

## General Class Study Group Chapter 6 Circuit Components

One questions from this chapter will be on the test.

### Manual pages 1 to 3

G6A01

1. If a carbon resistor's temperature is increased, what will happen to the resistance?
  - A. It will increase by 20% for every 10 degrees centigrade
  - B. It will stay the same
  - C. It will change depending on the resistor's temperature coefficient rating
  - D. It will become time dependent

G6A12

2. Why would it not be a good idea to use a wire-wound resistor in a resonant circuit?
  - A. The resistor's tolerance value would not be adequate for such a circuit
  - B. The resistor's inductance would detune the circuit
  - C. The resistor would overheat
  - D. The resistor's internal capacitance would detune the circuit

### Manual pages 3 to 7

G6A02

3. What type of capacitor is often used in power-supply circuits to filter the rectified AC?
  - A. Disc ceramic
  - B. Vacuum variable
  - C. Mica
  - D. Electrolytic

G6A03

4. What function does a capacitor serve if it is used in a power-supply circuit to filter transient voltage spikes across the transformer's secondary winding?
  - A. Clipper capacitor
  - B. Trimmer capacitor
  - C. Feedback capacitor
  - D. Suppressor capacitor

### Manual pages 7 to 10

G6A04

5. Where is the source of energy connected in a transformer?
  - A. To the secondary winding
  - B. To the primary winding
  - C. To the core
  - D. To the plates

G6A05

6. If no load is attached to the secondary winding of a transformer, what is current in the primary winding called?
- A. Magnetizing current
  - B. Direct current
  - C. Excitation current
  - D. Stabilizing current

G6A13

7. What is an advantage of ferrite toroidal inductors?
- A. Large values of inductance may be obtained
  - B. The inductor may be used in applications where core saturation is desirable
  - C. Most of the magnetic field is contained in the core
  - D. All of these choices are correct

G6A15

8. How should two solenoid inductors be placed so as to minimize their mutual inductance?
- A. In line with their winding axis
  - B. With their winding axis parallel to each other
  - C. At right angles to their winding axis
  - D. Within the same shielded enclosure

G6A16

9. Why might it be important to minimize the mutual inductance between two inductors?
- A. To increase the energy transfer between both circuits
  - B. To reduce or eliminate stray coupling between RF stages
  - C. To reduce conducted emissions
  - D. To increase the self-resonant frequency of both inductors

**Manual pages 7 to 14**

G6A07

10. What are the two major ratings that must not be exceeded for silicon-diode rectifiers used in power-supply circuits?
- A. Peak inverse voltage; average forward current
  - B. Average power; average voltage
  - C. Capacitive reactance; avalanche voltage
  - D. Peak load impedance; peak voltage

G6A14

11. Where would be the stable operating points for a bipolar transistor that is used as a switch in a logic circuit?
- A. In its saturation and cut-off regions
  - B. In its active region (between cut-off and saturation regions)
  - C. Between its peak and valley current points
  - D. Between its enhancement and depletion modes

