

## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Computer Science and Engineering - NOC:Introduction to Database Systems

Subject Co-ordinator - Prof. P.Sreenivasa Kumar

Co-ordinating Institute - IIT - Madras

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Introduction  
Lecture 2 - Database Architecture  
Lecture 3 - RDBMS Architecture  
Lecture 4 - Introduction to ER Model  
Lecture 5 - Entities and Relationships  
Lecture 6 - Modelling Weak Entities and Design Choices  
Lecture 7 - Relational Data Model and Notion of Keys  
Lecture 8 - Introduction to Relational Algebra  
Lecture 9 - Operators in Relational Model  
Lecture 10 - Uses of Renaming, Join and Division in Relation Algebra  
Lecture 11 - Example Queries in Relation Model and Outer Join Operation  
Lecture 12 - Convert ER-Model to a Relational Model  
Lecture 13 - Introduction to tuple relational calculus  
Lecture 14 - Example TRC queries  
Lecture 15 - Data definition using SQL  
Lecture 16 - Basic SQL query block and subqueries  
Lecture 17 - Correlated subqueries  
Lecture 18 - Aggregate functions  
Lecture 19 - Views  
Lecture 20 - Programmatic access of SQL  
Lecture 21 - Normal forms - Introduction  
Lecture 22 - Deriving new functional dependencies  
Lecture 23 - Proving soundness and completeness of Armstrong's Axioms  
Lecture 24 - Normal forms - 2 NF, 3NF, BCNF  
Lecture 25 - Properties of decompositions  
Lecture 26 - Normal forms - 4NF, 5NF  
Lecture 27 - Introduction to file organization  
Lecture 28 - File organization methods  
Lecture 29 - Dynamic File organization using Hashing

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## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

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- Lecture 30 - Index structures
- Lecture 31 - B+ trees on Disks
- Lecture 32 - Performance and Reliability of Multiple Disks
- Lecture 33 - Relational Query Evaluation
- Lecture 34 - Join operator processing algorithms
- Lecture 35 - Query optimization
- Lecture 36 - ACID properties and operations in transactions
- Lecture 37 - Schdeules
- Lecture 38 - Concurrency control using Locks
- Lecture 39 - Recovery using undo logging method
- Lecture 40 - Recovery using Redo and Undo-Redo logging methods
- Lecture 41 - Recoverable schdeules and transaction isolation levels