



MALAYSIAN INSTITUTE OF INFORMATION TECHNOLOGY

**FINAL EXAMINATION
JANUARY 2016 SEMESTER**

SUBJECT CODE : IFD10304
SUBJECT TITLE : CCNA1: NETWORK FUNDAMENTAL
LEVEL : DIPLOMA
TIME / DURATION : 9.00 am – 11.30 am
(2 ½ HOURS)
DATE : 25 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.
5. Please write your answers on the answer booklet provided.

THERE ARE 6 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

PART A (Total: 20 marks)**MULTIPLE CHOICE QUESTIONS****INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.**

1. Which three (3) network tools provide the minimum required security protection for home users?
 - I. antivirus software
 - II. antispymware software
 - III. an intrusion prevention system
 - IV. a firewall
 - V. access control lists
 - A. I, II and III
 - B. II, III and IV
 - C. I, II and IV
 - D. III, IV and V

2. Which expression accurately defines the term congestion?
 - A. a method of limiting the impact of a hardware or software failure on the network
 - B. a set of techniques to manage the utilization of network resources
 - C. a state where the demand on the network resources exceeds the available capacity
 - D. a measure of the data carrying capacity of the network

3. Why is it important to configure a hostname on a device?
 - A. to allow local access to the device through the console port
 - B. a Cisco router or switch only begins to operate when its hostname is set
 - C. to identify the device during remote access (SSH or telnet)
 - D. a hostname must be configured before any other parameters

4. What is a result of using the service password-encryption command on a Cisco network device?
 - A. All passwords in the configuration are not shown in clear text when viewing the configuration.
 - B. The command encrypts the banner message.
 - C. The command encrypts the enable mode password.
 - D. A network administrator who later logs into the device will be required to enter an administrator password in order to gain access to the Cisco device.

5. What method can be used by two computers to ensure that packets are not dropped because too much data is being sent too quickly?
- A. flow control
 - B. encapsulation
 - C. access method
 - D. response timeout
6. Which statement accurately describes a TCP/IP encapsulation process when a PC is sending data to the network?
- A. Packets are sent from the network access layer to the transport layer.
 - B. Segments are sent from the transport layer to the internet layer.
 - C. Data is sent from the internet layer to the network access layer.
 - D. Frames are sent from the network access layer to the internet layer.
7. Which IEEE standard enables a wireless NIC to connect to a wireless AP that is made by a different manufacturer?
- A. 802.11
 - B. 802.1
 - C. 802.3
 - D. 802.2
8. Which layer of the OSI model is responsible for specifying the encapsulation method used for specific types of media?
- A. data link
 - B. application
 - C. transport
 - D. physical
9. What is one advantage of using fiber optic cabling rather than copper cabling?
- A. It is easier to terminate and install than copper cabling.
 - B. It is able to be installed around sharp bends.
 - C. It is usually cheaper than copper cabling.
 - D. It is able to carry signals much farther than copper cabling.
10. Which command will backup the configuration that is stored in NVRAM to a TFTP server?
- A. copy tftp running-config
 - B. copy startup-config tftp
 - C. copy running-config tftp
 - D. copy tftp startup-config

11. Which three (3) layers of the OSI model provide similar network services to those provided by the application layer of the TCP/IP model?

- I. physical layer
- II. session layer
- III. transport layer
- IV. application layer
- V. presentation layer

- A. I, II and III
- B. II, IV and V
- C. II, III, and V
- D. I, III and V

12. What are two (2) characteristics of peer-to-peer networks?

- I. scalable
- II. one way data flow
- III. decentralized resources
- IV. resource sharing without a dedicated server

- A. I and II
- B. II and III
- C. III and IV
- D. I and IV

13. Which phrase describes an FTP daemon?

- A. a diagnostic FTP program
- B. a program that is running on an FTP server
- C. a program that is running on an FTP client
- D. an application that is used to request data from an FTP server

14. A message is sent to all hosts on a remote network. Which type of message is it?

- A. unicast
- B. directed broadcast
- C. limited broadcast
- D. multicast

15. Which network migration technique encapsulates IPv6 packets inside IPv4 packets to carry them over IPv4 network infrastructures?

- A. encapsulation
- B. translation
- C. dual-stack
- D. tunneling

16. Which two (2) parts are components of an IPv4 address?
- I. network portion
 - II. broadcast portion
 - III. host portion
 - IV. subnet portion
- A. I and II
B. II and III
C. III and IV
D. I and III
17. Which two (2) statements are correct about IPv4 and IPv6 addresses?
- I. IPv6 addresses are represented by hexadecimal numbers.
 - II. IPv6 addresses are 64 bits in length.
 - III. IPv4 addresses are 128 bits in length.
 - IV. IPv4 addresses are 32 bits in length.
- A. I and II
B. II and III
C. III and IV
D. I and IV
18. When will a router drop a traceroute packet?
- A. when the router receives an ICMP Time Exceeded message
 - B. when the host responds with an ICMP Echo Reply message
 - C. when the value in the TTL field reaches zero
 - D. when the RTT value reaches zero
19. A PC is downloading a large file from a server. The TCP window is 1000 bytes. The server is sending the file using 100-byte segments. How many segments will the server send before it requires an acknowledgment from the PC?
- A. 1 segment
 - B. 10 segments
 - C. 100 segments
 - D. 1000 segments
20. Which two (2) TCP header fields are used to confirm receipt of data?
- I. Checksum
 - II. acknowledgment number
 - III. sequence number
 - IV. SYN flag
- A. I and II
B. II and III
C. III and IV
D. I and IV

PART B (Total: 80 marks)**INSTRUCTION: Answer ALL Questions.****Please use the answer booklet provided.****Question 1**

a. Given an IP address, 163.79.87.22/26, find the subnet information needed as following. Show the calculation steps together with your answer

- i. Class of the IP Address (1 mark)
- ii. Subnet Mask (1 mark)
- iii. Number of subnet bits (1 mark)
- iv. Number of subnets (2 marks)
- v. Number of host bits (1 mark)
- vi. Number of usable host (2 marks)
- vii. Network address for this IP address (2 marks)
- viii. IP address of first host on this subnet (2 marks)
- ix. IP address of last host on this subnet (2 marks)
- x. Broadcast address for this subnet (2 marks)

b. List **ALL** the layers of Open System Interconnect (OSI) model from bottom to up. (4 marks)

[Total: 20 marks]

Question 2

a. What is the command that corresponds to each functions listed below?

(6 marks)

- i. Tests connections to other IP hosts
- ii. Displays status of network interfaces in router or switch
- iii. Displays available file systems in a switch
- iv. Displays IP configuration information in a computer
- v. Displays route taken to destination
- vi. Displays router or switch settings

- b. You are required to configure newly arrived switches in IT department. Write the basic configuration commands that need to be configured for a switch. Begin with User EXEC mode. (14 marks)

[Total: 20 marks]

Question 3

- a. Transport layer is oversees the communication between two applications. What are the **TWO (2)** common protocols used in this layer. (1 mark)
- b. Transport layer protocol uses port to identify different application data. Describe the type of ports and also the port number range of each port group. (6 marks)
- c. Explain the process of “**Three-Way Handshake**” used by the connection protocol in transport layer. (4 marks)
- d. A router has access to **FOUR (4)** types of memory. List the memory types and the information that is stored in each. (9 marks)

[Total: 20 marks]

Question 4

- a. Switches use two forwarding methods for switching data between network ports. Briefly describe about the forwarding methods and also its variants. (12 marks)
- b. These are the common application layer protocols that are used normally. Explain the purpose and the port number of each protocol. (8 marks)

- i. HTTPS
- ii. DNS
- iii. DHCP
- iv. FTP

[Total: 20 marks]

END OF EXAMINATION PAPER