TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

CERTIFICATE IN INFORMATION TECHNOLOGY & MAINTENANCE
(CICM 14J)

EIT 1107: DATA COMMUNICATIONS

END OF SEMESTER EXAMINATION
SERIES: APRIL 2014
TIME: 2 HOURS

<u>**Instructions to Candidates:**</u>
You should have the following for this examination
-    *Answer Booklet*
This paper consists of **FIVE** questions. Attempt question **ONE** and any other **TWO** questions

Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question One (Compulsory)

a) Define the following terms as used in data communication: **(5 marks)**
  (i) Parity
  (ii) Protocol
  (iii) Data
  (iv) Information
  (v) Data Communication

b) Explain FIVE signal impairments in Data Communication.   **(5 marks)**

c) Describe multiplexing application areas.   **(10 marks)**

Question Two

a) Describe TCP/IP standard functions.   **(10 marks)**

b) Distinguish between the following technologies: **(4 marks)**
  (i) Data gram switching
  (ii) Circuit switching

c) List THREE Ethernet network standards.   **(3 marks)**

d) Define topology. List any TWO types.   **(3 marks)**

Question Three

a) Name any FOUR applications of coaxial cables.   **(4 marks)**

b) Distinguish between the following data communication approaches: **(6 marks)**
  (i) Analogue transmission
  (ii) Digital transmission   **(6 marks)**

c) List FIVE benefits of computer networks.   **(5 marks)**

d) List the THREE modes of Data Communication.   **(3 marks)**

e) Differentiate between the two optical fiber modes.   **(2 marks)**

Question Four

a) Differentiate between the following giving examples: **(6 marks)**
  (i) Guided media
  (ii) Unguided media

b) Outline FOUR optical fiber advantages.   **(4 marks)**

c) Explain the usability of peer-to-peer networks.   **(6 marks)**

d) List 10Mbps Ethernet standards.   **(4 marks)**

Question Five

a) Explain with labeled diagram, the OSI standard functionality.   **(14 marks)**

b) List any THREE computer network components.   **(3 marks)**

c) Outline THREE advantages of asynchronous data transmission.   **(3 marks)**