

CISC 7500X Midterm Exam

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

Answers must be emailed in plain text (no formatting, no attachments). Email *must* have your *full name* at the *top*. Answers to questions must be clearly marked (question number before each answer), and be in sequence (question 1 should come before question 2, etc.).

1. Describe a new business for which you think a “virtual organization” —which has no physical office or headquarters—could be an effective design. What are some ways that the organization could use IT to help them effectively run their business?
2. What are the primary characteristics of an object-oriented language? How does an object-oriented language differ from a third-generation language or a forth generation language?
3. What are the primary advantages of a forth generation language over the third generation language? What are the primary disadvantages?
4. Discuss the advantages and disadvantages of the four primary types of local area networks—contention bus, token bus, token ring, and wireless.
5. What is a data model? What does it contain? What are the objectives of data modeling? What are some different approaches to data modeling?
6. Explain why, given the benefits of a consolidated, integrated data architecture, some organizations still maintain multiple databases?
7. Describe the fundamental differences between batch processing and online processing. What is in-line processing?
8. What factors are pushing organizations to adopt service-oriented architectures, and what factors are holding them back?
9. Explain the concept of virtualization. Explain at least one type of virtualization that is being used in IT shops today. Why is virtualization becoming important.
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. Describe some ways the Internet has or has not impacted the ways you:
 - (a) buy gadgets
 - (b) read news
 - (c) decide which movie to see next

- (d) decide what political candidate to vote for
 - (e) do research for a course
15. Define and contrast the following pairs of terms: dot-com and bricks-and-clicks, intranet and extranet, B2C and B2B.
 16. Analyze how candidates in the current political election appear to be leveraging the Internet as part of their campaign, or not.
 17. Briefly explain and give examples of business process re-engineering.
 18. Describe the underlying principles of SDLC.
 19. Describe the underlying principles of agile systems development methodologies. Contrast with SDLC.
 20. Company XYZ is offering online training classes. They notice that during classes, most students silently sit in listen-only mode. They wish to differentiate themselves by having more interactive courses, where students participate with the instructor, as well as with each other.
 - (a) What technologies or techniques can XYZ corporation use to enable more interactivity among students?
 - (b) How would XYZ corporation go about implementing such techniques?
 - (c) How would the technique work to get students to interact more?