INTI
International College Subang
LAUREATE INTERNATIONAL UNIVERSITIES

FINAL
Examination Paper

(COVER PAGE)

Session	:	**August 2014**
Programme	:	Diploma In Information And Communication Technology (DICTN/DICTI)
Course	:	**ICT2103 / CSC2103: Network Design, Testing And Implementation**
Date of Examination	:	December 5, 2014
Time	:	8:00am – 10:00am Reading Time: Nil
Duration	:	2 Hours
Special Instructions	:	

Answer any **FOUR (4)** questions.

Materials permitted : Standard Calculator

Materials provided : Nil

Examiner (s) : **Mr. Victor Raj Kolintiar,** Asvhini Subramaniam.

Moderator : Associate Professor Dr. Abdullah Gani

This paper consists of 4 printed pages, including the cover page.

INTI INTERNATIONAL COLLEGE SUBANG

DIPLOMA IN INFORMATION AND COMMUNICATIONS TECHNOLOGY PROGRAMME (DICTN/DICTI)
ICT2103/CSC2103 : NETWORK DESIGN, TESTING AND IMPLEMENTATION
FINAL EXAMINATION: AUGUST 2014 SESSION

Instructions: This paper consists of **SIX (6)** questions. Answer any **FOUR (4)** questions in the answer booklet provided. All questions carry equal marks.

Question 1

(a) With an aid of a diagram, discuss the CISCO PDIOO network lifecycle.

(14 marks)

(b) Define the term "availability". A company should not fail more than every 4000 hours or 166.666 days, the failure should be fixed within 1 hour. State the formula by identifying relevant information before calculating the availability of a given network.

(6 marks)

(c) A packet switch has 5 users, each offering packets at a rate of 12 packets per second. The average length of packets is 1024-bits. The packet needs to transmit data over a 64-Kbps WAN circuit. Calculate the queue length (average number of packets in the queue).

(5 marks)

Question 2

(a) You are required to subnet a Class C network having an address of 192.168.25.0. Create subnetting, whereby you have 30 nodes per subnet. Based on the information provided, answer the following question, **with the necessary calculations.**

(i) What is the number of subnets in this network?

(ii) What subnet mask should you use?

(iii) What is the network address for the last subnet?

(iv) What is the address of the last node on the last subnet?

(v) What is the broadcast address of the last subnet?

(10 marks)

(b) Identify and explain **FIVE (5)** key components of a security policy of an organization.

(15 marks)

Question 3

(a) Describe **FOUR (4)** issues to be considered for a new wireless installation.

(8 marks)

(b) Differentiate centralized cabling scheme from distributed cabling scheme with aid of diagrams.

(10 marks)

(c) Name any SEVEN (7) network assets.

(7 marks)

Question 4

(a) Identify and explain the **FIVE (5)** popular types of traffic flows.

(15 marks)

(b) Discuss **FIVE (5)** methods to check the health of the existing internetwork

(10 marks)

Question 5

(a) Provide any **TEN (10)** goals for testing your network design to ensure correct selection of testing procedures and relevant tools.

(10 marks)

(b) Explain **TWO (2)** firewall topologies to meet the security goals for any organization

(10 marks)

(c) Name **FIVE (5)** guidelines for assigning network layer addresses

(5 marks)

Question 6

(a) Design a network for a company that has 30 workstations and 2 servers with a leased line Internet connection. The design should include the network map, topology, transmission medium and connecting devices.

(10 marks)

(b) Compare, bridges, switches and routers, also state in which layer of the OSI model do they operate in and state **ONE (1)** advantage of using a router.

(10 marks)

(c) Define the following IEEE 802.3 Ethernet technologies:

(i) 10Base5

(ii) 10BaseF

(iii) 100BaseT4

(iv) 1000BaseCX

(v) 10GBaseE

(5 marks)

-THE END-

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