



MALAYSIAN INSTITUTE OF INFORMATION TECHNOLOGY

**FINAL EXAMINATION
JANUARY 2016 SEMESTER**

SUBJECT CODE : IDD 20103
SUBJECT TITLE : FUNDAMENTAL OF NETWORK
LEVEL : DIPLOMA
TIME / DURATION : 9.00 am – 11.00 am
(2 HOURS)
DATE : 19 MAY 2016

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consists of TWO (2) parts. Part A and B.
4. Answer ALL questions in Part A AND Part B.
5. Please write your answers on the OMR form and answer booklet provided.

THERE ARE 13 PAGES OF QUESTIONS, INCLUDING THIS PAGE.

SECTION A (Total: 40 marks)

MULTIPLE CHOICE QUESTIONS

INSTRUCTION: Answer ALL questions.

Please use the answer booklet provided.

1. What is the standard body specifically related to Local Area Network?
 - A. IEEE
 - B. IETF
 - C. EIA
 - D. ANSI

2. Which statements correctly identify the role of router device in the network?
 - A. Determine pathway of data
 - B. Dictate how to accomplish od f data
 - C. Limit the need of hardware compatibility
 - D. Eliminate standardization among vendors

3. What is a PDU?
 - A. A layer complete a specification
 - B. Data reassembly at the destinations
 - C. Retransmits packets due to lost transmission
 - D. Corruption of frame

4. Which statement is best describing a local network area (LAN)?
 - A. The network is administered by a single organization
 - B. The connection between segments in the LAN is usually through a leased lines
 - C. The security and access control of the network by service provider
 - D. Each end of the network is generally connected to telecommunications

5. What is the network broadcast address for a Class C address of 192.168.32.0 with the default subnet mask?
- A. 192.168.0.255
 - B. 192.168.32.0
 - C. 192.168.32.254
 - D. 192.168.32.255
6. What is the primary purpose of layer 4 port assignment?
- A. To identify devices on the local media
 - B. To identify the hops between sources and destination
 - C. To identify to intermediary devices the best path through the network
 - D. To identify the processes or services that are communicating
7. Which layers encapsulates the segments into packets?
- A. Physical
 - B. Data link
 - C. Transport
 - D. Network
8. What is the purpose of TCP/IP network layer?
- A. Path determination and packet switching
 - B. Data representation
 - C. Reliability, flow control and error detection
 - D. Network media control
9. Below are the main reasons why a packet-switched connectionless data communication technology used when developing the Internet EXCEPT:
- A. It can rapidly adapt to loss of data transmission facilities.
 - B. Data packets can travel multiple paths.
 - C. It efficiently utilized the network infrastructure.
 - D. It requires a data circuit's establishment between sources and destination.

10. What can be identified by examining the network layer header?
- A. The destination device on local media
 - B. The bits that will be transferred over the media
 - C. The source and destination physical address
 - D. The destination host address
11. What application layer protocol is used to support file transfer between client and server?
- A. HTML
 - B. FTP
 - C. HTTP
 - D. Telnet
12. Which protocol in the OSI model supplies the service that allows a user to interface with the network?
- A. Network layer
 - B. Application layer
 - C. Session layer
 - D. Presentation layer
13. Which information is found in both the TCP and UDP header information?
- A. Sequencing
 - B. Source and destination
 - C. Acknowledgement
 - D. Flow Control
14. Which is an important characteristic of UDP?
- A. Acknowledgement of data delivery
 - B. Minimal delays in data delivery
 - C. High reliability of data delivery
 - D. Same order of data delivery

15. Why is flow control used for TCP data transfer?
- A. To synchronize equipment speed for send data
 - B. To prevent the receiver from being overwhelmed by incoming data
 - C. To synchronize window size on the server
 - D. To simplify data transfer to multiple hosts
16. With TCP/IP, which range number of ports identifies as well known applications?
- A. 0 to 255
 - B. 256 to 1022
 - C. 0 to 1023
 - D. 1024 to 2047
17. Which part of a network layer address does the router used during path determination?
- A. The host address
 - B. The router address
 - C. Network address
 - D. Server address
18. Which is the feature of the User Datagram Protocol (UDP)
- A. Flow control
 - B. Connection oriented
 - C. Connectionless
 - D. None of above

19. A network administrator failure to access www.cisco.com, but can access that web by typing the IP address into browser. What application layer protocol responsible for this failure?
- A. DHCP
 - B. HTTP
 - C. DNS
 - D. SSL
20. What mechanism is used by TCP to provide flow control as segment travel from source to destination?
- A. Sequence number
 - B. Session establishment
 - C. Window size
 - D. Acknowledgements
21. At the transport layer, which of the following control is used to avoid data transmitting host overflowing the buffer of a receiving host?
- A. Best effort
 - B. Buffering technics
 - C. Flow control
 - D. Congestion avoidance
22. What is dynamically selected by the source when forwarding data?
- A. Destination logical data
 - B. Source physical data
 - C. Source port
 - D. Default gateway data
23. Which statements below represent layer 4 addressing?
- A. Identifies the destination network
 - B. Identifies source and destination hosts
 - C. Identifies multiple conversations between hosts
 - D. Identifies the net hop of destination

24. What is port number for SMTP?
- A. 110
 - B. 30
 - C. 25
 - D. 80
25. What information is added during encapsulation layer 3?
- A. Source and destination IP address
 - B. Source and destination application protocol
 - C. Source and destination of MAC address
 - D. Source and destination physical address
26. What is port number for POP3?
- A. 110
 - B. 21
 - C. 25
 - D. 47
27. What information is used by the router in order to find the correct destination network address?
- A. Subnet masks
 - B. Sources MAC address
 - C. Sources network address
 - D. Broadcast address
28. TFTP stand for?
- A. Trivial File Transfer Protocol
 - B. Transfer File Transit Protocol
 - C. Technology Trivia Protocol
 - D. Timing File Transfer Protocol

29. DNS functioning by _____
- A. Translates a domain name to IP address
 - B. Translates IP address to domain name
 - C. Translates IP address to port number
 - D. Translates language in the Web
30. What commands can be used to view a host routing table?
- A. Netstat -r
 - B. Ipconfig /all
 - C. Ping
 - D. Telnet
31. Three keys factors to consider when grouping hosts into common network **EXCEPT**
- A. Geographic location
 - B. Purpose
 - C. Organizations
 - D. Ownership
32. Which network layer device can increase the number of collision domain?
- A. Hub
 - B. Bridge
 - C. Switch
 - D. Router
33. How many usable subnets are created by applying the subnet mask 255.255.255.0 to a Class B network?
- A. 256
 - B. 255
 - C. 254
 - D. 512

34. What protocol is connectionless?
- A. TCP
 - B. FTP
 - C. UDP
 - D. SMTP
35. What is the component of a routing table entry?
- A. The MAC address and IP address
 - B. Destination layer 4 port number
 - C. The Next-Hop Address
 - D. UDP & TCP port numbers
36. Company XYZ uses a network address of 192.168.4.0. It uses the mask of 255.255.255.224 to create subnets. What is the maximum number of usable hosts in each subnet?
- A. 6
 - B. 14
 - C. 30
 - D. 62
37. What is the purpose of TCP/UDP port numbers?
- A. Indicate the beginning of a three-way handshake
 - B. Reassemble the segments into correct order
 - C. Tracks different conversation crossing the network at the same time
 - D. Identifies the acknowledgment of data transmission
38. What is the protocol below in not in the application layer of TCP/IP?
- A. FTP
 - B. SMTP
 - C. ICMP
 - D. SNMP

39. Below are the information about a route contained in routing table **EXCEPT**.

- A. Next-hop
- B. Metric
- C. Port Number
- D. Destination network address

40. Below are element in data communication **EXCEPT**

- A. Protocol
- B. Medium
- C. Router
- D. Receiver

[40 marks]

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SECTION B (Total: 60 marks)

INSTRUCTION: Answer ALL questions.

Please use the answer booklet provided.

Question 1

- a. State **TWO** (2) type's transmission process in Transport layer.
- b. Name **FIVE** (5) application protocols in TCP/IP?
- c. What are the content of packet & frame header protocol data unit?
- d. If PDU is called 'Message' in application layer, what are PDU called in Transport, Network, Data link and physical layers?
- e. List the **SEVEN**(7) layers that build up the OSI network model.

[Total: 20]

Question 2

Configuring Basic Router Settings with IOS CLI

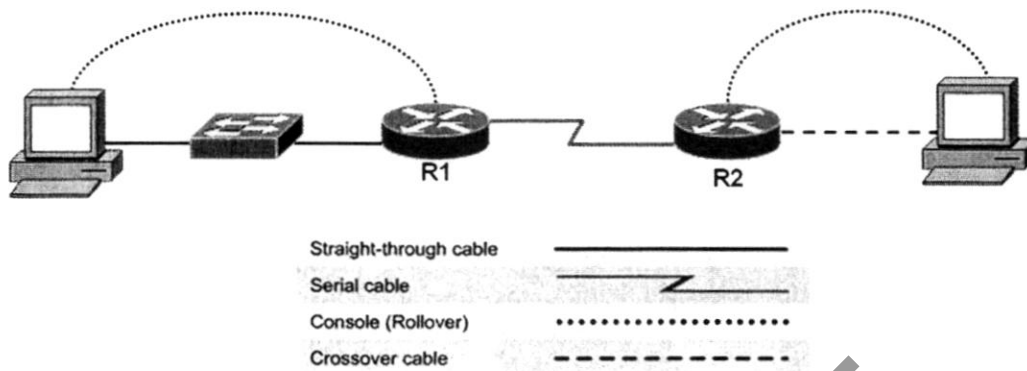


Figure 1: Chain network

Router Designation	Router Name	Fast Ethernet 0 Address	Serial 0 Address	Interface Type	Subnet mask for Ethernet interfaces
Router 1	R1	172.16.0.1/16	172.17.0.1	DCE	
Router 2	R2	172.18.0.1/16	172.17.0.2	DTE	

Based on Figure 1, gives the appropriate command or answers.

- a. Configure the device host name for a router. [2 marks]
- b. Assign First valid IP for each PCs [2 marks]
- c. Calculate Ethernet Subnet Mask [2 marks]
- d. Configure Ethernet and Serial interfaces. [8 marks]
- e. Configure Static Routing table for R1 & R2 [6 marks]

[Total :20 marks]

Question 3

- a. List the name of **THREE** (3) LAN technologies. (3 marks)
- b. List **THREE** factor while grouping the big network / host into smaller networks (3 marks)
- c. Expand the engineering bodies' acronym below and give **ONE** (1) example of protocol produced by each group with reference to the data link layer.
- i. ISO
 - ii. ITU
 - iii. EIA
 - iv. ANSI
 - v. IEEE
- (10 marks)
- d. States **FOUR**(4) type of signal propagation used in telecommunication (4 marks)

[Total: 20 marks]

END OF EXAMINATION PAPER