UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2017/2018

COURSE NAME	:	COMPUTER & MULTIMEDIA TECHNOLOGY
COURSE CODE	:	DAE 10403
PROGRAMME	:	DAE
EXAMINATION DATE	:	JUNE / JULY 2018
DURATION	:	2 HOURS 30 MINUTES
INSTRUCTION	:	ANSWER **FOUR (4)** QUESTIONS ONLY

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THIS QUESTION PAPER CONSISTS OF **SIX (6)** PAGES

Q1 (a) Explain the advantages and disadvantages of computers.

(6 marks)

(b) Server provides a centralized storage area for programs, data and information.

(i) List **four (4)** types of servers.

(4 marks)

(ii) Suggest the most suitable type of server that can be used in UTHM. Justify your answer.

(3 marks)

(c) There are **three (3)** types of computer network, LAN, MAN andWAN.

(i) Define LAN.

(2 marks)

(ii) Demonstrate the difference of LAN, MAN and WAN with an aid of sketch.

(6 marks)

(d) There are several ways to send data through the network. **Two (2)** of them are circuit switching and packet switching method. Sketch the arrangement of both methods.

(4 marks)

Q2 (a) All computers, large and small, must have a central processing unit (CPU). The central processing unit consists of **two (2)** parts. Each part has a specific function.

(i) State the **two (2)** parts.

(2 marks)

(ii) Explain the function of each part.

(4 marks)

(iii) Sketch the CPU block diagram.

(4 marks)

(b) Use appropriate examples to determine the differences between volatile and non-volatile memory.

(7 marks)

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(c) A computer uses input and output devices to interact with user.

(i) List **two (2)** types of inputs and output devices.

(2 marks)

(ii) Explain examples of interaction between a user and computer.

(4 marks)

(iii) Suggest the input and output devices required for industrial uses (to control machines in the factory).

(2 marks)

Q3 (a) Describe the **two (2)** types of software.

(4 marks)

(b) Sketch the conceptual block diagram of a computer system.

(5 marks)

(c) Operating System (OS) is a collection of programs that manage and coordinate the activities taking place within a computer system.

(i) Booting up the PC is one of the OS function. Explain what it means by cold and warm booting.

(2 marks)

(ii) State the other **four (4)** functions of OS.

(4 marks)

(iii) Most PCs today run Windows, Mac OS or Linux while the older generation PCs run on DOS. Compare between a DOS and the latest OS.

(2 marks)

(d) Utility programs are specialized programs that perform specific task related to the management of computer functions, resources files and so on. There are many types of windows utility programs, for example disk defragmenter, disk clean-up, screen saver and many more.

(i) Illustrate the result of defragmenting a disk.

(6 marks)

(ii) Describe the main purpose of disk clean-up.

(2 marks)

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Q4 (a) Today, computer networks are the core of modern communication. Define the term 'Computer Network'.

(2marks)

(b) Networking hardware is also known as network equipment or computer networking devices.

(i) List **four (4)** networking hardware.

(4 marks)

(ii) Explain the operation of **two (2)** of the networking hardware in **Q4(b)(i)**.

(4 marks)

(c) Network Topology refers to layout of a network. How different nodes in a network are connected to each other and how they communicate is determined by the network's topology.

(i) Sketch the **BUS, RING, STAR and MESH** topology.

(8 marks)

(ii) Describe the disadvantages of BUS topology.

(4 marks)

(iii) Suggest the most suitable network topology for a computer laboratory that connects 15 computers. Justify your answer.

(3 marks)

Q5 (a) Network security protect the network and the network-accessible resources from unauthorized access. Discuss how virus and worm can enter a network system.

(6 marks)

(b) Streaming media is a technology that enables you to include audio, video and other multimedia elements that visitors to your website will be able to listen to or view immediately without having to download the file to their own computer.

(i) List down **three (3)** factors that affect streaming quality.

(3 marks)

(ii) Sketch the basic streaming process cycle.

(4 marks)

(iii) Suggest the most suitable medium for a hobbyist movie producer to deliver his multimedia products. Justify your answer.

(3 marks)

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(c) Photos Pos Pro and Adobe Photoshop is an image editing software commonly used by professionals and photography enthusiasts.

(i) Demonstrate the steps required to edit the pictures as shown in **Figure Q5(c)(i)**.

(5 marks)

(ii) Explain the function of layer.

(4 marks)

Q6 (a) List **four (4)** elements of multimedia that you know.

(4 marks)

(b) Describe how multimedia can be used for the following application area:

(i) Multimedia in distributed learning environment.

(3 marks)

(ii) Multimedia in medical sciences.

(3 marks)

(c) Multimedia contents are commonly delivered through **two (2)** mediums.

(i) List down the **two (2)** mediums.

(2 marks)

(ii) Demonstrate the difference between the mediums listed in **Q6(c)(i)**.

(7 marks)

(d) *Pixel* is a single point in a graphic image. In digital imaging, *pixel* is the factor that determine the image quality.

(i) Explain effects of pixel on image quality.

(2 marks)

(ii) Draw a black and white digital image of a letter H.

(4marks)

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- END OFQUESTION -

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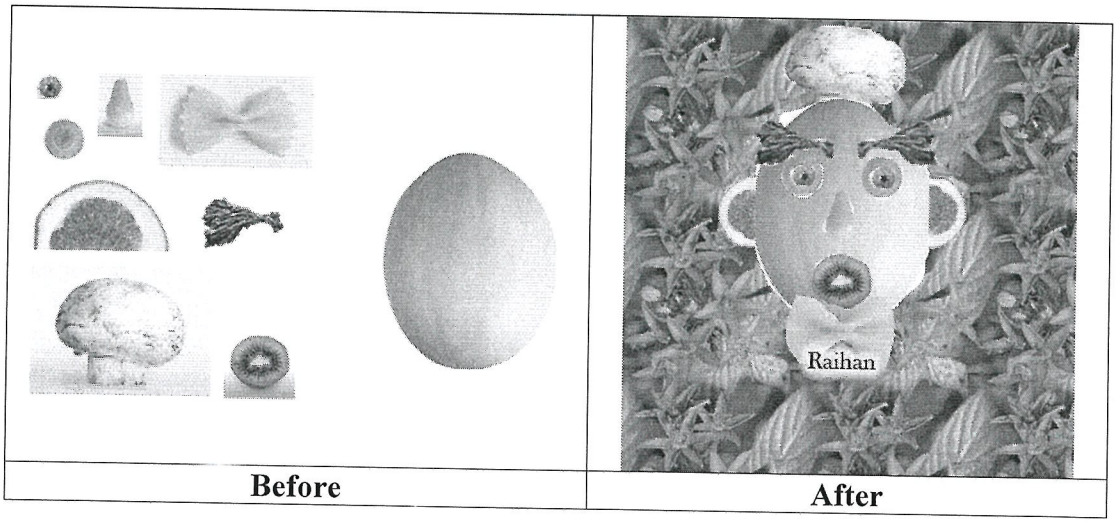

Before	After

Figure Q5(c)(i)

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