1). Why 32 bit version of MongoDB are not preferred ?

Because MongoDB uses memory mapped files so when you run a 32-bit build of MongoDB, the total storage size of server is 2 GB. But when you run a 64-bit build of MongoDB, this provides virtually unlimited storage size. So 64-bit is preferred over 32-bit.

2) Is it possible to remove old files in the moveChunk directory?

Yes, These files can be deleted once the operations are done because these files are made as backups during normal shard balancing operation. This is a manual cleanup process and necessary to free up space.

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3) What will have to do if a shard is down or slow and you do a query?

If a shard is down and you even do query then your query will be returned with an error unless you set a partial query option. But if a shard is slow them Mongos will wait for them till response.

4.)Explain the covered query in MongoDB.

A query is called covered query if satisfies the following two conditions:

- **The fields used in the query are part of an index used in the query.**
- **The fields returned in the results are in the same index.**

5.) What is the importance of covered query?

Covered query makes the execution of the query faster because indexes are stored in RAM or sequentially located on disk. It makes the execution of the query faster.

Covered query makes the fields are covered in the index itself, MongoDB can match the query condition as well as return the result fields using the same index without looking inside the documents.

6) What is sharding in MongoDB?

In MongoDB, Sharding is a procedure of storing data records across multiple machines. It is a MongoDB approach to meet the demands of data growth. It creates

horizontal partition of data in a database or search engine. Each partition is referred as shard or database shard.

7.) What is replica set in MongoDB?

A replica can be specified as a group of mongo instances that host the same data set. In a replica set, one node is primary, and another is secondary. All data is replicated from primary to secondary nodes.

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8) What is primary and secondary replica set in MongoDB?

In MongoDB, primary nodes are the node that can accept write. These are also known as master nodes. The replication in MongoDB is single master so, only one node can accept write operations at a time.

Secondary nodes are known as slave nodes. These are read only nodes that replicate from the primary.

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9) By default, which replica sets are used to write data?

By default, MongoDB writes data only to the primary replica set.

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10) What is CRUD in MongoDB?

MongoDB supports following CRUD operations:

- Create
- Read
- Update
- Delete

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11) In which format MongoDB represents document structure?

MongoDB uses BSON to represent document structures.

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12) What will happen when you remove a document from database in MongoDB? Does MongoDB remove it from disk?

Yes. If you remove a document from database, MongoDB will remove it from disk too.

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13) Why are MongoDB data files large in size?

MongoDB doesn't follow file system fragmentation and pre allocates data files to reserve space while setting up the server. That's why MongoDB data files are large in size.

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14) What is a storage engine in MongoDB?

A storage engine is the part of a database that is used to manage how data is stored on disk.

For example: one storage engine might offer better performance for read-heavy workloads, and another might support a higher-throughput for write operations.

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15) Which are the storage engines used by MongoDB?

MMAPv1 and WiredTiger are two storage engine used by MongoDB.

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16) What is the usage of profiler in MongoDB?

A database profiler is used to collect data about MongoDB write operations, cursors, database commands on a running mongod instance. You can enable profiling on a per-database or per-instance basis.

The database profiler writes all the data it collects to the system. profile collection, which is a capped collection.

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17) Is it possible to configure the cache size for MMAPv1 in MongoDB?

No. it is not possible to configure the cache size for MMAPv1 because MMAPv1 does not allow configuring the cache size.

18) How to configure the cache size for WiredTiger in MongoDB?

For the WiredTiger storage engine, you can specify the maximum size of the cache that WiredTiger will use for all data. This can be done using storage.wiredTiger.engineConfig.cacheSizeGB option.

19) How does MongoDB provide concurrency?

MongoDB uses reader-writer locks for concurrency. Reader-writer locks allow concurrent readers shared access to a resource, such as a database or collection, but give exclusive access to a single write operation.

20) Is there any need to create database command in MongoDB?

You don't need to create a database manually in MongoDB because it creates automaically when you save the value into the defined collection at first time.

21) Explain what is the role of profiler in MongoDB?

MongoDB database profiler shows performance characteristics of each operation against the database. You can find queries using the profiler that are slower than they should be.

22) Explain can you move old files in the moveChunk directory?

Yes, it is possible to move old files in the moveChunk directory, during normal shard balancing operations these files are made as backups and can be deleted once the operations are done.

23) To do safe backups what is the feature in MongoDB that you can use?

Journaling is the feature in MongoDB that you can use to do safe backups.

24) Mention what is ObjecId composed of?

ObjectId is composed of

- Timestamp
- Client machine ID
- Client process ID
- 3 byte incremented counter

25) Mention what is the command syntax for inserting a document?

For inserting a document command syntax is database.collection.insert (document).