

**FINAL
Examination Paper**

(COVER PAGE)

Session : APRIL 2018

Programme : Diploma In Information And Communication Technology (DICTN)
Diploma In Information Technology (DITN)

Course : ICT1105: Fundamentals of Networking

Date of Examination : July 30, 2018 (Monday)

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

**IMPORTANT NOTE: THIS PAPER SHOULD NOT BE TAKEN OUT OF THE
EXAMINATION HALL.**

Material Permitted : Nil

Materials provided : OMR Sheets

Examiner(s) : Victor Raj Kolintiar and Karen Wong

Moderator : Noor Hasrina

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

DIPLOMA IN INFORMATION AND COMMUNICATIONS TECHNOLOGY
PROGRAMME (DICTN)
DIPLOMA IN INFORMATION TECHNOLOGY PROGRAMME (DITN)
ICT1105: FUNDAMENTALS OF NETWORKING
FINAL EXAMINATION: APRIL 2018 SESSION

Section A: (40 marks)

Instruction: This section consists of **TWENTY (20)** questions. Answer **ALL** questions in the OMR sheet provided. All questions carry equal marks.

1. Apache is a popular example of what type of networking software?
 - A. Web server
 - B. Browser
 - C. Email server
 - D. Email client

2. List three types of services a network might support that are considered part of unified communications or convergence.
 - A. File transfers, print services, and conversational voice
 - B. User authentication, streaming live audio and video, and print services
 - C. Web services, email services, and file services
 - D. Conversational voice, streaming live audio and voice, and streaming stored audio and voice

3. Which Session layer protocol is a streaming live video teleconference likely to use on the network?
 - A. UDP
 - B. SMTP
 - C. RTP
 - D. STP

4. Which part of a MAC address is unique to each manufacturer?
 - A. The destination ID
 - B. The OUI
 - C. The physical node ID
 - D. The SYN

5. What servers are the highest authorities in the Domain Name System hierarchy?
 - A. Authoritative name servers
 - B. Root servers
 - C. Top-level domain servers
 - D. Primary DNS server

6. If you are connected to a network that uses DHCP, and you need to terminate your Windows workstation's DHCP lease, which command would you use?
 - A. ipconfig /release
 - B. ipconfig /renew
 - C. ipconfig /release
 - D. ipconfig /new

7. What is the very beginning of an Ethernet frame called?
 - A. Header
 - B. Data
 - C. Preamble
 - D. Trailer

8. In which layer(s) of the OSI model do NICs operate?
 - A. Layers 5, 6, and 7
 - B. Layers 1 and 2
 - C. Layers 4
 - D. Layers 2 and 3

9. 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

10. Providing a backup power source is called _____.
 - A. power conversion
 - B. power inversion
 - C. power redundancy
 - D. line conditioning

11. What generator component converts DC power from the generator to AC power that the electrical infrastructure in a data center can use?
 - A. Inverter
 - B. Rectifier
 - C. Transformer
 - D. Voltage regulator

12. What number does a host use to identify the application involved in a transmission?
- A. IP address
 - B. MAC address
 - C. Port number
 - D. Sequence number
13. What kind of route is created when a network administrator configures a router to use a specific path between nodes?
- A. Trace route
 - B. Static route
 - C. Default route
 - D. Best path
14. At which OSI layer does IP operate?
- A. Application layer
 - B. Transport layer
 - C. Data Link layer
 - D. Network layer
15. Which of the following is **NOT** an example of a broadband transmission?
- A. Cable TV
 - B. Telephone signal
 - C. Mobile voice
 - D. Ethernet
16. Which type of transmission is measured by baud rate?
- A. Analog
 - B. Digital
 - C. Baseband
 - D. Broadband
17. Which categories of twisted-pair cable can support Gigabit Ethernet?
- A. Cat 5 and lower
 - B. Cat 5 and higher
 - C. Cat 5e and higher
 - D. Cat 6 and lower
18. Which remote access protocol is used over an Ethernet network?
- A. PPPoE
 - B. RAS
 - C. PPP
 - D. SLIP

19. 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
20. What method do ISPs use to purposely slow down bandwidth utilization by customers?
- A. Fair access
 - B. Throttling
 - C. Blocking
 - D. Net neutrality

Section B: (60 marks)

Instruction: This paper consists of **FOUR (4)** questions. Answer any **THREE (3)** questions in the answer booklet provided. All questions carry equal marks.

Question 1

- (a) Explain **FIVE (5)** TCP/IP core protocols. (10 marks)
- (b) Discuss the **FIVE (5)** basic network topologies. (10 marks)

Question 2

- (a) Compare analog and digital signals. (10 marks)
- (b) Describe the **TEN (10)** steps required in installing an expansion card **Network Interface Card (NIC)**. (10 marks)

Question 3

- (a) Compare circuit switching and packet switching. (10 marks)
- (b) Explain the wireless WAN transmission technologies below: (10 marks)
- (i) 802.11
 - (ii) 802.16
 - (iii) Satellite

Question 4

- (a) Explain **FIVE (5)** networking standard organizations. (10 marks)
- (b) Explain **TWO (2)** types of multiplexing with relevant diagrams. (10 marks)