

考 試 科 目	成本與管理會計學	系 所 別	會計研究所	考 試 時 間	2 月 3 日(五) 第三節
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第一題 (30 分)

In Peace Products, Inc., CEO John ask CFO Jenny to evaluate the purchase of a new automated machine from BB company for use on the company's manufacture line. The information about this project which Jenny has is as follows. The cost of this new machine is \$1,500,000. Peace needs BB company to send engineers to help set up this new machine. The installation cost is \$450,000. The use of new machine will save annual manufacturing overhead \$210,000, but increase annual maintenance costs \$30,000. The useful life of this new machine is 5 years and the salvage value in the final year is \$70,000. In addition, engineering studies suggest that the use of the new machine will result in a savings of 25,000 direct labor-hours each year. The labor rate is \$16 per hour. Also, the smoother work flow made possible by the use of the new machine will allow the company to reduce the amount of inventory on hand by \$400,000. This inventory reduction will take place at the end of the first year of operation; the released funds will be available for use elsewhere in the company. Peace Products has an 18% required rate of return.

Required:

- (1) Determine the annual net cost savings if the new machine is purchased. (Do not include the \$400,000 inventory reduction or the salvage value in this computation.) (5%)
- (2) Compute the net present value of the proposed investment in the new machine. Based on these data, would you recommend that the new machine be purchased? Explain. (8%)
- (3) Assume that the new machine is purchased. However, due to unforeseen problems, software and installation costs were \$95,000 more than estimated and direct labor could only be reduced by 22,500 hours per year, rather than the original estimate of 25,000 hours. Assuming that all other cost data are accurate, what would a postaudit suggest is the actual net present value of this investment? (8%)
- (4) Upon seeing your analysis in (3) above, please explain to the CEO John what benefits other than cost might accrue from using the new automated equipment. (4%)
- (5) If John invests this new machine, Peace can enjoy an investment tax credit of 1%. Please compute for the Peace the minimum dollar amount of annual cash inflow that would be needed from the benefits in (4) above for the automated equipment to yield an 18% rate of return. (5%)

第二題 (4 分)

Cap Tea Products has an exclusive contract with Taiwan Distributors. Star and Cap are two brands of teas that are imported and sold to retail outlets. The following information is provided for the month of January:

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	<u>Actual</u>		<u>Budget</u>	
	<u>Star</u>	<u>Cap</u>	<u>Star</u>	<u>Cap</u>
Sales in pounds	3,840 lbs.	3,980 lbs.	4,400 lbs.	3,300 lbs.
Price per pound	\$3.00	\$3.00	\$2.00	\$3.00
Variable cost/pound	1.10	2.20	1.00	1.50
Contribution margin	\$1.90	\$0.80	\$1.00	\$1.50

Budgeted and actual fixed corporate-sustaining costs are \$1,850 and \$2,300, respectively.

Required:

- (1) What is the contribution margin for the flexible budget? (2%)
- (2) For the contribution margin, what is the total static-budget variance? (2%)

第三題 (33 分)

Chihnan Company processes and distributes coffee beans. The beans are packed in 1-pound bags and sold to gourmet shops and grocery chains for \$5 each in boxes of 10 bags. During March, the firm anticipates selling 16,000 boxes (sales in February were 14,000 boxes). Typically, 80% of the firm's customers pay within the month of sale, 18% of the customer pay the month after, and 2% of sales are never collected.

The firm buys green coffee beans from local traders who import coffee beans from Indonesia, India, and Brazil. The company has been paying \$2 per pound, cash. Most of the processing and packaging is done automatically. Consequently, most (\$80,000) of the firm's factory overhead is depreciation expense. Since the pandemic of COVID-19, the company has been considering purchasing another roasting machine costing \$78,000 in the second quarter of 2023 to increase the capacity of processing coffee beans by 15%. In the meantime, a software company recommends an inventory management system with a one-time setup fee of \$35,000 and a monthly payment of \$1,200. The platforms designed to manage coffee roasteries for tracking green and roasted coffee stock levels and collecting a range of data points, including sample roast profiles, physical analysis of green and roasted beans, and optimal roast profiles which help roasters remain informed when tracking stock levels or looking for new green coffee. So instead of relying on paperwork or emails, all the information can be stored in one place.

The firm advertises heavily. For March, managers expect to publish \$75,000 worth of advertisements in popular magazines. This amount is up from February's \$60,000 of advertisements. The firm pays for 10% of its advertising in the month the ads are run and 90% in the following month. March's budgeted income statement and statement of cost of goods manufactured and sold follow. All costs and expenses are paid for as incurred

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unless specifically indicated otherwise. The firm will begin March with a cash balance of \$25,000 and pays a monthly dividend of \$15,000 to the owners.

INCOME STATEMENT

Sales	\$800,000
Cost of goods sold	540,000
Gross margin	<u>260,000</u>
Administrative salaries	80,000
Sales commissions	69,000
Advertising	75,000
Bad debts expense	<u>16,000</u>
Operating Income	<u><u>\$20,000</u></u>

STATEMENT OF COST OF GOODS MANUFACTURED AND SOLD

Beginning balance direct materials	\$20,000
Direct materials purchases	<u>330,000</u>
Materials available for use	350,000
Ending balance direct materials	<u>30,000</u>
Direct materials used	320,000
Labor costs incurred	90,000
Overhead costs	<u>115,000</u>
Cost of goods manufactured	\$525,000
Beginning finished goods balance	<u>45,000</u>
Goods available for sale	570,000
Ending finished goods balance	<u>30,000</u>
Cost of goods sold	<u><u>\$540,000</u></u>

Required:

- (1) From the information provided, prepare a cash budget for March. What insight does the cash budget give to the management that the budgeted income statement does not? (13%)
- (2) Lily Huang, the CFO of the Chihnan Company, is preparing the budget for the following months and quarters. So far, the business has been immune from the inflation, but she realizes that it is important to consider what's going on in the world around you. The recent talks of a "looming recession" have created a lot of uncertainty about how it will affect people's lives and the business. Write a memo to Lily Huang discussing the major uncertainties in Chihnan's budget and what Lily should consider when preparing the budgets for the following

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months (in bullet points or numbered lists). You are encouraged to provide real-life business examples anywhere appropriate in the memo. (10%)

- (3) Daniel Chu, one of the owners, would like to increase profits from the business. He thinks that increasing capacity brings in real money, yet the inventory management system is just another way of cost occurrence. How would you manage Daniel's concerns? Suggest several possible ways to accomplish his goal. Explain your reasoning, preferably with real-life business examples. (10%)

第四題 (33 分)

BSC and ABC are important strategy implementation and cost systems for management accounting, and ESG is essential for evaluating the sustainability of companies. Please answer the following questions: (33%)

- (1) Please explain BSC and ABC respectively? In addition, what is the relationship between BSC and ABC? (6%)
- (2) Please explain the content of each aspect of ESG? Why do companies all over the world start to pay attention to ESG? (6%)
- (3) Please explain how to integrate BSC and ESG, and what are the possible ways of integration? Please take a case company as an example to draw a strategy map integrating BSC and ESG. (10%)
- (4) Please explain how to integrate ABC and ESG to generate corporate ESG information as a reliable source of information for corporate internal management and external communication. (6%)
- (5) Based on the above description, please propose a conceptual framework for the integration of BSC, ABC and ESG. (5%)

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- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。