

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF
CERTIFICATE IN COMPUTER SCIENCE

COSC 00171:COMPUTER NETWORKS AND THE INTERNET

STREAMS:

TIME: 2 HOURS

DAY/DATE: TUESDAY 15/12/2014

2.30 PM – 4.30PM

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 (30marks)

- Explain the term Network Topology. (2 Marks)
- While stating what they stand for, explain the difference between MAN, WAN and LAN. (6 Marks)
- Define the following terms as used in internet security. (4Marks)
 - Unauthorized Access –
 - Unauthorized Use –
- Briefly state TWO ways of accessing resources from websites. (2 Marks)
- Differentiate internet, intranet and extranet. (6 Marks)
- Distinguish between half duplex and full duplex. (4 Marks)

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- g. While stating what they stand for, explain the role of each of the following: (6 Marks)
- i. FTP
 - ii. HTTP
 - iii. SMTP

SECTION B (Answer any TWO questions)

QUESTION TWO (20 Marks)

- a. With the aid of diagrams, explain each of the following network topologies (6 Marks)
- i. Star Topology
 - ii. Ring Topology
 - iii. Bus Topology
- b. Give definition between circuit switching and packet switching, the concept of how each works and give three differences between them. [10 marks]
- c. List FOUR advantages of computer networks (4 Marks)

QUESTION THREE (20 Marks)

- a.) Explain the role of the following devices in a network. (8 Marks)
- i. Switch
 - ii. Hub
 - iii. Router
 - iv. Bridge
- b.) Using a diagram, explain the client/server model. (4 Marks)
- c.) Distinguish between spamming and phishing. (4 Marks)
- d.) With the aid of a diagram, explain the role of a firewall in a computer network. (4 Marks)

QUESTION FOUR (20 Marks)

- a) List and explain the TCP/IP model layers (12 Marks)
- b) Differentiate between Wired and Wireless Network. (4 Marks)
- c) List any FOUR **main** uses of the Internet. (4 Marks)

QUESTION FIVE (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)
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