

國立勤益技術學院九十六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、請於答案卷上作答。

試題一：〈10 分〉

何謂 BOM？在生產管理上有哪三項功能？

試題二：〈總計 20 分〉

Three production systems have the following cost structure

production system	fixed cost per Year	Variable Cost per Unit
A	100,000	2
B	50,000	4
C	30,000	5

- (1) Determine the total costs of each System for a volume of 21,000 unites per year and what is the system for this production volume ?
- (2) Graphically represent the annual costs of three systems (Y axis) vs. the annual volume (X axis)

試題三：〈10 分〉

何謂精簡生產系統 (Lean Production systems) ？其優點為何？

試題四：〈10 分〉

「產品生命週期」有哪 4 段期間？「浴缸理論」有哪 3 段期間？兩者間之關係，請繪圖描述之？

試題五：〈10 分〉

Briefly discuss how the Mean Absolute Deviation (MAD) can be used to compare different forecasting methods.

試題六：〈10 分〉

Briefly discuss the benefits of "*postponement*".

試題七：〈總計 20 分〉

The final assembly of a specified manufacturer requires a total of 12 tasks. The job times and precedence relationship for this particular assembly is given in the following table. Suppose that the company is willing to hire enough workers to produce one assembled machine every 16 minutes.

- (1) Determine positional weights for each of the tasks. (5%)
- (2) What is the minimum number of stations that could be achieved? (5%)
- (3) Find the balance obtained using the ranked positional weight technique. (5%)
- (4) What is the efficiency of the balanced obtained? (5%)

Task	Immediate Predecessors	Time
1	—	12
2	1	6
3	2	6
4	2	2
5	2	2
6	2	12
7	3, 4	7
8	7	5
9	5	1
10	9, 6	4
11	8, 10	6
12	11	7

試題八：〈10 分〉

A furniture company uses exponential smoothing with trend to forecast monthly sales of its special mattress. At the end of May the company wants to forecast sales for June. The trend through April has been 10 additional boxes sold per month. Average sales have been 60 boxes per month. The demand for May was 68 boxes. The company uses $\alpha = 0.1$ and $\beta = 0.2$. Make a forecast including trend for the month of June.