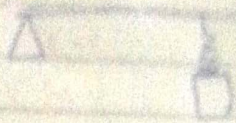

Given data:-

$$F = 20 \times 10^3\ N \quad l = 2m$$

$$I = 5 \times 10^{-7}\ m^4 \quad I = I_0$$

$$K = 1 \times 10^6\ N/m \quad I = I_0$$

Sol:-

$$\therefore K_1 = \frac{2EI}{l^3}$$

$$\therefore K_{eq} = \frac{3K_1 \times K_2}{K_1 + K_2}$$

$$K_2 = \frac{3 \times (210 \times 10^3) \times (5 \times 10^{-7}) \times 3}{(2)^3 \times (1)^2}$$

$$= \frac{945000000}{4}$$

$$K_2 = 236,250,000\ N/m$$

$$K_{eq} = \frac{(1 \times 10^6) \times 236,250,000}{(1 \times 10^6) + 236,250,000}$$

$$K_{eq} = 7.03 \times 10^7\ N/m$$