

*作答前, 請先核對試題、答案卷 (試卷) 與准考證上之所組別與考試科目是否相符!!

1. (14%) 選擇題 (單選, 每題兩分)

- (a) Dell Computers allows its customers to design computers which meet specific needs. This is an example of the _____ EC business model.
- A. find the best price
 - B. group purchasing
 - C. affiliate marketing
 - D. product and service customization
- (b) All of the following are technological limitations to EC except :
- A. system security is still evolving.
 - B. bandwidth is insufficient in many areas.
 - C. many legal issues are unresolved.
 - D. compatibility issues between some hardware and software remain.
- (c) The idea that almost any device can be imbedded with computer chips and connected to a network of other devices is called:
- A. permission internet. B. localization. C. pervasive computing. D. Web translation.
- (d) Because customers are expensive to acquire online, site content is important in improving:
- A. stickiness. B. localization. C. rotation. D. impression spacing.
- (e) A market maker evaluates an exchange between a buyer in the United States and a seller in Spain to ensure that import laws for the U.S. are followed. This is an example of the market maker:
- A. facilitating an exchange.
 - B. interfering in an exchange.
 - C. matching a buyer and seller.
 - D. maintaining exchange policies and infrastructure.
- (f) The exchange model in which a third party sets up the exchange and promises to run it efficiently and without bias is called:
- A. the industry giant model.
 - B. the co-op model.
 - C. the consortia model.
 - D. the neutral entrepreneur model.
- (g) The use of Web technologies to manage warehousing and transportation processes is called:
- A. e-logistics. B. e-replenishment. C. downstream processing. D. collaborative planning.

國立交通大學 95 學年度碩士班入學考試試題

科目名稱：網際網路概論 (5102)

考試日期：95 年 3 月 12 日 第 3 節

系所班別：資訊管理研究所 組別：資管所乙組 第 2 頁, 共 3 頁

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2. (9%) Does Skype provide the last mile service? How could you use Skype to call your adviser's cellular phone?

3. (10%) What is "Google Earth"? How could it be applied for the car GPS gadget?

4. (8%) 企業導入 EDI 其主要架構為何?

5. (8%) 企業導入 E-procurement 其成功關鍵因素為何?

6. (8%) 電子商務安全交易要注意那些安全問題?

7. (9%) 試述企業資訊系統應如何提供網際網路的安全規劃?

8. (10%) In internet environments, software programs that implement database applications are usually developed in a general-purpose programming language (host language) such as JAVA, C, or C++, etc. SQL statements can be embedded in a host language to retrieve data from database servers and then assign the retrieved data to the variables defined in the host language. Describe how to retrieve multiple tuples with embedded SQL from a database and then assign the retrieved tuples to the variables defined in the host language. You need to clearly explain how the retrieved tuples (the query result) are processed one at a time. Please use figures and generic program codes to clarify your explanations.

9. Let E represent a list of Internet e-services (e.g. PizzaOrder, ClothesSale, CarRental, MovieRental, etc.) with quality value. Suppose that an algorithm is used to sort the e-services according to their quality value. The worst case time complexity of the algorithm is defined as $W(n) = cn + W(n-1)$. The best case time complexity of the algorithm is defined as $B(n) = cn + 2B(n/2)$. Note that n denotes the number of e-services to be sorted and c is a constant.

(a) (4%) What's the worst case time complexity of the algorithm? Show the detailed derivation of $W(n)$.

(b) (5%) What's the best case time complexity of the algorithm? Show the detailed derivation of $B(n)$

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10. Suppose that the Web pages in your company's Web site have been simplified and organized as a ternary (degree-three) tree structure. The root node represents the home page. Each internal node represents a Web page with at most three reference links to other Web pages, i.e., three children - the left child, middle child and right child. All Web pages, except the home page, are referenced by only one Web page. The leaf node represents a Web page that does not have any reference links to other Web pages.

Your company's CIO wants to list (print out) all the web pages and requests that the web pages should be listed according to the following order. The root is listed first, then the root's left child, followed by the root's middle child, followed by the root's right child. The listing is continued in this manner by listing the nodes at **each new level** from the leftmost node to the rightmost node. Note that we define the level of a node by initially letting the root be at level one. For all subsequent nodes, the level is the level of the node's parent plus one.

- (a) (5%) Suppose that k is the maximum level of any node in your company's Web site. What's the maximum number of web pages (nodes) in the Web site? You need to show the derivation of your answer.
- (b) (8%) Write an algorithm to list all the web pages according to your CIO's request.
- (c) (2%) Analyze the time complexity of your algorithm.