

# Formula Sheet

\*  $\vec{F} = q (\vec{E} + \vec{v} \times \vec{B})$  [On a general moving particle]

\*  $\oint \vec{B} \cdot d\vec{l} = \mu_0 I_{enc}$  [Ampere's Law]

\* Electrostatics

$$\vec{\nabla} \cdot \vec{E} = \rho / \epsilon_0$$

$$\vec{\nabla} \times \vec{E} = 0$$

Magneto statics

$$\vec{\nabla} \cdot \vec{B} = 0$$

$$\vec{\nabla} \times \vec{B} = \mu_0 \vec{J}$$

\*  $\vec{A}$  is the magnetic vector potential

$$\vec{B} = \vec{\nabla} \times \vec{A}$$

\* \*

