

## SYLLABUS

Subject: Computer Science  
Course Title: Database Management  
Systems

Semester: II  
Course Code: COMPC055  
Credits: 03

### UNIT – I (6 Hrs)

**The Database Environment:** Overview of DBM, Basic concepts & definitions, the database approach, Components of database environment, the range of database applications.

**The data development process:** Managing the people involved in database development, three schema architecture for database development, three tiered database location architecture.

### UNIT –II (6 Hrs)

**Modeling data in the organization:** The E- R model an overview, modeling entities & attributes, Modeling relationships.

**The Enhanced ER Model & Business rules:** Representing super types & sub types, specifying constraints in super type / sub type relationships.

### UNIT – III (12 Hrs)

**Logical Database Design & Relational Model:** The Relational data model, Integrity constraints, transforming EER diagrams into relations, Introduction to Normalization, Normalization example, de – normalization.

### UNIT – IV (10 Hrs)

**Interactive SQL:** Data Manipulation in DBMS, The Component parts of a two dimensional matrix, the data types that a cell can hold, two dimensional matrix creation, insertion of data into tables, viewing data into tables, deletion operations, updating the contents of a table, modifying the structure of tables, renaming tables, destroying tables, examining objects created by a user.

**More on SQL:** Computations on table data, the oracle table 'dual', sysdate, oracle functions, data constraints, grouping data from tables in sql, joins.

### UNIT-V (11 Hrs)

**The Client server database environment:** Client server architecture, 3 tier architectures.

**Data and database administration:** Role of data and DBA, managing data security, repositories.

**Prescribed Text Books:**

1. Title: Modern Database Management

Author: Jeffrey A. Hoffer, Mary B.Prescott, Fred R. McFadden.

Edition: 8th Edition, Pearson Education, Year - 2008

Chapters: 1, 2,3,4,5,6,7,8,9,12

2. Title: SQL, PL/SQL The Programming Language of Oracle.

Edition:2<sup>nd</sup> revised edition

Author: Ivan Bayross.

Publication: BPB Publication.

**MODEL QUESTION PAPER**

Subject: Computer Science  
Course Title: Database Management  
Systems  
Max. Marks: 100

Semester: II  
Course Code: COMPC055  
Time: 3Hrs

**SECTION – A**

Answer **all** questions:

10X3=30M

1. Give definitions for database and DBMS.
2. What is Meta data?
3. Define entity and attribute.
4. What is distinct rule and overlap rule?
5. What are primary key and foreign keys?
6. Write a short note on Anomalies?
7. Write a short note on sysdate and dual command.
8. What is relational data model?
9. What is de – normalization?
10. Write a short note on repository.

**SECTION – B**

Answer all questions:

5X14=70M

11. a) (i) Explain the three schema architecture for database development  
(ii). Explain the components of Database environment.

**OR**

- b) What is data base approach and explain the advantages of Database approach.
12. a) Explain E – R model with an example and notations.

**OR**

- (b) Explain specialization and generalization with examples.
13. a) What is Normalization? Explain in detail about 1NF, 2NF, 3NF with example.

**OR**

- (b). Explain how to transform the EER diagrams into relations.

14. a) (i) Explain DDL, DML, DCL commands in SQL.  
(ii) Explain oracle functions.

**OR**

- b) Consider the following tables.

STUDENT(S-ID, SNAME, TOT)

COURSE(C-ID, C-NAME)

FACULTY (F-ID, F- NAME)

- i. List all students in alphabetical order by SNAME.
  - ii. Display C-ID, C- NAME for all courses.
  - iii. Display FNAME whose name starts with P.
  - iv. Display students whose total is more than 500.
15. a) Explain how to manage the data security.

**OR**

- b) What are the roles of DBA? Explain.

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**BLUE PRINT**

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**SECTION – A**

Answer **all** questions:

10X3=30M

Question No.	Unit	Marks Weightage
1.	I	3
2.	I	3
3.	II	3
4.	II	3
5.	III	3
6.	III	3
7.	IV	3
8.	IV	3
9.	V	3
10.	V	3

**SECTION – B**

Answer all questions:

5\*14=70M

Question No.	Unit	Marks Weightage
11(a) OR 11(b)	I	14
12(a) OR 12(b).	II	14
13(a) OR 13(b).	III	14
14(a) OR 14(b).	IV	14
15(a) OR 15(b).	V	14