

東吳大學 112 學年度碩士班研究生招生考試試題

第1頁，共4頁

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

※一律作答於答案卷上(題上作答不予計分)；並務必標明題號，依序作答。

※作答要求：本試題計五大題，於答案卷作答時，除必要之數字、計算式、表格、報表，第一大題得以 中文或英文 作答外，其餘各大題(第二~五大題)，須以英文作答。

一、(25%) [本大題得以 中文或英文 作答]

Each discipline gradually develops a complete system through concepts, examples, experiments, observation, research, etc. Regarding the discipline of "cost and managerial accounting", please list the major themes and chapters which should include.

每一個學科通過概念、實例、實驗、觀察、研究等逐步形成一個完整的體系。

就「成本及管理會計」此一學科來說，請逐一列出應有的幾大主題及其中各自應包括有哪些章節。

二、(15%)

Information Technology, Inc., assembles and sells two products: printers and desktop computers. Customers can purchase either (a) a computer, or (b) a computer plus a printer. The printers are not sold without the computer. The result is that the quantity of printers sold is equal to or less than the quantity of desktop computers sold. The contribution margins are \$200 per printer and \$100 per computer.

Each printer requires 6 assembly-hours on production line 1 and 10 assembly-hours on production line 2. Each computer requires 4 assembly-hours on production line 1 only. (Many of the components of each computer are preassembled by external vendors.) Production line 1 has 24 assembly-hours available per day. Production line 2 has 20 assembly-hours available per day.

Let X represent units of printers and Y represent units of desktop computers. The production manager must decide on the optimal mix of printers and computers to manufacture.

REQUIRED:

1. Formulate the production manager's problem in an Linear Programming format. (5%)
2. Calculate the combination of printers and computers that will maximize the operating income of Information Technology. Use both the trial-and-error and the graphic approaches. Show your work. (10%)

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三、(10%)

The CFO of Stylistic Furniture prepares the cash budget for the year ending December 31, 2017. Stylistic wants to maintain a \$320,000 minimum cash balance at the end of each quarter. Short-term financing requirements depend on how the total cash available for needs compares with the total cash disbursements, plus the minimum ending cash balance desired.

The financing plans will depend on the relationship between total cash available for needs and total cash needed. If there is a deficiency of cash in each quarter, Stylistic obtains loans at the beginning of quarter. If there is excess cash, Stylistic repays any outstanding loans at the end of quarter. Assume that borrowing takes place at the beginning and repayment at the end of the quarter under consideration in multiples of \$1,000. Interest is computed to the nearest dollar. Stylistic pays interest when repaying the principal. The interest rate is 12% annually. The cash budget shows the pattern of short-term “self-liquidating” cash loans.

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter4</u>	<u>Year as a Whole</u>
Cash balance, beginning	\$300,000	\$?	\$?	\$?	\$300,000
Collections from customers	9,136,600	10,122,000	10,263,200	8,561,200	38,083,000
Total cash disbursements	(11,057,446)	(9,224,611)	(9,066,074)	(8,490,169)	(37,838,300)
Minimum cash balance desired	320,000	320,000	320,000	320,000	320,000

REQUIRED:

Calculate and complete the short-term financing plans in your answer sheet as follows:

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter4</u>	<u>Year as a Whole</u>
Cash excess (deficiency)					
Financing					
Borrowing (at beginning)					
Repayment (at end)					
Interest (at 12% per year)					
Total effects of financing					
Cash balance, ending					

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四、(25%)

Brooks Corporation produces three products, Alpha, Beta, and Gamma. Alpha and Gamma are joint products; Beta is a by-product of Alpha. No joint cost is to be allocated to the by-product. The production processes for a given year are as follows:

- In Department 1, 110,000 pounds of material Rho are processed, at a total cost of \$120,000. After processing, 60% of the units are transferred to Department 2, and 40% of the units (now Gamma) are transferred to Department 3.
- In Department 2, the material is further processed at a total additional cost of \$38,000. Seventy percent of the units (now Alpha) are transferred to Department 4 and 30% emerge as Beta, the by-product, to be sold at \$1.20 per pound. The marketing expense related to Beta is \$8,100.
- In Department 4, Alpha is processed at a total additional cost of \$23,660. After processing, Alpha is ready for sale at \$5 per pound.
- In Department 3, Gamma is processed at a total additional cost of \$165,000. In this department, a normal loss of units of Gamma occurs, which equals 10% of the good output of Gamma. The remaining good output is sold for \$12 per pound.

REQUIRED:

1. A diagram is required to describe the flow of manufacturing Alpha, Beta, and Gamma. (5%)
2. Prepare a schedule showing the allocation of the \$120,000 joint cost between Alpha and Gamma, using the market value at split-off point and treating the net realizable value of Beta as an addition to the sales value of Alpha. (10%)
3. Prepare a statement of gross profit for Alpha (10%), independent of the answer to requirement 1, assuming that:
 - a. \$102,000 of total joint cost is appropriately allocated to Alpha.
 - b. 48,000 pounds of Alpha and 20,000 pounds of Beta are available for sale.
 - c. During the year, sales of Alpha were 80% of the pounds available for sale. There was no beginning inventory.
 - d. The net realizable value of Beta available for sale is to be deducted from the cost of producing Alpha. The ending inventory of Alpha is to be based on the net cost of production.
 - e. All other costs, sales prices, and marketing expenses are those presented in the facts of the original problem.

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五、(25%)

SCU buys T-shirts in bulk, applies its own trendsetting silk-screen designs, and then sells the T-shirts to a number of retailers. SCU wants to be known for its trendsetting designs, and it wants every teenager to be seen in a distinctive SCU T-shirt. SCU presents the following data for its first 2 years of operations, 20X1 and 20X2.

	20X1	20X2
a. Number of T-shirts purchased	225,500	257,000
b. Number of T-shirts discarded	20,500	24,000
c. Number of T-shirts sold	205,000	233,000
d. Average selling price	\$ 32	\$ 33
e. Average cost per T-shirt	\$ 17	\$ 15
f. Administrative capacity (number of customers)	4,700	4,450
g. Administrative costs	\$ 1,739,000	\$ 1,691,000
h. Administrative cost per customer	\$ 370	\$ 380

Administrative costs depend on the number of customers SCU has created capacity to support, not on the actual number of customers served. SCU had 4,300 customers in 20X1 and 4,200 customers in 20X2.

REQUIRED:

1. Is SCU's strategy one of product differentiation or cost leadership? Explain briefly. (2%)
2. Calculate SCU's operating income in both 20X1 and 20X2. (2%)
3. Calculate the growth, price-recovery, and productivity components that explain the change in operating income from 20X1 to 20X2. (9%)
4. Comment on your answers in requirement 3. What does each of these components indicate? (4%)
5. Suppose that the market for silk-screened T-shirts grew by 10% during 20X2. All increases in sales greater than 10% are the result of SCU's strategic actions. Calculate the change in operating income from 20X1 to 20X2 due to growth in market size, product differentiation, and cost leadership. How successful has SCU been in implementing its strategy? Explain. (8%)