UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF MANAGEMENT & FINANCE

Postgraduate & Mid-career Development Unit

Master of Business Administration (Weekend) Programmes (Semester II) (Old Curriculum Repeat)
Examination – July/August 2017

MBA 540 – Managing Information Systems

Three (03) Hours

Answer **FOUR (04) Questions** in all, selecting **TWO (02) Questions** from each part.

The paper comprises of six (06) questions printed on three (03) pages.

Part – I

1. i. a. Briefly explain the difference between the **Internet** and the **World Wide Web** (WWW).

   b. What are the major issues that need to be considered when migrating from **IPv4** to **IPv6** protocol?

   (08 Marks)

   ii. a. The HTTP protocol allows a web user to access web content from a server. What is meant by **upload** and **download** with regards to the web browsing context?

   b. Consider the following Uniform Resource Locator (URL).

   http://www.mycar.com/models/2017/mymodel.html

   Write down the **Protocol, Domain Name, File Location** and the **File Name** of the above URL.

   (08 Marks)

   iii. a. A search engine like Google may use actual viewable contents of a web page to index the page. Write-down three (03) **other extra information** that may be available on the page for the search engine to index it in an effective manner.

   b. What is the role of a **search engine** used on the Internet?

   c. Briefly, explain three (3) advantages of **Cloud Computing**.

   (09 Marks)

   (Total 25 Marks)

2. i. a. What are the main components of **system software**?

   b. Identify the following software products as System Software or Application Software.

Software Product	System Software or Application Software?
Microsoft Windows 8	
Microsoft PowerPoint	
Ubuntu	
Norton Antivirus	

(08 Marks)

   ii. a. What is the difference between **Freeware** and **Shareware** software?

   b. Is it possible to install the **source code** of a program to a computer directly? Justify your answer.

(08 Marks)

   iii. a. Briefly, describe three (3) methods that you can propose to earn money using **free and open source software license** as opposed to proprietary licenses.

   b. What is the difference between the **copyleft** and **permissive** type software licensed under free and open source licenses?

   c. Is it possible to modify a software package under the **General Public License** (GPL) and take business advantage over the competitors?

(09 Marks)
(Total 25 Marks)

3. i. Answer the following with regard to Cryptographic algorithms.

   a. What is meant by **Ciphertext**?

   b. Explain the difference between the **Public Key** and the **Private Key** in a public key cryptographic system.   (08 Marks)

   ii. a. What is the role of a **Message Digest Algorithm**?

   b. Explain how one can send an e-mail in a way that only the recipient can read that e-mail.

(08 Marks)

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iii. Consider the following notations that are related to public key encryption.

	Person A	Person B	Person C
Public Key	K^A_{Pub}	K^B_{Pub}	K^C_{Pub}
Private Key	K^A_{Pri}	K^B_{Pri}	K^C_{Pri}

a. If person A encrypts a message (M1) using person C's public key, is it possible to open that encrypted message using person B's private key? Justify your answer.

b. Write down the steps that are required to create the **digital signature** of person A for the message **M1**.

c. Briefly, explain the steps that should be performed by person A to send a **digitally signed** and **encrypted** message (M1) to person C.

(09 Marks)
(Total 25 Marks)

Part – II

4. i. The emergence and strengthening of the global economy is one of the worldwide changes altering today's business environment. How have information systems been part of this trend?

(10 Marks)

ii. Though the use of information technology is widely used in today's business organizations, there are arguments that productivity has not been enhanced in the service sector. Discuss this issue, with examples to illustrate your points.

(15 Marks)
(Total 25 Marks)

5. i. Explain and evaluate the claim that information systems can change business organizations to gain competitive advantage to the business.

(10 Marks)

ii. Describe major management challenges in building an Information System.

(15 Marks)
(Total 25 Marks)

6. i. Explain why knowledge management is very important in today's business context.

(10 Marks)

ii. Describe how information systems can be used to support knowledge management in an organization.

(15 Marks)
(Total 25 Marks)