

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : Operations Research for Business **Subject Code** : CCN3139

Session : Semester Two, 2015/16

Numerical Answers

Question A1

(a) $f_1 = 80$ and $f_2 = 30$

(b) $a = 0.6$, $b = 0.2$, $c = 0.2$, $d = 0.4$ and $e = -0.2$

Question A2

(b) $x_1 = 20$, $x_2 = 0$ and $x_3 = 7.5$.

Question A3

(a) $X_1 = 15$ and $X_2 = 7.5$ with optimal value is 82.5

(b) range is 30 to 63.33

Question A4

(b) 0.5

Question A5

(b) 63

Question B1

(b) \$1000

Question B3

(a)

Activity	t	ES	EF	LS	LF	slack
A	12.33	0.00	12.33	0.00	12.33	0.00
B	10.00	0.00	10.00	1.17	11.17	1.17
C	12.50	12.33	24.83	12.33	24.83	0.00
D	14.50	10.00	24.50	11.17	25.67	1.17
E	5.00	10.00	15.00	29.17	34.17	19.17
F	8.00	12.33	20.33	35.50	43.50	23.17
G	9.33	24.83	34.17	24.83	34.17	0.00
H	8.50	24.50	33.00	25.67	34.17	1.17
I	7.50	12.33	19.83	36.00	43.50	23.67
J	9.33	34.17	43.50	34.17	43.50	0.00
K	11.67	43.50	55.17	43.50	55.17	0.00

(c) 55.17 with standard deviation is 2.65

(d) 57.50

Question B4

(c) 1020