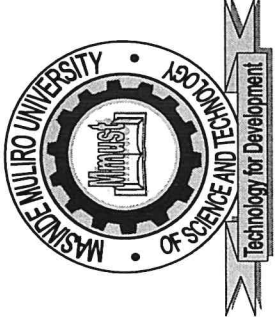


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(University of Choice)

MASINDE MULIRO UNIVERSITY OF

SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

FOR THE CERTIFICATE

IN

INFORMATION TECHNOLOGY

COURSE CODE: ITC 018

COURSE TITLE: INTRODUCTION TO NETWORKING

DATE: 20/04/2022

TIME: 8:00 – 10:00AM

INSTRUCTIONS TO CANDIDATES

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

TIME: 1 Hour 30 Minutes

MMUST observes ZERO tolerance to examination cheating

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

QUESTION ONE [24marks]-COMPULSORY

- a) Discuss at least FIVE advantages of a Server Based networks over peer to peer networks. [5 marks]
- b) Discuss fiber optic transmission media using a well labeled diagram, stating the advantages and disadvantages of it over other wired transmission Medias. [5 marks]
- c) State FIVE categories of UTP cable stating what they transmit and the speed of transmission in each category. [5 marks]
- d) Explain the following terms as used in computer networking: [5 marks]
- i) Network Media
 - ii) Data modulation
 - iii) Client Computer
 - iv) Networking standards
 - v) Network Topology
- e) Highlight the specific functions of each of the following networking devices. [5 marks]
- a) Hub
 - b) Modem
 - c) Router
 - d) Bridges
- f) Give THREE advantages of using a WLAN rather than a cabled network. [3 Marks]
- g) Explain the following terms as used in computer networking: [2 marks]
- (i) Client Computer
 - (ii) Networking standards

QUESTION TWO [18marks]

a) Define the following terms. [2 marks]

- i) Data Communication
- ii) Computer Networks.

b) List 4 components of data communication system. [4marks]

c) Outline 4 key elements of a communication protocol. [4marks]

d) Outline the fundamental characteristics on which the effectiveness of data communication depends on. [4 marks]

e) With examples differentiate between serial and parallel transmission of data [4 marks]

QUESTION THREE [18marks]

You have been approached by the ICT management of Kakamega County to network 25 computers in the administration Department to form LAN that will connect to a WAN to access internet.

a) State and explain the devices you will use in the connection. [8marks]

b) Which topology will be the most suitable? [2marks]

c) Give reasons for (b) above. [4marks]

d) Explain how the topology in (b) above works. [4marks]

QUESTION FOUR [18marks]

a) One of the basic elements of communication is the media, list **three** types of media, and explain the form of data transmission giving two advantages and two disadvantages of each. [12 marks]

b) List any FOUR uses of LAN. [2marks]

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

[4 marks]

QUESTION FIVE [18marks]

- a) Using a well diagram, describe the three different types of network topologies. [6 marks]
- b) Briefly describe the two types of transmission media. Give an examples for each type. [4 marks]
- c) Describe the following classes of data communication. [6 marks]
- i) Simplex
 - ii) Half Duplex
 - iii) Full Duplex
- d) State and briefly describe the two main switching technologies. [2 marks]