2) $\begin{bmatrix} a \\ b \\ c \end{bmatrix} = E^T \begin{bmatrix} x_A \\ y_A \\ 1 \end{bmatrix} = \begin{bmatrix} -t_y \\ t_x \\ t_y x_A - t_x y_A \end{bmatrix}$

$\therefore L_B: -t_y x + t_y y + t_y x_A - t_x y_A = 0.$

3). $e_1 = e_A, \; e_2 = \frac{1}{\sqrt{e_{1x}^2 + e_{1y}^2}} [-e_{1y}, e_{1x}, 0]^T$

$= \left[\frac{-t_y}{\sqrt{t_x^2+t_y^2}}, \frac{t_x}{\sqrt{t_x^2+t_y^2}}, 0 \right]^T$

$e_3 = e_1 \times e_2 = [0, 0, 1]^T$

$H_A = \begin{bmatrix} e_1^T \\ e_2^T \\ e_3^T \end{bmatrix} = \begin{bmatrix} \frac{t_x}{\sqrt{t_x^2+t_y^2}} & \frac{t_y}{\sqrt{t_x^2+t_y^2}} & 0 \\ \frac{-t_y}{\sqrt{t_x^2+t_y^2}} & \frac{t_x}{\sqrt{t_x^2+t_y^2}} & 0 \\ 0 & 0 & 1 \end{bmatrix} = RH_A = H_B.$

Thus, Epipolar rectification is possible.

c) Given $t = [0, 0, t_z]^T$, $R = I$

$E = \begin{bmatrix} 0 & -t_z & 0 \\ t_z & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$

1). From $\begin{cases} E e_B = 0 \\ E^T e_A = 0 \end{cases} \Rightarrow e_A = e_B = [0, 0, 1]^T$

2) $\begin{bmatrix} a \\ b \\ c \end{bmatrix} = E^T \begin{bmatrix} x_A \\ y_A \\ 1 \end{bmatrix} = \begin{bmatrix} t_z y_A \\ -t_z x_A \\ 0 \end{bmatrix}$

$\therefore L_B: t_z y_A x - t_z x_A y = 0 \Rightarrow L_B: y_A \cdot x - x_A \cdot y = 0$