

**BOWIE STATE UNIVERSITY
COMPREHENSIVE EXAMINATION FOR
MANAGEMENT INFORMATION SYSTEMS**

25 June 2005

Instructions:

The Comprehensive Examination for Management Information Systems is a three hour examination. You are required to answer **three questions**. You must respond to one question from Part A (the technical portion of the curriculum) and one question from part B (the management-related portion of the curriculum). Finally, respond to a third question from either part A or part B.

Grading the comprehensive exam requires approximately six weeks. No results will be released until all examinations, in all degree programs, have been graded. Answers to each question are graded "blind" by three faculty members with expertise in the subject matter.

Answers are graded as either "pass" or "fail." "Pass" indicates a minimum grade of B. In the event of a "fail" on the exam written comments from the graders explaining why the student's response was insufficient and what would be required for a passing grade will be supplied to the student. A student must pass two of three questions to receive a grade of "pass" for the comprehensive examination.

A set of URL's previously provided describe the general scenario, described in summary below. While the URL's provide additional background to the scenario, the summary below provides sufficient background for good responses to the comprehensive examination questions

General Scenario:

In 2003, Oracle became the number 3 (in size) enterprise-applications vendor, losing the number 2 spot to PeopleSoft when they acquired another company. Oracle then began an attempt to take over PeopleSoft, so as to regain the number 2 spot. PeopleSoft fought the takeover, and there was much legal action before the "merger" of both companies into Oracle happened in January 2005.

Now, Oracle faces the challenges of keeping the customers of both PeopleSoft and the company it had taken over. In addition to promising to provide support for the existing products in use by these customers, Oracle has promised to produce a "best-of-all-worlds merged product that's now code-named Project Fusion and is supposed to be ready by 2008". This ERP (Enterprise Resource Planning) system will be a new set of modular, Java-based applications, nicknamed Project Fusion.

O'Brien tells us that an ERP system is "integrated cross-functional software that reengineers manufacturing, distribution, finance, human resources and other basic business processes of a company to improve its efficiency, agility, and profitability."

The links provided gave approximately 20 pages of background information on PeopleSoft's resistance to the takeover and on Oracle's plans for the future. As you answer the questions on the comprehensive exam, please remember that the scoring of your response will be based on how well you can *apply* what you have learned to specific questions, some of which invite reasonable speculation that outsiders cannot know as fact about what has taken and is taking

place as PeopleSoft is absorbed into Oracle, and about how the new system will be developed. The information provided in this introduction, and within the questions themselves, should be sufficient to allow you to demonstrate your knowledge and your ability to apply it to what is asked, whether or not you have read the background material.

Comprehensive Examination Questions:

Part A

(answer at least one question from Part A)

1. Oracle has promised to produce a “best-of-all-worlds merged product that's now code-named Project Fusion and is supposed to be ready by 2008”. Within an organization, this ERP (Enterprise Resource Planning) system may be run on many different hardware platforms, ranging from desktop (and laptop) PC's up to blade servers and large mainframes.
 - (a) Discuss three (3) hardware issues that may impact the performance differences experienced by a user who routinely moves between different platforms, using the same software.
 - (b) Discuss three (3) software issues that must be considered when designing a software system to be run on a variety of different hardware platforms.

2. Oracle has promised to produce a “best-of-all-worlds merged product that's now code-named Project Fusion and is supposed to be ready by 2008”. This ERP (Enterprise Resource Planning) system will be a new set of modular, Java-based applications, nicknamed Project Fusion.
 - (a) Describe in detail three (3) distinguishing characteristics of object-oriented programming languages, and explain how each of these characteristics would be useful in creating a product such as Project Fusion.
 - (b) Describe a different (not object-oriented) programming language paradigm in sufficient detail to support your opinion regarding whether or not it would be better (than object-oriented) to use for programming Project Fusion.

3. O'Brien tells us that an ERP system is “integrated cross-functional software that reengineers manufacturing, distribution, finance, human resources and other basic business processes of a company to improve its efficiency, agility, and profitability.”
 - (a) For a company not contained entirely within one physical building, identify and describe three (3) business functions/processes of the ERP that would be good to support via the Internet. Describe relevant assumptions about the physical structure, and explain why the Internet would be a good medium. Be sure to address security concerns.
 - (b) The Fusion system will be running on different hardware platforms. Explain in detail, covering three (3) networking layers, how the communications between the different platforms can take place.

Part B

(answer at least one question from Part B)

4. O'Brien tells us that an ERP system is "integrated cross-functional software that reengineers manufacturing, distribution, finance, human resources and other basic business processes of a company to improve its efficiency, agility, and profitability."
 - (a) Describe in detail three (3) reasons that Oracle's having taken over PeopleSoft would be likely to result in a more successful ERP system than if Oracle had continued to "go it alone".
 - (b) Describe in detail three (3) reasons that Oracle's having taken over PeopleSoft might NOT result in a more successful ERP system than if Oracle had continued to "go it alone".

5. Oracle has promised to produce a "best-of-all-worlds merged product that's now code-named Project Fusion and is supposed to be ready by 2008". This ERP (Enterprise Resource Planning) system will be a new set of modular, Java-based applications, nicknamed Project Fusion.
 - (a) Describe in detail the traditional and object-oriented methodologies of systems analysis and design, and for each give a convincing reason why it would be a good methodology to use in the design of Project Fusion. Then for each give a convincing reason why it might NOT be a good choice.
 - (b) Compare and contrast the waterfall and spiral approaches to the SDLC. Argue for and against the use of each for the development of Project Fusion.

6. O'Brien tells us that an ERP system is "integrated cross-functional software that reengineers manufacturing, distribution, finance, human resources and other basic business processes of a company to improve its efficiency, agility, and profitability."
 - (a) In an ERP (assuming a large company, not a small "mom and pop" operation!), identify and justify three (3) business functions/processes for which a distributed database would be most appropriate.
 - (b) In an ERP (again, assuming a large company), identify and justify three (3) business functions/processes for which a centralized database would be most appropriate.
 - (c) Describe three (3) responsibilities of the database administrator of a large company that purchases or leases Oracle's new ERP.