

考 試 科 目	成本與管理會計學	系 所 別	會計學系／會計組	考 試 時 間	2 月 18 日(一) 第三節
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一、Multiple choice (10%)

- What situation will result in if the firm excludes spoiled units in the equivalent-unit calculation?
 - lower cost per good unit.
 - higher cost per good unit
 - lower cost for normal units
 - higher cost for spoiled units
- An important difference between financial measures of quality and nonfinancial measures of quality is that _____.
 - financial measures of quality tend to be useful indicators of future long-term performance, while nonfinancial measures have more of a short-term focus
 - nonfinancial measures are generally too subjective to have any long-term value, while financial measures are too objective for taxation purposes
 - nonfinancial measures of quality tend to be useful indicators of future long-term performance, while financial measures of quality have more of a short-term focus
 - nonfinancial measures are generally too subjective to have any short-term value, while financial measures are too objective to have medium-term value
- Which of the following statements is true of the economic-order-quantity decision model?
 - It assumes that quality costs are considered only to the extent that these costs affect ordering or carrying costs.
 - It assumes purchasing costs are relevant because the cost per unit changes due to the quantity ordered.
 - It assumes that stockout costs are relevant even if no stockouts occur.
 - It assumes that ordering costs and carrying costs are irrelevant.
- A company manufactures only one type of washing machine and has two divisions, the Compressor Division, and the Fabrication Division. The Compressor Division manufactures compressors for the Fabrication Division, which completes the washing machine and sells it to retailers. The Compressor Division "sells" compressors to the Fabrication Division. The market price for the Fabrication Division to purchase a compressor is \$40.00. (Ignore changes in inventory.) The fixed costs for the Compressor Division are assumed to be the same over the range of 5,000-10,000 units. The fixed costs for the Fabrication Division are assumed to be \$7.50 per unit at 10,000 units.
 Compressor's costs per compressor are:

Direct materials	\$15.00
Direct labor	\$7.25

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Variable overhead \$3.00

Division fixed costs \$7.50

Fabrication's costs per completed air conditioner are:

Direct materials \$150.00

Direct labor \$62.50

Variable overhead \$20.00

Division fixed costs \$7.50

Assume the transfer price for a compressor is 150% of total costs of the Compressor Division and 1,000 of the compressors are produced and transferred to the Fabrication Division. What is the Compressor Division's operating income?

A) \$15,875

B) \$16,375

C) \$17,375

D) \$18,250

5. A company which favors the residual income approach wants managers to _____.

A) maximize return on sales

B) maximize the investment turnover ratio

C) concentrate on maximizing a percentage return

D) concentrate on maximizing an absolute amount of dollars

二、(16%)

The BB Company processes unprocessed goat milk up to the split-off point where two products, condensed goat milk and skim goat milk result. The following information was collected for the month of October:

<i>Direct Materials processed:</i>	98,000 gallons (after shrinkage)
<i>Production:</i>	Condensed goat milk 42,500 gallons
	Skim goat milk 55,500 gallons
<i>Sales:</i>	Condensed goat milk \$3.50 per gallon
	Skim goat milk \$2.50 per gallon

The costs of purchasing the of unprocessed goat milk and processing it up to the split-off point to yield a total of 98,000 gallons of saleable product was \$184,480. There were no inventory balances of either product.

Condensed goat milk may be processed further to yield 42,000 gallons (the remainder is shrinkage) of a medicinal milk product, Xyla, for an additional processing cost of \$4 per usable gallon. Xyla can be sold for \$20 per gallon.

Skim goat milk can be processed further to yield 54,200 gallons of skim goat ice cream, for an additional processing

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cost per usable gallon of \$4. The product can be sold for \$9 per gallon.

There are no beginning and ending inventory balances.

Required:

1. What is the estimated net realizable value of Xyla at the split-off point? (4%)
2. Using the sales value at split-off method, what is the gross-margin percentage for condensed goat milk at the split-off point? (4%)
3. How much (if any) extra income would Green earn if it produced and sold skim milk ice cream from goats rather than goat skim milk? Allocate joint processing costs based upon the relative sales value at the split-off point. (4%)
4. How much (if any) extra income would Green earn if it produced and sold all of the Xyla from the condensed goat milk? Allocate joint processing costs based upon relative sales value on the split-off. (Extra income means income in excess of what Green would have earned from selling condensed goat milk.) (4%)

三、(9%)

AA company is considering a project that will result in initial after-tax cash savings of \$2.3 million at the end of the first year. These saving will grow at a rate of 2% per year indefinitely. The firm has a target debt-equity ratio of 0.60, a cost of equity of 10%, and an after-tax cost of debt of 4.6%. The cost-saving proposal is riskier than the usual project the firm undertakes; management uses the subjective approach and applies an adjustment factor of +3% to the cost of capital for such risky projects. Under what circumstances should the company take on the project? Please explain the reasons.

四、(10%)

Beta Company manufactures two types of chairs: the Luxury for the office market and the Standard for the residential market. The company provides the following information for the year 2018:

	<u>Luxury</u>	<u>Standard</u>
Budgeted sales in units	420	780
Budgeted selling price	\$520	\$360
Budgeted variable cost per unit	\$280	\$180
Actual sales in units	460	690
Actual selling price	\$500	\$350
Actual variable cost per unit	\$250	\$200

Prior to the beginning of the year, a consulting firm estimated the total sales volume for chairs of the Luxury and Standard category to be 12,000 units, but actual total sales volume was 10,000 units.

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Required: (All variances are computed in contribution-margin terms.)

1. Compute the total sales-mix variance, and be sure to identify the variance as favorable (F) or unfavorable (U). (4%)
2. What inferences can you draw from the market-size and market-share variances? Show computations to support your points. (6%)

五、(20%)

Alpha Company manufactures electronic products that are sold through a network of independent sales agents. The agents currently are paid a commission of 15% of sales. Alpha company has no sales force of its own. The budgeted income statement of Alpha for next year is as follows:

Sales		\$ 8,000,000	
Cost of goods sold:			
Variable	\$3,600,000		
Fixed	<u>1,320,000</u>		<u>4,920,000</u>
Gross profit		\$ 3,080,000	
Selling and administrative expenses:			
Commissions to agents	\$1,200,000		
Fixed	<u>960,000</u>		<u>2,160,000</u>
Operating income		\$ 920,000	
Fixed interest cost		<u>280,000</u>	
Income before income taxes		\$ 640,000	
Income taxes (25%)		<u>160,000</u>	
Net income		<u>\$ 480,000</u>	

Alpha has just learned that the sales agents refuse to handle its products next year unless Alpha increases the commission rate to 18%. Therefore, the company is considering replacing the sales agents with its own salespersons, who would be paid a commission of 7% of sales and fixed salaries. In addition, the company figures that its fixed costs would increase by \$920,000 per year (including salaries of salespersons, advertising, etc.) if employing its own salespersons. All other cost-behavior patterns are unchanged.

Required:

1. Calculate the margin of safety percentage that Alpha Company would expect to have at the end of next year assuming that the agents' commission rate remains to be 15%. (5%)
2. Calculate Alpha Company's breakeven point in sales dollars for next year assuming that the company employs its own salespersons. (5%)
3. Determine the sales dollars at which net income would be equal regardless of whether the company employs

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its own salespersons or continues to use the independent sales agents and pays them an 18% commission. (5%)

4. Make a recommendation as to whether the company should continue to use sales agents (at an 18% commission rate) or employs its own salespersons. Give reasons for your answer. (5%)

六、(35%)

Chihnan Bank is a full-service commercial bank providing an array of financial services to individuals, small business, middle market companies and major corporations. The services it provides include receiving deposits, making loans, check clearing, foreign exchanges, trusts, credit cards, and wealth management. It currently has 76 branches and 3,500 employees in Taiwan. Total assets of the bank amount to NT\$1.2 trillion. Headquartered in Taipei, Chihnan Bank is one of the fastest-growing banks in the country. As of 2018, Taiwan has 38 domestic banks (with 3,500 branch offices) and 29 local branches of foreign and mainland China banks. There are also hundreds of farmers' credit unions, fishermen's credit unions and credit cooperatives.

Chihnan Bank has strong revenue growth in the past decade and wanted to get better control over its rising operational costs. The Bank's growth strategy, including network expansion and retail transformation, had led to sustained top-line growth. By offering innovations such as internet banking services, mobile banking services and advanced interactive voice-response systems, Chihnan Bank boosted the overall quality of service to its commercial and retail customers. However, the growth had not been accompanied by a significant lift in operational productivity and profitability. The Bank had significantly higher than market operating costs per customer, which led to a slower than expected decrease in cost-income ratio, although it was already at a healthy level. In fact, the management is unable to see which area is efficient/inefficient and is not exactly sure about the profitability of its branches, services it provided, and customers it served. In addition, expected worsening economic conditions would limit future revenue growth and demand a change in business mix, adding even more pressure. So the top management of the Bank sees the need to perform an end-to-end review of back-office operational efficiency and profitability. The management team has heard about activity-based costing (ABC) from some clients in the manufacturing industries. They said that ABC system helped them to do a better job in inventory valuation and profitability analysis. However, some executives in the management team argue that ABC would be of no great use to the Bank because there are basically no inventories for the Bank. The top management knows little about ABC and would like to know whether ABC is an option worth considering or whether there is an alternative option.

The bank also decided to expand its banking business into Southeast Asia to cater to the financial needs of Taiwanese businesses in the region and to pursue opportunities with local clients. A divisional vice president (VP) will be appointed to take charge of the banking business in Southeast Asia. The plan is to have one branch set up every year in Southeast Asia for the next three years and then re-evaluate the plan. The appointed VP will be responsible for

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finding locations for expansion and ensuring that earnings are ploughed back into the Bank. After each branch is set up, a branch manager will be in charge of the operations of the branch. Each overseas branch will have a Deposit Department, a Loan Department, and an Administrative Services Department. A department supervisor will be in charge of each department. The top management is concerned about the management control issues for the foreign division.

Required:

The management team has asked you to provide advice and recommendations on the issues of adopting ABC system and the expansion abroad. **Outline your response in bullet form or numbered points** and provide your recommendations, **with reasons**, to address the issues that the top management would like to know and the issues the management must consider in making this decision, together with suggested actions to the top management. You are also encouraged to provide real-life business examples or apply your knowledge of the financial services industry in Taiwan anywhere appropriate. (Note: Recommendations without justifications will score no points.)

Below are the issues you need to address:

1. What is ABC? What are the factors that would accelerate the demand for ABC? (6%)
2. Should Chihnan Bank adopt ABC? What are the pros and cons of using ABC system? What is an alternative to ABC that would help the Bank? (6%)
3. What should the Bank consider when deciding to implement ABC system (e.g. possible consequences, suggested actions, limitations, etc.)? (6%)
4. Should the Bank decentralize its decision-making authority for its operations in Southeast Asia? Why or why not? (6%)
5. How to designate each foreign subunit described above as a responsibility center? (An organization chart would help.) (5%)
6. What performance measure(s) is (are) best for evaluating the divisional vice president (This is particularly important, so there is a need to compare and contrast the alternative measures for use) and other managers in the foreign division? (6%)

備

註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。