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| Database | |
| **SOURCE: 01** | **Database Management System (GATE EXAM)** |
| 01 | [DBMS Syllabus](https://www.youtube.com/watch?v=kBdlM6hNDAE&list=PLxCzCOWd7aiFAN6I8CuViBuCdJgiOkT2Y&index=1&pp=iAQB) |
| 02 | Introduction to DBMS (Database Management system) with Real Life Example |
| 03 | File System vs DBMS | Disadvantages of File System | DBMS Advantage |
| 04 | Tier and 3 Tire Architecture with Real Life Examples |
| 05 | What is Schema | How to Define Schema |
| 06 | Three Schema Architecture | Three Level of Abstraction |
| 07 | What is Data Independence | logical vs Physical Independency |
| 08 | Integrity Constraints in Database with Examples |
| 09 | What is CANDIDATE KEY and PRIMARY Key | Full Concept | Most Suitable Example |
| 10 | What is Primary Key in DBMS | Primary Key with Examples |
| 11 | Foreign Key in DBMS | Full Concept with Examples | |
| 12 | Insert, Update and Delete from Foreign Key Table | Referential Integrity |
| 13 | Question on Foreign Key |
| 14 | Super Key in DBMS |
| 15 | Introduction to ER Model |
| 16 | Types of Attributes in ER Model | Full Concept |
| 17 | One to One Relationship in DBMS |
| 18 | One to Many Relationship in DBMS | 1-M Relationship |
| 19 | Many to Many Relationship in DBMS | M-N Relationship |
| 20 | Question on Minimize Table in ER Mode |
| 21 | Introduction to Normalization | Insertion, Deletion, Updating Anomaly |
| 22 | First Normal form in DBMS | 1st Normal form |
| 23 | Finding Closure of Functional Dependency in DBMS | Easiest and Simplest Way |
| 24 | Functional Dependency and Its Properties in DBMS |
| 25 | Second Normal Form | 2NF |
| 26 | Third Normal Form in DBMS with Examples | Normalization |
| 27 | Boyce Codd Normal Form | BCNF | DBMS | Normalization with Best Examples |
| 28 | BCNF Always Ensures Dependency Preserving Decomposition and Normalization Examples |
| 29 | Lossless and Lossy Decomposition | Fifth Normal Form |
| 30 | All Normal Forms with Real Life Examples | 1NF 2NF 3NF BCNF 4NF 5NF All in One |
| 31 | Minimal Cover in DBMS with Cample | Canonical Cover |
| 32 | Question on Normalization |
| 33 | Cover and Equivalence of Functional Dependencies |
| 34 | Dependency Preserving Decomposition with Example |
| 35 | Dependency Preserving Decomposition with Examples |
| 36 | Introduction to Joins and Its Types | Need of Joins with Examples |
| 37 | Natural Join Operation with Example |
| 38 | Self-Join Operation with Example |
| 39 | Equal Join Operation with Example |
| 40 | Left Outer Join Operation with Example |
| 41 | Right Outer Join Operation with Example |
| 42 | Introduction to Relational Algebra |
| 43 | Projection in Relational Algebra |
| 44 | Selection in Relational Algebra |
| 45 | Cross/Cartesian Product in Relational Algebra |
| 46 | Set Difference in Relational Algebra |
| 47 | Union Operation in Relational Algebra |
| 48 | Division Operation in Relational Algebra |
| 49 | Tuple Calculus in DBMS with Examples |
| 50 | Introduction to Structured Query Language | All Points Regarding its Features |
| 51 | All Types of SQL Commands with Example | DDL, DML, DCL, TCL and CONSTRAINTS |
| 52 | Create Table in SQL with Execution | SQL for Beginners | Oracle LIVE |
| 53 | ALTER Command (DDL) in SQL with Implementation on Oracle |
| 54 | Difference Between ALTER and UPDATE in SQL with Examples |
| 55 | Difference Between Delete, Drop and Truncate in SQL |
| 56 | Constraints in SQL |
| 57 | SQL Queries and Subqueries (Part-1) |
| 58 | SQL Queries and Subqueries (Part-2) | 2nd Highest Salary | Nested Query |
| 59 | SQL Queries and Subqueries (Part-3) | Group By Clause |
| 60 | SQL Queries and Subqueries (Part-4) | Having Clause |
| 61 | SQL Queries and Subqueries (Part-5) |
| 62 | SQL Queries and Subqueries (Part-6) |
| 63 | SQL Queries and Subqueries (Part-7) |
| 64 | EXIST and NOT EXIST Subqueries (Part-8) |
| 65 | SQL Aggregate Functions – SUM, AVG(n), COUNT, MIN, MAX Functions |
| 66 | Correlated Subquery in SQL with Example |
| 67 | Difference Between Joins, Nested Subquery and Correlated Subquery |
| 68 | Find Nth (1st, 2nd, 3rd, ….N) Highest Salary in SQL |
| 69 | Question on SQL Basic Concepts |
| 70 | Introduction to PL-SQL in DBMS |
| 71 | Introduction to Transaction Concurrency |
| 72 | ACID Properties of a Transaction |
| 73 | Transaction States |
| 74 | What is Schedule | Serial vs Parallel Schedule |
| 75 | All Concurrency Problems | Dirty Read | Incorrect Summary | Lost Update | Phantom Read |
| 76 | Write-Read Conflict or Dirty Read Problem |
| 77 | Read-Write Conflict or Unrepeatable Read Problem |
| 78 | Irrecoverable vs Recoverable Schedules in Transactions |
| 79 | Cascading vs Cascade-less Schedule with Example | Recoverability |
| 80 | Introduction to Serializability | Transactions Concurrency and Control |
| 81 | Conflict Equivalent Schedules with Example | Transaction Concurrency and Control |
| 82 | Conflict Serializability | Precedence Graph | Transaction |
| 83 | Why View Serializability is Used | Introduction to View Serializability |
| 84 | Shared Exclusive Locking Protocol with Example | Concurrency Control Part-1 |
| 85 | Drawback in Shared/Exclusive Locking Protocol with Example | Concurrency Control Part-2 |
| 86 | Phase Locking (2PL) Protocol in Transaction Concurrency Control |
| 87 | Drawbacks in 2 Phase Locking (2PL) Protocol with Example | Concurrency Control |
| 88 | Strict 2PL, Rigorous 2PL and Conservative 2PL Schedule | 2 Phase Locking in DBMS |
| 89 | Basic Timestamp Ordering Protocol with Example | Concurrency Control |
| 90 | How to Solve Question on Timestamp Ordering Protocol | Concurrency Control |
| 91 | Why Indexing is Used | Indexing Beginning |
| 92 | Numerical Example on I/O Cost in Indexing Part-1 |
| 93 | Numerical Example on I/O Cost in Indexing Part-2 |
| 94 | Types of Indexes | Most Important Video on Indexing |
| 95 | Primary Index with Example | GATE, PSU and UGC NET |
| 96 | Clustered Index in Database with Example |
| 97 | Secondary Index in Database with Example | Multilevel Indexing |
| 98 | Introduction to B-Tree and Its Structure | Block Pointer, Record Pointer and Key |
| 99 | Insertion in B-Tree with Example |
| 100 | How to Find Order of B-Tree |
| 101 | Difference Between B-Tree and B+ Tree with Example |
| 102 | Order of B+ Tree | Order of Leaf Node and Non-Leaf Node in B+ Tree |
| 103 | Immediate Database Modification in DBMS | Log Based Recovery Methods |
| 104 | Deferred Database Modification in DBMS | Log Based Recovery Methods |
| 105 | Like Command in SQL with Example | Learn SQL in Easiest Way |
| 106 | Basic PL-SQL Programming with Execution Part-1 |
| 107 | Basic PL-SQL Programming (While, For Loop) with Execution Part-2 |
| 108 | Single Row and Multi Row Function in SQL |
| 109 | Character Function in SQL with Execution | Oracle LIVE |
| 110 | View in Database | Oracle, SQL Server Views | Type of Views |
| 111 | How Aggregate Functions work on NULL Values |
| 112 | What is RAID | RAID 0, RAID 1, RAID 4, RAID 5, RAID 6, Nested RAID 10 Explained |
| 113 | Various Object in Database | Oracle, SQL Server |
| 114 | Important Question Explanation on ER Model |
| 115 | Questions on DBMS Basic Concepts and Data Modelling |
| 116 | Question on Inner, Left, Right and Full Outer Joins Explanations |
| 117 | Question on Advance DBMS | BIG Data and Data Warehouse |
| 118 | Question on Normalization (Schemas) Explanation |
| 119 | Question on Relational Algebra |
| 120 | Codd’s 12 Rules of RDBMS with Examples |
| 121 | CREATE Command (DDL) in SQL with Implementation on ORACLE |
| 122 | SEQUENCE in SQL with Syntax and Examples |
| 123 | How SQL Query Executes | Order of SQL Query Execution |
| 124 | Introduction to Hadoop | What is Hadoop | Hadoop Framework |
| 125 | Introduction o BIG Data | Small Data vs BIG Data | Real Life Example |
| 126 | Simple vs Complex vs Materialized Views with Examples |
| 127 | Foreign Key with On Delete Cascade with Execution |
| 128 | Procedures in PL-SQL | Local Procedure vs Stored Procedure |
| 129 | How to Fetch Data From Database Using Procedures | PL-SQL Procedure |
| 130 | %TYPE and %ROWTYPE in PL-SQL with Examples |
| 131 | What is Cursor in PL-SQL with Example |

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| Cybersecurity | |
| **SOURCE: 01** | **Google Cybersecurity Certificate** |
| 01 | [Cybersecurity for Beginners](https://www.youtube.com/watch?v=_DVVNOGYtmU&list=PLTZYG7bZ1u6ocTMdhDwwmfjaNv134KcWn&index=1&pp=iAQB) |
| 02 | How to Manage Security Risks and Threats |
| 03 | Internet Networks and Network Security |
| 04 | The Basics of Computing Security: Linux and SQL |
|  | Cybersecurity IDR: Incident Detection and Response |
|  | Fundamentals of Python for Cybersecurity |
|  | How to Prepare for Your Cybersecurity Career |
|  | What Does An Information Security Analyst Do |
|  | Jobs You Can Qualify for By Completing Google Cybersecurity |
|  | What is A Loop in Python |
|  | What Are The 8 Cybersecurity Domains |
|  | What are The 8 Security Domains |
|  | How Do Operating Systems Work in Cybersecurity |
|  | What Are Network Tools and Protocols in Cybersecurity |
|  | What to Know Before Going Into Cybersecurity or Project Management |
|  | How to Secure Networks in Cybersecurity |