MCQ Question: The data ___ in a database can be viewed in its entirety.

Options:

1. Fetched
2. Stored
3. Created
4. None

Correct Answer: Stored

MCQ Question: Which of the following is a primary characteristic of Magnetic Disk storage?

Options:

1. Volatile storage
2. Non-volatile storage
3. Slow access time
4. Limited storage capacity

Correct Answer: Non-volatile storage

MCQ Question: Which storage media provides the fastest access times among the following options?

Options:

1. Magnetic Tape
2. Solid-State Drive (SSD)
3. Optical Disk
4. Hard Disk Drive (HDD)

Correct Answer: Solid-State Drive (SSD)

MCQ Question: Which storage type is commonly used for long-term archival purposes due to its sequential access nature?

Options:

1. Solid-State Drive (SSD)
2. Magnetic Tape
3. Optical Disk
4. Hard Disk Drive (HDD)

Correct Answer: Magnetic Tape

MCQ Question: Which storage medium uses laser technology to read and write data?

Options:

1. Magnetic Disk
2. Magnetic Tape
3. Optical Disk
4. SSD

Correct Answer: Optical Disk

MCQ Question: Which of the following has the highest reliability in terms of durability and resistance to physical damage?

Options:

1. Hard Disk Drive (HDD)
2. Solid-State Drive (SSD)
3. Magnetic Tape
4. Optical Disk

Correct Answer: Solid-State Drive (SSD)

MCQ Question: Which storage type is known for its low power consumption and absence of moving parts?

Options:

1. Magnetic Disk
2. Optical Disk
3. SSD
4. Magnetic Tape

Correct Answer: SSD

MCQ Question: What is the primary disadvantage of using Magnetic Tape as a storage medium in a DBMS?

Options:

1. Slow access speed
2. Limited storage capacity
3. High cost
4. Prone to data corruption

Correct Answer: Slow access speed

MCQ Question: Which storage type in a DBMS is often used for online transaction processing due to its high-speed data retrieval capabilities?

Options:

1. HDD
2. SSD
3. Magnetic Tape
4. Optical Disk

Correct Answer: SSD

MCQ Question: Which storage type is commonly used as a buffer between the CPU and main memory in a database system?

Options:

1. SSD
2. Magnetic Tape
3. Cache memory
4. Optical Disk

Correct Answer: Cache memory

MCQ Question: Which of the following is not a type of file organization in DBMS?

Options:

1. Sequential
2. Hierarchical
3. Network
4. Random

Correct Answer: Random

MCQ Question: In a sequential file organization, records are stored:

Options:

1. In a random order
2. According to a key field
3. In the order they were inserted
4. Based on their sizes

Correct Answer: In the order they were inserted

MCQ Question: Which file structure allows a record to have multiple parent and child records?

Options:

1. Hierarchical
2. Sequential
3. Network
4. Relational

Correct Answer: Network

MCQ Question: Which of the following is not an advantage of using an index in a DBMS?

Options:

1. Improved data retrieval speed
2. Decreased storage space
3. Faster data modification
4. Enhanced data integrity

Correct Answer: Decreased storage space

MCQ Question: Which file organization is most suitable for applications requiring frequent record insertion and deletion?

Options:

1. Indexed
2. Sequential
3. Hashed
4. Hierarchical

Correct Answer: Hashed

MCQ Question: What is the primary purpose of using B+ trees in a DBMS?

Options:

1. To provide a sorted representation of data for efficient searching
2. To minimize storage space required for data storage
3. To establish relationships between tables
4. To ensure data consistency in distributed databases

Correct Answer: To provide a sorted representation of data for efficient searching

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MCQ Question: Which level of a B+ tree typically contains actual data pointers?

Options:

1. Root level
2. Leaf level

3. Intermediate level
4. Penultimate level

Correct Answer: Leaf level

MCQ Question: In a B+ tree, what property ensures balanced tree structure?

Options:

1. Minimum degree
2. Maximum degree
3. Fan-out
4. Height of the tree

Correct Answer: Minimum degree

MCQ Question: The primary benefit of using B+ trees over B-trees is:

Options:

1. Faster insertion and deletion
2. Reduced disk I/O operations
3. Higher node capacity
4. Better for range queries

Correct Answer: Better for range queries

MCQ Question: Which of the following is not a characteristic of B+ trees?

Options:

1. Non-leaf nodes do not store actual data records.
2. All leaves are at the same level.
3. Keys in non-leaf nodes guide search operations.
4. Leaf nodes can have child pointers.

Correct Answer: Leaf nodes can have child pointers.

MCQ Question: Hashing in DBMS is primarily used for:

Options:

1. Efficiently locating records based on non-primary keys
2. Sorting data before storage
3. Storing metadata information
4. Creating relationships between tables

Correct Answer: Efficiently locating records based on non-primary keys

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MCQ Question: Collision resolution in hashing refers to the process of:

Options:

1. Determining the hash function for a given record
2. Handling situations where two records maps to the same hash value
3. Reorganizing the hash table for faster access
4. Converting keys into hash codes

Correct Answer: Handling situations where two records maps to the same hash value

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MCQ Question: Which type of collision resolution in hashing uses linked lists to handle collisions?

Options:

1. Linear probing
2. Quadratic probing
3. Separate chaining
4. Double hashing

Correct Answer: Separate chaining

MCQ Question: What is a disadvantage of using hashing for data retrieval in DBMS?

Options:

1. High memory consumption
2. Slower search time compared to B+ trees
3. Inability to handle duplicate records
4. Limited support for insertions and deletions

Correct Answer: Slower search time compared to B+ trees

MCQ Question: When would one prefer using B+ trees over hashing for data retrieval in DBMS?

Options:

1. When memory usage needs to be optimized
2. When there are frequent insertions and deletions
3. When a single, primary key is predominantly used for searches
4. When range queries are the primary access pattern

Correct Answer: When range queries are the primary access pattern

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MCQ Question: What defines a static file in a DBMS context?

Options:

1. Files that do not change in size or structure once created
2. Files that are stored on a read-only memory device
3. Files that are accessed with dynamic SQL queries
4. Files that primarily contain historical data

Correct Answer: Files that do not change in size or structure once created

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MCQ Question: In a dynamic file allocation method, what is the primary advantage over static file allocation?

Options:

1. Faster access time
2. Reduced storage wastage
3. Easier implementation
4. Improved data integrity

Correct Answer: Reduced storage wastage

MCQ Question: Which statement best describes a dynamic file organization in DBMS?

Options:

1. Files that can change in size during execution
2. Files that are generated by user input
3. Files that are encrypted for security purposes
4. Files that are managed by the operating system

Correct Answer: Files that can change in size during execution

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MCQ Question: Which allocation method allows files to grow and shrink dynamically?

Options:

1. Contiguous allocation
2. Linked allocation
3. Indexed allocation
4. Linked indexed allocation

Correct Answer: Linked allocation

MCQ Question: What is a potential disadvantage of using a static file allocation method?

Options:

1. Fragmentation of free space
2. Difficulty in implementing security measures
3. Increased disk access time
4. Inability to handle large volumes of data changes

Correct Answer: Fragmentation of free space
