DEPARTMENT OF

APPLIED INFORMATION SYSTEMS

Communication Networks 3B

Assignment: Networking Project

Due Date: 16 September 2016 at **16:00**   Full Marks: 50

Instructions: Submit the hard copy of your assignment (typed) to my office. No electronic submission (email) is considered.   Only the hard copies submitted will be assessed. Late submission of assignments will be assessed a penalty of 10% per day.

Question 1   (15)

You need to restrict your company's rank-and-file employees to using the Internet only during regular working hours (9am to 5pm, five days a week). However, as network administrator, you want to be able to access the network at any time of the day or night, seven days a week. How can you meet the needs of the employees and yourself?

Question 2   (10)

Your network uses basic authentication that centers on usernames and passwords. However, you have two ongoing problems: Usernames and passwords are frequently lost by negligent users, and hackers have, on occasion, fooled employees into giving up their authentication information. Identify five things you can do to strengthen the use of basic username and password authentication.

Question 3   (10)

A company hires you to inventory its network. You must document all the network devices, their addresses (hardware and network), and the applications that run on the network. Describe how you can use Wireshark to obtain a listing of the network applications.

Question 4 (15)

Kali Linux is a unique distribution of Linux in that it is designed specifically for enhancing the security of a network. The operating system can be run from a flash drive or CD, and includes an impressive array of security tools. In this project, you research the features of Kali Linux, and, optionally, install the system on a flash drive:

1. Spend some time researching Kali Linux, and answer the following questions:

    (a) Who created Kali Linux? What distribution was the predecessor to Kali Linux?

    (b) What is the main purpose(s) of the Kali Linux distribution?

    (c) What are the installation options for Kali Linux? For example, can you use a USB flash drive? Can you dual-boot Kali Linux next to other operating systems? Which ones?

2. Remember that hacking a network without the owner's express permission is illegal. If you decide to download and use Kali Linux, be sure to keep it inside your own network.