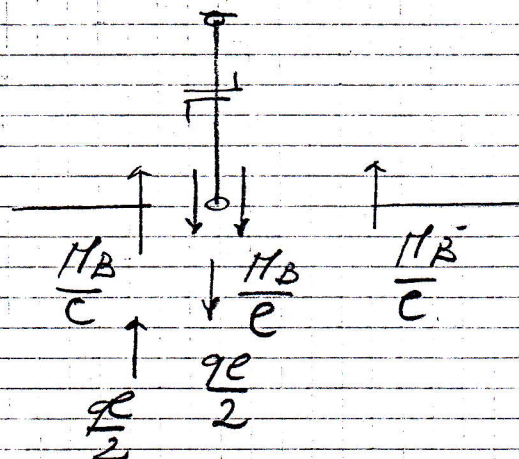
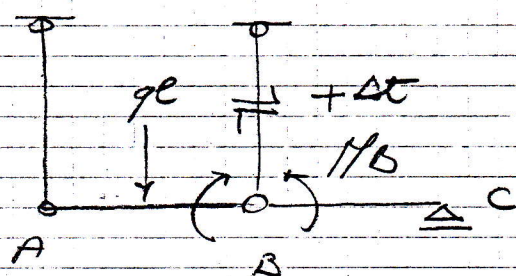
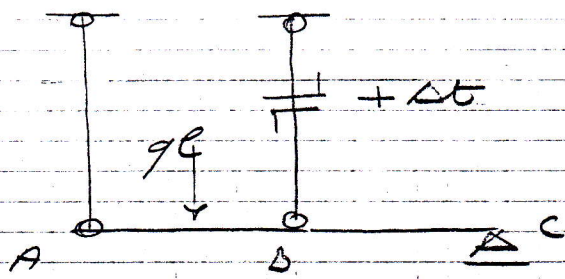


3B)

(16)



$$\varphi_B^S = - \frac{l}{EI} \left(\frac{ql}{2} + \frac{2M_B}{l} \right) \cdot \frac{1}{l} + \frac{ql}{2} \frac{l}{EI} \cdot \frac{1}{l} - \frac{M_B}{l} \frac{l}{EI} \cdot \frac{1}{l}$$

$$- \frac{M_B l}{3EI} + \frac{ql^3}{16EI} - \frac{\alpha \Delta t l}{l} =$$

$$= \varphi_B^D = \frac{\alpha \Delta t l}{l} + \frac{l}{EI} \left(\frac{ql}{2} + \frac{2M_B}{l} \right) \cdot \frac{1}{l} + \frac{M_B l}{3EI}$$

$$\frac{5M_B}{lEI} + \frac{2M_B l}{3EI} = - \frac{ql}{2EI} + \frac{ql}{2EI} + \frac{ql^3}{16EI} - \alpha \Delta t l - \frac{ql}{2EI}$$

$$- \alpha \Delta t l - \frac{ql}{2EI}$$

$$M_B \left(\frac{5}{lEI} + \frac{2l}{3EI} \right) = - \frac{ql}{2EI} + \frac{ql^3}{16EI} - 2\alpha \Delta t l =$$

$$= \frac{ql}{2} \left(\frac{l^2}{8EI} - \frac{1}{EI} \right) - 2\alpha \Delta t l$$

$$M_B = \frac{\frac{ql}{2} \left(\frac{l^2}{8EI} - \frac{1}{EI} \right) - 2\alpha \Delta t l}{\left(\frac{5}{lEI} + \frac{2l}{3EI} \right)}$$

(±)