ACCT2121
2004/2005 2nd Semester
Final Examination
Suggest Solution

Date: 4 May 2011

Problem 1

1(a).

		Deluxe	Standard
		$	$
Direct material and labour costs per unit		180	130
Manufacturing overhead costs per unit		80	120
Total manufacturing cost per unit	(i)	**260**	**250**

1(b).

Sales price per unit	(ii)	650	475
Profit per unit (ii)-(i)		**390**	**225**

2(a).

	Activity Cost Pool		
	Setups	Machine-related	Packing
Cost	$ 500,000	$ 44,000,000	$ 5,000,000
Activity measure (No. of setups/machine hours/shipments)	500	600,000	250,000
Cost-driver rate per activity unit	$ 1,000	$ 73	$ 20

2(b). ***Deluxe***

Activity Cost Pool	Activity Measure	Cost
Setups	400	$ 400,000
Machine-related	300,000	$ 22,000,000
Packing	50,000	$ 1,000,000
Sales unit	-	50,000
Manufacturing overhead cost per DELUXE unit		$ 468

Standard

Activity Cost Pool	Activity Measure	Cost
Setups	100	$ 100,000
Machine-related	300,000	$ 22,000,000
Packing	200,000	$ 4,000,000
Sales unit	-	400,000
Manufacturing overhead cost per STANDARD unit		$ 65

3. No, the deluxe desk product line has a higher manufacturing cost per unit under activity-based costing ($648) than under traditional costing ($260). The difference is due to different manufacturing overhead calculated.

Problem 2

1.

	Option 1	Option 2	
Fixed rental cost	$ 1,000	$ 2,400	
Band hiring cost (Fixed)	$ 800	$ 800	
Total fixed cost	$ 1,800	$ 3,200	
Budgeted administrative and marketing expenses	$ (1,200)	$ (1,200)	
Fixed cost recoverable by ticket contribution	$ 600	$ 2,000	(i)
Ticket price per person	$ 30	$ 30	
Food price per person	$ (15)	$ (10)	
Contribution per person(unit)	$ 15	$ 20	(ii)
Break-even point in units (i) / (ii)	40	100	

2.

	Option 1	Option 2
Expected market demand	300	300
Break-even point in units	40	100
Margin of safety	260	200

3. Let X be the level of sales units:

$$15X-600 = 20X-2000$$
$$5X = 1400$$
$$X = 280$$

So the level of sales units = 280 units

Operating income = 280 * $30 = $8400

4(a). At 300 tickets:

	Option 1	Option 2	
Total contribution	4500	6000	(i)
Operating Income (Total contribution - Fixed cost)	3900	4000	(ii)
Degree of operating leverage (i) / (ii)	1.15	1.5	

4(b). than 300 tickets. It is because option 2 has a higher degree of operating leverage, meaning that every dollar increase in sales will lead to a greater increase in operating income.

5. Weighted average market demand:
300 * 0.6 + 250 * 0.4
= 280 tickets

At the level of 280 tickets, both option will yield the same expected operating income. There is no preference between 2 options.

Problem 3

1.

		$
Direct materials saved	($200 * 10000)	2,000,000
Direct labour saved	($210 * 10000)	2,100,000
VMOH saved	($160 * 10000 * 30%)	480,000
Avoidable FMOH		370,000
Storage charge saved		150,000
Total costs saved		5,100,000
Purchase cost	($520 * 10000)	(5,200,000)
Net present value		(100,000)

Since the offer has negative net present value, HTC should not outsource the manufacturing of engines.

2.

		$
Selling price per unit of refrigerator		4,600
Variable cost per unit:		
Direct material	(1,500)	
Cost of the engine	(520)	
Direct labour	(600)	
Variable manufacturing overhead	(600)	
Variable marketing and admin cost	(700)	(3,920)
Contribution per unit		680
Incremental units of production and sales		1,000
Incremental contribution		680,000
Net loss of first 10000 units under requirement 1		(100,000)
Net present value		580,000

Under this situation, the offer should be accepted as it has positive net present value of $580,000.

3. (a) Quality of engines supplied.
(b) Stability of supply.
(c) Reliability of estimation of market demand.

Problem 4

Wong Company
Cash Flow Statement
for the year ended 31 December 2004

		$	$
Operating Activities			
Net income:			21,150
Adjustments for:			
Depreciation		15,610	
Gain on disposal		(2,338)	13,272
Operating income before working capital changes			34,422
Increase in inventory		(111,026)	
Increase in accounts receivables		(17,594)	
Increase in accounts payable		11,976	
Increase in note payable		48,000	
Increase in prepayments		(680)	
Increase in accruals		124	(69,200)
Net cash used in operating activities			(34,778)
Investing Activities			
Cash used in acquisition of equipment		(29,580)	
Proceeds from sales of equipment	(NB1)	5,442	
Net cash used in investing activities			(24,138)
Financing Activities			
Acquisition of long-term debt		78,710	
Repayment of current maturities of long-term debt		(10,704)	
Proceeds from issue of common stock	(NB2)	1,726	
Dividend paid	(NB3)	(12,820)	
Net cash from financing activities			56,912
Net decrease in cash and cash equivalents			(2,004)
Cash and cash equivalents as at 31 December 2003			6,454
Cash and cash equivalents as at 31 December 2004			4,450

NB1 Calculation of proceeds from sale of equipment:

1. Find out the net book value of the disposed equipment
   (Ending NBV of PPE - Beginning NBV of PPE) + Depreciation - Acquisition of PPE
   = ($77,300 - $66,434) + $15,610 - $29,580
   = $3,104

2. Cash proceeds - NBV = Gain on disposal
   Cash proceeds = Gain on disposal + NBV
   = $2,338 + $3,104
   = 5,442

Problem 4(Continued)

NB2 Change in common stock + change in additional paid-in capital
= ($17,388 - $12,276) + ($13,920 - $12,306)
= 1726

NB3 Transfer to reserve = Ending retained earnings- beginning retained earnings
= $233,850 - 225,888
= 7,962

Dividend declared = Net income - transfer to reserve
= $21,150 - $7,962
= $13,188

Dividend paid = Dividend declared + beginning dividend payable
- ending dividend payable
= $13,188 + $3110 - $3,478
= $12,820