JARAMOGI OGINGA ODINGA UNIVERSITY

OF SCIENCE & TECHNOLOGY

UNIVERSITY EXAMINATIONS 2012/2013

2ND YEAR 2ND SEMESTER FOR DIPLOMA IN

LINUX FOR ENGINEERING AND IT APPLICATIONS

(KISUMU L.CENTRE)

COURSE CODE: ICT 2124

TITLE: FIREWALLS AND NETWORK DEFENSE SECURITY

DATE: 14/8/13 **TIME: 9:00 – 10.30AM**

DURATION: 1.30 HOURS

INSTRUCTIONS

1. **This paper consists of 5 Questions.**
2. **Answer Question 1 (Compulsory) and any other 2 questions.**
3. **Write your answers on the answer booklet provided.**

QUESTION ONE 30MKS

1. List the dangers that even a properly designed network with a properly configured firewall cannot protect. (4 Mks)

2. Briefly describe 3 basic types of firewalls. (6 Mks)

3. Why would an organisation connected to the internet need to configure a firewall? (4Mks)

4.Describe crypto analysis. (4Mks)

5. Define the following terms as used in network security:

i. Bastion host. (4 Mks)
ii. Virtual private networks. (4 Mks)
iii. Intrusion detection systems. (4 Mks)

QUESTION TWO

1. Security problems are divided into 3 general categories. Explain: (12 Mks)

2. Define a DMZ; explain why it is important. (4 Mks)

3. Define the term Firewall. (2 Mks)

4. What is CIA. (2 Mks)

QUESTION THREE

a) Discuss the steps required to implement a firewall. (10 Mks)
b) Define the following terms as used in network security: (10 Mks)
   i. Proxy servers
   ii. Telnet
   iii. Listening ports
   iv. DOS
   v. Port

QUESTION FOUR

a) Discuss the 5 basic guidelines when designing a firewall system (15 Mks)
b) List 3 benefits of a firewall system. (3 Mks)
c) Why is the internet Important to an organisation? (2 Mks)

QUESTION FIVE

a) What are the OSI and TCP/IP network models? (16 Mks)
b) What is IP spoofing? (2 Mks)
c) What is the most effective measure against IP spoofing? (2 Mks)