國立政治大學　105 學年度碩士班招生考試試題

考試科目	成本與管理會計學 ※1313	所別	會計學研究所 會計組	考試時間	2 月 27 日(六) 第三節

第一題 (15%)

Sunny Company produces four products at the splitoff point: A, B, C, and D. Product A, B, and C are joint products and become separately identifiable at a single splitoff point. Product D is a byproduct. The company needs to allow 20% of revenues for marketing costs on Product D. No joint cost is to be allocated to the byproduct. In December, Sunny Company had joint production costs of $150,000 to yield 4,800 pounds of Product A, 5,000 pounds of Product B, 8,000 pounds of Product C, and 5,000 pounds of Product D. Product C and Product D were sold without further processing at $10 and $5 per pound, respectively. Sales during December are 8,000 pounds of Product C and 4,000 pounds of Product D. 4,800 pounds of Product A was further processed to yield 5,000 pounds of Product AA at additional processing costs of $35,000 and sold for $16 per pound. 5,000 pounds of Product B was further processed to yield 6,000 pounds of Product BB at additional processing costs of $45,000 and sold for $20 per pound. Sales during December are 4,000 pounds of Product AA and 5,000 pounds of Product BB. The company had no beginning inventories. Sunny Company had the option of selling Product A and Product B at the splitoff point. A pound of Product A could be sold at splitoff for $10 and the selling price of Product B could be $14 per pound.

R equired: (for (1) and (2), please round your answer to two decimal places)

(1) Assume that Sunny Company allocates the joint costs to joint products using the net realizable value (NRV) method and accounts for the byproduct using the sales method. What is the unit cost per pound for Product AA?

(2) Assume that Sunny Company allocates the joint costs using the sales value at splitoff method and accounts for the byproduct using the production method. What is the unit cost per pound for Product BB?

(3) According to the data above, if Sunny Company allocates the joint costs using the physical-measure method and accounts for the byproduct using the production method, what combination of products should Sunny sell to maximize profits?

第二題 (15 %)

Delta Company has two divisions, Alpha and Beta. The company treats its divisions as profit centers and allows division managers to choose their sources of sale and supply. The Alpha Division produces electric motors, 25% of which are sold to Beta Division and the remainder to outside customers on the intermediate market. Alpha Division, which is operating at 100% of capacity of 1,000 motors per month, sales 750 units monthly to the outside market at a price of $200 per motor. Total manufacturing cost per motor, based on a denominator level of 12,000 output units per year, is $120 (20% fixed). Nonmanufacturing cost per motor is $60 (40% fixed). $8 per unit in variable nonmanufacturing costs can be avoided on intracompany sales.

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R equired: The following situations refer only to the preceding data; there is no connection among the situations.

(1) Assume that internal transfers are made at 140% of full manufacturing cost. Alpha Division has an opportunity to sell to a new outside customer the 250 units now committed to Beta Division at $190 per unit. Beta could purchase its requirements from an outside supplier at a price of $200 per unit. If the Alpha Division takes on the new customer and the Beta Division purchases its requirements from an outside supplier, what will be the effect on the monthly profits of the company as a whole?

(2) Assume that internal transfers are made at 140% of full manufacturing cost. Beta Division has an opportunity to purchase 250 identical quality electric motors from an external supplier at a cost of $160 per unit on a continuing basis. Assume that the Alpha Division can sell the 250 motors now committed to Beta Division to outside customers for $200 each. What will be the effect on the monthly profits of the company as a whole if Beta Division purchases motors from the external supplier rather than from Alpha Division?

(3) Assume that the two divisions are free to negotiate a transfer price. Due to increased demand, Beta Division wants to purchase 400 motors from Alpha Division rather than 250 next month. In order to maintain the same quality level, the Beta Division will purchase motors from the single source of supply. What is the lowest acceptable transfer price from the perspective of the Alpha Division?

第三題 (20%)

Harper Company is a manufacturer of computer accessories. Its variable manufacturing cost includes direct material costs, direct manufacturing labor costs, and manufacturing overhead costs. The company uses standard costing and allocates variable and fixed manufacturing overhead based on machine-hours. Each output unit is budgeted to take 0.5 of a machine-hour. The standard manufacturing cost per finished unit is $15. Budgeted variable manufacturing overhead cost per machine-hour is $4. The standard fixed manufacturing overhead cost per machine-hour, based on a denominator level of 4,000 machine-hours per year, is $12. The same standard unit costs persisted throughout Year 2 and Year 3. The company had 1,000 units in inventory to start Year 3 and uses the FIFO inventory flow assumption. Work in process inventories are insignificant and can be ignored.

During Year 3, it produced 7,500 units and sold 8,000 units for $25 each. Variable manufacturing overhead incurred was $14,800. Fixed manufacturing overhead incurred was $47,200. Actual machine-hours were 3,800. Variable selling and administrative expenses, which is driven by units sold, is $7 per unit. Fixed selling and administrative expenses were $24,000. Any variance is written off to cost of goods sold in the year in which it occurs. There are no variances of direct materials and direct manufacturing labor for Year 3.

R equired:

(1) What is the production-volume variance in Year 3? Indicate whether it is favorable (F) or unfavorable (U).

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(2) Compute the gross margin for Year 3, assuming that absorption costing is used by the company.

(3) Compute the operating income for Year 3, assuming that variable costing is used by the company.

(4) Absorption costing is more likely to lead to inventory buildups than variable costing. What can be done to counteract undesirable inventory buildups?

第四題 (25%)

Scott Mills was originally a producer of fabrics, but several years ago intense foreign competition led management to restructure the firm as vertically integrated cotton garment manufacturer. Scott purchased spinning firms that produce raw yarn and fabricators that produce the final garment. The firm has both domestic and international operations.

The domestic spinning and knitting operations are highly automated and use the latest technology. The domestic operations are able to produce cotton fabric for $1.52 per pound. The domestic fabricating operations are located exclusively in rural areas. Their locations keep total average labor costs to $16.40 per hour (including fringe benefits). The cost to ship products to the firm's distribution center is $0.10 per pound.

The firm's foreign subsidiary is a fabricating operation located in the Maldives, a group of islands near India. The average wage rate there is $0.70 per hour. The subsidiary purchases cotton fabric locally for $1.60 per pound. The finished products are shipped to Scott Mills' domestic distribution center at a cost of $1.80 per pound. Both the domestic and foreign subsidiary use the same amount of fabric per product. Scott Mills has been producing three products for the private label market: sweatshirts, dress shirts, and lightweight jackets. In the past the firm processed a new order at whichever fabricating plant had the next available capacity. However, projections for the next few years indicate that orders will far exceed capacity. Management wants each plant to specialize in one of the products.

The plants are constrained by the amount of sewing time available in each. The domestic plant has 8,000 hours of sewing machine time available per week, while the foreign subsidiary has 10,000 hours available per week. Employees operate the machines. The domestic plant's variable overhead is charged to products at $4.00 per machine hour, while the subsidiary's variable overhead averages $1.00 per machine hour.

The sweatshirts require 1 pound of cotton fabric to produce, the dress shirts use 4 ounces of fabric, and the jacket require 1 pound of fabric. The domestic plant has special-purpose equipment that allows workers to sew a sweatshirt in 6 minutes, a shirt in 15 minutes, and a jacket in one hour. The foreign plant's equipment constrains production to five sweatshirts per hour, three dress shirts per hour or two jackets per hour. The wholesale prices are $8.76 each for the sweatshirts, $7.50 for the dress shirts, and $37.00 for the jackets. (1 pound is equal to 16 ounces.)

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Required:

(1) Using only quantitative information, should the firm close its domestic operations and expand the foreign subsidiary? Explain.

(2) Assuming that wages in the domestic operations remain constant, at what level of wages in the foreign subsidiary would the managers be indifferent between producing sweatshirts at one location versus the other? Explain.

(3) What qualitative factors, including ethical issues, might influence the decision in part (1)? Explain.

(4) If demand for each product exceeds capacity, in which product should each plant specialize? Explain.

(5) Management insists on manufacturing all three products to maintain good customer relations. If demand for each product exceeds capacity, management would prefer to specialize according to your answer to part (4). At which plant should management produce the third product? Explain.

第五題 (25%)

BP Services is a large company that sells Harley Davidson Motorcycles. The company is organized with two operating departments, Premier and Elite. The premier department sells only to clients who have custom ordered a bike. The Elite department sells bikes that are already manufactured. Jan Socha is in charge of the media department that develops advertising booklets for the two product lines. The media department's budget for the upcoming year showed budgeted fixed costs of $80,000 plus variable costs of $1.00 per booklet. At the beginning of the year, Premier budgeted its usage at 4,000 booklets, and Elite budgeted its usage at 10,000 booklets. However, actual usage was 3,000 booklets and 8,000 booklets requested by Premier and Elite, respectively.

Required:

(1) Under the single-rate method, what are the total budgeted costs for the media department?

(2) Under the dual-rate method, what amount of cost is allocated to Premier if fixed costs are allocated based on budgeted usage and variable costs are allocated based on actual usage?

(3) Under the dual-rate method, what amount of cost is allocated to Premier if fixed costs are allocated based on budgeted usage and variable costs are allocated based on budgeted usage?

(4) Describe the advantages and disadvantages of using each of the three methods in part (1)-(3). Would you recommend BP Services to use one of these methods? Explain and indicate any assumptions you make.

(5) BP Services also has multiple support departments. Describe methods which may be used to allocate support costs within organization containing multiple support departments. Discuss advantages and disadvantages of the various methods. What factors should determine the choice of the appropriate cost allocation method?