University of Ruhuna- Faculty of Technology

Bachelor of Engineering Technology

Level 3 (Semester 1) Examination, July 2020

Course Unit: ENT3132 - Computer, Computer Hardware and Network Maintenance

Time Allowed: 2 hours

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General instructions

1. Read all instructions carefully before answering the questions.

2. This question paper consists of **five** questions.

3. Answer **all** questions.

4. All questions carry equal marks.

5. Always start a new question from a new page.

6. Present necessary, but relevant facts and information briefly. Any missing information can be sensible and reasonably assumed, provided that you state them clearly.

Q1.

a. What is meant by the "form factor" of a computer?

(2 Marks)

b. List four types of form factors of motherboard.

(4 Marks)

c. List four types of form factors of Random-Access Memory (RAM).

(4 Marks)

d. Explain the differences of using adapters and converters for computers.

(4 Marks)

e. State the differences between the terms "Thick Clients" and "Thin Clients" of a computer system.

(6 Marks)

Q2.

a. Explain the meaning of the term "Power Fluctuation" using examples and state the safety precautions which should be taken to avoid power fluctuations.

(6 Marks)

b. Briefly explain the following terms.
   I. Data Bus
   II. Control Bus
   III. Address Bus

(6 Marks)

c. Explain the Interrupt Request Line (IRQ) of a computer system and state the types of IRQs available for the computer system.

(4 Marks)

d. What are the basic motherboard functions executed by the chipset of a computer?

(4 Marks)

Q3.

a. Briefly describe the Trusted Platform Module and its usage by giving examples.

(5 Marks)

b. List four administrative tools available in the Windows operating system and function of each administrative tool.

(8 Marks)

c. What are the operations should be included in the weekly preventive maintenance plan of a computer?

(3 Marks)

d. List down four common problems of an operating system.

(4 Marks)

Q4.

a. What are the basic elements of a communication system?

(2 Marks)

b. State the advantages and disadvantages of using Peer-to-peer connections in computer networks.

(6 Marks)

c. What is the purpose of transmitting an Address Resolution Protocol (ARP) Request?

(2 Marks)

d. What is the meaning of Default Gateway for a Local Area Network (LAN)?

(2 Marks)

e. Briefly describe the factors that need to consider when building a computer network

(8 Marks)

Q5.

a. Briefly describe the Open System Interconnection (OSI) Reference Model used for computer networking.

(11 Marks)

b. What is the purpose of defining a Subnet Mask for an IP address?

(01 Mark)

c. State the utilities used to verify the Transmission Control Protocol/ Internet Protocol (ICT/IP) Connectivity.

(05 Marks)

d. Describe the steps of two approaches used in troubleshooting. (03 Marks)