

## KNOWLEDGE PROBE 2: SYSTEMS VIEW OF ELECTRONICS

### Electronic Processes

#### Learning Objectives

1. Distinguish between different processes used in electronics.
  2. Explain how the different processes work.
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1. The most common process in electronics is probably
    - a. Amplification
    - b. Attenuation
    - c. Filtering
    - d. Mixing
  2. A process that is frequency selective is called
    - a. Amplification
    - b. Attenuation
    - c. Filtering
    - d. Mixing
  3. Altering a high frequency signal with another signal for transmission purposes is known as
    - a. Filtering
    - b. Mixing
    - c. Modulation
    - d. Signal generation
  4. The process of converting AC into DC is known as
    - a. AC-DC conversion
    - b. Attenuation
    - c. Inversion
    - d. Rectification
  5. Which of the following is NOT a common signal source?
    - a. Clock
    - b. Frequency synthesizer
    - c. Logic gate
    - d. Oscillator
  6. Impedance matching is performed to produce
    - a. Maximum amplification
    - b. Maximum output voltage
    - c. Maximum power transfer
    - d. Minimum noise



7. The process of introducing a loss in the signal level is called
  - a. Anti-amplification
  - b. Attenuation
  - c. Compression
  - d. Filtering
8. What type of circuits performs arithmetic and makes decisions?
  - a. Amplifiers
  - b. Logic gates
  - c. Mixers
  - d. Phase shifters
9. The most useful outputs of a mixer with inputs  $f_1$  and  $f_2$  are
  - a.  $f_1 \times f_2$  and  $f_1/f_2$
  - b.  $f_1 + f_2$  and  $f_1 - f_2$
  - c.  $f_1 + f_2$  and  $f_1 \times f_2$
  - d.  $\sqrt{f_1}$  and  $\sqrt{f_2}$
10. What IC is a part of almost every single piece of electronic equipment?
  - a. Amplifier
  - b. Embedded controller
  - c. Personal computer
  - d. Rectifier
11. Which of the following is NOT a usual part of a microcomputer?
  - a. Amplifier
  - b. CPU
  - c. I/O circuits
  - d. Memory