

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Fundamentals of Operations Management

Subject Code : CCN2283

Session : Semester One, 2017/18

Numerical Answers

Question B1

- (a) $\sqrt{\frac{2 \times 62,500 \times 320}{11.5(1 - 250/1650)}} = 2025$ cases.
(b) There will be $62,500 / 2025 = 31$ runs per year.

Question B2

- (a) $0.5(15) + 0.3(16) + 0.2(12) = 15$
(b) $(15 + 16 + 12 + 15)/4 = 15$
(c) $18 + 0.7(15-18) = 16$
(d) $F_{\text{July}} = 19 + 0.6(15-19) = 17$
 $T_{\text{July}} = 1 + 0.9(17-19) = -1$
 $FIT_{\text{July}} = 17 + (-1) = 16$

Question B3

$$\begin{aligned} x\text{-coordinate} &= (30)(100) + (20)(400) + (55)(150) + (20)(250) / (100 + 400 + 150 + 250) \\ &= 27 \\ y\text{-coordinate} &= (40)(100) + (15)(400) + (60)(150) + (70)(250) / (100 + 400 + 150 + 250) \\ &= 41 \end{aligned}$$

Question B4

