DBMS Complete RoadMap for Interview

Sr.No	Topic	Resources
	Introduction	
1	DataBase	https://www.javatpoint.com/what-is-database
2	DBMS	https://www.guru99.com/what-is-dbms.html
3	Need Of DBMS	https://www.geeksforgeeks.org/need-for-dbms/
4	File Management System vs DBMS	https://www.javatpoint.com/dbms-vs-files-system
5	DataBase Admin and its functions	https://practice.geeksforgeeks.org/problems/what-are-the-functions-of-a-dba
6	DataBase Tier 2 / Tier 3 Architecture	https://www.geeksforgeeks.org/difference-between-two-tier-and-three-tier-database-architecture/
7	DataBase Languages	https://www.geeksforgeeks.org/sql-ddl-dql-dml-dcl-tcl-commands/
8	Important Terminologies	https://whatisdbms.com/instances-schema-and-sub-schema-in-dbms-with-examples/
9	Data Abstraction in DBMS	https://afteracademy.com/blog/what-is-data-abstraction-in-dbms-and-what-are-its-three-levels/
10	3 Levels Of Data Abstraction	https://afteracademy.com/blog/what-is-data-abstraction-in-dbms-and-what-are-its-three-levels/
11	Referential Integrity	https://www.tutorialspoint.com/Referential-Integrity-Rule-in-RDBMS
	RDBMS	
1	What is RDBMS and how it is stored in memory	https://www.quora.com/How-does-a-relational-DBMS-internally-store-its-data-In-what-type-of-data-structure-How-does-it-offer-the-rapid-retrieval-without-loading-the-entire-database-into-the-main-memory-I-have-heard-many-DBMS-use-B-trees
2	Degree of Relation	https://www.relationaldbdesign.com/database-design/module6/three-relationship-types.php
3	Keys	https://www.geeksforgeeks.org/types-of-keys-in-relational-model-candidate-super-primary-alternate-and-foreign/

4	DataBase Schema	https://www.tutorialspoint.com/dbms/dbms_data_schemas.htm
5	Schema Diagrams	https://www.geeksforgeeks.org/mapping-from-er-model-to-relational-model/
6	Relational Operations	https://www.guru99.com/relational-algebra-dbms.html
7	SQL	https://www.w3schools.com/sql/sql_intro.asp
8	Difference between SQL and MYSQL	https://www.upgrad.com/blog/sql-vs-mysql/
9	Important Keywords	https://www.educba.com/sql-keywords/
10	CheatSheet SQL	https://www.educba.com/cheat-sheet-sql/?source=leftnav
11	Composite Keys in SQL	https://www.educba.com/composite-key-in-sql/?source=leftnav
12	What is join and its types	https://www.geeksforgeeks.org/sql-join-set-1-inner-left-right-and-full-joins/
13	What is View	https://www.geeksforgeeks.org/sql-views/
14	Trigger	https://www.geeksforgeeks.org/sql-trigger-student-database/
15	Difference Between Unique and Primary Keys	https://www.geeksforgeeks.org/difference-between-primary-key-and-unique-key/
16	SQL Injection	https://www.w3schools.com/sql/sql_injection.asp
17	Delete and Truncate	https://www.geeksforgeeks.org/difference-between-delete-and-truncate/
18	SQL Privileges	https://www.geeksforgeeks.org/mysql-grant-revoke-privileges/
19	SQL Subqueries	https://www.tutorialspoint.com/sql/sql-sub-queries.htm
20	Difference Between Clustered and Non - clustered index	https://www.guru99.com/clustered-vs-non-clustered-index.html

21	Cursor	https://www.geeksforgeeks.org/what-is-cursor-in-sql/
22	Index in DBMS and its types	https://www.guru99.com/indexing-in-database.html

Relational DataBase Design

1	Features Of Good Relational Design	https://www.microfocus.com/documentation/xdbc/win20/GUID-82D58958-278F-482C-B76F-AAF94A28DCCF.html
2	Functional Dependency	https://www.guru99.com/dbms-functional-dependency.html
3	Normalization	https://www.guru99.com/database-normalization.html
4	Purpose Of Normalization	https://medium.com/@bbrumm/what-is-the-purpose-of-database-normalisation-8070b2948d70
5	What are 3 anomalies resolved by normalization	https://dba.stackexchange.com/questions/194631/how-does-normalization-fix-the-three-types-of-update-anomalies
6	1NF	https://www.geeksforgeeks.org/first-normal-form-1nf/
7	2NF	https://www.geeksforgeeks.org/second-normal-form-2nf/
8	3NF	https://www.geeksforgeeks.org/third-normal-form-3nf/
9	BCNF	https://www.geeksforgeeks.org/boyce-codd-normal-form-bcnf/

Storage and file structure

1	Storage System	https://www.tutorialspoint.com/dbms/dbms_storage_system.htm
2	File structure	https://www.tutorialspoint.com/dbms/dbms_file_structure.htm
	Transaction Management	
1	Transaction	https://www.tutorialspoint.com/dbms/dbms_transaction.htm
2	State of Transaction	https://www.gatevidyalay.com/transaction-states-in-dbms/

3	IMP Terms	https://www.studytonight.com/dbms/tcl-command.php
4	Acid Properties	https://www.geeksforgeeks.org/acid-properties-in-dbms/
5	How to implement atomicity in transactions	https://ashutoshtripathi.com/2017/11/27/implementation-of-atomicity-and-durability-using-shadow-copy/
6	Concurrent Transaction	https://www.geeksforgeeks.org/concurrency-problems-in-dbms-transactions/
7	Schedule Types	https://www.geeksforgeeks.org/types-of-schedules-in-dbms/
8	What is Conflict Operation	https://www.javatpoint.com/dbms-conflict-serializable-schedule
9	Concurrency Control	https://www.tutorialspoint.com/dbms/dbms_concurrency_control.htm

DeadLock

1	What is DeadLock	https://www.geeksforgeeks.org/deadlock-in-dbms/
2	Techniques to prevent deadlock	https://www.geeksforgeeks.org/introduction-to-timestamp-and-deadlock-prevention-schemes-in-dbms/
3	What is starvation and its reason	https://www.geeksforgeeks.org/starvation-in-dbms/
4	DeadLock Recovery	https://www.geeksforgeeks.org/recovery-from-deadlock-in-operating-system/

Must Do

1	SQl vs NoSQL	https://www.mongodb.com/nosql-explained/nosql-vs-sql https://www.integrate.io/blog/which-database/
2`	Scaling Patterns	https://www.freecodecamp.org/news/understanding-database-scaling-patterns/
3	CAP Theorem	https://www.analyticsvidhya.com/blog/2020/08/a-beginners-guide-to-cap-theorem-for-data-engineering/
4	Scaling RDBMS and NoSQL	https://betterprogramming.pub/scaling-sql-nosql-databases-1121b24506df

5	What DB to use	http://jlamere.github.io/databases/
6	In Memory DataBase	https://medium.com/@denisanikin/what-an-in-memory-database-is-and-how-it-persists-data-efficiently-f43868cff4c1
7	Graph DataBase	https://neo4j.com/developer/graph-database/
9	Master Slave	https://www.datadriveninvestor.com/2020/05/28/the-master-slave-database-concept-for-beginners/
10	Master-Slave vs Master-Master	https://intellipaat.com/community/6605/master-master-vs-master-slave-database-architecture
11	ACID vs BASE	https://www.dataversity.net/acid-vs-base-the-shifting-ph-of-database-transaction-processing/

Recommended Youtube Playlists

You can watch GateSmashers DBMS Playlists:

https://www.youtube.com/playlist?list=PLxCzCOWd7aiFAN6I8CuViBuCdJgiOkT2Y

You can also watch Love Babbar DBMS Placement Series:

https://www.youtube.com/playlist?list=PLDzeHZWIZsTpukecmA2p5rhHM14bl2dHU