

# 中原大學 108 學年度碩士班考試入學

108/3/6 10:10 AM~11:40 AM

會計學系

誠實是我們珍視的美德，

我們喜愛「拒絕作弊，堅守正直」的你！

科目：成本及管理會計

(共 5 頁，第 1 頁)

■可使用計算機(僅限於四則運算、三角函數及對數等基本功能，可程式之功能不可使用)

□不可使用計算機

----- (不可直接作答於試題，請作答於答案卷) -----

一、King manufactures and sells three soft drinks: Juice, Cola, and Tea. Budgeted and actual results for 2018 are as follows:

Product	Budget for 2018			Actual for 2018		
	Selling Price	Variable Cost per Cup	Sold Quantity	Selling Price	Variable Cost per Cup	Sold Quantity
Juice	\$6.00	\$4.00	36,000	\$6.20	\$4.50	48,000
Cola	\$4.00	\$2.80	60,000	\$4.25	\$2.75	90,000
Tea	\$7.00	\$4.50	144,000	\$6.80	\$4.60	162,000

King prepared the budget for 2018 assuming a 12% market share based on total sales. The total soft drinks market was estimated to reach sales of 2,000,000 cups. However, actual total sales volume was 2,400,000 cups.

## Required: (25%)

1. Calculate the actual and budgeted contribution margins in dollars for each product and in total. (5%)
2. Calculate the actual and budgeted sales mixes for the three products. (5%)
3. Calculate the total sales-volume variance, the total sales-mix variance, and the total sales-quantity variance. (Calculate all variances in terms of contribution margin.) (10%)
4. Calculate the market-share and market-size variances. (Calculate all variances in terms of contribution margin.) (5%)

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二、Ozk Corporation just completed its first year of operations. Planned and actual production equaled 10,000 units, and sales totaled 9,500 units at \$210 per unit. Cost data for the year are as follows:

Direct material (per unit)	\$36
Conversion cost:	
Direct labor	\$ 135,000
Variable manufacturing overhead	\$ 195,000
Fixed manufacturing overhead	\$ 660,000
Selling and administrative cost:	
Variable (per unit)	\$24
Fixed	\$ 354,000

## Required:(25%)

1. Compute the company's total cost for the year. (4%)
2. How much of this cost would be held in year-end inventory under (a) absorption costing, (b) variable costing, and (c) throughput costing? (6%)
3. How much of the company's total cost for the year would be included as an expense on the period's income statement under (a) absorption costing, (b) variable costing, and (c) throughput costing? (6%)
4. Compute the company's income under (a) absorption costing, (b) variable costing, and (c) throughput costing. (9%)

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科目：成本及管理會計

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三、Akua Company is a manufacturing firm that uses a normal-costing system for its job-costing system and allocates manufacturing overhead using machine-hours. The company closes any under- or overallocated manufacturing overhead to Cost of Goods Sold. The company's inventory balances were as follows at the beginning and end of the year:

	Beginning Balance	Ending Balance
Materials (include direct and indirect)	\$21,000	\$24,000
Work in process	40,000	22,000
Finished goods	26,000	41,000

At the beginning of the year, the company estimated that it would work 36,000 machine-hours and incur \$252,000 in manufacturing overhead cost. The following transactions were recorded for the year:

- Materials (include direct materials and indirect materials) were purchased, \$300,000.
- Indirect materials were requisitioned for use in production \$15,000.
- The following employee costs were incurred: direct labor, \$390,000; indirect labor, \$62,000; and administrative salaries, \$176,000.
- Selling and Marketing expenses, \$160,000.
- Factory utility costs, \$19,000.
- Depreciation for the year was \$143,000 of which \$137,000 is related to factory operations and \$6,000 is related to selling, general, and administrative activities.
- The actual machine-hours were 34,000.
- Actual sales for the year totaled \$1,280,000.

## Required: (24%)

- Compute the manufacturing overhead allocated. (4%)
- Compute the amount of under- or overallocated manufacturing overhead. (4%)
- Compute the total manufacturing costs. (4%)
- Compute the cost of goods manufactured. (4%)
- Compute the cost of goods sold after adjustments for under- or overallocated manufacturing overhead. (4%)
- Compute the operating income. (4%)

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四、The Osborn Corporation sells 400,000 C-282 chips to the mobile phone industry. Osborn has a capacity of 110,000 machine-hours and can produce 4 chips per machine-hours. C-282's contribution margin per unit is \$10. Osborn sells only 400,000 chips because 40,000 valves (10% of the good valves) need to be reworked. It takes 1 machine-hour to rework 4 chips, so 10,000 hours of capacity are used in the rework process. Osborn's rework costs are \$250,000. Rework costs consist of:

- a. Direct materials and direct rework labor (variable costs): \$4 per unit
- b. Fixed costs of equipment, rent, and overhead allocation: \$5 per unit

Osborn's process designers have developed a modification that would maintain the speed of the process and ensure 100% quality and no rework. The new process would cost \$475,000 per year. The following additional information is available:

- c. The demand for Osborn's C-282 chips is 470,000 per year.
- d. The Turf Corporation has asked Osborn to supply 35,000 C-652 chips (another product) if Osborn implements the new design. The contribution margin per C-652 chip is \$12. Osborn can make three C-652 chips per machine-hour with 100% quality and no rework.

## Required: (16%)

1. Should Osborn implement the new design? Show your calculations. (8%)
2. Suppose Osborn's designers implement the new design. Should Osborn accept Turf's order for 35,000 C-652 chips? Show your calculations. (8%)

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五、The Beacon Company manufactures and sells notebook computers. Its Assembly Division buys displays from the Display Division and assembles the computers. The Display Division, which is operating at capacity, incurs an incremental manufacturing cost of \$85 per unit. The Display Division can sell all its output to the outside market at a price of \$125 per unit, after incurring a variable marketing and distribution cost of \$8 per unit. If the Assembly Division purchase displays from outside supplies at a price of \$125 per unit, it will incur a variable purchasing cost of \$7 per unit. Beacon's division managers can act autonomously to maximize their own division's operating income.

## Required:(10%)

1. What is the minimum transfer price at which the Display Division manager would be willing to sell displays to the Assembly Division ? Show your calculations. (5%)
2. What is the maximum transfer price at which the Assembly Division manager would be willing to purchase displays from the Display Division ? Show your calculations. (5%)