國立政治大學 104 學年度碩士班招生考試試題

考 試 科 目	成本與管理會計學 41313	所 別	會計學研究所	考試時間	2 月 28 日(六) 第 三 節

PROBLEM 1 (15 points):

Answer the following questions. There is no connection between the questions.

1. The fixed manufacturing overhead cost-allocation rate is $30 per machine-hour. The following fixed manufacturing overhead data pertain to January:

	Actual	Static Budget
Production	1,100 units	1,000 units
Machine hours	2,100 hours	2,000 hours
Fixed overhead costs for January	$ 62,000	$ 60,000

What is the fixed overhead production-volume variance? [Indicate whether it is favorable (F) or unfavorable (U).] (4 points)

2. The Alpha Company has set up the following standard per finished unit for variable manufacturing overhead cost:
   2 machine-hours at $10 per machine-hour

   Alpha Company made the following journal entry for the end of January:

Dr. Variable Manufacturing Overhead Allocated	48,000	
Variable Manufacturing Overhead Efficiency Variance	2,000	
Cr. Variable Manufacturing Overhead		46,000
Variable Manufacturing Overhead Spending Variance		4,000

What is the actual variable manufacturing overhead cost rate per machine-hour? (4%)

3. The Beta Company provides the following information for the month of January:

   Sales-volume variance $ 600 U   Market-size variance $ 1,800 U

   Static-budget variance $ 3,000 U   Market-share variance $ 2,300 F

   What is the sales-mix variance? [Indicate whether it is favorable (F) or unfavorable (U).] (4 points)

4. Which of the following might be the causes of an unfavorable direct manufacturing labor efficiency variance? (3 points)
   (1) work was efficiently scheduled
   (2) budgeted time standards are too tight
   (3) more units were produced than planned
   (4) lower-quality materials were purchased
   (5) machines were not properly maintained
   (6) more higher-skilled workers were scheduled than planned

備 註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。

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PROBLEM 2 (15 points):

Lucky Company sells a single product manufactured in two departments, Mixing and Testing. Units are started in Mixing Department and then are transferred to Testing Department, where they are completed. For the Testing Department, conversion costs are added evenly during the process, and direct materials are added when production is 80% complete. Spoiled units are detected upon inspection at the end of the process and are disposed of at zero net disposal value. Normal spoilage is 10% of all good units that pass inspection. At the start of January 2015, Testing Department had 5,000 units in beginning work in process, which were 40% complete for conversion costs. An additional 15,000 units were transferred in during January, and 4,000 units remain in work in process at the end of the month. These unfinished units are 90% complete for conversion costs. The testing department had 2,000 spoiled units in January. Cost data related to January operations in the testing department are as follows:

	Beginning Inventory	Added This Period
Cost from previous department	$ 54,000	$ 186,000
Direct materials	0	104,400
Conversion costs	17,600	149,600

Required: The following requirements refer only to the preceding data; there is no connection between the requirements.

1. Assume that the company uses the FIFO method of process costing to account for the production of its product.
   (1) What is the cost of goods completed and transferred to finished goods during January?
   (2) If the spoiled units are disposed at $12 per unit (instead of zero), what is the unit cost of goods completed and transferred to finished goods during January? (Please round your answer to one decimal place.)
2. Assume that the company uses the weighted-average method and the inspection point is at the 70% stage of completion (instead of the 100% stage of completion). For the testing department, calculate the cost of abnormal spoilage in January.

PROBLEM 3 (20 points):

Sunny Company has two divisions, Northern and Southern. Both division manufactures and sells three products, A, B, and C. A monthly condensed income statement for the current operations is as follows:

	Northern Division	Southern Division
Sales	$ 440,000	$ 139,000
Cost of goods sold	275,000	106,000
Selling costs	55,000	28,000
Administrative costs	50,000	25,000
Operating income (loss)	$ 60,000	$ (20,000)

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All administrative costs are common to the three products and the two divisions and are fixed for the period, whether a division is closed. The fixed manufacturing cost of each division is common to the three products and closing down any division would result in savings of 60% of the fixed manufacturing costs of that division. Fixed selling cost is separable by division for the period. All separable cost will be eliminated with the dropping of a division. Because of the operating loss, Sunny Company is considering the possibility of ceasing operations at its Southern Division. In attempting to decide whether to eliminate Southern Division, management gathered the following information:

	Product A	Product B	Product C
Selling price	$ 100	$ 50	$ 70
Variable manufacturing cost per unit	$ 50	$ 30	$ 30
Variable selling cost per unit	$ 5	$ 4	$ 3
Sales quantity –Southern Division	500 units	800 units	700 units

Required: The following requirements refer only to the preceding data; there is no connection between the requirements.

1. What will be the effect on the net operating income of the company as a whole if Southern Division is dropped, assuming the released facilities remain idle?
2. In order to improve the profitability of Southern Division, the sales manager of Southern Division has recommended dropping Product B from the product line of Southern Division and using the production capacity currently committed to the production of Product B to produce more Product A. The production manager of Southern Division reports that 400 additional units of Product A can be produced with the production capacity now used in manufacturing Product B. To sell 400 additional units of Product A, the sales manager believes that the advertising budget will have to be increased by $2,000. In addition, the elimination of Product B will result in a 10% decrease in the sales of Product C.

   (1) Calculate the increase or decrease in operating income if the sales manager's proposal is accepted.

   (2) What other qualitative factors should the Southern Division consider when deciding whether to accept the sales manager's proposal?
3. Friendly Company wants to place a special order for 400 units of Product B. The special order must either be taken in full or be rejected completely. If Southern Division accepts Friendly's offer it will have to sell 300 fewer units to its regular customers. Southern Division will not incur any variable selling costs for this special order. Calculate the minimum unit price that Southern Division's management can accept for the Friendly order without reducing net income?

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PROBLEM 4 (16 points)

Reliable Reminders Inc. is a personal service firm located in Claremont, California. The firm collects lists of birthdays, anniversaries and other memorable dates from its clients, and offers 3 levels of service. Level One clients receive an e-mail reminder of their important dates at least a week in advance. Level Two clients receive both an e-mail reminder and an appropriate greeting card. Level Three clients receive an e-mail reminder, an appropriate greeting card, and a recommended gift. Level One clients arrange their services through 3 customer service representatives. Reliable also employs 4 customer service representatives for Level Two clients, and 2 representatives for Level Three clients.

Reliable Reminders incurs the following costs as part of its operations, and it uses the following cost drivers. Management wants to calculate the cost of each level of service.

Activity	Total Cost	Cost Driver
Facility rent	$3,500	Square feet
Utilities	1,200	Number of customer service representatives
Office supplies	800	Number of clients

You may find the following information helpful:

	Level One	Level Two	Level Three
Square feet	1,000	1,500	1,000
Number of clients	8	20	12
Average weekly hours for each customer service representative	15	18	20
Average number of reminders per client	5	6	10
Direct costs	$2,500	$4,200	$5,000

Based on the preceding information, match each item on the left below with the most appropriate item on the right. Each numbered item has only one correct answer. Each lettered item may be used once, more than once, or not at all. *Round all unit and total costs to the nearest dollar.*

____ 1. Total costs to be allocated

____ 2. Total indirect costs allocated to Level One

____ 3. Total costs for Level Three

____ 4. Level with the lowest total cost per client

____ 5. Level with the highest total cost

____ 6. Level Three's indirect cost per client

____ 7. Level with the highest direct cost per client

____ 8. Level One's total direct costs per client

A. $17,200

B. $11,700

C. $5,500

D. $313

E. $126

F. Between $6,500 and $6,600

G. Between $2,400 and $2,500

H. Between $1,500 and $1,600

I. Level One

J. Level Two

K. Level Three

L. Some other amount

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PROBLEM 5 (16 points)

Delta Division had the following results for the year just ended:

Sales	$375,000
Variable costs	225,000
Fixed costs	120,000
Total operational assets	150,000

Delta is considering a new product line that would involve the following:

Sales	$75,000
Variable costs	45,000
Fixed costs	23,250
Total operational assets	37,500

Delta's parent company, Omega, Inc., has a company-wide ROI of 14% and pays bonuses based on divisional ROI.

Required:

(1) Would Delta's managers be encouraged to introduce the new product line if they are evaluated based on ROI? Explain.

(2) Would the top managers of Omega want to introduce the new product line it they are evaluated based on ROI? Explain.

(3) Assume a required rate of return of 10% on operational assets invested in each division. Would Delta's managers be encouraged to introduce the new product line if they are evaluated based on residual income? Explain.

(4) "Residual income is a better evaluation method than return on investment because it has a lower required rate of return for the company projects than return on investment does." Do you agree? Explain.

PROBLEM 6 (18 points)

Zack developed an innovative computer game called Deadly Dungeon (DD). It was so successful that he quickly followed up with two sequels: Deadly Dungeon II (DD2) and Deadly Dungeon III (DD3). The costs of developing the games were $95,000 for DD, $10,000 for DD2, and $15,000 for DD3. The production process consists of copying the games to blank DVDs using his computer and then packing them with printed instructions in a display box. It takes longer to copy the original game than the sequels. Zack can produce, ready for shipping, about 20 copies of DD, 30 copies of DD2, or 45 copies of DD3 in an hour.

	DD	DD2	DD3
Selling price	$49.00	$29.00	$29.00
Costs			
Blank DVD	1.00	0.50	0.50
Instructions and packaging	4.00	2.00	2.00
Prorated development costs*	19.00	1.00	3.00
Margin	$25.00	$25.50	$23.50
Daily Demand	120 games	120 games	90 games

* The prorated development costs were determined for each game by dividing the game's development costs by 5,000, the estimated minimum total demand for each game.

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Required:

Zack normally spends 8 hours a day on copying and packing the diskettes. What is the most Zack should be willing to pay per hour for a worker to duplicate and pack diskettes after his normal working hours? Explain. (Assume that the worker would work at the same pace as Zack.)

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