

Fields are the column of the relation or tables. Records are each row in relation. Keys are the constraints in a relation .

2. A \_\_\_\_\_ in a table represents a relationship among a set of values.

A. Column

B. Key

C. Row

D. Entry

Answer: Option C

Explanation:

Column has only one set of values. Keys are constraints and row is one whole set of attributes. Entry is just a piece of data.

3. The term \_\_\_\_\_ is used to refer to a row.

A. Attribute

B. Tuple

C. Field

D. Instance

Answer: Option B

Explanation:

Tuple

Tuple is one entry of the relation with several attributes which are fields.

4. The term attribute refers to a \_\_\_\_\_ of a table.

A. Record

B. Column

C. Tuple

D. Key

Answer: Option B

Explanation:

Attribute is a specific domain in the relation which has entries of all tuples.

5. For each attribute of a relation, there is a set of permitted values, called the \_\_\_\_\_ of that attribute.

A. Domain

B. Relation

C. Set

D. Schema

Answer: Option A

Explanation:

The values of the attribute should be present in the domain. Domain is a set of values permitted .

6. Database \_\_\_\_\_ , which is the logical design of the database, and the database \_\_\_\_\_, which is a snapshot of the data in the database at a given instant in time.

A. Instance, Schema

B. Relation, Schema

C. Relation, Domain

D. Schema, Instance

Answer: Option D

Explanation:

Schema, Instance

Instance is a instance of time and schema is a representation.

7. A domain is atomic if elements of the domain are considered to be \_\_\_\_\_ units.

A. Different

B. Indivisible

C. Constant

**D.** Divisible

Answer: Option B

Explanation:

Indivisible

8. The tuples of the relations can be of \_\_\_\_\_ order.

**A.** Any

**B.** Same

**C.** Sorted

**D.** Constant

Answer: Option A

Explanation:

Any

The values only count .The order of the tuples does not matter.

9. Using which language can a user request information from a database ?

**A.** Query

**B.** Relational

**C.** Structural

**D.** Compiler

Answer: Option A

Explanation:

Query

Query language is a method through which the database entries can be accessed.

10. Student(ID, name, dept name, tot\_cred) In this query which attribute form the primary key?

**A.** Name

**B.** Dept

**C.** Tot\_cred

**D.** ID

Answer: Option D

Explanation:

ID The attributes name ,dept and tot\_cred can have same values unlike ID .

11. Which one of the following is a procedural language ?

**A.** Domain relational calculus

**B.** Tuple relational calculus

**C.** Relational algebra

**D.** Query language

Answer: Option C

Explanation:

Relational algebra

Domain and Tuple relational calculus are non-procedural language. Query language is a method through which the database entries can be accessed.

12. The \_\_\_\_\_ operation allows the combining of two relations by merging pairs of tuples, one from each relation, into a single tuple.

**A.** Select

**B.** Join

**C.** Union

**D.** Intersection

Answer: Option B

Explanation:

Join

Join finds the common tuple in the relations and combines it.

13. The result which operation contains all pairs of tuples from the two relations, regardless of whether their attribute values match.

- A. Join
- B. Cartesian product
- C. Intersection
- D. Set difference

Answer: Option B

Explanation:

Cartesian product

Cartesian product is the multiplication of all the values in the attributes.

14. The \_\_\_\_\_ operation performs a set union of two “similarly structured” tables

- A. Union
- B. Join
- C. Product
- D. Intersect

Answer: Option A

Explanation:

Union

Union just combines all the values of relations of same attributes.

15. The most commonly used operation in relational algebra for projecting a set of tuple from a relation is

- A. Join
- B. Projection
- C. Select
- D. Union

Answer: Option C

Explanation:

Select

Select is used to view the tuples of the relation with or without some constraints.

16. The \_\_\_\_\_ operator takes the results of two queries and returns only rows that appear in both result sets.

- [A. Union](#)
- [B. Intersect](#)
- [C. Difference](#)
- [D. Projection](#)

Answer: Option B

Explanation:

Intersect

The union operator gives the result which is the union of two queries and difference is the one where query which is not a part of second query .

17. A \_\_\_\_\_ is a pictorial depiction of the schema of a database that shows the relations in the database, their attributes, and primary keys and foreign keys.

- [A. Schema diagram](#)
- [B. Relational algebra](#)
- [C. Database diagram](#)
- [D. Schema flow](#)

Answer: Option A

Explanation:

Schema diagram

18. The \_\_\_\_\_ provides a set of operations that take one or more relations as input and return a relation as an output

- [A. Schematic representation](#)
- [B. Relational algebra](#)
- [C. Scheme diagram](#)
- [D. Relation flow](#)

Answer: Option B

Explanation:



Relational algebra



## Test 12

1. DBMS is a collection of ..... that enables user to create and maintain a database.
  - A) Keys
  - B) Translators
  - C) Program
  - D) Language Activity
  
2. In a relational schema, each tuple is divided into fields called
  - A) Relations
  - B) Domains
  - C) Queries
  - D) All of the above
  
3. In an ER model, ..... is described in the database by storing its data.
  - A) Entity
  - B) Attribute
  - C) Relationship
  - D) Notation
  
4. DFD stands for
  - A) Data Flow Document
  - B) Data File Diagram
  - C) Data Flow Diagram
  - D) Non of the above
  
5. A top-to-bottom relationship among the items in a database is established by a
  - A) Hierarchical schema
  - B) Network schema
  - C) Relational Schema
  - D) All of the above
6. .... table store information about database or about the system.
  - A) SQL
  - B) Nested

- C) System
- D) None of these

7. ....defines the structure of a relation which consists of a fixed set of attribute-domain pairs.

- A) Instance
- B) Schema
- C) Program
- D) Super Key

8. .... clause is an additional filter that is applied to the result.

- A) Select
- B) Group-by
- C) Having
- D) Order by

9. A logical schema

- A) is the entire database
- B) is a standard way of organizing information into accessible parts.
- C) Describes how data is actually stored on disk.
- D) All of the above

10. .... is a full form of SQL.

- A) Standard query language
- B) Sequential query language
- C) Structured query language
- D) Server side query language

11) A relational database developer refers to a record as

- A. a criteria
- B. a relation
- C. a tuple
- D. an attribute

12) ..... keyword is used to find the number of values in a column.

- A. TOTAL
- B. COUNT
- C. ADD
- D. SUM

13) An advantage of the database management approach is

- A. data is dependent on programs
- B. data redundancy increases
- C. data is integrated and can be accessed by multiple programs
- D. none of the above

14) The collection of information stored in a database at a particular moment is called as .....

- A. schema
- B. instance of the database
- C. data domain
- D. independence

15) Data independence means

- A. data is defined separately and not included in programs.
- B. programs are not dependent on the physical attributes of data
- C. programs are not dependent on the logical attributes of data
- D. both B and C

16) A ..... is used to define overall design of the database

- A. schema
- B. application program
- C. data definition language
- D. code

17) Key to represent relationship between tables is called

- A. primary key
- B. secondary key
- C. foreign key
- D. none of the above

18) Grant and revoke are ..... statements.

- A. DDL
- B. TCL
- C. DCL
- D. DML

19) DBMS helps achieve

- A. Data independence
- B. Centralized control of data
- C. Neither A nor B
- D. Both A and B

20) ..... command can be used to modify a column in a table

- A. alter
- B. update
- C. set
- D. create

## ANSWERS:

1. C) Program
2. B) Domains
3. A) Entity
4. C) Data Flow Diagram
5. A) Hierarchical schema
6. C) System
7. B) Schema
8. C) Having
9. B) is a standard .. accessible parts.
10. C) Structured query language
- 11) C. a tuple
- 12) B. COUNT
- 13) C. data is integrated and can be accessed by multiple programs
- 14) B. instance of the database
- 15) D. both B and C
- 16) A. schema
- 17) C. foreign key
- 18) C. DCL
- 19) D. Both A and B
- 20) A. alter



### Test 13

1. The candidate key is that you choose to identify each row uniquely is called .....
  - A) Alternate Key
  - B) Primary Key
  - C) Foreign Key
  - D) None of the above
  
2. .... is used to determine whether a table contains duplicate rows.
  - A) Unique predicate
  - B) Like Predicate
  - C) Null predicate
  - D) In predicate
  
3. To eliminate duplicate rows ..... is used
  - A) NODUPLICATE
  - B) ELIMINATE
  - C) DISTINCT
  - D) None of these
  
4. State true or false
  - i) A candidate key is a minimal super key.
  - ii) A candidate key can also refer to a surrogate key.
  - A) i-true, ii-false
  - B) i-false, ii-true
  - C) i-true, ii-true
  - D) i-false, ii-false
  
5. DCL stands for
  - A) Data Control Language
  - B) Data Console Language
  - C) Data Console Level
  - D) Data Control Level

6. .... is the process of organizing data into related tables.
- A) Normalization
  - B) Generalization
  - C) Specialization
  - D) None of the above
7. A ..... Does not have a distinguishing attribute of its own and most are dependent entities, which are part of some other entity.
- A) Weak entity
  - B) Strong entity
  - C) Non-attributes entity
  - D) Dependent entity
8. .... is the complex search criteria in the where clause.
- A) Substring
  - B) Drop Table
  - C) Predict
  - D) Predicate
9. .... is the preferred method for enforcing data integrity
- A) Constraints
  - B) Stored Procedure
  - C) Triggers
  - D) Cursors
10. The number of tuples in a relation is called its ..... While the number of attributes in a relation is called its .....
- A) Degree, Cardinality
  - B) Cardinality, Degree
  - C) Rows, Columns
  - D) Columns, Rows
- 11) The language that requires a user to specify the data to be retrieved without specifying exactly how to get it is
- A. Procedural DML
  - B. Non-Procedural DML
  - C. Procedural DDL
  - D. Non-Procedural DDL
- 12) Which two files are used during the operation of the DBMS?
- A. Query languages and utilities
  - B. DML and query language
  - C. Data dictionary and transaction log
  - D. Data dictionary and query language

13) The database schema is written in

- A. HLL
- B. DML
- C. DDL
- D. DCL

14) The way a particular application views the data from the database that the application uses is a

- A. module
- B. relational model
- C. schema
- D. subschema

15) The relational model feature is that there

- A. is no need for primary key data
- B. is much more data independence than some other database models
- C. are explicit relationships among records.
- D. are tables with many dimensions

16) Which one of the following statements is false?

- A. The data dictionary is normally maintained by the database administrator
- B. Data elements in the database can be modified by changing the data dictionary.
- C. The data dictionary contains the name and description of each data element.
- D. A data dictionary is a tool used exclusively by the database administrator.

17) Which of the following are the properties of entities?

- A. Groups
- B. Table
- C. Attributes
- D. Switchboards

18) Which database level is closest to the users?

- A. External
- B. Internal
- C. Physical
- D. Conceptual

19) Which are the two ways in which entities can participate in a relationship?

- A. Passive and active
- B. Total and partial
- C. Simple and Complex
- D. All of the above



- 20) ..... data type can store unstructured data  
A. RAW  
B. CHAR  
C. NUMERIC  
D. VARCHAR

## **ANSWERS:**

1. B. Primary Key
2. A. Unique predicate
3. C. DISTINCT
4. C. i-true, ii-true
5. A. Data Control Language
6. A. Normalization
7. A. Weak entity
8. D. Predicate
9. A. Constraints
10. B. Cardinality, Degree
11. B. Non-Procedural DML
12. C. Data dictionary and transaction log
13. C. DDL
14. D. subschema
15. B. is much more data independence than some other database models
16. B. Data elements in the database can be modified by changing the data dictionary.
17. C. Attributes
18. A. External
19. B. Total and partial
20. A. RAW



## Test 14

1. State true or false.

i) Select operator is not a unary operator.

ii) Project operator chooses subset of attributes or columns of a relation.

A) i-True, ii-False

B) i-True, ii-True

C) i-False, ii-True

D) i-False, ii-False

2. .... database is used as template for all databases created.

A) Master

B) Model

C) Tempdb

D) None of the above

3. One aspect that has to be dealt with by the integrity subsystem is to ensure that only valid values can be assigned to each data items. This is referred to as

A) Data Security

B) Domain access

C) Data Control

D) Domain Integrity

4. .... operator is basically a join followed by a project on the attributes of first relation.

A) Join

B) Semi-Join

C) Full Join

D) Inner Join

5. Which of the following is not a binary operator in relational algebra?

A) Join

B) Semi-Join

C) Assignment

D) Project

6. Centralizing the integrity checking directly under the DBMS ..... duplication and ensures the consistency and validity of the database.

- A) Increases
- B) Skips
- C) Does not reduce
- D) Reduces

7. Which of the following is/are the DDL statements?

- A) Create
- B) Drop
- C) Alter
- D) All of the above

8. In snapshot, ..... clause tells oracle how long to wait between refreshes.

- A) Complete
- B) Force
- C) Next
- D) Refresh

9. .... defines rules regarding the values allowed in columns and is the standard mechanism for enforcing database integrity.

- A) Column
- B) Constraint
- C) Index
- D) Trigger

10. For like predicate which of the following is true.

- i) % matches zero or more characters.
  - ii) \_ matches exactly one character.
- A) i-only
  - B) ii-only
  - C) Both of them
  - D) None of them

## **ANSWERS:**

- 1. C) i-False, ii-True
- 2. B) Model
- 3. D) Domain Integrity
- 4. B) Semi-Join
- 5. D) Project
- 6. D) Reduces
- 7. D) All of the above
- 8. D) Refresh

- 9. B) Constraint
- 10. C) Both of them



SARASWATI Education Society's  
**SARASWATI** College of Engineering

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

---

### Test 15

1. In SQL, which command is used to issue multiple CREATE [TABLE](#), CREATE VIEW and GRANT statements in a single transaction?
  - A) CREATE PACKAGE
  - B) CREATE SCHEMA
  - C) CREATE CLUSTER
  - D) All of the above
2. In SQL, the CREATE TABLESPACE is used
  - A) to create a place in the database for storage of scheme objects, rollback segments, and naming the data files to comprise the tablespace.
  - B) to create a [database trigger](#).
  - C) to add/rename data files, to change storage
  - D) All of the above
3. Which character function can be used to return a specified portion of a [character string](#)?
  - A) INSTR
  - B) SUBSTRING
  - C) SUBSTR
  - D) POS
4. Which of the following is TRUE for the System Variable \$date\$?
  - A) Can be assigned to a global variable.
  - B) Can be assigned to any field only during design time.
  - C) Can be assigned to any variable or field during run time.
  - D) Can be assigned to a local variable.
5. What are the different events in Triggers?
  - A) Define, Create
  - B) Drop, Comment
  - C) Insert, Update, Delete
  - D) Select, Commit

6. Which is the subset of SQL commands used to manipulate Oracle Database Structures, including tables?

- A) Data Definition Language
- B) [Data Manipulation Language](#)
- C) Data Described Language
- D) Data Retrieval Language

7. The SQL statement SELECT SUBSTR('123456789', INSTR('abcabcabc', 'b'), 4) FROM EMP; prints

- A) 6789
- B) 2345
- C) 1234
- D) 456789

8. Which of the following SQL command can be used to modify existing data in a database table?

- A) MODIFY
- B) UPDATE
- C) CHANGE
- D) NEW

9. When SQL statements are embedded inside 3GL, we call such a program as .....

- A) nested query
- B) nested programming
- C) distinct query
- D) embedded SQL

10. .... provides option for entering [SQL queries](#) as execution time, rather than at the development stage.

- A) PL/SQL
- B) SQL\*Plus
- C) SQL
- D) Dynamic SQL

11) The RDBMS terminology for a row is

- A. tuple
- B. relation
- C. attribute
- D. degree

12) To change column value in a table the ..... command can be used.

- A. create
- B. insert
- C. alter
- D. update

- 13) The full form of DDL in Database Management System is
- A. Dynamic Data Language
  - B. Detailed Data Language
  - C. Data Definition Language
  - D. Data Derivation Language
- 14) To pass on granted privileges to other user the ..... clause is used
- A. create option
  - B. grant option
  - C. update option
  - D. select option
- 15) A set of possible data values is called
- A. attribute
  - B. degree
  - C. tuple
  - D. domain
- 16) ..... is critical in formulating database design.
- A. row column order
  - B. number of tables
  - C. functional dependency
  - D. normalizing
- 17) A primary key if combined with a foreign key creates
- A. Parent-Child relationship between the tables that connect them
  - B. Many to many relationship between the tables that connect them
  - C. Network model between the tables that connect them
  - D. None of the above
- 18) A ..... represents the number of entities to which another entity can be associated
- A. mapping cardinality
  - B. table
  - C. schema
  - D. information
- 19) Which two files are used during operation of the DBMS
- A. Query languages and utilities
  - B. DML and query language
  - C. Data dictionary and transaction log
  - D. Data dictionary and query language
- 20) A ..... is a set of column that identifies every row in a table.
- A. composite key

- B. candidate key
- C. foreign key
- D. super key

## **ANSWERS:**

1. B) CREATE SCHEMA
2. A) to create a place in the database for storage of scheme objects.....
3. C) SUBSTR
4. B) Can be assigned to any field only during design time.
5. C) Insert, Update, Delete
6. A) Data Definition Language
7. B) 2345
8. B) UPDATE
9. D) embedded SQL
10. D) Dynamic SQL
- 11) A. tuple
- 12) D. update
- 13) C. Data Definition Language
- 14) B. grant option
- 15) D. domain
- 16) C. functional dependency
- 17) A. Parent-Child relationship between the tables that connect them
- 18) A. mapping cardinality
- 19) C. Data dictionary and transaction log
- 20) D. super key



### Test 16

1. The relational model is based on the concept that data is organized and stored in two-dimensional tables called .....

- A) Fields
- B) Records
- C) Relations
- D) Keys

2. .... contains information that defines valid values that are stored in a column or data type.

- A) View
- B) Rule
- C) Index
- D) Default

3. Which of the syntax is correct for insert statement?

- i) insert into <table\_name> values <list of values>
- ii) insert into <table\_name> (column list) values <list of values>

- A) i-only
- B) ii-only
- C) Both of them
- D) None of them

4. .... first proposed the process of normalization in DBMS.

- A) Edgar. W
- B) Edgar F. Codd
- C) Edward Stephen
- D) Edward Codd

5. For using a specific database ..... command is used.



- A) use database
- B) database name use
- C) Both A & B
- D) None of them

6. Which of the following is not comparison operator?

- A) <>
- B) <
- C) =<
- D) >=

7. An outstanding functionality of SQL is its support for automatic ..... to the target data.

- A) programming
- B) functioning
- C) navigation
- D) notification

8. .... is a special type of integrity constraint that relates two relations & maintains consistency across the relations.

- A) Entity Integrity Constraints
- B) Referential Integrity Constraints
- C) Domain Integrity Constraints
- D) Domain Constraints

E) Key Constraints

9. .... specifies a search condition for a group or an aggregate.

- A) GROUP BY Clause
- B) HAVING Clause
- C) FROM Clause
- D) WHERE Clause

10. Drop Table cannot be used to drop a table referenced by a ..... constraint.

- A) Local Key
- B) Primary Key
- C) Composite Key
- D) Foreign Key

## **ANSWERS:**

1. C) Relations
2. C) Index
3. C) Both of them
4. B) Edgar F. Codd
5. A) use database
6. C) =<
7. C) navigation
8. B) Referential.....Constraints
9. B) HAVING Clause
10. D) Foreign Key



## Test 17

1. Processed data is called .....
  - A) Raw data
  - B) Information
  - C) Useful data
  - D) Source
  
2. .... is a utility to capture a continuous record of server activity and provide auditing capability.
  - A) SQL Server Profile
  - B) SQL server service manager
  - C) SQL server setup
  - D) SQL server wizard.
  
3. Data items grouped together for storage purposes are called a
  - A) record
  - B) title
  - C) list
  - D) string
  
4. .... contains data assisting day to day activities of the organization.
  - A) Control database
  - B) Operational database
  - C) Strategic database
  - D) Sequential database
  
5. .... approach reduces time and effort required for design and lesser risk in database management.
  - A) Single global database
  - B) Top-down approach
  - C) Multiple databases
  - D) None of the above
  
6. HSAM stands for .....
  - A) Hierarchic Sequential Access Method
  - B) Hierarchic Standard Access Method

- C) Hierarchic Sequential and Method
- D) Hierarchic Standard and Method

7. SQL server stores index information in the ..... system table

- A) syst indexes
- B) system indexes
- C) sysind
- D) sys indexes

8. The one guideline to be followed while designing the database is

- A) A database design may be ambiguous.
- B) Unrelated data should be at the same table so that updating the data will be easy.
- C) It should avoid/reduce the redundancy.
- D) An entity should not have attributes.

9. Which of the following is not a logical database structure?

- A) Chain
- B) Network
- C) Tree
- D) Relational

10. .... is a preferred method for enforcing data integrity

- A) Constraints
- B) Stored procedure
- C) Triggers
- D) Cursors

## **ANSWERS:**

- 1. B) Information
- 2. B) SQL server service manager
- 3. A) record
- 4. B) Operational database
- 5. C) Multiple databases
- 6. A) Hierarchic Sequential Access Method
- 7. D) sys indexes
- 8. C) It should avoid/reduce the redundancy.
- 9. A) Chain
- 10. A) Constraints



## Test 18

1. Reflexivity property says that  $X - Y$  is true if  $Y$  is .....
  - A) Subset of  $X$
  - B) Null set of  $X$
  - C) Super set of  $Y$
  - D) Subset of  $Y$
2. Anything that affects the database schema is a part of
  - A) DML
  - B) DCL
  - C) DDL
  - D) All of the above
3. An instance of a relation is a time varying set of .....
  - A) Tuples
  - B) Rows
  - C) Both of them
  - D) None of them
4. In the ..... mode any record in the file can be accessed at random
  - A) Sequential access

B) Random access

C) Standard access

D) Source access

5. Which can be used to delete all the rows if a table?

A) Delete \* from table\_name

B) Delete from table\_name

C) Delete table\_name

D) all rows cannot be deleted at a time.

6. Which if the following is not the type of data integrity.

A) Key integrity

B) Domain integrity

C) Entity integrity

D) Referential integrity

7. 4NF stands for ..

A) Fourth Normal File

B) Fourth Normal Form

C) Fourth Normal Fraction

D) Fourth Negative File

8. A ..... allows to make copies of the database periodically to help in the cases of crashes & disasters.

A) Recovery utility

B) Backup Utility

C) Monitoring utility

D) Data loading utility

9. .... Allows definitions and query language statements to be entered; query results are formatted and displayed.

A) Schema Processor

B) Query Processor

C) Terminal Interface

D) None of the above

10. The main task carried out in the ..... is to remove repeating attributes to separate tables.

A) First Normal Form

B) Second Normal Form

C) Third Normal Form

D) Fourth Normal Form

### **ANSWERS:**

1. A) Subset of X

2. C) DDL

3. C) Both of them

4. B) Random access

5. A) Delete \* from table\_name

6. A) Key integrity

7. B) Fourth Normal Form

8. B) Backup Utility

- 9. C) Terminal Interface
- 10. D) Fourth Normal Form





## Test 19

1. .... is the powerful language for working with RDBMS.  
A) Embedded Programs  
B) Dynamic Programs  
C) Query Language  
D) Static Language Programs
2. The file in DBMS is called as ..... in RDBMS.  
A) console  
B) schema  
C) table  
D) object
3. In ....., we have a strict parent-child relationship only.  
A) hierarchical databases.  
B) network databases  
C) object oriented databases  
D) relational databases
4. Which normal form is considered adequate for relational database design?  
A) 2 NF  
B) 3 NF  
C) 4 NF  
D) BCNF
5. What operator tests column for the absence of data?  
A) IS NULL operator  
B) ASSIGNMENT operator  
C) LIKE operator  
D) NOT operator
6. Which is proper subset designed to support views belonging to different classes of users in order to hide or protect information.  
A) Schema  
B) Sub-schema

- C) Non-schema
- D) Non-sub schema

7. Which contain information about a file needed by system programs for accessing file records?

- A) File blocks
- B) File operators
- C) File headers
- D) None of these

8. A ..... DBMS distributes data processing tasks between the workstation and network server.

- A) Network
- B) Relational
- C) Client Server
- D) Hierarchical

9. The ..... refers to the way data is organized in and accessible from DBMS.

- A) database hierarchy
- B) data organization
- C) data sharing
- D) data model

10. .... is a statement that is executed automatically by the system.

- A) trigger
- B) assertion
- C) durability
- D) integrity constraint

## **ANSWERS:**

1. .... is the powerful language for working with RDBMS.

- C) Query Language

2. The file in DBMS is called as ..... in RDBMS.

- C) table

3. In ..... , we have a strict parent-child relationship only.

- A) hierarchical databases.

4. Which normal form is considered adequate for relational database design?

- B) 3 NF

5. What operator tests column for the absence of data?

A) IS NULL operator

6. Which is proper subset designed to support views belonging to different classes of users in order to hide or protect information.

B) Sub-schema

7. Which contain information about a file needed by system programs for accessing file records?

C) File headers

8. A ..... DBMS distributes data processing tasks between the workstation and network server.

C) Client Server

9. The ..... refers to the way data is organized in and accessible from DBMS.

D) data model

10. .... is a statement that is executed automatically by the system.

A) trigger



## Test 20

- 1) Which of the following is not a characteristic of a relational database model?
  - A. Table
  - B. Tree like structure
  - C. Complex logical relationship
  - D. Records
  
- 2) Field is otherwise called as ..... of the record
  - A. data item
  - B. data type
  - C. value
  - D. variable
  
- 3) A table can have only one
  - A. Secondary key
  - B. Alternate key
  - C. Unique key
  - D. Primary key
  
- 4) A field can be called as ..... in relation context.
  - A. random file
  - B. direct file
  - C. attribute
  - D. tuple
  
- 5) In the relational modes, cardinality is termed as
  - A. Number of tuples
  - B. Number of attributes
  - C. Number of tables
  - D. Number of constraints
  
- 6) The ..... is used for creating and destroying table, indexes and other forms of structures.
  - A. data manipulation language
  - B. data control language
  - C. transaction control language
  - D. data definition language

7) The view of total database content is

- A. Conceptual view
- B. Internal view
- C. External view
- D. Physical view

8) The ..... refers to the way data is organized in and accessible from DBMS.

- A. database hierarchy
- B. data organization
- C. data sharing
- D. data model

9) Architecture of the database can be viewed as

- A. two levels
- B. four levels
- C. three levels
- D. one level

10) ..... introduced the relational database rules.

- A. Atul kahate
- B. James Gossling
- C. EF Codd
- D. Dennies Rithchie

11) In a relational model, relations are termed as

- A. Tuples
- B. Attributes
- C. Tables
- D. Rows

12) When the values in one or more attributes being used as a foreign key must exist in another set of one or more attributes in another table, we have created a(n) .....

- A. transitive dependency
- B. insertion anomaly
- C. referential integrity constraint
- D. normal form

13) In the architecture of a database system external level is the

- A. physical level
- B. logical level
- C. conceptual level
- D. view level

- 14) A functional dependency is a relationship between or among .....
- A. tables
  - B. rows
  - C. relations
  - D. attributes
- 15) Related fields in a database are grouped to form a
- A. data file
  - B. data record
  - C. menu
  - D. bank
- 16) ..... is, a table have more than one set of attributes that could be chosen as the key
- A. foreign key
  - B. integrity key
  - C. relationship
  - D. candidate key
- 17) The database environment has all of the following components except.
- A. users
  - B. separate files
  - C. database
  - D. database administrator
- 18) The operation of eliminating columns in a table done by ..... operation.
- A. Restrict
  - B. Project
  - C. Union
  - D. Divide
- 19) The way a particular application views the data from the database that the application uses is a
- A. module
  - B. relational model
  - C. schema
  - D. sub schema
- 20) ..... is a condition specified on a database schema and restricts the data that can be stored in an instance of the database.
- A. Key Constraint
  - B. Check Constraint
  - C. Foreign key constraint
  - D. integrity constraint

## ANSWERS:

- 1) B. Tree like structure
- 2) A. data item
- 3) D. Primary key
- 4) C. attribute
- 5) A. Number of tuples
- 6) D. data definition language
- 7) A. Conceptual view
- 8) D. data model
- 9) C. three levels
- 10) C. EF Codd
- 11) C. Tables
- 12) C. referential integrity constraint
- 13) D. view level
- 14) D. attributes
- 15) B. data record
- 16) D. candidate key
- 17) A. users
- 18) B. Project
- 19) D. sub schema
- 20) B. Check Constraint



SARASWATI Education Society's  
**SARASWATI** College of Engineering

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

---

### Test 21

1. A ..... specifies the actions needed to remove the drawbacks in the current design of a database.
  - A) 1 NF
  - B) 2 NF
  - C) 3 NF
  - D) Normal form

2. A relation is in ..... if an attribute of a composite key is dependent on an attribute of another composite key.

- A) 2NF
- B) 3NF
- C) BCNF
- D) 1NF

3. The fifth Normal form is concerned with

- A) Functional dependency
- B) Multivalued dependency
- C) Join dependency
- D) Domain key

4. A table is in the ..... if only candidate keys are the determinants.

- A) functional dependency
- B) transitive dependency
- C) 4 NF
- D) BCNF

5. In 2NF

- A) No functional dependencies exist.
- B) No multivalued dependencies exist.
- C) No partial functional dependencies exist
- D) No partial multivalued dependencies exist.

6. The normal form that is not necessarily dependency preserving is

- A) 2NF
- B) 3NF
- C) BCNF
- D) 4NF

7. The ..... is related to the concept of multi-valued dependency.

- A) fourth normal form
- B) fifth normal form
- C) boyce codd normal form
- D) third normal form

8. Which normal form is considered adequate for normal relational database design?

- A) 2NF
- B) 5NF
- C) 4NF
- D) 3NF



9. Dependency preservation is not guaranteed in

- A) BCNF
- B) 3NF
- C) 4NF
- D) DKNF

10. A relation is ..... if every field contains only atomic values that are, no lists or sets.

- A) 1 NF
- B) 2 NF
- C) 3 NF
- D) BCNF

### **ANSWERS:**

1. A ..... specifies the actions needed to remove the drawbacks in the current design of a database.

- D) Normal form

2. A relation is in ..... if an attribute of a composite key is dependent on an attribute of another composite key.

- B) 3NF

3. The fifth normal form is concerned with

- C) Join dependency

4. A table is in the ..... if only candidate keys are the determinants.

- D) BCNF

5. In 2NF

- C) No partial functional dependencies exist

6. The normal form that is not necessarily dependency preserving is

- A) 2NF

7. The ..... is related to the concept of multi-valued dependency.

- A) fourth normal form

8. Which normal form is considered adequate for normal relational database design?

- D) 3NF

9. Dependency preservation is not guaranteed in

- A) BCNF

10. A relation is ..... if every field contains only atomic values that are, no lists or sets.  
A) 1 NF



SARASWATI Education Society's  
**SARASWATI College of Engineering**

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

## Test 22

1. Which of the following relational algebra operations do not require the participating tables to be union-compatible?
  - A. Union
  - B. Intersection
  - C. Difference
  - D. Join
  
- 2) Relational Algebra does not have
  - A. Selection operator
  - B. Projection operator
  - C. Aggregation operator
  - D. Division operator
  
- 3) Tree structures are used to store data in
  - A. Network model
  - B. Relational model
  - C. Hierarchical model
  - D. File-based system
  
- 4) The rule that a value of a foreign key must appear as a value of some specific table is called a
  - A. Referential constraint
  - B. Index
  - C. Integrity constraint
  - D. Functional
  
- 5) It is an abstraction through which relationships are treated as higher-level entities.
  - A. Generalization
  - B. Specialization
  - C. Aggregation
  - D. Inheritance
  
- 6) The operation which is not considered a basic operation of relational algebra is
  - A. Join
  - B. Selection

- C. Union
- D. Cross product

7) In SQL the statement `select * from R,S` is equivalent to

- A. `Select * from R natural join S`
- B. `Select * from R cross join S`
- C. `Select * from R union join S`
- D. `Select * from R inner join S`

8) When an E-R diagram is mapped to tables, the representation is redundant for

- A. Weak entity sets
- B. weak relationship sets
- C. Strong entity sets
- D. strong relationship sets

9) If two relations R and S are joined, then the non-matching tuples of both R and S are ignored in

- A. left outer join
- B. right outer join
- C. full outer join
- D. inner join

10) Relational Algebra is

- A. Data Definition Language
- B. Meta Language
- C. Procedural query Language
- D. None of the above

11) If an entity can belong to only one lower level entity then the constraint is

- A. disjoint
- B. partial
- C. overlapping
- D. single

12) The common column is eliminated in

- A. theta join
- B. outer join
- C. natural join
- D. composed join

13) In E-R diagram total participation is represented by

- A. double lines
- B. Dashed lines

- C. single line
- D. Triangle

14) Relationships among relationships can be represented in an E-R model using

- A. Aggregation
- B. Association
- C. Weak entity sets
- D. Weak relationship sets

15) Which of the following constitutes a basic set of operations for manipulating relational data?

- A. Predicate calculus
- B. Relational calculus
- C. Relational algebra
- D. SQL

16) Relational calculus is a

- A. Procedural language
- B. Non-Procedural language
- C. Data definition language
- D. High level language

17) Cartesian product in relational algebra is

- A. a Unary operator
- B. a Binary operator
- C. a Ternary operator
- D. not defined

18) In an E-R diagram attributes are represented by

- A. rectangle
- B. square
- C. ellipse
- D. triangle

19) In an E-R diagram, an entity set is represented by a

- A. rectangle
- B. ellipse
- C. diamond box
- D. circle

20) E-R model uses this symbol to represent the weak entity set?

- A. Dotted rectangle
- B. Diamond

- C. Doubly outlined rectangle
- D. None of these

**ANSWERS:**

- 1) D. Join
- 2) C. Aggregation operator
- 3) C. Hierarchical model
- 4) A. Referential constraint
- 5) C. Aggregation
- 6) A. Join
- 7) B. Select \* from R cross join S
- 8) B. weak relationship sets
- 9) D. inner join
- 10) C. Procedural query Language
- 11) B. partial
- 12) C. natural join
- 13) A. double lines
- 14) A. Aggregation
- 15) C. Relational algebra
- 16) B. Non-Procedural language
- 17) B. a Binary operator
- 18) C. ellipse
- 19) A. rectangle
- 20) C. Doubly outlined rectangle



## Test 23

- 1) What is a data integrity?
  - A. It is the data contained in the database that is non-redundant.
  - B. It is the data contained in the database that is accurate and consistent.
  - C. It is the data contained in the database that is secured.
  - D. It is the data contained in the database that is shared.
  
- 2) As per equivalence rules for query transformation, selection operation distributes over
  - A. Union
  - B. Intersection
  - C. Set difference
  - D. All of the above
  
- 3) In SQL the word 'natural' can be used with
  - A. inner join
  - B. full outer join
  - C. right outer join
  - D. all of the above
  
- 4) Which of the following relational algebraic operations is not from set theory?
  - A. Union
  - B. Intersection
  - C. Cartesian Product
  - D. Select
  
- 5) An entity set that does not have sufficient attributes to form a primary key is a
  - A. strong entity set
  - B. weak entity set
  - C. simple entity set
  - D. primary entity set
  
- 6) In the case of entity integrity, the primary key may be
  - A. not Null
  - B. Null
  - C. both Null and not Null
  - D. any value

- 7) A logical schema
- A. is the entire database.
  - B. is a standard way of organizing information into accessible parts.
  - C. describes how data is actually stored on disk
  - D. both A and C
- 8) Which of the operations constitute a basic set of operations for manipulating relational data?
- A. Predicate calculus
  - B. Relational calculus
  - C. Relational algebra
  - D. None of the above
- 9) Which of the following is another name for the weak entity?
- A. Child
  - B. Owner
  - C. Dominant
  - D. All of the above
- 10) Which of the following is a record based logical model?
- A. Network Model
  - B. Object-oriented model
  - C. E-R model
  - D. None of the above
- 11) A file manipulation command that extracts some of the records from a file is called
- A. SELECT
  - B. PROJECT
  - C. JOIN
  - D. PRODUCT
- 12) In E-R Diagram derived attribute is represented by
- A. Ellipse
  - B. Dashed ellipse
  - C. Rectangle
  - D. Triangle
- 13) The natural join is equal to
- A. Cartesian Product
  - B. Combination of Union and Cartesian product
  - C. Combination of selection and Cartesian product
  - D. Combination of projection and Cartesian product



14) In E-R diagram relationship type is represented by

- A. Ellipse
- B. Dashed ellipse
- C. Rectangle
- D. Diamond

15) In E-R diagram generalization is represented by

- A. Ellipse
- B. Dashed ellipse
- C. Rectangle
- D. Triangle

16) A table joined with itself is called

- A. Join
- B. Self Join
- C. Outer Join
- D. Equi Join

17) ..... means multiple copies of the same data items.

- A. Data reduction
- B. Data integrity
- C. Data consistency
- D. Data redundancy

18) Different values for the same data item is referred to as .....

- A. data consistency
- B. data inconsistency
- C. data integrity
- D. data duplication

19) The ..... returns row after combining two tables based on common values.

- A. difference
- B. product
- C. join
- D. union

20) The ..... can be used to ensure database integrity.

- A. entity integrity
- B. database constraints
- C. referential integrity
- D. cardinality

## ANSWERS:

- 1) B. It is the data contained in the database that is accurate and consistent.
- 2) All of the above
- 3) A. inner join
- 4) D. Select
- 5) B. weak entity set
- 6) A. not Null
- 7) A. is the entire database.
- 8) C. Relational algebra
- 9) Child
- 10) A. Network Model
- 11) A. SELECT
- 12) B. Dashed ellipse
- 13) D. Combination of projection and Cartesian product
- 14) D. Diamond
- 15) D. Triangle
- 16) B. Self Join
- 17) D. Data redundancy
- 18) B. data inconsistency
- 19) C. join
- 20) B. database constraints



## Test 24-SQL

1. DML is provided for
  - A) Description of logical structure of database
  - B) Addition of new structure in the database system.
  - C) Manipulation & processing of database
  - D) Definition of physical structure of database system
  
2. 'AS' clause is used in SQL for
  - A) Selection operation
  - B) Rename Operation
  - C) Join operation
  - D) Projection Operation
  
3. Count function in SQL returns the number of
  - A) values
  - B) distinct values
  - C) groups
  - D) columns
  
4. The statement in SQL which allows to change the definition of a table is
  - A) Alter
  - B) Update
  - C) Create
  - D) Select
  
5. Which of the following is correct.
  - A) A SQL query automatically eliminates duplicates
  - B) SQL permits attribute names to be repeated in the same relation
  - C) A SQL query will not work if there are no indexes on the relations
  - D) None of the above
  
6. Which of the following operation is used if we are interested in only certain columns of a table?
  - A) PROJECTION
  - B) SELECTION

- C) UNION
- D) JOIN

7. Which of the following is a legal expression in SQL?

- A) SELECT NULL FROM EMPLOYEE;
- B) SELECT NAME FROM EMPLOYEE;
- C) SELECT NAME FROM EMPLOYEE WHERE SALARY=NULL;
- D) None of the above

8. Which of the following is a valid SQL type?

- A) CHARACTER
- B) NUMERIC
- C) FLOAT
- D) All of the above

9. Which command is used to select distinct subject (SUB) from the table (BOOK)?

- A) SELECT ALL FROM BOOK
- B) SELECT DISTINCT SUB FROM BOOK
- C) SELECT SUB FROM BOOK
- D) All of the above

10. In SQL, which of the following is not a data definition language commands?

- A) RENAME
- B) REVOKE
- C) GRANT
- D) UPDATE

## **ANSWERS:**

1. DML is provided for

- C) Manipulation & processing of database

2. 'AS' clause is used in SQL for

- B) Rename Operation

3. Count function in SQL returns the number of

- A) values

4. The statement in SQL which allows to change the definition of a table is

- A) Alter

5. Which of the following is correct.

- D) None of the above

6. Which of the following operation is used if we are interested in only certain columns of a table?

- A) PROJECTION

7. Which of the following is a legal expression in SQL?

- B) SELECT NAME FROM EMPLOYEE;

8. Which of the following is a valid SQL type?

D) All of the above

9. Which command is used to select distinct subject (SUB) from the table (BOOK)?

B) SELECT DISTINCT SUB FROM BOOK

10. In SQL, which of the following is not a data definition language commands?

D) UPDATE



### Test 25-SQL

1. Which of the following query is correct for using comparison operators in [SQL](#)?
  - A) SELECT sname, coursename FROM studentinfo WHERE age>50 and <80;
  - B) SELECT sname, coursename FROM studentinfo WHERE age>50 and age <80;
  - C) SELECT sname, coursename FROM studentinfo WHERE age>50 and WHERE age<80;
  - D) None of the above
  
2. How to select all data from studentinfo table starting the name from letter 'r'?
  - A) SELECT \* FROM studentinfo WHERE sname LIKE 'r%';
  - B) SELECT \* FROM studentinfo WHERE sname LIKE '%r%';
  - C) SELECT \* FROM studentinfo WHERE sname LIKE '%r';
  - D) SELECT \* FROM studentinfo WHERE sname LIKE '\_r%';
  
3. Which of the following [SQL query](#) is correct for selecting the name of staffs from 'tblstaff' table where salary is 15,000 or 25,000?
  - A) SELECT sname from tblstaff WHERE salary IN (15000, 25000);
  - B) SELECT sname from tblstaff WHERE salary BETWEEN 15000 AND 25000;
  - C) Both A and B
  - D) None of the above
  
4. The SELECT statement, that retrieves all the columns from empinfo table name starting with d to p is .....
  - A) SELECT ALL FROM empinfo WHERE ename like '[d-p]';
  - B) SELECT \* FROM empinfo WHERE ename is '[d-p]';
  - C) SELECT \* FROM empinfo WHERE ename like '[p-d]';
  - D) SELECT \* FROM empinfo WHERE ename like '[d-p]';
  
5. Select a query that retrieves all of the unique countries from the student table?
  - A) SELECT DISTINCT coursename FROM studentinfo;
  - B) SELECT UNIQUE coursename FROM studentinfo;
  - C) SELECT DISTINCT coursename FROM TABLE studentinfo;
  - D) SELECT INDIVIDUAL coursename FROM studentinfo;
  
6. Which query is used for sorting data that retrieves the all the fields from empinfo table and listed them in the ascending order?

- A) SELECT \* FROM empinfo ORDER BY age;
  - B) SELECT \* FROM empinfo ORDER age;
  - C) SELECT \* FROM empinfo ORDER BY COLUMN age;
  - D) SELECT \* FROM empinfo SORT BY age;
7. Select the right statement to insert values to the stdinfo table.
- A) **INSERT** VALUES ("15", "Hari Thapa", 45, 5000) INTO stdinfo;
  - B) INSERT VALUES INTO stdinfo ("15", "Hari Thapa", 45, 5000);
  - C) INSERT stdinfo VALUES ("15", "Hari Thapa", 45, 5000);
  - D) INSERT INTO stdinfo VALUES ("15", "Hari Thapa", 45, 5000);
8. How to Delete records from studentinfo table with name of student 'Hari Prasad'?
- A) **DELETE** FROM TABLE studentinfo WHERE sname='Hari Prasad';
  - B) DELETE FROM studentinfo WHERE sname='Hari Prasad';
  - C) DELETE FROM studentinfo WHERE COLUMN sname='Hari Prasad';
  - D) DELETE FROM studentinfo WHERE sname LIKE 'Hari Prasad';
9. Constraint checking can be disabled in existing ..... and ..... constraints so that any data you modify or add to the table is not checked against the constraint.
- A) CHECK, **FOREIGN KEY**
  - B) DELETE, FOREIGN KEY
  - C) CHECK, PRIMARY KEY
  - D) PRIMARY KEY, FOREIGN KEY
10. .... joins two or more tables based on a specified column value not equaling a specified column value in another table.
- A) OUTER JOIN
  - B) **NATURAL JOIN**
  - C) NON-EQUIJOIN
  - D) EQUIJOIN

## ANSWERS:

- 1. B) SELECT sname, coursename FROM studentinfo WHERE age>50 and age <80;
- 2. A) SELECT \* FROM studentinfo WHERE sname LIKE 'r%';
- 3. A) SELECT sname from tblstaff WHERE salary IN (15000, 25000);
- 4. D) SELECT \* FROM empinfo WHERE ename like '[d-p]';
- 5. A) SELECT DISTINCT coursename FROM studentinfo;
- 6. A) SELECT \* FROM empinfo ORDER BY age;
- 7. D) INSERT INTO stdinfo VALUES ("15", "Hari Thapa", 45, 5000);
- 8. B) DELETE FROM studentinfo WHERE sname='Hari Prasad';
- 9. A) CHECK, FOREIGN KEY
- 10.C) NON-EQUIJOIN



SARASWATI Education Society's  
**SARASWATI College of Engineering**

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

Test 26:-SQL and Embedded Sql

- 1) DROP is a ..... statement in SQL.
  - A. Query
  - B. Embedded SQL
  - C. DDL
  - D. DCL
  
- 2) The keyword to eliminate duplicate rows from the query result in SQL is.
  - A. DISTINCT
  - B. NO DUPLICATE
  - C. UNIQUE
  - D. None of the above
  
- 3) Which of the following aggregate function does not ignore nulls in its results?
  - A. COUNT
  - B. COUNT(\*)
  - C. MAX
  - D. MIN
  
- 4) In SQL, testing whether a subquery is empty is done using
  - A. DISTINCT
  - B. UNIQUE
  - C. NULL
  - D. EXISTS
  
- 5) ..... operator is used to compare a value to a list of literals values that have been specified.
  - A. Like
  - B. Compare
  - C. Between
  - D. In
  
- 6) The language used in application programs to request data from the DBMS is referred to as the
  - A. DML
  - B. DDL



- C. VDL
- D. SDL

7) The DBMS language component which can be embedded in a program is

- A. The data definition language(DDL)
- B. The data manipulation language(DML)
- C. The database administrator(DBA)
- D. A query language

8) A DBMS query language is designed to

- A. Support end users who use English-like commands.
- B. Support in the development of complex applications software.
- C. Specify the structure of a database.
- D. All of the above

9) It is possible to define a schema completely using.

- A. VDL and DDL
- B. DDL and DML
- C. SDL and DDL
- D. VDL and DML

10) Which of the following is correct.

- A. a SQL query automatically eliminates duplicates.
- B. SQL permits attribute names to be repeated in the same relation.
- C. a SQL query will not work if there are no indexes on the relations.
- D. None of these.

11) Which of the following is a comparison operator in SQL?

- A. =
- B. LIKE
- C. BETWEEN
- D. All of the above

12) To delete a particular column in a relation the command used is.

- A. UPDATE
- B. DROP
- C. ALTER
- D. DELETE

13) The ..... operator is used to compare the value to a list of literals values that that have been specified.

- A. BETWEEN
- B. ANY

- C) IN
- D) ALL

14) ..... function divides one numeric expression by another and returns the remainder.

- A. POWER
- B. MOD
- C. ROUND
- D. REMAINDER

15) A data manipulation command that combines the record from one or more tables is called.

- A) SELECT
- B. PROJECT
- C. JOIN
- D. PRODUCT

16) DDL stands for

- A. Data definition language
- B. Data description language
- C. Data design languages
- D. Database dictionary languages.

17) The DDL is used to specify the .....

- A. Conceptual schema
- B. Internal schema
- C. Both
- D. None

18) Which is used for data retrieval from the database?

- A. DDL
- B. DML
- C. SDL
- D. VDL

19) Which is used to specify the user views and their mappings to the conceptual schema?

- A. DDL
- B. DML
- C. SDL
- D. VDL

20) Which command are included in a general purpose programming languages?

- A. DDL
- B. DML
- C. DSL
- D. VDL

## **ANSWERS:**

- 1) C. DDL
- 2) C. UNIQUE
- 3) B. COUNT(\*)
- 4) D. EXISTS
- 5) A. Like
- 6) A. DML
- 7) B. The data manipulation language(DML)
- 8) D. All of the above
- 9) B. DDL and DML
- 10) D. None of these.
- 11) D. All of the above
- 12) C. ALTER
- 13) A. BETWEEN
- 14) B. MOD
- 15) C. JOIN
- 16) A. Data definition language
- 17) A. Conceptual schema
- 18) B. DML
- 19) D. VDL
- 20) B. DML



SARASWATI Education Society's  
**SARASWATI** College of Engineering

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

### Test 27-SQL server

1. .... are predefined and maintained SQL Server and users cannot assign or directly change the values.  
A) Global variables  
B) Local Variables  
C) Integer Variables  
D) Floating Variables
2. A local variable is shown ..... preceding its name.  
A) One @ symbol  
B) Two @@ symbol  
C) One # symbol  
D) Two ## symbol
3. Constraint checking can be disabled on existing ..... and ..... constraints so that any data you modify or add to the table is not checked against the constraint.  
A) CHECK, FOREIGN KEY  
B) DELETE, FOREIGN KEY  
C) CHECK, PRIMARY KEY  
D) PRIMARY KEY, FOREIGN KEY
4. .... and ..... are the Transact – SQL control-of-flow key words.  
A) Continue, Stop  
B) Break, Stop  
C) Continue, While  
D) While, Going to
5. The type of constraint ..... specifies data values that are acceptable in a column.  
A) DEFAULT  
B) CHECK  
C) PRIMARY  
D) UNIQUE

6. The ..... constraint defines a column or combination of columns whose values match the primary key of the same or another table.

- A) DEFAULT
- B) CHECK
- C) PRIMARY
- D) FOREIGN KEY

7. The control-of-flow statement ..... defines conditional, and optionally, alternate execution when a condition is FALSE.

- A) WHILE
- B) WAITFOR
- C) IF.....ELSE
- D) BEGIN..... END

8. In SQL Server, ..... is based on relationships between foreign keys and primary keys or between foreign keys and unique keys.

- A) Entity integrity
- B) Domain integrity
- C) Referential integrity
- D) User-defined integrity

9. When a ..... clause is used, each item in the select list must produce a single value for each group.

- A) ORDER BY
- B) GROUP
- C) GROUP BY
- D) GROUP IN

10. MS SQL Server uses a variant of SQL called T-SQL, or Transact SQL, an implementation of ..... with some extensions.

- A) MS SQL Server
- B) Tabular Data Set
- C) SQL-92
- D) Tabular Data Stream

## **ANSWERS:**

- 1. A) Global variables
- 2. A) One @ symbol
- 3. A) CHECK, FOREIGN KEY
- 4. C) Continue, While
- 5. B) CHECK
- 6. D) FOREIGN KEY
- 7. C) IF.....ELSE
- 8. C) Referential integrity

9. C) GROUP BY

10.C) SQL-92



SARASWATI Education Society's  
**SARASWATI** College of Engineering

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

### Test 28:Sql server

1. .... is the full form of SQL.
  - A) Standard Query Language
  - B) Sequential Query Language
  - C) Structured Query Language
  - D) Server Side Query Language
  
2. SQL Server 2005 NOT includes the following system database .....
  - A) tempdb Database
  - B) Master Database
  - C) Model Database
  - D) sqldb Database
  
3. SQL Server stores index information in the ..... system table.
  - A) sysindexes
  - B) systemindexes
  - C) sysind
  - D) sysindexes
  
4. .... is a read-only database that contains system objects that are included with SQL Server 2005.
  - A) Resource Database
  - B) Master Database
  - C) Model Database
  - D) msdb Database
  
5. The SQL Server services includes .....
  - A) SQL server agent
  - B) Microsoft distribution transaction coordinator
  - C) Both a & b
  - D) None of the above

6. .... is a utility to capture a continuous record of server activity and provide auditing capability.
- A) SQL server profile
  - B) SQL server service manager
  - C) SQL server setup
  - D) SQL server wizard
7. The query used to remove all references for the pubs and newspubs databases from the system tables is .....
- A) DROP DATABASE pubs, newpubs;
  - B) DELETE DATABASE pubs, newpubs;
  - C) REMOVE DATABASE pubs, newpubs;
  - D) DROP DATABASE pubs and newpubs;
8. .... clause specifies the groups into which output rows are to be placed and, if aggregate functions are included in the SELECT clause.
- A) ORDER BY
  - B) GROUP
  - C) GROUP BY
  - D) GROUP IN
9. .... are predefined and maintained SQL Server where users cannot assign or directly change the values.
- A) Local Variables
  - B) Global Variables
  - C) Assigned Variables
  - D) Direct Variables
10. Microsoft SQL Server NOT uses which of the following operator category?
- A) Bitwise Operator
  - B) Unary Operator
  - C) Logical Operator
  - D) Real Operator

### **ANSWERS:**

- 1. C) Structured Query Language
- 2. D) sqlldb Database
- 3. D) sysindexes
- 4. A) Resource Database
- 5. C) Both a & b
- 6. B) SQL server service manager
- 7. A) DROP DATABASE pubs, newpubs;
- 8. C) GROUP BY



- 9. B) Global Variables
- 10.D) Real Operator

---

---

### SQL Transaction Management

- 1) In the ....., one transaction inserts a row in the table while the other transaction is halfway through its browsing of the table.
  - A. transaction read a problem
  - B. one way read a problem
  - C. serial read problem
  - D. phantom read problem
  
- 2) Transaction processing is associated with everything below except.
  - A. producing detail, summary, or exception reports
  - B. recording a business activity
  - C. confirming an action or triggering a response
  - D. maintaining data
  
- 3) ..... helps solve concurrency problem.
  - A. locking
  - B. transaction monitor
  - C. transaction serializability
  - D. two-phase commit
  
- 4) If a transaction acquires a shared lock, then it can perform ..... operation.
  - A. read
  - B. write
  - C. read and write
  - D. update
  
- 5) If a transaction obtains a shared lock on a row, it means that the transaction wants to ..... that row.
  - A. write
  - B. insert
  - C. execute
  - D. read
  
- 6) The node where the distributed transaction originates is called the .....
  - A. local coordinator
  - B. starting coordinator

- C. global coordinator
- D. originating node

7) If a transaction obtains an exclusive lock on a row, it means that the transaction wants to ..... that row.

- A. select
- B. update
- C. view
- D. read

8) If a transaction acquires an exclusive lock, then it can perform ..... operation.

- A. read
- B. write
- C. read and write
- D. update

9) ..... is a specific concurrency problem wherein two transactions depend on each other for something.

- A. phantom read problem
- B. transaction read a problem
- C. deadlock
- D. locking

10) If a database server is referenced in a distributed transaction, the value of its commit point strength determines which role it plays in the .....

- A. two-phase commit
- B. two-phase locking
- C. transaction locking
- D. checkpoints

11) Transaction ..... ensures that the transaction is being executed successfully.

- A. concurrency
- B. consistency
- C. serializability
- D. non serializability

12) The situation in which a transaction holds a data item and waits for the release of data item held by some other transaction, which in turn waits for another transaction, is called .....

- A. serializable schedule
- B. process waiting
- C. concurrency
- D. deadlock

- 13) ..... protocol grants that a set of transactions becomes serializable.
- A. two-phase locking
  - B. two-phase commit
  - C. transaction locking
  - D. checkpoints
- 14) The global coordinator forgets about the transaction phase is called .....
- A. Prepare phase
  - B. Commit phase
  - C. Forget phase
  - D. Global phase
- 15) In two-phase commit, ..... coordinates the synchronization of the commit or rollback operations.
- A. database manager
  - B. central coordinator
  - C. participants
  - D. concurrency control manager
- 16) In two-phase locking protocol, a transaction obtains locks in .....phase.
- A. shrinking phase
  - B. growing phase
  - C. running phase
  - D. initial phase
- 17) A transaction processing system is also called as .....
- A. processing monitor
  - B. transaction monitor
  - C. TP monitor
  - D. monitor
- 18) After the nodes are prepared, the distributed transaction is said to be .....
- A. in-doubt
  - B. in-prepared
  - C. prepared transaction
  - D. in-node
- 19) In ....., we have many mini transactions within the main transaction.
- A. transaction control
  - B. chained transaction
  - C. nested transaction
  - D. calling transaction

- 20) In a two-phase locking protocol, a transaction release locks in ..... phase.
- A. shrinking phase
  - B. growing phase
  - C. running phase
  - D. initial phase

### ANSWERS:

- 1) D. phantom read problem
  - 2) C. confirming an action or triggering a response
  - 3) A. locking
  - 4) A. read
  - 5) D. read
  - 6) C. global coordinator
  - 7) B. update
  - 8) C. read and write
  - 9) C. deadlock
  - 10) A. two-phase commit
  - 11) C. serializability
  - 12) D. deadlock
  - 13) A. two-phase locking
  - 14) C. Forget phase
  - 15) B. central coordinator
  - 16) B. growing phase
  - 17) C. TP monitor
  - 18) A. in-doubt
  - 19) B. chained transaction
  - 20) A. shrinking phase
- 
- 

### Database backup and recovery

- 1) Which of the following is not a recovery technique?
  - A. Deferred update
  - B. Immediate update
  - C. Two-phase commit
  - D. Recovery management
- 2) Checkpoints are a part of
  - A. Recovery measures
  - B. Security measures
  - C. Concurrency measures
  - D. Authorization measures
- 3) ..... deals with soft errors, such as power failures.
  - A. system recovery
  - B. media recovery

- C. database recovery
- D. failure recovery

4) ..... is an essential part of any backup system.

- A. Filter
- B. Recovery
- C. Security
- D. Scalability

5) Media recovery deals with .....

- A. disk errors
- B. hard errors
- C. system errors
- D. power failures

6) For a backup/restore system, ..... is a prerequisite for service in a enterprise.

- A. Filter
- B. Recovery
- C. Security
- D. Scalability

7) Failure recovery and media recovery fall under .....

- A. transaction recovery
- B. database recovery
- C. system recovery
- D. value recovery

8) The ..... consists of the various applications and database that play a role in a backup and recovery strategy.

- A. Recovery Manager environment
- B. Recovery Manager suit
- C. Recovery Manager file
- D. Recovery Manager database

9) In which the database can be restored up to the last consistent state after the system failure?

- A. Backup
- B. Recovery
- C. Both
- D. None

10) A ..... is a block of Recovery Manager(RMAN)job commands that is stored in the recovery catalogue.

- A. recovery procedure

- B. recovery block
- C. stored block
- D. stored script

11) In log based recovery, the log is sequence of .....

- A. filter
- B. records
- C. blocks
- D. numbers

12) The enrolling of a database in a recovery catalogue is called .....

- A. set up
- B. registration
- C. start up
- D. enrollment

13) ..... is an alternative of log based recovery.

- A. Disk recovery
- B. Shadow paging
- C. Dish shadowing
- D. Crash recovery

14) Most backup and recovery commands in ..... are executed by server sessions.

- A. Backup Manager
- B. Recovery Manager
- C. Backup and Recovery Manager
- D. Database Manager

15) ..... systems typically allows to replace failed disks without stopping access to the system.

- A. RAM
- B. RMAN
- C. RAD
- D. RAID

16) An ..... is an exact copy of a single data-file, archived redo log file, or control file.

- A. image copy
- B. data file copy
- C. copy log
- D. control copy

17) ..... known as memory-style error correcting-code(ECC) organization, employs parity bits.

- A. RAID level 1
- B. RAID level 2

- C. RAID level 3
- D. RAID level 4

18) The remote backup site is sometimes called the ..... site.

- A. primary
- B. secondary
- C. ternary
- D. None of the above

19) EXP command is used .....

- A. to take Backup of the Oracle Database
- B. to import data from the exported dump file
- C. to create Rollback segments
- D. to create Schedule.

20) The simplest approach to introducing redundancy is to duplicate every disk is called .....

- A. mirroring
- B. imaging
- C. copying
- D. All of the above

## **ANSWERS:**

- 1) C. Two-phase commit
- 2) A. Recovery measures
- 3) D. failure recovery
- 4) C. Security
- 5) A. disk errors
- 6) D. Scalability
- 7) C. system recovery
- 8) A. Recovery Manager environment
- 9) B. Recovery
- 10) D. stored script
- 11) B. records
- 12) B. registration
- 13) B. Shadow paging
- 14) B. Recovery Manager
- 15) D. RAID
- 16) A. image copy
- 17) B. RAID level 2
- 18) B. secondary
- 19) A. to take Backup of the Oracle Database
- 20) A. mirroring

For code on matrix refer link :- <https://www.geeksforgeeks.org/matrix/>

For dbms learning material ref :- <https://www.geeksforgeeks.org/dbms/>

Program in python ref:- <https://www.geeksforgeeks.org/python-add-leading-k-character/>

<https://www.geeksforgeeks.org/tag/python-string-programs/>

<https://www.multisoftsystems.com/assessments/python-practice-test>

[https://play.google.com/store/apps/details?id=ab.design.infyqt\\_placement](https://play.google.com/store/apps/details?id=ab.design.infyqt_placement)

<https://codeofgeeks.com/category/infyqt-last-year-problems/>