$$\boldsymbol{A} = A^x \boldsymbol{e_x} + A^y \boldsymbol{e_y} + A^z \boldsymbol{e_z}$$

$$\boldsymbol{B} = B^{xy} \boldsymbol{e_x} \wedge \boldsymbol{e_y} + B^{xz} \boldsymbol{e_x} \wedge \boldsymbol{e_z} + B^{yz} \boldsymbol{e_y} \wedge \boldsymbol{e_z}$$

$$\boldsymbol{\nabla} f = \partial_x f \boldsymbol{e_x} + \partial_y f \boldsymbol{e_y} + \partial_z f \boldsymbol{e_z}$$

$$\boldsymbol{\nabla} \cdot \boldsymbol{A} = \partial_x A^x + \partial_y A^y + \partial_z A^z$$

$$\begin{aligned}\boldsymbol{\nabla} \boldsymbol{A} =& \partial_x A^x + \partial_y A^y + \partial_z A^z \\ &+ \left(-\partial_y A^x + \partial_x A^y\right) \boldsymbol{e_x} \wedge \boldsymbol{e_y} + \left(-\partial_z A^x + \partial_x A^z\right) \boldsymbol{e_x} \wedge \boldsymbol{e_z} + \left(-\partial_z A^y + \partial_y A^z\right) \boldsymbol{e_y} \wedge \boldsymbol{e_z}\end{aligned}$$

$$-I(\boldsymbol{\nabla} \wedge \boldsymbol{A}) = \left(-\partial_z A^y + \partial_y A^z\right) \boldsymbol{e_x} + \left(\partial_z A^x - \partial_x A^z\right) \boldsymbol{e_y} + \left(-\partial_y A^x + \partial_x A^y\right) \boldsymbol{e_z}$$

$$\begin{aligned}\boldsymbol{\nabla} \boldsymbol{B} =& \left(-\partial_y B^{xy} - \partial_z B^{xz}\right) \boldsymbol{e_x} + \left(\partial_x B^{xy} - \partial_z B^{yz}\right) \boldsymbol{e_y} + \left(\partial_x B^{xz} + \partial_y B^{yz}\right) \boldsymbol{e_z} \\ &+ \left(\partial_z B^{xy} - \partial_y B^{xz} + \partial_x B^{yz}\right) \boldsymbol{e_x} \wedge \boldsymbol{e_y} \wedge \boldsymbol{e_z}\end{aligned}$$

$$\boldsymbol{\nabla} \wedge \boldsymbol{B} = \left(\partial_z B^{xy} - \partial_y B^{xz} + \partial_x B^{yz}\right) \boldsymbol{e_x} \wedge \boldsymbol{e_y} \wedge \boldsymbol{e_z}$$

$$\boldsymbol{\nabla} \cdot \boldsymbol{B} = \left(-\partial_y B^{xy} - \partial_z B^{xz}\right) \boldsymbol{e_x} + \left(\partial_x B^{xy} - \partial_z B^{yz}\right) \boldsymbol{e_y} + \left(\partial_x B^{xz} + \partial_y B^{yz}\right) \boldsymbol{e_z}$$