

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

COSC 00171: NETWORKS AND INTERNET

STREAMS:

TIME: 2 HOURS

DAY/DATE:.....

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: (4 marks)
 - i. Computer Network
 - ii. Network Topology
- b. Explain the role of the following networking computers: (6 marks)
 - i. Switch
 - ii. Hub
 - iii. Repeater
- c. Differentiate between Half duplex and Full duplex transmission modes. (4 Marks)
- d. State and explain TWO types of network connection that can be used. (4 marks)

- e. Explain the meaning of term protocol and explain its THREE major elements. (4 marks)
- f. Distinguish between the Internet Address System and the Domain Name System
(2 Marks)
- g. Differentiate internet, intranet and extranet. (6 Marks)

SECTION B (Answer any TWO questions)

QUESTION TWO (20 Marks)

- a.) State and explain THREE differences between packet switching and circuit switching in a tabular form. (6 marks)
- b.) Using a diagram, differentiate between the client/server model and peer to peer network model. (6 Marks)
- c.) State and explain FOUR types of computer networks. (8 Marks)

QUESTION THREE (20 Marks)

- a. State and explain FIVE types of attacks that can occur in a computer network (10 Marks)
- b. State and explain FIVE types of network security implementations (10 Marks)

QUESTION FOUR (20 Marks)

- a. While stating what they stand for, explain the role of the following protocols: (6 marks)
 - i. FTP
 - ii. SMTP
 - iii. HTTP
- b. While stating what they stand for, distinguish between TCP and UDP (6 Marks)
- c. Differentiate between spamming and phishing in computer networks. (4 marks)
- d. Suppose user calls in and complains that her computer and network is running very slow. How would you go about troubleshooting it? (4 marks)

QUESTION FIVE (20 Marks)

- a. List any FOUR **main** uses of the Internet. (4 Marks)
- b. With the aid of diagrams, state and explain any FOUR network topologies. (8 Marks)

- c. With the aid of a diagram, explain the role of a firewall in a computer network (4 Marks)
- d. Explain what is the role of a network administrator. (4 marks)