

Final Exam Study Sheet

Chapter 1 - 10 questions

- **VoIP (Voice over Internet Protocol)** → a technology where a broadband Internet connection is used to place telephone calls instead of the regular phone system
 - **Convergence** → a process which several technologies with distinct functionalities evolve to form a single product
 - **Blog** → publicly accessible personal journal posted on the Web
 - **Wiki** → software that allows users to collaborate to create, change, and link Web pages
 - **File** → named collection of data that exists on a storage medium (ex. hard disk)
 - **Digitalization** → the process of converting text, numbers, sound, photos, and video into data that can be processed by digital devices
 - **Supercomputer** → fastest and most expensive type of computer, capable of processing trillions of instructions per second
 - **Mainframe computer** → a large, fast, expensive computer used by businesses or government agencies to provide centralized storage, processing, and management for large amount of data
 - **Analog data** → data measured or represented on a continuously varying scale (ex. dimmer switch)
 - **Digital data** → text, numbers, graphics, or sound represented by discrete digits
 - **Binary number system** → a method for representing numbers using only two digits: 0 and 1
 - **Data vs. Information** → the symbols of that a computer uses to represent facts and ideas (Data); a collection of data which is presented as something that people can understand and use (information)
 - **Unicode** → a 16-bit character-representation code that can represent more than 65,000 characters
 - **EBCDIC (Extended Binary-Coded Decimal Interchange Code)** → a method by which digital computers, usually mainframes, represent character data
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- **Machine code** → program instructions written in binary code that the computer can execute directly

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- **Register** → a “scratch pad” area of the microprocessor into which data or instructions are moved so that they can be processed
 - **Authentication protocol** → passwords, user IDs, and biometric measures used to verify a person’s identity
 - **White hat** → described as a hacker who ethically enters an organization’s security system in order to test its effectiveness
 - **Black hat** → this person would be unethically entering a computer system for their own personal gain

Chapter 2 - 5 questions

- **Peripheral device** → a component or equipment, such as a printer, that expand a computer’s input, output or storage capabilities
- **Word Size** → the number of bits that a CPU can manipulate at one time, which is dependent on the size of the registers of the CPU, and the number of data lines in the bus
- **ALU (Arithmetic Logic Unit)** → the part of the CPU that performs arithmetic and logical operations on the numbers stored in its registers
- **RAM (Random Access Memory)** → computer memory circuitry that holds data, programs instructions, and the operating system while the computer is on
- **Volatile** → requires electrical power to hold data
- **Non-volatile**
- **Magnetic Storage** → a technology for recording data onto disks or tape by magnetizing particles of an oxide-based surface coating
- **Optical Storage** → a technology that records data as light and dark spots on a CD, DVD, or other optical media
- **Control Panel** → A window you can open to adjust various aspects of your computer, such as the volume, fonts, desktop background, mouse speed, and clock
- **Registry**
- **Safe Mode** → a menu option that appears when Windows is unable to complete the boot sequence

Chapter 3 - 5 questions

- **Groupware** → software that enables multiple users to collaborate on a project, usually through a pool of data that can be shared by members of the workgroup

- **Software Suite** → a collection of individual applications sold as one package
- **Cell reference**
 - **Absolute Cell Reference** → in a worksheet formula, cell references (usually preceded by a \$ symbol) that cannot change as a result of a move or copy operation
 - **Relative Cell Reference** → in a worksheet, a cell reference that can change if cells change positions as a result of a move or copy operation
- **Formula** → a combination of numbers and symbols that tells the computer how to use the contents of cells in calculations in spreadsheets
- **Shareware** → copyrighted software marketed under a license that allows users to use the software for a trial period and then send in a registration fee if they wish to continue to use it
- **Freeware** → copyrighted software that is given away by the author or copyright owner
- **Open Source Software** → software that includes its source code, allowing programmers to modify and improve it
- **Public Domain Software** → software that is available for public use without restriction except that it cannot be copyrighted
- **Executable File** → a file (in .exe format) containing instructions that tell a computer how to perform a specific task
- **Uninstall Routine** → a program that removes software files, references, and registry entries from a computer's hard disk
- **Operating System** → the software that controls the computer's use of its hardware resources, such as memory and disk storage space
- **Software Patch** → a section of software code designed to modify an existing program to fix a specific error or add a feature
- **Validation code**

Chapter 4 - 15 questions

- **Multiuser operating system** → an operating system that allows a single computer to deal with simultaneous processing requests from multiple users
- **Multitasking operating system**
- **Network operating system**
- **Memory leak** → an operating system does not correctly allocate memory for programs causing parts of one program to overwrite parts of others and malfunction
- **User interface** → the software and hardware that enable people to interact with computers
- **Graphical user interface** → a type of user interface that features on-screen objects (ex. menus and icons) manipulated by a mouse

- **Command-line interface** → a style of user interface that requires users to type commands
- **Bootstrap program** → a program stored in ROM that loads and initializes the operating system on a computer
- **Kernel** → the core module of an operating system that typically manages memory, processes, tasks, and storage devices
- **Virtual Machine** → software that creates an operating environment that emulates another computer platform
- **Bootcamp**
- **UNIX** → a multi-user, multitasking server operating system developed by AT&T BELL Lab in 1969
- **Linux** → an operating system that is a derivative of UNIX, available as freeware, and widely used for servers though it is also used on personal computers and workstations
- **Finder**
- **Windows Explorer** → a file management utility included with most Windows operating systems that helps users manage their files
- **Incremental Backup** → a backup that contains files that changed since the last backup
- **Full Backup** → a copy of all the files for a specified backup job
- **Differential Backup** → a copy of all the files that changed since the last full backup of a disk
- **Restore Point** → data stored about the state of files and the operating system at a given point in time, then used to roll back the computer system to that state

Chapter 5 - 15 questions

- **LAN (Local Area Network)** → an interconnected group of computers and peripherals located within a relatively limited area (ex. campus)
- **WAN (Wide Area Network)** → an interconnected group of computers and peripherals that covers a large geographical area, multiple branches of a corporation
- **PAN (Personal Area Network)** → an interconnected group of personal digital devices located within a range of about 30 feet
- **Peer-to-Peer network** → workstations act as both file servers and clients
- **Topology**
- **Tree topology** → multiple star networks connected into a bus configuration by a backbone

- **Star topology** → a network configured with a central connection point or hub for all workstations and peripherals
- **Bus topology**
- **Bandwidth**
- **Narrowband**
- **Broadband**
- **HomePNA**
- **HomePLC**
- **Advantages and Disadvantages of wireless and wired networks**
- **Wi-Fi**
- **WIMAX**
- **Ad-hoc wireless network**
- **Infrastructure wireless network**
- **War driving**
- **War chalking**
- **Encryption**
- **Ciphertext**
- **Plaintext**
- **Brute-force attack**
- **Public Key Encryption**

Chapter 6 - 15 questions

- **ISP**
- **NSP**
- **Modem**
- **TCP**
- **IP**
- **Dynamic IP Address**
- **Static IP Address**
- **Top-level domain**
- **ICANN**
- **Symmetric Internet Connection**
- **Asymmetric Internet Connection**
- **Handshaking**
- **Factors effecting Hotspots**
- **FTP**
- **TELNET**
- **File sharing**
- **Public Address**

- **Routable Address**
- **VPN**
- **Private Address**
- **Network Address Translation**

Chapter 7 - 15 questions

- **Podcast**
- **RSS Feed**
- **Web protocol standards**
- **Web cache**
- **Plug-in**
- **Helper application**
- **Cookies**
- **Style sheet**
- **Digital certificate**
- **Meta keyword**
- **Keyword stuffing**
- **Query**
- **Archive**
- **Link**
- **SSL**
- **TLS**
- **S-HTTP**
- **CC in e-mail**
- **BCC in e-mail**
- **Pro's and Con's of anonymous proxies**
- **Phishing**

Chapter 8 - 15 questions

- **.jpg**
- **.gif**
- **.tiff** → a file format for storing images

- **.aiff** → an audio file format standard used for storing sound data for personal computers and other electronic audio devices
- **resolution**
- **pixilation**
- **rasterization**
- **interpolation**
- **cropping**
- **system palette**
- **grayscale palette**
- **vector graphic**
- **bitmap graphic**
- **metafile**
- **dithering**
- **gradient**
- **Use of scanner vs. digital camera**
- **MIDI file**
- **WAV file**
- **Speech recognition software**
- **Speech synthesizer**

Chapter 10 - 5 questions

- **Decision support system** → a computer system that allows decision makers to manipulate data directly, to incorporate data from external sources, and to create data models or "what-if" scenarios
- **Expert System** → a computer system incorporating knowledge from human experts, and designed to analyze data and produce a recommendation or decision (also called knowledge-based system)
- **Centralized processing system** →
- **Distributed processing System** → an information system data is processed on multiple workstations or servers

- **RFP (Request for Proposal)** → a document sent by an organization to vendors to solicit proposals; it specifies the problem that needs to be solved and the requirements that must be met
- **RFQ (Request for quotation)** → a document sent by an organization to vendors requesting a formal price quotation on a list of hardware and /or software
- **SDLC (Phases of the System Development Lifecycle)** → planning phase, analysis phase, design phase, implementation phase, maintenance phase
- **Reliability** → the trustworthiness to do what the system is expected or designed to do
- **Availability** → the proportion of time a system is in a functioning condition. The degree to which a system is in a specified operable and committable state at the start of a mission. Availability measures are classified by either the time interval of interest or the mechanisms for the system downtime
- **Throughput** → output relative to input; the amount passing through a system from input to output (especially of a computer program over a period of time)
- **Downtime** → Used to refer to periods when a system is unavailable. Downtime refers to a period of time that a system fails to provide or perform its primary function. The term is commonly applied to networks and servers. The common reasons for unplanned outages are system failures (such as a crash) or communications failures. Unplanned downtime may be the result of a software bug, human error, and/or equipment failure
- **Capacity** → the amount of information (in bytes) that can be stored on a disk drive

Case Studies

Case 1

Alison is a full-fledged member of the digital revolution, taking pictures with her digital camera. She has recently purchased a scanner and a program that enables her to manipulate digital images.

Case 2

Digital video is classified by its platform such as desktop, Web-based, DVD, and PDA video. Nancy has several types of video media originating from video cameras, video tape, DVRs (digital video recorders), and TV.

Case 3

Joseph is working in a modern office with speech recognition equipment and machines such as computers that produce sounds resembling spoken words. His first step is to train the computer to recognize his speaking style, taking into account his accent, pronunciation, and idiomatic expressions.

Case 4

Janet is working in a music store called WebMusic that sells CDs. All of the CDs in the store are listed in the database. Many of the customers are also listed. As the database designer, she has defined fields for the database.