

$$\textcircled{3} \quad H(s) \approx \frac{50(-s^2 + 33.3333 + 13,333.33)}{s^3 + 185.333s^2 + 12,133.3s + 693,333}$$

$$G_c(s) = \frac{50(-1 + 33.3333(\frac{1}{s}) + 13,333.33(\frac{1}{s^2}))}{1 + 185.333(\frac{1}{s}) + 12,133.3(\frac{1}{s^2}) + 693,333(\frac{1}{s^3})}$$

$$D_1(z) = \frac{T}{z-1}$$

$$D_2(z) = (T^2 z) / (z-1)^2$$

$$D_3(z) = [T^3(z^2 + z)] / [z(z-1)^3]$$

From Table in the
posted textbook

$$G_0(z) = \frac{50(-1 + 33.3333 D_1(z) + 13,333.33 D_2(z))}{1 + 185.333 D_1(z) + 12,133.3 D_2(z) + 693,333 D_3(z)}$$