

Delta-Exam-Quiz-Questions

1. Relational OLAP, Multi-dimensional OLAP are used for creating:

Select one:

- Analysis data
- Cubical data
- **Dimensional Data** ✓
- Design data



2. Most common source of change data in refreshing a data warehouse:

Select one:

- **Snapshot change data** ✓
- Cooperative change data
- Queryable change data
- Logged change data



3. Dependent data mart:

Select one:

- Allows you to combine input from sources other than a data warehouse
- Allows you to unite your organization's data into multiple data warehouses
- **Allows you to unite your organization's data into one data warehouse** ✓
- Uncontrolled proliferation of data



4. OLTP is ____ format data and OLAP is ____ format data:

Select one:

- Table and file
- File and structure
- **Table and cube** ✓
- Cube and table



5. True statement about a multidimensional model:

Select one:

- Increasing the size of a dimension is difficult
- It typically requires less disk storage
- Typical business queries requiring aggregate functions take more time
- **It typically requires more disk storage** ✓



6. 'Measure' property is:

Select one:

- Undefined set of data
- Building block of BI
- **Quantifiable data indicator** ✓
- Defined set of data



7. Can you swap rows and columns in a cross tab?

Select one:

- True
- **False** ✓



8. A subset of a data warehouse:

Select one:

- Table
- **Data Marts** ✓
- File
- Data Mine



9. Tasks that are not part of a data warehouse:

Select one or more:

- **Long database transactions** ✓
- Managing schema objects
- **Application development** ✓
- Backing up the data



10. Identifying a Centipede fact table:

Select one:

- Factless fact table
- Fact table with no dimensions
- **Fact table with too many dimensions** ✓
- Fact table with two or three dimensions



11. True about three-tier data warehouses:

Select one:

- A data mart becomes a data warehouse when it reaches a critical size
- The data marts are different groups of tables in the data warehouse
- **Once created, the data marts will keep on being updated from the data warehouse at periodic times** ✓

- Once created, the data marts will directly receive their new data from the operational databases



12. Feature that usually applies to data in a data warehouse:

Select one:

- Most applications consist of transactions
- Data are often deleted
- Relatively few records are processed by applications
- **Data are rarely deleted** ✓



13. Dimension table consisting of attributes that do not belong in the fact table or any existing dimension tables:

Select one:

- **Junk dimension** ✓
- Slowly changing dimension
- Stable dimension
- Conformed dimension



14. Correct Class II ODS:

Select one:

- Updates into the ODS from the DW are unscheduled
- Synchronization of updates occurs overnight
- Updates between operational environment & ODS occurs between 24-hour frame
- **Updates between operational environment & ODS occurs between 2-3 hour frame** ✓



15. Not a data cleaning step in ETL:

Select one:

- Matching
- Standardizing
- **Deleting** ✓
- Consolidating



16. Correct ETL tools:

Select one or more:

- Job Tab
- **Informatica - PowerCenter** ✓
- **SAS - Data Integration Studio** ✓
- **Oracle - Data Integrator** ✓



17. Correct statement about data warehouse:

Select one:

- The data warehouse consists of data marts and operational data
- The data warehouse is used as a source for the operational data
- The data warehouse consists of data marts and historical data
- **The operational data are used as a source for the data warehouse** ✓



18. Three major parallel computing platforms:

Select one:

- **Clusters or grids, MPP, HPC** ✓
- Database, SQL, network
- IaaS, PaaS, SaaS
- Network, cloud, multitenancy





19. Object that provides descriptive information from the data warehouse that can be displayed on a report:

Select one:

- **Attribute** ☒
- Fact
- Domain
- Hierarchy



20. Data granularity refers to:

Select one:

- The amount of metadata stored in a warehouse
- The level of detail in stored data
- **The level of detail or summarization in a fact table** ☒
- The type of indexes used in data retrieval



21. What is the purpose of surrogate keys in data warehouses?

Select one:

- To replace primary keys
- **To uniquely identify records in dimension tables** ☒
- To store foreign keys
- To enforce referential integrity



22. What is a junk dimension?

Select one:

- A dimension that holds all redundant attributes

- **A dimension that stores unrelated attributes that do not fit into other tables** ☒
- A slowly changing dimension
- A dimension that is never used



23. Data warehouses are optimized for:

Select one:

- High-speed transactions
- **Read-heavy analytical queries** ☒
- Storing unstructured data
- Multi-threaded processing



24. A slowly changing dimension (SCD) that keeps historical records is known as:

Select one:

- **Type 2 SCD** ☒
- Type 1 SCD
- Type 3 SCD
- Junk dimension



25. What is the role of metadata in a data warehouse?

Select one:

- Storing raw transaction data
- **Providing information about the structure and meaning of data** ☒
- Performing transformations
- Running queries



26. What is the purpose of a data lake?

Select one:

- A relational database optimized for OLTP
- **A centralized repository that stores structured and unstructured data** ✓
- A subset of a data warehouse
- A visualization tool



27. Which SQL clause is commonly used in OLAP queries?

Select one:

- INSERT
- **GROUP BY** ✓
- UPDATE
- DELETE



28. A snowflake schema:

Select one:

- Uses denormalized data
- **Uses normalized data with multiple related dimension tables** ✓
- Stores only fact tables
- Is the most commonly used schema



29. A data warehouse follows which type of architecture?

Select one:

- Relational
- **Multidimensional** ✓
- Object-oriented
- Hierarchical





30. What does a data staging area do in ETL?

Select one:

- Stores final processed data
- Serves as a backup for the data warehouse
- **Holds extracted data before transformation and loading** ✓
- Provides a user interface for reporting



Questions related to Schemas, ETL, SCDS

1. What is a key characteristic of a star schema?

Select one:

- **Denormalized dimension tables** ✓
- Highly normalized structure
- Uses surrogate keys
- Data stored in flat files



2. Which of the following is true about a snowflake schema?

Select one:

- **Dimension tables are normalized to reduce redundancy** ✓
- All dimension tables are denormalized
- Only fact tables are normalized
- It does not support OLAP queries



3. The primary advantage of a snowflake schema over a star schema is:

Select one:

- **Reduced storage space due to normalization** ✓
- Faster query performance
- Fewer joins needed in queries
- Better for transactional processing



4. What is the main advantage of a star schema?

Select one:

- Uses fewer tables than a snowflake schema
- **Simplifies queries and improves performance** ✓
- Reduces data redundancy
- Normalized dimension tables



5. Which type of schema contains both star and snowflake elements?

Select one:

- **Galaxy Schema** ✓
- Hybrid Schema
- Flat Schema
- Dimensional Schema



6. In ETL, what is the role of the transformation step?

Select one:

- Extracts data from source systems
- Loads data into the data warehouse
- **Cleans, formats, and restructures data before loading** ✓
- Stores metadata





7. Which of the following is NOT a key component of ETL?

Select one:

- Extraction
- Transformation
- **Encryption** ✓
- Loading



8. What does the loading phase in ETL do?

Select one:

- Extracts data from source systems
- **Stores transformed data into the data warehouse** ✓
- Moves data from one OLTP database to another
- Cleans data



9. What is an incremental ETL process?

Select one:

- **Loads only new or changed data instead of full dataset** ✓
- Reloads the entire dataset every time
- Only transforms the data without extracting it
- Deletes old records before loading



10. What is Slowly Changing Dimension (SCD) Type 1?

Select one:


- **Overwrites old values with new ones without keeping history** ✓
- Maintains historical records by adding new rows

- Keeps both old and new values in separate columns
- Uses surrogate keys to track history



11. Which Slowly Changing Dimension (SCD) type maintains full historical records?


Select one:

- SCD Type 1
- **SCD Type 2** 
- SCD Type 3
- Hybrid SCD



12. In SCD Type 3, how is historical data stored?


Select one:

- **Uses separate columns for old and new values** 
- Stores history in new rows
- Replaces old values with new ones
- Deletes old records



13. What is a surrogate key in a data warehouse?

Select one:

- A primary key from the source database
- A natural key used for queries
- **A system-generated unique key used in dimension tables** 
- A composite key



14. Which of the following is true about fact tables?

Select one:

- Store descriptive attributes
- **Contain measurable business data** ✓
- Contain only textual data
- Do not have foreign keys



15. In a star schema, dimension tables are connected to:

Select one:

- Other dimension tables
- **A central fact table** ✓
- Multiple fact tables
- The staging area



16. What is a junk dimension?

Select one:

- A duplicate of another dimension
- A type of slowly changing dimension
- **A dimension table storing miscellaneous attributes that do not fit in other tables** ✓
- A table containing only surrogate keys



17. What happens in a full ETL refresh?

Select one:

- **All data in the warehouse is deleted and reloaded from scratch** ✓
- Only new or updated records are loaded
- Data is transformed without extraction
- The ETL pipeline is skipped





18. What does an ETL staging area do?

Select one:

- **Temporarily holds extracted data before transformation and loading** ✓
- Acts as the final storage for processed data
- Stores metadata for ETL tools
- Generates reports



19. What type of ETL process ensures data consistency and recovery from failures?

Select one:

- **Incremental ETL with change tracking** ✓
- Full ETL refresh
- One-time data migration
- Batch processing



20. Why do star schemas have better performance than snowflake schemas?

Select one:

- **Fewer joins are required in queries** ✓
- Normalization improves storage
- They use composite keys
- They store unstructured data



21. A degenerate dimension:

Select one:

- **Is a dimension key stored in a fact table without a separate dimension table** ✓
- Contains only numeric measures

- Stores time-related data
- Is the same as a junk dimension



22. What is the role of metadata in ETL?

Select one:

- **Describes the structure, rules, and lineage of data** ✓
- Stores business intelligence reports
- Contains transaction logs
- Provides real-time analytics



23. Which ETL tool is widely used for enterprise data integration?

Select one:

- **Informatica PowerCenter** ✓
- Excel
- MongoDB
- Google Sheets



24. What is a role-playing dimension?

Select one:

- **A dimension used multiple times in a schema for different contexts** ✓
- A dimension that contains junk attributes
- A dimension that only appears in snowflake schemas
- A special type of fact table



25. What is the main purpose of a conformed dimension?

Select one:

- To normalize dimension tables
- **To ensure consistency across multiple fact tables** ✓
- To track historical changes
- To store transactional data



26. How does SCD Type 2 typically store historical changes?

Select one:

- **By adding a new row with a surrogate key for each change** ✓
- By updating the existing row
- By deleting the old record
- By using an index table



27. What type of ETL transformation removes duplicate records?

Select one:

- Data enrichment
- **Deduplication** ✓
- Aggregation
- Pivoting



28. In which scenario is a snowflake schema preferred over a star schema?

Select one:

- **When storage space is a concern and normalization is required** ✓
- When faster query performance is needed
- When data is primarily unstructured
- When there are no foreign key constraints





29. What is the primary purpose of ETL job scheduling?

Select one:

- To extract data in real time
- **To automate data extraction, transformation, and loading at predefined intervals** ✓
- To load data without transformation
- To reduce query execution time



30. What happens in an SCD Type 4 implementation?

Select one:

- A history table is maintained separately from the main dimension table
- Old values are overwritten with new ones
- Changes are tracked using additional columns
- **A history table is maintained separately from the main dimension table** ✓