

1. Give an example illustrating the data hierarchy in business environment. (10%)
2. Explain the functions of hubs and routers. (10%)
3. What is an information server on the Internet? (10%)
4. A worker's performance is rated based on his daily work record. Design an information system for performance evaluation. The requirements for the systems are:
 - a. Automatic data collection of time data.
 - b. Automatic data transfer from data collection subsystem to payroll subsystem.
 - c. User friendly interface.
 - d. Software reusability.

Please give your design. (20%)

(15%) 5. Briefly explain the major differences between a transaction processing system (TPS) and a decision support system. It is stated that "Total quality management (TQM) has been identified as the most important input for world-class manufacturing and has become a prerequisite for success in the global marketplace," use examples to explain the role of the TPS and DSS that can be applied to support TQM.

(15%) 6. Supposed you have set up a BBS system and part of its mission is to answer customer questions. If you find that a competitor is paying employees to flood your BBS with complaints and problem claims. Is this action ethical? Knowing that many of the postings are anonymous, what action can you take against the competitor? What could you do to prevent future problems?

(20%) 7. True/False Questions (對打○, 錯打×。每題 2 分, 答錯不倒扣分。)

- 甲、 Prototyping is not particularly helpful in situations where there will be heavy user interaction with the system, where the needed output is uncertain, and in some decision support applications where the logic is hard to determine in advance.
- 乙、 The biggest advantage of using CASE tools programs is that the software and training for the MIS department are relatively inexpensive.
- 丙、 In business, managers use models in order to solve business problems. Decision support systems (DSSs) were created to help managers make operational decisions.
- 丁、 The systems development life cycle (SDLC) was designed in order to overcome the problems that arose with large projects that involved many users and required thousands of hours of development by multiple analysts and programmers.
- 戊、 When building models to analyze and solve business problems, simulations are often used to test assumptions and evaluate alternatives.
- 己、 Computer-aided design (CAD) is a computer tool which is being used to create visual models of physical items. The greatest disadvantage of CAD systems is that it is more difficult to add details, and it is harder to make changes to the design of the three-dimensional images of the physical model.
- 庚、 Expert systems usually perform two types of reasoning: forward-chaining and backward-chaining. Backward chaining is where the shell traces your rules from the data entry to a recommendation.
- 辛、 Neural networks have been extremely successful in the area of machine vision. They have proven to be extremely fast and accurate, and are used extensively in the manufacturing environment.
- 壬、 It is currently impossible to create an entire database application without having to write some of it in traditional programming code.
- 癸、 One of the disadvantages of using SQL is that it is not supported by most of the major commercial relational database management systems.