501202

國立臺灣科技大學106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. (20%) Given the following data

Station	Station Time (min)
1	4.2
2	4.7
3	4.9
4	4.8

The Cycle time of the station is 5.1 min

(1) Compute the station idle time and the total idle time per cycle. (10%)

(2) Compute the percentage idle time. (10%)

2. (10%) Given the forecast errors of -5, -10 and +15, compute the MAD.

3. (20%) Determine the productivity of the following cases.

(1) Four workers installed 720 square yards of carpeting in eight hours. (10%)

(2) A machine produced 68 usable pieces in two hours. (10%)

4. (20%) Suppose that a restaurant applies the Kanban system for operations management.

(1) Define the types of Kanban, Kanban content information and quantity. (10%)

(2) Depict a value stream map. (10%)

5. (20%) There are 6 jobs as follows. Each job has two operations to be done on machines 1 and 2 in sequence.

(1) Determine the optimum processing sequence for the jobs. (10%)

(2) Chart total throughput time. (5%)

(3) Justify your answer and prove that it is optimal. (5%)

	Processing Time (minutes)	
Job	Machine 1	Machine 2
1	20	11
2	10	23
3	8	9
4	15	7
5	3	6
6	19	5

6. (10%) Define the term of Industry 4.0. Describe the meaning of four Industrial revolutions in details.