

考試科目	成本與管理會計學	系所別	會計研究所	考試時間	2 月 6 日(五) 第三節
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**第一題 (30 points)**

Please provide your answers of the following ten multiple choice and computational questions 1~10 on the answer sheet in the format specified below. Answers not provided in this format will not be graded.

1.	2.	3.	4.	5.
6.	7.	8.	9.	10.

- An important reality to be aware of when designing performance measurement and award systems is that:
  - managers can influence performance that is impacted by economic factors
  - there are tradeoffs between creating incentives and imposing risk on a manager
  - managers can exert significant influence over matters related to regulatory restrictions and limitations
  - there is really no distinction between a subunit's performance and the performance of that subunit's manager
- Which of the following entries is correct when the costs of the rework are normal and common to all the jobs?
 

(A) Work-in-Process Control	(B) Manufacturing Overhead Control
Manufacturing Overhead Allocated	Materials Control
Materials Control	Wages Payable Control
Wages Payable Control	Manufacturing Overhead Allocated
(C) Wages Payable Control	(D) Wages Payable Control
Manufacturing Overhead Allocated	Manufacturing Overhead Allocated
	Manufacturing Overhead Control
	Materials Control
- Which of the following statements is true?
  - Target pricing is one form of cost-based pricing
  - Customer life-cycle costs focus on the total costs incurred by a customer to maintain and dispose of a product or service
  - Reverse engineering refers to the process of analyzing the competitor's cost and then designing the product
  - In short run, companies supply products as long as the revenues from selling the additional units exceed the cost of producing them

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4. The sales-mix variance will be unfavorable when which of the following occurs?
- (A) the actual unit sales are less than the budgeted unit sales
  - (B) the contribution margin per composite unit for the actual mix is greater than the budgeted mix
  - (C) the actual sales mix shifts toward the less profitable units
  - (D) the actual contribution margin is less than the static-budget contribution margin
5. A transfer-pricing method leads to goal congruence when:
- (A) there is a price difference in different markets due to market efficiencies
  - (B) managers do not act for their own best interest and work for the long-term best interest of the manager's subunit
  - (C) managers act in their own best interest and the decision is in the long-term best interest of the company
  - (D) there is a low degree of centralization
6. Assume your goal in life is to retire with \$2,500,000. How much would you need to save at the end of each year if interest rates average 8% and you have a 15-year work life? (Round the final answer to the nearest whole dollar.)
7. The following information applies to Krynton Company, which supplies microscopes to laboratories throughout the country. Krynton purchases the microscopes from a manufacturer which has a reputation for very high quality in its manufacturing operation.
- |                          |  |
|--------------------------|--|
| Annual demand            | 59,000 units (weekly demand = 1/52 of annual demand) |
| Orders per year          | 60   |
| Lead time in days        | 20 days  |
| Cost of placing an order | \$140  |
- What is the reorder point? (Assuming there are 365 days in one year)
8. AA Company makes internal transfers at 155% of full cost. The Soda Refining Division purchases 40,300 containers of carbonated water per day, on average, from a local supplier, who delivers the water for \$58 per container via an external shipper. To reduce costs, the company located an independent supplier in Yunlin who is willing to sell 40,300 containers at \$50 each, delivered to AA Company's Shipping Division in Taipei. The company's Shipping Division in Taipei has excess capacity and can ship the 40,300 containers at a variable cost of \$5.00 per container. What is the total cost of purchasing the water from the Yunlin supplier and shipping it to the Soda Division?

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9. Consider the following historical costs for long-term assets of Adapter Inc., a company with operations in three regions of the U.S.

	Gross Book Value at Historical Cost	Year built
New England	\$1,400,000	2012
Southeast	\$2,350,000	2016
West	\$2,730,000	2018

At the end of 2020, what is the gross book value of the assets in Southeast region based on current costs? Please use the following construction cost index by year.

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	
Construction cost index	100	105	110	115	
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Construction cost index	125	132	141	150	165

10. Use the following two sets of information to find the unknown amounts (assuming that two sets of information are independent).

Work-in-Process Inventory	Ending balance	\$ 22,000
	Cost of goods manufactured	21,000
	Beginning balance	8,000
	Current manufacturing costs	?

Finished Goods Inventory	Cost of goods manufactured	\$62,000
	Ending balance	20,000
	Cost of goods sold	61,000
	Beginning balance	?

**第二題 (5 points)**

TrueValue Company makes all types of office desks. The General Desk Division is currently producing 10,000 desks per year with a capacity of 15,000. The variable costs assigned to each desk are \$300 and annual fixed costs of the division are \$900,000. The General desk sells for \$400.

The Executive Division wants to buy 5,000 desks at \$250 for its custom office design business. The General

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Desk manager refused the order because the price is below the variable cost. The executive manager argues that the order should be accepted because it will lower the fixed cost per desk from \$90 to \$60 and will take the division to its capacity, thereby causing operations to be at their most efficient level. From the perspective of the General Desk Division and the company, should the order be accepted if the Executive Division plans on selling the desks to the outside market for \$420 after incurring additional costs of \$100 per desk? Why?

**第三題 (10 points)**

NCCU Company is currently purchasing part no.119 from an outside supplier for \$70 per unit. Because of supplier reliability problems, the company is considering producing the part internally in a currently idle manufacturing plant. Annual volume over the next five years is expected to total 400,000 units at variable manufacturing costs of \$68 per unit.

NCCU must acquire \$200,000 of new equipment if it reopens the plant. The equipment has a five-year service life and \$20,000 salvage value, and will be depreciated using double-decline method. Normal equipment maintenance is expected to total \$12,000 in year 4, and the equipment will be sold at the end of its life. The company is subject to a 30% income tax rate. NCCU is using a 12% after-tax hurdle rate for evaluating its capital budgeting projects.

**Required:**

- (1) In the above make-or-buy decision, determine the difference in net-present-value (NPV) between the alternatives of making and purchasing part no.119.
- (2) What is the maximum discount rate at which this project remains financially viable?

**第四題 (5 points)**

Health Corporation has the following budgeted sales for the next six-month period:

<u>Month</u>	<u>Unit Sales</u>
June	90,000
July	120,000
August	210,000
September	150,000
October	180,000
November	120,000

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There were 30,000 units of finished goods in inventory at the beginning of June. Plans are to have an inventory of finished products that equal 20% of the unit sales for the next month.

Five pounds of materials are required for each unit produced. Each pound of material costs \$8. Inventory levels for materials are equal to 30% of the needs for the next month. Materials inventory on June 1 was 15,000 pounds.

**Required:**

Prepare a purchases budget in pounds for August and give total purchases in both pounds and dollars for July.

**第五題 (25 points)**

Below are the depreciation policies disclosed in the financial statement footnotes of three semiconductor manufacturers.

Taiwan Semiconductor Manufacturing Company (TSMC):

Depreciation is recognized so as to write off the cost of the assets less their residual values over their useful lives, and it is computed using the straight-line method mainly over the following estimated useful lives: land improvements - 20 years; buildings (assets used by the Company and assets subject to operating leases) - 10 to 20 years; machinery and equipment (assets used by the Company and assets subject to operating leases) - 5 years; and office equipment - 5 years. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimates accounted for on a prospective basis. Land is not depreciated.

United Microelectronics Corporation (UMC):

Depreciation is calculated on a straight-line basis over the estimated useful lives. A significant part of an item of property, plant and equipment which has a different useful life from the remainder of the item is depreciated separately. The depreciation methods, useful lives and residual values for the assets are reviewed at each fiscal year end, and the changes from the previous estimation are recorded as changes in accounting estimates. Except for land, which is not depreciated, the depreciation of the assets is calculated mainly over the following estimated useful lives: buildings - 20 to 56 years; machinery and equipment - 6 years; transportation equipment - 6 years; furniture and fixtures - 6 years; leasehold improvement - the shorter of lease terms or useful lives.

Intel Corporation:

We compute depreciation using the straight-line method over the estimated useful life of assets..... Our depreciable property, plant, and equipment assets are depreciated over the following estimated useful lives: machinery and equipment, 3 to 8 years; and buildings, 10 to 25 years.....When we determine that the useful lives of assets are shorter or longer than we had originally estimated, we adjust the rate of depreciation to reflect the assets' revised useful lives. Effective January 2023, the estimated useful lives of certain machinery and

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equipment in our wafer fabrication facilities were increased from 5 to 8 years. This change in estimate was applied prospectively beginning in the first quarter of 2023.

**Required:**

From a cost and management accounting perspective, discuss the economic and managerial implications of these depreciation policy choices. (You are not asked to explain accounting standards. You may draw on any cost or management accounting concepts you consider appropriate. Your answer should be presented in clearly structured bullet points or numbered paragraphs, with each point developing a distinct line of reasoning. Your answer will be graded based on the depth, coherence, and relevance of your analysis.)

**第六題 (25 points)**

SRB Corporation is a mid-sized manufacturer of home espresso machines competing in the increasingly crowded premium small-appliance market. For several years, SRB has positioned its core espresso machine as a reliable, mid-range product sold through specialty retailers at a list price of \$80 per unit. During the most recent accounting period, SRB produced and sold 5,000 espresso machines. The company's accounting department reported the following cost structure for this production volume:

Direct materials totaled \$18,250, direct labor amounted to \$36,250, and variable manufacturing overhead was \$22,250. In addition, SRB incurred \$59,000 in fixed manufacturing overhead. Beyond manufacturing, variable nonmanufacturing costs were \$19,750, while fixed nonmanufacturing costs totaled \$41,000. Total costs for the period were \$196,500.

As competition intensifies and consumer expectations evolve, SRB's senior management team is reassessing its pricing and cost strategies. The marketing research department has proposed developing a higher-quality espresso machine featuring improved durability and enhanced brewing performance. Market analysis suggests that this upgraded model could command a selling price of \$120 per unit. However, top management has stated that it will approve the project only if the product can achieve a 40% profit margin. Management has asked the accounting team to determine whether this target is feasible from a cost perspective.

At the same time, a separate market study has raised concerns about SRB's current product. The study suggests that competitive pressures may force the company to reduce the selling price of its existing espresso machine to \$60 per unit in order to maintain market share. Management wishes to preserve the same 40% profit margin on the existing product and is considering whether proportional cost reductions across all cost categories could make this price reduction viable.

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Independently of these pricing concerns, SRB's operations manager is optimistic about next year's sales outlook. Based on distributor feedback and anticipated growth in at-home coffee consumption, SRB expects demand for its current espresso machine to increase by 25% in the coming year. Management believes that production can expand to meet this demand without exceeding the relevant range. SRB's pricing policy is to apply a 40% markup on total cost, including allocated fixed costs, when setting product prices.

**Required:**

You are a management accountant at SRB Corporation and have been asked to assist senior management with the following analyses:

- Determine the target cost per unit for the proposed higher-quality espresso machine, given the expected selling price and required profit margin.
- Assuming SRB must reduce the selling price of its existing espresso machine to \$60 while maintaining a 40% profit margin, calculate the percentage reduction required in all listed cost categories, assuming costs are reduced proportionally.
- Ignoring the pricing scenario in part (b) above, analyze the impact of the anticipated 25% increase in demand. Assuming SRB applies a 40% markup on total cost and remains within the relevant range, calculate total profit.
- At the current sales level, calculate SRB's degree of operating leverage (DOL). Interpret this measure and discuss what it implies.
- Following the analyses in parts (a)~(d) above, the CFO has asked you to prepare an internal memo to senior management addressing the implications of the proposed pricing and cost strategies. Provide a clear recommendation on whether SRB should prioritize (i) cost reduction, (ii) product differentiation, or (iii) volume expansion as its primary strategic response. Justify your recommendation and discuss the uncertainties using cost and management accounting logic. Your memo should be written in a professional business style, clearly structured, and focused on managerial decision usefulness.

備	註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。
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