

Question No: 1

What are two primary modes for taking locks (Marks 2)

Answer: (Page 319)

There are two primary modes for taking locks: optimistic and pessimistic.

Question No: 2

How minimum cardinality finding is important for relationship (Marks 2)

Answer: (Page 91)

It is very important to determine the minimum cardinality when designing a database because it defines the way a database system will be implemented.

Question No: 3

What are purpose of INPUT form (Marks 2)

Answer: (Page 246)

Input forms are especially useful when the person entering the data is not familiar with the inner workings of Microsoft Access and needs to have a guide in order to input data accurately into the appropriate fields.

Question No: 4

What are three concurrency problems (Marks 3)

Answer:- [Click here for detail](#)

The lost update problem.

The uncommitted dependency problem

The inconsistent analysis problem.

Question No: 5

Define composite key (Marks 3)

Answer:- [Click here for detail](#)

A primary key can consist of one or more columns of a table. When two or more columns are used as a primary key, they are called a composite key.

Question No:5

What is purpose behind HAVING clause (Marks 3)

Answer:- (Page 223)

The HAVING clause is used in combination with the GROUP BY clause. It can be used in a SELECT statement to filter the records that a GROUP BY returns. At times we want to limit the output based on the corresponding sum (or any other aggregate functions).

Question No: 6

Write down five features of VIEWS (Marks 5)

Answer: (Page 281)

1. A database view displays one or more database records on the same page.
2. A view can display some or all of the database fields.
3. Views have filters to determine which records they show.
4. Views can be sorted to control the record order and grouped to display records in related sets.
5. Views have other options such as totals and subtotals.

Question No: 7

What is purpose of VIEWS in DBMS (Marks 5)

Answer:- (Page 280,281)

Views are generally used to focus, simplify, and customize the perception each user has of the database. Views can be used as security mechanisms by allowing users to access data through the view, without granting the users permissions to directly access the underlying base tables of the view.

Most users interact with the database using the database views. A key to creating a useful database is a well-chosen set of views. Luckily, while views are powerful, they are also easy to create.

Question No: 8

Write down syntax for IN clause --5 marks

Answer:- [Click here for detail](#)

```
SELECT column_name(s)
FROM table_name
WHERE column_name IN (value1,value2,...)
```

Question No: 9

Differentiate Total and Partial completeness

(Marks 5)

Answer:- (Page 103)

Total Completeness:

Total Completeness constraint exist only if we have a super type and some subtypes associated with that supertype, and the following situation exists between the super type and subtype.

All the instances of the supertype entity must be present in at one of the subtype entities, i.e.—there should be not instance of the supertype entity which does not belong to any of the subtype entity.

Partial Completeness Constraint:

This type of completeness constraint exists when it is not necessary for any supertype entity to have its entire instance set to be associated with any of the subtype entity.

This type of situation exists when we do not identify all subtype entities associated with a supertype entity, or ignore any subtype entity due to less importance of least usage in a specific scenario.

Question No: 1

What is a transaction? What are ACID properties?

Answer: (Page 291)

A transaction can be defined as an indivisible unit of work comprised of several operations, all or none of which must be performed in order to preserve data integrity.

ACID properties:

Atomicity

Consistency:

Isolation:

Durability:

Question No: 2

What happened when lack of durability in transaction?

Answer:- [Click here for detail](#)

In case of lack of durability, if the transaction programs fails, or the operating system fails, once the transaction has committed, all updates will be loss.

Question No: 3

What is alternate key?

Answer:- (Page 83)

Candidate keys which are not chosen as the primary key are known as alternate keys.

Question No: 4

What are five features of Views?

Answer:- rep

Question No:5

Difference between Delete and truncate commands?

Answer:- [Click here for detail](#)

The DELETE command is used to remove rows from a table while TRUNCATE removes all rows from a table. After DELETE you need to COMMIT or ROLLBACK the transaction to make the change permanent or to undo it while In TRUNCATE The operation cannot be rolled back. IN DELETE triggers will be fired while in TRUNCATE no triggers will be fired. TRUCATE is faster and doesn't use as much undo space as a DELETE

Question No: 6

What is the purpose of DML commands?

Answer:- (Page 200)

Data Manipulation is retrieval, insertion, deletion and modification of information from the database. A DML is a language, which enables users to access and manipulate data. The goal is to provide efficient human interaction with the system.

Question No: 7

What is serial execution?

Answer:- (Page 312)

Serial execution is an execution where transactions are executed in a sequential order, that is, one after another.

Question No: 8

What are the features of indexed serial execution?

Question No: 9

What is Unary and Ternary relationship?

Answer:- (Page 87 & 88)

Unary Relationship An ENTITY TYPE linked with itself, also called recursive relationship.
Ternary Relationship A Ternary relationship is the one that involves three entities

Question No: 1

What is the difference between Commit and rollback? (Marks 2)

Answer:- rep

Question No: 2

What is the problem which occur in normalization of 1 form of normalization (Marks 2)

Answer:- (Page 167)

There is no multi valued (repeating group) in the relation multiple values create problems in performing operations like select or join

Question No: 3

Why will you prefer direct access over sequential access? (Marks 2)

Answer:- (Page 261)

Sequential files provide access only in a particular sequence. That does not suit many applications since it involves too much time. Some mechanism for direct access is required

Question No: 4

What type of information is stored in data dictionary? (Marks 3)

Answer:- (Page 64)

Data dictionaries store all the various schema and file specifications and their locations. They also contain information about which programs use which data and which users are interested in which reports.

Question No: 5

What problem occurs when data concurrency is not controlled? (Marks 3)

Answer:- rep

Question No: 6

What is the purpose of file protection? (Marks 3)

Answer:- (Page 261)

When multiple users have access to files, it may be desirable to control by whom and in what ways files may be accessed. This control is known as file protection.

Question No: 7

What are database objects? (Marks 5)

Answer:- [Click here for detail](#)

An object database (also object-oriented database management system) is a database management system in which information is represented in the form of objects as used in object-oriented programming. Object databases are different from relational databases and belong together to the broader database management system.

Question No: 8

Write sql statement for display list of persons in table PERSON and show only that records whose first name is Ahmed and who's Last name is Ali (Marks 5)

Answer:-

```
CREATE TABLE Persons1  
(  
  FirstName varchar(15),  
  LastName varchar(15),
```

```
Address varchar(15),  
City varchar(15)  
)
```

```
INSERT INTO Persons1  
VALUES ('aslam','kashif','civil line','Karachi')
```

```
INSERT INTO Persons1  
VALUES ('shahid','ali','Defence','Lahore')
```

```
INSERT INTO Persons1  
VALUES ('kamran','shaheen','Shadman','Faisalabad')
```

```
INSERT INTO Persons1  
VALUES ('Ahmad','Ali','Muslim Town','Multan')
```

```
INSERT INTO Persons1  
VALUES ('shamas','khan','shah street','Koita')
```

```
SELECT *  
FROM Persons1  
WHERE FirstName='Ahmad' AND LastName='Ali'
```

Question No: 9

What is unary and ternary Relationship?

(Marks 5)

Answer:- rep

h?

h?

Question No: 1

Application programmer as user of database systems, (Marks 5)

Answer:- (Page 24)

Application programmers design the application according to the needs of the other users of the database in a certain environment. Application programmers are skilled people who have clear idea of the structure of the database and know clearly about the needs of the organizations.

Question No:2

Differentiate between rollback and rollforward. (Marks 5)

Answer:- [Click here for detail](#)

Rollback :- Undoing the changes made by a transaction before it commits or to cancel any changes to a database made during the current transaction

RollForward :- Re-doing the changes made by a transaction after it commits or to overwrite the changed value again to ensure consistency

Question No: 3

why will you prefer delete command on drop command while deleting a table (Marks 5)

Answer:- <http://stackoverflow.com/questions/1143915/what-is-the-difference-between-drop-table-and-delete-table-in-sql-server>

Drop table. it will delete complete table from th Database.it can not retrieved back.

Delete is used to deleting data from the table... Data can be retrieved using Rollback.

Question No: 4

how many number of clusters are used in database and reason of limit

Question No: 5

purpose of having clause

Answer:- rep

Question No: 6

purpose of protection

Answer:- rep

Question No: 7

explain data independency

Answer:- (Page 16)

Data and programs are independent of each other, so change is once has no or minimum effect on other. Data and its structure is stored in the database where as application programs manipulating this data are stored separately, the change in one does not unnecessarily effect other.

Question No: 8

two types of interface

Answer:- (Page 240)

Following are the two types of user interfaces:

- Text based
- Graphical User Interface (GUI) most commonly called as Forms

Question No: 9

Write DML statement that changes the values of one or more than one attribute based on some condition.

Answer:- (Page 208)

The UPDATE statement changes the values of one or more columns based on some condition.

Question No: 10

Describe insertion anomaly

Answer:- [Click here for detail](#)

insertion anomaly indicates that we cannot insert a fact about one entity until we have an additional fact about another entity. Suppose we want to store the information that the cost of car is Rs. 14,00,000, but we cannot

enter this data into the relation until the data about the car is entered into the relation.

Question No: 11

COMMIT and ROLLBACK

Answer:- rep

Question No: 1

What is the purpose of IN Functions?

Answer:- (Page 218)

The IN function helps reduce the need to use multiple OR conditions. It is used to check in a list of values.

Question No: 2

In which situation join is used?

Answer:- [Click here for detail](#)

The JOIN keyword is used in an SQL statement to query data from two or more tables, based on a relationship between certain columns in these tables.

Tables in a database are often related to each other with keys.

Question No: 3

What is serial execution?

Answer: - rep

Question No: 4

Write three advantages of views?

Answer: - rep

Question No: 5

What are locking protocols, explain?

Answer:- (Page 297)

A locking protocol is a set of rules to be followed by each transaction (and enforced by the DBMS), in order to ensure that even though actions of several transactions might be interleaved, the net effect is identical to executing all transactions in some serial order.

Question No: 6

What is rehashing?

Answer:- (Page 267)

Re-hashing schemes use a second hashing operation when there is a collision. If there is a further collision, we re-hash until an empty "slot" in the table is found. The re-hashing function can either be a new function or a re-application of the original one.

Question No: 7

In which situation self join is used?

Answer:- (Page 231)

In self join a table is joined with itself. This operation is used when a table contains the reference of itself through PK, that is, the PK and the FK are both contained in the same table supported by the referential integrity constraint.

Question No: 8

Why direct access is preferred over sequential access?

Answer:- rep

Question No: 9

Define the domain of attribute? (Marks 2)

Answer:- (Page 76)

Domain is the set of possible values that an attribute can have, that is, we specify a set of values either in the form of a range or some discrete values, and then attribute can have value out of those values.

Question No:1

Explain Secondary key and give it's an example.

Answer:- [Click here for detail](#)

An entity may have one or more choices for the primary key. Collectively these are known as candidate keys. One is selected as the primary key. Those not selected are known as secondary keys.

For example, an employee has an employee number, a National Insurance (NI) number and an email address. If the employee number is chosen as the primary key then the NI number and email address are secondary keys. However, it is important to note that if any employee does not have a NI number or email address (i.e.: the attribute is not mandatory) then it cannot be chosen as a primary key.

Question No: 2

Three Factors when designing an indexed sequential file.

Answer:- (Page 261)

The simplest indexing structure is the single-level one: a file whose records are pair's key-pointer, where the pointer is the position in the data file of the record with the given key.

Question No: 3

Procedure which truncates command removes the data.

Answer:- (Page 207)

The TRUNCATE is used to delete all the rows of any table but rows would exist. If we want to remove all records we must use TRUNCATE.

Question No:

What is the mean of “Operational maintenance” of database?

Answer:- (Page 56)

Maintenance means to check that all parts of the system are working and once the testing of the system is completed the periodic maintenance measure are performed on the system to keep the system in working order.

Question No:

Three problems which concurrency not controlled.

Answer:- rep

Question No:

Two primary modes of taking locks.

Answer:- rep

Question No:

What is the basics purpose of window control? Give an example.

Answer:- (Page 244)

Used to take input and display output like buttons, checkboxes etc.

Question No:

Why prefer direct access over sequential access of files.

Answer:- rep

Question No:

Name two types of completeness Constraint.

Answer:- (Page 103)

There are two types of completeness constraints, partial completeness constraints and total completeness constraints

Question No:

Basic Syntax of INDEX.

Answer:- [Click here for detail](#)

CREATE INDEX index_name

ON table_name (column_name)

h?

Question No:

Write any two similarities between materialized views and indexes

(Marks 2)

Answer:- rep

Question No:

Name two types of data dictionary

(Marks 2)

Answer:- (Page 65)

Types of Data Dictionaries:

Integrated

Free Standing

Question No:

What is the role of commit

(Marks 2)

Answer:- rep

Question No:

Write an sql statement to remove an index called Index Number

(Marks 2)

Answer:- [Click here for detail](#)

DROP INDEX Syntax for MS SQL Server:

DROP INDEX table_name. Index Number

Question No:

In context with transaction what does the ACID Stands for

(Marks 2)

Answer:- (Page 291)

Atomicity Consistency isolation durability.

Question No:

States the major disadvantage of creating and using index

(Marks 3)

Answer:- [Click here for detail](#)

Firstly, the indexes take up disk space.

Secondly, the indexes slow down the speed of writing queries, such as INSERT, UPDATE and DELETE.

Question No:

Write two factors which enforce a relation into second normal form

(Marks 3)

Answer:- (Page 166)

eliminate redundant data

ensure data dependencies make sense

Question No:

Write any five advantage of database system (Marks 5)

Answer:- [Click here for detail](#)

Reduced data redundancy

Reduced updating errors and increased consistency

Greater data integrity and independence from applications programs

Improved data access to users through use of host and query languages

Improved data security

Question No:

Describe To_Date() function (Marks 5)

Answer:- [Click here for detail](#)

The TO_DATE function converts a formatted TEXT or NTEXT expression to a DATETIME value. This function is typically used to convert the formatted date output of one application (which includes information such as month, day, and year in any order and any language, and separators such as slashes, dashes, or spaces) so that it can be used as input to another application.

Question No:

Explain database objects 5

Answer:- rep

Question No:

Q1- What is Logical data base?

Answer:- (Page 187)

In logical data base design we group things logically related through same primary key.

Question No:

Q2- How do we DELETE row by row from the table ?

Answer:- [Click here for detail](#)

It is possible to delete all rows in a table without deleting the table. This means that the table structure, attributes, and indexes will be intact:

`DELETE * FROM table_name`

Q3- Write down the Three types of view.

Answer:- rep

Q4- Write down the syntax of command CREATING INDEX.

Answer:- rep

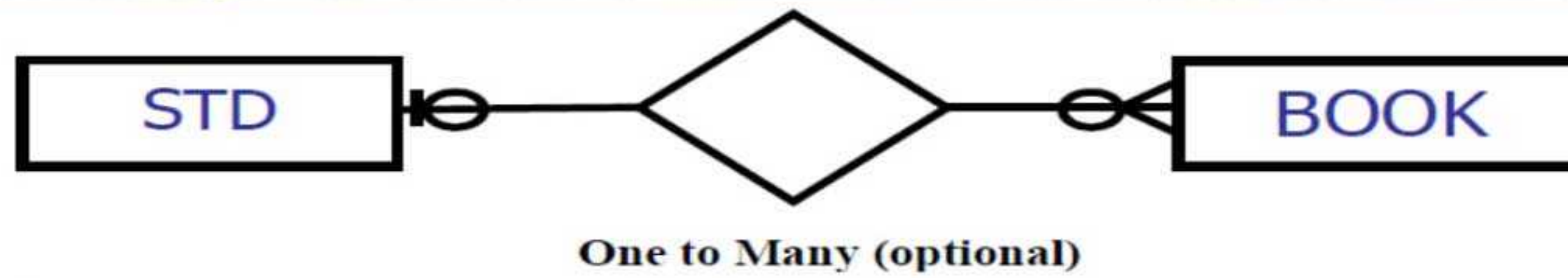
Q5- What do u mean by GROUP By command

Answer:- [Click here for detail](#)

The GROUP BY statement is used in conjunction with the aggregate functions to group the result-set by one or more columns.

Q6- Give the implementation of One to many relationship

Answer:- (Page 92)



Q7- Give similarities between Materialized view and indexes

Answer:- rep

Q no: 1

Write the two types of ordered indices?

Answer:- (Page 276)

There are Two types of ordered indices:

Dense Index:

Sparse Index:

Q no: 2

Write three types of data Independence?

Answer:- [Click here for detail](#)

1. Logical Data Independence
2. Physical Data Independence
3. View Data Independence

Q no: 3

How do we prevent deadlock in DBMS?

Answer:- (Page 299)

We can prevent deadlocks by giving each transaction a priority and ensuring that lower priority transactions are not allowed to wait for higher priority transactions (or vice versa).

Q no:4

How the lost Updates are in DBMS?

Answer:- (Page 308)

Lost Update Problem This problem occurs when multiple users want to update same object at the same time.

Q no: 5

Differentiate b/w Clustered Indexes and non Clustered Indexes?

Answer:- [Click here for detail](#)

Cluster Index

- 1 A cluster index is a form of tables which consist of column and rows.
- 2 Cluster index exists on the physical level
- 3 It sorts the data at physical level
- 4 It works for the complete table
- 5 There is a whole table in form of sorted data
- 6 A table can contain only one cluster index

Non Cluster Index

- 1 A non cluster index is in the form of a report about the tables.
- 2 They are not created on the physical level but at the logical level
- 3 It does not sort the data at physical level
- 4 A table has 255 non clustered indexes
- 5 A table has many non clustered indexes.
- 6 It work on the order of data

Q no: 6

what are the purposes of creating views in DBMS?

Answer:- rep

Q no: 7

Write about NOT operators?

Answer:- [Click here for detail](#)

If you want to find rows that do not satisfy a condition, you can use the logical operator, NOT. NOT results in the reverse of a condition. That is, if a condition is satisfied, then the row is not returned.

Question#1 (Marks 2)

SELECT * FRO Persons
WHERE Firstname Like “% da %”;

What does the above statement returne?

Answer:-

Return all records containing L in attribute name ‘Firstname’ from persons table.

Question#2 (Marks 2)

What is the difference between Primary key and a unique key with reference to clustered and non-clustered indexes?

Answer:- [Click here for detail](#)

Primary key can not be null but unique can have only one null value.

Primary key create the cluster index automatically but unique key not.

A table can have only one primary key but unique key more than one.

Question#3 (Marks 5)

Create a simple index, named “Personal Index” on the LastName field of the person table?

Answer:- [Click here for detail](#)

TABLE person

(
FirstName char(15),
LastName char(15),
Address char(50),
City char(50),
Country char(25),
)

**CREATE INDEX new_person_ LastName
on person (LastName)**

Question#4 (Marks 5)

Writing the basic syntax of adding a record to a table.

Answer:- [Click here for detail](#)

INSERT INTO table_name
VALUES (value1, value2, value3...)

Question#5 **(Marks 5)**

Give 4 similarities between Materialized views and indexes?

Answer:- (Page 290)

- They consume storage space.
- They must be refreshed when the data in their master tables changes.
- They improve the performance of SQL execution when they are used for query rewrites.
- Their existence is transparent to SQL applications and users.

Question#6 **(Marks 3)**

How the stamping approach does works to give priorities to the transactions?

Question#7 **(Marks 3)**

Name the primary key modes for taking locks?

Answer:- rep

Question#8 **(Marks 2)**

State any two problems that can come up as a result of inconsistent data base?

Answer:- (Page 307)

Lost Update Problem

Uncommitted Update Problem

Inconsistent Analysis Problem

Question No:

Q# briefly describes the dynamic view. **(Marks 5)**

Answer:- (Page 284)

Dynamic views are those types of views for which data is not stored and the expressions used to build the view are used to collect the data dynamically. These views are not executed only once when they are referred for the first time, rather they are created and the data contained in such views is updated every time the view is accessed or used in any other view or query. Dynamic views generally are complex views, views of views, and views of multiple tables.

Question No:

Q# briefly explains the significance of not null constraint. **(Marks 5)**

Answer:- [Click here for detail](#)

NOT NULL constraints in Microsoft SQL Server allow you to specify that a column may not contain NULL values. When you create a new NOT NULL constraint on a database column, SQL Server checks the column's current contents for any NULL values. If the column currently contains NULL values, the constraint creation fails. Otherwise, SQL Server adds the NOT NULL constraint and any future INSERT or UPDATE commands that would cause the existence of a NULL value fail.

Question No:

Q# what is truncation and what are ACID properties? **(Marks 5)**

Answer:- rep

Question No:

Q# briefly explains the mechanism of optimistic locking mod. **(Marks 3)**

Answer:- (Page 319)

In an optimistic locking mode, the first transaction accesses data but does not take a lock on it. A second transaction may change the data while the first transaction is in progress. If the first transaction later decides to change the data it accessed, it has to detect the fact that the data is now changed and inform the initiator of the fact.

Question No:

Q# writes the procedure following which the truncate command removes the data. **(Marks 3)**

Answer:- (Page 207)

The TRUNCATE is used to delete all the rows of any table but rows would exist. If we want to remove all records we must use TRUNCATE.

TRUNCATE TABLE table_name

Question No:

Q# why do we need meta data? **(Marks 3)**

Answer:- (Page 23)

For storage of the data related to any entity or object existing at real world level we define the way the data will be stored in the database. This is called Meta data.

Question No:

Q# name three difference classification of indexes? **(Marks 3)**

Answer:- (Page 272)

Indexes are classified as under:

- Clustered vs. Un-clustered Indexes
- Single Key vs. Composite Indexes
- Tree-based, inverted files, pointers

Question No:

Q# suppose you want to delete a table row by row and record an entry in the transaction log for each delete row. Which DML command will you use? **(Marks 2)**

Answer:- rep

Question No:

Q# writes an SQL statement to remove an index called 'IndexNumber'? **(Marks 2)**

Answer:- [Click here for detail](#)

DROP INDEX table_name.IndexNumber

Question No:

Q# what are the participant of a relationship? (Marks 2)

Answer:- (Page 86)

Entities enrolled in a relationship are called its participants

Question No:

Q# writes any tow similarities between materialized view and indexes? (Marks 2)

Answer:- rep