UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2012/2013

COURSE NAME	:	FUNDAMENTAL OF COMPUTER NETWORKING
COURSE CODE	:	DAT 21203
PROGRAMME	:	2 DAT
EXAMINATION DATE	:	OCTOBER 2012
DURATION	:	2 ½ HOURS
INSTRUCTIONS	:	ANSWER **FOUR (4)** QUESTIONS ONLY

THIS QUESTION PAPER CONSISTS OF FIVE (5) PAGES

Q1 A network can be defined as two or more computers connected together in such a way that they can share resources.

(a) List **FIVE (5)** example of network resources.

(5 marks)

(b) Briefly explain **TWO (2)** advantages and **TWO (2)** disadvantages of computer networking.

(8 marks)

(c) A peer-to-peer network is a network where the computers act as both workstations and servers.

(i) Describe how peer to peer networking works.
(ii) Draw an example of peer to peer networking diagram.

(12 marks)

Q2 A topology is a way of "laying out" the network. Topologies can be either physical or logical.

(a) Briefly explain the difference between physical topology and logical topology.

(4 marks)

(b) Name **THREE (3)** topology that can be either physical or logical.

(3 Marks)

(c) Given three computers and a network printer as in Figure Q2, draw the following network topology:

(i) Bus topology
(ii) Star topology
(iii) Ring topology

You can add other networking hardware to complete some of the topology diagram.

(13 marks)

(d) Calculate the total of cable used if computers and printer in Figure Q2 connected in mesh topology. (Please show all the calculation step)

(5 marks)

Q3 A network interface device is a device used primarily within a local area network (LAN) to allow a number of independent devices, with varying protocols, to communicate with each other

(a) List **FOUR (4)** network interface devices.

(4 marks)

(b) Briefly explain the function of each network devices in question Q2 a).

(8 marks)

(c) There are 200 users on one Ethernet segment. The performance seems mediocre because of the design of Ethernet and the number of workstations that are fighting to transmit.

(i) State a network interface device that can help to increase the network performance.
(ii) Discuss the advantages of using the chosen device in Ethernet LAN.

(13 marks)

Q4 Network can be classified into three classifications as local area network (LAN), wide area network (WAN), and metropolitan area network (MAN).

(a) Explain the differences between the three network classifications.

(6 marks)

(b) There are three types of WAN connections. Discuss all the connection types.

(6 marks)

(c) One of the protocols that used in WAN is Integrated Services Digital Network (ISDN).

(i) State the purpose of ISDN protocol.

(2 marks)

(ii) Calculate the total bandwidth of ISDN Basic Rate Interface (BRI).

(3 marks)

(iii) Discuss **FOUR (4)** benefits of ISDN protocol.

(8 marks)

Q5 All communications between devices require that the devices agree on the format of the data. The set of rules defining a format is called a protocol.

(a) Name **FIVE (5)** protocols that lay inside the Transmission Control/Internet Protocol (TCP/IP).

(5 marks)

(b) Draw the TCP/IP layer protocol architecture and explain the function of each layer.

(12 marks)

(c) Explain **FOUR (4)** services provided by TCP/IP.

(8 marks)

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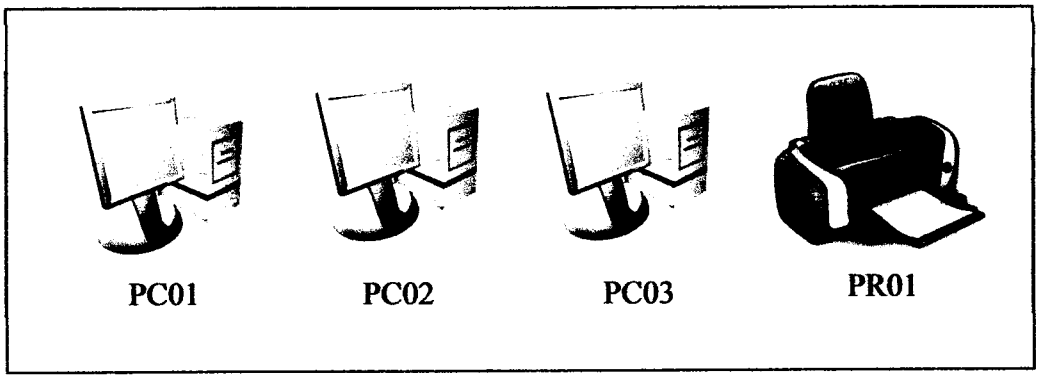

FIGURE Q2