

THE HONG KONG POLYTECHNIC UNIVERSITY  
HONG KONG COMMUNITY COLLEGE

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**Subject Title** : Aircraft Electricity and Electronics    **Subject Code** : CCN2288

**Session** : Semester Two, 2016/17

**Numerical Answers**

**Question A1**

$$V_L = 10 \text{ V}$$

**Question A2**

$$I = 3 \text{ A}$$

**Question A3**

- (a)  $Z_1 = 2.77 + j1.85 \Omega$
- (b)  $Z_2 = 2.77 - j1.85 \Omega$
- (c)  $R_2 = 2.77 \Omega$  and  $C_2 = 216.2 \mu\text{F}$

**Question A5**

- (c) 2.4 kHz

**Question B1**

- (c)(i) 8000 rpm
- (c)(ii) 187.5 Nm
- (c)(iii) 110.3 V
- (c)(iv)  $P = 34 \text{ kW}$ ,  $Q = -21.07 \text{ kVAR}$

**Question B2**

- (a)(ii) 10 V and 1 A
- (a)(iii) 10 W
- (b)(i) 20
- (b)(ii) 10 W
- (b)(iii) 11.5  $\Omega$

**Question B3**

- (a)(iii) 1
- (b) 6 dB
- (c)  $V_1 = 3.6 \text{ V}$ ,  $V_2 = 1.4 \text{ V}$ ,  $V_0 = 5 \text{ V}$