1. Explain the following terms. (10%)
   a. ISDN
   b. Software Reengineering
   c. Fuzzy Logic Systems
   d. Value Chain
   e. QR/ECR

2. What is OLAP (Online Analytical Processing)? Name three basic analytical operations of OLAP and explain their functions. (15%)

3. The rapid, often not well planned, development of networks has created problems with enterprise-wide computing. Describe these problems. (10%)

4. "Reengineering" is a task for a company to achieve performance improvement through radical change in organizational processes. The key steps are referred to as the 3 R’s of reengineering, namely redesign, retool, and reorchestrate. Please discuss these steps. (15%)

5. What is “normalization” in record design? Also, please briefly describe 1NF, 2NF, and 3NF. (10%)

6. What is “Information Quality”? What are the attributes of information quality which make information meaningful and useful to managers and end-users? (15%)

7. Describe the four-stage model of the information systems planning. (15%)

8. Please describe any three kinds of security attacks on the Internet. (10%)