



UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF MANAGEMENT AND FINANCE

Postgraduate and Mid-Career Development Unit

Master of Business Administration in International Business 2016/2018 Programme

(Trimester III) Examination – August, 2017

MBAIB 5112 – Management Information Systems

Three (03) Hours

Answer **FOUR (04)** questions in all selecting Two (02) questions each from part I and part II.

Use **separate answer books** for **Part I** and **Part II**.

This paper consists of **SIX (06)** questions printed in **Four (04)** pages

Part I

1. i. a. Briefly explain the difference between the **Internet** and the **World Wide Web (WWW)**.
(03 Marks)
- b. Briefly describe the requirement of a new protocol called **Internet Protocol Version 6 (IPv6)** for the Internet.
(03 Marks)
- c. Briefly describe how **Internet Service Providers (ISPs)** get access to the Internet.
(03 Marks)
- ii. a. Assume that a business organisation requires hosting a **web server (HTTP Server)** in its premises to facilitate e-business. Briefly describe the steps that need to be taken by the Chief Technical Officer to fulfil the above hosting.
(04 Marks)
- b. Consider the following Uniform Resource Locator (URL).
<https://www.mybank.lk/savings/minor/myaccount.html>
Write down the **Protocol, Domain Name, File Location** and the **File Name** of the above URL.
(04 Marks)

iii. a. What is the difference between **platform as a service (PAAS)** and **software as a service (SAAS)** in Cloud Computing?

(02 Marks)

b. What is the difference between **Virtualization** and **Cloud Computing**?

(02 Marks)

iv. A search engine uses **metadata/ other information** of a web page to index such a page. Write down three (3) **metadata/ other information** that may be available in a web page for the search engine to index it in an effective manner.

(04 Marks)

(Total 25 marks)

2. i. a. What is public domain software?

(02 Marks)

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

Software Product	System Software or Application Software?
Microsoft Windows 10	
Adobe Acrobat Writer	
RedHat Linux	
Kaspersky Antivirus	

(04 Marks)

ii. a. Compare and contrast **Freeware** and **Shareware** Software.

(03 Marks)

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

(03 Marks)

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

(03 Marks)

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

(03 Marks)

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

(03 Marks)

iv. Briefly explain how one can use **Augmented Reality** technology to take the competitive advantage over traditional methods used in a business environment.

(04 Marks)

(Total 25 marks)

3. i. a. How can we convert **Ciphertext** to **Plain text**?

(02 Marks)

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

(04 Marks)

ii. a. Write down three (3) properties of a **Message Digest Algorithm**.

(03 Marks)

b. Is it possible to use **Message Digest Algorithms** to encrypt clear text messages? Justify your answer.

(03 Marks)

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

	<i>Person A</i>	<i>Person B</i>	<i>Person C</i>
<i>Public Key</i>	K_{Pub}^A	K_{Pub}^B	K_{Pub}^C
<i>Private Key</i>	K_{Pri}^A	K_{Pri}^B	K_{Pri}^C

a. If person A encrypts a message (M1) using person-C's public key, explain how person C (receiver) decrypts the received message M1.

(03 Marks)

b. Is it possible for the receiver to **verify the sender** of the above encrypted message **M1** explained in part (a) above? Justify your answer.

(03 Marks)

c. Assume that a sender **does not know** the public key of the receiver to send an encrypted message. Is it possible to send an encrypted message in such a situation? Justify your answer.

(03 Marks)

iv. Briefly explain a business application where **3D printing technology** can provide a competitive advantage over existing traditional methods.

(04 Marks)

(Total 25 marks)

Part II

4. i. Describe the Socio Technical view of Management Information Systems.

(10 Marks)

ii. "Information Technology managers often assume that a technically elegant system is a successful system". Do you agree with this statement? Justify your answer.

(15 Marks)

(Total 25 marks)

5. i. Describe Management Information Systems and Decision Support Systems and differentiate between them.

(10 Marks)

ii. The business value can be improved by making decisions through a Group Decision Support System (GDSS). How does a GDSS accomplish this? Explain.

(15 Marks)

(Total 25 marks)

6. i. List and briefly describe the six (06) strategic objectives that can be derived through the use of Information Systems.

(10 Marks)

ii. Explain and evaluate the claim that information systems can provide strategic competitive advantage to a business.

(15 Marks)

(Total 25 marks)