Questions

1. Serial Data Transmission: In SDT one bit is sent at a time over a computer bus. It is used for long haul communicated where the cost of cable and synchronization difficulties make parallel communication impractical.

Parallel Data Transmission: PDT sends multiple bits at once through several wires. An 8-bit parallel channel will convey a byte simultaneously whereas a serial channel would do it bit by bit.

1. a) Ready/Busy Signal: Dunno

b) Strobe Signal: A strobe wire is a flag, and when the receiver is ready, the strobe wire voltage is set to positive. If it is busy, it is set to null.

1. Why serial used: Long distance because no skewing
2. Why parallel used: Short distance because fast
3. Baud rate: Baud rate sets the frequency at which signals may change.
4. Relationship between bandwidth and bit rate: The greater the bandwidth of the transmission system, the higher the bit rate that can transmitted over the system.
5. Latency: Latency is the time between a when a signal is sent and then its effect occurs.
6. Asynchronous serial data transmission: Arrival of data is unpredictable.
7. The start bit wakes the receiver and synchronises the clocks temporarily. The stop bit follows a pause and tells the receiver that all data has been transmitted.
8. Pre-agreed signals for data transmission.
9. Handshaking is when the sender and receiver exchange signals to confirm connection and that they are ready to receive. When the peripheral receives the start bit, the clear to send pin is set to busy. The other 6 are used for data, when the stop bit is sent the CTS pin is set to ready.
10. The number of 1s is read. If odd parity is used and the 1s are odd then add a 0, otherwise add a 1. Vice versa for even.
11. Parity is used by the receiver to check that the data is correct
12. Baseband is a system using a signal data channel with the whole bandwidth.
13. Broadband is a multiple channel system with the bandwidth split across several streams.
14. Baseband is used in LANs as it is high performance.
15. Broadband is used in WANs as it is lower performance but can do many things at once.