

Examples (About chapter 4)

Example (1):

The unit (LX2) is one of the parts that used to produce a kind of products in the (S. M. S. Manu. Co.). The company needs (10000 units) of (LX2) each year. The following is the data about manufacturing costs of producing one unit of the products:

D. M.	20 \$
D. L.	10 \$
V. M. O. H.	9 \$
F. M. O. H.	17 \$
Total manufacturing costs per unit	56 \$

The manager of the company is considering to produce the needs of unit from another manufacturer with price 47 \$ per unit. The company pay (5 \$) per unit (As testing, and transportation expenses).

Required:

1. What the decision will be? (Make or Buy?) if you know that in the case of purchasing the company can save (40 %) from F. M. O. H.
2. What the decision will be (Make or Buy?) if you know that in the case of purchasing the company can save (20 %) from the F. M. O. H., and can rent out the idle machines to another manufacturer with (60000 \$). Annually.
3. What the decision will be if you that in the case of purchasing the company can use the idle capacity to produce a new kind of units. The following is data about it:
 - Number of units produced (6000 unit) annually.
 - Selling price per unit (46 \$).
 - Total additional V. C. is (240000 \$).
 - Total F. M. O. H. will not change.
 - The company must pay (Testing and, transportation expenses) for the additional units.

Example (2):

Al- Salam Co. is manufacturing furniture. The company has a capacity to produce (1250 bed). The current producing is (1000 bed) with price (175 \$ per unit). One of governmental hospitals are offered to buy (250 bed) with price (140 \$ per unit).

These data about the total costs of (1000 bed):

D. M.	80000 \$
D. L.	20000 \$
V. M. O.H.	25000 \$
F.M.O.H.	16000 \$
Commission expenses	9000 \$
Total costs	150000 \$

And if you know that:

1. The management of the hospital want to make modifications on the beds that costs (10 \$) per unit.

2. The order has no effect on commission expenses.

Required:

What the decision will be? (Accepting or rejecting the order?)

Example (3):

One of the manufacturing companies is now produce (10000 unit) from one kind of products. The following is the details of the annual total costs of producing:

D. M.	63000 \$
D. L.	109500 \$
V. M. O. H.	30000\$
F. M. O. H.	82500 \$
T. M. C.	285000 \$

The company can purchase the same number of units from another manufacturer with price (24 \$ per unit).

In the case of purchasing the company can (Reduce) T. F. M. O. H. with (15000 \$).

Required:

What the decision will be? (Make or Buy?)

Example (4):

One of the manufacturing companies is working with (Three) product lines. The following is the annual statement of the revenues and costs for each product line and, for the total company:

	Details	A line	B line	C line	Total
	Sales revenues	300000	175000	150000	625000
-	V. C.	(150000)	(73500)	(82500)	(306000)
	T. C. M.	150000	101500	67500	319000
-	T. F. C.	(85000)	(70000)	(72500)	(227500)
	N. O. I.	65000	31500	(5000)	91500

The manager believes that in the case of drooping (C line) the company can increase its N. O. I.

Required:

1. What the decision will be (Continue with 3 lines or drooping C line) if you know that in the case of drooping (C line) the company can save only (51500 \$) from F. C. of the (C line).
2. What the decision will be (Continue with 3 lines or drooping C line) if you know that in the case of drooping (C line) the company can save only (51500 \$) from F. C. of the (C line) and, can rent out the idle machines of (C line) to another manufacturer with (25000 \$) annually.

Example (5):

Yara Co. is produce and sold (Three) kinds of products (X, Y, and Z). Revenues and costs information about them are as showing in the following table:

Details	Products			Total
	X	Y	Z	
Sales revenues	26000	40000	24000	90000
- V. costs	(12000)	(21000)	(16000)	(49000)
T. C. M.	14000	19000	8000	41000
- <u>F. C.:</u>				
Depreciation	800	4000	2000	6800
Insurance	2000	700	1500	4200
Supervisors salaries	4000	3800	3700	11500
General administrative expenses	5200	8000	4800	18000
Total F. C.	(12000)	(16500)	(12000)	(40500)
Net operating income	2000	2500	(4000)	500

And if you have this additional information:

- (Depreciation expenses) and (General administrative expenses) are unavoidable expenses.
- (Insurance) and (Supervisors salaries) are avoidable expenses.

Required:

What the decision will be? Dropping the product (Z) or not?

Example (6):

Lawand Co. is manufacture (Four) kinds of products from a common input in a joint processing operating. Joint processing costs up to the split-off point are 180000 \$. The company allocated these costs to the joint products on the basis of their sales revenues at split-off point. These sales revenues are as follows:

(Product No. 1: 50000 \$), (product No. 2: 90000 \$), (Product No.3: 60000 \$), (Product No. 4: 80000 \$).

The additional sales revenues and costs after further processing for each product are shown below:

Products	Sales revenues (After further processing)	Additional costs (After further processing)
No. 1	80000 \$	35000 \$
No. 2	150000 \$	40000 \$
No. 3	75000 \$	12000 \$
No. 4	100000 \$	36000 \$

Required:

Which product(s) should sell at split-off point, and which product(s) can be processed further? (Show computation).

Examples (About chapter 5)

Q1:

Mynor Corporation manufactures and sells a seasonal product that has peak sales in the third quarter. The following information concerns operations for Year 1 (The coming year) and for the first two quarters of Year 2:

- The company's single product sells for \$8 per unit. Budgeted sales in units for the next six quarters are as follows (all sales are on credit):

	Year 1 Quarters				Year 2 Quarters	
	1	2	3	4	1	2
Budgeted unit sales (Units)	40,000	60,000	100,000	50,000	70,000	80,000

- Sales are collected in the following pattern: 75% in the quarter the sales are made, and the remaining 25% in the following quarter. On January 1, Year 1, the company's balance sheet showed 65,000 \$ in accounts receivable, all of which will be collected in the first quarter of the year.
- The company desires an ending finished goods inventory at the end of each quarter equal to 30% of the budgeted unit sales for the next quarter.
- (5) Pounds of raw materials are required to complete one unit of product. The company requires ending raw materials inventory at the end of each quarter equal to 10% of the following quarter's production needs. On January 1, Year 1, the company had 23,000 pounds of raw materials on hand.
- The raw material costs \$0.80 per pound. Raw material purchases are paid for in the following pattern: 60% paid in the quarter the purchases are made, and the remaining 40% paid in the following quarter. On January 1, Year 1, the company's balance sheet showed \$81,500 in accounts payable for raw material purchases, all of which will be paid for in the first quarter of the year.

Required:

Prepare the following budgets and schedules for the year, showing both quarterly and total figures:

- A sales budget and a schedule of expected cash collections.
- A production budget.
- A direct materials budget and a schedule of expected cash payments for purchases

Q2:

Crydon, Inc., manufactures an advanced swim fin for scuba divers. Management is now preparing detailed budgets for the third quarter, July through September, and has assembled the following information to assist in preparing the budget:

- The Marketing Department has estimated sales as follows for the remainder of the year (in pairs of swim fins) (in units):

July.	6,000	October.	4,000
August	7,000	November.	3,000
September	5,000	December.	3,000

The selling price of the swim fins is \$50 per pair (per unit).

- All sales are on account. Based on past experience, sales are expected to be collected in the following pattern:
30 % in the month of sale
70 in the month following sale

The beginning accounts receivable balance (excluding uncollectible amounts) on July 1 will be 130,000 \$

- The company maintains finished goods inventories equal to 10% of the following month's sales. The inventory of finished goods on July 1 will be 600 pairs (unit).
- Each pair of swim fins requires 2 pounds of geico compound. To prevent shortages, the company would like the inventory of geico compound on hand at the end of each month to be equal to 20% of the following month's production needs. The inventory of geico compound on hand on July 1 will be 2,440 pounds.
- Geico compound costs \$2.50 per pound. Crydon pays for 60% of its purchases in the month of purchase; the remainder is paid for in the following month. The accounts payable balance for geico compound purchases will be \$11,400 on July 1.

Required:

1. Prepare a sales budget, by month and in total, for the third quarter. (Show your budget in both pairs of swim fins and dollars.) Also prepare a schedule of expected cash collections, by month and in total, for the third quarter.
2. Prepare a production budget for each of the months July through October.
3. Prepare a direct materials budget for geico compound, by month and in total, for the third quarter. Also prepare a schedule of expected cash disbursements for geico compound, by month and in total, for the third quarter.

Q3:

The following data are available for months (April-June);

- On April 1, the company requires the bank to give the loan for "90 day" by **\$30000**, and the cash balance **\$26000**. Account receivable on April 1, will total **\$151500**, of which **\$141000** will be collected during April and **\$72000** will be collected during May, the remainder will be uncollectible.
- Past experience shows that **20%** of month's sales are collected in the month of sale, **75%** in the month following sale, and **4%** in the second month following sale. The other **1%** represents bad debts that are never collected. Budgeted sales and expenses for the following;

<i>Data</i>	<i>April</i>	<i>May</i>	<i>June</i>
<i>Sales</i>	<i>\$200000</i>	<i>\$300000</i>	<i>\$250000</i>
<i>Raw material to be purchased</i>	<i>\$120000</i>	<i>\$180000</i>	<i>\$150000</i>
<i>Payroll</i>	<i>\$9000</i>	<i>\$9000</i>	<i>\$8000</i>
<i>Lease payments</i>	<i>\$15000</i>	<i>\$15000</i>	<i>\$15000</i>
<i>Advertising</i>	<i>\$70000</i>	<i>\$80000</i>	<i>\$60000</i>
<i>Equipment purchases</i>	<i>\$8000</i>	<i>-----</i>	<i>-----</i>
<i>Depreciation</i>	<i>\$10000</i>	<i>\$10000</i>	<i>\$10000</i>

- Raw materials purchased are paid in full during the month following purchases. Accounts payable for raw material purchase, on March 31, which will be paid during April, total **\$108000**.
- In preparing the cash budget, assume that the **\$30000** loan will be made in April and repaid in June. Interest on the loan will total **\$1200**.

Required:

- 1) Prepare a cash budget, by month and in total, for three month period.
- 2) If the company needs a minimum cash balance of **\$20000** to start each month, can the loan be repaid as planned. Prepare cash budget.

Q4:

The sales budget for once company for third quarter showing these sales is given below (in dollars):

	<i>July</i>	<i>August</i>	<i>September</i>	<i>Total</i>
<i>Budget sales</i>	<i>\$600000</i>	<i>\$900000</i>	<i>\$500000</i>	<i>\$2000000</i>

The company collected **20%** of month's sales in the month of sales that another **70%** is collected in the month following sales, and the remaining **10%** is collected in the second month following sales. May sales total **\$430000**, and June sales totaled **\$540000**.

Required:

1. Prepare a schedule of expected cash collections from sales, by month and in total for the third quarter.
2. Compute the account receivable.

Q5:

The production Dep. of Mazin Corporation has submitted the following forecast of units to be produced by quarter for the upcoming fiscal year:

	<i>1st quarter</i>	<i>2nd quarter</i>	<i>3rd quarter</i>	<i>4th quarter</i>
<i>Units to be produced</i>	<i>16000</i>	<i>15000</i>	<i>14000</i>	<i>15000</i>

Each unit requires **0.80** DL. hours and DL.hour workers are paid **\$11.50** per hour (wage rate). In addition, the variable manufacturing overhead rate is **\$2.40** per DL.hours needed to produce units. The fixed manufacturing overhead is **\$90000** per quarter, the only noncash element of manufacturing overhead is depreciation, which is **\$34000** per quarter.

Required:

- 1) Prepare the company's direct labor budget for the upcoming fiscal year, assuming that the direct labor work force is adjusted each quarter to match the number of hours required to produce the forecasted number of units produced.
- 2) Prepare the company's manufacturing overhead.

Q6:

A cash budget, by quarters, is given below for a retail company (000 omitted), and Required, Fill in the missing amount; the company requires a minimum cash balance of **\$5000** to start each quarter.

<i>Details</i>	<i>Quarters</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>year</i>
<i>Cash balance, beginning</i>	<i>9</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>
<i>Add: collection from customers</i>	<i>?</i>	<i>?</i>	<i>125</i>	<i>?</i>	<i>391</i>
<i>Total cash available</i>	<i>85</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>
<i>Less: disbursements:</i>					
<i>Purchases of inventory</i>	<i>40</i>	<i>58</i>	<i>?</i>	<i>32</i>	<i>?</i>
<i>Operating expenses</i>	<i>?</i>	<i>42</i>	<i>54</i>	<i>?</i>	<i>180</i>
<i>Equipment purchases</i>	<i>10</i>	<i>8</i>	<i>8</i>	<i>?</i>	<i>36</i>
<i>Dividends</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>?</i>
<i>Total disbursements</i>	<i>?</i>	<i>110</i>	<i>?</i>	<i>?</i>	<i>?</i>
<i>Excess (deficiency) of cash available over disbursements</i>	<i>(3)</i>	<i>?</i>	<i>30</i>	<i>?</i>	<i>?</i>
<i>Financing:</i>					
<i>Borrowing</i>	<i>?</i>	<i>20</i>	<i>----</i>	<i>----</i>	<i>?</i>
<i>Repayment (including interest)</i>	<i>----</i>	<i>----</i>	<i>(?)</i>	<i>(7)</i>	<i>(?)</i>
<i>Total financing</i>	<i>?</i>	<i>?</i>	<i>(?)</i>	<i>(?)</i>	<i>(?)</i>
<i>Cash balance, ending</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>	<i>?</i>