

$$t_B - t_m \geq CTI$$

$$t_2 - t_3 \geq CTI$$

$$\frac{K}{\left(\frac{I_{f3}}{I_{S2}}\right)^{\alpha} - 1} \times TMS_2 - \frac{K}{\left(\frac{I_{f3}}{I_{S3}}\right)^{\alpha} - 1} \times TMS_3 \geq CTI$$

$$K = 0.14 \quad \alpha = 0.02 \quad I_{f3} = 3000 \text{ A}$$

$$I_{S3} = 1.25 \times 80 = 100 \text{ A} \quad I_{S2} = 1.25 (80 + 160) = 300 \text{ A}$$

$$\frac{0.14}{\left(\frac{3000}{300}\right)^{0.02} - 1} \times TMS_2 - \frac{0.14}{\left(\frac{3000}{100}\right)^{0.02} - 1} \times 0.1 \geq 0.5$$

$$\frac{0.14}{0.047} \times TMS_2 - \frac{0.14}{0.07} \times 0.1 \geq 0.5$$

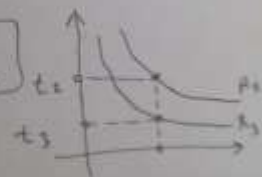
$$2.98 TMS_2 - 0.2 \geq 0.5 \Rightarrow TMS_2 \geq \frac{0.5 + 0.2}{2.98}$$

$$TMS_2 \geq 0.234$$

$$\boxed{TMS_2 = 0.25}$$

$$t_3 = 0.2 \text{ sec}$$

$$t_2 = \frac{0.14}{\left(\frac{3000}{300}\right)^{0.02} - 1} \times 0.25 = 0.754 \text{ sec}$$



حل تمرین هماهنگی رله ها / رحیمی