

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Foundation Chemistry

Subject Code : CCN1107

Session : Semester One, 2018/19

Numerical Answers

Question B1

- (a) Total no. of molecules = 1.51×10^{24}
- (c) Concentration = 0.623 M
- (d) Mass of Cl_2 required = 2.4 g

Question B2

- (b) Mass of O_2 required = 74.0 g
- (c) Energy released = 1284 kJ

Question B3

- (a) pH = 11.89

Question B4

- (c) Enthalpy change = -178.49 kJ
- (d) $K = 1.1$

Question B5

- (b) No. of electrons = 18
- (c) Mass % of Cl = 34.05 %

Question C1

- (b)(i) $K_c = 4.26 \times 10^{-4}$

Question C2

- (a)(i) % by mass of Fe = 71.91 %
- (a)(ii) Mass of Fe = 15.5 g