



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL INFORMATICS AND INNOVATIVE SYSTEMS
UNIVERSITY EXAMINATION FOR THE DIPLOMA IN LINUX ENGINEERING
1ST YEAR 1ST SEMESTER 2018/2019 ACADEMIC YEAR
KISUMU CAMPUS

COURSE CODE: ICT 2113

COURSE TITLE: NETWORK INSTALLATION, MAINTENANCE AND ADMINISTRATION

EXAM VENUE:

STREAM: Dip. Linux Engineering

DATE: 5/12/2018

EXAM SESSION: 9.00 – 10.30 AM

TIME: 1 ½ HOURS

Instructions:

- 1. Answer question 1 (Compulsory) and ANY other 2 questions.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE: (30 Marks)

- a) Define the following terms as used in networking administration; (5 marks)
 - i. Computer network
 - ii. Protocol
 - iii. Arpanet
 - iv. Internet
 - v. Ethernets
- b) Differentiate between a packet and a datagram (4 marks)
- c) What is network topology? (1 mark)
- d) Describe briefly the following; (6 marks)
 - i. Internet Protocol
 - ii. Transmission Control Protocol
 - iii. User Datagram Protocol
- e) List three types of networks you know (3 marks)
- f) Distinguish between (6 marks)
 - i. Switch and Router
 - ii. MAC address and IP address
 - iii. ARP and DNS
- g) A very important aspect of system administration in a network environment is protecting your system and users from intruders. However carefully you have configured your site, some problem *will* surface eventually. Explain some of the problems that can surface in a LAN and how to overcome them. (5 marks)

QUESTION TWO (20 MARKS)

- a) Broadly speaking there are two types of network configurations; peer-to-peer and client-server networks explain (10 marks)
- b) Compare peer-to-peer and client-server networks (10 marks)

QUESTION THREE (20 MARKS)

- a) Your school is establishing a LAN soon. You are appointed to create, configure and maintain the network. Describe five network components (devices) you expect to use. (10 marks)
- b) List five advantages and disadvantages of Wireless Local Area Network (WLAN) (10 marks)

QUESTION FOUR (20 MARKS)

- a) Briefly explain the OSI reference model layers (10 marks)
- b) Describe the following; (10 marks)
 - i. Network Backbone
 - ii. FDDI
 - iii. Repeater
 - iv. Ports
 - v. Gateway

QUESTION FIVE (20 MARKS)

- a) Describe the three security objectives of a network system (6 marks)
- b) What do you understand by the following terms; (6 marks)
 - i. Threat
 - ii. Vulnerability
 - iii. Attack
- c) Give four common network security attacks and the remedies (8 marks)