

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Introduction to Flight Performance **Subject Code** : CCN2299

Session : Semester One, 2016/17

Numerical Answers

Question B1

- (i) -37°C
- (ii) 0.527 kg/m^3

Question B2

Aspect ratio = 7.96
Wing loading = 6476.19 N/m^2

Question B4

- (i) $C_L = 0.3885$
- (ii) $V = 53.86\text{ m/s}$

Question C1

- (b) $F = -8081.63\text{ N}$
- (c) $V = 85.10\text{ m/s}$

Question C2

- (a)(i) $T = 8536.08\text{ N}$
- (a)(ii) $T = 34.14\text{ kN}$
- (a)(iii) $P = 10176.92\text{ kW}$

Question C3

- (a)(i) $\alpha = 63.33^{\circ}$
- (a)(ii) $L = 24506.16\text{ N}$
- (a)(iii) $n = 2.23$

Question C4

- (d)(i) $D = 8843.69\text{ N}$
- (d)(ii) Rate of climb = 65.2 m/s
- (d)(iii) $\alpha = 28.04^{\circ}$

