***GATE-2010***  
1. A relational schema for a train reservation database is given below.  
Passenger (pid, pname, age)  
Reservation (pid, class, tid)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Table: Passenger**   |  |  |  | | --- | --- | --- | | pid | pname | age | | 0 | Sachin | 65 | | 1 | Rahul | 66 | | 2 | Sourav | 67 | | 3 | Anil | 69 | | **Table : Reservation**   |  |  |  | | --- | --- | --- | | pid | class | tid | | 0 | AC | 8200 | | 1 | AC | 8201 | | 2 | SC | 8201 | | 5 | AC | 8203 | | 1 | SC | 8204 | | 3 | AC | 8202 | |

What pids are returned by the following SQL query for the above instance of the tables?

SELECT pid

FROM Reservation

WHERE class ‘AC’ AND

EXISTS (SELECT \*

FROM Passenger

WHERE age > 65 AND

Passenger. pid = Reservation.pid)

(a) 1, 0    (b) 1, 2    (c) 1, 3    (d) 1, 5  
  
Ans: option (c)  
Explanation:

The above query is an example of synchronized subquery or correlated subquery. A correlated sub-query is a sub-query that uses values from the outer query. The sub-query is evaluated once for each row processed by the outer query. 

In the above query the outer query is

SELECT pid FROM Reservation WHERE class ‘AC’ AND EXISTS   
And the subquery is,  
SELECT \* FROM Passenger WHERE age > 65 AND Passenger. pid = Reservation.pid  
The correlated subquery is evaluated once for each row processed by the outer query. The outer query selects rows with pids: 0, 1, 5, 3, from Reservation table. Out of these, the subquery conditions are met only for 1 and 3.

***GATE-2009***

Common Data for Questions 2 and 3

2.  Consider the following relational schema:

Suppliers(sid:integer, sname:string, city:string, street:string)

Parts(pid:integer, pname:string, color:string)

Catalog(sid:integer, pid:integer, cost:real)

Consider the following relational query on the above database:

SELECT S.sname

FROM Suppliers S

WHERE S.sid NOT IN (SELECT C.sid FROM Catalog C

WHERE C.pid NOT IN (SELECT P.pid FROM Parts P WHERE P.color<> 'blue'))

Assume that relations corresponding to the above schema are not empty. Which one of the following is the correct interpretation of the above query?  
(a) Find the names of all suppliers who have supplied a non-blue part.

(b) Find the names of all suppliers who have not supplied a non-blue part.

(c) Find the names of all suppliers who have supplied only blue parts.

(d) Find the names of all suppliers who have not supplied only blue parts.

Ans: option (a)

Explanation:  
“SELECT P.pid FROM Parts P WHERE P.color<> ‘blue’” gives pid of parts, which are not blue. Note: "<>" indicates "not equal to".  
“SELECT C.sid FROM Catalog C WHERE C.pid NOT IN (SELECT P.pid FROM Parts P WHERE P.color<> ‘blue’)” gives sid of all suppliers who have supplied blue parts.  
The whole query finally retrieves the name (sname) of suppliers, who have supplied a non-blue part.

3. Assume that, in the suppliers relation above, each supplier and each street within a city has a unique name, and (sname, city) forms a candidate key. No other functional dependencies are implied other than those implied by primary and candidate keys. Which one of the following is TRUE about the above schema?  
(a) The schema is in BCNF  
(b) The schema is in 3NF but not in BCNF  
(c) The schema is in 2NF but not in 3NF  
(d) The schema is not in 2NF  
  
Ans: option (a)

***GATE-2004***  
4. The employee information in a company is stored in the relation   
Employee (name, sex, salary, deptName)   
 Consider the following SQL query

Select deptName

From Employee

Where sex = ‘M’

Group by deptName

Having avg(salary) >

(select avg (salary) from Employee)

 It returns the names of the department in which   
(a) the average salary is more than the average salary in the company   
(b) the average salary of male employees is more than the average salary of all male employees in the company   
(c) the average salary of male employees is more than the average salary of   
employees in the same department.   
(d) the average salary of male employees is more than the average salary in the company  
  
Ans: option (d)

***GATE-2005***  
5. The relation book (title, price) contains the titles and prices of different books. Assuming that no two books have the same price, what does the following SQL query list?

  Select title

  From book as B

  Where (Select count(\*)

     from book as T

     Where T.price > B.price) < 5

(a) Titles of the four most expensive books (b) Title of the fifth most inexpensive book  
(c) Title of the fifth most expensive book  
(d) Titles of the five most expensive books  
  
Ans: option (d)  
Explanation:  
The outer query selects all titles from "book" table. For each title the inner query will be evaluated.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Table : T** | | | Title | Price | | ABC | 65 | | DEF | 75 | | GHI | 85 | | JKL | 95 | | MNO | 105 | | PQR | 115 | | STU | 125 | | |  |  | | --- | --- | | **Table : B** | | | Title | Price | | ABC | 65 | | DEF | 75 | | GHI | 85 | | JKL | 95 | | MNO | 105 | | PQR | 115 | | STU | 125 | |

For every selected book, the subquery will return the count of books which are more expensive than the selected book. T.price > B.price is evaluated for every B.price.   
  
For the 1st book (B.price = 65) the inner query gives count 6 (75,85,95,105,115,125).   
For the 2nd book (B.price = 75) the inner query gives count 5 (85,95,105,115,125).   
For the 3rd book (B.price = 85) the inner query gives count 4 (95,105,115,125).   
For the 4th book (B.price = 95) the inner query gives count 3 (105,115,125).   
For the 5th book (B.price = 105) the inner query gives count 2 (115,125).   
For the 6th book (B.price = 115) the inner query gives count 1 (125).   
For the 7th book (B.price = 125) the inner query gives count 0.   
  
Hence the entire query will list out the title of a book when the count is less than 5. Hence as shown above from 3rd book onwards the titles will be listed. GHI, JKL, MNO, PQR, STU will be listed.

***GATE - 2006***

6. Consider the relation enrolled (student, course) in which (student, course) is the primary key, and the relation paid (student, amount) where student is the primary key. Assume no null values and no foreign keys or integrity constraints. Given the following four queries:  
Query1: select student from enrolled where student in (select student from paid)  
Query2: select student from paid where student in (select student from enrolled)  
Query3: select E.student from enrolled E, paid P where E.student = P.student  
Query4: select student from paid where exists

                     (select \* from enrolled where enrolled.student = paid.student)

|  |
| --- |
|  |

Which one of the following statements is correct?

|  |
| --- |
|  |

(a) All queries return identical row sets for any database

|  |
| --- |
|  |

(b) Query2 and Query4 return identical row sets for all databases but there exist databases for which Query1 and Query2 return different row sets.

|  |
| --- |
|  |

(c) There exist databases for which Query3 returns strictly fewer rows than Query2.

|  |
| --- |
|  |

(d) There exist databases for which Query4 will encounter an integrity violation at runtime.

|  |
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Ans: option (b)

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Explanation: Query1 and Query3 will produce duplicate rows if same student has applied for another course also.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Table : Enrolled** | | | Student | Course | | Minu | Mtech | | Tinu | Bsc | | Vinu | Btech | | Vinu | Mtech | | |  |  | | --- | --- | | **Table : Paid** | | | Student | Amount | | Minu | 2000 | | Vinu | 4000 | |

The output of each query for the above tables are shown below.

Query1 & Query3:



|  |  |  |  |
| --- | --- | --- | --- |
|  | | | [**student**](http://localhost/phpmyadmin/sql.php?db=dbms&table=enrolled&sql_query=select+E.student+from+enrolled+E%2C+paid+P+where+E.student+%3D+P.student+ORDER+BY+%60E%60.%60student%60+ASC&token=a083b753e8b835f07be01614d62a7173) |
|  |  |  | Minu |
|  |  |  | Vinu |
|  |  |  | Vinu |

Query2 & Query4:

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | [**student**](http://localhost/phpmyadmin/sql.php?db=dbms&table=enrolled&sql_query=select+E.student+from+enrolled+E%2C+paid+P+where+E.student+%3D+P.student+ORDER+BY+%60E%60.%60student%60+ASC&token=a083b753e8b835f07be01614d62a7173) |
|  |  |  | Minu |
|  |  |  | Vinu |
|  |  |  |  |

***GATE-2006***

7. Consider the relation account (customer, balance) where customer is a primary  key and there are no null values. We would like to rank customers according to  decreasing balance. The customer with the largest balance gets rank 1. Ties are  not broke but ranks are skipped: if exactly two customers have the largest  balance they each get rank 1 and rank 2 is not assigned.

Query1:

select A.customer, count(B.customer)

from account A, account B

where A.balance <=B.balance

group by A.customer

Query2:

select A.customer, 1+count(B.customer)

from account A, account B

where A.balance < B.balance

group by A.customer

Consider these statements about Query1 and Query2.

1. Query1 will produce the same row set as Query2 for some but not all databases.

2. Both Query1 and Query2 are correct implementation of the specification

3. Query1 is a correct implementation of the specification but Query2 is not

4. Neither Query1 nor Query2 is a correct implementation of the specification

5. Assigning rank with a pure relational query takes less time than scanning in decreasing balance order assigning ranks using ODBC.

Which two of the above statements are correct?

(a) 2 and 5   
(b) 1 and 3   
(c) 1 and 4   
(d) 3 and 5  
  
Ans: option (c)

Explanation:

Both queries will produce the same result set only when there are no duplicate balances in the table. So statement 1 is correct.

Query1 & Query2 is not the correct implementation because: Assume that we have a table with n customers having same balance.In that case Query1 will give rank "n" to each customer. But according to the question the rank assigned should be "1". And Query2 will return an empty result set.

***GATE-2011***

8. Database table by name Loan\_Records is given below.

---------------------------------------  
Borrower    Bank\_Manager   Loan\_Amount  
---------------------------------------  
Ramesh      Sunderajan     10000.00  
Suresh      Ramgopal       5000.00  
Mahesh      Sunderajan     7000.00  
---------------------------------------

What is the output of the following SQL query?

SELECT Count(\*)

FROM ( (SELECT Borrower, Bank\_Manager

FROM Loan\_Records) AS S

NATURAL JOIN (SELECT Bank\_Manager,

Loan\_Amount

FROM Loan\_Records) AS T );

(a) 3           (b) 9    (c) 5          (d) 6  
  
Ans: option (c)

Explanation:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | Table: S | | | Borrower | Bank\_Manager | | Ramesh | Sunderajan | | Suresh | Ramgopal | | Mahesh | Suderajan | | |  |  | | --- | --- | | Table: T | | | Bank\_Manager | Loan\_Amount | | Sunderajan | 10000.00 | | Ramgopal | 5000.00 | | Suderajan | 7000.00 | |

|  |  |  |
| --- | --- | --- |
| Table: S Natural Join T | | |
| Borrower | Bank\_Manager | Loan\_Amount |
| Ramesh | Sunderajan | 10000.00 |
| Ramesh | Sunderajan | 7000.00 |
| Suresh | Ramgopal | 5000.00 |
| Mahesh | Sunderajan | 10000.00 |
| Mahesh | Sunderajan | 7000.00 |

***GATE-2011***

9. Consider a database table T containing two columns  X and Y each of type integer. After the creation of the table, one record (X=1, Y=1) is inserted in the table.

Let MX and MY denote the respective maximum values of X and Y among all records in the table at any point in time. Using MX and MY, new records are inserted in the table 128 times with X and Y values being MX+1, 2\*MY+1 respectively. It may be noted that each time after the insertion, values of MX and MY change. What will be the output of the following SQL query after the steps mentioned above are carried out?

SELECT Y FROM T WHERE X=7;

(a) 127    (b) 255    (c) 129    (d) 257  
  
Ans: option (a)  
Explanation:  
First record is X=1 and Y=1.   
As per the given condition, the next record will be:  
X = MX + 1   = 1 + 1 = 2  
Y = 2\*MY +1 = 2 + 1 = 3  
third record will be  
X = MX + 1   = 2 + 1 = 3  
Y = 2\*MY +1 = 6 + 1 = 7

fourth record will be  
X = MX + 1   = 3 + 1 = 4  
Y = 2\*MY +1 = 14 + 1 = 15  
fifth record will be  
X = MX + 1   = 4 + 1 = 5  
Y = 2\*MY +1 = 30 + 1 = 31

sixth record will be  
X = MX + 1   = 5 + 1 = 6  
Y = 2\*MY +1 = 62 + 1 = 63  
seventh record will be  
X = MX + 1   = 4 + 1 = 3  
Y = 2\*MY +1 = 126 + 1 = 127

***GATE-2007***

10. Consider the table employee(empId, name, department, salary) and the two queries Q1, Q2 below. Assuming that department 5 has more than one employee, and we want to find the employees who get higher salary than anyone in the department 5, which one of the statements is TRUE for any arbitrary employee table?

Q1 : Select e.empId

     From employee e

     Where not exists

        (Select \* From employee s where s.department = “5” and

                                        s.salary >=e.salary)

Q2 : Select e.empId

     From employee e

     Where e.salary > Any

    (Select distinct salary From employee s Where s.department = “5”)

(a) Q1 is the correct query

(b) Q2 is the correct query

(c) Both Q1 and Q2 produce the same answer.

(d) Neither Q1 nor Q2 is the correct query.

Ans: option (d)

Explanation:  
Assume that we have the following records in the employee table:  
----------------------------------  
 empId   name   department salary

----------------------------------

   1     A      2          800

   2     B      5          100

   3     C      5          300

   4     D      5          700

   4     E      6          500

----------------------------------   
On executing Q1 we will get empId 1 (But note that the department of empId 1 is 2)  
On executing Q2 we will get empid 1, 3, 4, 5

***GATE-2000***

11. In SQL, relations can contain null values, and comparisons with null values are treated as unknown. Suppose all comparisons with a null value are treated as false. Which of the  
following pairs is not equivalent?  
(a) x = 5, not (not (x = 5)  
(b) x = 5, x > 4 and x < 6, where x is an integer  
(c) x < 5, not(x = 5)  
(d) None of the above  
  
Ans: option (c)

***GATE-2000***

12. Given relations r(w, x) and s(y, z), the result of

select distinct w, x

from r, s

is guaranteed to be same as r, provided

(a) r has no duplicates and s is non-empty

(b) r and s have no duplicates

(c) s has no duplicates and r is non-empty

(d) r and s have the same number of tuples

Ans: option (a)

Explanation:

Its given in the question that the result-set of the query should be same as that of the relational table "r". Since it should be same as that of "r", it should not have any duplicates and we know that the Cartesian product of two sets will be empty if any of the two sets is empty, hence s should be non-empty.

***GATE – 2015***

13. Consider the following relations:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | Student | | | Roll\_No | Student\_Name | | 1 | Raj | | 2 | Rohit | | 3 | Raj | | |  |  |  | | --- | --- | --- | | Performance | | | | Roll\_No | Course | Marks | | 1 | Math | 80 | | 1 | English | 70 | | 2 | Math | 75 | | 3 | English | 80 | | 2 | Physics | 65 | | 3 | Math | 80 | |

Consider the following SQL query.

SELECT S. Student\_Name, sum (P.Marks)

FROM Student S, Performance P

WHERE S. Roll\_No =P.Roll\_No

GROUP BY S.Student\_Name

The number of rows that will be returned by the SQL query is \_\_\_\_\_\_\_\_\_.

Ans: 2

Explanation:

There are  2 student names. The query returns sum (P.Marks) for each student. Hence the output is :

|  |  |
| --- | --- |
| Raj | 310 |
| Rohit | 140 |

Thus 2 rows are returned.

***GATE - 2015***

14. Consider the following relation

Cinema (theater, address, capacity)

Which of the following options will be needed at the end of the SQL query

SELECT P1.address FROM Cinema P1

such that it always finds the addresses of theaters of theaters with maximum capacity?

(a) WHERE P1.capacity > = All (select P2. capacity from Cinema P2)

(b) WHERE P1.capacity > = Any (select P2. capacity from Cinema P2)

(c) WHERE P1.capacity > All (select max (P2. capacity) from Cinema P2)

(d) WHERE P1.capacity >Any (select max (P2. capacity) from Cinema P2)

Ans: option (a)

Explanation:

When the ALL condition is followed by a list, the optimizer expands the initial condition to all elements of the list and strings them together with AND operators.

When the ANY condition is followed by a list, the optimizer expands the initial condition to all elements of the list and strings them together with OR operators.

Reference: <http://oracle-base.com/articles/misc/all-any-some-comparison-conditions-in-sql.php>

Thus in the question above,

Option (b)returns address of all theatres except the one with minimum capacity

Option (c) returns 0 rows, since a theatre with a capacity greater than maximum capacity will not exist.

Option (d) also returns null for the same reason as above.

Option (a) is the right answer, query will return addresses of theaters with maximum capacity.

***GATE - 2015***

15. Select operation in SQL is equivalent to  
(a) the selection operation in relational algebra  
(b) the selection operation in relational algebra, except that select in SQL retains duplicates  
(c) the projection operation in relational algebra  
(d) the projection operation in relational algebra, except that select in SQL retains duplicates  
  
Ans: option (d)  
Explanation:  
Select operation in SQL returns a set of records containing duplicates. To eliminate duplicates, DISTINCT keyword is specified.  
Project operation in relational algebra,returns result set without repetition.  
To know more on relational algebra, refer <http://www.tutorialspoint.com/dbms/relational_algebra.htm>

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|  |  |
| --- | --- |
| 31. | Match the following : a.Foreign keys i.Domain constraint b.Private key ii.Referential integrity c.Event control action model iii.Encryption d.Data security iv. Trigger |
| A. | a b c d iii ii i iv |
| B. | a b c d ii i iv iii |
| C. | a b c d iii iv i ii |
| D. | a b c d i ii iii iv |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is b** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 32. | SQL command to delete a column from an existing table: |
| A. | Alter table |
| B. | Drop table |
| C. | Delete table |
| D. | Delete column |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is a** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 33. | With QBE, inserting records from one or more source tables into a single target table can be achieved by: |
| A. | Append action query |
| B. | Update action query |
| C. | Insert action query |
| D. | Make table action query |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is a** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 34. | Tuple in relational algebra refers to: |
| A. | Row |
| B. | Column |
| C. | Table |
| D. | Relation |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is a** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 35. | An attribute or set of attributes within one relation that matches the candidate key of some(possibly the same) relation: |
| A. | Super Key |
| B. | Candidate key |
| C. | Primary key |
| D. | Foreign key |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is d** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 36. | A subset of data in a data warehouse in the form of summary data, related to a particular department or business function: |
| A. | Meta Data |
| B. | Archive data |
| C. | Data Marts |
| D. | Operational Data Store |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is c** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 37. | The normalization of 1NF relations to 2NF involves: |
| A. | Removal of partial dependencies |
| B. | Removal of full dependencies |
| C. | Removal of transitive dependencies |
| D. | Removal of multi-valued dependencies |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is a** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 38. | Why do we go for Normalization of Data Bases? |
| A. | To avoid the repetitions |
| B. | To prevent fragmentation |
| C. | Avoid redundancy |
| D. | To prevent replication |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is c** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 39. | if a relation is in BCNF then it is in: |
| A. | 2 NF |
| B. | 3 NF |
| C. | 1 NF |
| D. | 1 NF and 2 NF |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is c** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) |  |
| 40. | A file is: |
| A. | an abstract data type |
| B. | logical storage unit |
| C. | usually non volatile |
| D. | volatile |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=4#!) | **Correct Answer is c** |
| 11. | **The User Work Area (UWA) is a set of Program variables declared in the host program to communicate the contents of individual records between** |
| A. | **DBMS & the Host record** |
| B. | **Host program and Host record** |
| C. | **Host program and DBMS** |
| D. | **Host program and Host language** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is C** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 12. | **If a relation with a Schema R is decomposed into two relations R1 and R2 such that (R1 ∪ R2) = R1 then which one of the following is to be satisfied for a lossless joint decomposition (→ indicates functional dependency)** |
| A. | **(R1 ∩ R2) → R1 or R1 ∩ R2 → R2** |
| B. | **R1 ∩ R2 → R1** |
| C. | **R1 ∩ R2 → R2** |
| D. | **R1 ∩ R2 → R1 and R1 ∩ R2 → R2** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is A** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 13. | **Which level of Abstraction describes how data are stored in the data base ?** |
| A. | **Physical level** |
| B. | **View level** |
| C. | **Abstraction level** |
| D. | **Logical level** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is A** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 14. | **Third normal form is based on the concept of \_\_\_\_\_\_.** |
| A. | **Closure Dependency** |
| B. | **Transitive Dependency** |
| C. | **Normal Dependency** |
| D. | **Functional Dependency** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is B** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 15. | **Referential integrity is directly related to** |
| A. | **Relation key** |
| B. | **Foreign key** |
| C. | **Primary key** |
| D. | **Candidate key** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is B** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 16. | **In multiuser database if two users wish to update the same record at the same time, they are prevented from doing so by** |
| A. | **Jamming** |
| B. | **Password** |
| C. | **Documentation** |
| D. | **Record lock** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is D** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 17. | **B+ tree are preferred to binary tree in Database because** |
| A. | **Disk capacity are greater than memory capacities** |
| B. | **Disk access is much slower than memory access** |
| C. | **Disk data transfer rates are much less than memory data transfer rate** |
| D. | **Disks are more reliable than Memory** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is B** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 18. | **A Transaction Manager is which of the following ?** |
| A. | **Maintains a log of transactions** |
| B. | **Maintains before and after database images** |
| C. | **Maintains appropriate concurrency control** |
| D. | **All of the above** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is D** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 19. | **What is Granularity ?** |
| A. | **The size of database** |
| B. | **The size of data item** |
| C. | **The size of record** |
| D. | **The size of file** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is B** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) |  |
| 20. | **Which level of Abstraction describes what data are stored in the Database ?** |
| A. | **Physical level** |
| B. | **View level** |
| C. | **Abstraction level** |
| D. | **Logical level** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=2#!) | **Correct Answer is D** |
| 21. | **The problem that occurs when one transaction updates a database item and then the transaction fails for some reason is \_\_\_\_\_\_\_\_.** |
| A. | **Temporary Select Problem** |
| B. | **Temporary Modify Problem** |
| C. | **Dirty Read Problem** |
| D. | **None** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is C** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 22. | **Consider a schema R(A, B, C, D) and functional dependencies A → B and C → D. Then the decomposition R1(A, B) and R2(C, D) is** |
| A. | **Dependency preserving but not lossless join** |
| B. | **Dependency preserving and lossless join** |
| C. | **Lossless Join but not dependency preserving** |
| D. | **Lossless Join** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is A** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 23. | **If D1,D2, ....Dn are domains in a relational model, then the relation is a table, which is a subset of** |
| A. | **D1+D2+... +Dn** |
| B. | **D1ΧD2Χ ... ΧDn** |
| C. | **D1∪D2∪... ∪Dn** |
| D. | **D1−D2−...−Dn** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is B** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 24. | **Which of the following is not a type of Database Management System ?** |
| A. | **Hierarchical** |
| B. | **Network** |
| C. | **Relational** |
| D. | **Sequential** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is D** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 25. | **Manager&rsquos salary details are to be hidden from Employee Table. This Technique is called as** |
| A. | **Conceptual level Datahiding** |
| B. | **Physical level Datahiding** |
| C. | **External level Datahiding** |
| D. | **Logical level Datahiding** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is C** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 26. | **A Network Schema** |
| A. | **restricts to one to many relationship** |
| B. | **permits many to many relationship** |
| C. | **stores Data in a Database** |
| D. | **stores Data in a Relation** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is B** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 27. | **The relation “divides” on a set of positive integers is \_\_\_\_\_\_\_\_.** |
| A. | **Symmetric and transitive** |
| B. | **Anti symmetric and transitive** |
| C. | **Symmetric only** |
| D. | **Transitive only** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is B** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 28. | **The “PROJECT” operator of a relational algebra creates a new table that has always** |
| A. | **More columns than columns in original table** |
| B. | **More rows than original table** |
| C. | **Same number of rows as the original table** |
| D. | **Same number of columns as the original table** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 29. | **The employee information of an Organization is stored in the relation : Employee (name, sex, salary, deptname) Consider the following SQL query Select deptname from Employee Where sex = ‘M’ group by deptname having avg (salary) > {select avg (salary) from Employee} Output of the given query corresponds to** |
| A. | **Average salary of employee more than average salary of the organization.** |
| B. | **Average salary less than average salary of the organization.** |
| C. | **Average salary of employee equal to average salary of the organization** |
| D. | **Average salary of male employees in a department is more than average salary of the organization** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is D** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) |  |
| 30. | **For a database relation R(a, b, c, d) where the domains of a, b, c, d include only the atomic values. The functional dependency a → c, b → d holds in the following relation** |
| A. | **In 1NF not in 2NF** |
| B. | **In 2NF not in 3NF** |
| C. | **In 3NF** |
| D. | **In 1NF** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=3#!) | **Correct Answer is B** |
| 61. | **The Index consists of :** |
| A. | **A list of keys** |
| B. | **Pointers to the master list** |
| C. | **Both (a) & (b)** |
| D. | **None of above** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is d** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 62. | **Report generators are used to** |
| A. | **Store data input by a user** |
| B. | **retrieve information from files** |
| C. | **Answer queries** |
| D. | **Both (b) & (c)** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is c** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 63. | **In a relational schema, each tuple is divided into fields called :** |
| A. | **Relations** |
| B. | **Domains** |
| C. | **Queries** |
| D. | **None of above** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is d** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 64. | **The set of permitted values for each attribute is called its :** |
| A. | **Attribute set** |
| B. | **Attribute range** |
| C. | **Domain** |
| D. | **Group** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is b** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 65. | **A DBMS consists of application programs called :** |
| A. | **FORTRAN** |
| B. | **AUTOFLOW** |
| C. | **BPL** |
| D. | **TOTAL** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is c** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 66. | **A locked file can be :** |
| A. | **Accessed by only one user** |
| B. | **modified by user with correct password** |
| C. | **is used to hide sensitive information** |
| D. | **None** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is c** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 67. | **Transaction X holds a shared lock R. if transaction Y requests for a shared lock on R :** |
| A. | **result in deadlock situation** |
| B. | **Immediately Granted** |
| C. | **Immediately rejected** |
| D. | **Granted as is released by X** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is b** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 68. | **command used to select only one copy of each set of duplicable rows :** |
| A. | **Select Distant** |
| B. | **Select Unique** |
| C. | **Select Different** |
| D. | **None** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is a** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 69. | **Which of following is the characteristics of a relational database model?** |
| A. | **Tables** |
| B. | **Treelike Structure** |
| C. | **Complex logical relationship** |
| D. | **records** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is acd** |
| [Explanation](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) |  |
| 70. | **Which command is used to remove rows from a table?** |
| A. | **Delete** |
| B. | **Remove** |
| C. | **Truncate** |
| D. | **Both (a) & (b)** |
| [View/Hide Ans](http://www.brightways.org/ugc-net-gate-mcq-dbms.php?page=7#!) | **Correct Answer is d** |