Unit 3: Introduction to Windows & Operating Systems (4 hours)

Competencies
1. Perform basic Windows applications.
   a. Identify terminology related to Windows applications.
      DOK 1
   b. Use menus, icons, and keyboard shortcuts to manipulate a window.
      DOK 2
   c. Create directories/folders.
      DOK 2

Course Description:
In this course, students will learn the fundamentals and skills necessary to adequately use Windows 2000; will gain a knowledge base for windows 2000 upon which students can build; have real-world examples and procedures that will prepare them to be skilled users of Windows 2000.

Text/Materials:

Handouts: Additional handouts may be provided during the course.

Notes:
Identify each of the above numbered items in the corresponding blank below.

1  
2  
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As you step through the Interactive Lab, answer the following questions in the spaces provided. For multiple choice questions, enter the appropriate letter on the blank line.

1. A mouse unit is a(n) _____.
   a. Input device
   b. Output device
   c. Secondary storage device
   d. Integral part of the system unit

2. Rapidly pressing and releasing a mouse button twice while maintaining the pointer’s location on the screen is called ____________________.

3. Moving the mouse across a mouse pad or the top of the desk to move the pointer on the screen is called ____________________.

4. ____________________ is primarily used to move an item from one location on the screen to another.

5. ____________________ when the mouse pointer is positioned over an object displays a shortcut menu related to that object.

6. In the space provided below, draw the chief features of the mouse. Include in the drawing the general shape of a mouse, the location of the buttons, and its cable.

7. A check box is like a switch in that you can turn it on or off by clicking it. True or False

8. Option buttons form a group of options from which you must choose two or more. True or False

9. A drop-down list box contains a list of options from which you can select at most one. True or False

10. Use a scroll bar to set a value or move around a document that is larger than the screen. True or False
As you step through the Interactive Lab, answer the following questions in the spaces provided.

1. List the five categories of keys on the keyboard?
   
a. ______________________
   
b. ______________________
   
c. ______________________
   
d. ______________________
   
e. ______________________

2. Toggle keys are pressed to turn a keyboard function on or off. If you press one of these keys, the associated function is activated. Press the same key again and the associated function is deactivated. Name two keys on the keyboard that act as switches.
   
a. ______________________
   
b. ______________________

3. List the navigation keys.
   
a. ______________________
   
b. ______________________
   
c. ______________________
   
d. ______________________
   
e. ______________________

4. Explain two ways to type the capital letter C.
   
a. ____________________________________________________________________
   
______________________________________________________________________
5. List the keys that have more than one location on the keyboard. Do not include the function keys, navigation keys, or numeric keypad keys.

________________________________________________________________
________________________________________________________________
________________________________________________________________

6. If you pressed the [CTRL] and [TAB] keys simultaneously to carry out a function, which key do you release first? ________________________________

7. Match the character on the top of the key with the character on the bottom of the same key. Using the letters at the far left; enter your responses on the blank lines.

a. Question mark (?) ____________`

b. Dollar sign ($) ____________ 1

c. Asterisk (*) ____________ 2

d. Colon (:) ____________ 3

e. Less than sign (<) ____________ 4

f. Percent sign (%) ____________ 5

g. At sign (@) ____________ 6

h. Tilde (~) ____________ 7

i. Caret (^) ____________ 8

j. Ampersand (&) ____________ -
k. Plus sign (+) ____________ =
l. Underscore (_) ____________ ,
m. Number sign (#) ____________ /
n. Exclamation point (!) ____________ ;
As you step through the Interactive Lab, answer the following questions in the spaces provided. For multiple choice questions, enter the appropriate letter on the blank line.

1. The primary component of the system software is known as the _____.
   a. Application software
   b. User
   c. Operating system
   d. Hardware

2. The kernel contains external commands. True or False

3. Explain how a user interacts with a command language.
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

4. What type of pointing device is commonly used with a graphical user interface?
   ______
   a. Light pen
   b. Mouse
   c. Scanner
   d. Joy stick

5. List the three main functions of an operating system.
   a. _________________________________________________________________
   b. _________________________________________________________________
   c. _________________________________________________________________

6. The operating system can give higher priority to important programs by allocating them more time slices. True or False

7. Data read from or written to an input/output device is stored in areas of memory called _____.
   a. Integrated circuits
   b. Disk drives
   c. Microprocessors
   d. Buffers
8. By using threads, the system’s performance _____.
   a. Increases
   b. Decreases
   c. Remains the same
   d. Overloads

9. List the six types of operating systems.

1. ____________________  2. ____________________  3. ____________________
4. ____________________  5. ____________________  6. ____________________

10. Microsoft Windows 3.1 is an example of a _____ operating environment.
    a. Foreground
    b. Single-program
    c. Low-priority
    d. Task switching

11. In a non-cooperative multitasking system, CPU access is controlled by the programs being used. True or False

12. UNIX is an example of a _____ system.
    a. Pre-emptive multitasking
    b. Cooperative multitasking
    c. Non-cooperative multitasking
    d. Task switching

13. A multiprocessing operating system uses the computer hardware to simulate several virtual machines. True or False
Shelly Cashman Series – Understanding the Motherboard Lab

Date: _____

As you step through the Interactive Lab, answer the following questions in the spaces provided. For multiple choice questions, enter the appropriate letter on the blank line.

1. The central processing unit (CPU) consists of the ____________________ and ____________________.

2. Indicate what each of the following acronyms stand for:
   a. ROM: _____________________________________________________
   b. RAM: _____________________________________________________
   c. SIMM: _____________________________________________________
   d. DIMM: _____________________________________________________
   e. CPU: ______________________________________________________

3. Assume you are working on a word processing document that you previously saved to disk. You enter another 100 keystrokes and your computer loses power. Will the document on disk contain the last 100 keystrokes when you load the document from disk into RAM? __________ What happens to your work in RAM when you lose power?
   __________________________________________________________________
   __________________________________________________________________
   __________________________________________________________________
   __________________________________________________________________

4. A serial port transmits ____________________ bits at a time; a parallel port transmits ____________________ bits at a time; and a Universal Serial Bus (USB) port transmits ____________________ bits at a time, but at much faster speeds than a serial or parallel port.

5. If it takes one-tenth of a second to blink your eye, and an activity in RAM takes one nanosecond (one-billionth of a second), then how many times can the activity in RAM take place in the time that it takes you to blink your eye? __________

6. Cache is ____________________ the processor uses to store information it is processing.

7. The __ program is permanently stored in ROM.
   a. AUTOEXEC.BAT
   b. BIOS
8. ____________________ is volatile and ____________________ is non-volatile.

9. At any given instant, ___ component(s) can use an internal bus to transport data.
   a. One
   b. Two
   c. Four
   d. Eight

10. What do the abbreviations ISA, PCI, and AGP stand for? Next to each name, indicate the size of the data path and speed (MHz).
   a. ISA:
      ____________________
      ____________________
      ____________________
      ____________________
   b. PCI:
      ____________________
      ____________________
      ____________________
      ____________________
   c. AGP:
      ____________________
      ____________________
      ____________________
Shelly Cashman Series Lab – Maintaining Your Hard Drive

As you step through the Interactive Lab, answer the following questions in the spaces provided. For multiple choice questions, enter the appropriate letter on the blank line.

1. A hard disk is ___.
   a. Software
   b. A computer program
   c. A hardware device
   d. A type of monitor

2. Define the term *access time*.

3. The time it takes the platter to rotate and position the first data item beneath the read/write heads is called _________________.

4. Average seek time is approximately half of the disk’s width. True or False

5. Writing data to a hard disk works just the same as reading from it. True or False

6. The time it takes to save or load data to or from the hard disk is called the disk ___.
   a. Response rate
   b. Throughput
   c. Performance rating
   d. Transfer rate

7. Data is written to both sides of a hard disk in concentric circles called ___, which are further divided into ___.
   a. Tracks, sectors
   b. Cylinders, tracks
   c. Sectors, tracks
   d. Sectors, cylinders

8. Identify the two methods used to write data to a hard disk.
   a. ________________________________
   b. ________________________________

9. A typical computer system has a hard disk with a storage capacity ranging from ___.
   a. 20 to 50 kilobytes
   b. 100 to 1000 megabytes
   c. 500 megabytes to 2 gigabytes
   d. 1000 to 2000 characters
10. A complete file is always stored in contiguous sectors. True or False

11. Explain the process of defragmenting a hard disk.

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

12. An optimized hard disk __ for the most frequently used files.
   a. Reduces the transfer rate
   b. Increases the transfer rate
   c. Reduces the access time
   d. Increases the access time