

# KASNEB

## CICT PART I SECTION 2

### OPERATING SYSTEMS - PRACTICAL

TUESDAY: 24 May 2016.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question.

Ensure that you are provided with a computer, a flash disk and printing materials.

Additional instructions:

1. Save all your work (including theory answers where necessary) in the flash disk provided and in a folder bearing your registration number.
2. Work on each question should be saved in the subfolder contained in the folder created in number 1 above. The name of the subfolder should correspond to the question number.
3. Your registration number MUST appear as a header on every printout containing your answers.
4. You must indicate the number of the question answered on the header created in number 3 above.

Note: The information in numbers 1-4 above must be computer generated.

At the end of the examination duration, you should hand in to the invigilator(s):

- (a) The flash disk containing your work.
- (b) All printed work.
- (c) All unused printing paper(s).

#### QUESTION ONE

Create a word processor document named "Question One".

Use the word processor document to save your answers to parts (a) to (c) below:

- (a) System calls are part of most modern operating systems.
  - (i) Define the term "system call". (2 marks)
  - (ii) Highlight four functions of system calls. (4 marks)
  - (iii) Explain two reasons why it would be advisable to use application program interfaces (APIs) rather than system calls. (2 marks)
- (b)
  - (i) Using an appropriate command, configure your computer to enable searching the internet from start menu using your default browser.  
Capture and save framed screenshots showing how you accomplished the above task. (4 marks)
  - (ii) Configure your computer to allow users to use the "Add printer" wizard to search the network for shared printers.  
Capture and save framed screenshots showing how you accomplished the above task. (4 marks)
- (c) Use an appropriate command to display the media access control (MAC) address of your computer.  
Capture and save the screenshot displaying the MAC address. (4 marks)

Print "Question One" document.

(Total: 20 marks)

## QUESTION TWO

Create a word processor document named "Question Two".

Use the word processor document to save solutions to this Question.

- (a) (i) While working with your computer, a Windows "blue screen of death" is displayed.  
Explain two ways of troubleshooting this problem. (4 marks)
- (ii) You notice that a hardware device in your computer does not work as expected.  
Capture and save two screenshots showing how you would use the operating system to solve the above problem. (4 marks)
- (b) (i) Capture a screenshot showing the file system of your computer. (2 marks)
- (ii) Configure the offline settings of your flash disk by allowing it to be shared and then allow all files and programs that users open from the shared folder to be automatically available offline.  
Capture screenshots showing the steps followed to accomplish this task. (4 marks)
- (c) In the course of using your computer, you realise that your hard disk space is becoming low.  
Using an appropriate operating system tool, capture and save three screenshots showing how you would restore some space on your hard disk. (4 marks)
- (d) Use appropriate combination keys to enable high system contrast on your computer screen.  
Capture and save a screenshot showing the appearance of the desktop with a high contrast resolution. (2 marks)

Print the contents of Question Two document.

(Total: 20 marks)

## QUESTION THREE

Create a word processor document named "Question Three".

Use the word processor document to key in solutions to part (a) below and save the screenshots captured in parts (b) and (c) of this question.

- (a) (i) Outline four activities of an operating system with regard to process management. (4 marks)
- (ii) Citing how it could be resolved, explain the occurrence of a communication deadlock. (3 marks)
- (b) The figure below shows an operating system window used to set password policy to a local computer:

Policy	Security Setting
Enforce password history	0 passwords remembered
Minimum password age	0 days
Minimum password length	0 characters
Password must meet complexity requirements	Disabled
Store passwords using reversible encryption	Disabled

### Required:

- (i) Display a similar window on your computer.  
Capture and save a screenshot of the window. (3 marks)

- (ii) Configure the password policy as follows:
- Set the number of unique new passwords associated with the local user account to 2.
  - Ensure that a user has to change the password after 60 days.
  - Enable the computer to enforce complexity requirements.

Capture and save a screenshot showing the above configurations.

(6 marks)

- (c) Configure your computer as follows:

(i) To defragment the hard disk every Thursday at 1.00 p.m.

(2 marks)

(ii) Display the various system devices in your computer.

(2 marks)

Capture and save screenshots showing how you accomplished the above tasks.

Print the contents of Question Three document.

(Total: 20 marks)

#### QUESTION FOUR

Create a word document and name it "Question Four".

Use the word document to save your solutions to questions (a) to (d) below:

(a) (i) Define the term "disk cloning".

(2 marks)

(ii) State three instances in which you would require to perform disk cloning.

(3 marks)

(b) Use your computer's registry to display the BIOS version of your computer. Capture this screenshot.

(4 marks)

(c) (i) Use the appropriate facility to display your flash disk properties.

(2 marks)

(ii) Set the space reserved for system speed to 1,000 MB.

(3 marks)

Capture and save screenshots showing the results of the above tasks.

(d) (i) Create a console named "OSPrac" for your local computer.

Add the following list of snap-ins:

- Local users and groups.
- Performance.
- Services.
- Shared folders.

Capture and save a screenshot showing all the added snap-ins.

(4 marks)

(ii) Create a folder, OSJ2016, in your flash disk. Export the list created in (d)(i) above to the folder you have just created.

Capture and save a screenshot showing this console in the flash disk.

(2 marks)

Print the contents of Question Four document.

(Total: 20 marks)

#### QUESTION FIVE

Create a word processor document named "Question Five" and use it to save all your solutions to this question.

(a) In relation to operating systems, compare and contrast a "thread" and a "process".

(6 marks)

(b) (i) Create a power plan for your computer under the name CompPower\_save. Make the preferred power save plan to be the one you have created.

Capture an appropriate screenshot to indicate completion of the above task.

(2 marks)

- (ii) Change the following settings:
- Turn off display power after 10 minutes.
  - Put computer to sleep after 15 minutes.
  - Turn off hard disk after 20 minutes.

Capture a screenshot for each of the above settings.

(6 marks)

- (c) Add a calendar gadget on your desktop.

Capture screenshots showing all the steps followed to accomplish the above task.

(3 marks)

- (d) Configure your computer to write an event to the system log and automatically restart your computer after system failure.

Capture and save a framed screenshot showing the execution of the above task.

(3 marks)

Print Question Five document.

(Total: 20 marks)

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