國立中央大學111學年度碩士班考試入學試題

所別： 企業管理學系 碩士班 工商管理丁組(一般生)　　　　

科目： 管理會計學

[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。

1. Skinny Dippers Inc. produces nonfat frozen yogurt. The product is sold in five-gallon containers, which have the following price and variable costs.

Sales price..........................	$15
Direct material......................	5
Direct labor.........................	2
Variable overhead..................	3

Budgeted fixed overhead in 20x 1, the company's first year of operations, was $300,000. Actual production was 150,000 five-gallon containers, of which 125,000 were sold. Skinny Dippers Inc. incurred the following selling and administrative expenses.

Fixed..........................	$50,000 for the year
Variable........................	$1 per container sold

Required:

(1) Compute the product cost per container of frozen yogurt under (a) variable costing and (b) absorption costing. (6%)

(2) Prepare operating income statements for 20x1 using (a) absorption costing and (b) variable costing. (6%)

(3) Reconcile the operating income reported under the two methods by listing the two key places where the income statements differ. (6%)

(4) Reconcile the operating income reported under the two methods using the shortcut method. (6%)

2. Empire Chemical Company produces three products using three different continuous processes. The products are Yarex, Darol, and Norex. Proiected sales in gallons for the three products for the years 20x2 and 20x3 are as follows:

	20×2	20x3
Yarex..........................	60,000	65,000
Darol..........................	40,000	35,000
Norex..........................	25,000	30,000

- Inventories are planned for each product so that the projected finished-goods inventory at the beginning of each year is equal to 8 percent of that year's projected sales.
- Because of the continuous nature of Empire's processes, work-in-process inventory for each of the products remains constant throughout the year.
- The raw-material requirements of the three products are shown in the following chart.

Raw Material	Units	Unit Price	Yarex	Darol	Norex
Gamma	pounds	$8	0.2	0.4	0
Murad	pounds	6	0.4	0	0.5
Islin	gallons	5	1.0	0.7	0.5
Tarden	gallons	10	0	0.3	0.5

- Raw-material inventories are planned so that each raw material's projected inventory at the beginning of a year is equal to 10 percent of the previous year's usage of that raw material.

The conversion requirements in hours per gallon for the three products are Yarex, 0.07 hour; Darol, 0.10 hour; and Norex, 0.16 hour. The conversion cost of $20 per hour is considered 100 percent variable.

Required:

(1) Determine Empire Chemical Company's production budget (in gallons) for the three products for 20x2. (6%)

(2) Determine Empire Chemical Company's conversion cost budget for 20x2. (6%)

(3) Assuming the 20x1 usage of Islin is 100,000 gallons, determine the company's raw-material purchases budget (in dollars) for Islin for 20x2. (6%)

(4) Assume that for 20x2 production, Empire Chemical Company could replace the raw material Islin with the raw material Philin. The usage of Philin would be the same as the usage of Islin. However, Philin would cost 20 percent more than Islin and would cut production times on all three products by 10 percent. Determine whether management should use Philin or Islin for the 20x2 production, supporting your decision with appropriate calculations. For this requirement, ignore any impact of beginning and ending inventory balances. (8%)

3. LawnMate Company manufactures power mowers that are sold throughout the United States and Canada. The company uses a comprehensive budgeting process and compares actual results to budgeted amounts on a monthly basis. Each month, LawnMate's accounting department prepares a variance analysis and distributes the report to all responsible parties. Al Richmond, production manager, is upset about the results for May. Richmond, who is responsible for the cost of goods manufactured, has implemented several cost-cutting measures in the manufacturing area and is discouraged by the unfavorable variance in variable costs.

LAWNMATE COMPANY
Operating Results
For the Month of May

	Master Budget	Actual	Variance
Units sold	5,000	4,800	200 U
Revenue	$1,200,000	$1,152,000	$48,000 U
Variable cost	760,000	780,000	20,000 U
Contribution margin	$ 440,000	$372,000	$68,000 U
Fixed production overhead	180,000	180,000	-
Fixed general and administrative cost	120,000	115,000	5,000 F
Operating income	$140,000	$77,000	$63,000 U

When the master budget was prepared, LawnMate's cost accountant, Joan Ballard, supplied the following unit costs: direct material, $60; direct labor, $44; variable production overhead, $36; and variable selling expenses, $12.

The total variable costs of $780,000 for May include $320,000 for direct material, $192,000 for direct labor, $176,000 for variable production overhead, and $92,000 for variable selling expenses. Ballard believes that LawnMate's monthly reports would be more meaningful to everyone if the company adopted flexible budgeting and prepared more detailed analyses.

Required:

(1) Prepare a flexible budget for LawnMate Company for the month of May that includes separate variable-cost budgets for each type of cost (direct material, etc.). (8%)

(2) Determine the variance between the flexible budget and actual cost for each cost item. (8%)

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(3) Discuss how the revised budget and variance data are likely to impact the behavior of Al Richmond, the production manager. (6%)

4. Graydon, Inc. manufactures food blending machinery according to customer specifications. The company operated at 75 percent of practical capacity during the year just ended, whit the following results (in thousands):

Sales revenue	$25,000
Less: Sales commissions (10%)	2,500
Net sales	$22,500
Expenses:	
Direct material	$ 6,000
Direct labor	7,500
Manufacturing overhead-variable	2,250
Manufacturing overhead-fixed	1,500
Corporate administration-fixed	750
Total costs	$18,000
Income before taxes	$ 4,500
Income taxes (40%)	1,800
Net income	$ 2,700

Graydon, which expects continued operations at 75 percent of capacity, recently submitted a bid of $165,000 on some custom-designed machinery for Premier Foods, Inc. Graydon used a pricing formula in deriving the bid amount, the formula being based on last year's operating results. The formula follows.

Estimated direct material	$ 29,200
Estimated direct labor	56,000
Estimated manufacturing overhead at 50% of direct labor	28,000
Estimated corporate overhead at 10% of direct labor	5,600
Estimated total costs excluding sales commissions	$118,800
Add 25% for profit and taxes	29,700
Suggested price (with profit) before sales commissions	$148,500
Suggested total price: $148,500 ÷ 0.9 to adjust for 10% commission	$165,000

Required:

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(1) Calculate the impact the order would have on Graydon's net income if the $165,000 bid were accepted by Premier Foods, Inc. (8%)

(2) Assume that Premier has rejected Graydon's bid but has stated it is willing to pay $127,000 for the machinery. Should Gravdon manufacture the machinery for the counteroffer of $127,000? Explain your answer and show calculations. (8%)

(3) At what bid price will Graydon break even on the order? (6%)

(4) Explain how the profit performance in the coming year would be affected if Graydon accepted all of its work at prices similar to Premier's $127,000 counteroffer described in requirement 2. (6%)