

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Engineering Materials

Subject Code : CCN2249

Session : Semester Two, 2017/18

Numerical Answers

Question B1

- (a) 443.038MPa
- (b) 0.004, 221.519GPa
- (c) 632.9114MPa
- (d) 32%
- (e) 973.7079MPa

Question B2

- (a)(i) 582.692MPa
- (b) 250MPa
- (c) 509.296MPa, -509.296MPa, 0MPa, -1

Question B3

- (b) 2849.291MPa

Question B4

- (a)(i) $1.2523 \times 10^{-7} \text{ cm}$
- (a)(ii) 495 atoms
- (b)(i) 11.25 min/cm^2
- (b)(ii) 11.4286 cm

Question B5

- (c) 0.1543mm
- (d) 0.5345mm
- (g) $3.5016 \text{ atoms/mm}^2$

Question B6

- (b) 276g, 124g
- (c) 43.56%, 56.44%
- (d) 67.5%, 32.5%
- (e) 270g, 130g
- (f) 151.2g, 118.8g, 124.8g, 5.2g