Equations to Know

Chapter 29

Magnetic Flux (2 parts) $\Phi_B = \mathbf{B}\bullet\mathbf{A} = \int \mathbf{B}\bullet d\mathbf{A}$

Faraday's Law (2 parts) $\mathscr{E} = \oint \mathbf{E}\bullet d\boldsymbol{\ell} = -N\dfrac{d\Phi_B}{dt}$

EMF Induced in a Moving Conductor in **B** $\mathscr{E} = B\ell v$

EMF Induced in a Generator in **B** (2 parts) $\mathscr{E} = NBA\omega \sin \omega t = \mathscr{E}_0 \sin \omega t$

Transformer Equations (2 parts) $\dfrac{V_S}{V_P} = \dfrac{N_S}{N_P}$ & $\dfrac{I_P}{I_S} = \dfrac{N_S}{N_P}$