kasneb

CICT PART I SECTION 2

OPERATING SYSTEMS - PRACTICAL

TUESDAY: 27 November 2018.   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 questions (a) to (f) below:

(a)   (i)   Explain the term "process spawning" as used in operating systems process management.   (2 marks)

      (ii)   Distinguish "First Come First Served (FCFS)" scheduling algorithm from "round robin" scheduling algorithm.   (4 marks)

(b)   An operating system needs to be constantly aware of possible errors that could affect its performance.

      Use an appropriate tool to capture and save a screenshot showing the details of possible problems affecting the operating system performance on your computer.   (2 marks)

(c)   Capture and save screenshots of the first three windows showing how you would select or create file encryption certificates.   (3 marks)

(d)   User profiles stores settings for your desktop and other related information about your user account.

      Capture and save screenshots showing how to change the current user profile to one of your choice.   (3 marks)

(e)   Open the Recycle Bin, Microsoft Word and the Desktop folders. Arrange the open windows in a cascaded manner.

      Capture and save the screenshots of resulting windows.   (3 marks)

(f)   You have been requested to configure your computer to allow multiple displays that include a projector among other windows.

      Capture and save screenshots showing how you would accomplish the above task.   (3 marks)

Print "Question One" document.   (Total: 20 marks)

QUESTION TWO

Create a word processor document named "Question Two" and use it to save your solutions to questions (a) to (d) below:

(a)   Outline five services provided by an operating system.   (5 marks)

(b)   (i)   Create a local account named "Africa".   (2 marks)

(ii)   Change the account name to "World" and account type to "Administrator".   (2 marks)

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

(c)   Perform the following tasks on your computer:

(i)   Configure the computer not to backup system files to the recovery drive.   (2 marks)

(ii)   Create a folder on your desktop called KASNEB and configure it to adopt the printer icon.   (2 marks)

(iii)   Set the display orientation to landscape (flipped) and enable graphics for universal application.   (3 marks)

Capture and save screenshots of how the above tasks were completed.

(d)   Configure the local security policy of your computer to perform the following:

(i)   Set the account password policy for maximum password age to expire in 30 days.   (2 marks)

(ii)   Set local audit policy to audit account management and enable failure audit attempts.   (2 marks)

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

Print "Question Two" document.

                                                                                                (Total: 20 marks)

QUESTION THREE

Create a word document named "Question Three" and use it to save your solutions to the following questions:

(a)   (i)   Explain a "no pre-emption" condition in a deadlock.   (2 marks)

(ii)   Show how a no pre-emption deadlock condition could be prevented.   (1 mark)

(b)   In each case, state a possible cause and the corresponding solution to the following operating system problems:

(i)   The computer continually restarts without displaying the desktop.   (2 marks)

(ii)   The computer locks up without any error messages.   (2 marks)

(c)   Use an appropriate tool to enable your data hard disk management quota. Limit your disk space to 10GB and set warning level to 1GB. Ensure that there is a log event when users exceed their quota limit.

Capture and save a screenshot showing how you accomplished the above tasks.   (4 marks)

(d)   Use an appropriate tool to show all the devices connected to your computer including those that are hidden.

Capture and save a screenshot showing these devices.   (3 marks)

(e)   Customise your start menu to display documents as a link and downloads as a menu.

Capture and save a screenshot showing how this task is done.   (3 marks)

(f)   Configure your computer to automatically play a DVD movie when inserted using Windows Media Player.

Capture and save a screenshot showing how the task is achieved.   (3 marks)

Print "Question Three" document.

                                                                                                (Total: 20 marks)

QUESTION FOUR

Create a word processor document named "Question Four".

Use the word processor document to save your solutions to the following questions:

(a)   Your computer has been configured as a print server that should be available 24 hours a day. However, the computer needs to be powered off at the end of the day in order to save power.

Explain how you would configure the powered down computer above so that it powers on when a print job is received.

(2 marks)

(b)   Differentiate between a "device controller" and a "device driver".   (4 marks)

(c)   Your computer takes too long to boot up. You therefore need to disable some start up processes.

Using an appropriate utility, capture screenshots showing the procedure for enabling/disabling start up processes.

(3 marks)

(d)   Capture and save screenshots displaying the amount of disk space you could recover from temporary internet files.

(3 marks)

(e)   Using the registry editor, perform the following tasks:

(i)   Show how you could disable the ability to use F3 key (Do not disable the key).   (4 marks)

(ii)   Prevent changes to file associations.   (4 marks)

Capture in each case, at least three screenshots showing how you accomplished the above tasks.

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 solutions to questions (a) to (d) below:

(a)   (i)   Explain the term "virtual smart cards" as used in Windows Operating Systems.   (2 marks)

(ii)   Highlight two functions of virtual smart cards.   (2 marks)

(b)   (i)   Explain the purpose of Microsoft Management Console (MMC).   (2 marks)

(ii)   Customise your computer's MMC to show only console tree, description bar and action pane.

Capture and save a screenshot of the final MMC window.   (2 marks)

(c)   Use a histogram bar to monitor the performance of your processor.

Capture and save a screenshot showing the above graph and the related statistics.   (3 marks)

(d)   Perform the following on your computer:

(i)   Turn off the pop up blocker for internet.   (3 marks)

(ii)   Configure your computer to burn files to disk every time a blank DVD is inserted onto the DVD drive.

(3 marks)

(iii)   Turn off auto complete feature for usernames and passwords on forms and do not ask before saving passwords.

(3 marks)

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

Print "Question Five" document.

(Total: 20 marks)

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