(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER EXAMINATIONS

FOR THE DIPLOMA

OF

INFORMATION TECHNOLOGY

COURSE CODE: DIT 090

COURSE TITLE: **INTRODUCTION TO LINUX SYSTEM**

DATE: 11/04/2023   **TIME: 8:00-9:30AM**

INSTRUCTIONS TO CANDIDATES

 Answer SECTION **A** and any other **Two** questions from SECTION B

TIME: 1 Hour 30MINS

MMUST observes ZERO tolerance to examination cheating

SECTION A (24 Marks)

1. Your company recently purchased 12 new computer systems. The computers have Intel Pentium D 2.8 GHz CPUs and 500MB hard drives. Your deployment plan calls for Linux to be installed on them, but the department manager who requested the computers is concerned that this can't be done because they already have Windows 7 preinstalled. Can this be done?

A. Yes, but you must install a new hard drive for Linux.
B. No, the hardware is probably optimized for Windows and won't support Linux.
C. No, modern motherboards are hard coded to recognize your Windows Certificate of Authority. If it doesn't find it, the system won't boot.
D. Yes, you can erase the hard drive and install Linux.

2. Which of the following represents the actual operating system component within a Linux system?

A. Libraries
B. Kernel
C. Desktop environment
D. bash shell functions

3. Which of the following provides prewritten code elements that programmers can call when writing Linux programs?

A. The kernel
B. Kernel modules
C. Libraries
D. bash shell profiles

4. What was the name of the UNIX clone written by Andrew Tanenbaum?

A. CPM
B. DR-DOS
C. Linux
D. Minix
E. Solaris

5. What did Linus Torvalds do with the source code for Linux?

A. He sold it to IBM.
B. He gave it to Microsoft for free.
C. He developed Minix.
D. He patented and copyrighted it.
E. He posted it on the Internet for anyone who wanted a copy.

6. Who initiated the GNU Project?

A. Richard Stallman
B. Andrew Tanenbaum
C. Linus Torvalds
D. Richard Berkley

7. You are a computer programmer. Your supervisor wants you to download the source code for the latest Linux kernel and modify it to support a custom application your company is developing for use in-house. Can you do this?

A. No, the source code for Linux is no longer available on the Internet.
B. No, the copyright on the source code won't permit it.
C. Yes, but you must pay a royalty to the GNU Project.
D. Yes, you can create a new Linux flavor and even redistribute it as long as the source code remains freely available.

8. You have been tasked with setting up an e-mail server for your organization of 150 people. You're considering using a Linux system to do this. Is this possible?

A. Yes, Linux can be configured to provide e-mail services.
B. No, while Linux can be configured to provide e-mail services, it's not recommended for more than 25 users.
C. Yes, but you'll have to purchase special e-mail software that's compatible with Linux.
D. No currently available commercial groupware software suite has been ported to run on Linux.

9. Which Linux services can be used to configure shared network printing on a Linux server for both Linux and Windows client workstations?
(Choose two.)

A. MySQL
B. NFS
C. CUPS
D. Samba
E. NIS
F. OpenPrint

10. Which services can be used to configure shared file storage on a Linux server for network users using Windows or Linux workstations?
(Choose two.)

A. MySQL
B. NFS
C. PostgreSQL

D. Samba

E. NIS

F. FileManager

11. (a) State any Four Functions of Linux Kernel (4Marks)

(b) Is it legal to edit Linux Kernel? Give Reason(2Marks)

(c)State the significance of root account in Linux (1Mark)

12 (a) State any Four Components fo Linux Operating System (4Marks)

(b)If you have saved a file in Linux. Later you wish to rename that file, what command is designed for it? (1Mark)

(c)Name Any Four Variants of Linux(2Marks)

SECTION B(36 Marks)

13. Austin, a third year IT students was hired by company X to help them decide on the best operating system to adopt for their company. On analysis, Austine advised the company to adopt Linux operating system.
    a. Explain Any Five reasons why Austine preferred Linux over windows operating system **(10Marks)**
    b. State and Explain any **Four** Process States in Linux **(8Marks)**

14. Bob, the systems admistrator was tasked to create backup directory named **BKUP1** and a configuration file named **resolve.conf**. In your current directory sing Linux command
    a. Show the Current working director path (1Mark)
    b. Create the **BKUP1** directory(1mks)
    c. Create the **resolve.conf** file (1mks)
    d. Allow All users to have execution permission on the **stir.conf file (2Marks)**
    e. Make a copy of the **resolve.conf file** and name it **resolve2.conf (2Marks)**
    f. Rename the directory **BKUP1 to BKUP12 (2Marks)**
    g. Move star2.conf file to **BKUP12** (2marks)
    h. Give group where the **BKUP12** belongs **Read, Write and Execution** Rights **(3 marks)**
    i. Recursively delete **BKUP1** directory **(2marks)**

15. Assume you have been hired as a network administrator in an organization. Suddenly you are informed that most users of system (Linux Operating system) are unable to loggin. After analysis you suspect that the password file(**passwd**) is corrupted. Write Linux commands to perform the following activities
    a. Display all running processes (1Mark)
    b. Show all connection to the system (1Mark)
    c. Checks whether a network is present and if the host is attainable (1Mark)
    d. Display on the screen All contents of passwd file (1Marks)
    e. Display on the screen page by page content of **passwd** file(2Marks)
    f. Display first 5 lines content of **passwd** file(2Marks)
    g. Display last 15 lines content of **passwd** file(3 marks)
    h. Count the number of words stored in the passwd file(2marks)
    i. Count the number of lines used in the passwd file(2marks)
    j. Display first 30 lines content of **passwd** file and save it to an output file named myoutput.txt (3 marks)