

SEMESTER- IV

COURSE CODE :- **CC9**
COURSE TITLE :- **DATA BASE MANAGEMENT SYSTEM**
CREDIT :- **4**

Marks distribution

Full Marks: 15 (MSE) + 60 (ESE) = 75 Duration: 3 hrs

Pass Marks: 34

This paper consists of 60 marks and is divided into two groups:

Group-A: Objective questions (Compulsory)	:	1 x 10 = 10
Group-B: descriptive questions (5 out of 8 questions)	:	10 x 5 = 50

Total = 60

The questions must cover the entire syllabus with equal distribution of marks as far as practicable.

Module 1: Introduction to DBMS- Purpose, difference with respect to conventional file processing system, data abstraction, data independence, data models (object-based, record based, physical data models), database manager, database administrator, overall system structure.

Module 2: Entity- Relationship model- Relationship sets, Mapping, keys and entity sets. Entity Relationship diagram, specialization, generalization and aggregation.

Module 3: Relational algebra- Project, select, Cartesian product, joins, natural join, union, intersection, minus, division operations.

Module 4: Normalization- Functional dependency, 1NF, 2NF, 3NF, BCNF, multivalued dependency & 4NF. Lossless joins, dependency preservation, redundancy control and integrity preservation during decomposition.

Module 5: Transaction- concepts, transaction state, concurrent executions, serializability, conflict serializability, view serializability.

Module 6: Concurrency control- locks, granting of locks, timestamp based protocols, deadlock prevention, detection & recovery

Module 7: Security- Authorization, views

ORACLE:

Module 8: Oracle: - Oracle functions, SQL, simple queries, nested sub-queries, self join, equijoin, non-equijoin, PL/SQL programming (Writing small blocks for data Manipulation). Update, Insert, Triggers

Books Recommended:

1. DBMS -Korth
2. DBMS -C.J. Date
3. Oracle –Byross

PRACTICAL : ORACLE

Writing and executing simple and complex queries ,Creation and alteration of tables updating
Inserting, deleting a table. Writing simple PL/SQL codes for data manipulation
Database triggers. Generating simple client applications.