

## KNOWLEDGE PROBE 3: ALTERNATIVE POWER SOURCES

### Ultracapacitors

#### Learning Objectives

1. Describe ultracapacitor operation and specifications
  2. Identify the components of an ultracapacitor.
  3. Identify ultracapacitor applications.
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1. Another name for ultracapacitor is
    - a. Capacitor-battery
    - b. Killer cap
    - c. Supercapacitor
    - d. Uber capacitor
  2. What is a typical value for an ultracapacitor?
    - a. 100 to 1000  $\mu\text{F}$
    - b. 1000 to 10,000  $\mu\text{F}$
    - c. 1 to 4 F
    - d. Anything over 10 F
  3. The working voltage of an ultracapacitor is normally less than
    - a. 1 volt
    - b. 3 volts
    - c. 10 volts
    - d. 100 volts
  4. An ultracapacitor with a small load acts most like a/an
    - a. Battery
    - b. Inductor
    - c. Power supply
    - d. Resistor
  5. An ultracapacitor is normally used with another DC power source.
    - a. True
    - b. False
  6. The basic purpose of an ultracapacitor is to
    - a. Recharge batteries
    - b. Replace batteries in some products
    - c. Run motors and speakers
    - d. Supply a high current to assist the main DC source on peak loads



7. Which of the following does NOT typically use an ultracapacitor?
- a. Autosound system
  - b. Digital camera and camcorder
  - c. Laptop computers
  - d. Stereo system