

東海大學 105 學年度碩士班招生入學考試試題

考試科目：成本與管理會計學

科目代碼：43112

應考系所：會計甲

考試日期：105 年 3 月 6 日第 3 節 使用計算機：可

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1. 平衡計分卡被《哈佛商業評論》評為75年來最具影響力的管理工具之一，請回答下列與平衡計分卡相關的問題：(17%)
- (1) 請說明何謂使命、願景、策略、與平衡計分卡？(6%)
 - (2) 請說明上述內容之間的關係為何？(4%)
 - (3) 請說明如何形成策略？(2%)
 - (4) 請說明平衡計分卡的具體內容與實施步驟。(5%)
2. 大肚公司正考慮應否於下年初翻修舊設備，或更換為新設備，前者需耗費\$50,000，後者則需支出\$77,000，舊設備自下年初起算，其耐用年數尚餘四年，而新設備之耐用年數亦為四年，舊設備翻修後每年所產生之現金流入為\$50,000，新設備亦同。翻修後之舊設備每年發生之支出為\$30,000，而新設備每年發生之支出為\$23,000。如購置新設備，舊設備之處分價值為\$5,000，耐用年數屆滿後，舊設備及新設備之殘值分別為\$3,000及\$10,000。假設資金成本為15%，且不考慮所得稅因素。

試作：(15%)

- (1) 試計算二方案之淨現值，並據以分析大肚公司應選取之方案。(5%)
- (2) 如以內部報酬率法計算並分析，則大肚公司應選取何方案？(5%)
- (3) 上述二法所分析之結果是否會互相衝突？試說明之。(5%)

年 度	折 現 因 子			
	15%	20%	22%	24%
0	1	1	1	1
1	0.87	0.83	0.82	0.81
2	0.75	0.69	0.67	0.65
3	0.65	0.58	0.55	0.52
4	0.57	0.48	0.45	0.42
5	0.49	0.40	0.37	0.34

3. 大墩公司是一家傳統的製造業，採行加權平均分步成本制度累積產品成本。由於該公司尚未有全面品質成本的觀念，製程中常會有損壞品或瑕疵品成本的產生。損壞品或瑕疵品修護成本皆在可允許的範圍之內，視為正常損失，分攤至完好產品的成本中；超過可允許範圍內的損失，則視為非常損失。光華公司的產品需經過第一部門及第二部門的製造，2月份該公司的相關資訊如下：

(1) 原料投入

第一部門及第二部門的原料均於開始生產時投入。

(2) 加工成本

在製程中等比例投入。

(3) 檢驗點

第一部門之檢驗點在製程的 60% 時，第二部門則在完工時。

(4) 數量資料

	第一部門	第二部門
期初在製品存貨單位數		
第一部門 (30% 加工成本)	100,000	
第二部門 (60% 加工成本)		50,000
本期投入生產或轉入單位數	400,000	410,000
(* 本期從第一部門轉入 370,000 單位後，隨即加入 40,000 單位的原料)		
本期完工單位數	370,000	340,000
期末在製品存貨單位數		
第一部門 (65% 加工成本)	60,000	
第二部門 (40% 加工成本)		80,000
損壞品單位數		
正常損失	50,000	30,000
非常損失	20,000	10,000

(5) 成本資料

	期初在製品存貨成本		當期投入成本	
	第一部門	第二部門	第一部門	第二部門
第一部門轉入成本		\$403,450		
直接原料	\$150,000	328,000	\$800,000	\$500,000
加工成本	250,000	366,720	1,600,000	1,100,000
正常損失：瑕疵品修護成本 (加工成本)			66,750	
正常損失：瑕疵品修護成本 (加工成本)				110,000

試作：利用上述資料回答下列子題 (20%)

- (1) 計算 2 月份第一部門的完成品成本。(4%)
- (2) 計算 2 月份第一部門的期末在製品存貨成本。(3%)
- (3) 計算 2 月份第一部門的非常損失金額。(3%)
- (4) 計算 2 月份第二部門的完成品成本。(4%)
- (5) 算 2 月份第二部門的期末在製品存貨成本。(3%)
- (6) 算 2 月份第二部門的非常損失金額。(3%)

4. Raynham's Radiology Center (RRC) performs X-rays, ultrasounds, computer tomography (CT) scans, and magnetic resonance imaging (MRI). RRC has developed a reputation as a top radiology center in the state. RRC has achieved this status because it constantly reexamines its processes and procedures. RRC has been using a single, facility-wide overhead allocation rate. The vice president of finance believes that RRC can make better process improvements if it uses more disaggregated cost information. She says, "We have state-of-the-art medical imaging technology. Can't we have state-of-the-art accounting technology?"

Raynham's Radiology Center Budgeted Information for the Year Ended May 31, 2014

	X-rays	Ultrasound	CT Scan	MRI	Total
Technician labor	\$ 62,000	\$101,000	\$155,000	\$ 103,000	\$ 421,000
Depreciation	42,240	256,000	424,960	876,800	1,600,000
Materials	22,600	16,400	23,600	31,500	94,100
Administration					20,000
Maintenance					250,000
Sanitation					252,500
Utilities					151,100
	<u>\$126,840</u>	<u>\$373,400</u>	<u>\$603,560</u>	<u>\$1,011,300</u>	<u>\$2,788,700</u>
Number of procedures	3,842	4,352	2,924	2,482	
Minutes to clean after each procedure	5	5	15	35	
Minutes for each procedure	5	15	25	40	

RRC operates at capacity. The proposed allocation bases for overhead are:

Administration	Number of procedures
Maintenance (including parts)	Capital cost of the equipment (use Depreciation)
Sanitation	Total cleaning minutes
Utilities	Total procedure minutes

Required: (15%)

- (1) Calculate the budgeted cost per service for X-rays, ultrasounds, CT scans, and MRI using direct technician labor costs as the allocation basis. (4%)
- (2) Calculate the budgeted cost per service of X-rays, ultrasounds, CT scans, and MRI if RRC allocated overhead costs using activity-based costing. (8%)
- (3) Explain how the disaggregation of information could be helpful to RRC's intention to continuously improve its services. (3%)

5. Gormley Precision Tools makes cutting tools for metalworking operations. It makes two types of tools: A6, a regular cutting tool, and EX4, a high-precision cutting tool. A6 is manufactured on a regular machine, but EX4 must be manufactured on both the regular machine and a high-precision machine. The following information is available:

	A6	EX4
Selling price	\$ 200	\$ 300
Variable manufacturing cost per unit	\$ 120	\$ 200
Variable marketing cost per unit	\$ 30	\$ 70
Budgeted total fixed overhead costs	\$700,000	\$1,100,000
Hours required to produce one unit on the regular machine	1.0	0.5

Additional information includes the following:

- Gormley faces a capacity constraint on the regular machine of 50,000 hours per year.
- The capacity of the high-precision machine is not a constraint.
- Of the \$1,100,000 budgeted fixed overhead costs of EX4, \$600,000 are lease payments for the high-precision machine. This cost is charged entirely to EX4 because Gormley uses the machine exclusively to produce EX4. The company can cancel the lease agreement for the high-precision machine at any time without penalties.
- All other overhead costs are fixed and cannot be changed.

Required: (15%)

- What product mix—that is, how many units of A6 and EX4—will maximize Gormley's operating income? Show your calculations. (5%)
- Suppose Gormley can increase the annual capacity of its regular machines by 15,000 machine hours at a cost of \$300,000. Should Gormley increase the capacity of the regular machines by 15,000 machine-hours? By how much will Gormley's operating income increase or decrease? Show your calculations. (5%)
- Suppose that the capacity of the regular machines has been increased to 65,000 hours. Gormley has been approached by Clark Corporation to supply 20,000 units of another cutting tool, V2, for \$240 per unit. Gormley must either accept the order for all 20,000 units or reject it totally. V2 is exactly like A6 except that its variable manufacturing cost is \$140 per unit. (It takes 1 hour to produce one unit of V2 on the regular machine, and variable marketing cost equals \$30 per unit.) What product mix should Gormley choose to maximize operating income? Show your calculations. (5%)

6. The Brown Manufacturing Company's costing system has two direct-cost categories: direct materials and direct manufacturing labor. Manufacturing overhead (both variable and fixed) is allocated to products on the basis of standard direct manufacturing labor-hours (DLH). At the beginning of 2014, Brown adopted the following standards for its manufacturing costs:

	Input	Cost per Output Unit
Direct materials	5 lb. at \$4 per lb.	\$ 20.00
Direct manufacturing labor	4 hrs. at \$16 per hr.	64.00
Manufacturing overhead:		
Variable	\$8 per DLH	32.00
Fixed	\$9 per DLH	36.00
Standard manufacturing cost per output unit		<u>\$152.00</u>

The denominator level for total manufacturing overhead per month in 2014 is 37,000 direct manufacturing labor-hours. Brown's flexible budget for January 2014 was based on this denominator level. The records for January indicated the following:

Direct materials purchased	40,300 lb. at \$3.80 per lb.
Direct materials used	37,300 lb.
Direct manufacturing labor	31,400 hrs. at \$16.25 per hr.
Total actual manufacturing overhead (variable and fixed)	\$650,000
Actual production	7,600 output units

Required: (18%)

- (1) Prepare a schedule of total standard manufacturing costs for the 7,600 output units in January 2014. (4%)
- (2) For the month of January 2014, compute the following variances, indicating whether each is favorable (F) or unfavorable (U): (14%)
 - A. Direct materials price variance, based on purchases
 - B. Direct materials efficiency variance
 - C. Direct manufacturing labor price variance
 - D. Direct manufacturing labor efficiency variance
 - E. Total manufacturing overhead spending variance
 - F. Variable manufacturing overhead efficiency variance
 - G. Production-volume variance