BUSI 1005 – Management Accounting for Business Students

Winter 2010
TEST 2

SPROTT SCHOOL OF BUSINESS

Question 3 (12 marks) (24 minutes)

Chenango Can Company manufactures metal cans used in the food-processing industry. A case of cans sells for $25. The variable standard costs of production for one case of cans are as follows:

Direct material	$ 7.50
Direct labor	2.50
Variable manufacturing overhead	6.00
Total variable manufacturing cost per case	$16.00

Variable selling and administrative costs amount to $0.50 per case. Budgeted fixed manufacturing overhead is $400,000 per year, and fixed selling and administrative cost is $37,500 per year. The following data pertain to the company's first three years of operation. (A unit refers to one case of cans.)

	Year 1	*Year 2*	*Year 3*
Planned production (in units)	80,000	80,000	80,000
Finished-goods inventory (in units), January 1	0	0	20,000
Actual production (in units)	80,000	80,000	80,000
Sales (in units)	80,000	60,000	90,000
Finished-goods inventory (in units), December 31	0	20,000	10,000

Required:

1. Prepare income statements for Chenango Can Company **for Year 2 only** using:
   a. Variable costing (note that you do not need to provide headings and dates for the income statements)
   b. Absorption costing.
2. Reconcile Chenango Can Company's operating income reported under absorption and variable costing for Year 2.

Question 4 (10 marks) (20 minutes)

Merchant Company manufactures and sells three models of electronic printers. Ken Gail, president of the company, is considering dropping model JT484 from its product line because the company has experienced losses for this product over the last three quarters. The following operating data have been compiled for the most recent quarter.

	TOTAL	***JT284***	***JT384***	***JT484***
Sales	$1,000,000	$500,000	$200,000	$300,000
Variable costs	600,000	300,000	100,000	200,000
Contribution margin	400,000	200,000	100,000	100,000
Fixed costs:				
Rent	50,000	25,000	10,000	15,000
Depreciation	60,000	30,000	12,000	18,000
Utilities	40,000	20,000	5,000	15,000
Supervision	50,000	15,000	5,000	30,000
Maintenance	30,000	15,000	6,000	9,000
Administrative	100,000	30,000	20,000	50,000
Total fixed costs	330,000	135,000	58,000	137,000
Operating income (loss)	$ 70,000	$ 65,000	$ 42,000	($37,000)

In addition, the following information is also available

- Factory rent and depreciation will not be affected by a decision to drop model JT484.
- Quarterly utility bills will be reduced from $40,000 to $31,000 if JT484 is dropped.
- Supervision costs for JT484 can be eliminated if dropped.
- The maintenance department will be able to reduce quarterly costs by $7000 if JT484 is dropped.
- Elimination of JT484 will make it possible to eliminate two administrative staff positions with combined salaries of $30,000 per quarter.
- the elimination of JT484 will reduce sales of JT284 by 10% and increase sales of JT384 by 25%

Required –
Should Merchant Company eliminate JT484? Show supporting calculations.

Question 5 (10 marks) (20 minutes)

The Electronics Division of Far North Telecom, Ltd., of Canada manufactures an electrical switching unit that can be sold either to outside customers or to the Fiber Optics Division of Far North Telecom. Selected operating data on the two divisions are given below:

Electronics Division:	
Unit selling price to outside customers	$ 80
Variable production cost per unit	52
Variable selling and administrative expense per unit	9
Fixed production cost in total	300,000*
Fiber Optics Division:	
Outside purchase price per unit (before any quantity discount)	80

*Capacity 25,000 units per year.

The Fiber Optics Division now purchases the switch from an outside supplier at the regular $80 intermediate price less a 5% quantity discount. Since the switch manufactured by the Electronics Division is of the same quality and type used by the Fiber Optics Division, consideration is being given to buying internally rather than from the outside supplier. As the company's president stated, "It's just plain smart to buy and sell within the corporate family."

A study has determined that the variable selling and administrative expenses of the Electronics Division would be cut by one-third for any sales to the Fiber Optics Division. Top management wants to treat each division as an autonomous unit with independent profit responsibility.

Required -

Assume that the Electronics Division is currently selling 22,000 units per year to outside customers and that the Fiber Optics Division needs 5,000 units per year.

a. What is the differential income to the company if a transfer takes place. Should a transfer take place?
b. What is the lowest acceptable transfer price from the perspective of the Electronics Division?
c. What is the highest acceptable transfer price from the perspective of the Fiber Optics Division?
d. Assume that the two divisions agree on a transfer price of $70. What is the incremental income to each division if a transfer takes place?

SOLUTION

Question 3

1a.	Sales (60,000 x $25)			1,500,000
	Variable costs (60,000 x 16.50)		**2**	990,000
	Contribution margin			510,000
	Fixed costs (400,000 + 37,500)		**1**	437,500
	Operating income			$72,500
1b.	Sales (60,000 x $25)		**1**	1,500,000
	Cost of goods sold			
	COGM: (80,000 x 16.00) + 400,000		**2**	1,680,000
	Less ending inventory (20,000 x $21.00)		**2**	(420,000)
				1,260,000
	Gross margin			240,000
	Selling and administrative expenses			
	Variable: 60,000 x $0.50	**1**	$30,000	
	Fixed	**1**	37,500	67,500
	Operating income			$172,500
2.	Fixed costs in ending inventory = 20,000 x (21.00 - 16.00)		**2**	$100,000

Question 4

CM lost – JT484	**1**	-$100,000
CM lost – JT284: $200,000 x 10%	**1.5**	-20,000
CM gained – JT384: $100,000 x 25%	**1.5**	25,000
Avoidable fixed expenses -		
Utilities: $40,000- 31,000	**2**	9,000
Supervision	**1**	30,000
Maintenance	**1**	7,000
Administrative	**1**	30,000
Incremental income if product JT484 is dropped		-$19,000

Recommend against. **1 mark**

Question 5

a.	Savings for Fiber Optics Division: 5,000 x $76	**1**	$380,000
	Variable cost of making/selling the switch: 5,000 x $58	**1**	-290,000
	Lost CM on external sales: 2,000 x (80 – 52 – 9)	**2**	-38,000
			$52,000
b.	Minimum TP = $52 + 6 + (38,000 / 5,000) = $58 + 7.60 = $65.60	**2**	
c.	Maximum TP = $76	**1**	
d.	Electronics Division:		
	CM on internal sales: 5,000 x (70 – 58)	**1**	$60,000
	CM lost	**1**	-38,000
			$22,000
	Fibre Optics Division:		
	Savings: 5,000 x (76 – 70)	**1**	$30,000