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| **SESSION** | **MARCH 2023** |
| **PROGRAM** | **Masters of business administration (MBA)** |
| **SEMESTER** | **III** |
| **course CODE & NAME** | **DITF301 – Database management system** |
| **CREDITS** | **4** |
| **nUMBER OF ASSIGNMENTS & Marks** | **02**  **30 Marks each** |

**Assignment Set – 1**

**1. What is data independence? Explain briefly the two types of data independence.**

**Ans 1.**

**Data Independence**

The ability to change the types without having an impact on the programmes and the application that needs to be updated is known as data independence. Programs and data are kept apart so that modifications to the data won't influence how the programmes run or the applications they support. We are aware that achieving data independence is the primary goal of the three layers of data abstraction. It is crucial that modifications made at one level of the database do not affect the data

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**2. Write a note on the types of Database model.**

**Ans 2.**

The relationships and restrictions that govern how data is stored and accessed are containedin a database model, which is the logical structure of a database.

The specific database

**Q3a. What is the goal of query optimization? Why is it important?**

**Ans 3a.**

**Goal of query optimization**

The goal of a query optimizer is to find a good evaluation plan for a given query. The space of plans considered by a typical relational query optimizer can be understood by recognizing that a query is essentially treated as a 𝜎-π algebra expression, with the remaining operations (if any, in a given query) carried out on the result of the 𝜎 -π-x expression. Optimizing

**3b. Explain the statement that relational algebra operators can be composed. Why is the ability to compose operators importantly?**

**Ans 3b.**

The statement that relational algebra operators can be composed means that you can apply multiple operators in sequence or nested form to express complex database queries. This principle is based on the fundamental property of algebra that allows the results of one operation to be used as the

**Assignment set – 2**

**1. What is view? With an example, use the format of view statement to create view.**

**Ans 1.**

**View**

A view is a virtual table that does not actually exist. It is made up of a query on other tables in the database. It could include only certain columns or rows from a table or from many tables. A view that restricts the user to certain rows is called a horizontal view, and a vertical view restricts the user

**2. What types of anomalies are found in relational databases? Discuss how to deal with these anomalies.**

**Ans 2.**

In the context of relational databases, anomalies are typically the result of poorly structured data or poor database design. They make it difficult to maintain, update, and ensure the accuracy of the data. Here are the main types of anomalies:

* **Insertion Anomaly:** This occurs when certain attributes cannot be inserted into the database without the presence of other attributes. For example, in a database table containing employee

**3. A. List the different types of concurrency control protocols.**

**Ans 3a.**

**Types of concurrency control protocols**

In terms of the amount of concurrency they permit and the overhead they impose, various concurrency control techniques provide varying benefits.  
Concurrency control

**3b. Illustrate the concept of object-oriented data model.**

**Ans 3b.**

The object-oriented data model is based on actual events. These circumstances are depicted as objects with various properties. These objects are all connected to one another in various ways.

**Object-oriented data model components**

**Objects:** In the object-oriented database model, the entities and circumstances of the real world are