RESULT FROM MACAULAY METHOD POSTED EARLIER.

$$y = \frac{-304.364 \times 10^{3}}{200 \times 10^{9} \times 29900 \times 10^{-8}} = 5.0896 \times 10^{-3}\ m$$

$$y = -5.089\ mm \quad *$$

USING FORMULA FROM ROY MECH SITE.

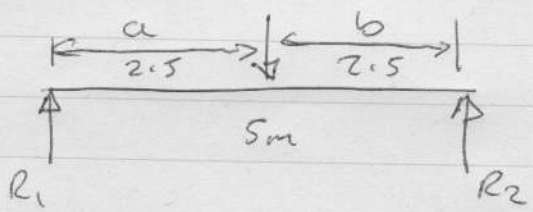
FOR POINT LOADED BEAM

$$\int = \frac{Wab}{EIL} \times \sqrt{\frac{a(L+b)^3}{243}}$$

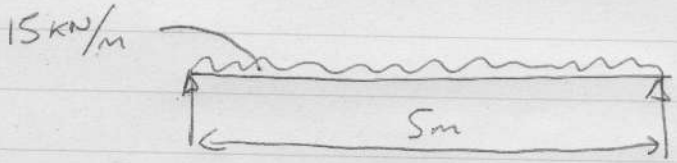
$$= \frac{70000 \times 2.5 \times 2.5}{200 \times 10^{9} \times 29900 \times 10^{-8}} \times \sqrt{\frac{2.5(5+2.5)^3}{243}}$$

$$3.0483 \times 10^{-3}\ m$$

$$\int = 3.0483\ mm$$



FOR UDL LOAD



$$\int = \frac{5 \times 15 \times 10^{3} \times 5^{4}}{384 \times 200 \times 10^{9} \times 29900 \times 10^{-8}}$$

$$\int = 2.0413 \times 10^{-3}\ m \quad \text{OR} \quad 2.0413\ mm \quad *$$

NOW TOTAL DEFLECTION = $2.0413mm + 3.0483mm = 5.0896mm$