

ITEC 350 Study Guideline for Final Exam

Please study based on the lecture slides which we used in class. All the lecture slides and lecture videos are posted on D2L.

Note: The final exam will be **comprehensive**. Thus, please refer the study guideline of the midterm exams.

1. Chapter 3
 - a. Line Coding
 - i. Unipolar NRZ
 - ii. Polar NRZ
 - iii. NRZ-inverted (differential encoding)
 - iv. Bipolar encoding
 - v. Manchester encoding
 - vi. Differential Manchester encoding
 - b. Error Detection & Correction
 - i. Single Parity Check
 - ii. Two Dimensional Parity Check
 - iii. CRC (Cyclic Redundancy Check) Code
2. Chapter 5 – Automatic Repeat Request (ARQ): You should know how it works.
 - a. Stop-and-Wait ARQ
 - b. Go-Back N ARQ
 - c. Selective Repeat ARQ
 - d. Sliding Window Protocol
3. Chapter 7
 - a. Centralized Routing vs. Distributed Routing
 - b. Static Routing vs. Dynamic Routing
 - c. Flooding, Limited Flooding
 - d. Shortest Path Routing Algorithm
 - i. Distance Vector Algorithm, Bellman-Ford Algorithm
 - ii. Counting to infinite problem & its solution
 - iii. Link State Algorithm, Dijkstra Algorithm
4. Chapter 8
 - a. RIP
 - b. Interior Gateway Protocol, OSPF
 - c. Exterior Gateway Protocol, BGP
5. Security Basic
 - a. Symmetric Key Cryptography
 - b. DES
 - c. Asymmetric Key Cryptography, Public Key Cryptography
 - d. RSA