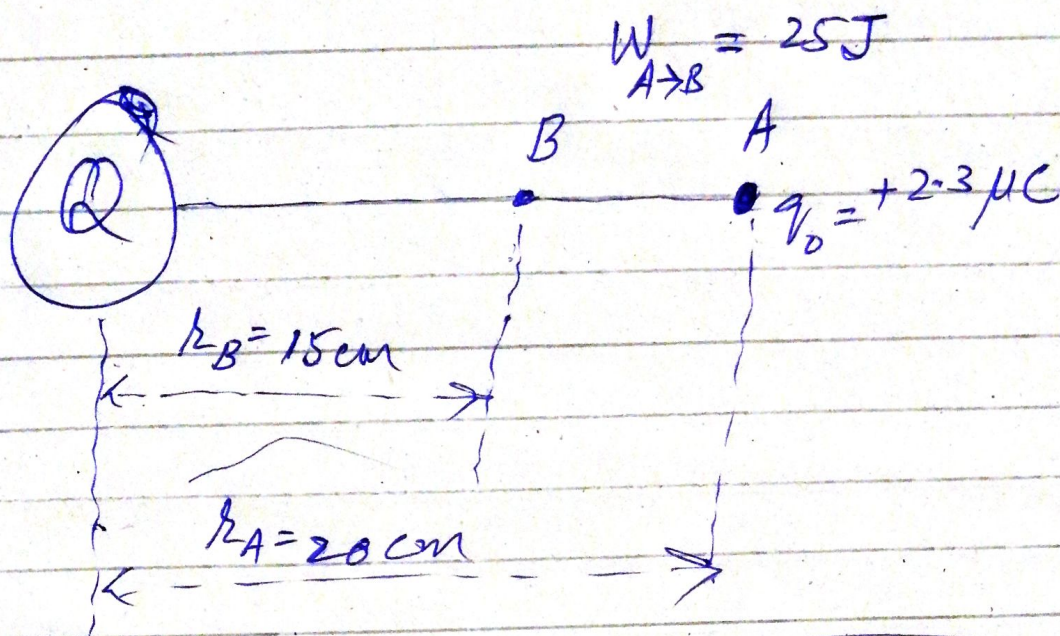


$$\begin{aligned}
 \textcircled{c} \quad E &= \frac{kQ}{r^2} = \frac{(9 \times 10^9 \text{ Nm}^2/\text{C}^2)(7.27 \times 10^{-4} \text{ C})}{(0.1 \text{ m})^2} \\
 &= \boxed{6.54 \times 10^8 \text{ N/C}}
 \end{aligned}$$



$$\textcircled{a} \quad \Delta V_{BA} = \frac{W_{A \rightarrow B}}{q_0} = \boxed{1.087 \times 10^7 \text{ V}}$$

$$\begin{aligned}
 \textcircled{b} \quad \therefore \Delta V_{BA} &= V_B - V_A = kQ \left[\frac{1}{r_B} - \frac{1}{r_A} \right] \\
 &= kQ \left(\frac{r_A - r_B}{r_A r_B} \right)
 \end{aligned}$$

$$\Rightarrow Q = \frac{\Delta V_{BA} r_A r_B}{k(r_A - r_B)}$$

$$\begin{aligned}
 &= \frac{(1.09 \times 10^7 \text{ V})(0.2 \text{ m})(0.15 \text{ m})}{(9 \times 10^9 \text{ Nm}^2/\text{C}^2)(0.2 \text{ m} - 0.15 \text{ m})} \\
 &= 7.27 \times 10^{-4} \left(\frac{\text{V} \cdot \text{m}^2 \cdot \text{C}^2}{\text{Nm}^3} \right) = 7.27 \times 10^{-4} \frac{\text{J/C} \cdot \text{m}^2 \cdot \text{C}^2}{\text{J} \cdot \text{m}^3} \\
 &= \boxed{7.27 \times 10^{-4} \text{ C}}
 \end{aligned}$$

$\because V = \text{J/C}$
 $\& \text{ Nm} = \text{J}$
 $\frac{(\text{J/C}) \cdot \text{C}^2}{\text{J}}$