

THE HONG KONG POLYTECHNIC UNIVERSITY  
HONG KONG COMMUNITY COLLEGE

**Subject Title** : Fundamentals of Logistics and  
Supply Chain Management

**Subject Code** : CCN2117

**Session** : Semester One, 2017/18

**Numerical Answers**

**Question B1**

(a) Annual demand:  $100 \times 2 = 200$  units

$$\begin{aligned}EOQ &= \sqrt{\frac{2DS}{H}} \\ &= \sqrt{\frac{2 \times 200 \times 60}{800 \times 20\%}} \\ &= \sqrt{\frac{24,000}{160}} \\ &= \sqrt{150} \\ &= \mathbf{12 \text{ units (Q)}}\end{aligned}$$

(b)  $R = \bar{d}L$   
 $= 200 / 365 \times 6$   
 $= \mathbf{3 \text{ units}}$

(c)  $D/Q$   
 $= 200 / 12$   
Number of reorders = **17 orders**

(d)  $Q/2$   
 $= 12 / 2$   
Number of average inventory level = **6 orders**

$$(e) \quad TC = DC + \frac{D}{Q}S + \frac{Q}{2}H$$

$$(200 \times \$600) + [(200/12) \times \$60] + [(12/2) \times \$160]$$

$$=\$121,960$$