

Module 4D7 Concrete Structures

List of numerical answers

Q1(a) $N_u = 2782 \text{ kN}$

Q1(b) $M_x = 204.2 \text{ kNm}$, $N = 703 \text{ kN}$

Q1(c) $N = 675 \text{ kN}$, $M_x = 202.7 \text{ kNm}$, $M_y = 11.25 \text{ kNm}$

Q2 (a)(i) $P = 459.6 \text{ kN per metre length}$

Q3 (a)(i) $I_{cr} = 1.147 \times 10^9 \text{ mm}^4$

Q3 (a)(ii) $\delta_{tip} = 5.22 \text{ mm}$

Q4 (c) $\text{NPV Option 1} = \text{£}557.1\text{k}$, $\text{NPV Option 2} = \text{£}471.6\text{k}$