

Poonam Alam

MCAC202 - DATA COMMUNICATION AND COMPUTER NETWORKS
MID-SEM EXAM (MARCH 2025)

Time: 1 Hour

Total Marks: 15

Attempt all questions.

1. What is the difference between half-duplex and full-duplex transmission modes? [1]
2. When we use local telephones to talk to a friend, are we using a circuit-switched network or a packet-switched network? [1]
3. In an internet, we change the LAN technology to a new one. Which layers in the TCP/IP protocol suite need to be changed? Justify your answer. [2]
4. Explain briefly digital-to-analog conversion and analog-to-analog conversion. When do we require to convert a given digital/analog signal to analog signal? [4]
5. A signal with 200 milliwatts of power passes through 10 devices, each with an average noise of 2 microwatts. What is the SNR? What is the SNR_{dB} ? [3]
6. An analog signal has a bit rate of 16000bps and a baud rate of 1000 baud/s. How many signal elements do we need? How many data elements are carried by each signal element? [2]
7. How many invalid (unused) code sequences can we have in 5B/6B encoding? How many code sequences in 4B/5B encoding? [2]