



b)

$$|\psi_0\rangle = \left(\frac{|0\rangle + |1\rangle}{\sqrt{2}}\right)_A \otimes \left(\frac{|0\rangle + |1\rangle}{\sqrt{2}}\right)_B \otimes |1\rangle_C \otimes |0, \dots, 0\rangle_{\text{Other}}$$

