

科目：

中級會計學

系所組：

會計學系碩士班

(請詳列算式，否則不予計分。各題答案皆請四捨五入取至整數位。)

一、(26分) 南山公司於 X5/1/4 購入神達公司普通股 10,000 股，每股成本 \$ 20，並指定作為「FVOCI 金融資產」。X5/4/3 神達宣告每股現金股利 \$ 3，訂 4/20 除息，5/3 發放，X5 年底神達收盤價為 \$ 25。X6/3/15 再購入 10,000 股，每股成本 \$ 27，X6 年底神達收盤價為 \$ 29。X7/2/5 出售 5,000 股，每股售價 \$ 25。X7 年底神達收盤價為 \$ 24，試作 X5-X7 所有必要之分錄。

二、(14分) K 公司 X1 年初以服務三年為條件，給總經理一項權利，可選擇取得 1,000 股等值現金或 1,200 股股票，股票於既得日後三年內不得出售。給與日股價為 \$ 50，而 X1、X2、X3 年底股價分別為 \$ 52、\$ 55 及 \$ 60，K 公司考慮移轉限制之效果後，估計給與日選擇領取股票之權利的每單位公允價值為 @ \$ 48。

試作下列分錄：

- (1)各年底認列勞務成本。
- (2)假設 X3 年底總經理選擇領取現金。
- (3)假設 X3 年底總經理選擇領取股票。

三、(11分) ANN company purchases a machine on Jan.1, 20X1 for \$7,500,000. The estimated useful life is 5 years, and the estimated residual value is \$1,250,000. The company uses the straight line method to depreciate the machine. On Dec. 31, 20X2, the company considers that the benefits generated by the machine may decrease due to rapid improvements in technology. The net realizable value of the machine is \$4,500,000, and the company estimates that the sum of discounted cash inflows generated by the machine is \$4,550,000.

Required:

- (1) Prepare the entry to recognize the necessary impairment for the machine on Dec.31, 20X2.
- (2) Prepare the entry to recognize the depreciation for the machine on Dec.31, 20X3.
- (3) If the recoverable amount of the machine is \$3,800,000 on Dec.31, 20X3, prepare the necessary entry for that machine on that date.
- (4) Calculate the depreciation expense of the machine for 20X4.

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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。

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四、(9 分) SY 公司 X2 年初以 \$1,500,000 購入一部機器，可用五年，無殘值，會計及報稅均採直線法提列折舊。X4 年初該設備之公允價值為 \$1,080,000，致產生重估增值 \$180,000，耐用年限不變。此重估增值並不影響 X4 年之課稅所得，稅捐機關亦不將設備之課稅基礎調高至公允價值。若 X4 年課稅所得為 \$3,000,000，稅率 17%，試作 X4 年度之相關分錄。
(該公司之會計政策係將資產重估增值於資產除列時一次轉入保留盈餘)

五、(12 分) 甲公司 X0 年初向 M 銀行借款 \$3,000,000，利率固定為 5%，每年年底付息，X4 年底到期。X2 年 1 月 2 日因財務困難無力依約付息，M 銀行同意利率降至 3%，到期日展延至 X7 年底，並免除積欠利息 \$150,000。甲公司另發生償務協商相關支出 \$10,000，若 X2 年 1 月 2 日市場利率 10%，M 銀行針對該債權已提列備抵壞帳 \$200,000，試作 X2 年雙方之分錄。

六、(16 分) R 安養中心提供安養照護之服務，該安養中心在 20X1 年 1 月 1 日與多位客戶簽訂 50 份單獨合約，每份合約均以 \$300,000 提供一年期之照護服務，且客戶有於 20X1 年底再行支付 \$300,000 以續約 20X2 年照護服務之選擇權，另，凡於 20X2 年續約之客戶可於 20X2 年底再以 \$300,000 續約一年。R 安養中心預計調漲 20X2、20X3 年之照護服務收費，故若未續約之客戶在 20X2、20X3 年所需支付之照護費分別為 \$320,000 與 \$360,000。R 安養中心預估 20X1 年底將有 90% 之客戶續約，該續約客戶中將有 80% 會在 20X2 年底再次續約。R 安養中心認為以各年度單獨售價比例分攤為基礎，足以描述照護服務移轉予客戶之情況。20X1 年底，有 45 名客戶進行第一次續約；20X2 年底，則有 40 名客戶再次續約。(答案為整數，計算過程中請計算至小數點以下第 4 位)

試作：

(1) 計算 20X1 年簽約時，每一合約之預期對價；

(2) 作 20X1、20X2 與 20X3 年之相關分錄。

七、(12 分) 甲公司採曆年制，於 20X1 年 1 月 1 日以 \$1,000,000 發行面額 \$1,000,000，票面利率 10% 之三年期可轉換公司債，該公司債於每年 12 月 31 日付息一次，於 20X2 年 12 月 31 日起，每張面額 \$1,000 之公司債可申請轉換甲公司普通股 50 股 (面額 \$10)，甲公司於 20X2 年 12 月 31 日付

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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。

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息後，以每張 \$ 990 提前贖回公司債 \$ 200,000，剩餘流通在外的公司債於 20X3 年 12 月 31 日支付利息後，全數轉換甲公司普通股，相關日期之市場利率、甲公司普通股每股市價如下：

<u>日期</u>	<u>市場利率</u>	<u>甲公司普通股每股市價</u>
20X1 年 1 月 1 日	15%	\$ 20
20X1 年 12 月 31 日	12%	\$ 22
20X2 年 12 月 31 日	12%	\$ 24
20X3 年 12 月 31 日	14%	\$ 28

試作：

甲公司下列事項之有關分錄

- (1)20X1 年 1 月 1 日之發行。
- (2)20X1 年 12 月 31 日之付息。
- (3)20X2 年 12 月 31 日之贖回。
- (4)20X3 年 12 月 31 日之轉換。

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科目：成本與管理會計學

系所組：會計學系碩士班

請應試考生注意：

1. 未在彌封答案卷內作答者不予計分。
2. 針對 I. Multiple-choice questions 選擇題未按作答格式(範例如下)作答者，扣該科總分 10 分。

選擇題作答格式(範例)：

1.	2.	3.	4.	5.
6.	7.	8.	9.	10.
11.	12.	13.	14.	15.

請依照上述範列之格式，以橫式書寫方式將全部答案寫在彌封答案卷第1頁，答案字母請用正楷大寫(A, B, C, D)。

3. 針對 II. Essay questions 未書寫計算過程者不予計分。答案若有小數點，請四捨五入取至小數點後第二位。

I. Multiple-choice questions (45 points in total; 3 points for each)

1. Stones Manufacturing sells a marble slab for \$1,100. Fixed costs are \$34,000, while the variable costs are \$500 per slab. The company currently plans to sell 240 slabs this month. What is the margin of safety assuming 80 slabs are actually sold? (Round all unit calculations UP to the nearest whole number.)

- A) \$201,300
- B) \$81,300
- C) \$25,300
- D) \$34,000

2. The Cybertronics Corporation reported the following information for its Cyclotron Division:

Revenues	\$2,200,000
Operating costs	1,300,000
Operating assets	1,100,000

Income is defined as operating income.

What is the Cyclotron Division's return on investment?

- A) 69.2%
- B) 84.6%
- C) 40.9%
- D) 81.8%

3. Which of the following includes both traced direct costs and allocated indirect costs?

- A) cost tracing
- B) cost pools
- C) cost assignments
- D) cost allocations

4. Midize Flower Company provides flowers and other nursery products for decorative purposes in medium to large sized restaurants and businesses. The company has been investigating the purchase of a new specially equipped van for deliveries. The van will cost \$61,392 with a(n) eight-year life. The expected additional cash inflows are \$16,000 per year. What is the internal rate of return?

- A) 18%
- B) 20%
- C) 22%
- D) 24%

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5. Which of the following information is needed to prepare a flexible budget?
- A) actual units sold
B) actual variable cost
C) actual selling price per unit
D) actual fixed cost
6. Relevant total costs in the economic order quantity decision model equal relevant ordering costs plus which of the following costs?
- A) carrying costs
B) stockout costs
C) quality costs
D) purchasing costs
7. Which of the following differentiates job costing from process costing?
- A) Process costing is used when each unit of output is identical, and job costing deals with unique products not produced in batches.
B) Job costing is used when each unit of output is identical and not produced in batches, and process costing deals with unique products produced on large scale.
C) Job costing is used when each unit of output is identical, and process costing deals with unique products.
D) Job costing is used by manufacturing industries, and process costing is used by service industries.
8. Costs of normal spoilage are usually accounted for as:
- A) a deduction from the cost of goods sold
B) a component of the costs of good units manufactured
C) a "loss from normal spoilage account" in income statement
D) a liability on a balance sheet
9. Teddy Company uses a standard cost system. In May, \$234,000 of variable manufacturing overhead costs were incurred and the flexible-budget amount for the month was \$240,000. Which of the following variable manufacturing overhead entries would have been recorded for May?
- | | | |
|--|---------|---------|
| A) Accounts Payable Control and other accounts | 240,000 | |
| Work-in-Process Control | | 240,000 |
| B) Work-in-Process Control | 234,000 | |
| Accounts Payable Control and other accounts | | 234,000 |
| C) Work-in-Process Control | 240,000 | |
| Variable Manufacturing Overhead Allocated | | 240,000 |
| D) Accounts Payable Control and other accounts | 234,000 | |
| Variable Manufacturing Overhead Control | | 234,000 |
10. Stefan Ceramics is in the business of selling ceramic vases. It has two departments – molding and finishing. Molding department purchases tungsten carbide and produces ceramic vases out of it. Ceramic Vases are then transferred to finishing department, which designs it as per the requirement of the customers. During the month of July, molding department purchased 500 kgs of tungsten carbide at \$60 per kg. It started manufacture of 4,000 vases and completed and transferred 3,700 vases during the month. It has 300 vases in the process at the end of the month. It incurred direct labor charges of \$1,400 and other manufacturing costs of \$800, which included electricity costs of \$400. Stefan had no inventory of tungsten carbide at the end of the month. It also had no beginning inventory of vases. The ending inventory was 45% complete in respect of conversion costs. What is the cost of tungsten carbide that will be assigned to vases finished and transferred to the finishing department for the month of July?
- A) \$30,000
B) \$30,350
C) \$4,500
D) \$27,750

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11. John's 8-year-old Chevrolet Trail Blazer requires repairs estimated at \$11,000 to make it road worthy again. His wife, Sherry, suggested that he should buy a 5-year-old used Jeep Grand Cherokee instead for \$11,000 cash. Sherry estimated the following costs for the two cars:

	<u>Trail Blazer</u>	<u>Grand Cherokee</u>
Acquisition cost	\$30,000	\$11,000
Repairs	\$11,000	—
Annual operating costs (Gas, maintenance, insurance)	\$2480	\$2000

What should John do? What are his savings in the first year?

- A) Buy the Grand Cherokee; \$13,000
 B) Buy the Grand Cherokee; \$480
 C) Fix the Trail Blazer; \$5980
 D) Fix the Trail Blazer; \$9813
12. In joint costing, which of the following changes may lead to a change in product classification?
 A) main product becomes technologically obsolete and its market value falls significantly
 B) byproduct sales price decreases due to a new government regulation
 C) main product sales price increases due to a new application
 D) byproduct losses value due to a competing products
13. Which of the following is NOT correct about the balanced scorecard?
 A) profits and value created for shareholders are perspectives revealed on a balance scorecard
 B) the balance scorecard increases managements emphasis on short-term results
 C) the balanced scorecard reveals information about the success of the company in its target market
 D) nonfinancial and operational indicators are reported on a balance scorecard
14. Which of the following describes the direct allocation method's allocation of support-department costs?
 A) it allocates support-department costs to operating departments by fully recognizing the mutual services provided among all support departments
 B) it allocates support-department costs to other support departments and to operating departments in a sequential manner that partially recognizes the mutual services provided among all support departments
 C) it allocates each support-department's costs to operating departments only
 D) it requires managers to rank the support departments after predicting the usage of multiple support departments
15. In a long-run, it is worthwhile to sell a product only if the selling price exceeds:
 A) the total of all the direct costs of the product
 B) the total manufacturing costs of the product
 C) the total of the fixed costs of the value chain
 D) full cost of the product and a markup that provides an adequate return on capital

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II. Essay questions (55 points)

一、(21 points)

Brady Corporation has three divisions: abodes, buildings, and curtains. Brady's new controller, Henry Woody, is reviewing the allocation of fixed corporate-overhead costs to the three divisions. He is presented with the following information for each division for 2021:

	Abodes	Buildings	Curtains
Revenues	\$9,800,000	\$17,100,000	\$25,500,000
Direct manufacturing costs	3,500,000	7,800,000	11,100,000
Division administrative costs	<u>3,300,000</u>	<u>2,000,000</u>	<u>4,700,000</u>
Division margin	<u>\$3,000,000</u>	<u>\$ 7,300,000</u>	<u>\$ 9,700,000</u>
Number of employees	300	150	550
Floor space (square feet)	53,200	35,340	101,460

Until now, Brady Corporation has allocated fixed corporate-overhead costs to the divisions on the basis of division margins. Woody asks for a list of costs that comprise fixed corporate-overhead and suggests the following new allocation bases:

Fixed Corporate-Overhead Costs	Suggested Allocation Bases	
Human resource management	\$ 2,300,000	Number of employees
Facility	3,200,000	Floor space (square feet)
Corporate administration	<u>4,600,000</u>	Division administrative costs
Total	<u>\$10,100,000</u>	

Required

1. Allocate 2021 fixed corporate-overhead costs to the three divisions using division margin as the allocation base. What is each division's operating margin percentage?
2. Allocate 2021 fixed costs using the allocation bases suggested by Woody. What is each division's operating margin percentage under the new allocation scheme?
3. Compare and discuss the results of requirements 1 and 2. If division performance incentives are based on operating margin percentage, which allocation scheme should Brady Corporation use? Why?

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二、(16 points)

Philip Electronics manufactures 200,000 55-inch 4K TVs each year. The variable and fixed costs of rework and repair for the TVs are as follows:

	Repair Costs			
	Rework cost per hour	Customer support cost per hour	Transportation cost per load	Warranty repair per hour
Variable cost	\$ 75	\$ 25	\$275	\$105
Fixed cost	\$100	\$ 50	\$150	\$ 75
Total cost	\$175	\$ 75	\$425	\$180

Philip Electronics' 55-inch 4K TVs have a quality problem that causes shadows in the picture. Its engineers suggest changing a key component in each TV. The new component will cost \$22 more than the old one. In the next year, however, Philip Electronics expects that with the new component it will (1) save 10,000 hours of rework, (2) save 1,000 hours of customer support, (3) move 300 fewer loads, (4) save 10,000 hours of warranty repairs, and (5) sell an additional 2,000 4K TVs, for a total additional contribution margin of \$2,200,000. Philip Electronics believes that even as it improves quality, it will not be able to save any of the fixed costs of rework or repair. Philip Electronics uses a 1-year time horizon for this decision because it plans to introduce a 5K TV at the end of the year.

Required

1. Should Philip Electronics change to the new component? Show your calculations.
2. Suppose the estimate of 2,000 additional TVs sold is uncertain. What is the minimum number of additional TVs that Philip Electronics needs to sell to justify adopting the new component?
3. What other factors should managers at Philip Electronics consider when making their decision about changing to a new component?

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三、(18 points)

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The Sarah Company, which is under contract to the Ministry of Defense, assembles troop deployment boats. As part of its research program, it completes the assembly of the first of a new model (BOND007) of deployment boats. The Ministry of Defense is impressed with the BOND007. It requests that Sarah submit a proposal on the cost of producing another six BOND007s.

Sarah reports the following cost information for the first BOND007 assembled and uses a 90% cumulative average time learning model as a basis for forecasting direct manufacturing labor-hours for the next six BOND007s. (A 90% learning curve means $b = \frac{\ln 0.9}{\ln 2} = \frac{-0.105361}{0.693147} = -0.152004$)

Direct material	\$201,000	
Direct manufacturing labor time for first boat	15,700	labor-hours
Direct manufacturing labor rate	\$ 43	per direct manufacturing labor-hour
Variable manufacturing overhead cost	\$ 24	per direct manufacturing labor-hour
Other manufacturing overhead	15%	of direct manufacturing labor costs
Tooling costs ^a	\$281,000	
Learning curve for manufacturing labor time per boat	90%	cumulative average time ^b

^aTooling can be reused at no extra cost because all of its cost has been assigned to the first deployment boat.

Required

1. Calculate predicted total costs of producing the six BOND007s for the Ministry of Defense. (Sarah will keep the first deployment boat assembled, cost at \$1,533,900, as a demonstration model for potential customers.)
2. What is the dollar amount of the difference between (a) the predicted total costs for producing the six BOND007s in requirement 1 and (b) the predicted total costs for producing the six BOND007s, assuming that there is no learning curve for direct manufacturing labor? That is, for (b) assume a linear function for units produced and direct manufacturing labor-hours.
3. Assume the same information for the Blue Boat Company as in above question with one exception. This exception is that Blue Boat uses a 90% incremental unit-time learning model as a basis for predicting direct manufacturing labor-hours in its assembling operations. Prepare a prediction of the total costs for producing the six BOND007s for the Ministry of Defense.

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