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

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

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

### Instructions

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- 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.
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**Q1. Which statement best describes the relationship between a public key and a private key in asymmetric encryption?**

- A. Both keys are identical and kept secret      B. The public key is shared openly, while the private key is kept secret
- C. Both keys must always be kept private to ensure security      D. The public key is used only for authentication, not encryption

Explain your answer:

**Q2. Which problem was solved by introducing databases in exam systems?**

- A. Risk of paper damage during shipping      B. Needing more warehouses
- C. Too many authorized users      D. High cost of encryption

Explain your answer:

**Q3. why is port 1433 important for Microsoft SQL Server?**

- A. It is the default port used by SQL Server for broadcasting messages      B. It is the default port SQL Server listens on for incoming client connections
- C. It is a random port assigned to SQL Server during installation      D. It is used by web servers to handle HTTP requests

Explain your answer:

**Q4. Which of the following is a unique feature of asymmetric encryption compared to symmetric encryption?**

- A. It uses a single secret key for both encryption and decryption.
- B. It does not require secret keys.
- C. It uses a mathematically linked pair of keys (public & private) where one key encrypts and only the other can decrypt.
- D. It is generally faster and more efficient for bulk data encryption.

Explain your answer:

**Q5. Which is an example of structured data?**

- A. Employee table with ID, Name, and Salary
- B. A folder of holiday pictures
- C. Chat messages in WhatsApp
- D. Customer reviews in free text

Explain your answer:

**Q6. Why were flat files of the 1960s considered highly inefficient?**

- A. They supported relationships but lacked indexing.
- B. They stored data in binary instead of text, making them unreadable.
- C. A change in one file often required manual updates in multiple related files.
- D. They required SQL to query, which slowed down retrieval.

Explain your answer:

**Q7. Why is sharing exam data easier with databases?**

- A. Data must be shipped physically
- B. Data can be instantly accessed online from anywhere
- C. Multiple duplicate copies are made
- D. Examiners exchange CDs or USBs

Explain your answer:

**Q8. Which of the following best illustrates the difference between data and information in the context of databases?**

- A. 102, 105, 110 are marks of students and is data; calculating the class average as 105.6 is information.
- B. A sales report showing profit margins is data, while the raw receipts are information.
- C. A table of employee names is information, while identifying their manager is data.
- D. The JSON file of an online purchase is information, while the analysis of customer spending patterns is data.

Explain your answer:

**Q9. Which of the following is NOT a feature of a modern database?**

- A. Centralized Access
- B. Real-time Sharing
- C. Manual sorting of files
- D. Efficient storage and management

Explain your answer:

**Q10. Which leadership role oversees all data activities, policies, and governance?**

- A. Database Administrator
- B. Data Analyst
- C. Chief Data Officer (CDO)
- D. Database Architect

Explain your answer:

**Q11. Which of the following is an example of semi-structured data?**

- A. Employee records stored in an SQL table  
(Name, ID, Salary)
- B. A folder of customer support chat screenshots
- C. A JSON file containing user profile information
- D. A printed report of monthly sales figures

Explain your answer:

**Q12. Which is an example of unstructured data?**

- A. An SQL query log
- B. XML document
- C. A set of family photos
- D. Excel attendance sheet

Explain your answer:

**Q13. Which of the following best defines data?**

- A. Processed information ready for decisions
- B. Raw facts and figures without context
- C. A collection of insights and reports
- D. Organized tables in a DBMS

Explain your answer:

**Q14. Which of the following best describes a database?**

- A. A file system for saving documents only
- B. An organized collection of data stored electronically for efficient access and management
- C. A programming language for queries
- D. A computer hardware device for storage

Explain your answer:

**Q15. Which type of data does not follow a fixed format or structure?**

- A. Structured data
- B. Semi-structured data
- C. Unstructured data
- D. Tabular data

Explain your answer:

**Q16. Which feature ensures the same records are visible to all users accessing a database?**

- A. Encryption
- B. Data Integrity
- C. Indexing
- D. Cloud Hosting

Explain your answer:

**Q17. Which of the following is a major challenge of symmetric key encryption?**

- A. It requires significantly more computational power than asymmetric key encryption
- B. Secure key distribution between communicating parties
- C. Managing a large number of keys in a network
- D. Keys automatically expire after each use

Explain your answer:

**Q18. Which is an example of database use in government systems?**

- A. YouTube playlists
- B. Passport and CNIC records
- C. Online shopping carts
- D. Multiplayer game rankings

Explain your answer:

**Q19. Which of these is an example of semi-structured data?**

- A. A log of temperature readings in Excel
- B. A folder of PDF resumes
- C. JSON or XML files
- D. A handwritten ledger

Explain your answer:

**Q20. Which is an example of semi-structured data?**

- A. A CSV payroll file
- B. JSON file of user profile data
- C. Printed sales report
- D. A scanned book image

Explain your answer: