

國立勤益技術學院九十五學年度研究所一般招生筆試試題卷

所別：生產系統工程與管理研究所

組別：甲

科目：生產管理

准考證號碼：□□□□□□□□ (考生自填)

考生注意事項：

一、考試時間 100 分鐘。

二、

三、

試題一：〈 20 分〉

勤益傢俱製造公司進行椅子生產集體規劃(Aggregate Planning)，現欲完成主排程 (Master Schedule)，已知四月及五月各週之預測需求數與已承諾訂單數如下表所列，今知生產批量為 800 張，請完成填入預計淨存貨、預計存貨、MPS(Master Production Schedule)、與 ATP (Available To Promise)(往前看)各欄位資料？

	四 月				五 月			
	1	2	3	4	5	6	7	8
期初存貨 = 1000								
預測需求數	350	450	500	400	550	600	600	600
已承諾訂單數	400	320	250	250	150	150	0	0
預計淨存貨								
預計存貨								
MPS								
ATP(往前看)								

試題二：〈 20 分〉

勤益傢俱製造公司椅子製造現場，每年白身加工機具使用約 900 箱液體潤滑油，已知每次採購成本為 \$ 300，持有保管成本為 \$ 45 箱/年，每箱採購價目折扣表如下；試求每次採購最佳批量為多少箱？

10 ~ 79 箱 > \$ 200 ; 80 ~ 149 箱 > \$ 180

150 ~ 219 箱 > \$ 160 ; 220 箱 ~ > \$ 140

試題三：〈 15 分〉

Eli Goldratt developed a scheduling approach, theory of constraint (TOC). He reasoned the output of the system was limited by the output of the bottleneck operation(s). The idle time of non-bottleneck operations was not a factor in overall productivity of the system, as long as the bottleneck operations were used effectively. Therefore, he used a *drum-buffer-rope* conceptualization to manage the system. Explain how the “*drum-buffer-rope*” does work? (15 points)

試題四：〈 15 分〉

The Pinstar software Co. wants to schedule five new projects efficiently. Below is a detail table of the projects. Sequence the jobs using shortest processing time (SPT), and earliest due date (EDD) rules. Provide your recommendation as to which rule is better by examining the total tardiness, number of job tardy, and mean flow time to measure the rule’s performance. (15 points)

Project	Estimated Processing	
	Time (days)	Due Date
A	12	18
B	6	10
C	4	7
D	5	12
E	8	30

試題五：〈 10 分〉

Below is the frequency of breakdown of a machine per month. Repairs cost an average of \$1,100. A service firm is willing to provide preventive maintenance under either of two options. The first option is \$1,800 and covers all necessary repairs, and the second option is \$1,350 and covers any repairs after the first one. Determine the expected costs that pay for all repairs, the option 1 and option 2 services. Should the manager adopt preventive maintenance service? If yes, which option would have the lowest expected cost? (10 points)

# of breakdowns/Month	0	1	2	3	4
Probability of Occurrence	0.2	0.3	0.3	0.1	0.1

試題六：〈 10 分〉

品質成本有哪 4 項？其關係為何？如何降低其總成本繪圖說明之？
答：

試題七：〈 10 分〉

何謂品質機能展開 QFD？請簡單繪製品質屋？
答：