

Operating System Fundamentals - Fall 2014
Mid-Term Preparation

Test Format

- Multiple Choice (approximately 50%)
- Fill in the blank(s) (approximately 20%)
- Short answer (approximately 30%)
- Duration - 1 hour 30 minutes
- No aids (For example, no crib sheets, no searching on the Internet, no “testing” in the Command Prompt, etc.)

Preparation – Study the following:

- Module 01 – Operating Systems
 - o Definition of an Operating System
 - o Types of Operating Systems
 - o Role of the Kernel
 - o Purpose of the BIOS
 - o You *do not* need to study your Assignment 1 submission.
- Module 02 – Installation and Configuration of an Operating System
 - o Be able to discuss considerations when choosing an operating system
 - For example, from an OS perspective, how would you determine what to recommend to a friend or a colleague?
 - o List of items/information that might be required as part of the Operating System Installation
- Module 03 – Users and Groups
 - o What is the concept of a “user” and a “group” in an OS?
 - o Why are groups useful?
 - o Should you use the Administrator (or Root) user to log in? Why or why not?
 - o What is the Access Control List in Windows?
 - o What is the difference between privileges (permissions) and policies? Give some examples of each.
- Module 04 – File Systems
 - o Describe a File System
 - o What are some of the functions of a File System?
 - o Give examples of some utilities that support a File System.
 - o Be able to identify some of the features or characteristics of 2 common file systems. Be prepared to compare them.
 - o What does UNC stand for? What is UNC?
 - o Be able to create and delete directories using the Command Prompt
 - o Be able to navigate around the directories (to set the default location in a command prompt, for example) using the command prompt
 - o Using the command prompt copy, move and erase files using absolute and relative references to files
 - NOTE: You do not need to memorize switches for commands. If necessary, they will be provided.

- Module 05 – Command Line Operations and IO Redirection
 - Be familiar with conditional command execution
 - What are Environment Variables? How do you access them?
 - Be familiar with common filters like MORE, SORT and FIND
 - Be familiar with the redirection operators: to write, read, append and pipe
 - <http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/redirection.msp?mfr=true>
- Module 06 – Processes and Services
 - Define application, process and thread
 - What are some of the attributes of a process?
 - What does a thread keep track of (maintain)?
 - General operation of a multi-tasking OS
 - Difference between Cooperative and Preemptive multi-tasking
 - What are the general states of a process?
 - What is a scheduler, and how does it work?
 - From a scheduling point of view, what is Priority, Blocking, I/O-Bound and Process-Bound?
 - What is a service? Provide examples.
- Module 08 – Device Drivers
 - What are some of the categories of the BIOS settings advanced features?
 - What is a device driver? Provide examples.
 - What are the benefits of writing Kernel-Mode device drivers?
 - Describe each of the 3 steps of the Windows Driver Installation process