INTI International University & Colleges

**FINAL**
Examination Paper

(COVER PAGE)

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| Session | : | **APRIL 2018** |
| Programme | : | Diploma In Information And Communication Technology (DICTN)<br>Diploma In Information Technology (DITN) |
| Course | : | **ICT2103: Network Design, Testing And Implementation** |
| Date of Examination | : | August 1, 2018 (Wednesday) |
| Time | : | 5.00PM – 7.00PM Reading Time : Nil |
| Duration | : | 2 Hours |

**Special Instructions :**

**SECTION A**: Answer **ALL** multiple choice questions in OMR sheet.

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

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

Materials permitted :

Non-programmable Calculators

Materials provided :

OMR Sheets

Examiner(s) : **Victor Raj Kolintiar** and Asvhini Subramaniam

Moderator : Professor Dr Abdullah Gani

*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)
ICT2103: NETWORK DESIGN, TESTING AND IMPLEMENTATION
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.

1. Which of the following is **NOT** remote access technologies?

   A. PHP
   B. ISDN
   C. PPP
   D. DSL

2. An attempt to make a computer resource unavailable to its intended users is called _____.

   A. denial-of-service attack
   B. virus attack
   C. worms attack
   D. botnet process

3. Which of the following is **NOT** a layer in the Cisco's Hierarchical Design Model?

   A. Core layer
   B. Distribution layer
   C. Access layer
   D. Design layer

4. What is the Demilitarized Zone?

   A. The area between firewall & connection to an external network
   B. The area between ISP to Military area
   C. The area surrounded by secured servers
   D. The area surrounded by the Military

5. Selection criteria for WAN Service Provider includes _____.

   A. demographic areas covered
   B. business areas covered
   C. geographical areas covered
   D. historical areas covered

6. Which of the following is **NOT** a business goal?

A. Decrease revenue
B. Reduce operating costs
C. Shorten product development cycle
D. Expand into worldwide markets

7. Which of the following is a business constraint?

A. Father and Mother
B. Country and Government
C. Politics and Policies
D. Friends and Family

8. Which of the following is **NOT** a technical goal?

A. Availability
B. Accountability
C. Adaptability
D. Affordability

9. Network Health checklist assist in verifying the _____ of an existing internetwork.

A. size
B. health
C. errors
D. users

10. The benefits of hierarchy in an addressing and routing model, except _____.

A. Scalability
B. Stability
C. Optimized performance
D. Security

11. A _____ is a formal statement of the rules by which people who are given access to an organization's technology and information assets must abide.

A. company policy
B. IT policy
C. security policy
D. government policy

12. A _____ is a dedicated circuit that a customer leases from a carrier for a predetermined amount of time, usually for months or years.

A. leased line
B. dedicated line
C. serial line
D. private line

13. Which of the following is **NOT** the type of media used in campus networks?

A. Copper media
B. Optical media
C. Wireless media
D. Mass media

14. A radio frequency signal traveling through objects of various sorts can be affected by many different problems, including the following, **except**:

A. Reflection
B. Adaption
C. Refraction
D. Diffraction

15. Categories of UTP cabling include _____.

A. Category 5f
B. Category 5e
C. Category 5d
D. Category 5c

16. What is/are the goal/s for testing the network designed?

A. Verifying that the design meets key business and technical goals
B. Validating LAN and WAN technology and device selections
C. Verifying that a service provider provides the agreed-upon service
D. All of the above

17. _____ is the simulation tool used to test the network designed.

A. Cisco Packet Tracer
B. Cisco Frame Tracer
C. Cisco Packet Eraser
D. Disco Packet Tracer

18. Which of the following is NOT the contents of the network design document?

A. Project goal
B. Executive summary
C. Gantt Chart
D. Design requirements

19. Which of the following is private IP address?

A. 12.0.0.1
B. 168.172.19.39
C. 172.15.14.36
D. 192.168.24.43

20. A *topology* is a map of an internetwork that indicates _____.

A. network segments
B. interconnection points
C. user communities
D. all of the above

**Section B: (60 marks)**

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

**Question 1**

(a) Explain the **SIX (6)** stages in the PDIOO Network Life Cycle.

(12 marks)

(b) State **FOUR (4)** network assets.

(4 marks)

(c) List **FOUR (4)** possible appendixes for network design document.

(4 marks)

**Question 2**

(a) Explain the **FIVE (5)** components of a security policy.

(10 marks)

(b) Assume that a 10-Mbps Ethernet network has 200 managed devices and each device is monitored for 10 characteristics. The polling interval is every 5 seconds and that each request and response is a single 64-byte packet. Calculate a rough estimate of the traffic load for this network. Justify if the traffic load is acceptable.

(10 marks)

**Question 3**

(a) You are assigned the task to subnet the Class C network address 192.168.30.0. Do subnetting, whereby you have approximately 45 nodes per subnet. Based on the given information, answer the following questions(*show your calculations steps)*:

(i) What is the number of hosts per subnet?
(ii) What is the number of subnets in this network?
(iii) What is the block size of each subnet?
(iv) What subnet mask should you use?
(v) What is the address of all subnets in this network?
(vi) What is the address of the last node on the last subnet?
(vii) What is the broadcast address for this node identified in part (vi)?

(12 marks)

(b) Describe **FOUR (4)** types of tests to run against the network designed.

(8 marks)

**Question 4**

(a) Explain **FIVE (5)** selection criteria for internetworking devices.

(10 marks)

(b) Compare centralized cabling scheme and distributed cabling scheme with aid of diagrams.

(10 marks)

**~ The End ~**