THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

P.O. Box 62157
00200 Nairobi - KENYA
Telephone: 891601-6
Fax: 254-20-891084
E-mail:academics@cuea.edu

MAIN EXAMINATION

JANUARY – APRIL 2018 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE

REGULAR PROGRAMME

CMT 107: COMPUTER NETWORKS

Date: APRIL 2018	**Duration: 2 Hours**
INSTRUCTIONS: Answer Question ONE and any other TWO Questions	

Q1. a) With the aid of a diagram Explain the two major model of networks
(4 marks)

b) Outline the major advantages of a Client/Server Network   **(6 marks)**

c) Explain what the following acronyms are in Networking and what they are
(3 marks)
    i) LAN
    ii) MAN
    iii) WAN

d) Outline and explain the **EIGHT** major Network services   **(4 marks)**

e) Give a brief history of IP address management history   **(3 marks)**

f) List and explain the FOUR fundamental properties of an analogue signal
(4 marks)

g)   Explain the following terms used in data communication

(6 marks)

    i) Bandwidth   iv)Multiplexing
    ii) Throughput   v) Duplex
    iii) Simplex   vi) Half Duplex

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Q2. a) With the aid of a diagram compare and contrast the OSI model with TCP/IP model highlighting the major differences **(10 marks)**

b) Explain what the following Client/Server components are and their function
(8 marks)

      i) Protocol   v)Backbone
      ii) Addressing   vi) Segment
      iii) packet   vii)Node
      iv) Topology   viii)Host

c) What is transmission media in relation to computer Networks? **(2 marks)**

Q3. a) With the aid of a diagram explain what is Unguided media and give THREE major examples of media classification. **(5 marks)**

b) Outline what the following are in computer Networks and give examples of each . **(12 marks)**

      i) Radio waves
      ii) Micro Waves
      iii) Infrared

c) Explain what is subnetting and give the FOUR benefits of subnetting Networks **(3 marks)**

Q4. a) Outline what is a DNS in relation to networking and give an example
(5 marks)

b) Name the FOUR major components of a DNS and explain how each functions **(12 marks)**

c) Convert the following IP address into binary and indicate its subnet mask 138.101.114.250 **(3 marks)**

Q5. a) Explain what is Network Security and give the THREE major objectives of security **(5 marks)**

b) Outline the THREE major security Approaches for wireless Networks and explain how each of them functions . **(12 marks)**

c) List any SIX major network attacks and explain how each of them occurs
(6 marks)

END

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