

## 國立台灣科技大學九十八學年度碩士班招生試題

系所組別：工業管理系碩士班乙組

科 目：生產管理

(總分為 100 分)

## 1. 解釋名詞及簡答題：每題 3 分，共 30 分

- (1) ATP (available to promise)
- (2) VMI (vendor managed inventory)
- (3) FMEA (failure mode and effect analysis)
- (4) 簡述何謂雙卡看板系統 (2-card kanban system) ?
- (5) Yield management
- (6) Finite and infinite loading
- (7) PLM (Product Life-Cycle Management)
- (8) Mass customization
- (9) 何謂生產線平衡(line balancing) ? 那些狀況需要這種技術 ?
- (10) 何謂 AON (Activity-on-Node) 與 AOA (Activity-on-Arrow) ? 兩者有何差別 ?

2. 申論題：一般而言存貨生產(MTS)企業需直接面對市場，訂單生產(MTO)企業只要面對直接顧客，(1)請問那些產品適合 MTO，那些適合 MTS ? (2)請由生管角度探討兩種生產方式的管理問題有何不同 ? (3)假定有一個企業原本只採 MTO 生產方式，現因某些產品需採 MTS 方式，請問需增加或強化那些規劃與管控功能 ? (20 分)

3. 計算題：A service garage uses 120 boxes of cleaning cloths a year. The boxes cost \$6 each. Ordering cost is \$3 and holding cost is 10 percent of purchase cost per unit on an annual basis. (20 分)

Determine:

- (1) The economic order quantity (10 分)
- (2) The total cost of carrying the cloths (excluding purchase price) (5 分)
- (3) The average inventory (5 分)



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4. 計算題：As part of a major plant renovation project, the industrial engineering department has been asked to balance a revised assembly operation to achieve an output of 240 units per eight-hour day. Task times and precedence relationships are as follows: (30 分)

Task	Duration (minutes)	Precedes Task
a	0.2	b
b	0.4	c
c	0.2	f
d	0.4	e
e	1.2	g
f	1.2	g
g	1.0	end

Do each of the following:

- (1)(5分) Draw the precedence diagram.
- (2)(5分) Determine the calculated cycle time.
- (3)(5分) Determine the minimum number of stations needed.
- (4)(10分) Assign tasks to workstations on the basis of greatest number of following tasks. Use longest processing time as a tiebreaker. If ties still exist, assume indifference in choice.
- (5)(5分) Compute the percentage of idle time for the assignment in (4).

