UIT UNIVERSITY

Third Semester B.E. Tech. (Sofware) Mid Term Exam Fall 2024

Database System SET-211

Time allowed: 90 mins Max Marks: 20

Instructions:

* Attempt All Question.
* Carefully read all questions first, and seek clarification if needed.
* No queries regarding the question paper will be entertained after 20 minutes from the start.
* Do not write on the question paper unless specifically instructed to do so.
* Ensure all required information is filled out, and return the question paper along with your answer script.

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Roll No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. [Marks-05]- [CLO# 01]

What is the significance of a Database Management System (DBMS) in data management?? Explain its key features, including data independence, data integrity, concurrency control, and security. How do these features contribute to the overall efficiency and effectiveness of managing databases?

1. [Marks-05]- [CLO# 01]

Consider a relational database, identify and explain the constraints that should be applied to ensure data integrity. Additionally, discuss how these constraints can help prevent anomalies in the relational model, providing examples of potential anomalies.

1. [Marks-05]- [CLO# 02]

Briefly describe the Entity-Relationship (E-R) model, and how do you elaborate the concepts of Entity, Weak Entity, Attribute, and Relationship within it? Provide examples to illustrate each concept.

1. [Marks-05]- [CLO# 02]

Design an Entity-Relationship Diagram (ERD) using Chen notation for given scenario. Justify your choices of attributes for each entity.

* A salesperson may manage many other salespeople. A salesperson is managed by only one salespeople.
* A salesperson can be an agent for many customers. A customer is managed by one salespeople.
* A customer can place many orders. An order can be placed by one customer.
* An order lists many inventory items. An inventory item may be listed on many orders.
* An inventory item is assembled from many parts. A part may be assembled into many inventory items.
* Many employees assemble an inventory item from many parts.
* A supplier supplies many parts. A part may be supplied by many suppliers.