SQL:

Question1: Which of the following is/are DDL commands in SQL?

Solution: Option A, Create, Option D, ALTER

Question 2: Which of the following is/are DML commands in SQL?

Solution: Option A, Update, Option B, Delete

Question 3: Full form of SQL is:

Solution: Option B, Structured Query Language

Question 4: Full form of DDL is:

Solution: Option B, Data Definition Language

Question 5: DML is:

Solution: Option A, Data Manipulation Language

Question 6: Which of the following statements can be used to create a table with column B int type and C float type?

Solution: Option C, Create Table A (B int, C float)

Question 7: Which of the following statements can be used to add a column D (float type) to the table A created above?

Solution: Option B, Alter Table A ADD COLUMN D float

Question 8: Which of the following statements can be used to drop the column added in the above question?

Solution: Option B, Alter Table A Drop Column D

Question 9: Which of the following statements can be used to change the data type (from float to int) of the column D of table A created in above questions?

Solution: Option B, Alter Table A Alter Column D int

Question 10: Suppose we want to make Column B of Table A as primary key of the table. By which of the following statements we can do it?

Solution: Option A, Alter Table A Add Constraint Primary Key B

Question 11: What is data warehouse?

Solution: It is a database designed to enable business intelligence activities. It exists to help business owners to comprehend and enhance their organization's efficiency. It is designed for query and analysis rather than for transaction processing, and usually contains historical data derived from transaction data, but can include data from other sources. Data warehouses separate analysis workload from transaction workload and enable an organization to consolidate data from several sources. This helps in:

- Maintaining historical records
- Analyzing the data to gain a better understanding of the business and to improve the business

Question 12: What is difference between OLTP and OLAP?

Solution: OLTP and OLAP: The two terms look similar but refer to different kinds of systems. Online transaction processing (OLTP) captures, stores, and processes data from transactions in real time. Online analytical processing (OLAP) uses complex queries to analyze aggregated historical data from OLTP systems.

An OLTP system captures and maintains transaction data in a database. Each transaction involves individual database records made up of multiple fields or columns.

OLAP applies complex queries to large amounts of historical data, aggregated from OLTP databases and other sources, for data mining, analytics, and business intelligence projects. In OLAP, the emphasis is on response time to these complex queries.

Question 13: What are the various characteristics of data-warehouse?

Solution: Data warehouses are characterized by being:

It is Subject-oriented: A data warehouse typically provides information on a topic (such as a sales inventory or supply chain) rather than company operations.

Time-variant: Time variant keys (e.g., for the date, month, time) are typically present.

Integrated: A data warehouse combines data from various sources. These may include a cloud, relational databases, flat files, structured and semi-structured data, metadata, and master data. The sources are combined in a manner that's consistent, relatable, and ideally certifiable, providing a business with confidence in the data's quality.

Persistent and non-volatile: Prior data isn't deleted when new data is added. Historical data is preserved for comparisons, trends, and analytics.

Question 14: What is Star-Schema??

Solution: A star schema is a multi-dimensional data model used to organize data in a database so that it is easy to understand and analyze. Star schemas can be applied to data warehouses, databases, data marts, and other tools. The star schema design is optimized for querying large data sets.

Introduced by Ralph Kimball in the 1990s, star schemas are efficient at storing data, maintaining history, and updating data by reducing the duplication of repetitive business definitions, making it fast to aggregate and filter data in the data warehouse.

Question 15: What do you mean by SETL?

Solution: SETL (SET Language) is a very high-level programming language based on the mathematical theory of sets. The language introduced a fundamentally new paradigm in programming in which sets, ordered sets and maps are the principal data structures and the programs are expressed in terms of set constructors, set operations, and predicates on sets. The very name SETL is an abbreviation of ‘SET Language’.