

國立中央大學 109 學年度碩士班考試入學試題

所別： 企業管理學系 碩士班 一般丁組(一般生)

共 4 頁 第 1 頁

科目： 管理會計學

本科考試可使用計算器，廠牌、功能不拘

\*請在答案卷(卡)內作答

- [注意] 1.可不按題號順序作答，但須標明題號。  
2.可用中文或英文作答。  
3.計算題請列出必要之計算式，否則不予計分。

一、 Goodson Corporation assembles various components used in the telecommunications industry. The company's major product, a relay switch, is the result of assembling three parts: XY634, AA788, and GU321. The following information relates to activities of April:

- Beginning work-in-process inventory: 4,000 units, 75 percent complete as to conversion; cost, \$286,000 (direct materials, \$220,000; conversion cost, \$66,000).
- Production started: 25,000 units.
- Production completed: 24,000 units.
- Ending work-in-process inventory: 5,000 units, 40 percent complete as to conversion.
- Direct materials used: XY634, \$267,000; AA788, \$689,000; GU321, \$448,000.
- Hourly wage of direct laborers, \$20; total direct-labor payroll, \$126,500.
- Overhead application rate: \$60 per direct-labor hour.

All parts are introduced at the beginning of Goodson's manufacturing process; conversion cost is incurred uniformly throughout production.

Required: (22%)

1. Calculate the total cost of direct material and conversion during April. (6%)
2. Determine the cost of goods completed during the month. (6%)
3. Determine the cost of the work-in-process inventory on April 30. (6%)
4. With regard to the ending work-in-process inventory: (4%)
  - a. How much direct-material cost would be added to these units in May?
  - b. What percentage of conversion would be performed on these units in May?

(註：請採用平均成本法計算)

參考用

注意：背面有試題

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所別： 企業管理學系 碩士班 一般丁組(一般生)

共 4 頁 第 2 頁

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- 二、 Mountain Jam Sports Inc. manufactures two products: snowboards and skis. The factory overhead incurred is as follows:

Indirect labor	\$ 480,000
Cutting Department	350,000
Finishing Department	260,000
Total	<u>\$1,090,000</u>

The activity base associated with the two production departments is direct labor hours. The indirect labor can be assigned to two different activities as follows:

Activity	Activity Cost Pool	Activity Base
Production control	\$150,000	Number of production runs
Materials handling	330,000	Number of moves
Total	<u>\$480,000</u>	

The activity-base usage quantities and units produced for the two products are shown below.

	Number of Production Runs	Number of Moves	Direct Labor Hours—Cutting	Direct Labor Hours—Finishing	Units Produced
Snowboards	60	2,000	3,500	1,500	25,000
Skis	340	4,000	1,500	3,500	25,000
Total	<u>400</u>	<u>6,000</u>	<u>5,000</u>	<u>5,000</u>	<u>50,000</u>

**Required: (27%)**

- (4%) Determine the factory overhead rates under the multiple production department rate method. Assume that indirect labor is associated with the production departments, so that the total factory overhead is \$650,000 and \$440,000 for the Cutting and Finishing departments, respectively.
- (8%) Determine the total and per-unit factory overhead costs allocated to each product, using the multiple production department overhead rates in (1).
- (4%) Determine the activity rates, assuming that the indirect labor is associated with activities rather than with the production departments.
- (8%) Determine the total and per-unit cost assigned to each product under activity-based costing.
- (3%) Explain the difference in the per-unit overhead allocated to each product under the multiple production department factory overhead rate and activity-based costing methods.

參考用

注意:背面有試題

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所別： 企業管理學系 碩士班 一般丁組(一般生)

共 4 頁 第 3 頁

科目： 管理會計學

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三、A condensed income statement for the Music Division of Memphis Sounds Inc. for the year ended December 31, 2006, is as follows:

Sales	\$410,000
Cost of goods sold	<u>177,500</u>
Gross profit	\$232,500
Operating expenses	<u>187,400</u>
Income from operations	<u>\$ 45,100</u>

Assume that the Music Division received no charges from service departments. The president of Memphis Sounds has indicated that the division's rate of return on a \$256,250 investment must be increased to at least 20% by the end of the next year if operations are to continue. The division manager is considering the following three proposals:

*Proposal 1:* Transfer recording equipment with a book value of \$51,250 to other divisions at no gain or loss and lease similar equipment. The annual lease payments would exceed the amount of depreciation expense on the old equipment by \$12,300. This increase in expense would be included as part of the cost of goods sold. Sales would remain unchanged.

*Proposal 2:* Purchase new and more efficient disk reproduction equipment and thereby reduce the cost of goods sold by \$53,300. Sales would remain unchanged, and the old equipment, which has no remaining book value, would be scrapped at no gain or loss. The new equipment would increase invested assets by an additional \$256,250 for the year.

*Proposal 3:* Reduce invested assets by discontinuing a label. This action would eliminate sales of \$70,000, cost of goods sold of \$38,900, and operating expenses of \$37,000. Assets of \$43,750 would be transferred to other divisions at no gain or loss.

**Required: (27%)**

- (6%) 1. Using the DuPont formula for rate of return on investment, determine the profit margin, investment turnover, and rate of return on investment for the Music Division for the past year.
- (6%) 2. Calculate the invested assets for each proposal.
- (9%) 3. Using the DuPont formula for rate of return on investment, determine the profit margin, investment turnover, and rate of return on investment for each proposal.
- (3%) 4. Which of the three proposals would meet the required 20% rate of return on investment?
- (3%) 5. If the Music Division were in an industry where the profit margin could not be increased, how much would the investment turnover have to increase to meet the president's required 20% rate of return on investment?

參考用

注意:背面有試題

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四、Morton Company's contribution format income statement for last month is given below:

Sales (15,000 units × \$30 per unit) .....	\$450,000
Variable expenses .....	<u>315,000</u>
Contribution margin .....	135,000
Fixed expenses .....	<u>90,000</u>
Net operating income .....	<u>\$ 45,000</u>

The industry in which Morton Company operates is quite sensitive to cyclical movements in the economy. Thus, profits vary considerably from year to year according to general economic conditions. The company has a large amount of unused capacity and is studying ways of improving profits.

**Required: (24%)**

1. New equipment has come onto the market that would allow Morton Company to automate a portion of its operations. Variable expenses would be reduced by \$9 per unit. However, fixed expenses would increase to a total of \$225,000 each month. For both present operations and the proposed new operations, compute (a) the net operating income and (b) the contribution margin ratio. (8%)
2. Refer to (1), for both present operations and the proposed new operations, compute (a) the degree of operating leverage, (b) the break-even point in dollar sales, and (c) the margin of safety in percentage term. (12%)
3. Refer to the original data. Rather than purchase new equipment, the marketing manager argues that the company's marketing strategy should be changed. Rather than pay sales commissions, which are currently included in variable expenses, the company would pay salespersons fixed salaries and would invest heavily in advertising. The marketing manager claims this new approach would increase unit sales by 30% without any change in selling price; the company's new monthly fixed expenses would be \$180,000; and its net operating income would increase by 20%. Compute the break-even point in dollar sales for the company under the new marketing strategy. (4%)

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