

大葉大學九十一學年度轉學招生考試試題紙

系 別	日\ 第二部	年級	考 試 科 目 (中 文 名 稱)	考試日期	節次	備註
工業工程系		三	工業工程概論	7月23日		准帶計算機

註：考生可否攜帶計算機或其他資料作答，請在備註欄註明（如未註明，一律不准攜帶）

- 1、說明學習曲線(learning curve)公式 $Z_u = Ku^n$ 的意義。設 s 是學習曲線的學習率，即當第一件物品需要 100 小時，則第二件物品僅需 $100s$ 小時。則 s 與 n 的關係為何（請詳細說明其推導過程）？ (40 points)
- 2、 Assume that a batch of 50 throttle assemblies defines one output unit and that 36.48 factory labor hours is based on the 16th output unit. What was the number of factory labor hours required for the first batch of 50 throttle assemblies, and what is your estimate of the labor hours needed for the 100th output units (assuming a 90% learning curve, i.e., $s=0.9$) ? (30 points)
- 3、 Using the Harris model, determine the EOQ for the following data:
 A (annual quantity purchased)=4,500 units, H(annual unit holding cost)=\$2, P(cost of placing an order)=\$20, M(unit cost of purchased material)=\$10, what is the optimum number of purchase per year, N_0 ? What is the optimum total annual cost (including the material cost)?
 Suppose that there are 300 days in a year and the lead time is 5 days, then what is the reordering point in the inventory model? (30 points)