6. Financial Planning

Problem 35

DC Limited manufactures two products X and Y, whose selling prices and costs are stated below.

	Product X per unit $	*Product Y per unit* $
Selling price	50	45
Direct material	18	15
Direct labour	6	4
Variable production overhead	6	5

Budgeted sales for four months next year are:

	January	February	March	April
X units	900	1100	1200	1300
Y units	1400	1600	1800	1500

Management policy is to hold in stock at the end of each month finished units equal to one half of the budgeted sales for the next month. Assume that this requirement will be met on 1st January.
Work in progress may be ignored.
Fixed production overhead is budgeted at $15000 per month. The budgeted selling and administration costs (all fixed) are $11000 per month.

You are required to:

(a) Prepare a production budget on a unit basis for each product in respect of each of the first months of next year;

(b) Convert this production budget into a variable production cost budget showing costs for each of the first three months by element of cost for each product and in total;

(c) Prepare a statement for the first quarter showing the budgeted results for each product and in total (monthly figures are not required and the selling and administration costs are not to be apportioned to the products.

Solution

(a)

	Product X			Product Y		
	January	February	March	January	February	March
Sales	900	1100	1200	1400	1600	1800
plus						
Closing stocks	550	600	650	800	900	750
	1450	1700	1850	2200	2500	2550
minus						
Opening stocks	450	550	600	700	800	900
Production required	1000	1150	1250	1500	1700	1650

(b)

	Product X			Product Y		
	January	February	March	January	February	March
Production required	1000	1150	1250	1500	1700	1650
Direct material	18000	20700	22500	22500	25500	24750
Direct labour	6000	6900	7500	6000	6800	6600
Variable production overhead	6000	6900	7500	7500	8500	8250
Total	30000	34500	37500	36000	40800	39600

(c)

	Product X	Product Y	Total
Sales revenue	160000	216000	376000
- Variable cost of sales	96000	115200	211200
Contribution	64000	100800	164800
- Production overhead			45000
- Selling overhead			33000
Net Profit			86800

Problem 36

The December 31, 2007, balance sheet and income statement for Myears Oil Co. are given here.

Balance Sheet

Cash	$ 100,00	Accounts payable	$ 500,00
Marketable securities	0	Notes payable	200,00
Accounts receivable	400,00	Taxes payable	
Inventory	500,00	Other accruals	
Prepaid expenses	50,00	Current liabilities	700
Current Assets	1050	Long-term debt	800,00
Gross plant and equipment	2 060,00	Preferred stock	
Less: Accumulated		Common stock	1 550,00
depreciation	-60,00	Capital contributed	
Net plant and equipment	2000	in excess of par	
Total assets	3050	Retained earnings	
		Total liabilities and stockholders' equity	3050

Income statement

Net sales	$ 1 000,00
Cost of goods sold	400,00
Gross profit	600
Selling expenses	
General and administrative expenses	300,00
Depreciation	60,00
Net operating income	240
Non operating income	66
Interest expense	6,00
Profit before taxes	300,00
Taxes	30,00
Net income	270

(a) Compute the specified ratios and compare them with the industry averages (better or worse).

Ratios	*MacMill*	*Better or Worse*	*Industry Average*
Current			2,5
Quick			1,1
Debt-equity			1,5
Times interest earned			12
Average collection period			30
Inventory turnover			2
Fixed-asset turnover			2
Operating profit margin			20,0%
Net profit margin			15,0%
Book return on assets			10,0%
Book return on equity			12,0%

(b) If you were appointed financial manager of the company, what decisions would you make based on your findings?

Solution

Current	1,50	Worse	2,5	current assets/current liabilities
Quick	0,71	Worse	1,1	(curr. assets - inv.- prep.exp.)/curr. liab.
Debt-equity	0,97	Better	1,5	(curr. liab. +LTdebt) /equity
Times interest earned	51,00	Better	12	(profit before taxes + interest)/interest
Average collection period	146,00	Worse	30	AR * 365 /sales
Inventory turnover	0,80	Worse	2	COGS : inventories
Fixed-asset turnover	0,50	Worse	2	sales/fixed assets
Operating profit margin	24,0%	Better	20,0%	net operating income/sales
Net profit margin	27,0%	Better	15,0%	net income/sales
Book return on assets	7,1%	Worse	10,0%	net operating income* (1-T)/assets
Book return on equity	17,4%	Better	12,0%	net operating income/sales

Problem 37

A small construction company undertakes a variety of jobs for its customers.

Budgeted data:

Labour hours for the year	20000
Machine hours for the year	10000
Number of jobs for the year	150

Budgeted Profit and Loss Statement for the year ending 31st December

	$	$
Sales		8000
Direct materials	500	
Direct wages	1000	
Prime cost (factory cost)	1500	
Fixed production overhead	3000	
Production cost	4500	
Selling, distribution and administration cost	2000	
		1500

An new enquiry has been received and the company has produced estimates of the factory cost involved and of the hours required to complete a new job.

	$
Direct materials	2
Direct wages	6
Prime cost (factory cost)	8
Labour hours required	100
Machine hours required	30

<u>You are required to</u>

1. Calculate overhead absorption rates:
   (a) direct material cost percentage rate
   (b) direct labour cost percentage rate
   (c) prime cost percentage rate
   (d) unit of output rate
   (e) direct labour hour rate
   (f) machine hour rate
2. Calculate total cost estimates for a new job using in turn each of the six absorption rates.
3. Comment briefly on the suitability of each method.

Solution

1.

(a) direct material cost percentage rate	6
(b) direct labour cost percentage rate	3
(c) prime cost percentage rate	2
(d) unit of output rate	20
(e) direct labour hour rate	0,15
(f) machine hour rate	0,3

2.

Cost estimates for a new job	Method					
	a	b	c	d	e	f
Direct materials	2	2	2	2	2	2
Direct wages	6	6	6	6	6	6
Prime cost (factory cost)	8	8	8	8	8	8
Fixed production overhead	12	18	16	20	15	9
Total cost	20	26	24	28	23	17