Topics Covered in SKU- DBMS:

Unit 1 – DBMS Concepts and Architecture:

Introduction, Review of file organization techniques, Database approach v/s Traditional tile accessing approach, Advantages of database systems, Data models, Schemas and instances, Data independence, Functions of DBA and designer. Entities and attributes, Entity types, Value, Sets, Key attributes, Relationships, Defining the E-R diagram of database, Various data models : Basic concepts of Hierarchical data model, Network data model, and Relational data model, Comparison between the three types of models.

Unit 2 – Relational Data Models:

Domains, Tuples, Attributes, Relations, Characteristics of relations, Keys, Key attributes of relation, Relational database, Schemas, Integrity constraints, Intension and Extension, Relational Query languages: Relational algebra and relational calculus, Relational algebra operations like select, Project, Join, Division, outer union etc.

Unit 3 – SQL:

Data definition in SQL, update statements and views in SQL QUEL & QBE: Data storage and definitions, Data retrieval queries and update statements etc.

Unit 4 – Data Base Design:

Introduction to normalization, Normal forms, Functional dependency, Decomposition, Dependency preservation and lossless join, problems with null valued and dangling tuples, multivalued dependencies. Distributed databases, protection, security and integrity constraints, concurrent operation on databases, recovery, and transaction processing, basic concepts of object oriented data base system and design.