

# KASNEB

## CICT PART I SECTION 2

### OPERATING SYSTEMS (PRACTICAL)

#### PILOT PAPER

September 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 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 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

- (a) Create a word processor document and name it "Question One". In the word processor document named Question One, capture, save framed screenshots and type the solutions where necessary.
  - (i) Explain the following types of system resources:
    - Interrupt request. (2 marks)
    - Input/output. (2 marks)
    - Direct memory access. (2 marks)
  - (ii) Using an appropriate command, capture and save a framed screenshot displaying the registry. (3 marks)
  - (iii) Using the registry, display the startup folder entries and startup Reg folder entries. (4 marks)  
Capture and save the framed screenshots.
- (b) Using an appropriate utility, display all valid display modes in the computer you are using. (3 marks)  
Capture and save framed screenshots.
- (c) Configure windows firewall such that the system creates a log of all dropped packets, creates a log of all successful connections and sets the log files to 40 KB. (4 marks)

Print "Question One" document.

(Total: 20 marks)

#### QUESTION TWO

- (a) Create a word processor document and name it "Question Two". In the word processor document named Question Two, capture and save framed screenshots and type the solutions where necessary.
  - (i) Define the term "system calls" in the context of an operating system. (2 marks)
  - (ii) Outline two similarities and two differences between operating system's threads and processes. (4 marks)

- (b) Configure your keyboard to ignore keystrokes when two keys are pressed at once and play a sound when modifier keys on the keyboard are pressed.  
Capture and save the screenshots displaying the configurations. (4 marks)
- (c) Capture and save framed screenshots of utilities displaying the following information of your computer:
- The display memory size. (2 marks)
  - The BIOS version. (2 marks)
  - The graphic chip type. (2 marks)
- (d) (i) State a command that can be used to display the system configurations utility. Capture and save the screenshot. (2 marks)
- (ii) Capture and save a screenshot of an enabled Boot log. (2 marks)

Print "Question Two" document.

(Total: 20 marks)

### QUESTION THREE

Create a word processor document and name it "Question Three". In the word processor document named Question Three, capture and save framed screenshots and type the solutions where necessary.

- (a) Outline six key steps that can be used to make a flash drive bootable for the installation of an operating system. (6 marks)
- (b) Configure the system performance monitor to display the log data as follows:
- (i) To display the log data on a vertical grid. (2 marks)
  - (ii) To display a report of flat appearance with fixed border. (2 marks)
  - (iii) To automatically sample after every 2 seconds and disallow duplicate counters. (2 marks)
- Capture and save the screenshots.
- (c) Capture and save screenshots displaying the steps you would use to perform the following tasks:
- (i) Display resolution of your monitor. (3 marks)
  - (ii) Identify the color of your monitor. (3 marks)
- (d) Display the window in which a system administrator can enable the display of hidden files. (2 marks)
- Capture and save the screenshots.

Print "Question Three" document.

(Total: 20 marks)

### QUESTION FOUR

- (a) Create a word processor document and name it "Question Four". In the word processor document named Question Four, capture and save framed screenshots and type the solutions where necessary.
- (i) Differentiate between "application binary interface (ABI)" and "application programming interface (API)". (4 marks)
  - (ii) Highlight two causes of static resources conflicts. (2 marks)

- (b) (i) Create a scheduled task named "Secretary". (2 marks)
  - (ii) Configure the scheduled task in b (i) above to run only if the user is logged on. (2 marks)
  - (iii) Configure the task in b (i) above to run the word processor program for a duration of 1 day and repeat the task after every one hour. (2 marks)
  - (iv) Capture the scheduled task in b (i) above to stop if it runs unattended for 30 minutes. (2 marks)
- Capture and save screenshots of the above settings.
- (c) (i) Capture and save an appropriate utility that can be used to change the name of your personal computer (PC) to "kasnebLabPC". (2 marks)
  - (ii) State combined keyboard keys that can be used to open the task manager and display all running processes. (2 marks)
- Capture and save the screenshots.
- (iii) Use the Direct X diagnostic tool to display system information. (2 marks)
- Capture and save the screenshots.

Print "Question Four" document.

**(Total: 20 marks)**

**QUESTION FIVE**

- (a) Create a word processor document and name it "Question Five". In the word processor document named Question Five, capture and save framed screenshots and type the solutions where necessary.
    - (i) Outline four limitations of disk defragmentation. (4 marks)
    - (ii) Configure the system to generate a system log file entry when the disk space allocated to the user exceeds 40 MB. (2 marks)

Capture and save a framed screenshot.

    - (iii) Configure your system to deny additional disk space to the user when disk space allocated to the user exceeds limit value. (3 marks)

Capture and save the framed screenshots.
  - (b) (i) Using an appropriate utility, create a console with component service and performance monitor as the snap-ins. Save the console as "Monitor Console". (5 marks)
- Capture and save a framed screenshot of the created console.
- (ii) When creating a console file for another user, it is important to be able to prevent that user from customising the console. (3 marks)
- Capture and save framed screenshots displaying four console modes.
- (iii) Configure the "monitor console" to restrict users from making changes. (3 marks)
- Capture and save framed screenshots.

Print "Question Five" document.

**(Total: 20 marks)**