ELECTROSTATICS

Physics Notes
Chapters 32 & 33

Equations:

Electrostatic Force: $F_e = \frac{k_e \cdot q_1 \cdot q_2}{d^2}$

Potential Difference: (Energy per Charge) $V = \frac{PE}{q}$

Electric Field: $E = \frac{F_e}{q}$

Data:

Electron Charge = -1.60×10^{-19} C
Proton Charge = $+1.60 \times 10^{-19}$ C

Electron Mass = 9.11×10^{-31} kg
Proton Mass = 1.67×10^{-27} kg

k_e **=** 9.0×10^{9} N·m^2 / C^2

Name	Symbol	Unit	Notes
Electrical Force	F_e	Newton	
Charge	q	Coulomb microCoulomb (μC = 10^{-6} C)	
Distance	d	meters	
Potential Difference	V	Volt (Joule/Coulomb)	
Potential Energy	PE	Joule	
Kinetic Energy	KE	Joule	
Electric Field	E	Newtons/Coulomb	

Helpful Equations:

$KE = \frac{1}{2} m \cdot v^2$

$W = m \cdot g$

Electron & Proton Data

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