(University of Choice)

MASINDE MULIRO UNIVERSITY OF

SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

SPECIAL/SUPPLEMENTARY EXAMINATIONS

FOR THE CERTIFICATE

IN

INFORMATION TECHNOLOGY

COURSE CODE: ITC 018

COURSE TITLE: INTRODUCTION TO NETWORKING

DATE: 2/08/2022   **TIME: 8:00A.M-10:00A.M**

INSTRUCTIONS TO CANDIDATES

Answer **Question ONE (1)** and any other **TWO**

TIME: 2 Hour

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

QUESTION ONE [24marks]-COMPULSORY

a. Define the following terms as used in Computer Networks.   (6 marks)
    i. Network
    ii. Topology
    iii. Protocol
b. Describe in your own words the important functions performed by following hardware commonly found in a network.   (6 marks)
    i. Switch.
    ii. Router.
    iii. Network interface card.
c. Discuss the factors that affect the choice of a network topology. (12 marks)

QUESTION TWO (18 MARKS)

A company is expanding its business to other countries. All branch offices must remain connected to corporate headquarters at all times. State which network topology is required and why to support this requirement? Stating some of the devices to be included in the network.   (18 marks)

QUESTION THREE (18 MARKS)

a. A company is contemplating whether to use a client/server or a peer-to-peer network. What are the characteristics, advantages and disadvantages of a peer-to-peer network?   (8 marks)

b. What is network topology?   (2 marks)

c. What is necessary to consider when choosing a network topology to implement?   (3 marks)

d. Describe at least five Network topologies?   (5 marks)

QUESTION FOUR [18marks]

a) One of the basic elements of communication is the media, list **three** types of media, giving two advantages and two disadvantages of each   **(12 marks)**

b) List any Two uses of LAN   **(2 marks)**

c) Discuss Bluetooth wireless transmission technology stating clearly its applications.
(4 marks)

QUESTION FIVE (18 MARKS)

a. Discuss connection and connectionless network switching. (5 marks)

b. Discuss the following switching techniques? (6 marks)

     i.   Circuit switching
    ii.   Message switching
   iii.   Packet Switching

c. Other than locality, what are the chief characteristics of a local area network? Describe. (3 marks)

d. Discuss the following transmission modes. (4 marks)

     i.   Serial
    ii.   Parallel