**Questions and Answers (In class assessment 2)**

Q. 1 In a data warehousing context, additivity in fact tables is essential for:

A) Storing transactional data at the most granular level.

B) Enabling drill-down analysis across different dimensions.

C) Supporting real-time data processing.

D) Handling data outliers and anomalies.

Q. 2 Which of the following is not an additivity type in the fact table?

A) Additive

B) Semi-Additive

C) Non-Additive

D) Flexi-Additive

Q. 3 Which type of fact table is primarily used to capture a single business event or transaction at its most granular level?

A) Transactional Fact Table

B) Periodic Snapshot Fact Table

C) Accumulating Snapshot Fact Table

D) None of the above

Q.4 Which type of fact table is used to capture data at various stages of a process or workflow, providing a snapshot of the process at each stage?

A) Transactional Fact Table

B) Periodic Snapshot Fact Table

C) Accumulating Snapshot Fact Table

D) None of the above

Q.5 What is a surrogate key in a data warehouse?

A) A key that represents the primary relationship between two tables.

B) A key that is generated by the database management system to serve as a unique identifier.

C) A key that is composed of multiple attributes from different tables.

D) A key that is derived from the natural business data and used as the primary key.

Q.6 In a data warehouse context, what is a dimension?

A) A measurement or numerical value representing a business process.

B) A table that stores descriptive attributes used to categorize data.

C) A database index used to improve query performance.

D) A calculation or aggregation performed on a set of data.

Q. 7 Which of the following is NOT a typical attribute found in dimension tables?

A) Product name

B) Sales revenue

C) Customer location

D) Time period

Q.8 Which of the following is a characteristic of a snowflake schema?

A) Dimension tables are denormalized into a single table.

B) Dimension tables are normalized into multiple related tables.

C) The fact table is organized in a hierarchical structure.

D) The schema is optimized for OLTP (Online Transaction Processing) workloads.

Q. 9 What is a potential advantage of a snowflake schema over a star schema?

A) Improved query performance for complex analytical queries.

B) Reduced storage space required due to normalization.

C) Simplified data modeling and maintenance.

D) Enhanced flexibility to accommodate changes in data sources.

Q. 10 Which of the following best describes a conformed dimension?

A) A dimension table that is unique to a specific data mart.

B) A dimension table that is shared across multiple data marts.

C) A dimension table that contains only descriptive attributes.

D) A dimension table that is optimized for OLTP (Online Transaction Processing) workloads.

Q.11 What is a degenerate dimension in a data warehouse?

A) A dimension table that contains only descriptive attributes.

B) A dimension table that is shared across multiple data marts.

C) A dimension table that is used to store derived or calculated values.

D) A dimension attribute that is included directly in the fact table.

Q.12 What is a junk dimension in a data warehouse?

A) A dimension table that contains only descriptive attributes.

B) A dimension table that is optimized for OLTP (Online Transaction Processing) workloads.

C) A dimension table that combines multiple low-cardinality attributes.

D) A dimension table that is shared across multiple data marts.

Q. 13 In a data warehouse, what is the primary purpose of slowly changing dimensions (SCDs)?

A) To store descriptive attributes used for analysis and reporting.

B) To provide the business context for the measures stored in the fact table.

C) To track historical changes to dimension attributes over time.

D) To organize dimension attributes into a structured hierarchy for analysis.

Q. 14 State True or False. In the Type 0 dimension, changes are tracked.

* True
* False

Q. 15 What is the primary advantage of a Type 2 slowly changing dimension?

A) It simplifies data modeling and maintenance.

B) It reduces the need for complex queries to retrieve historical data.

C) It ensures data consistency and integrity in historical analysis.

D) It minimizes storage space required to store historical data.

Q. 16 In the context of data warehousing, what does ETL stand for?

A) Extract, Transform, Load

B) Evaluate, Transform, Load

C) Extract, Transfer, Load

D) Extract, Translate, Load

Q. 17 What is a primary advantage of ELT over ETL?

A) Faster data processing due to parallel loading and transformation capabilities.

B) Simplified data modeling and maintenance.

C) Better support for complex data transformations.

D) Improved data quality and consistency.

Q. 18) In the context of data warehousing, what does "full load" refer to?

A) Loading all the data from source systems into the data warehouse without any filtering or selection.

B) Loading only the new or changed data since the last load into the data warehouse.

C) Loading a subset of data from the source systems based on predefined criteria or filters.

D) Loading data from the data warehouse into the source systems for synchronization purposes.

Q.19) What is the primary advantage of a delta load in data warehousing?

A) It ensures that only the most recent data is loaded into the data warehouse.

B) It minimizes the time and resources required for data loading processes.

C) It allows for incremental updates to the data warehouse without reloading all data.

D) It provides a complete and consistent view of historical data in the data warehouse.

Q. 20 Which of the following is an example of an advanced transformation?

A) Converting all the first names to upper case

B) Concatenating first name and last name fields into a single field.

C) Filtering records based on a specific condition.

D) Splitting a text field into multiple columns.

Q. 21 Which of the following best describes OLAP?

A) OLAP is a process for loading data into a data warehouse.

B) OLAP is a database technology used for transaction processing.

C) OLAP is a set of tools and techniques for analyzing and querying multidimensional data.

D) OLAP is a method for performing real-time data replication between multiple databases.

Q.22 What is the primary characteristic of OLAP systems?

A) They are optimized for high-volume transaction processing.

B) They support complex analytical queries and multidimensional analysis.

C) They are designed for real-time data loading and replication.

D) They focus on data storage and retrieval for operational applications.

Q. 23 In which OLAP technology is data typically pre-aggregated and stored in a multidimensional cube for faster query performance?

A) ROLAP

B) MOLAP

C) HOLAP

D) DOLAP

Q. 24 Which OLAP technology combines the advantages of both ROLAP and MOLAP by storing some data in a multidimensional format and some data in relational tables?

A) ROLAP

B) MOLAP

C) HOLAP

D) DOLAP

Q. 25 In data warehousing, what is the primary purpose of indexes?

A) To store aggregated data for reporting purposes.

B) To optimize data loading processes.

C) To improve query performance by enabling faster data retrieval.

D) To enforce data integrity constraints.