



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

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AUGUST – DECEMBER 2016 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

EVENING PROGRAMME

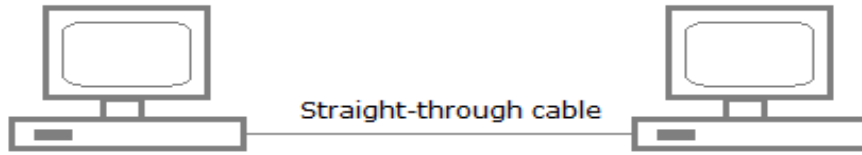
LIS 207: COMPUTER NETWORKS

Date: DECEMBER 2016

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Describe any two media access methods used by computer networks today.
(2 marks)
- b) Differentiate the following pairs of terms
i. Packet switching and circuit switching
ii. LAN and WAN:
(4 marks)
- c) Describe the following two Domain Name System name resolution techniques.
i) Iterative
ii) Recursive
(4 marks)
- d) Describe any two network topologies adopted by business in designing their networks.
(4 marks)
- e) A network administrator is connecting hosts A and B directly through their Ethernet interfaces, as shown in the illustration below. Ping attempts between the hosts are unsuccessful. Explain two solutions to provide connectivity between the hosts?



IP Address: 192.168.1.20
Mask : 255.255.255.240

IP Address : 192.168.1.201
Mask : 255.255.255.240

- (4 marks)**
- f) For each of the following explain one advantage for using:-
- i) Twisted pair over coaxial cable
 - ii) Fiber optic cable over twisted pair
- (4 marks)**
- g) Describe each of the following internetworking hardware:
- i) hub
 - ii) bridge
 - iii) Switch
 - iv) Router
- (8 marks)**
- Q2. a) Describe three factors to consider in network design so as to determine the type of media to use. **(3 marks)**
- b) Using suitable examples, describe any four classes of IP addresses. **(4 marks)**
- c) Describe four benefits of WLAN. **(3 marks)**
- d) Describe each of the following types of wireless technologies:
- i) Terrestrial microwave
 - ii) Communication satellites
 - iii) Wireless LANs
 - iv) Blue tooth
- (8 marks)**
- e) Differentiate between multi-casting, broadcasting and unicasting mode of communication. **(2 marks)**
- Q3. a) By use of a diagram describe the TCP/IP model, giving examples of protocols in each case. **(4 marks)**
- b) Describe two characteristic differences between IPv4 and IPv6 **(4 marks)**
- c) Describe WEP, WPA, and WPA2 Wireless Security Protocols: **(3 marks)**
- d) By use of a diagram, describe the functions of the OSI 7-layer reference model. **(5marks)**

- e) Describe two differences between asynchronous transfer mode and frame relay. **(4 marks)**
- Q4. a) Explain what is unguided media **(3 marks)**
- b) List and explain the THREE major classifications of unguided media **(9 marks)**
- c) With the help of a diagram, explain the major classifications of transmissions media used in Networking. **(8 marks)**
- Q5. a) Outline the FOUR major functions of the Access control **(8 marks)**
- b) With the help of a diagram explain what Token passing is **(6 marks)**
- c) Outline the difference between CSMA CD and CSMA CA **(6 marks)**

END