1. Explain the following terms: (20%)
   (1) Porter's value chain model
   (2) OLAP (Online Analytical Processing)
   (3) Data Mining
   (4) SDLC (System Development Life Cycle)
   (5) EUC (End-User Computing)

2. Describe what is IRM (Information Resource Management) and its importance in the organization. (10%)

3. Describe the concept of mass customization. Explain how the Web enables mass customization. (10%)

4. Please explain the steps of performing “normalization” on a database. (10%)

5. In your opinions, how to promote the effectiveness and efficiency of managing a web site with the tools or concepts of “data mining”? (10%)

6. How can “Information Technologies (IT)” be applied to enhance “Enterprise Resources Planning (ERP)”? (10%)

7. Define multiprogramming, virtual storage, time sharing, and multiprogramming. (10%)

8. Infrastructure decisions have both technical and business components. Identify these components. (10%)

9. What are the principles of structured design? How can it promote software quality? (10%)
1. The Internet can be used to help a company conduct competitive intelligence easily, quickly, and relatively inexpensively in many ways. Describe five ways based on the comment. (10%)

2. What is SCM (supply chain management)? How is SAP R/3 related to SCM? (10%)

3. Define the DSS (Decision Support Systems) and explain how DSS can support the implementation of a decision. (10%)

4. What are the major causes of implementation success or failure? How are they related to the failure of business re-engineering projects? (10%)

5. What is the user-designer communication gap? What kinds of implementation problems can it create? (10%)

6. Identify the four infrastructure decisions involving shared facilities. (10%)

7. Identify and briefly describe two principal methodologies for establishing organizational information requirements. (10%)

8. Case Study (30%)

*Read this article, then give answers for the questions following the article.*

Ikon Office Solutions is one of the world’s leading office technology companies, with revenues exceeding $5 billion and operations in the U.S., Canada, Mexico, the United Kingdom, France, and Denmark. Ikon is pursuing a growth strategy to move from what was more than 80 individually operating copier dealers to an integrated company twice that size in the next 4 years. Its goal is to provide total office technology solutions, ranging from copiers, digital printers, and document management services to systems integration, training, and other network technology services. The company has rapidly expanded its service capability with an aggressive acquisition effort that has included technology services and document management companies.

Given these objectives, the company seemed to need ERP software. A few years ago, it began a pilot project in the Northern California district to assess the possibility of using SAP’s enterprise software applications company wide. Chief Information Officer David Gadra, who joined Ikon about a month after the pilot system was turned on, however, decided not to roll it out. Ikon will take a $25 million write-off on the cost of the pilot.

“There were a number of factors that made us decide this project was more challenging than beneficial for us,” says Gadra. “When we added everything up - human factors, functional gaps, and
costs incurred – we decided our environment is ill-defined for SAP.” Instead, Ikon is bringing all 13 of its regional operations onto a home-grown application system.

“I don’t blame the consultants or SAP,” he says. “We made errors on our side in estimating the amount of business change we’d have to make as part of this implementation.”

The vast majority of the $25 million loss represents consultant fees; less than 10% went to pay for the software itself. At any given point in the project, Ikon was paying 40 to 50 outside consultants $300 an hour.

Ikon budgeted $12 million to get the system running. That cost came in at over $14 million, including $8 million paid to IBM for consulting.

A big reason the company decided to drop SAP was its conclusion that the software didn’t sufficiently address the needs of a service company like Ikon, as opposed to manufacturers. For example, SAP didn’t have an adequate feature for tracking service calls. Ikon also had great difficulty assembling an internal team of SAP experts. Ikon’s costs were high because the firm relied heavily on consultants.

“I am extremely disappointed by Ikon’s announcement,” says SAP America president Jeremy Coote, describing Ikon’s earlier pilot as on time and “extremely successful.” Coote calls Ikon’s decision to scrap the project “an example of what happens when you don’t sell at the corporate level” as well as the divisional level. A newer version of SAP is to include a service management module.

Questions:
1. What are the information needs at Ikon and what alternatives does Ikon have to meet these needs?
2. What are the advantages and disadvantages of ERP software in meeting these needs?
3. What risks did the company take in selecting SAP software for evaluation? Why did Ikon cancel the SAP project?