

國立成功大學

113學年度碩士班招生考試試題

編 號：217

系 所：會計學系

科 目：成本與管理會計學

日 期：0202

節 次：第 3 節

備 註：可使用計算機

※ 考生請注意：本試題可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

一、選擇題(66%，一題 3%)

1. Better Training is an organization that aids the unemployed people by supplementing their incomes by \$8,500 annually, while they seek new employment skills. The organization has fixed costs of \$250,000 and the budgeted appropriation for the year totals \$845,000. How many individuals can receive financial assistance from the organization this year?
- A) 29 people
B) 70 people
C) 99 people
D) 128 people

2. A College is planning to hold a fund-raising banquet at one of the local clubs. It has two options for the banquet:

OPTION 1: Wonderland Club	OPTION 2: Kingdom Club
a. Fixed rental cost of \$1,200	a. Fixed rental cost of \$2,800
b. \$11 per person for food	b. \$8 per person for food

This College has budgeted \$2,700 for administrative and marketing expenses. It plans to hire a band which will cost another \$800. Tickets are expected to be \$30 per person. Local business supporters will donate any other items required for the event. Which option provides the greatest degree of operating leverage if 600 people attend?

- A) Option 1.
B) Option2.
C) Both options provide equal degrees of operating leverage.
D) Operating leverage is indeterminable.
3. NCKU Corporation used the following data to evaluate their current operating system. The company sells items for \$20 each and used a budgeted selling price of \$20 per unit.

	<u>Actual</u>	<u>Budgeted</u>
Units sold	43,000 units	45,000 units
Variable costs	\$166,000	\$175,000
Fixed costs	\$41,000	\$58,000

Which of the following is **CORRECT**?

- A) The static-budget variance of variable cost is \$9,000 unfavorable.
B) The static-budget variance of fixed costs is \$17,000 unfavorable.
C) The static-budget variance of revenue is \$40,000 favorable.
D) The static-budget variance of operating income is \$14,000 unfavorable

4. Miracle Corporation uses budgeted machine hours to allocate variable manufacturing overhead. The following information relates to the company's manufacturing overhead data:

Budgeted output units	28,000 units
Budgeted machine-hours	16,800 hours
Budgeted variable manufacturing overhead costs for 28,000 units	\$336,000
Actual output units produced	32,500 units
Actual machine-hours used	15,000 hours
Actual variable manufacturing overhead costs	\$384,060

What is the flexible-budget amount for variable manufacturing overhead?

- A) \$390,000
 B) \$300,000
 C) \$384,060
 D) \$336,000
5. Potter Corporation manufactured 37,500 units during February. The following fixed overhead data pertain to February:

	<u>Actual</u>	<u>Static Budget</u>
Production	27,500 units	25,750 units
Machine-hours	10,375 hours	10,300 hours
Fixed overhead costs for February	\$213,200	\$206,000

What is the fixed overhead production-volume variance?

- A) \$7,200 unfavorable
 B) \$14,000 favorable
 C) \$14,000 unfavorable
 D) \$7,200 favorable

6. Which of the following statements related to absorption costing and variable costing is *TRUE*?
- A) Variable costing only includes direct manufacturing costs in inventoriable costs.
 - B) The unit cost of a product is always higher in variable costing than in absorption costing.
 - C) One commonality between absorption costing and variable costing is that under both costing methods, all variable manufacturing costs are inventoriable costs and all nonmanufacturing costs in the value chain (such as research and development and marketing), whether variable or fixed, are period costs.
 - D) Variable costing is also called direct costing because it considers other nonmanufacturing direct costs, such as direct marketing costs as inventoriable costs.

7. NCKU Devices currently manufactures a subassembly NC-01 for its main product. The costs per unit are as follows:

Direct materials	\$51
Direct labor	35
Variable overhead	38
Fixed overhead	<u>31</u>
Total	<u>\$155</u>

ACC Technologies Inc. has contacted NCKU with an offer to sell 10,000 of the NC-01 for \$130 each. NCKU will eliminate \$93,000 of fixed overhead if it accepts the proposal. Should NCKU make or buy the NC-01? What is the difference between the two alternatives?

- A) buy; savings = \$33,000
 - B) buy; savings = \$343,000
 - C) make; savings = \$60,000
 - D) make; savings = \$153,000
8. Which of the following statements is *TRUE*?
- A) The balance scorecard increases managements emphasis on short-term results.
 - B) The first step to successful balanced scorecard implementation is clarifying the owner's expectation about return on investment.
 - C) In an effective balanced scorecard, customer satisfaction serves as one of the leading indicator for the hard-to measure long-run financial performance such as the likelihood of higher sales and income
 - D) The percentage of processes with real-time feedback would be a measure of internal-business-process perspective.

9. The Connors Company has assembled the following data pertaining to certain costs that cannot be easily identified as either fixed or variable. Connors Company has heard about a method of measuring cost functions called the high-low method and has decided to use it in this situation.

<u>Cost</u>	<u>Hours</u>
\$24,150	6,200
\$28,400	6,000
\$38,000	7,750
\$42,150	12,900
\$37,100	9,650

What is the cost function?

- A) $y = \$42,150 + \$4.20X$
 B) $y = \$7,449 + \$2.69X$
 C) $y = \$24,150 + \$4.20X$
 D) $y = \$16,479 + \$1.99X$
10. Grounded Coffee Products has a policy of adding a 10% markup to full costs and currently has excess capacity. The following information pertains to the company's normal operations per month:

Output units	30,000	tables
Machine-hours	4,000	hours
Direct manufacturing labor-hours	10,000	hours
Direct materials per unit	\$90	
Direct manufacturing labor per hour	\$18	
Variable manufacturing overhead costs	\$375,000	
Fixed manufacturing overhead costs	\$1,575,000	
Product and process design costs	\$900,000	
Marketing and distribution costs	\$1,050,000	

For long-run pricing of the coffee tables, what price will most likely be used by Grounded Coffee?
 (Round all calculations to the nearest cent.)

- A) \$105.6
 B) \$119.4
 C) \$177.1
 D) \$248.6

11. Following a strategy of product differentiation, High-Tech Company makes a high-end Appliance, AC-100. High-Tech Company presents the following data for the years 2022 and 2023:

	<u>2022</u>	<u>2023</u>
Units of AC-100 produced and sold	54,000	56,200
Selling price	\$400	\$470
Direct materials (square feet)	154,000	157,750
Direct material costs per square foot	\$51	\$59
Manufacturing capacity in units of AC-100	63,500	63,500
Total conversion costs	\$866,250	\$836,850
Conversion costs per unit of capacity	\$102	\$108
Selling and customer-service capacity (customers)	150	150
Total selling and customer-service costs	\$2,295,000	\$2,388,750
Selling and customer-service capacity cost per customer	\$15,300	\$15,925

High-Tech Company produces no defective units but it wants to reduce direct materials usage per unit of AC-100. Manufacturing conversion costs in each year depend on production capacity defined in terms of AC-100 units that can be produced. Selling and customer-service costs depend on the number of customers that the customer and service functions are designed to support. High-Tech Company had 155 customers in 2022 and 160 customers in 2023.

What is the cost effect of the *price-recovery component*? (Round any intermediary calculations to two decimals and your final answer to the nearest dollar.)

- A) \$1,687,350 F
 B) \$1,687,350 U
 C) \$1,756,942U
 D) \$1,756,942 F
12. Which of the following is **TRUE**?
- A) A company may use job costing to assign costs to different product lines and then use process costing to calculate unit costs within each product line.
 B) Job costing is used when each unit of output is identical, and process costing deals with unique products.
 C) Job costing is used by manufacturing industries, and process costing is used by service industries.
 D) In activity-based costing, direct labor-hours is always the best allocation base to allocate all non-manufacturing indirect costs.

13. The following shows NCKU Corporation's data from operations.

Budgeted manufacturing overhead costs:

Plant Maintenance	PM (Support Dept)	\$420,000
Data Processing	DP (Support Dept)	\$185,000
Machining	M (Operating Dept)	\$230,000
Capping	C (Operating Dept)	\$140,000

Services furnished:

By Plant Maintenance (budgeted labor-hours):

to Data Processing	3,000
to Machining	5,100
to Capping	8,900

By Data Processing (budgeted computer time):

to Plant Maintenance	800
to Machining	3,800
to Capping	700

Using *reciprocal allocation method*, what is the complete reciprocated cost of the Plant Maintenance Department? (Do not round any intermediary calculations.)

- A) \$447,925
- B) \$266,209
- C) \$420,000
- D) \$460,182

14. Spring Corporation, whose tax rate is 35%, has two sources of funds: long-term debt with a market value of \$8,100,000 and an interest rate of 9%, and equity capital with a market value of \$14,000,000 and a cost of equity of 12%. Spring has two operating divisions, the Silver division and the Gold division, with the following financial measures for the current year:

	Total Assets	Current Liabilities	Operating Income
Silver Div.	\$9,600,000	\$3,700,000	\$1,060,000
Gold Div.	\$11,500,000	\$2,215,000	\$1,108,000

What is Economic Value Added (EVA®) for the Silver Division? (Round intermediary calculations to four decimal places.)

- A) (\$185,088)
- B) \$45,900
- C) \$484,750
- D) \$113,750

15. NCKU Corporation manufactures two models of lamps, a standard and a deluxe model. The following activity and cost information has been compiled:

Product	Number of Setups	Number of Components	Number of Direct Labor Hours
Standard	17	12	270
Deluxe	33	18	230
Overhead costs	\$55,000	\$104,700	

Number of setups and number of components are identified as activity-cost drivers for overhead. Assuming an activity-based costing system is used, what is the total amount of overhead costs assigned to the standard model? Assuming a traditional costing system applies the overhead costs based on direct labor hours, what is the total amount of overhead costs assigned to the standard model?

- A) activity-based costing system \$99,120; traditional costing \$86,238
 B) activity-based costing system \$60,580; traditional costing \$73,462
 C) activity-based costing system \$60,580; traditional costing \$86,238
 D) activity-based costing system \$99,120; traditional costing \$73,462
16. Among different types of costs associated with inventory, the opportunity cost of the investment tied up in inventory is a(n):
- A) purchasing cost
 B) ordering cost
 C) stockout cost
 D) carrying cost
17. If ACC Company has a safety stock of 480 units and the average daily demand is 96 units, how many days can be covered if the shipment from the supplier is delayed by 7 days?
- A) 5 days
 B) 7 days
 C) 10 days
 D) 12 days

18. ACC Inc. manufactures small tables in its Processing Department. Direct materials are added at the initiation of the production cycle and must be bundled in single kits for each unit. Conversion costs are incurred evenly throughout the production cycle. Before inspection, some units are spoiled due to undetectable materials defects. Spoiled units generally constitute 8% of the good units. Data for February 2024 are as follows:

WIP, beginning inventory 2/1/2024	24,500 units
Direct materials (100% complete)	
Conversion costs (75% complete)	
Started during February	76,700 units
Completed and transferred out 2/29/2024	75,700 units
WIP, ending inventory 2/29/2024	18,900 units
Direct materials (100% complete)	
Conversion costs (70% complete)	

Costs for February:

WIP, beginning inventory:	
Direct materials	\$160,000
Conversion costs	77,300
Direct materials added	224,400
Conversion costs added	293,000

If the inspection occurs at 50% of the production cycle, abnormal spoilage totals:

- A) 992 units
- B) 544 units
- C) 6,056 units
- D) 6,600 units

19. The Milky Company processes unprocessed milk to produce two products, Butter Cream and Condensed Milk. The following information was collected for the month of February:

Direct Materials processed: 22,500 gallons (after shrinkage)

Production:	Butter Cream	11,500	gallons
	Condensed Milk	11,000	gallons
Sales:	Butter Cream	10,000	gallons
	Condensed Milk	11,500	gallons
Sales Price:	Butter Cream	\$5.00	per gallon
	Condensed Milk	\$8.50	per gallon
Separable costs in total:	Butter Cream	\$14,500	
	Condensed Milk	\$36,900	

The cost of purchasing the of unprocessed milk and processing it up to the split-off point to yield a total of 22,500 gallons of saleable product was \$57,000.

The company uses constant gross-margin percentage NRV method to allocate the joint costs of production. Which of the following is **CORRECT**? (Round intermediary percentages to the nearest hundredth.)

- A) The allocated joint costs of Condensed Milk is 30,224.
 - B) The allocated join costs of Butter Cream is \$0.
 - C) The gross margin percentage is 65.96%.
 - D) The total production cost of Butter Cream is \$35,895.
20. Entertainment Inc. is a distributor of DVDs. Blue Mart purchases DVDs from Entertainment at \$25.00 per DVD; DVDs are shipped in packages of 60. Entertainment pays all incoming freight, and Blue Mart does not inspect the DVDs due to Entertainment 's reputation for high quality. Annual demand is 325,000 DVDs at a rate of 6,300 DVDs per week. DVD Mart earns 12% on its cash investments. The purchase-order lead time is one week. The following cost data are available:
- Relevant ordering costs per purchase order \$120
- Carrying costs per package per year:
- Relevant insurance, materials handling, breakage, etc., per year \$10
- Which of the following is **CORRECT**?
- A) EOQ is 105 packages.
 - B) The annual relevant carrying costs are \$15,717.
 - C) The annual relevant ordering costs are \$7,858
 - D) All above are correct.

21. A company has two department, ABC and XYZ, each operated as an investment center. ABC charges XYZ \$56 per unit for each unit transferred to Y. Other data of ABC department are:

variable cost per unit	\$45	
fixed costs	\$100,000	
annual sales to XYZ department	5,000	units
sales to outsiders	10,000	units

ABC is planning to raise its transfer price to \$67 per unit. Division XYZ can purchase units at \$50 each from outsiders, but doing so would idle ABC's facilities now committed to producing units for XYZ. Division ABC cannot increase its sales to outsiders. From the perspective of the short-term profit position of the company as a whole, from which source should Division XYZ acquire the units?

- A) Outside vendors.
 B) Division ABC, but only at the variable cost per unit.
 C) Division ABC, but only until fixed costs are covered, then should purchase from outside vendors.
 D) Division ABC, in spite of the increased transfer price.
22. NCKU Corp. manufactures smart phone. The waiting time is 75 minutes before the start of production and the manufacturing lead time is 178 minutes per laptop. What is its manufacturing cycle efficiency? (Round to the nearest whole percent.)
- A) 42%
 B) 73%
 C) 58%
 D) 70%

二、計算及申論題(34%)

1. (14%) NCKU Manufacturing Corporation has two production departments that process all products. During February, the beginning work in process in the First Production Department was half completed as to conversion, and complete as to direct materials. The beginning inventory included \$56,000 for materials and \$60,000 for conversion costs. Ending work-in-process inventory in the assembly department was 35% complete. Direct materials are added at the beginning of the process. Beginning work in process in the Second Production Department was 75% complete as to conversion. Direct materials are added near the end of the process. Beginning inventories included \$27,000 for transferred-in costs and \$29,000 for conversion costs. Ending inventory was 30% complete. Additional information about the two production departments follows:

	First Production	Second Production
Beginning work-in-process units	20,000	24,000
Units started this period	60,000	
Units transferred this period		
Ending work-in-process units	16,000	20,000
Material costs added	\$58,000	\$40,800
Conversion costs	34,000	70,000
Transferred-out cost	160,000	

Required:

Using FIFO, prepare a production cost worksheet for the Second Production Department.

2. (10%) Monsters, Inc. is considering the purchase of a \$800,000 machine to manufacture a specialty product MO-100. The MO-100 is a product that in high demand and the Monsters can sell all that it could manufacture each year for the next 10 years. In addition, the government currently exempts taxes on profits from new investments (including the investment being considered here). This legislation will most likely remain in effect in the foreseeable future. The machine is expected to have a 10-year useful life with no salvage value. The double-declining-balance depreciation method was used by the Monsters. In addition, to evaluate its capital investment, the Monsters uses a 10% weighted-average cost of capital (WACC). The net cash inflows are expected to be as follows:

Year	Cash Inflow
1	\$40,000
2	70,000
3	100,000
4	170,000
5	200,000
6	250,000
7	225,000
8	190,000
9	80,000
10	40,000

Required:

- What is the estimated net present value (NPV) of this proposed investment? (5%)
 - What is the present value payback period for this proposed investment, in years (rounded to one decimal place)? (3%)
 - Will you accept purchase this machine? Explain your reasons. (2%)
3. (10%) 2018 年美中貿易戰爆發，加之 2019 年底 2020 年初爆發之新冠肺炎疫情等影響因素，中國世界工廠的地位因而受到挑戰，許多原設廠於中國的台商也開始轉往東南亞投資設廠，而隨著 COVID-19 疫情趨緩、蘋果供應鏈分散策略，加之過去已有台商長期於東協國家深耕，更是加速產業移轉效果。經濟部投審會統計，2022 年台灣對新南向國家投資金額為 52.7 億美，超越對中國投資的 50.5 億美元。試分析，台商由中國轉往印度、越南、印尼等新南向國家設廠的可能成本及利益。