FINAL
Examination Paper

(COVER PAGE)

Session : April 2013

Programme: Diploma In Information And Communication Technology (DICTN/DICTI)

Course : ICT2103 / CSC2103: Network Design, Testing And Implementation

Date of Examination : July 30, 2013

Time : 8:00pm – 10:00pm  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, Mugunthan.

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
(DICTN/DICTI)
ICT2103/CSC2103: NETWORK DESIGN, TESTING AND IMPLEMENTATION
FINAL EXAMINATION: APRIL 2013 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 5000 hours or 208.333 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 4 users, each offering packets at a rate of 13 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) 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 3

(a) Explain FIVE (5) service categories defined by Asynchronous Transfer Mode (ATM) Forum. (10 marks)

(b) Explain the FOUR (4) components of a security policy. (10 marks)

(c) List FIVE (5) guidelines for assigning network layer addresses. (5 marks)

Question 4

(a) Explain Flat and Hierarchical network topology. (10 marks)

(b) List any TEN (10) required contents for writing a network design documentation. (10 marks)

(c) List FIVE (5) contents that are usually categorized in the Logical design. (5 marks)

Question 5

(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. State layer of OSI model they operate. 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) 1000BaseSX
(v) 10GBaseE

(5 marks)

Question 6

(a) Identify and explain FIVE (5) popular types of traffic flow.

(15 marks)

(b) Compare copper and fiber optic cabling, and state FOUR (4) advantages of using fiber optics cabling.

(10 marks)

-THE END-