IT100 Introduction to Information Technology
Midterm Study Guide

These are the concepts you should understand. This study guide does not replace the need to read the chapters and study the material in the book!
Study all your available materials well and you will succeed on the exam.

Computer literacy entails having the knowledge and understanding of computers and their uses.

A computer is an electronic device, operating under the control of instructions stored in its own memory, that can accept data, process the data according to specified rules, produce results, and store the results for future use.

Data is a collection of unprocessed items, which can include text, numbers, images, audio, and video.

Information conveys meaning and is useful to people.

Some people refer to the series of input, process, output, and storage activities of a computer as the information processing cycle.

A computer contains many electric, electronic, and mechanical components known as hardware.

The processor is the electronic component that interprets and carries out the basic instructions that operate the computer.

Memory consists of electronic components that store instructions waiting to be executed and data needed by those instructions.

A hard disk provides much greater storage capacity than a USB flash drive.

A computing phrase — known as GIGO, or “garbage in, garbage out” — points out that the accuracy of a computer’s output depends on the accuracy of the input.

Using computers has many benefits such as the speed with which they can perform tasks that take humans much longer. They can also eliminate human error, resulting in increased consistency in result. Computers, through the Internet, provide a whole new world of ways to communicate. Unfortunately, the use of computers in the working world has had an impact on the labor force, replacing some jobs. The good news is that they have created a whole new area of jobs, but those jobs require more training and education.

A user is anyone who communicates with a computer or utilizes the information it generates.

People around the world use the Internet for a number of purposes, including communication with and meeting other people, shopping for goods and services, accessing sources of information and leisure, conducting business and retail sales, etc.

A Web site is a collection of related Web pages.

Software consists of a series of instructions that tells the computer what to do and how to do it.

With a Graphical User Interface, known as a GUI (pronounced GOO’ ee), users interact with the software using text, graphics, and visual images such as icons.

Two categories of software are system software and application software.

The World Wide Web and e-mail are two of the more widely accessed Internet services.
The Internet is a worldwide collection of networks that links millions of businesses, government agencies, educational institutions, and individuals.

World Wide Web Consortium (W3C) oversees research related to the Internet.

Until 1995, NSFnet handled the bulk of communications activity, or traffic, on the Internet.

A cable modem allows access to high-speed Internet services through the cable television network.

There are several things you should know about Wi-Fi networks: many home users set them up, due to the affordable nature of routers now; Wi-Fi networks work by sending signals back and forth between communications devices that are connected to a high-speed Internet service; a Wi-Fi's Internet service can be DSL or cable.

DSL is a technology that provides high-speed Internet connection using regular copper telephone lines.

The Web consists of a worldwide collection of electronic documents.

Each electronic document on the Web is called a Web page, which can contain text, graphics, audio (sound), and video.

A Web site is a collection of related Web pages and associated items, such as documents and pictures, stored on a Web server.

A(n) browser is application software that allows users to access and view Web pages.

A portal is a Web site that offers a variety of Internet services from a single, convenient location.

The term multimedia refers to any application that combines text with graphics, animation, audio, video, and/or virtual reality.

Application software consists of programs designed to make users more productive and/or assist them with personal tasks.

In computer terms, a file is a named collection of stored data, instructions, or information.

When you click Paint in the Accessories list, Windows loads the Paint program instructions from the computer’s hard disk into memory.

A command is an instruction that causes a program to perform a specific action.

The title bar of the document window usually displays a document’s file name.

Word processing software allows users to create and manipulate documents containing mostly text and sometimes graphics.

Spreadsheet software is software that allows users to organize data in rows and columns and perform calculations on the data.

When computer users save a document, the computer transfers the document from memory to a storage medium.

Many worksheet cells contain a number that can be used in a calculation, called a value.

A formula performs calculations on the data in a worksheet and displays the resulting value in a cell.

A database is a collection of data organized in a manner that allows access, retrieval, and use of that data.

A query is a question that is asked in a way that the database manager can understand it, that is, it is a request for specific data from a database.
Presentation software allows users to create visual aids for presentations to communicate ideas, messages, and other information to a group.

To help organize a presentation, you can view thumbnail versions of all the slides similarly to how 35mm slides look on a photographer’s light table.

A Personal Information Manager (PIM) is application software that includes an appointment calendar, address book, notepad, and other features to help users organize personal information.

On desktop personal computers, the electronic components and most storage devices are part of the system unit and other devices, such as the keyboard, mouse, and monitor, normally occupy space outside the system unit.

The system unit is a case that contains electronic components of the computer used to process data.

The system board is the main circuit board of the system unit.

An integrated circuit, which is etched on a computer chip, contains many microscopic pathways capable of carrying electrical current.

The CPU interprets and carries out the basic instructions that operate a computer.

A multi-core processor is a chip with two or more separate processor cores.

The control unit is the component of the processor that directs and coordinates most of the operations in the computer.

The ALU (Arithmetic Logic Unit) is the component of the processor that performs arithmetic, comparison, and other operations.

Together, the four basic operations or a processor (fetching, decoding, executing, and storing) comprise a(n) machine cycle.

With pipelining, the processor begins fetching a second instruction before it completes the machine cycle for the first instruction.

The pace of the system clock, called the clock speed, is measured by the number of ticks per second.

A processor contains small high-speed storage locations, called registers, that temporarily hold data and instructions.

Each tick of the system clock equates to a clock cycle.

One gigahertz (GHz) equals one billion ticks of the system clock per second.

The faster the clock speed, the more instructions the processor can execute per second.