東吳大學 107 學年度碩士班研究生招生考試試題

系級	會計學系碩士班	考試時間	100 分鐘
科目	成本及管理會計學	本科總分	100 分

※請標明題號後，依序作答於答案卷上。

一、Multiple Choice (20%)

1. Guble Manufacturing produces a single product that sells for $70. Variable costs per unit equal $45. The company expects total fixed costs to be $52,000 for the next month at the projected sales level of 2,500 units. In an attempt to improve performance, management is considering an alternative action. Suppose that management believes that a 10% reduction in the selling price will result in a 10% increase in units sold. If this proposed reduction in selling price is implemented ________.
   A. operating income will decrease by $10,500
   B. operating income will increase by $11,500
   C. operating income will decrease by $13,000
   D. operating income will increase by $22,000
2. Harland Corporation currently produces cardboard boxes in an automated process. Expected production per month is 20,000 units, direct material costs are $3.50 per unit, and manufacturing overhead costs are $12,000 per month. Manufacturing overhead is all fixed costs. What is the flexible budget for 16,000 units?
   A. $68,000
   B. $82,000
   C. $65,600
   D. $56,000
3. Assembly department of Gogo Technologies had 150 units as work in process at the beginning of the month. These units were 45% complete. It has 400 units which are 25% complete at the end of the month. During the month, it completed and transferred 600 units. Direct materials are added at the beginning of production. Conversion costs are allocated evenly throughout production. Gogo uses weighted-average process-costing method. What is the number of equivalent units of work done during the month with regards to direct materials?
   A. 1000 units
   B. 850 units
   C. 700 units
   D. 633 units
4. The net initial investment for a piece of construction equipment is $3,200,000. Annual cash inflows are expected to increase by $640,000 per year. The equipment has an 8-year useful life. What is the payback period?
   A. 3.00 years
   B. 4.00 years
   C. 5.00 years
   D. 8.00 years
5. The Midtex Corporation disposes a capital asset with an original cost of $150,000 and accumulated depreciation of $90,000 for $45,000. The company's tax rate is 40%. Calculate the after-tax cash inflow from the disposal of the capital asset.
   A. ($15,000)
   B. $45,000
   C. $51,000
   D. $60,000

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6. Times Corporation, whose tax rate is 40%, has two sources of funds: long-term debt with a market value of $6,000,000 and an interest rate of 8%, and equity capital with a market value of $20,000,000 and a cost of equity of 12%. Times Corporation's after-tax cost of debt is:
   A. 4.80%
   B. 8.00%
   C. 11.08%
   D. 7.20%

7. Drape Company uses the high-low method to estimate the cost function. The information for 2017 is provided below:

	Machine-hours	Power Costs
Highest observation of cost driver	600	$25,000
Lowest observation of cost driver	200	$13,000

   What is the slope coefficient?
   A. $65.00
   B. $62.50
   C. $42.00
   D. $30.00

8. Flavor Enterprises has been approached about providing a new service to its clients. The company will bill clients $150 per hour; the related hourly variable and fixed operating costs will be $68 and $15, respectively. If all employees are currently working at full capacity on other client matters, the per-hour opportunity cost of being unable to provide this new service is:
   A. $0.
   B. $67.
   C. $82.
   D. $150

9. Synder Corporation uses a 120% markup on total cost and recently computed a selling price of $1,850 for a particular product. On the basis of this information, the product's total cost is:
   A. $841.
   B. $1,480.
   C. $1,542.
   D. $2,220.

10. Houseman, Inc. anticipates sales of 60,000 units, 57,600 units, and 61,200 units in July, August, and September, respectively. Company policy is to maintain an ending finished-goods inventory equal to 40% of the following month's sales. On the basis of this information, how many units would the company plan to produce in July?
   A. 62,640.
   B. 59,760.
   C. 59,600.
   D. 59,040.

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二、 20%

Wisdom Industries manufactures and sells two products: Simple and Deluxe. The results of operations for 2017 follow.

	Simple	Deluxe	Total
Units	12,000	5,000	17,000
Sales revenue	$600,000	$1,250,000	$1,850,000
Less: Cost of goods sold	456,000	675,000	1,131,000
Gross Margin	$144,000	$575,000	$719,000
Less: Selling expenses	160,000	240,000	400,000
Operating income (loss)	($16,000)	$335,000	$319,000

Fixed manufacturing costs included in cost of goods sold amount to $8 per unit for Simple and $25 per unit for Deluxe. Variable selling expenses are $10 per unit for Simple and $30 per unit for Deluxe; remaining selling amounts are fixed.

Required:

Answer the following questions independently.

1. In 2018, the company plans to sell more Simple. Assume that to do so the company would have to acquire additional equipment costing $24,000 with a one-year useful life and zero residual value.
   a. What would be the effect on Simple ‘s operating income if Wisdom sell additional 5,000 units of Simple.
   b. Calculate the sale revenue of Simple for the operating income of Simple in 2018 to equal the operating income of Simple in 2017.
   c. What is the breakeven point in units of Simple for 2018.
2. Wisdom Industries wants to drop the Simple product line. If the line is dropped, company-wide fixed manufacturing costs would fall by 20% because there is no alternative use of the facilities. What would be the impact on operating income if Simple is discontinued?
3. If Wisdom Industries eliminates Simple and uses the available capacity to produce and sell an additional 2,000 units of Deluxe, what would be the impact on operating income?

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三、25%

Solar Corporation manufactures plastic chairs and tables and operates at capacity. The controller has asked you to compare plant-wide, department, and activity-based cost allocation.

Solar Corporation's budgeted manufacturing costs for 2018 are given in the following tables.

Forming Department	Chairs	Tables	Total
Direct materials	$32,000	$28,000	$60,000
Direct labor	42,000	54,000	96,000
Overhead costs			
Setup			67,200
Supervision			57,600

Finishing Department	Chairs	Tables	Total
Direct materials	$8,000	$30,000	$38,000
Direct labor	24,000	36,000	60,000
Overhead costs			
Setup			144,000
Supervision			105,600

Other information follows:

Setup costs in each department vary with the number of batches processed in each department. The budgeted number of batches for each product line in each department is as follows:

	Chairs	Tables
Forming department	40	120
Finishing department	150	90

Supervision costs in each department vary with direct manufacturing labor costs in each department.

Required:

1. Calculate the budgeted costs of chairs and tables based on a single plant-wide overhead rate, if total overhead is allocated based on total direct labor costs.
2. Calculate the budgeted costs of chairs and tables based on departmental overhead rates, where forming department overhead costs are allocated based on total direct costs of the forming department and finishing department overhead costs are allocated based on direct labor costs of the finishing department.
3. Calculate the budgeted costs of chairs and tables if Solar allocates overhead costs in each department using activity-based costing.
4. Explain how the disaggregation of information could improve or reduce decision quality.

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四、20%

Dream Inc. manufactures curtains. The following information relates to its two years of operations, 2016 and 2017:

	2016	**2017**
Selling price	\$50	\$55
Units produced and sold	40,000	42,000
Direct materials used (square yards)	128,000	142,800
Direct manufacture labor-hours	32,000	31,080
Direct materials cost per yard	\$10	\$11
Direct manufacture cost per hour	\$15	\$16

Required:

1. Calculate Dream's operating income in both 2016 and 2017.

2. Calculate the growth, price-recovery, and productivity components that explain the change in operating income from 2016 to 2017.

五、15%

The following data pertain to the Western Division of Global Company:

Divisional contribution margin	\$700,000
Profit margin controllable by the divisional manager	378,000
Profit margin traceable to the division	324,000
Average asset investment	1,350,000

The company uses responsibility accounting concepts when evaluating performance; Western's Division manager is contemplating the following three investments. He can invest up to \$450,000.

	No. 1	No. 2	No. 3
Cost	\$300,000	\$370,000	\$450,000
Expected income	63,000	66,600	112,500

Required:

1. Calculate the ROIs of the three investments.
2. What is the division manager's current ROI, computed by using responsibility accounting concepts?
3. Which of the three investments would be selected if the manager's focus is on Western's divisional performance, as judged by ROI? Why?
4. If Global has an imputed interest charge of 23%, compute the residual income of investment No. 3. If Western's Division manager is evaluated by **residual income**, is this investment attractive from Western's perspective? From Global's perspective? Why?