MATURI VENKATA SUBBA RAO (MVSR) ENGINEERING COLLEGE
NADERGUL, HYDERABAD-501510
(Sponsored by Matrusri Education Society, Estd.1980)
An Autonomous Institution
Approved by AICTE & Affiliated to Osmania University, Estd.1981
ISO 9001:2015 Certified Institution, Accredited by NAAC
website: www.mvsrec.edu.in
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Class: B.E- III SEM **Acad.Yr: 2024-25**

Branch: CSE, AIML,DS,IOT,CSIT

Sub: Database Management Systems (U21PC301CS)

QUESTION BANK-1

Unit-1

Short Answer Questions

1) Define the following terms:
    a) Database
    b) Database Management System
    c) Schema and Instance
    d) Data Independence
    e) DDL and DML
2) Distinguish file processing systems and database management systems?
3) Mention the applications of Database management systems?
4) What is Data abstraction and explain the three levels of data abstraction (view of data)
5) Summarize the roles of
    a) database users.
    b) database administrators.
6) What is the use of an E-R diagram? List out its attributes.
7) Summarize on mapping cardinalities
8) Differentiate between strong entities and weak entities.
9) What are null values?
10) Define the terms : super key, candidate key, primary key and foreign key

Long Answer Questions

1) Explain in detail about the database architecture with a neat diagram. Discuss each component in the architecture.
2) Explain the types of database system architecture(1-Tier,2-Tier,3-Tier,N-Tier) with neat diagrams.
3) Discuss various types of data models.

4) Explain the roles of below terms in database architecture.
    a) Query Processor
    b) Storage manager
5) Sketch an E-R diagram to implement the following. Assume suitable attributes and relationships among entities. Apply all types of attributes.
    a) Entities: student,course,department,faculty
    b) Entities: employee,organization,department
6) Discuss about E-R model design issues
7) Explain the concept of Generalization, Specialization and Aggregation with an example. (Extended ER features).
8) Explain the reduction of an E-R diagram into relational schemas.
9) Convert Q.No-5 into relational schema

Unit-II

Short Answer Questions

1) What is a relational database model? What is the use of it?
2) Define the following terms:
    a) Relation
    b) Domain
    c) Tuple
    d) Degree or Arity
    e) Cardinality
3) What is a Functional Dependency? Give an example.
4) Define Normalization. What is the purpose of it?
5) List out Fundamental, additional and extended relational algebra operations.
6) Summarize on aggregate functions in relational algebra.
7) What are the features of good relational design?

Long Answer Questions

1) Explain in detail about fundamental relational algebra operations with syntax and examples.
2) Explain in detail about additional relational algebra operations with syntax and examples.
3) Explain in detail about extended relational algebra operations with syntax and examples.
4) Explain Armstrong's Axiom Rules.
5) What are normal forms? Explain First,Second and Third Normal forms with examples.