

THARAKA



UNIVERSITY

COLLEGE
(A Constituent College of Chuka University)
UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF
CERTIFICATE IN COMPUTER SCIENCE**

COSC 00171: COMPUTER NETWORKS AND THE INTERNET

STREAMS: CERT (COSC) YISI

TIME: 2 HOURS

DAY/DATE: THURSDAY 09/04/2020

11.30 AM – 1.30 PM

INSTRUCTIONS:

- Answer question **ONE** and **TWO** other questions
- Do not write anything on the question paper
- This is a **closed book exam**, No reference materials are allowed in the examination room
- There will be **NO** use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely.
- Marks are awarded for clear and concise answers.

SECTION A (Answer ALL questions in this section)

QUESTION ONE (30 Marks)

- a. Define the following terms
- | | |
|-----------------------|----------|
| i. Data communication | [2Marks] |
| ii. Internet | [2Marks] |
| iii. Firewall | [2Marks] |
| iv. Worm | [2Marks] |
- b. List **THREE** advantages of computer network [3Marks]
- c. List **THREE** disadvantages of wired network [3Marks]
- d. Discuss the disadvantages of ring topology [4Marks]
- e. While stating what they stand for, distinguish between TCP and UDP [4Marks]

- f. Using a diagram, explain the client/server model. [4Marks]
- g. Transmission medium can either be guided or unguided, name FOUR guided transmission medium use in data communication [4 marks]

SECTION B (Answer any TWO questions)

QUESTION TWO (20 Marks)

- a.) Discuss FOUR measures to be put in place to ensure network security [8Marks]
- b.) Chronologically list the SEVEN layers of OSI model [7Marks]
- c.) List the FOUR basic types of transmissions standards for wireless network [5Marks]

QUESTION THREE (20 Marks)

- a.) Differentiate simplex, half duplex and full duplex modes of data communication. [6Marks]
- b.) Discuss TWO disadvantages of internet in the society [4Marks]
- c.) Explain the role of the following devices in a network. [10Marks]
 - i. Switch
 - ii. Hub
 - iii. Router
 - iv. Bridge
 - v. Network Interface card

QUESTION FOUR (20 Marks)

- a. Discuss any THREE types of computer network [10Marks]
- b. State and explain FIVE types of attacks that can occur in a computer network. [10 Marks]

QUESTION FIVE (20 Marks)

- a) With an aid of diagrams, describe FOUR major Local Area Network (LAN) topologies [12Marks]
 - b)
 - c) Discuss Two disadvantages of computer network [4Marks]
 - d) Discuss FOUR signs of a computer infected by a virus. (4marks)
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