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 2125

TITLE: PC SECURITY AND PRIVACY

DATE: 14/8/13   **TIME: 2:00 – 3.30PM**

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.

1 **30marks**

 a) Seems like a week doesn't go by without an IT news story describing a high profile data breach at a large company or government agency . What are the most common mistakes that IT groups make when it comes to protecting their organizations against security attacks?   10mks

   b) What should IT groups be doing to better secure access to their sensitive data?   10mks

   c) What security products and/or processes are involved?   10mks

2 **20marks**

   a) You have been in the security software industry for over 30 years. Based on your experience ,what new or emerging IT security threats do today's IT groups need to be aware of, and why?   8mks
   b) What are PC security best practices and standards and awareness of computer security issues and security defense mechanism.   6mks
   c) What is the difference between encoding, encryption and hashing   6mks

3. **20marks**

   a) Differentiate between a router and a switch.   2mks

   b) What roles does a router perform in a network?   4mks

   c) In which layer of the OSI model do we find the router and the switch?   1mk

   d) Name and explain the OSI layers in networking.   13mks

4. **20marks**

 a) Under network security, what do you understand by the term Vulnerability (Weakness?)4mks

b) Define with explanations the following terms as used in IT security.   16mks
   i) Confidentiality
   ii) Integrity
   iii) Availability
   iv) Privacy
   v) Identification
    vi) Authentication
    vii) Authorization
     viii) Accountability

5. **20marks**

a) There are 3 basic types of firewalls systems used today, explain how, where and why you would use each of them to secure your network.   13mks

i)Packet Filtering

ii) application layer gateway

iii) proxy firewalls

iv) stateful inspection

b) Briefly explain the critical function of a firewall in IT network   4mks

c)What are the three fundamental aspects of providing security for an internet application?3mks