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BIOMEDICAL ENGINEERING

6th SEMESTER

TERM PAPER TOPIC :

ADVANTAGES AND SECURITY IN GRAPH DATABASE MANAGEMENT SYSTEM

TERM PAPER

ADVANTAGES AND SECURITY IN GRAPH DATABASE MANAGEMENT SYSTEM

Introduction to Graph Database Management System

A graph database is a single-purpose, specialised platform for designing and controlling graphs. Graphs are comprised of nodes, edges, and properties, which are all used to symbolise and hold data in a way that relational databases can't.

Another commonly used term is graph analytics, which refers to the process of analysing data in a graph format with data points acting as nodes and relationships acting as edges.

A database that can support graph formats is required for graph analytics; this can be a dedicated graph database or a converged database that supports multiple data models, including graph.

Property graphs and **RDF** graphs are two popular graph database models. The property graph is more concerned with analytics and querying, whereas the RDF graph is more concerned with data integration. Both types of graphs are made up of a set of points (vertices) and the connections that connect them (edges).

Table Of Content

Graph databases address large problems that many of us face on a daily basis. Modern data problems frequently involve many-to-many relationships with heterogeneous data, which necessitates the following:

- Navigate deep hierarchies
- Discover hidden connections between distant items
- Find out how items are related to one another.

Whether it's a social network, a payment network, or a road network, everything is an interconnected graph of relationships. And when we want to ask questions about the real world, many of them are about relationships rather than individual data elements.