

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Introduction to Inventory and
Warehousing Management

Subject Code : CCN2127

Session : Semester One, 2016/17

Numerical Answers

Question B3

(a) Calculate the EOQ

$$EOQ = \sqrt{\frac{2DS}{H}}$$
$$= \sqrt{\frac{2 \times 1,000 \times 12 \times 20}{10}}$$

$$EOQ = 219 \text{ units}$$

(b) Calculate the Reorder Point

$$R = \bar{d}L$$

$$12,000 / 300 \times 7 = 280 \text{ units}$$

(c) How many times per year does Yellow Food and Beverage Company reorder?

$$D/Q$$

$$= 12,000 / 219$$

$$\text{Number of reorders} = 55 \text{ orders / year}$$

(d) What is the Total Annual Cost (TAC)?

Total annual cost TC: $\frac{D}{Q}S + \frac{Q}{2}H + DC$

EOQ= 219 sausages/order: $[(12,000/219) \times \$20] + [(219/2) \times \$10] + (\$30 \times 12,000)$
 $= 1,095.89 + 1,095 + 360,000$
 $= \$362,191$

(e) What extra costs does Yellow Food and Beverage Company incur?

EOQ= 2,000 sausages/order: $[(12,000/2,000) \times \$20] + [(2,000/2) \times \$10] + (\$30 \times 12,000)$
 $= 120 + 10,000 + 360,000$
 $= \$370,120$

The difference of \$7,929 is significant