

ENGINEERING TRIPOS PART IIB 2009

MODULE 4C2: DESIGNING WITH COMPOSITES

NUMERICAL ANSWERS

- Q1. (a) $E = 102.9$ GPa. At angle of 69.8 degrees, $E = 6.87$ GPa.
(c) (i) Axial $E = 51.2$ GPa, Transverse $E = 8.2$ GPa, for cross-ply $E = 29.7$ GPa
(c) (ii) strain = 0.0034 .
- Q3. (b) (ii) choose CFRP (iii) 1.1 mm for 0 plies, 0.91 mm for $+45$ plies, 0.2 mm for 90 plies.
- Q4. (b) 146 MPa. (c) (ii) 570 MPa.

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