

Study Guide for Final Exam

Definitions to know:

Lecture #1

1. Data
2. Digitization
3. Bit
4. Byte
5. Binary Numbers
6. How Are Characters Stored?
 - a. ASCII
 - b. Unicode
7. Text Document
8. HTML Document
9. Kilobyte, Megabyte, Gigabyte Terabyte, Petabyte, Exabyte
10. Data Compression
11. Lossy And Lossless Compression

Lecture #2

1. Digital
2. Analog
3. Digital Audio
4. Analog-To-Digital Converter
5. Digital-To-Analog Converter
6. Sampling Rate
7. Ripping
8. Digital Audio Extraction
9. Download
10. MIDI
11. Speech Synthesis
12. Speech Recognition

Lecture #3

1. Bitmap Graphic
2. Pixel
3. Paint Software.
4. Scanner
5. RGB Color Model
6. Color Depth
7. Image Resolution
8. Image Compression
9. Noise Reduction
10. Image Enhancement

11. Selective Color Change
12. Vector Graphics
13. Drawing Software
14. Wireframe
15. Rendering
16. Ray Tracing

Lecture #4

1. Software
2. Stored Program Concept
3. Application Software
4. System Software
5. Development Tools
6. Motherboard (Or System Board)
7. Form Factor
8. System Unit
9. Supercomputers
10. Mainframes
11. Servers
12. Desktops
13. Laptops
14. Tablets
15. Smartphones
16. Personal Computer
17. Microprocessor
18. Microprocessor Clock
19. Gigahertz
20. Multi-Core Processor
21. Serial Processing
22. Pipeline Processing
23. Parallel Processing
24. Cache
25. RISC And CISC
26. RAM
27. ROM

Lecture #5

1. Storage Medium
2. Storage Device
3. Hard Disk Drive
4. Access Time
5. Data Transfer Rate
6. CD, DVD, And Blu-Ray
7. Optical Storage
8. Optical Drive

9. CD-ROM, CD-R, CD-RW
10. Solid State Storage
11. Non-Volatile
12. Memory Card
13. USB Flash Drive
14. Cloud Storage
15. Expansion Ports
16. Bluetooth
17. Device Driver
18. LCD
19. Dot Pitch
20. Screen Resolution
21. Virtual Keyboard
22. Integrated Graphics
23. Dedicated Graphics
24. Graphics Processing Unit
25. Ink Jet Printer

Lecture #6:

1. Communication Network
2. Personal Area Network (PAN)
3. Local Area Network (LAN)
4. Wide Area Network (WAN)
5. Communications Channel
6. Wired vs. wireless channels
7. RF Communication Signals
8. Microwave Communication Signals
9. Advantages and disadvantages of wireless channels
10. Bandwidth
11. Broadband
12. Narrowband
13. DTE (Data Terminal Equipment)
14. DCE (Data Communication Equipment)
15. Router
16. Modem
17. Communications Protocol

Lecture #7

1. Internet Backbone
2. Internet Service Providers (ISPs)
3. Packet Switching vs. Circuit Switching
4. Packets
5. TCP (Transport Control Protocol)
6. IP (Internetwork Protocol)
7. Static addresses vs. dynamic addresses
8. Domain Names

9. Domain Name System (DNS)
10. Top-level Domain
11. Domain name servers
12. DNS spoofing
13. Bandwidth cap
14. Bandwidth throttling
15. Symmetric connection vs. asymmetric connection
16. Ping
 - a. Ping rate
 - b. Latency
17. Packet loss
18. Traceroute
19. Wi-Fi hotspots

Lecture #8

1. Web site
2. Web server
3. Hypertext link
4. Unidirectional vs. bidirectional links
5. URLs
6. Short URLs
7. Browser basics
8. Navigation controls
9. Refresh button
10. Home Button
11. Bookmarks
12. Browser extensions
13. Plugins
14. Browser cache
15. History list
16. HTTP
17. Cookies
18. Session vs. persistent cookies
19. HTTPS
20. Public key encryption

Lecture #9

1. Systems Software
2. Device Driver
3. Development Software
4. Programming Language
5. Scripting Language
6. Application software
7. Desktop Publishing
8. Productivity Software
9. Executable file

10. System requirement
11. Software Upgrade vs. Software update
12. Software license
13. EULA (End user License Agreement)
14. Public domain software
15. Proprietary software
16. Single-user license
17. Site license
18. Freeware
19. Demoware
20. Product activation
21. Open source software
22. Pirated software
23. GUI (Graphical User Interface) vs. command line interface
24. Desktop Operating Systems:
 - a. MS Windows
 - b. MacOS
 - c. ChromeOS
25. Mobile Operating Systems
 - a. Android
 - b. iOS
26. Kernel
27. Multitasking

Lecture #10

1. Encryption
 - a. Plaintext
 - b. Ciphertext
2. Decryption
3. Encryption algorithm
4. Encryption key
5. Authentication protocols
6. Strong password
 - a. Brute force attack
 - b. Dictionary attack
7. Weak password
8. Password manager
 - a. Strength meter
9. Malware
 - a. Viruses
 - b. Worms
 - c. Trojan horses
10. Code injection
11. Mass mailing worm
12. Antivirus software
13. Virus signature
14. Quarantine