



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**FIRST YEAR SECOND SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY**

CITY CAMPUS - EVENING

CIT 116: DATA COMMUNICATION

Date: 22nd June, 2017

Time: 5.30 - 8.30pm

INSTRUCTIONS:

- Answer Question ONE and any other TWO
- Start each question on a new page
- Mobile phones are prohibited in the Examination room
- Do not write on the question paper

QUESTION ONE (30 MARKS)

- a) Describe how data communication takes place? (8 marks)
 - b) Compare and contrast the difference between peer-to-peer Networks and server based networks (6 marks)
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- c) For the communication to take place a standard for sending and receiving data was put in place. Discuss this standard using the OSI model in detail. (10 marks)
 - d) What is a protocol? (2 marks)
 - e) What is the difference between data and signal? Cite and example for the two. (4 marks)

QUESTION TWO (20 MARKS)

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- a) Discuss TCP/IP model in detail. (5 marks)
 - b) The layout of the network is paramount. Describe the different ways in which this is done. (8 marks)
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- c) Discuss in detail about wireless transmission media (5 marks)
 - d) State and explain the two types of communications(2 marks)

QUESTION THREE (20 MARKS)

- a) What is the difference between circuit-switching and packet switching? (5 marks)
- b) Outline issues affecting wireless networks. (4marks)
- c) Differentiate between the terms multicast and broadcast transmissions. (3marks)
- d) Compare and contrast the OSI model and the TCP/IP model (8marks)

QUESTION FOUR (20 MARKS)

- (a)Mention and elaborate the duties of a transport layer(5 marks)
 - (b)Discuss the communication system. State the characteristics that makes it to be effective. (5 marks)
 - (c) Discuss transmission impairments in the OSI layer 1 and how to resolve them. (10marks)
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QUESTION FIVE (20 MARKS)

- a) Explain the transmission mode (5 marks)
- b) What is statistical time division multiplexing? Discuss how it works(5 marks)
- c) Differentiate between synchronous and asynchronous transmission (5 marks)
- d) What is line configuration? State and explain the types of line configuration(5 marks)