

※ 考生請注意：本試題不可使用計算機。 請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

### 1. Short questions

- 1) What is the role of location-based services in modern business and describe two important applications. (15%)
- 2) Illustrate the framework of analytical CRM applications - including the data sources and outputs. (10%)
- 3) What are some of the issues to consider in determining whether disruptive technologies would provide your business with a competitive advantage? Use an example to explain your point. (10%)
- 4) Why is the MOOC different from traditional e-learning or open learning platform? Use a case course to describe how it may change the profession skills training. (15%)

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## 2. Short Answer Questions:

1) Briefly describe the concept and importance of “timestamping” from a computer-security perspective, and discuss how it can complement the use of digital watermarking for ensuring data integrity. (8%)

2) Use the programming of your choice, write a method that returns the value of a polynomial evaluated at  $x$  by using Horner's Rule. For fifth-degree polynomials, Horner's Rule is express as: (12%)

$$p(x) = a_0 + x(a_1 + x(a_2 + x(a_3 + x(a_4 + x(a_5))))).$$

3) The implementation of enterprise systems (ES), such as ERP and CRM, in an organization tends to involve tasks that are related to business process reengineering, and usually requires assistance of external third parties, such as ES vendors or consulting firms, for providing the focal organization with knowledge that facilitates the successful implementation of the ES. Please compare the degree of involvement of the members of the user group (including managers and employees with non-managerial positions), system analysts (consultants of external third parties), and system designers (programmers and/or other technologists of the external third parties) and discuss how those parties may absorb or reject the knowledge from other parties at the planning phase of the ES implementation. (10%)

4) Briefly discuss how the use of information systems/technologies may support the planning and execution of business strategies of corporations in the era of mobile communications. You are encouraged to give example(s). (10%)

5) Please fill in the blanks in the following sentences: (10%)

(請勿在此作答)  
[1] \_\_\_\_\_ refers to a kind of cloud computing service that vendors provide their clients with hosted servers, an operating systems, and/or database management systems, and allows those clients to install and run their own applications on the servers.

[2] A \_\_\_\_\_ stores data in servers that are located in many different geographical locations to dynamically determine which server is responsible for deliver the data to a particular user on a real-time basis, and thus can provide protection from denial-of-service (DoS) attacks.

[3] The term \_\_\_\_\_ refers to individuals' stress/malady which is induced by their use of computing devices (e.g., computers, smart phones, etc.).

[4] \_\_\_\_\_ refer to application programs that run within a computer browser without the pre-installation on client computers.

[5] \_\_\_\_\_ is a general term for being able to differentiate between the level of network performance and reliability required by different applications and to allocate more network resources to applications with relatively higher priorities.