銘傳大學 100 學年度研究所碩士班招生考試

企業管理學系碩士班（乙組）

第三節

生產與作業管理試題

請詳細回答所有問題。計算題請列出過程，否則不與計分。

1. 請列出三種製程品管中常用的控制圖（control charts），並解釋這些圖的使用方法及所提供的資訊 （10%）

2. 存貨控制中為何需要安全存貨？(10%) 如果你必須減少安全存貨，你會怎麼做？(10%)

3. 請解釋下列名詞：(5% each)
    A. MRP
    B. BOM
    C. MPS
    D. Kanban
    E. QFD

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4. 請說明 6 Sigma Management 的內容及實施的方法 (10%)

5. A project involves the following activities, which are shown in the following table.

Activity	Completion time (days)	Predecessors
A	3.0	none
B	2.0	A
C	8.0	none
D	6.0	B, C
E	4.0	C
F	5.0	D, E
G	1.0	D, E
H	5.0	F
I	6.0	F, G

    A. What is the critical path? (5%)
    B. How many days will it take to complete the overall project if activity G did not start until day 16, and actually takes 5 days to complete?(5%)
    C. What is the latest time that activity B can start and not delay the overall project? (5%)

6. A company uses item 2456 at a very stable rate, averaging 50,000 pounds per year. The ordering cost is $30.   The monthly inventory holding cost for item 2456 is 1.6667 percent of its unit cost. Assume that item 2456 is needed at a constant rate throughout the year, and that it takes 7 days for an order to arrive at the company.

（第二頁共二頁）（限用答案本作答）　　　　☑可使用計算機 ☐不可使用計算機

There are 250 working days in a year.

Order quantity	Unit price ($/pound)
Less than 2500 pounds	0.82
2500-4999 pounds	0.81
>= 5000 pounds	0.80

  A.　What is the best order quantity? (5%)

  B.　What is the minimum total annual cost for item 2456? (5%)

7. Erikson Vision, Inc. manufactures color PC monitors.　Semi-annual (半年) sales for these machines for the past 3 years are shown below.

t	Year	Time period	Sales (units)
1	2008	1st-half	800
2		2nd-half	1200
3	2009	1st-half	1100
4		2nd-half	1400
5	2010	1st-half	1200
6		2nd-half	1700

  A.　Using exponential smoothing, with $\alpha = 0.6$, what is the forecast of sales for the second half of 2009? ($F_t = F_{t-1} + \alpha (A_{t-1} - F_{t-1})$) (5%)

  B.　Using a **three** period weighted moving average with two of the weights given by 0.7 and 0.2, what is the forecast for the second half of 2011? (5%)

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