I. Multiple-choice questions (Please choose the most appropriate answer to the question; 30%)

1. An example of a business using information systems to attain competitive advantage is
   a. Apple's creation of the iPod.
   b. Chunghwa Telecom's Web-based digital dashboard providing real-time company information for managers.
   c. Toyota's legendary TPS that has created superlative efficiencies and enabled Toyota to become the world's largest auto maker.
   d. B&Q's information system that allows its contract manufacturers to see what garments have been sold and need to be replaced.

2. You work for a highly successful advertiser that is just about to expand nationally. Of utmost importance will be finding a way to store and disseminate their client's frequently updated branding and style guides to all of their branches. The guides include multiple image files and text documents. What system will best serve these needs?
   a. An extranet with KMS capabilities.
   b. A wiki
   c. An ESS with collaboration capabilities
   d. A TPS with KMS capabilities

3. Which of the following illustrates the use of information systems to achieve product differentiation?
   a. An automobile manufacturer's use of information systems to facilitate direct access from suppliers to production schedules.
   b. A PC manufacturer's use of information systems in selling build-to-order PCs directly to customers.
   c. A retailer's use of information systems to produce products and services at a lower price than competitors.
   d. A car dealer's use of information systems to determine which models and options its customers are most likely to buy.

4. Legacy systems are still in use today because:
   a. they can only be run on the older mainframe computers.
   b. they are too expensive to redesign.
   c. they contain valuable data that would be lost during redesign.
   d. many integrate well using new Web services technologies.

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5. OLAP is a tool for enabling:
    a. users to view both logical and physical views of data.
    b. programmers to normalize data.
    c. programmers to quickly diagram data relationships.
    d. users to obtain online answers to ad hoc questions in a rapid amount of time.

6. In a telecommunications network architecture, a protocol is:
    a. a standard set of rules and procedures for control of communications in a network.
    b. a device that handles the switching of voice and data in a local area network.
    c. the main computer in a telecommunications network.
    d. a communications service for microcomputer users.

7. Tricking employees to reveal their passwords by pretending to be a legitimate member of a company is called
    a. sniffing.
    b. phishing.
    c. pharming.
    d. social engineering.

8. Which of the following statements about enterprise applications is *not* true?
    a. Enterprise applications introduce "switching costs."
    b. The total implementation cost of a large system might amount to four to five times the initial purchase price for the software.
    c. Enterprise applications are based on organization-wide definitions of data.
    d. Enterprise applications are best implemented when few changes in business processes are required.

9. Which of the following Internet business models does Amazon.com use?
    a. Market creator
    b. Portal
    c. Content provider
    d. E-tailer.

10. Which of the following would *not* be classified as a type of intelligent technique?
    a. Genetic algorithms
    b. Case based reasoning
    c. Virtual reality
    d. Neural networks

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II. Short-answer questions

1. Please briefly describe the two principle methodologies for modeling and designing systems. (10%)

2. Please draw an enterprise application architecture on a Pyramid shape for illustrating automate processes spanning multiple business functions and organizational levels, and may extend outside the organization to the suppliers and customers. (10%)

3. Please list and describe at least three types of software for the Web. (10%)

4. What are the security challenges and vulnerabilities in each component of the Web-based application architecture which typically includes a Web client, a server, communications lines, and corporate information systems linked to databases. (10%)

5. Please list and describe at least three e-commerce revenue models. (10%)

6. What are the differences between information systems literacy and computer literacy? (10%)

7. Please use a real case you know to describe why the case company (please do not use any company name appearing in this test paper) invested in information systems and technologies? (10%)