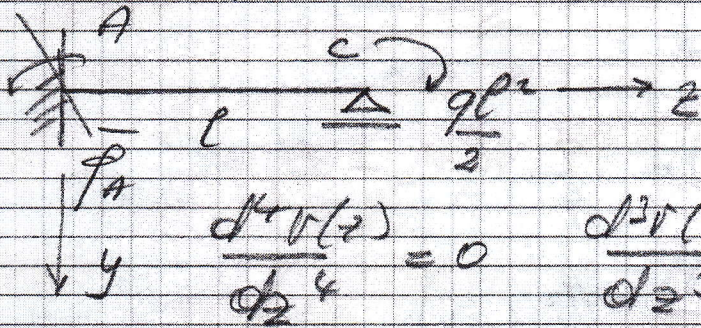


(A) ①



$$\frac{d^2 v(z)}{dz^2} = -\frac{T(z)}{EI} = C_1 z + C_2$$

$$\frac{dv(z)}{dz} = -\phi(z) = \frac{C_1 z^2}{2} + C_2 z + C_3$$

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

$$v_A(z=0) = 0 \rightarrow \underline{C_4 = 0}$$

$$\phi_A(z=0) = \frac{ql^3}{EI} = -C_3 \quad \underline{C_3 = -\frac{ql^3}{EI}}$$

$$v_C(z=l) = 0 = \frac{C_1 l^3}{6} + \frac{C_2 l^2}{2} - \frac{ql^3}{EI}$$

$$M_C(z=l) = -EI(C_1 l + C_2) = -EI C_1 l - EI C_2 = -\frac{ql^2}{2}$$

$$C_2 = \frac{ql^2}{2EI} - C_1 l$$

$$C_1 \frac{l^3}{6} + \frac{ql^4}{4EI} - \frac{ql^3}{2} - \frac{ql^4}{EI} = -C_1 \frac{l^3}{3} - \frac{5ql^4}{4EI} = 0$$

$$\underline{C_1 = -\frac{9ql}{4EI}} \quad \underline{C_2 = \frac{ql^2}{2EI} + \frac{9ql^2}{4EI} = \frac{11ql^2}{4EI}}$$