

本試題是否可以使用計算機:  可使用,  不可使用 (請命題老師勾選)

1. What are the types of E-commerce?(5%) Give examples for each type. (5%)
2. (a) Find the error in the following (note: there may be more than one error): (5%)  
For (x=100, x>=1, x++)  
Printf ("%d\n",x);  
(b) How to find a solution of a linear programming using Microsoft Excel? State the steps of solution procedure. (5%)
3. Explain the function of memory cache. (5%) What are L1 cache and L2 cache?(5%)
4. Define RFID (5%), and design a tracking payment system for vehicle passing through booths on tollway systems. (5%)
5. Compare server-based architecture, client-based architectures, and client-server based architectures in terms of cost, development, interface, security, and scalability. (10%)

(背面仍有題目,請繼續作答)

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6. (3% each) Explain each of the following terms.

- (a) spooling
- (b) half-duplex
- (c) database management system
- (d) prototyping
- (e) paging
- (f) object linking and embedding
- (g) end-user computing
- (h) structured programming

7. (8%) List two major differences between databases and data warehouses, and justify your answer.

8. (8%) In implementing an information system, conversion is a necessary step for moving from the old system to the new developed system. The four approaches for this purpose are: direct conversion, parallel conversion, phased conversion, and pilot conversion. State the details of the four approaches and discuss their advantages and disadvantages.

9. (a) (5%) Propose an approach for estimating  $\int_0^1 \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}} dx$  such that the difference

between the estimate and the true value of  $\int_0^1 \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}} dx$  is less than 0.0001.

(b) (5%) Write the pseudocode for your approach.