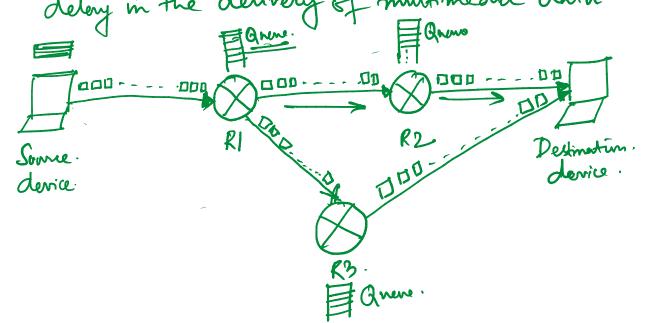
## Module-1: Data Communication Components - 1 Monday, January 10, 2022 3:49 PM Four Fundamental Characteristies of Data Communication: (1) Delivery - dont must be delivered in the correct destination. Accuracy— the System must deliver data accurately—data is aftered in transmission and left uncorrected, then it becomes mushble. 3) Timeliness - The system must deliver desta in a timely morner - in the same order in which the data is broduced without significant delay (real-time delivery). Jitter- Variations in packet arrival time - coneven delay in the delivery of multimedia data.



## Network Criteria 1) Performance - depends on a number of factors - no. of users/requests, types of transmission medium, the capabilities of the annected hardware, efficiency of the software. Throughput (marximize) destrois delivered. Trade-off Trade-off Trade-off QoS is directly related to delay. (1) Transit time. (2) Response time: Amount of time required for a mag elapsed time between an to travel from one device (depends on the to another. (depends on the gratity (SW + HW of the device) of the medium, congestion State of links 2) Reliability; networks robustness in the face of component failures. — frequency of the failure, The time it takes a link to recover from a failure-

3) Security: protecting data from monthorized access, brotesting data from damage and Jevelopment, implementing for day

protecting derta from dermage and twelvement, implementing policies and proceedures for secovery from breaches, darta losses, etc. Network: A network is a two or more devices connected through links. A link is a Commication pathway that transfers data from one device to another. For Communication to facur, two devices must be connected in some way to the same link at the same time. Physical Structure of a network , physical topology