

科目：成本與管理會計學

系所組：會計學系碩士班

注意：

一、將答案依下列格式橫式書寫在彌封答案卷的第一頁：

第一部份：

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

第二部份：

1.

(1) Wal-Mart's strategy: _____

(2). Industry-market-size factor (F or U): _____

(3). Cost leadership (F or U): _____

(4). Product differentiation (F or U): _____

2. Billing to Lawson: _____

3.

(1). Relevant costs under the make alternative — Relevant costs under the buy alternative = _____

(2). Relevant costs under the make alternative — Relevant costs under the buy alternative = _____

(3). Relevant costs under the make alternative — Relevant costs under the buy alternative = _____

二、將第一部份之選擇理由或計算過程以及第二部份之計算過程書寫於彌封答案卷的第二頁及以後。未書寫計算過程者不予計分。

三、未依作答格式作答者，扣該科總分10分。

四、未在彌封答案卷內作答者，不予計分。

五、第一部份單選題若無答案者，請回答“無答案”。

第一部份：單選題(50%)

1. Jennerson Co. produced a pilot run of sixty units of a recently developed piston used in the finished products. The piston has a one-year life, and Jennerson expected to produce and sell 1,960 units annually. The pilot run required an average of .34 direct labor hours per piston for 60 pistons. The last piston in the pilot run required .23 direct labor hours. Jennerson experienced an eighty percent learning curve on the direct labor hours needed to produce new pistons. Past experience indicated that learning tends to cease by the time 960 parts are produced. If the pistons are manufactured by Jennerson Co., the total direct labor hours for the first 960 pistons (including the pilot run) produced is calculated to be:

- A) 106.95456.
- B) 125.33760.
- C) 133.69344.
- D) 167.11680.

2. Risk aversion by managers should be recognized when revising compensation plans because:

- A) Compensation mix (salary, bonus) can influence a manager's risk aversion.
- B) Most companies want risk averse managers.
- C) Most companies want risk taking managers.
- D) It costs less to pay risk averse managers.

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3. As a preliminary step in the selection of variables to use in a statistical-forecasting model, the auditor has calculated the coefficient of correlation between the firm's sales and three economic indexes. The results were as follows:

Index	Coefficient of Correlation
A	.105
B	-.009
C	-.854

Which of the following statements indicates the best course of action for the auditor to take in the development of a forecasting model?

- A) Drop all three indexes from further consideration because a coefficient of correlation of ± 1.0 is necessary for a statistically significant relationship.
- B) Include only indexes B and C in the model because they have the only negative coefficients of correlation.
- C) Include only index C in the model because its coefficient of correlation is significant, while the coefficients of indexes A and B are likely to be insignificant.
- D) Include only index A in the model because it has the only positive coefficient of correlation.

4. Cathy's Towels sells three items: bath towels, hand towels and washcloths in a 4:3:2 mix (in units). Each bath towel sells for \$10 and costs \$4, each hand towel sells for \$5 and costs \$2; and each washcloth sells for \$2.50 and costs \$1. The shop's annual fixed expenses are \$32,400, and the tax rate is 40%.

How many bath towels does the firm sell at the breakeven point?

- A) 2,000.
 - B) 3,000.
 - C) 4,000.
 - D) 4,050.
5. Williams Pharmaceutical Company is a maker of drugs for high blood pressure and uses a process costing system. The following information pertains to the final department of William's blockbuster drug called "HBP".

Beginning work-in-process (40% completed)	800 units
Transferred-in	3,000 units
Normal spoilage	300 units
Abnormal spoilage	200 units
Good units transferred out	2,700 units
Ending work-in-process (1/3 completed)	600 units
Conversion costs in beginning inventory	\$1,600
Current conversion costs	\$6,900

Williams calculates separate costs of spoilage by computing both normal and abnormal spoiled units. Normal spoilage costs are reallocated to good units and abnormal spoilage costs are charged as a loss. The units of "HBP" that are spoiled are the result of defects not discovered before inspection of finished units. Using the weighted-average method, answer the following questions: What are the total conversion costs transferred to finished goods?

- A) \$6,750.
- B) \$7,150.
- C) \$7,300.
- D) \$7,500.

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6. Orange, Inc. has identified the following cost drivers for its expected overhead costs for the year:

<u>Cost Pools</u>	<u>Budgeted Cost</u>	<u>Cost Driver</u>	<u>Cost Driver Level</u>
Setup	\$ 40,000	Number of setups	200
Ordering	20,000	Number of orders	1,000
Maintenance	50,000	Machine hours	5,000
Power	10,000	Kilowatt hours	10,000

Total direct labor hours budgeted = 2,000 hours.

The following data applies to one of the products completed during the year:

<u>Product X</u>			
	<u>Cost</u>	<u>Driver Consumption</u>	
Direct materials	\$1,000	Number of setups	4
Direct labor	\$1,200	Number of orders	8
Units completed	100	Machine hours	50
Direct labor hours	40	Kilowatt hours	100

If the activity-based cost drivers are used to allocate overhead cost, the total overhead cost of Product X will be:

- A) \$1,500.
- B) \$1,560.
- C) \$2,000.
- D) \$2,400.

7. ASUS Corporation's managers estimate that a 50% increase in price would cause an 80% reduction in the quantity of product sold. The following values may be useful:

$\ln(0.2) = -1.609$	$\ln(1.5) = 0.405$
$\ln(0.5) = -0.693$	$\ln(4,000) = 8.294$
$\ln(0.8) = -0.223$	$\ln(5,000) = 8.517$

ASUS's price elasticity of demand is

- A) -3.973
- B) -0.252
- C) +0.322
- D) +3.108

8. Valley Hospital is considering the purchase of new medical equipment for \$25,000. The old equipment has zero salvage value. The costs associated with operating the equipment are:

	<u>Old Equipment</u>	<u>New Equipment</u>
Labor	\$9,000	\$4,500
Maintenance	2,000	1,200
Miscellaneous	1,500	1,300
Depreciation	8,000	4,750

If the new machine is purchased and ignoring income taxes, the payback period is

- A) 3.57 years
- B) 2.13 years
- C) 2.86 years
- D) 4.55 years

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9. Division S sold a part to both Division P and outside customers last year. The revenues from these sales were \$30,000 (1,000 units) and \$35,000 (1,000 units), respectively. Next year, S plans to increase the unit sales price to \$42 and wants a proportionate increase in the sales price to Division P. The unit costs are \$9 variable and \$15 fixed. If Division P does not agree to the price increase, 50% of Division S's fixed costs will be eliminated.

What is the highest price Division P would be willing to pay for external purchases?

- A) \$30.00
- B) \$36.00
- C) \$16.50
- D) \$28.50

10. Allen, Inc. has the following disbursements:

- * Variable manufacturing costs are \$3 per unit. They are paid 40% in the month of purchase and 60% in the following month. Purchases are made in the month of production.
- * Fixed overhead is \$2,000, including \$500 depreciation. Overhead costs are paid as incurred.
- * Selling costs are \$1,500 per month plus \$1 per unit sold and are paid in the month incurred.
- * Production for January, February, and March was 3,000, 2,000, and 1,200 units, respectively.
- * Sales for the 3 months were 1,000, 2,500, and 1,000 units, respectively.

What is the amount of cash disbursements for February?

- A) \$13,300
- B) \$12,300
- C) \$12,800
- D) \$7,400

第二部份：計算題(50%)

1. (20%) Wal-Mart buys T-shirts in bulk, applies its own trendsetting silk-screen designs, and then sells the T-shirts to a number of retailers. Wal-Mart wants to be known for its trendsetting designs, and it wants every teenager to be seen in a distinctive Wal-Mart T-shirt. Wal-Mart presents the following data for its first two years of operations, 2006 and 2007.

	2006	2007
Number of T-shirts purchased	200,000	250,000
Number of T-shirts discarded	2,000	3,300
Number of T-shirts sold	198,000	246,700
Average selling price	\$25.00	\$26.00
Average cost per T-shirt	\$10.00	\$8.50
Administrative capacity (number of customers)	4,000	3,750
Administrative costs	\$1,200,000	\$1,162,500
Design staff	5	5
Design costs	\$250,000	\$275,000

Administrative costs depend on the number of customers that Wal-Mart has created capacity to support, not on the actual number of customers served. Wal-Mart had 3,600 customers in 2006 and 3,500 customers in 2007. At the start of each year, management uses its discretion to determine the number of employees on the design staff for the year. The design staff and its costs have no direct relationship with the number of T-shirts purchased and sold or the number of customers to whom T-shirts are sold.

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Required:

- (1). Is Wal-Mart's strategy product differentiation or cost leadership?
- (2). Suppose that the market for silk-screened T-shirts grew by 10% during 2007. All other increases in Wal-Mart's sales were the result of its own strategic actions. Calculate the change in operating income from 2006 to 2007 due to growth in market size, cost leadership, and product differentiation.

2. (10%) KPMG provides consulting services and uses a job-order system to accumulate the cost of client projects. Traceable costs are charged directly to individual clients; in contrast, other costs incurred by KPMG, but not identifiable with specific clients, are charged to jobs by using a predetermined overhead application rate. Clients are billed for directly chargeable costs, overhead, and a markup. KPMG anticipates the following costs for the upcoming year:

	<u>Cost</u>	<u>Percentage of Cost Directly Traceable to Clients</u>
Professional staff salaries	\$5,000,000	80%
Administrative support staff	600,000	50
Travel	200,000	80
Other operating costs	<u>200,000</u>	20
Total	<u>\$6,000,000</u>	

KPMG's partners desire to make a \$480,000 profit for the firm and plan to add a percentage markup on total cost to achieve that figure. On May 14, KPMG completed work on a project for Lawson Manufacturing. The following costs were incurred: professional staff salaries, \$68,000; administrative support staff, \$8,900; travel, \$10,500; and other operating costs, \$2,600.

Required: How much would Lawson be billed for services performed?

3. (20%) The Giant Company produces bicycles. This year's expected production is 10,000 units. Currently, Giant makes the chains for its bicycles. Giant's management accountant reports the following costs for making the 10,000 bicycle chains:

	<u>Cost per Unit</u>	<u>Costs for 10,000 Units</u>
Direct materials	\$4.00	\$ 40,000
Direct manufacturing labor	2.00	20,000
Variable manufacturing overhead (power and utilities)	1.50	15,000
Inspection, setup, materials handling		2,000
Machine rent		3,000
Allocated fixed costs of plant administration, taxes, and insurance		<u>30,000</u>
Total costs		<u>\$110,000</u>

Giant has received an offer from an outside vendor to supply any number of chains that Giant requires at \$8.20 per chain. The following additional information is available:

- Inspection, setup, and materials-handling costs vary with the number of batches in which the chains are produced. Giant produces chains in batch sizes of 1,000 units;
- Giant rents the machine used to make the chains. If Giant buys all of its chains from the outside vendor, it does not need to pay rent on this machine.

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Required: Compute the differential cost between the relevant costs under the make alternative and that under the buy alternative in the following independent cases:

- (1). Assume that if Giant purchases the chains from the outside supplier, the facility where the chains are currently made will remain idle. Anticipate production (and sales) volume is 10,000 units.
- (2). Assume that if the chains are purchased outside, the facilities where the chains are currently made will be used to upgrade the bicycles by adding mud flaps and reflectors. As a consequence, the selling price of bicycles will be raised by \$20. The variable cost per unit of the upgrade would be \$18, and additional tooling costs of \$16,000 would be incurred. Assume that 10,000 units are produced (and sold).
- (3). The sales manager at Giant is concerned that the estimate of 10,000 units may be high and believes that only 6,200 units will be sold. Production will be cut back, freeing up work space. This space can be used to add the mud flaps and reflectors whether Giant buys the chains or makes them in-house. At this lower output, Giant will produce the chains in eight batches of 775 units each.

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