國立中央大學105學年度碩士班考試入學試題

所別： 企業管理學系 碩士班 一般己組(一般生)　　共3頁 第1頁

科目： 管理會計學

本科考試可使用計算器，廠牌、功能不拘　　＊請在答案卷(卡)內作答

[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。

一、 Blanco Flour Company manufactures flour by a series of three processes, beginning with wheat grain being introduced in the Milling Department. From the Milling Department, the materials pass through the Sifting and Packaging departments, emerging as packaged refined flour.

The balance in the account Work in Process—Sifting Department was as follows on May 1, 2015:

Work in Process—Sifting Department (20,000 units, 80% completed):	
Direct materials (20,000 × $1.37)	$27,400
Conversion (20,000 × 80%× $0.55)	8,800
	$36,200

The following costs were charged to Work in Process—Sifting Department during May:

Direct materials transferred from Milling Department:	
560,000 units at $1.40 a unit	$784,000
Direct labor	179,000
Factory overhead	101,200

During May, 568,000 units of flour were completed. Work in Process—Sifting Department on May 31 was 12,000 units, 70% completed.

Required: **(24%)**

1. Calculate the following items for Sifting Department for May by using the FIFO method: (12%)
   (a) the cost per equivalent unit of direct materials,
   (b) the cost per equivalent unit of conversion costs,
   (c) the costs transferred to Packaging Department, and
   (d) the costs of Work in Process on May 31.
2. Journalize the entries for costs transferred from Milling to Sifting and the costs transferred from Sifting to Packaging. (6%)
3. Determine the increase or decrease in the cost per equivalent unit from April to May of direct materials and conversion costs. (6%)

注意:背面有試題

國立中央大學105學年度碩士班考試入學試題

所別： 企業管理學系 碩士班 一般已組(一般生)　　共3頁 第2頁

科目： 管理會計學

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二、 During the first month of operations ended October 31, 2015, Sweet Occasions Inc. baked 3,200 cakes, of which 2,900 were sold. Operating data for the month are summarized as follows:

Sales		$36,250
Baking costs:		
Direct materials	$11,200	
Direct labor	5,440	
Variable manufacturing cost	2,880	
Fixed manufacturing cost	3,840	23,360
Selling and administrative expenses:		
Variable	$ 2,900	
Fixed	1,305	4,205

During November, Sweet Occasions Inc. baked 2,600 cakes and sold 2,900 cakes. Operating data for November are summarized as follows:

Sales		$36,250
Baking costs:		
Direct materials	$9,100	
Direct labor	4,420	
Variable manufacturing cost	2,340	
Fixed manufacturing cost	3,840	19,700
Selling and administrative expenses:		
Variable	$2,900	
Fixed	1,305	4,205

Required: **(26%)**

1. Calculate the income from operations for (a) October and (b) November under the absorption costing. (12%)
2. Calculate the income from operations for (a) October and (b) November under the variable costing. (12%)
3. Based upon the answers to (1) and (2), did Sweet Occasions Inc. operate more profitably in October or in November? (2%)

三、 Sammamish Brick, Inc., manufactures bricks using clay deposits on the company's property. Raw clays are blended and then extruded into molds to form unfired bricks. The unfired bricks are then stacked onto movable metal platforms and rolled into the kiln where they are fired until dry. The dried bricks are then packaged and shipped to retail outlets and contractors. The bottleneck in the production process is the kiln, which is available for 2,000 hours per year. Data concerning the company's four main products appear below. Products are sold by the pallet.

	Traditional Brick	Textured Facing	Cinder Block	Roman Brick
Gross revenue per pallet	$756	$1,356	$589	$857
Contribution margin per pallet	$472	$632	$376	$440
Annual demand (pallets)	90	110	100	120
Hours required in the kiln per pallet	8	8	4	5

No fixed costs could be avoided by modifying how much is produced of any product.

注意：背面有試題

Required: **(25%)**

1. Is there sufficient capacity in the kiln to satisfy demand for all products? (5%)
2. What is the production plan for the year that would maximize the company's profit? (5%)
3. What would be the total contribution margin for the production plan you have proposed? (5%)
4. The kiln could be operated for more than 2,000 hours per year by running it after normal working hours. Up to how much per hour should the company be willing to pay in overtime wages, energy costs, and other incremental costs to operate the kiln additional hours? (5%)
5. The company is considering introducing a new product, glazed Venetian bricks, whose variable cost would be $820 per pallet and that would require 10 hours in the kiln per pallet. What is the minimum acceptable selling price for this new product? (5%)

四、 A condensed income statement for the Turbine Division of Mega Engines Inc. for the year ended December 31, 2015, is as follows:

Sales	$600,000
Cost of goods sold	338,000
Gross profit	$262,000
Operating expenses	190,000
Income from operations	$ 72,000

Assume that the Turbine Division received no charges from service departments. The president of Mega Engines has indicated that the division's rate of return on a $600,000 investment must be increased to at least 20% by the end of the next year if operations are to continue. The division manager is considering the following three proposals:

Proposal 1: Transfer equipment with a book value of $120,000 to other divisions at no gain or loss and lease similar equipment. The annual lease payments would exceed the amount of depreciation expense on the old equipment by $18,000. This increase in expense would be included as part of the cost of goods sold. Sales would remain unchanged.

Proposal 2: Purchase new and more efficient machining equipment and thereby reduce the cost of goods sold by $48,000. Sales would remain unchanged, and the old equipment, which has no remaining book value, would be scrapped at no gain or loss. The new equipment would increase invested assets by an additional $150,000 for the year.

Proposal 3: Reduce invested assets by discontinuing an engine line. This action would eliminate sales of $180,000, cost of goods sold of $133,200, and operating expenses of $42,000. Assets of $300,000 would be transferred to other divisions at no gain or loss.

Required: **(25%)**

1. Using the DuPont formula for rate of return on investment, determine the profit margin, investment turnover, and rate of return on investment for the Turbine Division for the past year. (3%)
2. Prepare condensed estimated income statements and compute the invested assets for each proposal. (6%)
3. Using the DuPont formula for rate of return on investment, determine the profit margin, investment turnover, and rate of return on investment for each proposal. (9%)
4. Which of the three proposals would meet the required 20% rate of return on investment? (3%)
5. If the Turbine Division were in an industry where the profit margin could not be increased, how much would the investment turnover have to increase to meet the president's required 20% rate of return on investment? (4%)