



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

PEPERIKSAAN AKHIR SEMESTER II SESI 2009 / 2010

NAMA MATA PELAJARAN : ASAS RANGKAIAN KOMPUTER
KOD MATA PELAJARAN : DIT 2123
KURSUS : 2 DIT
TARIKH PEPERIKSAAN : APRIL / MEI 2010
JANGKA MASA : 3 JAM
ARAHAN : JAWAB SEMUA SOALAN .

KERTAS SOALAN INI MENGANDUNGI LAPAN (8) MUKA SURAT

SECTION A

Instruction: Choose the **BEST** answer.

- Q1** What information is “burned in” to a network interface card (NIC)?
- A. Hub number
 - B. IP address
 - C. MAC address
 - D. LAN specification
- Q2** Which topology has all its nodes connected directly to one center point and has no other connections between the nodes?
- A. Bus
 - B. Star
 - C. Ring
 - D. Mesh
- Q3** What does twisting the wires do in twisted-pair cable?
- A. It makes it thinner.
 - B. It makes it less expensive.
 - C. It reduces noise problems through the cancellation effect.
 - D. It allows six pairs to fit in the space of four pairs.
- Q4** Which of the following statements best describes a Local Area Network (LAN)?
- A. It connects workstation, terminal and other devices in a metropolitan area.
 - B. It connects networks that are separated by large geographic area.
 - C. It connects a traveling worker staying at a hotel to the corporate network.
 - D. It connects workstation, terminal and other devices within a small building.
- Q5** Convert decimal 89 to binary.
- A. 00111001
 - B. 01011000
 - C. 01011001
 - D. 01010111

- Q6** Convert binary 10111100 to decimal.
- A. 178
 - B. 188
 - C. 168
 - D. 208
- Q7** Which of the following statement of data link layer is incorrect?
- A. Allows part of the data link layer to function independent of LAN access technologies (protocols / methods)
 - B. Responsible for logically identifying different protocol types and encapsulating them.
 - C. Allows multiple higher layer protocols to share a single physical data link
 - D. Depending on access Technology
- Q8** Which layer of the TCP/IP model defines protocols for host-to-host application communication?
- A. Internet
 - B. Host-to-host
 - C. Network access
 - D. Application
- Q9** Which layer of the TCP/IP model does the Transport layer of the Open System Interconnection (OSI) model correspond to?
- A. Internet
 - B. Transport
 - C. Network access
 - D. Application
- Q10** Which of the following are LAN technologies?
- A. Digital Subscriber liner (DSL)
 - B. High-level Data Link Control (HDLC)
 - C. Gigabit Ethernet
 - D. Integrated Services Digital Network (ISDN)

- Q11** Which of the following statement of OSI model is incorrect?
- A. OSI is similar to TCP/IP model.
 - B. OSI is a proprietary set of rules created by an independent body.
 - C. OSI is a model that specifies how network functions occur at each layer.
 - D. OSI is a related set of standards and protocols that allows the creation of a working, effective network.
- Q12** What is the proper cable used to connect the Ethernet port of a router directly to the NIC of a Personal Computer (PC)?
- A. Straight through
 - B. Rollover
 - C. Serial
 - D. Crossover
- Q13** What type of network connects at least two LANs in the same geographic area?
- A. Storage Area Network
 - B. Virtual Private Network
 - C. Metropolitan Area Network
 - D. Extranet
- Q14** Which of the following are examples of Transport layer protocols?
- A. Internetwork Packet Exchange (IPX)
 - B. Transmission Control Protocol (TCP)
 - C. HDLC
 - D. Internet Protocol (IP)
- Q15** Which of the following is an example of a single collision domain?
- A. 4 PCs each connected to a switch with dedicated ports.
 - B. 4 PCs connected to a switch that is connected to a hub with 3 PCs
 - C. 4 PCs on a switch, which is then connected to a router
 - D. 4 PCs connected to a hub connected to a router

- Q16** From the mnemonic describing the OSI model, Please Do Not Throw Sausage Pizza Away, which of the following answers corresponds with “Pizza?”
- A. This layer functions to provide industry standard data formats
 - B. This layer functions to provides end system to end system communication
 - C. This layer functions to provide industry standard communication media
 - D. This layer functions to control dialogue between nodes.
- Q17** Which of the following is used to establish a connection-oriented TCP session?
- A. Query and response
 - B. Three-way handshake
 - C. Kerberos authentication
 - D. Multiplexing
- Q18** Which of the following are functions of the Data Link Layer?
- A. Physical addressing
 - B. Transmission of bits
 - C. Windowing
 - D. Logical addressing
- Q19** What is the longest length of a cable run for Unshielded Twisted Pair (UTP) 1Gbps transmission?
- A. 100 meters
 - B. 500 meters
 - C. 185 meters
 - D. 200 meters
- Q20** File Transfer Protocol (FTP) uses _____ as its well-known port (s).
- A. 20 and 21
 - B. 23
 - C. 67 and 68
 - D. 80

(20 marks)

SECTION B

Instruction: Answer ALL questions.

- Q21** (a) Explain **THREE (3)** components that are required to connect two PCs in switch-based computer network. (6 marks)
- (b) List **TWO (2)** advantages of using switch rather than using hub in computer network. (4 marks)

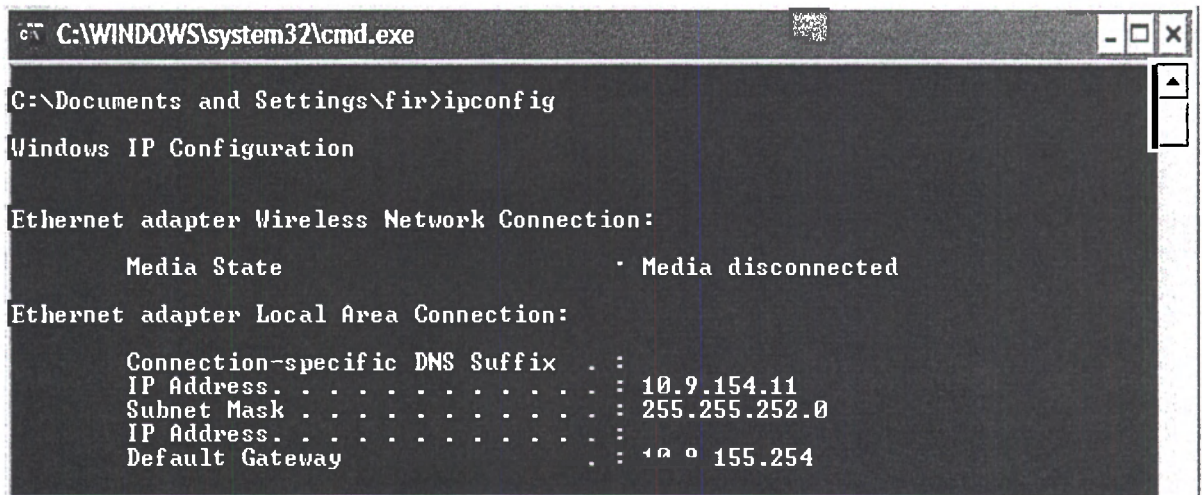


FIGURE Q21

- (c) Briefly discuss on each **THREE (3)** IP addresses that have in the FIGURE Q21. (6 marks)
- (d) How to get the information as state in FIGURE Q21 by using Windows XP (2 ways)? (4 marks)

Q22

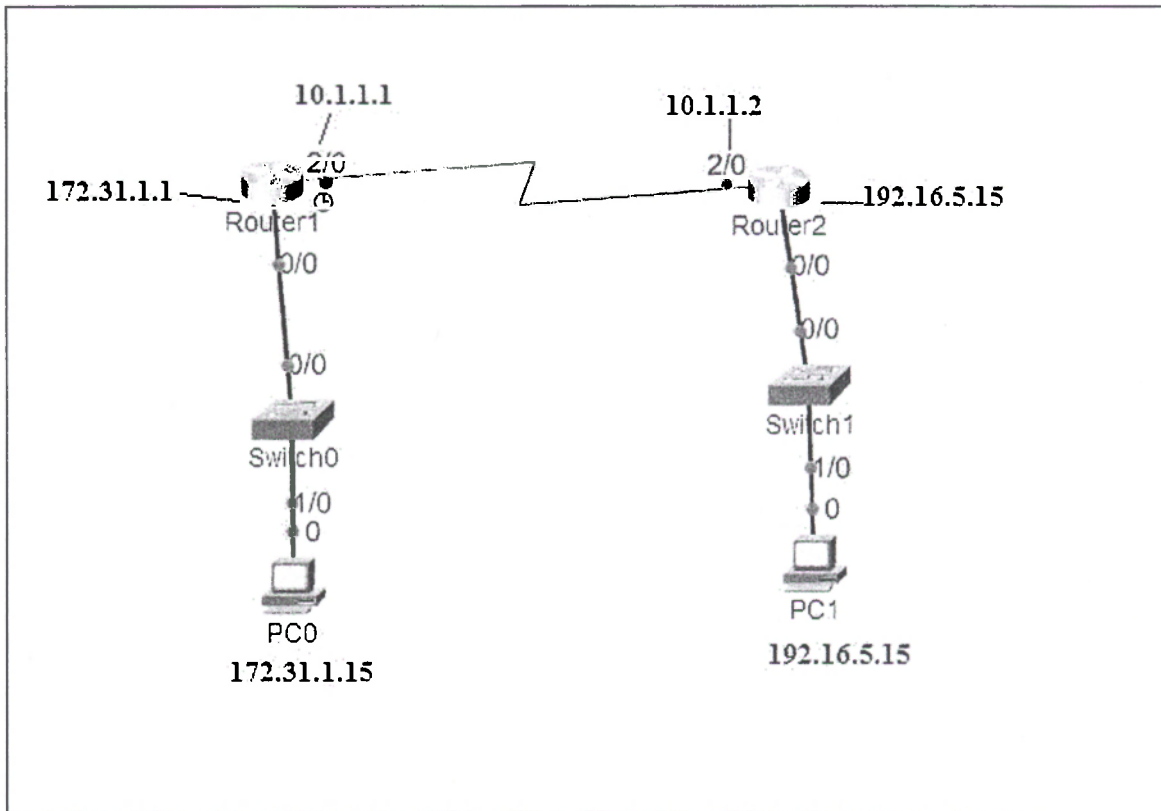


FIGURE Q22

- (a) In FIGURE Q22, please write a command line to set up a path from Router 1 to Router 2 in Router 1 by using:- (Default subnet)
- (i) Default routing (5 marks)
 - (ii) Static routing (5 marks)
 - (ii) Routing Information Protocol (RIP) routing (5 marks)
- (b) Why is packet switching the more appropriate mechanism for the operation of the Internet?

(5 marks)

- Q23** (a) Given an IP address 192.168.130.0/27. Answer the following questions by providing appropriate steps.
- (i) What is the class for the above IP address? (2 marks)
 - (ii) How many maximum numbers of subnet? (4 marks)
 - (iii) How many maximum numbers of hosts can be used on each subnet? (4 marks)
 - (iv) List all the subnet and the range of their host. (8 marks)
- (b) Explain why the “all ones” and “all zeros” subnets are not used. (2 marks)
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- Q24** (a) Network administrators can use network management system (NMS) to help managing the network.
- (i) Describe about network management system. (2 marks)
 - (ii) Discuss how it can helps network administrator manages the network efficiently. (2 marks)
 - (iii) Give two NMS system that you know. (2 marks)
- (b) Please briefly explain about the concept in network security which is :-
- (i) Principle Of Least Privilege (5 marks)
 - (ii) and Defense in Depth. (5 marks)