

CS 164 – COMPUTER NETWORKS

Assignment 1

- Read the assigned chapters.
 - 1.2: Requirements
 - *Connectivity (1.2.1)*: nodes, links, circuit-switched vs. packet-switched networks, internetworking
 - *Cost-Efficient Resource Sharing (1.2.2)*: Multiplexing: TDM, FDM, Statistical multiplexing
 - *Support for Common Services (1.2.3)*: Logical channels, message stream channels, request/reply channels, bit-error vs. burst-errors.
 - 1.3: Network Architecture
 - *Layering and Protocols (1.3.1)*: Layering, protocol specification, interoperation of protocols, encapsulation/decapsulation, multiplexing/demultiplexing
 - *OSI Architecture (1.3.2)*
 - 1.4: Implementing Network Software
 - *Application Programming Interface & Sockets (1.4.1)*
 - *Example Application (1.4.2)*
 - 1.5: Performance
 - *Bandwidth and Latency (1.5.1)*: Bandwidth, throughput, Round-Trip Time (RTT), Propagation Delay

- Answer below questions briefly. (Each is 20%.)
 1. What are types of switched networks? What are their differences?
 2. What are the differences between unicast/ multicast/ broadcast?
 3. What's API? What is its duty?
 4. What are the 7 layers of OSI network model?
 5. What is the bandwidth of a frequency band ranging from 200 to 800 Hz?