TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR:

DIPLOMA INFORMATION COMMUNICATION TECHNOLOGY

EIT 2201: DATA COMMUNICATION

SPECIAL/ SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2018

TIME: 2HOURS

DATE: Sep 2018

<u>**Instructions to Candidates**</u>
You should have the following for this examination
-Answer Booklet, examination pass and student ID
This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.
Do not write on the question paper.

Question ONE

a) List and describe the functions of any FIVE network components.   (10 Marks)

b) Explain the following data transmission terms

    i.   modulation

    ii.   demodulation

    iii.   multiplexing   (6 Marks)

c) Outline the difference between synchronous and asynchronous transmission.   (4 Marks)

Question TWO

a) Using diagrams explain FIVE different communication medium.   (10 Marks)

b) For each of the media used explain their typical area of application.   (10 Marks)

Question THREE

a) Describe the FOUR different types of noise that can occur during data communication. (8 Marks)

b) Discuss the following signal impairments concepts (6 marks)

    i. Attenuation
    ii. Distortion
    iii. Noise

c) Explain how signal impairment listed above is resolved in practice. (6 Marks)

Question FOUR

a) List and explain the THREE different data switching techniques (9 Marks)

b) For each of the switching technique above list their advantages and area of application. (9 Marks)

c) Explain the use of parity bit in data transmission. (2 Marks)

Question FIVE

a) Compare and contrast OSI model to TCP/IP model protocol suit (14 Marks)

b) Differentiate between transmission of analog signals and digital transmission giving transmission techniques of each technique (6 Marks)