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## RGPV B.Tech – CSE 5th Semester Syllabus

## CS-504-C: Introduction to Database Management System

### Unit I: DBMS Concepts and Architecture

- Database vs traditional file systems
- Advantages of DBMS, data models, schemas, instances
- Data independence, DBMS languages and interfaces
- Functions of DBA and designer

### Unit II: Entity Relationship Model

- Entities, attributes, entity types
- Generalization, aggregation, specialization
- Transforming ER diagrams into tables
- Relational, network, and object-oriented models

### Unit III: Relational Model and Algebra

- Relational model concepts, constraints
- Relational algebra: select, project, join, union, intersection
- Tuple relational calculus

### Unit IV: SQL and Normalization

- SQL: DDL, DML, DCL commands

- Integrity constraints, joins, subqueries
- Normalization: 1NF, 2NF, 3NF, BCNF
- Functional dependencies

## Unit V: Transactions and Concurrency

- Transaction concepts, ACID properties
- Serializability, concurrency control techniques
- Locking protocols, deadlock handling
- Recovery techniques

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- [Career Shiksha – CS-504-C Syllabus Overview](#)