MALAYSIAN INSTITUTE OF INFORMATION TECHNOLOGY

FINAL EXAMINATION

JANUARY 2016 SEMESTER

SUBJECT CODE	:	INB24403
SUBJECT TITLE	:	SYSTEM TOOLS AND ADMINISTRATION
LEVEL	:	BACHELOR
TIME / DURATION	:	9.00 am – 11.00 am (2 HOURS)
DATE	:	28 MAY 2016

INSTRUCTIONS TO CANDIDATES

THERE ARE 3 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 100 marks)

INSTRUCTION: Answer ALL questions.

Please use the answer booklet provided.

Question 1

a)   Describe definition of OS, the goals and the functions of the OS.

(6 marks)

b)   Define the role System Administrator (SA).

(5 marks)

c)   List **SIX (6)** responsibilities of the SA.

(6 marks)

d)   Describe the **THREE (3)** System Admin Rules.

(3 marks)

[Total 20 marks]

Question 2

a)   Using a **FIVE (5)** states Process State Diagram show and explain the flow of process from creation to termination.

(9 marks)

b)   Explain **THREE (3)** ways on how Operating System approaches Deadlock.

(6 marks)

c)   BACKUP is another tool for system admin. Explain WHY do BackUp, WHAT to BackUp, WHEN to BackUp, WHERE to BackUp and HOW to do BackUp.

(5 marks)

[Total 20 marks]

Question 3

a) In your home directory, show the commands to create sets of files as below
      a. Create six files with names of the form songX.mp3.
      b. Create six files with names of the form snapX.jpg.
      c. Create six files with names of the form fi1mX.avi.
      d. In each set, replace X with the numbers 1 through 6.

(10 marks)

b) Show the commands to create a password for *Romeo*. The password must be changed when the user first logs into the system, every 90 days thereafter, and the account expires in 180 days.

(10 marks)

[Total 20 marks]

Question 4

a) Write commands to create users account *curly*, *larry*, and *moe*, who are members of a group called stooges. The password for each account is password. As a root user, create the /home/stooges directory. Change group permissions on the /home/stooges directory so it belongs to the stooges group. Set permissions on the /home/stooges directory so it is a set GID bit directory (2), the owner (7) and group (7) have full read/write/execute permissions, and other users have no permission (O) to the directory. Check that the permissions were set properly. Modify the global login script so that normal users have a umask setting which prevents others from viewing or modifying new files and directories. Check the changes you have done.

(10 marks)

b) Use systemctl command to start and stop psacct and syslog service according to these steps. Always check the status every time you configure systemctl.

   a. Start the psacct service.

   b. Configure the psacct service so that it starts at system boot

   c. Stop the rsyslog service.

   d. Configure the rsyslog service so that it does not starts at system boot

(10 marks)

[Total 20 marks]

Question 5

a) Configure a new network connection using nmcli command according to the step below.

   a. Define a new connection named "default" which will autoconnect as an Ethernet connection on the eth0 device using DHCP.

   b. Create a new connection named "static and specify the IP address 172.25.1.10/24 and gateway 172.25.1.254. Do not autoconnect.

   c. The system wills autoconnect with the DHCP connection at boot. Change to the static connection.

   d. Change back to the DHCP connection

(10 marks)

b) Configure and securing OpenSSH service according to the step below.

    a. Generate SSH keys on for a user visitor and copy the public key to the visitor account on serverX.

    b. Disable ssh login for the root user and password-based SSH authentication on serverX.

    c. Verify that user root is not allowed to loqin to serverX by using ssh. while user visitor is with the private key.

(10 marks)

[Total 20 marks]

END OF EXAMINATION PAPER