

Answers to 3C7: Mechanics of Solids (2005-2006)

1. (e) $u = C_2 r + \frac{C_1}{r} + (1 + \nu) \frac{\alpha}{r} \int r \Delta T dr$

3. (a) $D = -\frac{2A}{3}$

4. (b)(i) $W = 2\pi p A$

(b)(ii) $p_c = \frac{4Y}{\pi} \left(\frac{\pi}{4} \ln \frac{2b}{a} - 0.458 \right)$