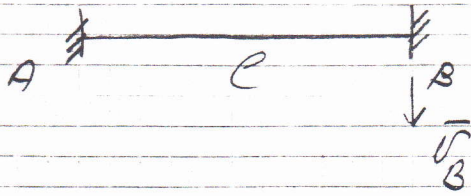


1)



①

$$\frac{d^4 v}{dz^4} = 0$$

$$\frac{d^3 v}{dz^3} = C_1 \quad \frac{d^2 v}{dz^2} = C_1 z + C_2$$

$$\frac{dv}{dz} = \frac{C_1 z^2}{2} + C_2 z + C_3$$

$$v = \frac{C_1 z^3}{6} + \frac{C_2 z^2}{2} + C_3 z + C_4$$

$$v_A = 0 \rightarrow \underline{C_4 = 0}$$

$$\varphi_A = 0 \rightarrow \underline{C_3 = 0}$$

$$\varphi_B = 0 \rightarrow \frac{C_1 l^2}{2} + C_2 l = 0 \quad C_2 = -\frac{C_1 l}{2}$$

$$v_B = \bar{v}_B \rightarrow \frac{C_1 l^3}{6} + \frac{C_2 l^2}{2} = \bar{v}_B$$

$$\frac{C_1 l^3}{6} - \frac{C_1 l^3}{4} = \bar{v}_B = -\frac{C_1 l^3}{12}$$

$$\underline{C_1 = -\frac{12 \bar{v}_B}{l^3}}$$

$$\underline{C_2 = \frac{6 \bar{v}_B}{l^2}}$$

$$\frac{d^3 v}{dz^3} = -\frac{12 \bar{v}_B}{l^3} = -\frac{T}{EI} \quad \underline{T = \frac{12 EI}{l^3} \bar{v}_B} \quad \uparrow \downarrow T > 0$$