

CISC 7500X Final Exam

Short-answer questions. Each question is worth 5-points. Leaving an answer blank earns 1-point (writing a wrong answer earns 0-points).

1. What is a data model? What does it contain? What are the objectives of data modeling? What are some different approaches to data modeling?
2. Consider a scenario where there might be a high number of devices trying to access the network at once, which type of LAN (contention-based or token-based) do you think would be more efficient and why?
3. How can ERP systems help improve communication and collaboration between different departments within a company?
4. List three key operational uses of an ERP system.
5. List three key Non-operational uses of an ERP system.
6. List differences between Operations and Analytics.
7. Explain the potential drawbacks of a single database and the reasons why organizations might choose to maintain separate databases despite the benefits of a consolidated approach?
8. Explain the key differences between batch and online processing.
9. What factors are pushing organizations to adopt service-oriented architectures, and what factors are holding them back?
10. Differentiate between a two-tier client/server system and a three-tier client/server system. Differentiate between a fat client and a thin client. Why would a firm choose one of these approaches over the others when implementing a client/server system?

11. Explain the concept of Software-as-a-Service (SaaS) and describe at least one application area in which SaaS is becoming important. Do you think the use of SaaS will expand, and why or why not?
12. Explain both data warehousing and data mining. How are they related?
13. Describe the primary components of a decision support system, and how they interact.
14. How do supervised and unsupervised learning differ in their approach to uncovering patterns within data?
15. Name two common unsupervised learning methods, and what inherent challenges do they present compared to supervised training methods?
16. What is a proxy metric used for in machine learning, and how does it relate to data analysis?
17. Define and contrast the following pairs of terms: dot-com and bricks-and-clicks, intranet and extranet, B2C and B2B.
18. Briefly explain and give examples of business process re-engineering.
19. With regards to records management, why is altering existing business records never allowed? What is a correct course of action if an existing business record has an error?
20. Describe a system architecture behind a large online retailer shopping cart. (e.g. how does Amazon.com maintain their shopping cart). What properties would such a system need to have? It is online or batch processing? Describe the process of adding an item to the shopping cart, where and how would that be persisted? What would be the response time? Which big-data technologies would be appropriate for this use-case?