Modern Electronics

Phys Sci

Name _____ Class _____ Date _____

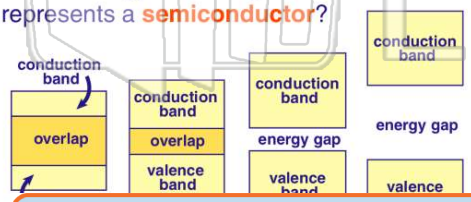
1 Which statement best explains how the **resistivity** of glass compares to the **resistivity** of copper?

A Glass has a lower resistivity and is a poor conductor.
B Glass has a lower resistivity and is a good conductor.
C Glass has a higher resistivity and is a poor conductor.
D Glass has a higher resistivity and is a good conductor.

2 Metals that are excellent conductors have **valence electrons** that are

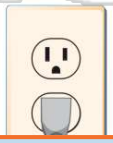
A difficult to dislodge and difficult to move through the crystal
B difficult to dislodge but easy to move through the crystal
C easy to dislodge but difficult to move through the crystal
D easy to dislodge and easy to move through the crystal

3 Which energy band diagram best represents a **semiconductor**?



4 Alternating current from a wall outlet can be **converted** to direct current by

A an N-type semiconductor
B a P-type semiconductor
C an emitter
D a diode



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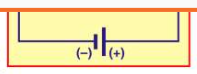
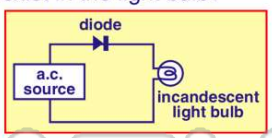


A electrons moving to the left
B electrons moving to the right
C holes moving to the left
D holes moving to the right

maximum current exist in the light bulb?

A 30 **C** 120
B 60 **D** 240



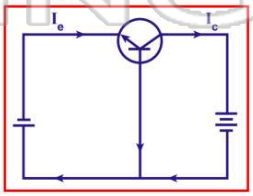
9 Which part of an *N–P–N* transistor is **forward biased**?

A an integrated circuit
B a parallel circuit
C an emitter-base combination
D a collector-base combination

10 The transistor shown in the circuit diagram below is being used as an **amplifier**.

When the emitter current (I_e) **increases**, the collector current (I_c)

A decreases
B increases
C remains the same



ANSWER KEY

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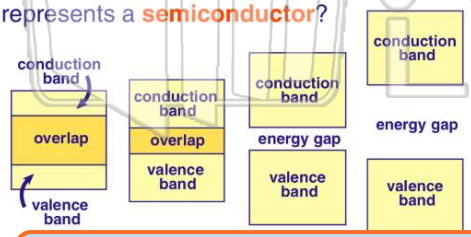

c

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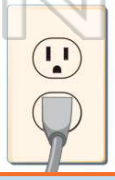

d

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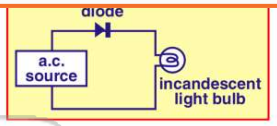

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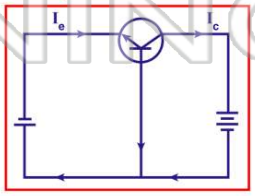

b