**Course File Index**

**Name of the Course Database Management System**

**Code of the course 5EE4A**

**Name of Faculty Ashish Ameria**

**Vision and Mission of Institute**

VISION –

To become renowned Centre of excellence in computer science and engineering and make competent engineers &amp; professionals with high ethical values prepared for lifelong learning.

MISSION –

M1: To impart outcome based education for emerging technologies in the field of computer science and engineering.

M2: To provide opportunities for interaction between academia and industry.

M3: To provide platform for lifelong learning by accepting the change in technologies.

M4: To develop aptitude of fulfilling social responsibilities.

**Vision and Mission of Department**

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| S. No. | Lecture No. | Topic to be discussed | Objective of lecture | Outcome of Lecture | Book referred | From page to |
| 1 | 1.1 | Overview and History of DBMS. Introduction, need of DBMS | Analyze the basic structure of Database & recognize the different views of the database. | Able to understand history of DBMS | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 29--31 |
| 2 | 1.2 | purpose and goals of DBMS. DBMS Architecture | Analyze the basic structure of Database and recognize the different views of the database. | Analysis Architecture of DBMS | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 7--9 |
| 3 | 1.3 | Concept of keys, Generalization and specialization, | Analyze the basic structure of Database and recognize the different views of the database. | Implement Keys and Generalization and specialization | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 1--5 |
| 4 | 1.4 | Introduction to relational data model | Analyze the basic structure of Database and recognize the different views of the database. | Able to implement Relational Data model | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 20-21 |
| 5 | 1.5 | ER modeling | Analyze the basic structure of Database and recognize the different views of the database. | Implement ER Model | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 21-22 |
| 6 | 1.6 | concept of ER diagram | Analyze the basic structure of Database and recognize the different views of the database. | Analysis structure of ER Diagram | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 23-25 |
| 7 | 2.1 | Conceptual Data Base design | Have knowledge of DataBase design | Analysis data design | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 259--261 |
| 8 | 2.2 | Theory of normalization, | Have knowledge of DataBase design | Compute Theory of normalization | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 262--268 |
| 9 | 2.3 | Primitive and composite data types | Have knowledge of DataBase design | Analysis of Primitive and composite data types | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 269-271 |
| 10 | 2.4 | Concept of physical and logical databases | Have knowledge of DataBase design | Implement physical and logical databases | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 271-272 |
| 11 | 2.5 | Data abstraction | Have knowledge of DataBase design | Analysis of Data Abstraction |  |  |
| 12 | 3.1 | Data independence | Have knowledge of DataBase design | Implement data independence | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 274-276 |
| 13 | 2.7 | Relational algebra | Have knowledge of DataBase design | Implement Relational Algebra | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 277-280 |
| 14 | 2.8 | Relational algebra | Have knowledge of DataBase design | Implement Relational Algebra | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 281-283 |
| 15 | 2.9 | Relational calculus. | Have knowledge of DataBase design | Implement Relational Calculus | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 295-304 |
| 16 | 2.10 | Revision |  |  |  |  |
| 17 | 3.1 | SQL, DDL and DML. Constraints assertions, | Analyze and use different types of languages | Perform SQL,DDL,DML | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 217-218 |
| 18 | 3.2 | Views database security | Analyze and use different types of languages | Perform Database views | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 219-220 |
| 19 | 3.3 | Application Development using SQL | Analyze and use different types of languages | Perform application if SQL | Almasri and S.B. Navathe: Fundamentals of Database Systems | 152-154 |
| 20 | 3.4 | Host Language interface embedded SQL programming | Analyze and use different types of languages | Implement SQL SQL Programming | Almasri and S.B. Navathe: Fundamentals of Database Systems | 157-164 |
| 21 | 3.5 | GL’s, Forms management | Analyze and use different types of languages | Analysis Forms | Almasri and S.B. Navathe: Fundamentals of Database Systems | 174-182 |
| 22 | 3.6 | Report writers. | Analyze and use different types of languages | Analysis Report Writers | Almasri and S.B. Navathe: Fundamentals of Database Systems | 183-184 |
| 23 | 3.7 | Stored procedure and triggers | Analyze and use different types of languages | Implement Stored procedure triggers | Almasri and S.B. Navathe: Fundamentals of Database Systems | 186-189 |
| 24 | 3.8 | Dynamic SQL, JDBC | Analyze and use different types of languages | Analysis of basic SQL | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 57-58 |
| 25 | 3.9 | Revision |  |  |  |  |
| 26 | 4.1 | Internal of RDBMS: Physical data organization in sequential, | Formulate data retrieval queries in RDBMS | Implement RDBMS | Almasri and S.B. Navathe: Fundamentals of Database Systems | 117-120 |
| 27 | 4.2 | Physical data organization in sequential, | Formulate data retrieval queries in RDBMS | Implement Sequential data | Almasri and S.B. Navathe: Fundamentals of Database Systems | 403-406 |
| 28 | 4.3 | Physical data organization in sequential, | Formulate data retrieval queries in RDBMS | Implement Sequential data | Almasri and S.B. Navathe: Fundamentals of Database Systems | 65-66 |
| 29 | 4.4 | Indexed | Formulate data retrieval queries in RDBMS | Compute Indexing | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 158-160 |
| 30 | 4.5 | Random and hashed files | Formulate data retrieval queries in RDBMS | Analysis Hash Function | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 180-185 |
| 31 | 4.6 | Inverted and multi-list structures | Formulate data retrieval queries in RDBMS | Implement schema | Almasri and S.B. Navathe: Fundamentals of Database Systems | 30-32 |
| 32 | 4.7 | Revision |  |  |  |  |
| 33 | 5.1 | Transaction Management: Transaction concept | Describe the Deadlock Handling | Compute Transaction Concept | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 333-335 |
| 34 | 5.2 | Transaction state | Describe the Deadlock Handling | Compute Transaction State | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 336-338 |
| 35 | 5.3 | Serializability, conflict serializability, views serializability | Describe the Deadlock Handling | Analysis serializability | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 18-20 |
| 36 | 5.4 | Concurrency Control: Lock based protocol. | Describe the Deadlock Handling | Analysis Concurrency Control | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 21-22 |
| 37 | 5.5 | Deadlock Handling: Prevention detection, recovery | Describe the Deadlock Handling | Analysis Deadlock Handling | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 348-351 |
| 38 | 5.6 | Recovery System | Describe the Deadlock Handling | Analysis Recovery System | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 352-354 |
| 39 | 5.7 | Log based recovery | Describe the Deadlock Handling | Analysis log Based Recovery System | H.f. Korth and Silberschatz: Database Systems Concepts, McGraw Hill | 354-356 |
| 40 | 5.8 | Revision |  |  |  |  |

Also arrange the study material as per the plan above, includes last five year Q paper of University and questions from GATE