Instructions

- There are 5 questions. The total score is 100.
- Write your own answer into the exam paper.
- All materials, books, calculators are allowed.

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Name...Code..............

Question	Full Scores	Assigned scores
1	15	
2	20	
3	25	
4	20	
5	20	
รวม	**100**	

ทุจริตในการสอบ โทษขั้นต่ำ คือ พักการเรียน 1 ภาคการศึกษา และปรับตกในรายวิชาที่ทุจริต

GOOD LUCK
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1. It is the statement "Supply Chain Management (SCM) significantly affects on the competitiveness, in particular for the strategic issues: (1) cost reduction, (2) rapid customer response and (3) product differentiation".

   Explain- how an effective SCM can approach these 3 strategic issues?

(15 points)

CODE..........................
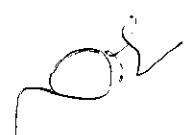
2. Answer the following questions. (20 points)

2.1 What kinds of questions that management has to pay attention to the logistics network configuration problem?

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2.2 What are the components including in logistics network?

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2.3 What is the main objective of logistics network configuration?

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3. Inventory and ASRS systems. (25 points)

3.1 Explain the following questions;   (3 points for each)

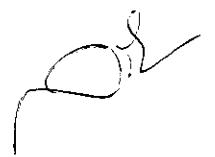- how logistics affect to the factory inventory management?

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- what is the ASRS system and how can it solve the factory inventory management?

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- what are push and pull inventory systems? Give some examples of each.

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3.2 From Table 1, there are 12 items to storage. If the factory applies the A-B-C classification system to the inventory management, which items should be classified to class A, B, or C? Show your method to classify these items. (6 points)

Table 1

Item	Usage	Unit Cost
1	2,500	360
2	1,000	70
3	1,900	500
4	1,500	100
5	2,900	100
6	1,000	915
7	200	200
8	1,000	4,000
9	8,000	10
10	9,000	2
11	500	200
12	400	300

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3.3 A local distributor for a national tire company expects to sell approximately 9,600 steel-belted radial tires of a certain size and tread design next year. Annual carrying cost is $16 per tire, and ordering cost is $75. The distributor operates 288 days a year.

- What is the EOQ? (4 points)
- How many times per year does the store reorder? (2 points)
- What is the length of an order cycle? (2 points)
- What is the total annual cost if the EOQ is ordered? (2 points)

4. Location Planning. **(20 points)**

4.1 Briefly describe each of these techniques that are used to evaluate location decisions:

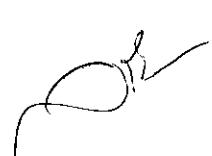Cost-profit-volume analysis (2 points)

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Transportation method (2 points)

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Factor rating (2 points)

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Center of gravity method (2 points)

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4.2 A farm implements dealer is seeking a fourth warehouse location to complement three existing warehouses. There are three potential locations: Charlotte, Atlanta, and Columbia. Charlotte would involve a fixed cost of $4,000 per month and a variable cost of $4 per unit; Atlanta would involve a fixed cost of $3,500 per month and a variable cost of $5 per unit; and Columbia would involve a fixed cost of $5,000 per month and a variable cost of $6 per unit. Use of the Charlotte location would increase system transportation cost by $19,000 per month, Atlanta by $22,000 per month, and Columbia by $18,000 per month. Which location would result in the lowest total cost to handle 800 units per month? (6 points)

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4.3 From Table 2, Fill Max or Min in front of each factor, and determine which location has the highest factor rating? (6 points)

Table 2

Factor	Weight	Location			
		A	B		
..... Labor cost	.50	20	40		
..... Material cost	.30	10	30		
..... Supplier service base	.20	50	10		
Total	1.00				

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5. Transportation and Material Handling Systems (**20 points**)

    5.1 How many types of basic transportation modes? Explain and give some examples of manufacturing that appropriate for each mode. (10 points)

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5.2 There are 2 warehouses to distribute the products to the markets. The warehouse 1 and 2 can supply 850 and 500 units pre week, respectively. There are 3 markets; A, B, and C. The demands of market A, B, and C are 400, 600, and 350 units per week, respectively. Transportation costs for warehouse 1 to market A, B, and C are $6, $8, and $7 per unit, respectively; for warehouse 2 to market A, B, and C are $10, $6, and $4 per unit, respectively. How can you distribute the products from the warehouses to the markets that minimize the transportation costs? And how much its transportation costs are? (10 points)