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### CS5340 Databases – Fall 2025 ( Quiz # 0 )

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

#### Instructions

- 1- Read the Questions carefully to give concise Answers.
- 2- Answers outside the box will not be considered. Answers should be readable
- 3- Clearly mention any assumptions you have taken in your Answers.
- 4- Use of unfair means will result in an award of ZERO marks.

Q1. According to the course outline, what percentage of the final grade comes from weekly quizzes?

- |        |        |
|--------|--------|
| A. 0.4 | B. 0.5 |
| C. 0.6 | D. 0.7 |

Explain your answer:

Q2. Ali orders food through an online app. His order immediately shows up in the restaurant's kitchen system and also updates on his delivery app. Which database feature makes this possible

- |                     |                      |
|---------------------|----------------------|
| A. Batch processing | B. Real-time sharing |
| C. Data encryption  | D. Data redundancy   |

Explain your answer:

Q3. Microsoft SQL Server listens for incoming connections on a default TCP port. Which statement about this is correct?

- |   |   |
|---|---|
| A. SQL Server uses port 80 because it follows HTTP-based communication. | B. SQL Server uses port 1433, and clients must connect to this port unless explicitly reconfigured. |
| C. SQL Server randomly assigns a new port each time the service starts. | D. SQL Server listens on port 22 by default, just like SSH.   |

Explain your answer:

Q4. Which benefit of databases ensures unauthorized people cannot access sensitive information?

- A. Paper filing
- B. Duplication
- C. Security controls and encryption
- D. Flat files

Explain your answer:

Q5. In SQL Server, which default port number is used for client applications to connect over TCP/IP?

- A. 80
- B. 1433
- C. 21
- D. 3306

Explain your answer:

Q6. Which encryption method uses a single key for both encryption and decryption?

- A. Symmetric encryption
- B. Asymmetric encryption
- C. Hashing
- D. One-time pad

Explain your answer:

Q7. What was the main limitation of flat files?

- A. They required internet access
- B. No relationships and manual updates across files
- C. They only supported multimedia data
- D. They used too much encryption

Explain your answer:

Q8. A database is primarily designed for:

- A. Random file storage
- B. Efficient storage, retrieval, and management of information
- C. Paper-based indexing
- D. Only storing images and videos

Explain your answer:

Q9. During the 2010s, the surge of social media, IoT, and smartphones primarily led to which development in database systems?

- A. Emergence of hierarchical databases
- B. Increased use of NoSQL systems for semi/unstructured data
- C. Decline of relational databases in banking
- D. Replacement of SQL by flat files

Explain your answer:

Q10. Which encryption method uses a pair of keys (public and private)?

- A. Symmetric encryption
- B. Asymmetric encryption
- C. Hashing
- D. One-time pad

Explain your answer:

Q11. What is the default TCP port for Microsoft SQL Server?

- A. 80
- B. 21
- C. 1433
- D. 3306

Explain your answer:

Q12. When exams were conducted across 10 schools in 1960 and stored as paper records, which of the following was NOT listed as a major issue?

- A. Duplication of data
- B. Very difficult to share results
- C. Lack of standardized format
- D. Instant real-time collaboration

Explain your answer:

Q13. If someone wants to send you a confidential message using asymmetric encryption, which key should they use to encrypt it?

- A. Their own public key
- B. Your public key
- C. Their own private key
- D. Your private key

Explain your answer:

Q14. In education, databases are commonly used to store:

- A. Students' grades and attendance
- B. Teacher's handwritten notes only
- C. Printed exam answer sheets
- D. Classroom blackboard content

Explain your answer:

Q15. What is a database in simple terms?

- A. A random list of files
- B. A digital version of a well-organized cupboard
- C. A locked cabinet with physical files
- D. A machine for storing paper records

Explain your answer:

Q16. In symmetric encryption, what is the main challenge?

- A. It is too slow
- B. Algorithms are not secure
- C. Securely sharing the key
- D. It requires two keys

Explain your answer:

Q17. In asymmetric encryption, if someone wants to send you a secure message, which key do they use to encrypt that message?

- A. Their private key
- B. Your public key
- C. Your private key
- D. Their password

Explain your answer:

Q18. In the 1960s, a university stored student records in flat files. When a student's department changed, every file containing that student's information had to be manually updated. This issue directly reflects which limitation of flat files?

- A. Lack of encryption and authentication
- B. Redundancy due to absence of relationships
- C. Difficulty in converting unstructured data to structured form
- D. Unavailability of semi-structured formats like JSON or XML

Explain your answer:

Q19. When multiple doctors in different hospitals access the same patient record instantly, this is an example of:

- A. Data Redundancy
- B. Centralized Access
- C. Data Loss
- D. Manual Sharing

Explain your answer:

Q20. In the 1960s school exam example, which issue was NOT among the major problems of paper-based storage?

- A. No way to easily detect duplicate submissions.
- B. Difficulty in sharing exam data across locations.
- C. Risk of physical damage such as fire or theft.
- D. Automatic enforcement of integrity constraints on results.

Explain your answer: