kasneb

CICT PART I SECTION 2

OPERATING SYSTEMS - PRACTICAL

TUESDAY: 28 November 2017.   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" and use it to save your answers to questions (a) to (f) below:

(a)   Explain the meaning of the term "multi-threading".   (2 marks)

(b)   Describe two common classes of interrupts.   (4 marks)

(c)   Use an appropriate tool to turn on or turn off the system icons as indicated below:

Icon	State
- Clock	off
- Network	off
- Volume	on
- Action center	on

      Capture and save a screenshot showing the current status of the icons.   (4 marks)

(d)   Capture and save a screenshot showing the performance information details of your computer.   (4 marks)

(e)   Use the appropriate tool to capture and save a screenshot of your computer task scheduler library.   (3 marks)

(f)   Configure your mouse wheel to allow scrolling of five lines at a time.

      Capture and save appropriate screenshots showing how this task was achieved.   (3 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 your answers to questions (a) to (e) below:

(a)   Describe the three main architectural layers of the Windows 7 kernel.   (6 marks)

(b)   Capture and save a screenshot showing the general properties of each of the following services on your computer:

     (i)   Base filtering engine.   (2 marks)

     (ii)   Application identity.   (2 marks)

(c)   Capture and save relevant screenshots showing whether the services in (b) (i) and (ii) above depend on other system components.   (4 marks)

(d)   Display a screen showing the identity of the following hardware elements used on your computer:

     (i)   Display adapter(s).   (1 mark)
     (ii)   Network adapter(s).   (1 mark)
     (iii)   Processor(s).   (1 mark)

     Capture and save a screenshot(s) showing the above elements.

(e)   Configure your computer's start menu item to display the following:

    -     My computer folder as a menu.
    -     My documents as a menu.
    -     Systems administrative tools on the "All program" menu and the start menu.

     Capture and save a screenshot showing the above configuration.   (3 marks)

     Print "Question Two" document.

(Total: 20 marks)

QUESTION THREE

Create a word processor document named "Question Three" and use it to save your answers to questions (a) to (e) below:

(a)   Explain the following terms in the context of operating systems:

     (i)   Domain controller.   (2 marks)
     (ii)   Multibooting.   (2 marks)

(b)   Outline four reasons that might make the Windows registry of a fast computer prone to unwanted flaws and crashes.
(4 marks)

(c)   Capture and save a screenshot showing all the installed updates in your computer.   (3 marks)

(d)   Configure your computer display as follows:

     (i)   To have a screen saver and allow it to delay for five minutes before being displayed.

       Capture and save appropriate screenshots.   (3 marks)

     (ii)   To show colour management of all profiles that are installed.

       Capture and save a screenshot showing the profiles.   (3 marks)

(e)   Encrypt the contents of the file created in this question.   (3 marks)

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

     Print "Question Three" document.

(Total: 20 marks)

QUESTION FOUR

Create a word processor document named "Question Four" and use it to save your answers to questions (a) to (f) below:

(a)   Explain the meaning of the term "buffer overrun".   (2 marks)

(b)   Suggest two reasons why an operating system must evolve over time.   (4 marks)

(c)   Capture and save a screenshot of system information of your computer's:

      (i)   IRQs.   (1 mark)

      (ii)   Startup programs.   (1 mark)

      (iii)   Hard disk policies.   (1 mark)

      (iv)   Permissions for users granted for the hard disk.   (1 mark)

(d)   Insert the given flash disk into your computer and perform the following tasks:

      (i)   Change your flash disk removal policy to allow for quick removal.

            Capture and save a screenshot showing how you accomplished the above task.   (2 marks)

      (ii)   Check your flash disk for errors and ensure errors are automatically fixed.

            Capture and save one screenshot showing how this task is initialised and another screenshot showing the progress of the process.   (2 marks)

(e)   Capture and save screenshots of the first three steps you would follow to transfer files and settings from another computer.   (3 marks)

(f)   Show the resource settings of your computer's standard dual channel PCI IDE controller properties.

      Capture and save the screenshots showing how the above task was achieved.   (3 marks)

      Print "Question Four" document.

(Total: 20 marks)

QUESTION FIVE

Create a word processor document named "Question Five".

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

(a)   (i)   In relation to operating systems, explain the "ostrich algorithm".   (2 marks)

      (ii)   Highlight two situations in which the ostrich algorithm could be applied.   (2 marks)

(b)   (i)   Create a directory called "CICT2017" in your flash disk.   (1 mark)

      (ii)   Change the CICT2017 directory into a microchip icon.

            Capture the screenshots showing the steps taken to complete steps (i) and (ii) above.   (2 marks)

      (iii)   Capture and save a screenshot to illustrate how you would delete the folder permanently without moving it to the Recycle bin.   (2 marks)

      (iv)   Capture and save a screenshot prompting a user on whether he would like to empty the Recycle bin or not.   (1 mark)

(c) (i)   Customise your system currency to appear as "Ksh" with two decimal places.

Capture and save appropriate screenshots.   (2 marks)

(ii) Configure the power plan to always dim the display after 10 minutes when on battery and 15 minutes when plugged in.

Capture and save the screenshot displaying the above settings.   (2 marks)

(d) Capture and save screenshots showing how to perform the following:

(i)   Set the minimum password length to eight characters.   (2 marks)

(ii) Enforce password history to three passwords.   (2 marks)

(iii) To always open pop-ups in a new tab.   (2 marks)

Print "Question Five" document.

(Total: 20 marks)

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