$$EI\,y = \frac{Wb}{L}\cdot\frac{x^3}{6} - \frac{W}{6}[x-a]^3 + Ax + B$$

End conditions:

i) $y=0$ when $x=0$ $\quad\therefore B=0$

ii) $y=0$ when $x=L$

$$0 = \frac{WbL^2}{6} - \frac{Wb^3}{6} + AL$$

$$\therefore A = -\frac{WbL}{6} + \frac{Wb^3}{6L}$$

The expressions for slope and deflection become:

$$EI\frac{dy}{dx} = \frac{Wb}{L}\cdot\frac{x^2}{2} - \frac{W}{2}[x-a]^2 - \frac{WbL}{6} + \frac{Wb^3}{6L}$$

$$EIy = \frac{Wb}{L}\cdot\frac{x^3}{6} - \frac{W}{6}[x-a]^3 - \frac{WbL}{6}\cdot x + \frac{Wb^3}{6L}\cdot x$$

When $x=a$

$$EIy = \frac{Wb}{L}\cdot\frac{a^3}{6} - \frac{WbLa}{6} + \frac{Wb^3a}{6L}$$

Noting that $L=(a+b)$

$$EIy = \frac{Wab}{6L}\left(a^2-(a+b)^2+b^2\right) = \frac{Wa^2b^2}{3L}.$$

$$\therefore y = \frac{Wa^2b^2}{3EIL}$$