**Section A:**

**Define the following key terms related to databases:**

**Database:** A collection of organized data that is stored and accessed electronically.

**Table:** A structured set of data elements organized in rows and columns.

**Record:** A single instance or row of data within a table.

**Field:** A single piece of data within a record, corresponding to a column in a table.

**Primary Key:** A unique identifier for each record in a table, used to enforce data integrity and ensure each record is uniquely identifiable.

**SQL**: Structured Query Language, a programming language used to manage and manipulate relational databases.

**Query:** A request for data or information from a database, typically written in SQL.

**Index**: A data structure used to improve the speed of data retrieval operations on a database table.

**Normalization:** The process of organizing data in a database to reduce redundancy and dependency.

**Database Management System (DBMS):** Software that enables users to interact with databases by providing tools for data storage, retrieval, modification, and administration.

**Section B:**

1. **Describe the purpose of a primary key in a database table and provide an example.**
2. **Explain the difference between a database management system (DBMS) and a database.**
3. **Discuss the importance of normalization in database design and provide an example of how it can improve data integrity.**

**Purpose of a Primary Key:** A primary key uniquely identifies each record in a table, ensuring data integrity by preventing duplicate records and providing a way to establish relationships between tables. For example, in a table of employees, the primary key might be the Employee ID number.

**Difference between DBMS and Database**: A database is an organized collection of data, while a Database Management System (DBMS) is software that provides tools and interfaces for managing and manipulating databases. Essentially, a DBMS is a software application that facilitates the creation, modification, retrieval, and administration of databases.

**Importance of Normalization:** Normalization is crucial in database design to minimize redundancy and dependency, thereby improving data integrity and reducing anomalies such as insertion, update, and deletion anomalies. For example, in a database for a bookstore, normalization would involve separating data into multiple related tables (e.g., separating author information into a separate table from book information) to avoid repeating author details for each book entry and to ensure consistency and efficiency in data storage and manipulation.