

UNIT 2: BUDGET, BUDGETING AND BUDGETARY CONTROL

CHAPTER 5

TYPES OF BUDGET AND PREPARATIONS

OBJECTIVE OF THE CHAPTER

This chapter will help to understand various types of budget and its preparation.

TYPES OF BUDGET

Budgeting process is chronological in nature, and consists of many budgets that are roughly classified according to methods and techniques of an organization in generating and spending its money. Different budgets are used for different applications. Some of these mentioned budgets deal with income coming from dividends, sales and interest. Consequently, other budgets give details of sources of expenditures like labor, selling costs, purchases, and factory costs. Some unique types of budgets are chiefly concerned with investments and forecast for company productivity and performance. These budgets are classified according to their usage and include Sales budget, Production budget, Direct materials usage budget, Direct materials purchase budget, Direct labor budget, Factory overhead budget, Selling and administration budget and Cash budget.

1. Sales Budget

In any organization, it's the sales department that has the overall responsibility of preparing the sales forecast. Sales forecast is a requirement in devising sales budget on which an organization can schedule its production. Sales budget refers to a comprehensive schedule that shows the anticipated sales for a given period of time. The plan for this given period is usually expressed in terms of volume of total sales and selling prices of each class of goods or services. An accurate sales budget is an important element in budgeting as it contributes to the overall organization budgeting process. If sloppily done and formulated, the rest of the budgeting process becomes a waste.

The sales budget is also referred to as revenue budget since it's a preliminary step in preparation of master budget. In an organization, sales budget assist the management to determine the amount of units to be produced thus the production budget is formulated after the sales budget, which in turn is used to determine budgets for production costs that include direct materials , production overhead costs and direct labor budget. In essence, the sales budget is very critical in that it elicits a chain of reaction that often leads to growth and development of other types of budgets. The sales budget consists of sales that are expressed in terms of number of units and the amount of revenue including all expenses that support sales, advertising and the cost of distribution of goods sold. Sales budget also consist of forecast of distribution of expenditure for goods sold.

When developing a sales budget, the following calculations are formulated; the sales budget is erected by multiplying the budgeted sales in units by the selling price.

$$\text{Budgeted Sales} = [\text{Budgeted Unit Sales}] * [\text{Budgeted Sales Prices}]$$

For the management, sales budget is often the preliminary step in preparation of the master budget. All other components in the master budget do depend on it in some way.

2. Production Budget

It's mostly prepared with data from sales budget. Companies that are product oriented usually create production budget that tends to estimate the number of units that ought to be produced in order to meet the sales goals and objectives. The other function of production budget is that it estimates different types of costs involved in production or manufacturing of the said units, inclusive of material and labor costs. Any typical organization spends huge amount of money in production than in any other type of expense. For this reason, it's vital to create production budget that include all production expenditures so as to estimate the future working capital and future effects on inventory and levels. Production budget is an all-inclusive plan that considers all manufacturing works to be done within the period including the amount expenditures to be incurred on these projects. When creating production budget, it requires individuals involved to be accurate with detailed production estimates. This kind of estimates are typically prepared in combination with the title budgets, which must be finished prior to contracting of other project.

3. Direct Materials Usage Budget

Direct material budget refers to analytical plan that shows how much materials would be required in manufacturing or production and the amount of material required to meet the production needs. It's usually prepared after calculation of production needs or requirements. Materials budgeting show the amount of raw material to be purchased in order to accomplish production requirements and the necessary amount to provide adequate inventories. Preparation of this kind of budget constitutes the organizational overall use of material requirements planning (MRP). This organization tool help manage inventories and materials, and ensures the required materials are available in the right quality and quantity and at the required time to meet the production needs of the company.

Direct materials budget regularly go along with a schedule of anticipated cash payouts for raw materials and this plan is required for the preparation of the overall cash budget. Expenditures for materials include the cost of purchases of purchases the present budget period. Direct material budget is mostly constructed to determine the amount and cost of any additional materials needed to fulfill the anticipated production levels. Most organizations depicts this in two tables, where the first table shows the number of units to be purchased and the total cost for those purchases while the second table shows a plan of the projected distributions of cash to suppliers of materials. The formula for the computation of materials purchases is given by:-

Purchase costs = (Materials Purchase Costs Unit of Materials to Be Purchased) * (Unit Price).

Most successful organizations uses the planning and control of a direct-materials budget in order to determine the level of competence in their cargo space, inventory system success and to appraise the capacity of dealers to supply raw materials in the estimates and qualities that are required, and plan material purchases in relation with movement of funds into the organization.

4. Direct Materials Purchase Budget

Production budget provide necessary information for determining the projected amount of direct materials that ought to be purchased. Simply by multiplying these amounts with the anticipated costs of purchase price, gives the total costs of materials to be purchased. The major function of direct material purchases budget, is that it provides the essential framework to plan and schedule cash payments for direct materials.

This budget also critically reveals the company's planned end of the fiscal year inventory. This value is very important in cost accounting techniques because it is a vital component in preparation of the budgeted year ending balance sheet.

For effective implementation, the direct purchases budget should be incorporated with the production budget to make sure any level of production is not interrupted during the period of production. This budget tends to estimate the quantity of materials to be purchased in order to promote the budgeted production level and keep desired inventory levels. Direct materials to be purchased are given by: $\text{Materials to be purchased} = (\text{materials required for production}) + (\text{desired ending materials inventory}) - (\text{estimated beginning materials inventory})$.

5. Direct Labor Budget

Definitively, direct labor budget refers to a fixed Schedule for anticipated labor cost. The anticipated labor costs is chiefly reliant on projected volume of production or production budget. The labor needs are dependent on production volume multiplied by direct labor-hours per unit. The derived product is then multiplied by direct labor cost per hour to achieve the exact budgeted direct labor costs. This budget is created from the production budget where direct labor needs are computed to make the management know whether there is sufficient labor time to fulfill the budgeted manufacturing requirements. This advance knowledge helps the management in to develop plans to regulate labor force when adverse situations occur.

Organizations that fail to budget well always face the risk of having labor shortages or increases in unwarranted times. This kind of unpredictable often leads to inconsistent labor policies that contribute to insecurity, low workers morale, and low productivity. Direct materials budget is used in an organization to illustrate the amount and cost of direct materials to be purchased. It also provides the foundation for preparation of direct labor cost budget. Most organizations give this budget in terms of the number of units and the total costs. Labor hours are displayed using parameters like the type of operation, workers used, and the overall cost centers involved. Total direct labor cost is given by:

$\text{Total direct labor cost} = (\text{Expected production}) \times (\text{direct labor hour per unit}) \times (\text{direct labor cost per hour})$

6. Factory Overhead Budget

In cost accounting, factory overhead budget is referred to as a to-do list of all anticipated manufacturing or production costs apart from for costs related to direct material and labor. Factory overhead include items like indirect material and labor, cost of insurance, rent and rates. Factory overhead are usually variable or fixed, or a blend of the two.

The major function for this schedule is that it critically analyzes all the anticipated production costs for the specific period of time. Factory overhead budget does not include miscellaneous expenses incurred in marketing and administration. These expenses are considered miscellaneous because they are not involved in the production process.

As mentioned earlier, production overhead costs determine the total production factory overhead costs and also determine the manufacturing overhead cost per unit. The overall overhead costs include the costs of materials required to make the finished product, direct labor costs needed to produce one unit and the factory expenses required to create one finished unit. The summation of the three costs gives the manufacturer a rough idea of the cost required to produce one unit or finished product.

7. Selling and Administration Budget

Selling and administrative expense budget refers to a schedule of budgeted expenses for other areas rather than manufacturing. In organizations this type of budget consists of assemblage of many and individual budgets that are forwarded by various departments.

It provides a detailed plan involving all the company's operating expenses, other than the ones involved in production. The said expenses are required in maximum in order to maintain the sales and organization overall operations for a given period of time. This comprehensive financial plan is analytically used by the management to plan and control the day-to-day running of business affairs and activities.

In this budget the organization gives details of the amount of money it projects to spend in support of manufacturing or production and sales efforts to be taken. Selling and administrative expense budget consists of employee's salaries and benefits, office supplies and expenses; expenses sustaining administration, taxes, and any other professional services. Normally, these expenses differ little for changes in the volume of production which fall within the period of budget. As a result, the selling and administrative budget is always a fixed budget.

8. Cash Budget

Cash budget is definitively referred to as an evaluation of cash outflows and inflows for an organization for a given period of time. They are mostly used to appraise the performance of an organization and check whether it has adequate cash to accomplish the overall regular operations of a company. The budget is also used to check whether funds are being used as per laid down guidelines. The cash budget shows the company's liquidity position and shows the capability of an organization to meet its goals and objectives.

Even though profits promote liquidity, they do not have a high relationship. This budget assists the management in keeping proper cash balances that relates with needs and objectives of the organization. It also helps the management to plan usage of cash where by it avoids cash from lying idle and prevents possible funds shortages. Most budgets consist of four sections that include receipts section, disbursement section, cash surplus section and finally the financing section which gives details of payments and borrowings expected during the budget period.

A budget properly prepared shows how funds flow in and out of the organizations and indemnify any loopholes that may slow organization productivity. The cash budget also determines the organization's future ability to pay expenses, loans and as well as debts. Banks and other financial institutions grant loans to organizations that have effective liquidity ratio and proper systematic cash plan. Similarly, organizations that function on a casual basis are able to borrow more funds at unfortunate times. Cash budgets are commonly given by:

$$\text{Budgeted Cash Available} = (\text{Beginning Cash Balance}) + (\text{Budgeted Cash Collections})$$

Questions

1. From the following forecast of income and expenditure, prepare a cash budget for the months January to April, 2011.

	<i>Months</i>	<i>Sales (Credit) ₹</i>	<i>Purchases (Credit) ₹</i>	<i>Wages ₹</i>	<i>Manufacturing expenses ₹</i>	<i>Administrative expenses ₹</i>	<i>Selling expenses ₹</i>
2010	Nov.	30,000	15,000	3,000	1,150	1,060	500
	Dec.	35,000	20,000	3,200	1,225	1,040	550
2011	Jan.	25,000	15,000	2,500	990	1,100	600
	Feb.	30,000	20,000	3,000	1,050	1,150	620
	March	35,000	22,500	2,400	1,100	1,220	570
	April	40,000	25,000	2,600	1,200	1,180	710

Additional information is as follows:

1. The customers are allowed a credit period of 2 months.
2. A dividend of Rs 10,000 is payable in April.
3. Capital expenditure to be incurred: Plant purchased on 15th January for 15,000; a Building has been purchased on 1st March and the payments are to be made in monthly installments of Rs 2,000 each.
4. The creditors are allowing a credit of 2 months.
5. Wages are paid on the 1st of the next month.
6. Lag in payment of other expenses is one month.
7. Balance of cash in hand on 1st January, 2011 is Rs 15,000.

Solution :

Cash Budget				
<i>For months from January to April, 2011</i>				
<i>Details</i>	<i>January ₹</i>	<i>February ₹</i>	<i>March ₹</i>	<i>April ₹</i>
<i>Receipts</i>				
Opening Balance of Cash	15,000	18,985	28,795	30,975
Cash realised from Debtors	<u>30,000</u>	<u>35,000</u>	<u>25,000</u>	<u>30,000</u>
Cash available	<u>45,000</u>	<u>53,985</u>	<u>53,795</u>	<u>60,975</u>
<i>Payments</i>				
Payments to Creditors (for purchase)	15,000	20,000	15,000	20,000
Wages	3,200	2,500	3,000	2,400
Manufacturing Expenses	1,225	990	1,050	1,100
Administrative Expenses	1,040	1,100	1,150	1,220
Selling Expenses	550	600	620	570
Payment of Dividend				10,000
Purchase of Plant	5,000			
Instalments of Building Loan			<u>2,000</u>	<u>2,000</u>
Total Payments	<u>26,015</u>	<u>25,190</u>	<u>22,820</u>	<u>37,290</u>
Closing Balance	<u>18,985</u>	<u>28,795</u>	<u>30,975</u>	<u>23,685</u>

2. ABC Co. wishes to arrange overdraft facilities with its Bankers during the period April to June, 2011 when it will be manufacturing mostly for stock. Prepare a cash budget for the above

period from the following data, indicating the extent of the bank facilities the company will require at the end of each month:

(a)	2011	Sales ₹	Purchases ₹	Wages ₹
	February	1,80,000	1,24,800	12,000
	March	1,92,000	1,44,000	14,000
	April	1,08,000	2,43,000	11,000
	May	1,74,000	2,46,000	10,000
	June	1,26,000	2,68,000	15,000

(b) 50 per cent of credit sales are realized in the month following the sales and remaining 50 per cent in the second month following. Creditors are paid in the month following the month of purchase.

(c) Cash at Bank on 1.4.2011 (estimated) Rs 25,000.

Solution :

Cash Budget for Three Months from April to June, 2011			
	April ₹	May ₹	June ₹
(a) Receipts :			
Opening Balance	25,000	53,000	(-) 51,000
Sales	90,000	96,000	54,000
Amount received from Sales	<u>96,000</u>	<u>54,000</u>	<u>87,000</u>
Total Receipts	<u>2,11,000</u>	<u>2,03,000</u>	<u>90,000</u>
(b) Payments :			
Purchases	1,44,000	2,43,000	2,46,000
Wages	<u>14,000</u>	<u>11,000</u>	<u>10,000</u>
Total Payments	<u>1,58,000</u>	<u>2,54,000</u>	<u>2,56,000</u>
Closing Balance (a-b)	53,000	(-) 51,000	(-) 1,66,000

Note : Workers are paid on 1st of the following month.

3. From the following budget data, forecast the cash position at the end of April, May and June 2011.

Month	Sales ₹	Purchases ₹	Wages ₹	Miscellaneous ₹
February	1,20,000	84,000	10,000	7,000
March	1,30,000	1,00,000	12,000	8,000
April	80,000	1,04,000	8,000	6,000
May	1,16,000	1,06,000	10,000	12,000
June	88,000	80,000	8,000	6,000

Additional Information:

Sales: 20% realized in the month of sales, discount allowed 2%. Balance realized equally in two subsequent months.

Purchases: These are paid in the month following the month of supply.

Wages: 25% paid in arrears following month.

Miscellaneous expenses. Paid a month in arrears.

Rent: Rs 1,000 per month paid quarterly in advance due in April.

Questions:

1. From the following information available from a company, prepare Cash Budget (monthly) for April, May and June, 2003:

(i) Months (2003)	Sales Rs.	Purchases Rs.	Wages Rs.	Expenses Rs.
January (Actuals)	90,000	50,000	30,000	5,000
February (")	80,000	50,000	24,000	4,000
March (")	80,000	45,000	22,000	6,000
April (Budgeted)	85,000	48,000	25,000	7,000
May (")	75,000	42,000	20,000	6,000
June (")	78,000	44,000	23,000	5,000

(ii) 10% of the purchases and 20% of the sales are for cash.

(iii) Credit allowed to Debtors 1/2 month and credit received from creditors 1 month.

(iv) Wages are paid weekly.

(v) Opening cash balance is Rs. 15,000.

Solution

Cash Budget
for April, May and June 2003

Particulars	April Rs.	May Rs.	June Rs.
A. Receipts			
Cash in hand	15,000	21,450	25,800
Cash sales (20%)	17,000	15,000	15,600
Collection from Debtors	66,000	64,000	61,200
	<u>98,000</u>	<u>1,00,450</u>	<u>1,02,600</u>
B. Payments			
(a) Cash purchase (10%)	4,800	4,200	4,400
(b) Payment to creditors for the last month	40,500	43,200	37,800
(c) Wages $\frac{1}{4}$ of last month and - $\frac{3}{4}$ th of current month	24,250	21,250	22,250
(d) Expenses (paid for the current month)	7,000	6,000	5,000
(e) Cash in hand/overdraft	21,450	25,800	33,150
	<u>98,000</u>	<u>1,00,450</u>	<u>1,02,600</u>

Working Notes :**1. Collecting from Debtors**

	March	April	May	June
Sales	80,000	85,000	75,000	78,000
Less : Cash sales 20%	16,000	17,000	15,000	15,600
Credit sales (80%)	<u>64,000</u>	<u>68,000</u>	<u>60,000</u>	<u>62,400</u>
50% for the previous month		32,000	34,000	30,000
50% for the current month		34,000	30,000	31,200
		<u>66,000</u>	<u>64,000</u>	<u>61,200</u>

2. Black and White Ltd. manufactures two products A and B. An estimate of the number of units expected to be sold in the first six months of 2003 is given below:

2003	Product A	Product B
January	2,000	4,000
February	2,400	3,800
March	2,500	3,600
April	3,000	3,200
May	3,200	3,000
June	3,600	2,800
July	3,600	2,400

It is anticipated that:

(i) There will be no work-in-progress at the end of any month;

(ii) Finished units equal to 20% of the anticipated sales for the next month will be in stock at the end of each month including December 2002.

The budgeted production and production cost for the year ending 31.12.2003 are as follows:

	Product A	Product B
Production (in units)	40,000	45,000
(i) Direct material per unit (Rs.)	15	20
(ii) Direct wages	6	8
(iii) Works overhead cost apportionable in each type of production (in Rs.)	80,000	1,80,000
75% of overhead cost relates to production		

- (a) A production budget showing the number of units to be manufactured each month.
- (b) A summarised production cost budget for the 6 months period from January 2003 to June 2003.

3. Prepare a flexible budget for production at 80% and 100% activity on the basis of the following information:

Production at 50% capacity 10,000 units

Raw materials Rs.100 per unit

Direct labour Rs.50 per unit

Expenses Rs.20 per unit Factory expenses Rs.1,00,000 (60% fixed)

Administration expenses 60,000 (50% variable)

Solution

Flexible Budget for Production at 80% and 100% activity

	50%		80%		100%	
	10,000 units		16,000 units		20,000 units	
	Per unit	Amount	Per unit	Amount	Per unit	Amount
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Raw materials	100	10,00,000	100	16,00,000	100	20,00,000
2. Direct Labour	50	5,00,000	50	8,00,000	50	10,00,000
3. Expenses	20	2,00,000	20	3,20,000	20	4,00,000
Prime Cost	170	17,00,000	170.00	27,20,000	170	34,00,000
4. Add : Factory Expenses Fixed	6.00	60,000	3.75	60,000	3	60,000
Variable $\frac{40,000}{10,000} = \text{Rs. } 4.00$	4.00	40,000	4.00	64,000	4	80,000
Works Cost	180.00	18,00,000	177.75	28,44,000	177.00	35,40,000
Add : Administration expenses (fixed)	3.00	30,000	1.875	30,000	1.50	30,000
	3.00	30,000	3.000	48,000	3.00	60,000
	186.00	18,60,000	182.625	29,22,000	181.5	36,30,000

Solution

Production Budget
for six months ending 30.6.2003

	Jan.	Feb.	March	April	May	June
Production A						
Sales	2,000	2,400	2,500	3,000	3,200	3,600
Add : Closing stock 20% of next months sales	480	500	600	640	720	720
	2,480	2,900	3,100	3,640	3,920	4,320
Less : Opening stock	400	480	500	600	640	720
Total Production = 17,020 units	2,080	2,420	2,600	3,040	3,280	3,600
Product B						
Sales	4,000	3,800	3,600	3,200	3,000	2,800
Add : Closing stock 20% of next months sales	760	720	640	600	560	480
	4,760	4,520	4,240	3,800	3,560	3,280
Less : Opening stock 20% of same months sale	800	760	720	640	600	560
Total Production : 20,080 units	3,960	3,760	3,520	3,160	2,960	2,720

Production Cost Budget
for the six months ended 30.6.2003

	Product A		Product B	
Production :	Cost	Total	Cost	Total
A 17,020	per unit		per unit	
B 20,080				
	Rs.	Rs.	Rs.	Rs.
1. Direct Materials	15	2,55,300	20	4,01,600
2. Direct wages	6	1,02,120	8	1,60,640
3. Works Overhead (80,000 + 40,000)	2	34,040		
(1,80,000 + 45,000)			4	80,320
	<u>23</u>	<u>3,91,460</u>	<u>32</u>	<u>6,42,560</u>

CHAPTER SUMMARY

Budgets help businesses track and manage their resources. Businesses use a variety of budgets to measure their spending and develop effective strategies for maximising their assets and revenues. The following are the various budgets prepared in large organizations. Sales budget refers to a comprehensive schedule that shows the anticipated sales for a given period of time. The plan for this given period is usually expressed in terms of volume of total sales and selling prices of each class of goods or services. Production Budget is mostly prepared with data from sales budget. Companies that are product oriented usually create production budget that tends to estimate the number of units that ought to be produced in order to meet the sales goals and objectives. The other function of production budget is that it estimates different types of costs involved in production or manufacturing of the said units, inclusive of material and labor costs. Direct material budget refers to analytical plan that shows how much materials would be required in manufacturing or production and the amount of material required to meet the production needs. It's usually prepared after calculation of production needs or requirements. Materials budgeting

show the amount of raw material to be purchased in order to accomplish production requirements and the necessary amount to provide adequate inventories. Cash budget is definitively referred to as an evaluation of cash outflows and inflows for an organization for a given period of time. They are mostly used to appraise the performance of an organization and check whether it has adequate cash to accomplish the overall regular operations of a company. The budget is also used to check whether funds are being used as per laid down guidelines. The cash budget shows the company's liquidity position and shows the capability of an organization to meet its goals and objectives.

REVIEW QUESTIONS

1. Explain the various classifications of budgets.
2. Mention the types of Budgets that management of a big concern would normally prepare.
3. Discuss the differences between fixed and flexible budget. Why flexible budgets are considered superior to fixed budgets?

Numerical Questions

NQ The Jay Engineering Limited manufacturer's only one product, which passes through three Departments. A study has been made by the cost accountant in consultation with engineers, Technicians and other production experts of the variability of overheads. Each item was carefully Analysed and the results are summarised as follows:

Department 2; Normal level of activity, 5,000 machine-hours.

Overheads	Fixed amount	Variable rate per machine-hour
Indirect material	Rs 1,200	Rs 0.20
Supervision and inspection	9,600	—
Indirect labour	2,400	0.40
Repairs and maintenance	1,800	0.30
Power, heat and light	4,200	1.20
Water	1,200	0.10
Telephone	2,400	0.10
Insurance	3,000	—
Depreciation	9,600	—
Miscellaneous	600	0.10
Machine hour rate at normal level of activity: 36,000		2.40
Fixed (Rs 36,000 ÷ 5,000 hours)		7.20
Variable		2.40
Total		9.60

The study has estimated the following results for a level of activity of 7,000 machine-hours:

1. Indirect labour will increase by Rs 800.
2. Increased supervision will be needed at a cost of Rs 1,400.
3. Increased maintenance and repairs are estimated at Rs 600.
4. Machinery will depreciate more rapidly than estimated at the normal level of activity to the extent of Rs 1,400.

5. Overtime will cost Rs 3,200.

Prepare a flexible budget at 4,000, 5,000, 6,000 and 7,000 machine-hours and also determine the machine-hour rate at these levels.

(Answer Machine-hour rate 11.40, 9.6, 8.4, 8.6)

NQ The GEC Ltd manufacture pumps used in coolers. The firm has developed a forecasting tool that has been successful in predicting sales for the company: Sales = 10,000 + (0.25 × coolers sold). The coming year's cooler sales are expected to be 2,00,000. The pump contains material costing Rs 50. Direct labour is Rs 60 per unit and variable manufacturing overhead is Rs 40 per pump. Besides the variable manufacturing costs, there are commissions to sales people of 10 per cent of sales amount. The pump sells for Rs 250 per unit. Fixed costs of manufacturing are Rs 10,00,000 per year and fixed selling and administrative expenses are Rs 5,00,000 per year. Both are incurred evenly over the year.

Sales are seasonal, and about 75 per cent are in the April-September period which begins from April

1. The sales forecast by months, as percentages of yearly sales, are given below:
April 10%, May 15%, June 20%, July 15%, August 8%, September 7%, October 5%, November 3%.

The company has a policy of keeping inventory of finished product equal to the budgeted sales for the following two months. Materials are purchased and delivered daily and no inventory is kept. The inventory of finished product on March 31 is expected to be 15,500 units. You are required to prepare a:

(i) Budgeted income statement for the coming year, (ii) Budgeted income statement for the first six months of the year. (iii) Production budget by months for the first six months, in unit.

(Answer I and II Income 30,00,000 and 26,25,000 and III Production Budget: April 11,500, May 9000, June 4800, July 4200, August 3000, September 1800)

NQ A company is drawing its production plan for the next year in respect of two of its products 'Gamma' and 'Delta'. The company's policy is not to carry any closing work-in-process (WIP) at the end of any month. However, its policy is to hold a closing stock of finished goods at 50 per cent of the anticipated quantity of sales of the succeeding month. For the next year, the company's budgeted production is 20,000 units of 'Gamma' and 25,000 units of 'Delta'. The following is the estimated cost data:

Particulars	Gamma	Delta
Direct material per unit	Rs 50	Rs 80
Direct labour per unit	Rs 20	Rs 30
Other manufacturing expenses apportionable to each type of		
Product based on production	2,00,000	3,75,000

The estimated units to be sold in the first 7 months of the next year are as under:

Particulars	April	May	June	July	August	September	October
Gamma	900	1100	1400	1800	2200	2200	1800
Delta	2900	2900	2500	2100	1700	1700	1900

You are required to

(a) Prepare a production budget showing month-wise number of units to be manufactured:
(b) Present a summarized production cost budget for the half-year ending Sept. 30.

(Answer: (A) Budgeted production April 2,900, May 2,700 June 2,300 July 1,900 August 1,700 September 1,800, (B) Cost Budget: Rs 8,04,000 and Rs 16,62,500)

NQ Lawn Mate Company manufactures power mowers that are sold throughout the country. The company uses a comprehensive budgeting process and compares actual results to budgeted amounts on a monthly basis. Each month, Lawn Mate's accounting department prepares a variance analysis and distributes the report to all responsible parties. Production manager is upset about the results. Production manager is responsible for the cost of goods manufactured, has implemented several cost-cutting measures in the manufacturing area and is discouraged by the unfavorable variance in variable costs.

	Master Budget	Actual	Variance
Units sold	5000	4800	200 U
Revenue	1200000	1152000	48000 U
Variable cost	760000	780000	20000U
Contribution margin	440000	372000	68000U
Fixed overhead	180000	180000	-
Fixed general and administrative cost	120000	115000	5000 F
Operating Income	140000	77000	63000U

When the master budget was prepared, Lawn Mate's cost accountant supplied the following unit costs: Direct Material Rs.60; Direct Labor Rs.44; Variable Overhead Rs.36; and Variable Selling, Rs.12. The total variable costs of Rs.780,000 for May include Rs.320,000 for direct material, Rs 192,000 for direct labor, Rs.176,000 for variable overhead, and Rs.92,000 for variable selling expenses. Lawn Mate's monthly reports would be more meaningful to everyone if the company adopted flexible budgeting and prepared more detailed analyses.

Required:

1. Prepare a flexible budget for Lawn Mate Company for the month of May that includes separate variable-cost budgets for each type of cost (direct material, etc.).
2. Determine the variance between the flexible budget and actual cost for each cost item.
3. Discuss how the revised budget and variance data are likely to impact the behavior of Al Richmond, the production manager.

(Answer: Net Income- Actual 77,000, Flexible122,400, Variance 45,400 UF)

NQ Draw up a flexible budget for overhead expenses on the basis of following data and determine the standard rates for 70%, 80% and 90% plant capacity:

Variable Overheads:	at 80% capacity
Indirect Labour	12,000
Store and Spares	4,000
Semi Variable Overheads:	
Power (30% Fixed, 70% Variable)	20,000
Repairs and Maintenance (60% Fixed, 40% Variable)	2,000
Fixed Overheads:	
Depreciation	11,000
Insurance	3,000
Salaries	10,000

Estimated direct labour hours 1, 24, 000.

NQ From the information given below, prepare a sales budget of R.S. Steel Ltd. For six months ending 30th June, 2016.

(i) Half-year sales forecast based on market research – 12,000 units of product A @ Rs. 6 per unit.

(ii) The seasonal variation index is as under:

January	80	April	110
February	90	May	120
March	100	June	100

(Normal)

(iii) The four sales territories (North, East, South and West) follow the seasonal pattern taking the following percentage of the total sales volume.

North	30%	East	10%	South	40%	West	20%
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(iv) Consumers are divided into two groups X and Y, Territorial Sales ratio by customer group are

Customers	North	East	South	West
X	60	50	30	40
Y	40	50	70	60

NQ From the following information, prepare cash budget of a business firm for the month of April.

(a) The firm makes 20 per cent cash sales. Credit sales are collected 40, 30 and 25 per cent in the month of sales, month after and second month after sales, respectively. The remaining 5 per cent becomes bad debts.

(b) The firm has a policy of buying enough goods each month to maintain its inventory at two and one-half times the following month's budgeted sales.

(c) The firm is entitled to 2 per cent discount on all its purchases if bills are paid within 15 days and the firm avails of all such discounts. Monthly purchases are made in two equal lots on fortnightly basis.

(d) Cost of goods sold, without considering the 2 per cent discount, is 50 per cent of selling prices. The firm records inventory net of discount.

(e) Other data is: Sales January (actual) Rs 1,00,000 February (actual) 1,20,000 March (actual) 1,50,000 April (budgeted) 1,70,000 May (budgeted) 1,40,000 Inventory on March 31, Rs 2,25,400. Cash on March 31, Rs 30,000. Gross purchases in March, Rs 1,00,000. Selling, general and administrative expenses budgeted for April, Rs 45,000 (includes Rs 10,000 depreciation).

NQ Prepare cash budget for January-June from the following information:

(i) The estimated sales and expenses are as follows:

Particulars	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Sales (Rs)	2,00,000	2,20,000	1,20,000	1,00,000	1,50,000	2,40,000	2,00,000	2,00,000
Wages and salaries(Rs)	30,000	30,000	24,000	24,000	24,000	30,000	27,000	27,000
Miscellaneous expenses (Rs)	27,000	27,000	21,000	30,000	24,000	27,000	27,000	27,000

(ii) 20 per cent of the sales are on cash and balance on credit.

(iii) The firm has a gross margin of 25 per cent on sales.

(iv) 50 per cent of the credit sales are collected in the month following the sales, 30 per cent in the second month and 20 per cent in the third month.

- (v) Material for the sale of each month is purchased one month in advance on a credit for two months.
- (vi) The time-lag in the payment of wages and salaries is one-third of a month and of miscellaneous expenses, one month.
- (vii) Debentures worth Rs 40,000 were sold in January.
- (viii) The firm maintains a minimum cash balance of Rs 40,000. Funds can be borrowed @ 12 per cent per annum in the multiples of Rs 1,000, the interest being payable on monthly basis.
- (ix) Cash balance at the end of December is Rs 60,000.
- (Answer:** Amount in thousands -Jan. 42, Feb. 59.8, March 64.8, April 51.5, May 40.5, June 40.74)

NQ Prepare cash budget for April-October from the following information supplied by Shah Agencies Ltd.

Balance sheet as at March 31

Liabilities: Proprietor's capital Rs 1,00,000, Outstanding liabilities 11,000

Assets: Cash Rs 20,500, Stock in trade 50,500, Sundry debtors 20,000, Furniture Rs 20,000.

Months	APR.	MAY	JUNE	JULY	AUG.	SEP	OCT.
Sales	30,000	52,000	50,000	75,000	90,000	35,000	25,000
Salaries	3,000	3,500	3,500	4,000	4,000	3,000	3,000

The other expenses per month are: Rent Rs 1,000, Depreciation Rs 1,000, Miscellaneous expenses Rs 500, and Commission 1 per cent of sales. Of the total sales, 80 per cent is on credit and 20 per cent for cash; 70 per cent of the credit sales are collected in the first month following sale and the balance in the second month. There are no bad debt losses. Gross margin on sales on an average is 30 per cent. Purchases equal to the next month's sales are made every month and they are paid during the month in which they are made. The firm maintains a minimum cash balance of Rs 10,000. Cash deficiencies are made up by the bank loans which are repaid at the earliest opportunity available and cash in excess of Rs 15,000 is invested in securities (interest on bank loans and securities is to be ignored). Outstanding liabilities remain unchanged. Debtors pertain to credit sales of March. State your assumptions, if any.

(Answer: April 10,000, May 10,000, June 10,000, July 10,000

Suggested readings

Khan MY and Jain PK: THEORY AND PROBLEMS OF MANAGEMENT & COST ACCOUNTING
 Arora MN.: A MANAGERIAL APPROACH COST ACCOUNTANCY
 Khan MY & Jain PK: MANAGEMENT ACCOUNTING
 Gupta SP: MANAGEMENT ACCOUNTING
 Pandey IM: ELEMENTS OF MANAGEMENT ACCOUNTING
 Anthony RN: PRINCIPLES OF MANAGEMENT ACCOUNTING
 COST & MANAGEMENT ACCOUNTING: Duncan Williamson, PHI, New Delhi.
 INTRODUCTION TO MANAGEMENT ACCOUNTING: Horngren, PHI, New Delhi.
 MANAGEMENT ACCOUNTING: Khan & Jain, Tata Mc Graw Hill, New Delhi.
 MANAGEMENT ACCOUNTING: SP Gupta, Shahitya Bhawan, Publication, Agra.
 ADVANCE MANAGEMENT ACCOUNTING: Kaplan & Atkinson, PHI, New Delhi.