

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

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

Session : Semester Two, 2015/16

Numerical Answers

Question A1

(b) $I = 3 \text{ A}$

Question A2

$I = 2 \text{ A}$

Question A3

(a) $i_L(0^-) = 4.8 \text{ A}$, $i_L(0^+) = 4.8 \text{ A}$

(b) $\tau = 5 \mu\text{s}$

Question A4

(a) $v = 4\angle -90^\circ \text{ V}$ and $v(t) = 4 \cos(6t - 90^\circ) \text{ V}$

Question A5

(b)(i) $P_{T(app)} = 9660 \text{ VA}$

(b)(ii) 0 A

Question B1

(a) $P_{app} = 109 \text{ VA}$

(b) Real Power = 36.7 W , Reactive Power = 103 VAR

(c) $X_C = 77.9 \Omega$

(d) $C = 34.1 \mu\text{F}$

Question B2

(a)(i) $I_Z = 5 \text{ mA}$

(a)(ii) 25 mW

(b)(ii) $R_b = 7167 \Omega$

(b)(iii) 70.2 mW

Question B3

$$(b) V_1 = 1.4 \text{ V}, V_2 = 0.7 \text{ V}, V_0 = -4.2 \text{ V}$$

Question B4

$$(b)(ii) F = A \cdot B + B \cdot C + A \cdot C$$