

Name \_\_\_\_\_

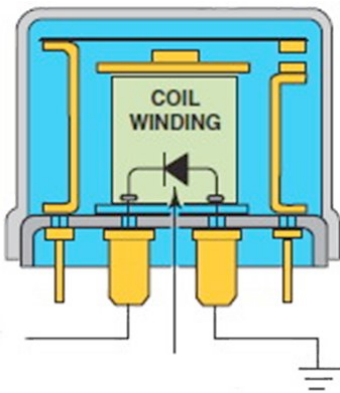
**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

1) The arrow in a symbol for a semiconductor device \_\_\_\_\_. 1) \_\_\_\_\_  
A) points toward the negative  
B) points away from the negative  
C) is attached to the emitter on a transistor  
D) Both A and C are correct

2) Technician A says that circuits using semiconductors may also be known as solid state circuits. 2) \_\_\_\_\_  
Technician B says that the process of introducing a precise amount of impurity to a pure semiconductor material is known as doping. Which technician is correct?  
A) Technician A only  
B) Technician B only  
C) Both technicians A and B  
D) Neither technician A nor B

3) The forward bias voltage required for an LED is \_\_\_\_\_. 3) \_\_\_\_\_  
A) 0.3 to .05 volt  
B) 0.5 to 0.7 volt  
C) 1.5 to 2.2 volts  
D) 4.5 to 5.1 volts

4) What is the purpose of this component (arrow) in this schematic? 4) \_\_\_\_\_



- A) To control voltage spikes
- B) To hold the relay on once it is energized
- C) To protect the ground connection
- D) To protect the relay incase of reverse polarity

5) Which of these is an NPN transistor?

5) \_\_\_\_\_



- A) A
- B) B
- C) Both A and B
- D) Neither A nor B

6) N-type material is silicone doped with which of these?

6) \_\_\_\_\_

- A) Phosphorous
- B) Arsenic
- C) Antimony
- D) All of these

7) A diode is a semiconductor device that \_\_\_\_\_.

7) \_\_\_\_\_

- A) causes voltage spikes
- B) blocks current in one direction
- C) blocks current in both directions
- D) reverses current flow

8) A transistor is controlled by the polarity and current at the \_\_\_\_\_.

8) \_\_\_\_\_

- A) collector
- B) emitter
- C) base
- D) Both A and B

9) "Breakdown voltage" is the voltage at which a Zener diode will do which of these?

9) \_\_\_\_\_

- A) Allow reverse current to flow
- B) Stop the flow of reverse current
- C) Sustain damage as a result of current overload
- D) Stop the flow of either forward or reverse current

10) Technician A says to avoid touching the electrical terminals of a component to reduce the chances of electrostatic discharge. Technician B says that as long as rubber soled shoes are worn there is no danger of ESD damage. Which technician is correct?

10) \_\_\_\_\_

- A) Technician A only
- B) Technician B only
- C) Both technicians A and B
- D) Neither technician A nor B

## Answer Key

Testname: AEEP8\_12B

1) D

Page Ref: 175

2) C

Page Ref: 173

3) C

Page Ref: 179

4) A

Page Ref: 177

5) A

Page Ref: 182

6) D

Page Ref: 173

7) B

Page Ref: 174

8) C

Page Ref: 182

9) A

Page Ref: 176

10) A

Page Ref: 191