(102)輔仁大學碩士班招生考試試題	考試日期：102 年 3 月 8 日第 2 節
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科目：成本與管理會計學　　　　　　　　　系所組：會計學系碩士班

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1. (20%) BeN Industries has multiple divisions. One division, Ferney Products, makes a component that another division, Groton, is currently purchasing on the open market. Ferney Products currently has a capacity to produce 500,000 components at a variable cost of $7.50 and a full cost of $10.00. Ferney Products has outside sales of 460,000 components at a price of $12.50 per unit. Groton currently purchases 50,000 units from an outside supplier at a price of $12.00 per unit. Assume that Groton desires to use a single supplier for its component.

Required:

a. What will be the effect on BeN Industries' operating profit if the transfer is made internally? Assume the 50,000 units Groton needs are either purchased 100% internally or 100% externally.
b. What is the minimum transfer price?
c. What is the maximum transfer price?

2. (20%) CaT Company supplies helicopters to corporate clients. CaT has two sources of funds: long term debt with a market and book value of $32 million issued at an interest rate of 10%, and equity capital that has a market value of $18 million (book value of $8 million). The cost of equity capital for CaT is 15%, and its tax rate is 30%. CaT has profit centers in four divisions that operate autonomously. The company's results for 2008 are as follows:

	Operating Income	Assets	Current Liabilities
New York	$1,750,000	$11,500,000	$2,500,000
Chicago	2,400,000	9,000,000	3,500,000
Dalllas	4,675,000	27,500,000	9,500,000
Los Angeles	4,200,000	25,000,000	8,000,000

Required:

a. Compute CaT's weighted average cost of capital.
b. Compute each division's Economic Value Added.
c. Rank the divisions by EVA.

3. (19%) QuE Company makes a product that has the following costs:

	Per Unit	Per Year
Direct materials	$15.50	
Direct labor	$19.80	
Variable manufacturing overhead	$2.90	
Fixed manufacturing overhead		$623,000
Variable selling and administrative expenses	$2.20	
Fixed selling and administrative expenses		$738,500

The company uses the absorption costing approach to cost-plus pricing as described in the text. The pricing calculations are based on budgeted production and sales of 35,000 units per year. The company has invested $100,000 in this product and expects a return on investment of 11%.

Required:

a. Compute the markup on absorption cost.
b. Compute the selling price of the product using the absorption costing approach.
c. Assume that every 10% increase in price leads to a 14% decrease in quantity sold. Assuming no change in cost structure and that direct labor is a variable cost, compute the profit-maximizing price.

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4. (23%) The following monthly data are available for the CaL Company and its only product, Product SW:

	Total	Per Unit
Sales(400 units)	$110,000	$275
Variable expenses	44,000	110
Contribution margin	66,000	$165
Fixed expenses	52,800	
Net operating income	$13,200	

Required:

a. Without resorting to calculations, what is the total contribution margin at the break-even point?

b. Management is contemplating the use of plastic gearing rather than metal gearing in Product SW. This change would reduce variable costs by $15. The company's marketing manager predicts that this would reduce the overall quality of the product and thus would result in a decline in sales to a level of 350 units per month. Should this change be made? Why?

c. Assume that CaL Company is currently selling 400 units of Product SW per month. Management wants to increase sales and feels this can be done by cutting the selling price by $25 per unit and increasing the advertising budget by $20,000 per month. Management believes that these actions will increase unit sales by 50%. Should these changes be made? Why?

d. Assume that CaL Company is currently selling 400 units of Product SW. Management wants to automate a portion of the production process for Product SW. The new equipment would reduce direct labor costs by $20 per unit but would result in a monthly rental cost for the new robotic equipment of $10,000. Management believes that the new equipment will increase the reliability of Product SW thus resulting in an increase in monthly sales of 12%. Should these changes be made? Why?

5. (18%) JuL Company produces a single product. The cost of producing and selling a single unit of this product at the company's normal activity level of 60,000 units per month is as follows:

Direct materials	$34.00
Direct labor	$4.00
Variable manufacturing overhead	$2.00
Fixed manufacturing overhead	$21.30
Variable selling and administrative expense	$2.70
Fixed selling and administrative expense	$7.00

The normal selling price of the product is $79.80 per unit.

An order has been received from an overseas customer for 2,000 units to be delivered this month at a special discounted price. This order would have no effect on the company's normal sales and would not change the total amount of the company's fixed costs. The variable selling and administrative expense would be $0.30 less per unit on this order than on normal sales.

Direct labor is a variable cost in this company.

Required:

a. Suppose there is ample idle capacity to produce the units required by the overseas customer and the special discounted price on the special order is $71.60 per unit. By how much would this special order increase (decrease) the company's net operating income for the month?

b. Suppose the company is already operating at capacity when the special order is received from the overseas customer. What would be the opportunity cost of each unit delivered to the overseas customer?

c. Suppose there is not enough idle capacity to produce all of the units for the overseas customer and accepting the special order would require cutting back on production of 700 units for regular customers. What would be the minimum acceptable price per unit for the special order?

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