

1. Berry Computer is considering moving some of its operations overseas in order to reduce labor costs. In the United States, its main circuit board costs Berry \$75 per unit to produce, while overseas it costs only \$65 to produce. Holding costs are based on a 20 percent annual interest rate, and the demand has been a fairly steady 200 units per week. Assume that setup costs are \$200 both locally and overseas. Production lead times are one month locally and six months overseas.

- a. Determine the average annual costs of production, holding, and setup at each location, assuming that an optimal solution is employed in each case. Based on these results only, which location is preferable? (10 points)
- b. Determine the value of the pipeline inventory in each case. (The pipeline inventory is the inventory on order.) Does comparison of the pipeline inventories alter the conclusion reached in part (a)? (10 points)

$$R = \bar{D}_2 + B$$

$$T = \bar{D}_2 + p + B$$

- c. Might considerations other than cost favor local over overseas production? (5 points)

2. Jane Reed bakes breads and cakes in her home for parties and other affairs on a contract basis. Jane has only one oven for baking. One particular Monday morning she finds that she has agreed to complete five jobs for that day. Her husband John will make the deliveries, which require about 15 minutes each. Suppose that she begins baking at 8:00 A.M.

Job	Time Required	Promised Time
1	1.2 hr.	11:30 AM
2	40 min.	10:00 AM
3	2.2 hr.	11:00 AM
4	30 min.	1:00 PM
5	3.1 hr.	12:00 noon
6	25 min.	2:00 PM

Determine the sequence in which she should perform the jobs in order to minimize

- a. Mean flow time (8 points)
- b. Number of tardy jobs (8 points)
- c. Maximum lateness (9 points)

- 3. (15%) 作業管理的目的一般包括成本、品質、彈性、交期等
 - (a) 請說明彈性的意義與內涵。
 - (b) 以彈性為目標時會不會使作業成本增加，犧牲成本的目標？為什麼？請詳細說明。

- 4. (15%) 生產與作業設備佈置(Layout)的方式有哪些？各種佈置的方式其優點如何？彈性製造系統(FMS)的佈置方式有什麼特點？請詳細說明。

- 5. (20%) Deming 認為品質管理的目標在降低變異，請問變異有哪兩種？其意義如何？如何降低這兩種變異？請詳細說明。

試題請隨卷繳回