

KASNEB

CICT PART I SECTION 2

OPERATING SYSTEMS - PRACTICAL

MONDAY: 23 November 2015.

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 the 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 a 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 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 and name it "Question One". Use the word processor document to save your answers to question (a) and screenshots captured in questions (b) to (d).

- (a)
 - (i) In relation to operating systems, explain the meaning of the term "buffering". (2 marks)
 - (ii) State the importance of using buffering technique. (1 mark)
 - (iii) Give an example of a situation when buffering would be advantageous and one in which it would be disadvantageous. (2 marks)

Save your work in question (a) above in Question One document.

- (b) Perform the following tasks:
 - (i) Access the advanced properties of your computer's mouse and display the buttons window. (2 marks)
 - (ii) Configure your mouse as follows:
 - Enable pointer precision.
 - Hide pointer while typing.(2 marks)
 - (iii) Set the roll of the wheel one notch to scroll one screen and three characters at a time for vertical and horizontal scrolling respectively. (2 marks)
 - (iv) Display the mouse driver details. (1 mark)

Capture and save screenshots showing the tasks in question (b) above.

- (c) Access and display the security devices resources of your computer.
Capture and save a screenshot showing the above resources. (2 marks)
- (d) Configure the following network settings:
 - (i) Turn on network discovery. (2 marks)

- (ii) Turn on media streaming. (2 marks)
- (iii) Turn on password protected sharing. (2 marks)

Capture and save screenshots showing the above settings.

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) The three state process model dictates that a process may take the form of any one of three states.

Required:

- (i) Describe a process. (2 marks)
- (ii) Specify the three states. (3 marks)
- (iii) Citing an event that might cause it, describe four transitions that could be valid between the three states in (a) (i) above. (4 marks)

Save your work in Question Two document.

- (b) (i) Access the task manager interface and configure the following settings:
 - The users page to display the full name and status.
 - The network page to display the adapter name, description, bytes sent and bytes received.

Capture and save screenshots displaying the information above. (2 marks)

- (ii) Display the task manager overview information.

Capture and save screenshots displaying your configurations. (3 marks)

- (c) Open the sticky key settings of your system and configure the following:

- (i) Not to use a shortcut. (2 marks)
- (ii) To lock sticky keys when the modifier is pressed twice. (2 marks)
- (iii) To mute sounds on pressing the modifier key. (2 marks)

Create and save a framed screenshot of the above display.

Print Question Two document.

(Total: 20 marks)

QUESTION THREE

Create a word processor document named "Question Three".

Use the word processor document to type in solutions to part (a) and save the screenshots captured in parts (a) to (d) of this question.

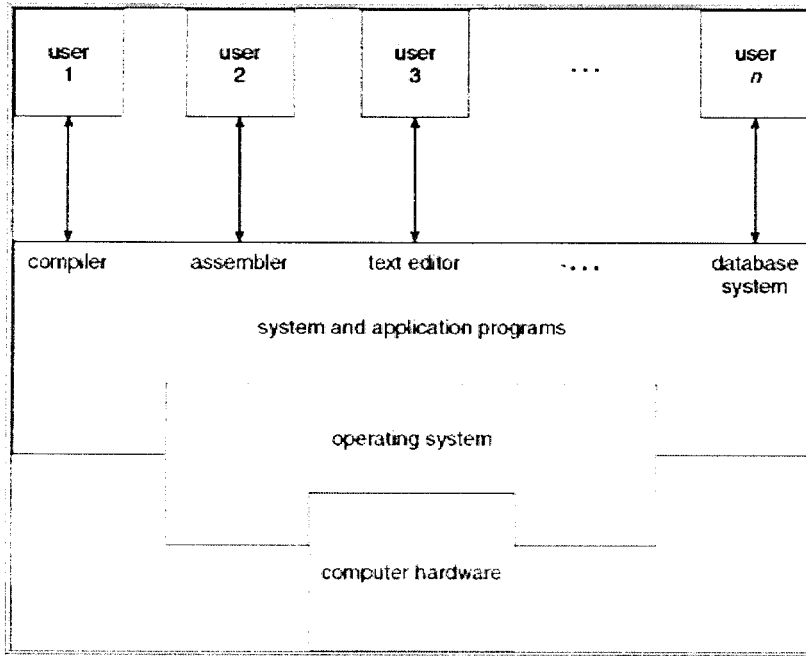
- (a) Citing an example in each case, differentiate between "deadlock" and "starvation". (6 marks)

- (b) Create shortcuts on the desktop to open the following programs which you commonly use in your day to day work:

- (i) Paint.
- (ii) Notepad.

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

(c) The figure below shows the conceptual view of a computer system:



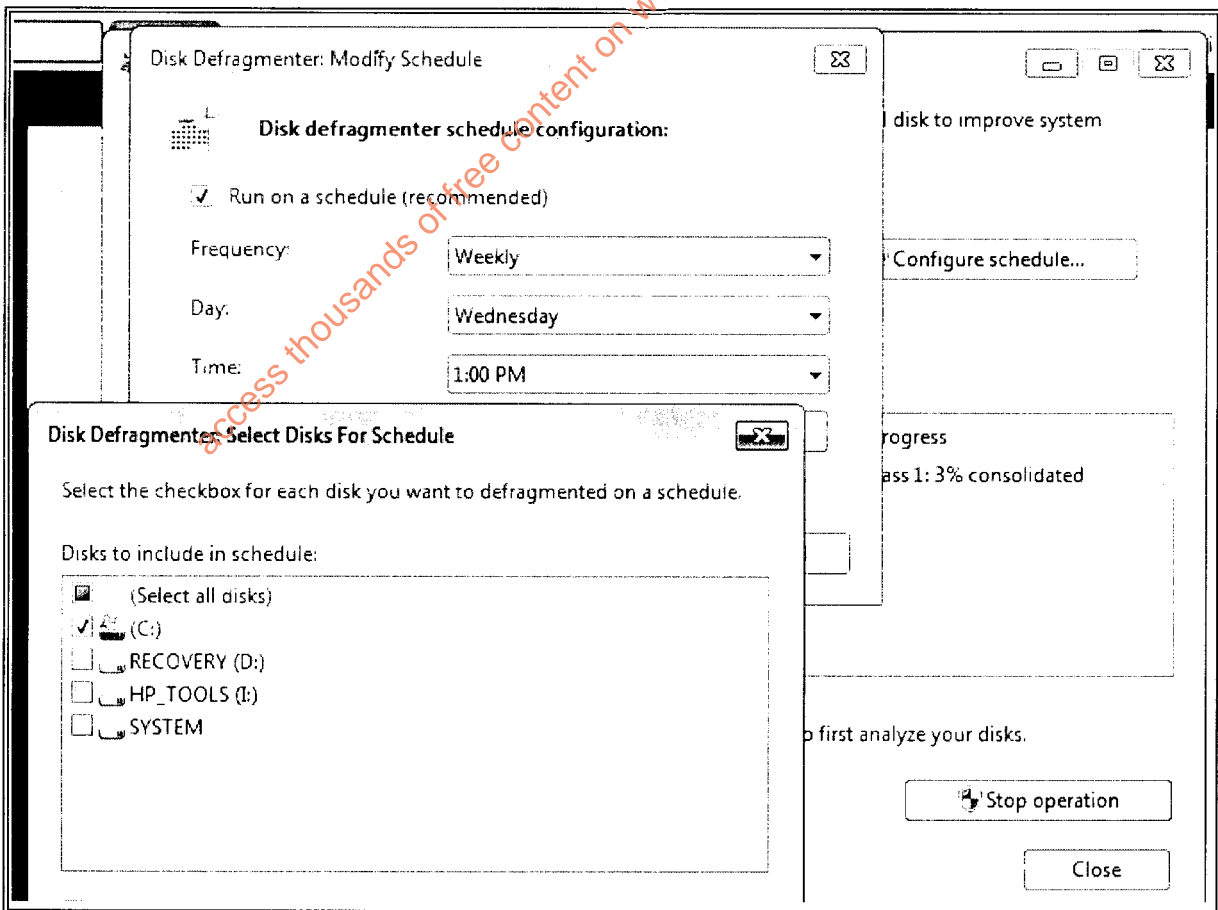
Required:

Use the concept of file systems management to create a directory tree structure of the above computer system.

Capture and save a framed screenshot of the directory tree structure created above.

(4 marks)

(d) (i) Configure your computer to run disk defragmenter tool as shown below:



Capture and save a screenshot of the above configuration. (4 marks)

(ii) Explain the purpose of carrying out the above configuration. (2 marks)

Print 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) Explain the term "memory thrashing" in relation to operating systems. (2 marks)

(ii) Outline three functions of a kernel. (3 marks)

(b) Capture a screenshot showing the following system information of the computer you are using:

(i) The version of operating system. (1 mark)

(ii) Processor speed. (1 mark)

(iii) Direct version, physical memory and maximum graphical memory. (1 mark)

(c) Capture screenshots showing the following:

(i) How much disk space you might be able to clean from your hard disk. (2 marks)

(ii) The type of interrupt requests (IRQs) in your computer. (2 marks)

(iii) The details of sound device installed in your computer. (2 marks)

(d) (i) Open, capture and save a screenshot of the Windows Registry Editor. (2 marks)

(ii) Create a folder named "RegEdit" on the desktop and use it to backup the registry on a file named "Reg".

Capture a screenshot showing the backup process. (4 marks)

Print Question Four document.

(Total: 20 marks)

QUESTION FIVE

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

(a) In a table format, state three types of mobile operating systems, the respective manufacturer and an example of a mobile device in which the operating system runs on. (6 marks)

(b) Customise your start menu to display the following features:

(i) Administrative tools. (2 marks)

(ii) Control panel. (2 marks)

Capture and save screenshots showing the information above.

(c) (i) Create a new user account by the name Malvin Kechi with a password "2015".

Capture and save the window showing Malvin Kechi user account amongst other user accounts of your computer. (3 marks)

(ii) Change the password of Malvin Kechi to a stronger password.

Capture the windows showing the steps followed in changing the password. (2 marks)

(iii) Log off and then log on using the account created in (c) (i) above.

Capture a screenshot showing Malvin Kechi logged on.

(2 marks)

(iv) Store your logon information in the network server directory.

Capture a screenshot(s) showing how you accomplished the above task.

(3 marks)

Print the contents of Question Five document.

(Total: 20 marks)

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