

## 4D10 Structural Steelwork 2013

### Answers:

1. 295.3kNm > 150kNm applied
2. a) 4723kN, 630kNm, 514kNm  
b) 4676kN, 4062kN, 598kNm  
c) 617 kNm
3. a) A,C 3750 kN, B +/-6250kN  
25 MNm at B, 14.07 MNm at 7.5m from A, C  
b) i) in bottom flange at B, T-section can carry 596 kN (< 913kN required)  
ii) in bottom flange at B. Strength 0.24 < 1. Stability 0.76 < 1  
iii) in lowest web at B. Strength 0.32 < 1. Stability 1.19 > 1.
4. a) 70 kNm strength  
b) 92kN, M36 grade 4.6