

東吳大學 103 學年度碩士班研究生招生考試試題

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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

※請標明題號後，依序作答於答案卷上！

一、選擇題（單選題，每題 2 分，共 30 分）

Use the following information to answer questions 1 to 3:

Combat Company uses job order costing to accumulate the manufacturing cost. Last year, the company had following beginning and ending balances in inventory accounts:

	<u>Beginning</u>	<u>Ending</u>
Finished Goods	\$ 9,000	\$12,500
Work in Process	8,000	3,500
Materials	7,000	8,500

Selected data concerning last year's operations of the company are as follows:

(a) Materials used	\$ 30,000
(b) Total manufacturing costs (factory overhead was applied at a rate of 60% of direct labor cost)	80,000
(c) Cost of goods available for sale	93,500
(d) Marketing and administrative expenses	10,000

1. What amount was the cost of materials purchased during last year?
(A) \$1,500. (B) \$31,500. (C) \$28,500. (D) \$45,500. (E) \$34,500.
 2. What amount was the direct labor cost during last year?
(A) \$31,250. (B) \$18,750. (C) \$133,333. (D) \$30,469. (E) \$50,000.
 3. What was the amount of cost of goods manufactured for last year?
(A) \$81,000. (B) \$75,500. (C) \$106,000. (D) \$83,500. (E) \$84,500.
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4. Which of the following fail to be captured and reported by a company's accounting system as an environmental cost? (A) Monitoring costs. (B) Abatement costs. (C) Hidden costs. (D) On-site remediation costs. (E) Off-site remediation costs.
 5. Bushnell, Inc., has a standard variable overhead rate of \$4 per machine hour, with each completed unit expected to take three machine hours to produce. A review of the company's accounting records found the following:
 Actual variable overhead: \$210,000
 Variable-overhead efficiency variance: \$18,000U
 Variable-overhead spending variance: \$30,000F
 How many units did Bushnell actually produce during the period? (A) 13,500. (B) 16,500. (C) 18,500. (D) 21,500. (E) Some other amount.
 6. The bill of materials:
 - (A) authorizes the storeroom to deliver types and quantities of materials to a given department
 - (B) informs the purchasing agent of the quantity and kind of materials needed
 - (C) contracts for quantities to be delivered
 - (D) certifies quantities received and reports results of inspection and testing
 - (E) is the list of materials requirements for each step in the production sequence

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7. Dayton Company has average invested capital of \$600,000 and a target return on investment of 15%. The total cost per unit is \$18 based on a volume level of 20,000 units. Dayton's markup percentage on total cost is: (A) 15%. (B) 25%. (C) 60%. (D) 167%. (E) none of the above.
8. When using a balanced scorecard, a company's market share is typically classified as an element of the firm's: (A) financial performance measures. (B) customer performance measures. (C) learning and growth performance measures. (D) internal-operations performance measures. (E) interdisciplinary performance measures.
9. A company had income of \$50,000 using direct costing for a given period. Beginning and ending inventories for that period were 13,000 units and 18,000 units, respectively. Ignoring income taxes, if the fixed overhead application rate were \$2.00 per unit, what would the income have been using absorption costing? (A)\$86,000. (B) \$40,000. (C) \$50,000. (D) \$60,000. (E) cannot be determined from the information given.

10. A company has just completed the final development of its only product. The product has taken three years and \$6,000,000 to develop. The following costs are expected to be incurred on a monthly basis for the production of 1,000,000 pounds of the new product:

	1,000,000 Pounds
Direct materials.....	\$ 300,000
Direct labor	1,250,000
Variable overhead	450,000
Fixed overhead	2,000,000
Variable selling, general, and administrative expenses	900,000
Fixed selling, general, and administrative expenses.....	1,500,000
Total.....	\$ 6,400,000

At a sale price of \$5.90 per pound, the sales in pounds necessary to ensure a \$3,000,000 profit the first year would be (to the nearest thousand pounds): (A) 13,017,000 pounds (B) 14,000,000 pounds (C) 15,000,000 pounds (D) 25,600,000 pounds (E) none of the above

11. The most probable reason a company would experience a favorable labor rate variance and an unfavorable labor efficiency variance is that:
 - (A) the mix of workers assigned to the particular job was heavily weighted toward the use of higher paid, experienced individuals
 - (B) the mix of workers assigned to the particular job was heavily weighted toward the use of new, relatively low-paid, unskilled workers
 - (C) because of the production schedule, workers from other production areas were assigned to assist in this particular process
 - (D) defective materials caused more labor to be used in order to produce a standard unit
 - (E) the actual price paid for materials that went into production was less than the standard price that was expected to be paid
12. Of the following, the only activity that adds value to a product is: (A) processing time (B) moving time (C) waiting time (D) inspection time (E) all of the above

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13. Information about Sargent Company's direct material costs is as follows:

Standard unit price	\$3.60
Actual quantity purchased	1,600
Standard quantity allowed for actual production	1,450
Materials purchase price variance - unfavorable	\$240

What was the actual purchase price per unit, rounded to the nearest penny?

(A) \$3.06. (B) \$3.11. (C) \$3.45. (D) \$3.75. (E) \$3.60.

14. The Janitorial Department provides cleaning services to all departments of a large store. Management wishes to allocate the janitorial costs to the various departments that benefit from the service. The most reasonable allocation base for janitorial costs would be:

(A) sales of each department. (B) square footage of each department. (C) number of employees in each department. (D) total direct costs of each department before any allocations. (E) direct materials costs incurred in the divisions.

15. The Clifton Manufacturing Company has a cycle time of 1.5 days, uses a Raw and In Process (RIP) account, and charges all conversion costs to Cost of Goods Sold. At the end of each month, all inventories are counted, their conversion cost components are estimated, and inventory account balances are adjusted. Raw material cost is backflushed from RIP to Finished Goods. If the conversion cost in the Raw and In Process was \$500 on July 1 and \$1,000 on July 31, how would the \$500 increase be recorded at the end of July?
 (A) debited to Raw and In Process. (B) credited to Finished Goods. (C) credited to Raw and In Process. (D) credited to Cost of Goods Sold. (E) debited to Cost of Goods Sold.

二、計算與分析題 (共 5 題，共 70 分)

1. (12%) International Lumber Company has a Raw Lumber Division and a Finished Lumber Division. Output from the Raw Lumber Division can be sold to outside customers, or to the Finished Lumber Division and be processed into finished lumber. The variable costs (not including the internal transfer price for the raw lumber) are:

- Raw Lumber Division: \$100 per 100 board-feet of raw lumber.
- Finished Lumber Division: \$50 per 100 board-feet of finished lumber.

Assume that there is no board-feet loss in processing raw lumber into finished lumber. Raw lumber can be sold at \$200 per 100 board-feet. Finished lumber can be sold at \$275 per 100 board-feet.

Required: (須列出計算過程，計算至整數位)

- (1) Should International Lumber Company process raw lumber into its finished form? Show your calculation and explain.
- (2) Assume the internal transfers are made at **110% of variable cost**. Will each division maximize its division operating-income contribution by adopting the action that is in the best interest of International Lumber Company as a whole? Explain.
- (3) Assume the internal transfers are made at **market prices**. Will each division maximize its division operating-income contribution by adopting the action that is in the best interest of International Lumber Company as a whole? Explain.

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2. (15%) Androidian Company makes electronic components in its GL department, and it uses the weighted-average method of process costing. All direct materials are added at the beginning of the process, and conversion costs are added evenly during the process. Spoiled units are detected upon inspection at 80% of the process and are disposed of at zero net disposal value. Summary data for August 2012 are as follows:

	Physical Units:	Degree of Completion	
		Direct Materials	Conversion Costs
Work in process, beginning	600	?	30%
Started during current period	2,550		
Good units completed and transferred out	2,100		
Work in process, ending	450	?	40%
Normal spoilage as a percentage of good units	10%		

The data of August also revealed that spoiled units detected were all from the batches started production during the month.

Required

- (1) For each cost category, calculate equivalent units. Show physical units in the first column of your schedule.
 - (2) Assume that the unit costs per equivalent unit are: \$20 for direct materials, and \$10 for conversion cost. Compute total costs to units completed and transferred out (including normal spoilage), to abnormal spoilage, and to units in ending work in process.
3. (15%) Carter Corporation is organized in three separate divisions. The three divisional managers are evaluated at year-end, and bonuses are awarded based on ROI. Last year, the overall company produced a 12% return on its investment.

Managers of Carter's Iowa Division recently studied an investment opportunity that would assist in the division's future growth. Relevant data follow.

	<u>Iowa Division</u>	<u>Investment Opportunity</u>
Income	\$12,800,000	\$ 4,200,000
Invested capital	80,000,000	30,000,000

Required:

- (1) Compute the current ROI of the Iowa Division, and the ROI of the new investment opportunity. Assume that Jasper uses ROI to evaluate performance, discuss how the manager of Iowa Division would react to the new investment opportunities.
- (2) Assume that Carter uses residual income to evaluate performance and desires an 11% minimum return on invested capital. What would be the current residual income (RI) of the Iowa Division and the division's residual income if the investment is made?
- (3) From Carter's point of view, should the new investment opportunity be acquired? Give your reasoning.
- (4) Discuss which performance measure is better if Carter strives for goal congruence.

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4. (18%) The Harper Manufacturing Company produces two products, Custom and Ordinary, and uses a costing system that accumulates all overhead in a single cost pool and allocates it based on machine hour. A recent cost study has revealed significant amounts of overhead cost related to setup activity and design activity. As a result, Harper's management is considering changing its product costing system to ABC, and has decided to create two additional cost pools: (1) setup cost pool, using the number of setups as cost driver, and (2) design cost pool, using the number of design hours as cost driver. Machine hours will continue as the base for allocating all remaining overhead. Information concerning Harper Company's most recent year of operations is as follows:

	<u>Custom</u>	<u>Ordinary</u>	<u>Total</u>
Units produced	500	15,500	16,000
Direct material cost :			
Per unit	\$200	\$20	
Total	\$100,000	\$310,000	\$410,000
Machine hours	3,500	46,500	50,000
Direct labor costs	\$50,000	\$341,000	\$391,000
Setups	120	80	200
Design hours	6,000	4,000	10,000
Overhead :			
Setup related			\$250,000
Design related			350,000
Other			900,000
Total Overhead			<u>\$1,500,000</u>

Required : (總成本計算至整數位，單位成本計算至小數四位)

- (1) Calculate the total and per-unit costs reported for the two products by the existing costing system.
- (2) Calculate the total and per-unit costs reported for the two products by the ABC system.
- (3) Which product has overstated cost, and which product has understated cost, as result of the cost distortion in the existing cost system?
- (4) If the company's selling price is based heavily on cost, which product may have been less competitive in the market place *prior to the switch to ABC* from the current traditional system? Explain.
- (5) Reconcile cost reported for the product "Custom" by the two costing system. Use columns for total and per-unit costs. Explain the reason why the amount is different under the two costing systems.

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5. (10%) The Harper Company produces and sells three products, X, Y and Z. For the coming year, sales are expected to be as follows:

<i>Product</i>	<u><i>Sales Price</i></u>	<u><i>Quantity</i></u>	<u><i>Total Sales</i></u>
X	\$10	5,000	\$ 50,000
Y	6	7,000	42,000
Z	15	3,000	45,000
			<u><u>\$137,000</u></u>

At the expected sales quantity and mix, the manufacturing cost per unit is as follows:

	<u><i>X</i></u>	<u><i>Y</i></u>	<u><i>Z</i></u>
Materials	\$2	\$2	\$ 4
Direct labor	2	2	3
Factory Overhead :			
Variable	1	1	2
Fixed	<u>1</u>	<u>1</u>	<u>3</u>
	<u><u>\$6</u></u>	<u><u>\$6</u></u>	<u><u>\$12</u></u>

Variable marketing expense is \$1 per unit for X and Y, and \$2 per unit for Z. Budgeted fixed marketing expenses for the coming year are \$3000, and budgeted fixed administrative expenses are \$6,000.

The sales manager has recommended dropping Y from the product line and using the production capacity currently committed to Y to produce more X. The production manager reports that 5,000 additional units of X can be produced with the production capacity now used in manufacturing Y. To sell 5,000 additional units of X, the sales manager believes that the advertising budget will have to be increased by \$5,000.

Required : (總成本計算至整數位，單位成本計算至小數四位)

- (1) Should the sales manager's proposal be accepted? Support your answer by computing the change in profitability that would result from this action.
- (2) In addition to the factors mentioned by the production manager and sales manager, what other factors should be considered?