(101)輔仁大學碩士班招生考試試題	考試日期：101 年 3 月 9 日第 2 節
	本試題共： 3 頁(本頁為第 1 頁)

科目： 成本與管理會計學　　系所組：會計學系碩士班

注意：未書寫計算過程者不予計分。未在彌封答案卷內作答者，不予計分。

1. (25%) FJU Corporation makes a special-purpose machine, CNC, used in the textile industry. FJU has designed the CNC machine for 2011 to be distinct from its competitors. It has been generally regarded as a superior machine. FJU presents the following data for 2010 and 2011.

	2010	2011
1. Units of CNC produced and sold	200	210
2. Selling price	$40,000	$42,000
3. Direct materials (kilograms)	300,000	10,000
4. Direct material cost per kilogram	$8	$8.50
5. Manufacturing capacity in units of CNC	250	250
6. Total conversion costs	$2,000,000	$2,025,000
7. Selling and customer-service capacity	100 customers	95 customers
8. Total selling and customer-service costs	$1,000,000	$940,500

FJU produces no defective machines, but it wants to reduce direct materials usage per CNC machine in 2011. Conversion costs in each year depend on production capacity defined in terms of CNC units that can be produced, not the actual units produced. Selling and customer-service costs depend on the number of customers that FJU can support, not the actual number of customers it serves. FJU has 75 customers in 2010 and 80 customers in 2011.

Required

(1) Calculate the change in operating income of FJU Corporation (i.e.2011 operating income minus 2010 operating income).

(2) Suppose that during 2011, the market for FJU's special-purpose machines grew by 3%. All increases in market share (that is, sales increases greater than 3%) are the result of FJU's strategic actions. Calculate how much of the change in operating income from 2010 to 2011 is due to the industry-market-size factor, product differentiation, and cost leadership.

2. (25%) Weather Instruments assembles products from component parts. It has two departments that process all products. During January, the beginning work in process in the assembly department was half complete as to conversion and complete as to direct materials. The beginning inventory included $12,000 for materials and $4,000 for conversion costs. Overhead is applied at the rate of 50% of direct manufacturing labor costs. Ending work-in-process inventory in the assembly department was 40% complete. All spoilage is considered normal and is detected at the end of the process. Beginning work in process in the finishing department was 75% complete as to conversion and ending work in process was 25% converted. Direct materials are added at the end of the process. Beginning inventories included $16,000 for transferred-in costs and $10,000 for direct manufacturing labor costs. Overhead in this department is equal to direct manufacturing labor costs. 10,000 units are spoiled due to machine breakdowns and operator errors at the end of the process. Additional information about the two departments follows:

	Assembly	Finishing
Beginning work-in-process units	20,000	24,000
Units started this period	40,000	?
Units transferred this period	50,000	?
Ending work-in-process units	8,000	20,000
Material costs added	$44,000	$28,000
Direct manufacturing labor	$16,000	$24,000

※ 注意：1. 考生須在「彌封答案卷」上作答。
2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。
3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

Required: (Carry unit-cost calculations to two decimal places when necessary. Calculate final totals to the nearest dollar.)

(1) For the assembly Department, use the weighted-average method to calculate the assigned costs of units completed and transferred out and the assigned costs of units in ending work in process.

(2) For the finishing Department, use the FIFO method to compute the assigned costs of units completed and transferred out and the assigned costs of units in ending work in process.

3. (25%) Brilliant Accents Company manufactures and sells three styles of kitchen faucets: Brass, Chrome, and White. Production takes 25, 25, and 10 machine hours to manufacture 1000-unit batches of brass, chrome and white faucets, respectively. Direct labor cost per hour is $300. The following additional data apply:

	BRASS	CHROME	WHITE
Projected sales in units	30,000	50,000	40,000
PER UNIT data:			
Selling price	$40	$20	$30
Direct materials	$ 8	$ 4	$ 8
Hours per 1000-unit batch:			
Direct labor hours	40	10	30
Machine hours	25	25	10
Setup hours	1.0	0.5	1.0
Inspection hours	30	20	20

Total overhead costs for the year are estimated as follows:

Activity	Overhead costs
Setups	$465,500
Inspections	$405,000
	$870,500

Under traditional system, overhead cost is applied based on direct labor hours. Under the ABC system, overhead cost is applied based on the activity-cost-driver rate for setup costs and inspection costs.

Required:

(1) Using the traditional system, determine the operating profit for Brass, Chrome.

(2) Using the ABC system, determine the operating profit for Brass, Chrome, and White.

4. (25%) Pet Transport Company makes two pet carriers, the Cat-allac and the Dog-eriffic. They are both made of plastic with metal doors, but the Cat-allac is smaller. Information for the two products for the month of April is given in the following tables:

Input prices	
Direct materials	
Plastic	$4 per pound
Metal	$3 per pound
Direct manufacturing labor	$10 per direct manufacturing labor hour

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Input quantities per unit of output	Cat-allac	Dog-eriffic
Direct materials		
Plastic	4 pounds	6 pounds
Metal	0.5 pounds	1 pound
Direct manufacturing labor-hours (DMLH)	3 hours	5 hours
Machine-hours (MH)	10 MH	18 MH

Inventory information, direct materia]	Plastic	Metal
Beginning inventory	250 pounds	60 pounds
Target ending inventory	380 pounds	55 pounds
Cost of beginning inventory	$950	$180

Pet Transport accounts for direct materials using a FIFO cost flow assumption.

Sales and inventory information , finished goods	Cat-allac	Dog-eriffic
Expected sales in units	500	300
Selling price	$160	$250
Target ending inventory in units	35	15
Beginning inventory in units	15	30
Beginning inventory in dollars	$1,500	$5,580

Pet Transport uses a FIFO cost flow assumption for finished goods inventory.Pet Transport uses an activity-based costing system and classifies overhead into three activity pools: Setup, Processing and Inspection. Activity rates for these activities are $100 per setup hour, $5 per machine hour, and $16 per inspection hour, respectively. Other information follows:

Cost driver information	Cat-allac	Dog-eriffic
Number of units per batch	20	15
Setup time per batch	1.5 hour	1.75 hour
Inspection time per batch	0.5 hour	0.6 hour

Fixed nonmanufacturing costs for March equal $36,000, of which half are salaries. Salaries are expected to increase 5% in April. The only variable nonmanufacturing cost is sales commission, equal to 1% of sales revenue.

Required: (Carry unit-cost calculations to two decimal places when necessary. Calculate final totals to the nearest dollar.)

Calculate the following for April:

(1) Budgeted revenues.

(2) Budgeted direct material cost.

(3) Budgeted manufacturing overhead cost.

(4) Budgeted Cost of goods sold.

(5) Budgeted operating income.