ELECTRICITY & MAGNETISM REFERENCE

Electrostatics

Concept	Formula
Coulomb's Law	$F = k(q_1q_2/r^2)$
Electric Field	$E = F/q$
Potential (V)	$V = W/q$
Capacitance	$C = Q/V$

Current Electricity

Concept	Formula
Ohm's Law	$V = IR$
Power	$P = VI = I^2R$
Series Req	$R_1 + R_2 + ...$
Parallel Req	$1/\Sigma(1/R_i)$

Magnetism

Concept	Formula
Magnetic Force	$F = qvB \sin\theta$
Force on Wire	$F = ILB \sin\theta$
Magnetic Flux	$\Phi = BA \cos\theta$
Ampere's Law	$\oint B \cdot dl = \mu_0 I$

Electromagnetism

Concept	Formula
Faraday's Law	`ε = -N(ΔΦ/Δt)`
Inductance	`L = NΦ/I`
Transformer	`Vs/Vp = Ns/Np`
Wave Speed	`c = λf`