

FINAL
Examination Paper

(COVER PAGE)

Session : April 2016

Programme : Diploma In Information And Communication Technology (DICTN)

Course : **ICT1105: Fundamentals of Networking**

Date of Examination : 29 July, 2016 (Friday)

Time : 11:00am – 1:00pm Reading Time : Nil

Duration : 2 Hours

Special Instructions :

SECTION A: Answer ALL multiple choice questions.

SECTION B: Answer any THREE (3) essay questions.

Materials permitted : Nil

Materials provided : Nil

Examiner(s) : **Victor Raj Kolintiar** and Vasuky Mohanan

Moderator : Noor Hasrina

This paper consists of 6 printed pages, including the cover page

DIPLOMA IN INFORMATION AND COMMUNICATIONS TECHNOLOGY (DICTN)
ICT1105: FUNDAMENTALS OF NETWORKING
FINAL EXAMINATION: APRIL 2016 SESSION

Instruction: This paper consists of **TWO (2) SECTIONS**. Answer **ALL** questions in **SECTION A** and any **THREE (3)** questions in **SECTION B**.

SECTION A: Answer **ALL** questions in the OMR sheet provided. All questions carry equal marks. (40 marks)

1. Which client-server application allows an administrator to control a remote computer, but does not encrypt or secure the communication between client and server?
 - A. Telnet
 - B. Remote Desktop
 - C. FTP
 - D. SSH

2. Which of the following is *not* a type of computer network?
 - A. Local Area Network (LAN)
 - B. Personal Area Network (PAN)
 - C. Remote Area Network (RAN)
 - D. Metropolitan Area Network (MAN)

3. Which part of a MAC address is unique to each manufacturer?
 - A. The network identifier
 - B. The OUI
 - C. The device identifier
 - D. The physical address

4. What does the acronym NIC stands for?
 - A. Network Interface Card
 - B. New Internet Connection
 - C. Network Interface Connection
 - D. Net Interface Card

5. What device protects computer equipment from a momentary increase in voltage due to lightning strikes, solar flares, or electrical problems?
 - A. NAS
 - B. Power converter
 - C. Generator
 - D. Surge protector

6. Which type of cables is used to connect similar devices?
- A. Straight-through Cable
 - B. Crossover Cable
 - C. Serial Cable
 - D. All of the above
7. Which type of transmission is measured by baud rate?
- A. Analog
 - B. Digital
 - C. Broadband
 - D. Baseband
8. Fiber optics have maximum segment of _____.
- A. 100m
 - B. 200m
 - C. 500m
 - D. 2000m
9. Which 802.11 standard can be used in both the 2.4-GHz and the 5-GHz bands?
- A. 802.11a
 - B. 802.11n
 - C. 802.11g
 - D. 802.11b
10. Which protocol at the Transport Layer provides connectionless service between hosts?
- A. IP
 - B. ARP
 - C. UDP
 - D. TCP
11. In public key encryption, which key is used to decrypt the message?
- A. Session key
 - B. Private key
 - C. Public key
 - D. Network key
12. IPv6 has _____ bit address.
- A. 32
 - B. 64
 - C. 128
 - D. 256

13. What kind of vulnerability is exploited by a ping of death?
- A. Zero-day exploit
 - B. Backdoor
 - C. Social engineering
 - D. Buffer overflow
14. To deliver a message to the correct application program running on a host, the _____ address must be consulted.
- A. Port
 - B. Physical
 - C. IP
 - D. External
15. What kind of phone is a Skype app?
- A. Analog phone
 - B. IP phone
 - C. Softphone
 - D. Video phone
16. How many bits of a Class A IP address are used for host information?
- A. 8 bits
 - B. 16 bits
 - C. 24 bits
 - D. 32 bits
17. What technology allows a user to access the Internet through the wiring of a home?
- A. Ethernet over HDMI
 - B. Broadband over power line
 - C. Ethernet over SONET
 - D. Ethernet over power line
18. Which type of disaster recovery site is the most expensive?
- A. Hot site
 - B. Ambient site
 - C. Warm site
 - D. Cold site
19. Which part of a MAC address is unique to each manufacturer?
- A. The network identifier
 - B. The physical address
 - C. The device identifier
 - D. The OUI

20. Providing a backup power source is called _____.

- A. power conversion
- B. power redundancy
- C. power inversion
- D. line conditioning

SECTION B: Answer any **THREE (3)** questions in the answer booklet provided. All questions carry equal marks. **(60 marks)**

Question 1

- (a) Identify and explain **THREE (3)** basic network topologies. (9 marks)
- (b) Define backup. Discuss the **THREE (3)** types of backup. (11 marks)

Question 2

- (a) Define the following internetworking devices: (8 marks)
- (i) Repeaters
 - (ii) Bridges
 - (iii) Routers
 - (iv) Gateways
- (b) Discuss **SIX (6)** advantages of client-server network over peer-to-peer network. (12 marks)

Question 3

- (a) Differentiate the **THREE (3)** directions of data transmission. (6 marks)
- (b) Identify and explain the functions of each layer in the OSI model. (14 marks)

Question 4

- (a) Identify and explain **THREE (3)** network troubleshooting tools. (9 marks)
- (b) Differentiate between Circuit Switching and Packet Switching. (8 marks)
- (c) List **THREE (3)** TCP/IP core protocols. (3 marks)