List of Numerical Answers – 3D3 – 2013/14

1 (a) – 305 X 305 X 118 UC

2 (a) – b/h ≤ 0.164

(b) – About 5.2m

4 (i) 33% for ± 45°, 50% for 0° and 17% for 90°

(ii) G_{xy} = 7400 MPa, v_{xy} = 0.25, E_y = 17000 MPa

(iii) t_{min} = 2.96mm (x-direction) and t_{min} = 1.93mm (y-direction). Therefore a minimum thickness of 3mm (equivalent to 24 layers) is required. Layers should be symmetric and balanced (12 plies at 0°, 4 plies at 90° and 8 plies at ±45°