

東吳大學 111 學年度碩士班研究生招生考試試題

第1頁，共3頁

系級	會計學系碩士班	考試時間	100 分鐘
科目	成本及管理會計學	本科總分	100 分

※一律作答於答案卷上(題上作答不予計分)；並務必標明題號，依序作答。

1. 20%

Horizon Corporation is a highly decentralized company. Each division head has full authority for sourcing decisions. The Tractor Division can purchase a key component, the crankshaft from the Machining Division of Horizon or from external suppliers.

The Machining Division of Horizon has been the major supplier of crankshafts to the Tractor Division in recent years. The Tractor Division, however, has just announced that it will purchase all its crankshafts in the forthcoming year from two external suppliers at \$200 per

\\ crankshaft. The machining Division of Horizon recently increased its unit price for the forthcoming year to \$220 (from \$200 in the current year).

Juan Gomez, manager of the Machining Division, felt that the price increase was fully justified. The Machining Division recently purchased some specialized equipment to manufacture crankshaft. The resulting higher depreciation charge as well as an increase in labor costs led to 10% price increase. Gomez met with the president of Horizon Corporation and requested that the Tractor Division be directed to buy all its crankshafts from the Machining Division at the \$220 price. Gomez supplied the following cost information for the Machining Division: variable cost per crankshaft, \$190; fix costs per crankshaft, \$20.

The additional outlay costs per unit that Horizon incurs to produce each crankshaft is the Machining Division's variable cost of \$190. The Tractor Division purchases 2,000 crankshafts per month.

Required:

Compute the advantage or disadvantage to Horizon as a whole if the Tractor Division buys crankshafts internally from the Machining Division under each of the following three cases.

- a. Machining Division has no alternative use for the facilities used to manufacture crankshafts. (7%)
- b. Machining Division can use the facilities for other production operation, which will result in monthly cash-operating saving of \$29,000. (7%)
- c. Machining Division has no alternative use for the facilities, and the external supplier drops its price to \$185 per crankshafts. (6%)

2. 16%

Novex Company keeps careful track of the time to complete customer orders. During the most recent quarter, the following average times were recorded for each unit or order:

	DAYS
Wait time (pre manufacture)	17
Inspection time	0.4
Process time	2
Move time	0.6
Queue time	5

Goods are shipped as soon as production is completed.

Required:

1. Compute the throughput time (4%)
2. Compute the manufacturing efficiency (MCE) (4%)
3. What percentage of the production time is spent in non-value-added activities? (4%)
4. Compute the delivery cycle time. (4%)

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第2頁，共3頁

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科目	成本及管理會計學	本科總分	100 分

3. 20%

Paibec are now considering whether a component, MTR-01 should continue to be manufactured or purchase from Marley Company. Marley has submitted a bid to manufacture and supply the 32,000 units of MTR-01 that Paibec will need for 2022 at a unit price of \$17.30. Marley has assured Paibec that the units will be delivered according to Paibec's production specifications and needs.

The following information regarding to Paibec's cost to manufacture 30,000 units MTR-01 in 2021.

Direct material	\$195,000
Direct labor	120,000
Factory space rental	84,000
Equipment leasing costs	36,000
Other manufacturing overhead	<u>225,000</u>
Total manufacturing costs	\$660,000

The following additional information are related to manufacturing MTR-01 for Paibec Company.

- Direct materials used in the production of MTR-01 are expected to increase 8 percent in 2022.
- Midwest's direct-labor contract calls for a 5 percent increase in 2022.
- The facilities used to manufacture MTR-01 are rented under a month-to-month rental agreement. Thus, Paibec can withdraw from the rental agreement without any penalty. Paibec will have no need for this space if MTR-01 is not manufactured.
- Equipment leasing costs represent special equipment that is used in the manufacture of MTR-01. This lease can be terminated by paying the equivalent of one month lease payment for each year left on the lease agreement. Paibec has two years left on the lease agreement, through the end of the year 2023. Forty percent of the other manufacturing overhead is considered variable. Variable overhead changes with the number of units produced, and this rate per unit is not expected to change in 2022. The fixed manufacturing overhead costs are expected to be the same across a relevant range of zero to 50,000 units. These costs represent some equipment that can be used in Paibec's other manufacturing operations and have a cash saving of \$10,000 if MTR-01 are outsourced.

Required:

Based solely on the financial results, **prepare an analysis table**, recommend whether the 32,000 units of MTR-01 for 2022 should be made or purchased from Marley.

4. 20%

Koala Blue retails a broad line of Australian merchandise at its Santa Monica store. It sells 26,000 bedroom packages each year. Koala pays Ken Merchandise Inc. \$104 per package. Its ordering costs per purchase order are \$72. The carrying costs per package are 10% of the purchase cost per package.

Liv Carrol, manager of the Santa Monica store, seeks your advice on how ordering costs and carrying costs vary with different order quantities. Ken Merchandise Inc. guarantees the \$104 purchase cost per package for the 26,000 units budgeted to be purchased in the coming year.

Required:

1. For purchase order quantities of 300, 400, 600, 700 compute the annual ordering costs, the annual carrying costs, and their sum. What is the economic order quantity? (14%)
2. Assume that Ken Merchandise offer Koala a discount price of \$89 per package, if quantity per order greater or equal to 700 packages. What order quantity should Ken Merchandise made? (6%)

