STUDY GUIDE

INTRODUCTION TO COMPUTING

The purpose of the study guide is to familiarize yourself with the terms you will study in class. This study guide alone will not allow you to pass your exam. You must attend the prep-course.
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**Disclaimer**

Each study guide is unique and presents the information in a clear and condensed form to orient you to the material applicable to the exam. The materials cite various textbooks, journal articles and literature, including some found on websites.

We strongly encourage you to review and study these study guides, take the practice tests, and become familiar with the terms and concepts before stepping into class. Our goal is to help you attack the content by sharing these specific study tools and test-taking strategies with you, which have proven to be successful. You will need to attend and complete our preparation course in order to qualify for our money-back guarantee. The study guide and prep course, when used together, will best prepare you for the final exam.

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INSTRUCTIONS:

◉ Read the study guide.

◉ Print and complete the sample test. Correct your test and review the incorrect items.

◉ Attend class to ensure your money-back guarantee.

We look forward to helping you achieve your academic goals!
There are four main parts to a computer:

1. Central Processing Unit
2. Primary memory
3. Input units
4. Output units

The central processing unit (CPU) is also known as the computer’s brain. The CPU handles all of the instructions given by a computer program. It performs all basic math, logic and controls the input and output actions of the computer when interpreting and executing most of the commands from the computer’s hardware and software. The three smaller parts of the CPU are the arithmetic unit, control unit, and the instruction decoding unit. The first part is the arithmetic unit, which is responsible for all of the basic mathematical problems. The second part is the control unit, and it translates the instructions into a computer program. The third part of the CPU is the instruction decoding unit. This part of the CPU translates the programming into machine code, which is the basic language used by all the components in a computer.

The memory can be broken down into two groups: primary and secondary memory. The primary memory is a smaller part of the memory and stores the program and its data. The internal memory of a computer system uses electronic semiconductor devices called ROM and RAM. In a computer, the working memory is called the random access memory (RAM). More RAM means the computer can handle more data at the same time and leads to better computer performance. Read-only memory (ROM) is the memory in the computer that it came with. The computer uses ROM to store the instructions that it needs to start up before the software loads. Secondary memory is used for long-term data storage. For example, data from a floppy or hard disk will be stored in secondary memory.

Input units are from all the hardware that is plugged into the computer and gives information to the CPU. The input units can be from the keyboard, networking card or hard drive and has its own set of directions it sends to the CPU on how to use it.
Output units are from the devices that the computer uses to give information to the user. These devices that give output units can be speakers, the monitor, and the printer. After the CPU translates the machine code into a format that is understandable by the device, then the monitor, for example, will turn the code into the words and pictures seen on the screen. In order for the computer to function all of the four parts of the computer need to communicate, and the system bus allows that to happen. The system bus distributes the information and instructions to the CPU and the CPU then decides where to send the results. (Clements, Alan. 2006. ehow.com)
**PERIPHERALS**

*Computer peripherals are the devices that are plugged into the CPU.* Peripherals can be any external device that gives input to the computer or receives input from the computer. There are many types of peripherals some examples given by pc.net are:

1. **Input devices:** Keyboard, mouse, touch screen, pen tablet, joystick, midi keyboard, scanner, digital camera, video camera and microphone.
2. **Output Devices:** monitor, projector, television screen, printer, plotter, and speakers.
3. **Function as both input and output devices:** External hard drives, media card readers, digital camcorders, digital mixers, and MIDI equipment.
APPLICATION SOFTWARE

WORD PROCESSING AND DESKTOP PUBLISHING

Word Processing is software that directs a text document. This software can help make typing easy. Some of the tasks word processing software can do are:

- Creating, editing, saving and printing documents
- Copying, pasting, moving and deleting text within a document
- Formatting text, such as font type, bold, underlined and italicized
- Creating and editing tables
- Inserting elements from other software, such as illustrations and photographs
- Correcting spelling and grammar

(Zandbergen, Paul, 2014, education portal.com)

This software comes in handy for resumes, business proposals, research papers and many other documents. There are several types of word processing software; the most common being Word, from Microsoft Office. Other types of software include WordPerfect, Writer, and Pages. The difference between Word Processing and Desktop Publishing is Word Processing can help you format your text while Desktop Publishing can help you create layouts of the documents.

Many who favor Desktop Publishing software are more interested in the visual aspect of the documents. For many, the ease of adding illustrations to the text and organizing those pictures with text is what would make Desktop Publishing more appealing. Graphic designers who professionally create documents for print or electronic media use Desktop Publishing as one of their tools. Although word processing software is expanding on options for layouts and graphics options, the type of software used is mostly starting to depend on the type of work being carried out.
SPREADSHEETS

Spreadsheets are “worksheets that are arranged in the manner of a mathematical matrix and contains a multicolumn analysis of related entries for easy reference on a single sheet. For computers, they are a type of software that offers the user a visual display of a simulated multicolumn worksheet and the means of using it especially for financial plans and budgets” (dictionary.com. 2014). Computer programs that help you create spreadsheets offer formulas for easy application of data into what are called cells. Many of the programs can help link all information into different scenarios and transfer the information to charts and graphs.

DATABASES

Database software creates databases and manages the data that is stored within them. Database software is mostly used for storing, finding, extracting, and changing the data that it stores. Database management systems (DBMSs) are computer software applications that interact with the user, other applications, and the database itself to capture and analyze data. A general-purpose DBMS is designed to allow the definition, creation, querying, update, and administration of databases. Existing DBMSs provide various functions that allow management of a database and its data, which can be classified into four main functional groups:

- **Data definition** – Creation, modification and removal of definitions that define the organization of the data.
- **Update** – Insertion, modification, and deletion of the actual data.
- **Retrieval** – Providing information in a form directly usable or for further processing by other applications. The retrieved data may be made available in a form basically the same as it is stored in the database or in a new form obtained by altering or combining existing data from the database.
- **Administration** – Registering and monitoring users, enforcing data security, monitoring performance, maintaining data integrity, dealing with concurrency control, and recovering information that has been corrupted by some event such as an unexpected system failure. (Ullman, Jeffrey. (1997). Database Systems)
Graphics

Computer graphics come in two types: raster graphics and vector graphics. Raster graphics is when each pixel is separated and defined like in a photograph. Vector graphics is graphics formed by using math formulas to form lines and shapes. In more recent computers, after the 80s, computers used graphical user interface to show data and graphics instead of using text. In the 90s, the most popular form of graphics was 3D. These graphics are being used in animation, gaming, and multimedia. Graphics is one of the five key elements of multimedia technology. Web graphics also became popular in the 1990s, because of the increase in speed of the Internet. Software like Adobe Photoshop and Corel paint shop pro are made available for more modern web graphics. There are also plug-ins that will enlarge the web browser properties to depict animated or interactive graphics. (Heller and Chwast. (2011). Graphic Style)
SOFTWARE LICENSING

“Software licensing relies on a legal instrument to determine how software can be used and redistributed. A typical software licensing solution grants an end-user permission to use one or more copies of the software in a way that would otherwise be defined as copyright infringement. Software licenses can come in a variety of forms. Some software comes with a license when it is purchased by a consumer off the shelf. Others receive an original equipment manufacturer (OEM) license when the software is packaged with hardware.

Software licenses generally fit into one of two categories: propriety licenses and free and open source licenses. **Proprietary licenses are for computer software that is licensed under the exclusive legal right of the copyright holder.** When it comes to proprietary licensing, a main concern is and always has been piracy. Since software applications are so easy to copy, developers have to take proper steps to ensure they protect their products from illegal copying as well as illegal downloading. **Free and open source software licensing is for software that is a bit more flexible, as it grants users the right to use, study and change the design**” (Schmelkin, C. 2011. What is Software Licensing?).
COMMUNICATIONS AND NETWORKS

WORLD WIDE WEB

The World Wide Web is a network of computers that serve web pages. The World Wide Web is a major component of the Internet, along with email, usenet, FTP, and some other minor protocols. The term "worldwide" refers to the global nature of the World Wide Web, and the term "web" refers to the interlinking of documents by means of hypertext. In simple terms, this means that documents on the Web (or WWW for short) can reference, or link to, other documents by simply stating on which machine they reside, and where on that machine they reside. Computers that serve documents on the World Wide Web are called servers, and the programs used to connect to servers and to display web pages are called web browsers.

Documents on the World Wide Web are traditionally written in HTML, a major component of the web. HTML defines the appearance and content of a web page and usually links to other HTML pages via a Uniform Resource Identifier or Uniform Resource Locator (URL). The pages are transferred between computers via HTTP, the HyperText Transfer Protocol. The most familiar of these concepts is without a doubt the URL” (Cohen, D. 2006. What is the WWW?).

NETWORK ACCESS

Remote network access is what you would call accessing the systems and resources of a computer from a remote location, for example, an office or home. Virtual Private Network (VPN) is one of the well-known remote network access. A user would install software that allows them to use broadband and connect to a VPN server and remote network. Many people would not want their remote network accessed by just anybody, so they have trusted users. Trusted users are those who are allowed to access the network, employees would be an example. The Data that is sent between a remote network and the user can be seized by anyone with the technical skills to do so. Encryption is scrambling or coding information that may be sensitive or private in an attempt to thwart those who may try to access this information (Dunning, David. 2014. Remote network access).
MOBILE NETWORKS

A mobile network is wireless and is used over areas called cells. Every cell is equipped with at least one stationary transceiver called a base station or cell site. In a mobile network, each cell will access different frequencies from nearby cells, and this is to help with interference and give a guaranteed bandwidth for each individual cell. These cells grouped together will allow for coverage over a large geographic area, which means many people will be able to use their cell phones at the same time even when moving from station to station.

A mobile network will have a network of radio base stations, a core circuit switched network for calls and text messaging, a packet switched network for handling mobile data and a public switched telephone network to connect subscribers to a wider telephone network. (Farley, Tom. 2006. Cellular Phone Basics)
1. Which of the following is not one of the four main parts of a computer?
   a. Central Processing Unit
   b. Primary Memory
   c. Input Units
   d. These are all parts of a computer

2. What is the Central Processing Unit also known as?
   a. The computer’s brain
   b. The computer’s central nervous system
   c. The computer’s heart
   d. None of the above

3. Which of the following is one of the components of a CPU?
   a. Output unit
   b. Instruction decoding unit
   c. Memory operator
   d. Web interpreter

4. _____ are from all the hardware that is plugged into the computer and gives information to the CPU.
   a. Input units
   b. Rom
   c. Ram
   d. Output units

5. _____ are from the devices that the computer uses to give information to the user.
   a. Input Units
   b. Rom
   c. Ram
   d. Output units
6. _____ are the devices that are plugged into the CPU.
   a. Plug-ins
   b. CPU extenders
   c. Peripherals
   d. Participants

7. _____ is software that directs a text document.
   a. Peripherals
   b. Plug-ins
   c. Word Processing
   d. Desktop processing

8. Which of the following is not a task that can be done by word processing?
   a. Creating documents
   b. Editing documents
   c. Printing documents
   d. All are tasks that can be done by word processing

9. Word from Microsoft Office, WordPerfect and Writer, are all types of _____?
   a. Desktop publishing
   b. Word processing software
   c. Internet providers
   d. None of the above

10. What type of software can help correct spelling and grammar?
    a. Peripherals
    b. Word Processing
    c. CPU
    d. None of the above

11. _____ are worksheets that are arranged in the manner of a mathematical matrix.
    a. Databases
    b. Desktop publishing
    c. Spreadsheets
    d. Word processing
12. _____ software creates databases and manages the data that is stored within them.
   a. Database
   b. Desktop publishing
   c. Spreadsheets
   d. Word processing

13. Which of the following is not a function of the Database management system? ( 
   a. Data definition
   b. Update
   c. Retrieval
   d. None of the above

14. This function of a database management system includes registering and monitoring users.
   a. Data definition
   b. Update
   c. Retrieval
   d. Administration

15. _____ are computer software applications that interact with the user, other applications, and the database itself to capture and analyze data.
   a. Data definition
   b. Database management systems
   c. Retrieval
   d. Administration

16. What are the two types of computer graphics?
   a. Rasta and victor
   b. Computer and geographic
   c. Raster and vector
   d. Corel and computer
17. _____ are graphics formed by using math formulas to form lines and shapes.
   a. Vector  
   b. Adobe  
   c. Corel  
   d. Raster

18. _____ graphics is when each pixel is separated and defined like in a photograph.
   a. Vector  
   b. Adobe  
   c. Corel  
   d. Raster

19. _____ are for computer software that is licensed under the exclusive legal right of the copyright holder.
   a. Multimedia licenses  
   b. Proprietary licenses  
   c. Free and open licenses  
   d. Interactive licenses

20. _____ software licensing is for software that is a bit more flexible, as it grants users the right to use, study and change the design.
   a. Multimedia  
   b. Proprietary  
   c. Free and open source  
   d. Interactive

21. _____ is a network of computers that serve web pages.
   a. Multimedia  
   b. Proprietary  
   c. Interactive  
   d. World wide web
22. Documents on the web are traditionally written in _____.
   a. HTML
   b. HTTP
   c. URL
   d. LOL

23. The HTML pages are transferred between computers via _____.
   a. HTML
   b. HTTP
   c. URL
   d. LOL

24. _____ network access is what you would call accessing the systems and resources of a computer form a remote location.
   a. Remote
   b. Land
   c. Geographic
   d. Instant

25. _____ network is wireless and is used over areas called cells.
   a. Remote
   b. Land
   c. Mobile
   d. Stationary
1. D) These are all parts of a computer
2. A) The computer’s brain
3. B) Instruction decoding unit
4. A) Input Units
5. D) Output Units
6. C) Peripherals
7. C) Word Processing
8. D) All are tasks that can be done by word processing
9. B) Word Processing software
10. B) Word Processing
11. C) Spreadsheets
12. A) Database
13. D) None of the above
14. D) Administration
15. B) Database Management systems
16. C) Raster and Vector
17. A) Vector
18. D) Raster
19. B) Proprietary licenses
20. C) Free and Open source
21. D) World wide web
22. A) HTML
23. B) HTTP
24. A) Remote
25. C) Mobile


