KENYA METHODIST UNIVERSITY
END OF TRIMESTER I EXAMINATIONS, APRIL 2009

FACULTY   :   ARTS AND SCIENCES
DEPARTMENT   :   COMPUTER INFORMATION SYSTEMS
COURSE CODE   :   CISY 435
COURSE TITLE   :   NETWORK ADMINISTRATION II
TIME   :   2 HOURS

Instructions:
- Answer Question One and ANY OTHER TWO questions.
- If your answer is based on a Linux installation other than Ubuntu Linux, please specify the installation used.

Question One (30 marks) – Compulsory

a.   Briefly describe *auto probing* as used in LINUX. Under what circumstances would auto probing fail to detect an interface card?   [4 marks]

b.   **useradd** is the command used to add users to a Linux system. Explain, all that the **useradd** command below does:
```
useradd –m -g users -G workers -s /bin/tcsh -c "Chris Awori" awori
```
                                                                                [4 marks]

c.   Briefly describe the role played by the following servers, in Linux network administration:
     i.   Apache
     ii. PHP
     iii. SQL   [6 marks]

d.   With the help of a relevant example, describe the use of the fsck (file system check) command in the UNIX file system.   [4 marks]

e.   Describe IP accounting and give three methods for implementing IP accounting in Linux
                                                                                [4 marks]

f.   What is the role played by *resolv.conf* in the management of your network?   [2 marks]

g.   On linux systems, the point-to-point protocol (PPP) functionality is split into two parts. State and briefly describe these two parts   [4 marks]

h.   What is the typical minimum RAM and HDD requirements for a standard Ubuntu Linux server installation?   [3 marks]

Question Two (15 marks)

a. Briefly describe how you would configure Apache to support SSL/TLS on your Ubuntu Linux server [3 marks]

b. Briefly describe the following Linux utilities:
   i. ifconfig
   ii. aptitude
   iii. apt-get [6 marks]

c. How do you set your Ubuntu installation as a proxy server? [4 marks]

d. Distinguish between logging into a Linux system as a root user and using the superuser (su) command. [2 marks]

Question Three (15 marks)

a. The Common Unix Printing Service (CUPS) is the printing service that comes with your Linux distribution. State and briefly explain any three CUPS features [6 marks]

b. List the THREE steps that are followed during samba server installation [3 marks]
   Briefly describe the following Ubuntu Linux applications:
   i. GRUB
   ii. Gparted
   iii. sudo [6 marks]

Question Four (15 marks)

a. All of the programs and services in the system can be configured to automatically start in particular runlevels. The scripts to start these processes are usually placed in the runlevel directory for the runlevel in question. Describe any three of the directories that exist in Linux.
[6 marks]

b. Briefly describe the three utilities used when setting up a firewall in Linux [3 marks]

c. What is the purpose for the *route* utility in Linux? [2 marks]

d. You suspect connectivity problems and want to access the ping, netstat, lookup and other common network troubleshooting tools.

   i. What is the path to these tools, on your Ubuntu Linux, using the graphical user interface?
[2 marks]
   ii. Describe any of the tools [2 marks]