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Electromagnetic wave in classical Physics: In the free space the Maxwell's equations are

$$\left.\begin{array}{llll} \text{(i)} & \vec{\nabla}\cdot\vec{\mathbf{E}} = 0, & \text{(iii)} & \vec{\nabla}\times\vec{\mathbf{E}} = -\dfrac{\partial\vec{\mathbf{B}}}{\partial t}, \\ \text{(ii)} & \vec{\nabla}\cdot\vec{\mathbf{B}} = 0, & \text{(iv)} & \vec{\nabla}\times\vec{\mathbf{B}} = \mu_0\epsilon_0\dfrac{\partial\vec{\mathbf{E}}}{\partial t}. \end{array}\right\}$$

Applying curl operator to (iii) we get

$$\vec{\nabla}\times(\vec{\nabla}\times\vec{E}) = \vec{\nabla}\cdot(\vec{\nabla}\cdot\vec{E}) - \vec{\nabla}^2\vec{E} = -\mu_0\epsilon_0\frac{\partial^2 E}{\partial t^2}$$ Since $\vec{\nabla}\cdot\vec{E} = 0$ we get

$$\boxed{\vec{\nabla}^2\vec{E} = \mu_0\epsilon_0\frac{\partial^2\vec{E}}{\partial t^2}}$$

Similarly, applying $\vec{\nabla}$ to the equation (iv) we get

$$\boxed{\vec{\nabla}^2 B = \mu_0\epsilon_0\frac{\partial^2\vec{B}}{\partial t^2}}$$

These are the two wave equations for the the electric & the magnetic fields.
Here $c = \dfrac{1}{\sqrt{\mu_0\epsilon_0}}$ is the velocity of the electromagnetic wave - speed of light.