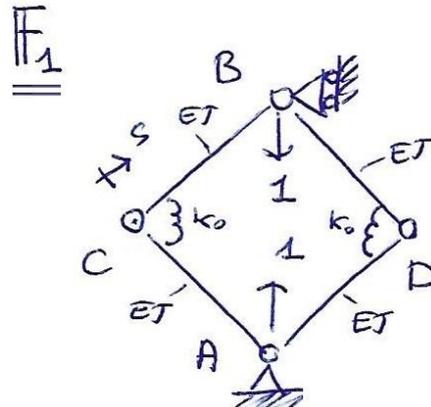
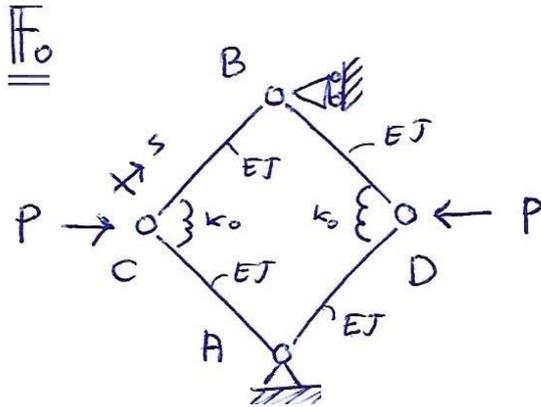


Prova scritta (telematica) del 20 aprile 2021 – Sintesi soluzione



PROBLEMA 1

$$N_{CB} = -P\sqrt{2}/4$$

$$T_{CB} = -P\sqrt{2}/4$$

$$M_{CB} = P(e\sqrt{2}-s)\sqrt{2}/4$$

$$N_{CB} = -\sqrt{2}/4$$

$$T_{CB} = \sqrt{2}/4$$

$$M_{CB} = -(e\sqrt{2}-s)\sqrt{2}/4$$

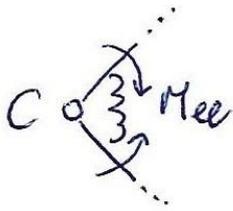
$$M_{12} = M_{120} + X_1 \cdot M_{121} = -2e \cdot \left( \frac{X_1}{EA} - \bar{\epsilon} \right)$$

con:

$$1 \cdot M_{120} + \left( e/2 \cdot \frac{P e/2}{k_0} \right) \cdot 2 = \int_{\substack{AC \\ CB \\ BD \\ DA}} \frac{M_1 M_0}{EJ} = -P \frac{\sqrt{2} e^3}{3EJ}$$

$$1 \cdot M_{121} - \left( e/2 \cdot \frac{e/2}{k_0} \right) \cdot 2 = \int_{\substack{AC \\ CB \\ BD \\ DA}} \frac{M_1^2}{EJ} = \frac{\sqrt{2} e^3}{3EJ}$$

PROBLEMA 2



$$M_{el} = k_0 \frac{\mu_B}{e}$$

$$\frac{N_{AB}}{EA} = \frac{\mu_B}{2e} + \bar{\epsilon}$$

EQ. ROT. :  $M_{el} + \frac{N_{AB}}{2} e = \frac{pe}{2}$

da cui :  $k_0 \frac{\mu_B}{e} + \frac{EA}{2} \left( \frac{\mu_B}{2e} + \bar{\epsilon} \right) e = \frac{pe}{2}$

$$\Rightarrow \mu_B = \frac{P - EA \bar{\epsilon}}{2k_0 + EAe/2} e^2$$

