

KNOWLEDGE PROBE 4: INTRODUCTION TO WIRELESS TECHNOLOGY

Modulation and Multiplexing

Learning Objectives

1. Explain basic modulation.
 2. Distinguish between multiplexing methods.
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1. Baseband signals cannot be connected directly to an antenna for transmission.
 - a. True
 - b. False
 2. What is the name of the signal that is modified by the baseband signal for modulated transmission?
 - a. Carrier
 - b. Modulating signal
 - c. Radio signal
 - d. Subcarrier
 3. Which of the following is NOT a way that a signal can be modulated?
 - a. Amplitude
 - b. Frequency
 - c. Phase
 - d. Time
 4. PM produces FM.
 - a. True
 - b. False
 5. What is the binary version of FM called?
 - a. ASK
 - b. FSK
 - c. OOK
 - d. PSK
 6. The combination of ASK and PSK is known as
 - a. APK
 - b. PAK
 - c. QAM
 - d. QPSK



7. Which of the following does multiplexing permit?
 - a. Half duplexing
 - b. Multiple users can share the same equipment
 - c. Sharing of spectrum space
 - d. Two or more signals may be transmitted concurrently in the same bandwidth
8. Frequency multiplexing is when
 - a. All signals are added together in the same bandwidth
 - b. All signals modulate the same carrier but at different times
 - c. One signal rides on another
 - d. Signals are rapidly switched between frequencies
9. Time division multiplexing is used with
 - a. Digital signals
 - b. Slow analog signals
 - c. Video signals
 - d. Voice signals
10. How are analog signals transmitted in TDM?
 - a. A wider bandwidth is needed
 - b. They are first modulated
 - c. They cannot be transmitted.
 - d. They must be digitized by an ADC first
11. How are FDM signals recovered?
 - a. Using a time interleaved switch
 - b. With a band pass filter
 - c. With a high frequency amplifier
 - d. With a modulator
12. What is the name of the circuit that recovers multiplexed signals?
 - a. Demodulator
 - b. Demultiplexer
 - c. Modulator
 - d. Multiplexer