The calculated curent of 4.3×10^5 A
for a forward voltage of 0.9 V is unreasonable because

1. No account has been taken of the resistance of the wires

2. No account has been taken of the resistance of the semiconductor material

3. Only the junction characteristic has been considered

4. No reasonable bench supply would provide this current

Why does the diode reverse current appear as a multiplying factor in the equation for the diode forward current?

$$I = I_0 \left(\exp \left(\frac{eV}{kT} \right) - 1 \right)$$

When the log of the calculated diode current is plotted against the diode voltage the plot will be

1. A straight line with a positive slope

2. A straight line with a negative slope

3. Two intersecting straight lines

4. The graph can not be plotted

When the log of the calculated diode forward current is plotted against the diode forward voltage the plot will be

1. A straight line with a positive slope

2. A straight line with a negative slope

3. Two intersecting straight lines

4. The graph can not be plotted

Equal small changes in the diode forward bias voltage

1. Give proportional changes in the diode current

2. Give equal percentage changes in the diode current

3. Cause the diode current to increase by a fixed amount

When the temperature increases, the current through a forward biased diode

1. Increases

2. Decreases

When the temperature increases, the current through a reverse biased diode

1. Increases

2. Decreases