

系所組別： 工業與資訊管理學系丙組

考試科目： 生產與作業管理

考試日期： 0308，節次： 2

※ 考生請注意：本試題 可 不可 使用計算機

壹

- 1-1 (10%) Generally, there are four competitive priorities for measuring the operations strategy: low-cost, consistent quality, delivery speed, and volume flexibility. Please give an example of operations to show how you would measure these competitive priorities.
- 1-2 (8%) What are the differences between PERT and CPM as far as using project scheduling tools concerned.
- 1-3 (12%) How would you choose the four process types: job process, batch process, line process, and continuous flow process if product design and process characteristics are the major factors to be considered?
- 1-4 (12%) What are the three major probability distributions used in popular Statistical Process Control Charts? In addition, please show what SPC charts are using these distributions (at least two SPC charts for one distribution).
- 1-5 (8%) Please list and explain at least four characteristics of a lean system.

貳

- 2-1 (15%) Compare efficient versus responsive supply chains in terms of demand, competitive priorities, new-service/product introduction, contribution margins, and product variety.
- 2-2 (6%) X corporation has five distribution centers located at the location coordinates given as follows. The demand at each center is also given.

DC	Coordinates	Demand
A	(2,4)	10
B	(6,2)	15
C	(4,10)	25
D	(13,4)	30
E	(10,5)	20

What is the total load-distance score for the two plants if Plant 1 is located at the center of gravity serving distribution centers A, B, and C, and Plant 2 is located at the center of gravity serving D and E? (Assume rectilinear distance.)

(背面仍有題目,請繼續作答)

系所組別： 工業與資訊管理學系丙組

考試科目： 生產與作業管理

考試日期： 0308 · 節次： 2

※ 考生請注意：本試題 可 不可 使用計算機

2-3 (17%) A store has collected the following information on one of its products:

Demand = 4,500 units/year

Standard deviation of weekly demand = 12 units

Ordering costs = \$40/order

Holding costs = \$3/unit/year

Cycle-service level = 90% (z for 90% = 1.28)

Lead-time = 2 weeks

Number of weeks per year = 52 weeks

- (1) (8%) If a firm uses the continuous review system to control the inventory, what would be the order quantity and reorder point?
- (2) (9%) The firm decided to change to the periodic review system to control the item's inventory. For the most recent review, an inventory clerk checked the inventory of this item and found 300 units. There were no scheduled receipts or backorders at the time. How many units should be ordered?

2-4 (12%) Use the bill of materials and inventory records to determine the quantity of purchased items necessary to assemble 20 end items if the manufacturer uses lot-for-lot ordering. There are no end items currently on hand.

Component	On-hand	Component	On-hand
A	5	D	15
B	75	E	3
C	10	F	20

