1. In which phase of the database lifecycle does the database administrator work on logical and physical design? **1 / 1 point**

- Monitor and maintain
- Design and plan
- Requirements analysis
- Implementation

Expand

Correct
In the design and plan stage, database administrators work on logical and physical design.

2. Which of the following database objects defines a set of actions performed in response to an insert, update, or delete on a specified table? **0 / 1 point**

- Trigger
- Index
- Event
- Constraint

Expand

Incorrect
Refer to the Database Objects video.

3. Which of the following statements is correct about modifying the configuration of a cloud-based relational database? 1 / 1 point

- You need to modify the configuration files directly.
- You can safely discard the configuration files after modifying them.
- You must use the command line to modify the configuration.
- (selected) You can modify the configuration while the service is running.

Expand

Correct
One advantage of cloud-based systems is that you can scale many configuration options through a graphical interface as the service is running. You don't have to edit configuration files.

4. In the context of database storage, temperature refers to which of the following? 1 / 1 point

- Capacity of container
- Means of configuration
- (selected) Frequency of access
- Recoverability of data

Expand

Correct
In the context of database storage, temperature refers to the frequency of data access: hot data is accessed very frequently, warm data is accessed somewhat frequently, and cold data is accessed infrequently.

5. What is one advantage of physical backups over logical backups? **1 / 1 point**

- Physical backups enable you to backup granular objects.
- (•) Physical backups are often smaller and quicker.
- You can restore physical backups on a very different system.
- Restoring physical backups usually allows you to reclaim wasted space.

Expand

Correct
Physical backups are often smaller and quicker than logical backups, making logical backups useful for large or important databases that require fast recovery times.

6. What does a database management system (DBMS) use transaction logs to do? **1 / 1 point**

- Monitor other logs in the system
- Keep track of all the users that access the database
- Record system or hardware failures
- (•) Keep track of all transactions that change or modify the database

Expand

Correct
A database management system (DBMS) uses transaction logs to keep track of all transactions that change or modify the database.

7. What is one advantage of differential backups over full backups? 1 / 1 point

- Simpler restore method
- Quicker backup process
- Better file integrity
- Greater data security

Expand

Correct
Differential backups are quicker to run than full backups, but the restore process can take longer.

8. Which of the following is true? 1 / 1 point

- You cannot automate using a graphic user interface.
- You can configure the content of a report, but the frequency is always the same.
- Reports can be automated, but notifications and alerts cannot.
- The method of automating reports, notifications, and alerts varies depending on which RDBMS you use.

Expand

Correct
Different systems have different processes to automate these.

9. Which security method verifies that users are who they say they are? **1 / 1 point**

- (●) Authentication
- ( ) Authorization
- ( ) Encryption
- ( ) Auditing

Expand

Correct
Authentication is a process of verifying that users are who they claim to be. For example, an authentication system may validate credentials such as username and password.

10. Which of these is NOT a decision you must make about implementing a backup plan? **0 / 1 point**

- (●) Hot or cold backup
- ( ) Physical or logical backup
- ( ) Who will be responsible for the plan
- ( ) Encryption

Expand

Incorrect
Please review the Backup Policies video.

11. The principle of least privilege should be followed for all users, groups, and roles. Which of the following describe this principle? **0 / 1 point**

- ○ Multiple, more granular groups or roles
- ◉ Separate accounts with fewer privileges
- ○ Groups and roles with same privileges
- ○ Fewer, granular groups and roles

Expand

✗ **Incorrect**
Please review the Users, Groups, and Roles video.

12. The GRANT connect statement connects a user or group to a database. What else does the GRANT statement do? **1 / 1 point**

- ○ Add privileges
- ○ Reject
- ◉ Grant user permissions to create objects
- ○ Delete

Expand

✓ **Correct**
You can also use the GRANT statement to grant privileges to create objects in a database.

13. Which storage engine available in MySQL is suitable for most data storage needs? **1 / 1 point**

- BLACKHOLE
- CSV
- InnoDB
- MyISAM

Expand

Correct
InnoDB is suitable for most data storage needs and is MySQL's default storage engine.

14. Which of the following is an action you can take to help you identify potential future attacks, such as brute force attempts, on your system? **1 / 1 point**

- Implementing strong encryption for all data
- Using data masking to anonymize user data
- Testing and monitoring the security of applications
- Tracking failed attempts to access the database

Expand

Correct
You should track failed attempts to access the database, as these can help you to identify potential attacks, such as brute force attempts, on your system.

15. Which type of encryption uses a public and a private key? **1 / 1 point**

- Symmetric encryption
- Transparent data encryption
- Full disk encryption
- Asymmetric encryption

Expand

Correct
Asymmetric encryption, also known as public key encryption, uses a public key and a private key. You encrypt the data with the public key and valid users have a unique matching private key to decrypt it.

16. What is the main difference between symmetric and asymmetric encryption? **1 / 1 point**

- Shared keys
- Advanced encryption
- Number of keys
- Data encryption standard

Expand

Correct
Symmetric encryption uses the same key for encryption and decryption. Asymmetric encryption uses a public key for encryption and a private key for decryption.

17. Which level of database monitoring is often the most misleading? **1 / 1 point**

- Platform
- Infrastructure
- User
- Query

Expand

Correct
If users are not reporting any issues, you might assume everything is working properly. However, just because users aren't noticing or reporting an issue doesn't mean an issue doesn't exist or won't arise soon. Therefore, the user level is often misleading.

18. Which log is most useful for troubleshooting database problems? **1 / 1 point**

- Database transaction log
- Query log
- Diagnostic log
- User session log

Expand

Correct
The diagnostic log is a record of significant events and errors in chronological order and is very useful for diagnosing or troubleshooting problems.

19. Which tool can you use to monitor your database in real-time? **0 / 1 point**

- Monitoring snapshots
- Event monitors
- Monitoring tables
- System monitors

Expand

Incorrect
Refer to the Overview of Database Monitoring video.

20. What is the automated database task that determines how efficient the database system is? **1 / 1 point**

- Database configuration check
- Trace file cleanup
- Database health check
- Schema object check

Expand

Correct
The database health check is the process of inspecting a database system to determine the system's health and efficiency.

21. In MySQL, what does the OPTIMIZE TABLE command do? **1 / 1 point**

- (●) Reorganizes physical storage of table data
- ( ) Fixes a possibly corrupted table
- ( ) Shows a checksum for the contents of a table
- ( ) Generates statistics about a table's data

Expand

Correct
The OPTIMIZE TABLE command reorganizes the physical storage of table data and associated index data. This reorganization reduces storage space and improves I/O efficiency when accessing the table.

22. There are a few core principles to consider when designing indexes. Which core principle involves knowing what data type is contained in the index? **1 / 1 point**

- (●) Understand characteristics of columns
- ( ) Understand how database is used
- ( ) Understand the most frequently used queries
- ( ) Determine best location to store index

Expand

Correct
Knowing what kind of data columns will contain can help you choose an appropriate index type.

23. Server configuration issues can severely effect performance and operations. Which of the following issues can require software patches? 1 / 1 point

- Improper storage configuration
- Bugs in OS or RDBMS
- Out of disk space
- Disk fragmentation

Expand

Correct
Bugs can result in errors and crashes, so regularly apply software patches and security updates.

24. In an SQL server, when is an error log created? 1 / 1 point

- When the SQL server shuts down
- When the SQL server receives an administrator request
- When the SQL server experiences an error
- When the SQL server starts

Expand

Correct
The error log is created every time that SQL is started.

25. What is compliance? **1 / 1 point**

- Making sure your data will fit into your planned database
- Making sure your database practices follow all applicable laws, regulations, and industry standards
- Using secure archiving
- Adhering to transparent practices

Expand

Correct

Failure to comply can result in data insecurity, professional censure for your organization, and even legal action.