UNIT 14 BUDGETING AND BUDGETARY CONTROL

Objectives

The objectives of this unit are to familiarize you with:

- the basic aspects of financial planning and the role of budgeting
- various types of budgets
- some new ideas and development in the area of budgeting.

Structure

14.1 Introduction
14.2 Financial Planning
14.3 What is a Budget?
14.4 Budgetary Control
14.5 Classification of Budgets
14.6 Control Ratios
14.7 Performance Budgeting
14.8 Zero base Budgeting
14.9 Summary
14.10 Key Words
14.11 Self-assessment Questions/Exercises
14.12 Further Readings

14.1 INTRODUCTION

At the beginning of the course, we have emphasized the need for managers to be forward-looking. For you, therefore, reviewing the past information alone is not enough since your job involves not only predicting but also shaping the future of your enterprises. This requires proper planning about all activities of the business. Finance being the life blood of a business, financial planning is of utmost significance to a businessman. A budget is an important tool for financial planning and control.

However, before we come to the intricacies of budgeting, it will be useful for you to understand the meaning and implications of financial planning.

14.2 FINANCIAL PLANNING

Financial planning is concerned with raising of funds and their effective utilisation with a view to maximise the wealth of the company. It includes the determination of:

- the amount of funds needed for implementing various business plans
- the pattern of financing i.e. the form and proportion of various corporate securities , such as shares, debentures, bonds, bank loans to be issued or raised
- the timing of floatation of various corporate securities

In spite of a good financial plan, the desired results may not be achieved if there is no effective control to ensure its implementation. The budget represents a set of yardsticks or guidelines for use in controlling internal operations of an organisation. The management, through budget, can evaluate the performance of every level of the organisation. The discrepancy between plan performance and actual performance is highlighted through budgets. The organisation may have to change the course of its operations in a particular area or revise its plans keeping in view the changing conditions.

It will, therefore, be useful for you to understand the complete budgeting process. In this unit, we shall explain what budget is and what budgetary control means. Besides the importance of budgeting as a management tool, the techniques of preparing various types of budgets will also be discussed.

14.3 WHAT IS A BUDGET?

A budget is a plan expressed in quantitative, usually monetary terms, covering a specific period of time, usually one year. In other words, a budget is a systematic plan for the utilisation of manpower and material resources. In a business organisation a budget represents an estimate of future costs and revenues. Budgets may be divided into two basic classes : Capital Budgets and Operating Budgets. Capital budgets are directed towards proposed expenditure for new projects and often require special financing (this topic is discussed in the next unit). The operating budgets are directed towards achieving short term operational goals of the organisation, for instance, production or profit goals in a business firm. Operating budgets may be sub-divided into various departmental or functional budgets. The main characteristics of a budget are:

a) It is prepared in advance and is derived from the long term strategy of the organisation

b) It relates to future period for which objectives or goals have already been laid down

c) It is expressed in quantitative from, physical or monetary units, or both.

Different types of budgets are prepared for different purposes e.g. Sales Budget. Production Budget, Administrative Expense Budgets, Raw-material Budget, etc. All these sectional budgets are afterwards integrated into a master budget which represents an overall plan of the organisation. A budget helps its in the following ways:

a) It brings about efficiency and improvement in the working of the organisation.

b) It is a way of communicating the plans to various units of the organisation. By establishing the divisional, departmental, sectional budgets, exact responsibilities are assigned. It thus minimizes the possibilities of buck-passing if the budget figures are not met.

c) It is a way of motivating managers to achieve the goals set for the units.

d) It serves as a benchmark for controlling on-going operations.

e) It helps in developing a team spirit where participation in budgeting is encouraged.

f) It helps in reducing wastage's and losses by revealing them in time for corrective action.

g) It serves as a basis for evaluating the performance of managers.

h) It serves as a means of educating the managers.

14.4 BUDGETARY CONTROL

No system of planning can be successful without having an effective and efficient system of control. Budgeting is closely connected with control. The exercise of control in the organisation with the help of budgets is known as budgetary control. The process of budgetary control includes

(i) preparation of various budgets

(ii) continuous comparison of actual performance with budgetary performance and

(iii) revision of budgets in the light of changed circumstances.

A system of budgetary control should not become rigid. There should be enough scope for flexibility to provide for individual initiative and drive. Budgetary control is an important device for making the organisation more efficient on all fronts. It is an important tool for controlling costs and achieving the overall objectives.

Installing A Budgetary Control System

Having understood the meaning and significance of budgetary control in an organisation, it will be useful for you to know how a budgetary control system can be installed in the organisation. This requires first of all, finding answers to the following questions in the context of an organisation:

- What is likely to happen?
- What can be made to happen?
- What are the objectives to be achieved?
- What are the constraints and to what extent their effects can be minimised?

Having found answers to the above questions, the following steps may be taken for installing an effective system of budgetary control in an organisation.

Organisation for Budgeting

The setting up of a definite plan of organisation is the first step towards installing budgetary control system in an organisation. A, Budget Manual should be prepared giving details of the powers, duties, responsibilities and areas of operation of each executive in the organisation.

Responsibility for Budgeting

The responsibility for preparation and implementation of the budgets may be fixed as under:

Budget Controller

Although the Chief Executive is finally responsible for the budget programme, it is better if a large part of the supervisory responsibility is delegated to an official designated as Budget Controller or Budget Director. Such a person should have knowledge of the technical details of the business and should report directly to the President of the Chief Executive of the organisation.

Budget Committee

The Budget Controller is assisted in his work by the Budget Committee. The Committee may consist of Heads of various departments, viz., Production, Sales Finance, Personnel, Purchase, etc. with the Budget Controller as its Chairman. It is generally the responsibility of the Budget Committee to submit, discuss and finally approve the budget figures. Each head of the department should have his own Sub-committee with executives working under him as its members.

Fixation of the Budget Period

`Budget period' means the period for which a budget is prepared and employed. the budget period depends upon the nature of the business and the control techniques. For example, a seasonal industry will budget for each season, while an industry requiring long periods to complete work will budget for four, five or even larger number of years. However, it is necessary for control purposes to prepare budgets both for long as well as short periods.

Budget Procedures

Having established the budget organisation and fixed the budget period, the actual work or budgetary control can be taken upon the following pattern:

Key Factor

It is also termed as limiting factor. The extent of influence of this factor must first be assessed in order to ensure that the budget targets are met. It would be desirable to prepare first the budget relating to this particular factor, and then prepare the other budgets. We are giving below an illustrative list of key factors in certain industries.

Industry	**Key factor**
Motor Car	Sales demand
Aluminium	Power
Petroleum Refinery	Supply of crude oil
Electro-optics	Skilled technicians
Hydel power generation	Monsoon

The key factors should be correctly identified and examined. The key factors need not be of a permanent nature. In the long run, the management may overcome the key factors by introducing new products, by changing material mix or by working overtime or extra shifts etc.

Making a Forecast

A forecast is an estimate of the future financial conditions or operating results. Any estimation is based on consideration of probabilities. An estimate differs from a budget in that the latter embodies an operating plan of an organisation.

A budget envisages a commitment to certain objectives or targets, which the management seeks to attain on the basis of the forecasts prepared. A forecast on the other hand is an estimate based on probabilities of an event. A forecast may be prepared in financial or physical terms for sales, production cost, or other resources required for business. Instead of just one forecast a number of alternative forecasts may be considered with a view to obtaining the most realistic, overall plan.

Preparing Budgets

After the forecasts have been finalised the preparation of budgets follows. The budget activity starts with the preparation of the sales budget. Then production budget is prepared on the basis of sales budget and the production capacity available. Financial budget (i.e. cash or working capital budget) will be prepared on the basis of sales forecast and production budget. All these budgets are combined and coordinated into a master budget. The budgets may be revised in the course of the financial period if it becomes necessary to do so, in view of the unexpected developments, which have already taken place or are likely to take place.

Choice Between Fixed and Flexible Budgets

A budget may be fixed or flexible. A fixed budget is based on a fixed volume of activity. It may lose its effectiveness in planning and controlling if the actual capacity utilisation is different from what was planned for any particular unit or time e.g. a month or a quarter, The flexible budget is more useful for changing levels of activity as it considers fixed and variable costs separately. Fixed costs, as you are aware, remain unchanged over a certain range of output. Such costs change when there is a change in capacity level. The variable costs change in direct pro-portion to output. If ' flexible budgeting approach is adopted, the budget controller can analyse the variance between actual costs and budgeted costs depending upon the actual level of activity attained during a period of time. This will be explained in detail a little later.

Activity 14.1

Arrange a meeting with one of the officials concerned with budgetary control and administration in your organisation and discuss the following points:

a) The nature and the exact nomenclature of the budgetary control system.

b) The time for which the system has been in operation.

c) The objectives and scope activities) of the system.

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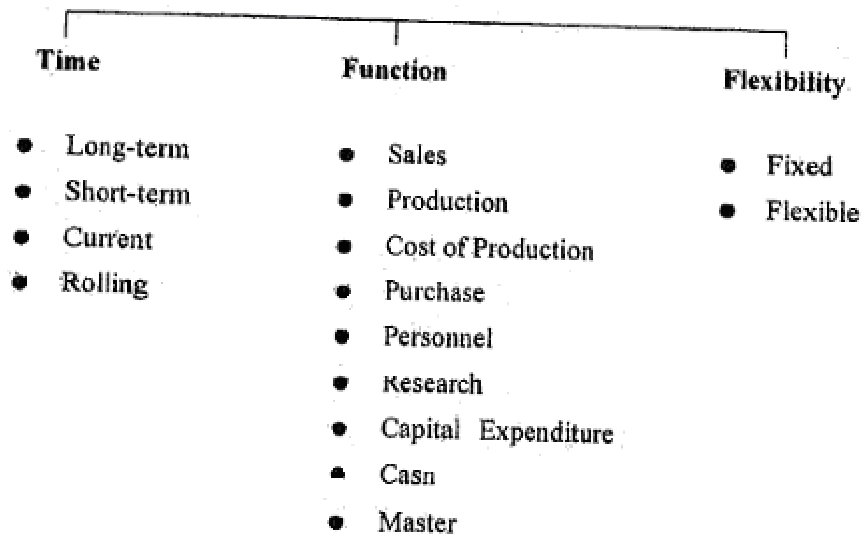
14.5 CLASSIFICATION OF BUDGETS

Budgets can be classified into different categories on the basis of Time, Function, or Flexibility. The different budgets covered under each category are shown in the following chart:

Chart : Classification of Budgets



Let us discuss some of the budgets covered in the above classification.

Rolling Budget

Some organisations follow the practice of preparing a rolling or progressive budget. In such organisations, a budget for a year in advance will always be there immediately after a month, or a quarter, passes, as the case may be, a new budget is prepared for twelve months. The figures for the month/quarter, which has rolled down, are dropped and the figures for the next month/quarter are added. For example, if a budget has been prepared for the year 2003, after the expiry of the first quarter ending 31st March 2003, a new budget for the full year ending 31st March, 2004 will be prepared by dropping the figures for the quarter which has rolled (i.e. quarter ending 31st March 2003) and adding the figures for the new quarter ending 31st march 2004. The figures for the remaining three quarters ending 31st December 2004 may also be revised, if necessary. This process will continue whenever a quarter ends and a new quarter begins.

Sales Budget

Sales Budget generally forms the fundamental basis on which all other budgets are built. The budget is based on projected sales to be achieved in a budget period . The Sales Manager is directly responsible for the preparation and execution of this budget. He usually takes into consideration the following organisational and environmental factors while preparing the sales budget:

Organisational factors	**Environmental Factors**
Past sales figures and trends Salesmen's estimates Plant capacity Orders on hand Proposed expansion or discontinuation of products Availability of material or supplies Financial aspect Cost of distribution of goods	General trade prospects Seasonal fluctuations Potential market Degree of competition Government controls, rules and regulations relating to the industry Political situation and its impact on market

It is desirable to break up the entire sales budget on the basis of different products, time periods and sales areas or territories.

Illustration 14.1

Andhra Vinyl Ltd. has three sales division at Madras, Bangalore and Hyderabad. It sells two products - I and II. The budgeted sales for the year ending 31st December 2002 at each place are given below:

Madras	Product I	50,000 units @ Rs. 16 each
	Product II	35,000 units @, Rs. 10 each
Bangalore	Product II	55,000 units @ Rs. 10 each
Hyderabad	Product I	75,000 units @ Rs. 16 each

The actual sales during the same period were:

Madras	Product I	62,500 units @ Rs.16 each
	Product II	37,500 units @ Rs. 10 each
Bangalore	Product II	62,500 baits @ *Rs.* 10 each
Hyderabad	Product I	77,500 units @ Rs. 16 each

From the reports of the sales department it was estimated that the sales budget for the year ending 31st December 2003 would be higher than 2002, budget in the following respects:

Madras	Product I	4,000 units
	Product II	2,500 units
Bangalore	Product II	6,500 units
Hyderabad	Product I	5,000 units

Intensive sales campaign in Bangalore and Hyderabad is likely to result in additional sales of 12,500 units of products I in Bangalore and 9,000 units of Products II in Hyderabad. Let us prepare a sales budget for the period ending 31st December, 2003.

Andhra Vinyl Limited
Sales Budget

		Budget for 2003			Budget for 2002			Actual Sales for 2002		
Division	Product	Qty. (Units)	Price Rs.	Value Rs.	Qty.	Price	Value	Qty	Price	Value
Madras	I	54,000	16	8,64,000	50,000	16	8,00,000	62,500	16	10,00,000
	II	37,500	16	3,75,000	35,000	10	3,50,000	37,500	10	3,75,000
	Total	91,500		12,39,000	85,000		11,50,000			13,75,000
Bangalore	I	12,500	16	2,00,000	—	—	—	—	—	—
	II	61,500	10	61,15,000	55,000	10	5,50,000	62,500	10	6,25,000
	Total	74,000		8,15,000	55,000	10	5,50,000	62,500	10	6,25,000
Hyderabad	I	80,000	16	12,80,000	75,000	16	12,00,000	77,500	16	12,40,000
	II	9,000	10	90,000	—	—	—	—	—	—
	Total	89,000		13,70,000	75,000		12,00,000	—	—	12,40,000
Product	I	1,46,500	16	23,44,000	1,25,000	16	20,00,000	1,40,000	16	22,40,000
Product	II	1,08,000	10	10,80,000	90,000	10	9,00,000	1,00,000	10	10,00,000
	Total	2,54,500		34,24,000	2,15,000		29,00,000	2,40,000		32,40,000

Production Budget

This budget provides an estimate of the total volume of production distributed product-wise with the scheduling of operations by days, weeks and months, and a forecast of the inventory of finished products. Generally, the production budget is based on the sales budget. The responsibility for the overall production budget lies with Works Manager and that of departmental production budgets with departmental works managers.

Production budget may be expressed in physical or financial terms or both in relation to production. The production budgets attempt to answer questions like: (i) What is . to be produced? (ii) When it is to be produced? (iii) How it is to be produced? (iv) Where it is to be produced? The production budget envisages the production programme for achieving the sales target. It serves as a basis for preparation of related cost budgets, e.g., materials cost budget, labour cost budget, etc. It also facilitates the preparation of a cash budget. The production budget is prepared after taking into consideration several factors like: (I) Inventory policies, (ii) Sales requirements, (iii) Production stability, (iv) Plant capacity, (v) Availability of materials and labour, (iv) Time taken in production process, etc.

Activity 14.2

From the following details of Mysore Cement Works Limited, complete the production budget for the three-month period ending March 31, 2003 (Production budget for product P has already been worked (out).

Type of Product	Estimated stock on Jan. 1, 2003	Estimated sales during Jan-March 2003	Desired closing stock on March 31, 2003
	(Units)	(Units)	(Units)
P	1,000	5,000	1,500
Q	1,500	7500	2,500
R	2.000	6.500	1,500
S	1,500	6.000	1,000

Mysore Cement works Limited
Production Budget for three months to March 31, 2003

			Units	
Product P	:	Estimated Sales	5,000	
		Add : Desired closing stock	1,500	
			6,500	
		Less : Estimated opening stock	1,000	5,500
Product Q	:	Estimated Sales	—	
		Add : Desired closing stock	—	
			—	
		Less : Estimated opening stock	—	
Product R	:	Estimated Sales	—	
		Add : Desired closing stock	—	
			—	
		Less : Estimated opening stock	—	
Product S	:	Estimated sales	—	
		Add : Desired closing stock	—	
			—	
		Less : Estimated opening stock	—	
		Total units to be produced		25,500

Production Costs Budgets

Basically, there are three elements of cods, namely direct material direct labour and overheads. Separate budgets for each of these elements have to be prepared.

The direct materials' budget has two components, (i) materials requirement bud-get, and (ii) materials procurement or purchase budget. The former deals with the total quantity of materials required during the budget period, while the later deals with the materials to be acquired from the Market during the budget period. Materials to be acquired are estimated after taking into account the losing rind the opening inventories and the materials for which orders have already been placed.

Illustration 1.4.2

The Sales Director of Andhra Paraffin Company expects to sell 25,000 units of a particular product next year, The Production director consulted the store-keeper who gave the necessary details as follows:

Two kind of raw materials, P and Q are required for manufacturing the product. Each unit of the product requires 2 units of P and 3 units of Q. The estimated opening balance at the commencement of the next year are:

Finished products	:	5,000 units
Raw material P	:	6,000 units
Raw material Q	:	7,500 units

The desirable closing balance at the end of the next year are:

Finished	:	7,000 units
Raw material P	:	6,500 units
Raw material Q	:	8,000 Units

Let us prepare a statement showing material purchase budget for the next year.

units to be produced = Sales + Desired closing Stock - Opening Stock

= 25,000 + 7,000 - 5000 = 27,000 units.

Materials Purchase or Procurement Budget

	Finished product units	**Materials in units**	
		P	**Q**
Production budget	27,000	54,000	81,000
Estimated Opening Balance	+5,000	-6,000	-7,500
	32,000	48,000	73,500
Estimated Closing Balance	-7,000	+6,500	+8,000
Estimated Sales of Product	25,500		
Estimated Purchase of Materials		54,500	81,500

Direct Labour Budget : Direct labour budget, like direct materials budget, may be divided into two categories, (i) direct labour requirement budget and (ii) direct labour procurement budget. The former deals with the total direct labour requirement in terms of quantity or/and value, while the latter states the additional direct workers to be recruited.

Activity 14.3

The production budget of a factory shows that 1,000 units of a product are to be manufactured during the next month consisting of 25 working days. Each unit is expected to take two hours and each worker is required to work for 8 hours a day. Calculate (a) the number of workers required to complete the job, (b) the number of additional workers to be recruited in case the factory has already 8 workers, and likes to keep two workers in reserve for possible absenteeism, and (c) the Labour Budget if the wages of existing and the new workers are Rs. 500 and Rs. 600 p.m. respectively. Part (a) has already been worked out.

a) Total labour hours required $= 1{,}000 \times 2 = 2{,}000$ hours

Number of workers required if the job is to be done in a day $= \frac{2{,}000}{8} = 250 = 250$

Since the job is to be completed in 25 working days, the number of workers required are $= \frac{250}{25} = 10$

b) Number of workers required [as per (a) above} ....

Add : Workers to be kept in reserve ....

No. of additional workers to be recruited ....

c) **Direct Labour Budget for Next Month**

Current Month			Next Month		
No.	Rate	Amount	No.	Rate	Amount
			Existing		
8	....	....	....	....	....
			Additional		
			....	....	....
	Total		Total		

Overhead Budget The overheads may relate to factory, general administration selling and distribution function. Separate budgets may, therefore, be prepared for factory overheads, administrative overheads and selling and distribution overheads.

Factory Overheads Budget: Factory or manufacturing overheads include the cost of indirect material, indirect labour and indirect expenses.. Manufacturing overheads may be classified into (i) Fixed Overheads i.e. which tend to remain constant irrespective of change in the volume of output, (ii) Variable Overheads i.e. which tend to vary with the output, and (iii) Semi-variable Overheads i.e. which are partly variable and partly fixed. The manufacturing overheads budget will provide an estimate of these overheads to be incurred during the budget period.

Fixed manufacturing overheads can be estimated on the basis of the past information and knowledge of any changes which may occur during the ensuing budget period. Variable overheads are estimated after considering the scheduled production and operating conditions in the budget period.

Illustration 14.3

From the following average figures of pervious quarters, let us prepare manufactur- ing overhead budget for the quarter ending March 31, 2003. The budgeted output during this quarter is 8,000 units.

The figures for the previous quarter are:

Fixed overtheads	Rs. 40,000
Variable overheads	20,000 (@ Rs. 5 per unit)
Semi-variable	20,000 (40% fixed and 60% varying @ Rs. 3 per unit)

Manufacturing Overheads Budget

For the Quarter ending 31st March 2003

(Output 8,000 units)

Fixed overheads		40,000	
Variable overheads @ **Rs.** 5 per unit		40,000	
Semi-variable overheads	8,000		
Fixed			
Variable (@Rs. 3 per unit)	24,000	32,000	
Total Overheads			1,12,000

Administrative Overheads Budget: This budget covers the administrative expenses including the salaries of administrative and managerial staff. A careful analysis of the needs of all administrative departments of the enterprise is necessary. The minimum requirements for the efficient operation of each department can be estimated on the basis of costs for the previous years, and after a study of the plans and responsibilities of each administrative department for the budget period. The budget for the entire administrative function is obtained by integrating the separate budgets of all administrative departments.

Selling and Distribution Overheads Budget: This budget includes all expenses relating to selling advertising delivery of goods to customers, etc. It is better if such costs are analysed according to products, types of customers, territories and the sales departments. The responsibility for the preparation of this budget rests with the executives of the sales department. There must be a relationship of selling expenses with the volume of sales expected and an effort should be made to control the costs of distribution. The preparation of the budget would depend on analysis of the market situation by the management, advertising policies, research programmes, and the fixed and variable elements.

Illustration 14.4

Let us prepare a Sales Overheads Budget for the quarter ending 31st March, 2003 from the estimates given below:

	Rs.
Advertisement	12,500
Salaries of the sales department	25,000
Expenses of sales department	7,500
Counter salesmen salaries and allowances	30,000

Commission to counter salesmen is payable at 1 % of sales executed by them.

Travelling salesmen are entitled to a commission at 10% on sales effected through them and a further 5 % towards expenses.

Sales **Territories**	**Sales at** **Counters**	**Sales by Traveling** **salesmen**	**Total estimated** **sales**
A	Rs. 4,00,000	50,000	4,50,000
B	6,00,000	75,000	6,75,000
C	7,00,000	1,00,000	8,00,000

Sales Overheads Budget

	Estimated Sales in Territories		
	Rs. 4,50,000	Rs. 6,75,000	Rs. 8,00,000
Fixed Overheads			
Advertisement	12,500	12,500	12,500
Salaries of Sales Department	25,000	25,000	25,000
Expenses of Sales Department	7,500	7,500	7,500
Counter salesmen's salaries and allowances	30,000	30,000	30,000
	75,000	75,000	75,000
Variable Overheads			
Counter salesmen commission @ 1% on sales	4,000	6,000	7,000
Travelling salesmen commission @ 10%	5,000	7,500	10,000
Expenses @ 5%	2,500	3,750	5,000
	11,500	17,250	22,000
Total sales overheads	86,500	92,250	97,000

Cash Budget

Planning cash and controlling its use are important tasks. If the future cash flows are not properly anticipated, it is likely that idle cash balances may be created which may result into unnecessary losses. It may also result in cash deficits and consequent problems. The financial manager should, therefore, plan the needs and uses. Budget is a useful device for this purpose.

The cash budget is a summary of the firm's expected cash inflows and outflows over a particular period of time. In other words, cash budget involves a projection of future cash receipts and cash disbursements over various time intervals.

A cash budget helps the management in:

- determining the future cash needs of the firm
- planning for financing of those needs
- exercising control over cash and liquidity of the firm

The overall objective of a cash budget is to enable the firm to meet all its commitments in time and at the same time prevent accumulation at any time of unnecessary large cash balances with it.

Lets recapitulate what we have already discussed in Unit 6 about cash inflows and cash outflows, which constitute the components of a cash budget. In both these components there are two types of flows, *viz. operating cash flows* and *financial cash flows.* Some common elements of each are as follows:

Cash Inflows -
a) Operating : cash sales, receivable collections.
b) Financial : interest receipts, sale of marketable securities, issue of new securities.

Cash Outflow -
a) Operating : wage payments, payments of bills and accounts payable, and capital expenditure Payable.
b) Financial: dividend payments, interest payments, redemption of securities, loan repayments, purchase of marketable securities, tax payments.

Sales Work Sheet

Sales bring in a major part of cash inflows. All sales may not be against cash; credit sales are quite common. Each business establishment has its own credit policy for promoting sales. Even when care is taken to ensure that credit sales do not exceed the permitted percentage of total sales and that debtors do not default in paying bills in time, it is a common experience that the total amount of sales is recovered over a period of time.

Let us take an example. In a business, 10 per cent of the sales value in a month is realised in cash during the same month; 50 per cent is received in the next month; and the remaining 40 per cent in the month after that. We can find out the estimated cash inflow due to sales for every month with the help of the data on past and future sales.

Sales Work Sheet

January to March 2003

	Nov.	**Dec.**	**Jan.**	**Feb.**	**March**
	2002	2002	2003	2003	2003
Past Sales	960	900			
Estimated future sales	-	-	900	1,000	1,000
Estimated Cash Receipts from sales:					
10% of current month's sales			90	100	100
50% of last month's sales			450	450	500
40% of previous to last Month's sale			384	360	360
Total Cash Collections from receivables			924	910	960

The total cash collections from receivables will be transferred to the cash budget proforma.

In a similar manner, a Purchase Work Sheet can also be prepared to find out the estimated total cash disbursements for purchases. For example, 50 per cent of current month's purchases may be paid for in the current month, 40 per cent in the next month and the remaining 10 per cent in the month after that.

A proforma Cash Budget with hypothetical figures in presented below

Proforma for Cash Budget

(in Rs.)

		Months	
Estimated Cash Inflows:	**Jan.**	**Feb.**	**March**
Cash Sales (including collections of current and previous month's sales)	9.60		
Others	1.90		
Total	11.50		
Cash Outflow			
Bills for Purchases	6.83		
Factory Expenses	3.49		
Head Office Expenses	1.54		
Interest	1.21		
Others	0.40		
Total	13.47		
Excess Inflow during the-month (1-2)	1.97		
Opening Cash Balance	2.32		
Closing Cash Balance (4+3)	0.35		
Minimum Cash Balance Needed	2.00		
Estimated Cash Surplus (5-6) - or Deficit (6-5)	1.65		

Illustration 14.5

You are appointed as the Finance Manager of Orissa Polymers Limited. Prepare a cash budget for six months of 2003 with the help of the following information:

a) Sales on credit cost of material and wages are budgeted as follows (figures for November and December of the previous year are the actual figures for those months).

Months	Credit sales	Cost of material	Wages
Nov.	30,000	5,000	10,000
Dec.	32,000	6,000	12,000
Jan.	28,000	5,000	10,000
Feb.	31,000	7,000	11,000
March	34,000	8,000	12,000
April	29,000	5,000	9,000
May	30,000	6,000	11,000
June	36,000	7,000	12,000

b) Fixed overheads amount to Rs. 10,000 per month.

c) Preference dividend of Rs. 8,000 for the half year will be due in June.

d) Income tax amount of Rs. 10,000 is payable in January.

e) Progress payment under a building contract are due as follows:

March 31	Rs. 12,000
May 31	Rs. 15,000

f) Goods are sold on terms: Net cash in the following month. Experience indicates that 80% of debtors pay within the period of credit and the remainder do not pay until the following month.

g) Cost of material is payable in the month following the month in which the cost is incurred. Half of the purchases are subjected to a 2% discount and the remaining is payable net.

h) The company pays all its accounts promptly.

Cash Budget

	Jan. (Rs.)	Feb. (Rs.)	March (Rs.)	April (Rs.)	May (Rs.)	June (Rs.)
a) Cash Inflows						
Collection from Credit Sales:						
i) First month following sales (80% of sales)	25,600	22,400	24,800	27,200	23,200	24,000
ii) Second month following sales	6,000	6,400	5,600	6,200	6,800	5,800
Total Cash Receipts	31,600	28,800	30,400	33,400	30,000	29,800
b) Cash Outflows						
Fixed Overheads	10,000	10,000	10,000	10,000	10,000	10,000
Preference dividend	—	—	—	—	—	8,000
Income Tax	10,000	—	—	—	—	—
Progress Payments under building contracts	—	—	12,000	—	15,000	—
Purchases	5,940	4,950	6,930	9,920	4,950	5,940
Wages (assumed to be payable in the month)	10,000	11,000	12,000	9,000	11,000	12,000
Total Cash Payments	35,940	29,950	40,930	26,920	40,950	35,940
Surplus or Deficiency (i.e. A-B)	(4,340)	2,850	(10,530)	6,480	(10,950)	(6,140)

Purchase Budget

	January	February	March
Desired ending inventory (at cost price)	90,000	97,500	1,12,500
Add Cost of goods (Current Month)	37,500	45,000	45,000
Total requirement	1,27,500	1,42,500	1.57,500
Less beginning inventory	(60.000)	(90,000)	(97,500)
Purchases	67,500	52,500	60,000

It will be seen that deficiency of cash occurs in the months of January, March, May and June, mainly because some unusual payments like preference dividend, advance income tax and progress payments under building contract are to be made in those months. With the help of the cash budget, the company will be able to plan its short-term financing. One of the courses is to obtain the overdraft facilities from its bankers.

The net cash position in a particular period may show deficit. Hence, arrangements should be made in advance to fill this gap by borrowing or by other means. In case there is a surplus balance, the desirability of investing it in government or other short-term securities should be examined. Any surplus should be invested in safe securities, provided the surplus is fairly considerable and the period of investment is short so as to ensure quick conversion of securities in cash without loss of value.

Activity 14.4

Arrange a meeting with an accounting executive of your organisation and ascertain if cash budgeting is being practised? Obtain a proforma of cash budget for your record. What are the major sources of cash inflows and the main uses of cash outflows? In what way our organisation manages any deficit or surplus of cash revealed by the cash budget?

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Master Budget

The Master or final budget is a summary budget, which incorporates all functional budgets in a capsule form. It sets out the plan of operations for all departments in considerable detail for the budget period. The budget may take the form of a Profit and Loss Account and a Balance Sheet as at the end of the budget period.

The Master budget requires the approval of the Budget Committee before it is put into operation. It may happen, sometimes, that a number of master budgets have to be prepared before the final one is agreed upon. The budget generally contains details regarding sales (net), production costs, cash position, and key account balances (e.g. debtors, fixed assets, bills payable, etc.). It also shows the gross and net profits and the important accounting ratios.

Fixed and Flexible Budgets

Fixed Budget:

A fixed budget is designed to remain unchanged irrespective of the level of activity. This budget is prepared on the basis of a standard or fixed level of activity. Since the budget does not change with the change of level of activity, it becomes an unrealistic yardstick in case the level of activity (volume of production

or sales) actually attained does not conform to the one assumed for budgeting purposes. The management will not be in a position to assess the performance of different heads on the basis of budgets prepared by them, because they can serve as yardsticks only when the actual level of activity corresponds to the budgeted level of activity. On account of the limitations of fixed budgeting and its inability to provide for automatic adjustments when the volume changes. Firms whose sales and production, cannot be accurately estimated have given up the practice of fixed budgeting

The Master Budget may have the following format:

Exhibit 14.1: Budget Format

Period	Normal Production capacity ____units	Budgeted capacity ______units	
Particulars	**Product 1 (Rs.)**	**Product 2 (Rs.)**	**Total (Rs.)**
Sales			
Cost of Sales :			
Direct materials, Direct labour, Variable Factory Overheads, Fixed Factory Overheads			
Add : Opening Stock			
Less : Closing Stock			
Gross Profit			
Administration Cost			
Selling and Distribution Cost			
Net Profit			
Assets:			
Fixed			
Current			
Total capital employed			
Ratios:			
Profit/Capital employed			
Sales/Capital employed			
Profit/Turnover			
Current Ratio			
Liquidity Ratio			
Appropriations			
Net Profit			
Dividends			
Reserves			
Taxes			
Balance of profit or Loss			

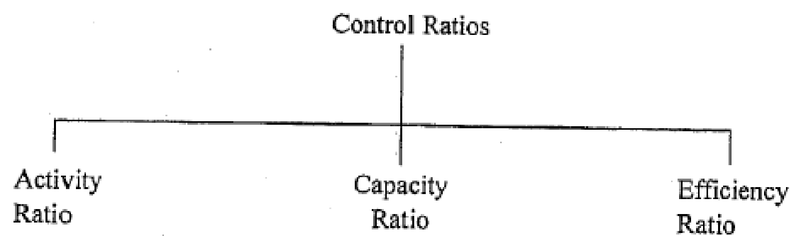
Flexible Budget: The Flexible Budget is designed to change in accordance with the level of activity attained. Thus, when a budget is prepared in such a manner that the budgeted cost for any level of activity is available, it is termed as flexible budget. Such a budget is prepared after considering the fixed and variable elements of cost and the changes that may be expected for each item at various levels of operations. Flexible budgeting is desirable in the following cases:

- Where, because of the nature of business, sales are unpredictable, e.g. in luxury or semi-luxury trades.

- Where the venture is new and, therefore, it is difficult to foresee the demand **e.g.,** novelties and fashion products.
- Where business is subject to the vagaries of nature, such as soft drinks.
- Where progress depends on adequate supply of labour and the business is in an area, which is suffering from shortage of labour.

14.6 CONTROL RATIOS

Budget is a part of the planning process. After the various budgets, including the master budget, have been prepared, you may like to compare actual performance with the budgeted performance. This can be done by using three important ratios as shown below:



The above ratios are expressed in terms of percentages. If the ratio works out to 100 per cent or more, the trend is taken as favourable. If the ratio is less than 100 per cent, the indication is taken as unfavourable. We shall discuss these ratios in some details.

Activity Ratio : Activity Ratio is a measure of the level of activity attained over a period of time. It is obtained by expressing the number of standard hours equivalent to the work produced as a percentage of the budgeted hours.

$$\text{Activity Ratio} = \frac{\text{Standard hours for actual production}}{\text{Budgeted hours}} \times 100$$

Capacity Ratio : This ratio indicates whether and to what extent budgeted hours of activity are actually utilised. It shows the relationship between the actual number of working hours and the maximum possible number of working hours in a budgeted period.

$$\text{Capacity Ratio} = \frac{\text{Actual hours worked}}{\text{Budgeted hours}} \times 100$$

Efficiency Ratio : This ratio indicates the degree of efficiency attained in production. It is obtained by expressing the standard hours equivalent to the work produced as a percentage of the actual hours spent in producing that work

$$\text{Efficiency Ratio} = \frac{\text{Standard hours for actual production}}{\text{Actual hours worked}} \times 100$$

Activity 14.5

Calculate : Efficiency, Activity and Capacity ratios and comment on the results obtained for a factory which produces two units of a commodity in one standard hour. Actual production during a particular year is 34,000 units and the budgeted production for the year is 40,000 units. Actual hours operated are 16,000 (Some clues have been provided).

Two units are produced in one standard hour. Hence, for actual production of 34,000 units, standard hours required will be 17,000 (i.e 34,000/2).

For budgeted production of 40,000 units, budgeted hours will be 20,000 (i.e. 40,000/2)

Efficiency Ratio:

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Activity Ratio:

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Capacity Ratio:

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Activity 14.6

In Activity 14.1 you had described the system of budgetary control in your organisation. Keeping in view the objectives of the system, you now critically evaluate the system in terms of its achievements, and / or failures. What do you think are the causes for failure (total or partial)? Reflect on improving the system.

Achievements:

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Failures:

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Causes for failure:

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Ideas for improvement:

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14.7 PERFORMANCE BUDGETING

As explained in the preceding pages, budgeting is nothing but the technique of ex pressing, largely in financial terms, the management's plans for operating and financing the enterprise during specific periods of time. Any system of budgeting, in order to be successful, must provide for performance appraisal, as well as follow up measures.

The traditional (also known as line-item or object-account) budget in government enumerates estimated expenditures by type (and quantity) for a specified period of time, usually one year. The expenditure is classified by object; the personnel are listed by type of position; the budget is divided into sections according to organisational units, department sections; and the types of expenditure are listed by category. The primary purpose of traditional budget particularly in government administration is to ensure financial control and meet the requirements of legal accountability, that is, to ensure that appropriation, sanction or allotment limits for different items are not related to the intended or planned outputs (or achievements). The necessity for linking the expenditures (or inputs in financial terms) to outputs (in physical terms), facilitating the evaluation of outcomes (or result of activities) cannot be overemphasized.

Performance budgeting (or programme budgeting) has been designed to correct the shortcomings of traditional budgeting by emphasizing management's considerations/ approaches. Both the financial and physical aspects are incorporated into the budget. A performance budget presents the operations of an organisation in terms of functions, programmes, activities, and projects.

In performance budgeting (PB), precise detainment of job to be performed or services to be rendered is done. Secondly, the budget is prepared in terms of functional categories and their sub-division into programmes, activities, and projects. Thirdly, the budget becomes a comprehensive document. Since the financial and physical results are interwoven, it facilitates management control.

The Main objectives of PB are: (i) to coordinate the physical and financial aspects; (ii) to improve the budget formulation, review and decision-making at all levels of management (iii) to facilitate better appreciation and review by controlling authorities (legislature, Board of Trustees or Governors, etc) as the presentation is more purposeful and intelligible; (iv) to make more effective performance audit possible; and (v) to measure progress towards long-term objectives which are envisaged in a development plan.

Performance budgeting involves evaluation of the performance of the organisation in the context of both specific, as well as, overall objectives of the organisation. It presupposes a crystal clear perception of organisational objectives in general, and short-term business objectives as stipulated in the budget, in particular by each employee of the organisation, irrespective of his level. It thus, provides a definite direction to each employee and also a control mechanism to higher management.

Performance budgeting requires preparation of periodic performance reports. Such reports compare budget and actual data, and show variances. Their preparation is greatly facilitated if the authority and responsibility for the incurrence of each cost element is clearly defined within the firm's organisational structure. In addition, the accounting system should be sufficiently detailed and coordinated to provide necessary data for reports designed for the particular use of the individuals or cost centres having primary responsibility for specific cost.

The responsibility for preparing the performance budget of each department lies on the respective Department Head. Each Department Head will be supplied with a copy of the section of the master budget appropriate to his sphere. For example, the chief buyer will be supplied with the copy of the materials purchase budget so that he may arrange for purchase of necessary materials. Periodic reports from various sections of a department will be received by the departmental head that will submit a summary report about his department to the budget committee. The report may be daily, weekly or monthly, depending upon the size of business and the budget period. These reports will be in the form of comparison of budgeted and actual figures, both periodic and cumulative. The purpose of preparing these reports is to promptly inform about the deviations in actual and budgeted activity to the person who has the necessary authority and responsibility to take necessary action to correct the deviations from the budget.

14.8 ZERO BASE BUDGETING

Earlier we have explained the formulation. of different types of budgets. If the approach adopted in the formulation and preparation of budgets is based on current level of operations or activities, including current level of expenditure and revenue, such budgeting is known as traditional budgeting .This type of budgeting process generally assumes that the allocation of financial resources in the past were correct and will continue to hold good for the future as well. In most cases, an addition is made to the current figures of cost to allow for expected (or even unexpected) increases. Consequently, the budget generally takes an upward direction year after year, inspite of generally declining efficiency. Such a system of budgeting cannot be expected to promote operational efficiency. It may, on the other hand, create several problems for top management. Some of these problems are:

- Programmes and activities involving wasteful expenditure are not identified, resulting in avoidable financial and other costs.
- Inefficiencies of a prior year are carried forward in determining subsequent years' levels of performance.
- Managers are not encouraged to identify and evaluate alternative means of accomplishing the same objective.
- Decision-making is irrational in the absence of rigorous analysis of all proposed costs and benefits.
- Managers tend to inflate their budget requests resulting in more demand for funds than their availability. This results in recycling the entire budgeting process.

Thus, the traditional budgeting technique may be quite meaningless in the present context when management must review or re-evaluate every task with a view to utilize the scarce resources in a better manner or to improve performance. The technique of zero base budgeting provides a solution for overcoming the limitations of traditional budgeting by enabling top management to focus on priorities, key areas and alternatives of action throughout the organisation.

The technique of zero base budgeting suggests that an organisation should not only make decisions about the proposed new programmes, but should also review the **appropriateness of the existing programmes** from time to time. Such a review should particularly be done of such responsibility centres where there is relatively high proportion of discretionary costs. Costs of this type depend on the discretion or policies of the responsibility centre or top managers. These costs have no direct relation to volume of activity. Hence, management discretion typically determines the amount budgeted. Some examples are: expenditure on research and development, personnel administration, legal advisory services.

Zero base budgeting, as the term suggests, examines or reviews a programme or function or responsibility from 'scratch'. The reviewer proceeds on the assumption that nothing is to be allowed. The manager proposing the activity has, therefore, to justify that the activity is essential and the various amounts asked for are reasonable taking into account the outputs or results or volume of activity envisaged.. No activity or expense is allowed simply because it was being allowed or done in the past. Thus according to this technique each programme, whether new or existing, must be justified in its entirety each time a new budget is formulated. It involves:

- dealing with particularly all elements of mangers' budget requests
- critical examination of **ongoing activities** along with the newly proposed activities
- providing each manger a *range of choice* in setting priorities in respect of different activities and in allocating resources.

Process of Zero Base Budgeting

The following steps are involved in Zero base budgeting:

Determining the objectives of budgeting: The objective may be 'to effect cost reduction in staff overheads or it may be to drop, after careful analysis, projects which do not fit into achievement of the organisations objectives etc.

Deciding on scope of application: The extent to which zero base budgeting is to be introduced has to be decided, i.e. whether it will be introduced in all areas of the organisation's activities or only in a few selected areas on trial basis.

Developing decision units Decision units for which cost-benefit analysis is proposed have to be developed so as to arrive at decisions whether they should be allowed to continue or to be dropped. Each decision unit, as far as possible should be independent of other units so that it can be dropped if the cost analysis proves to be unfavourable for it.

Developing decision packages : A decision package for each unit should be developed. While developing a decision package, answers to the following questions would be desirable:

- Is it necessary to perform a particular activity at all? If the answer is in the negative, there is no need to proceed further.
- How much has been the actual cost of the activity and what has been the actual benefit both in tangible as well as intangible forms?
- What should be the estimated cost of the level of activity and the estimated benefit from such activity?
- Should the activity be performed in the way in which it is being performed, and what should be the cost?
- If the project or activity is dropped, can the unit be replaced by an outside agency?

After completing decision packages for each unit, the units are ranked according to the findings of cost-benefit analysis. Essential projects are identified and given the highest ranks. The last stage is that of implementing the decision taken in the light of the study made. It involves the selection and acceptance of those projects which have a positive cost-benefit analysis or which are capable of meeting the objectives of the organisation.

The above analysis shows that zero base budgeting is in a way an extension of the method of cost-benefit analysis to the area of the corporate budgeting.

Advantages of Zero Base Budgeting

Let us summarise the advantages of zero base budgeting:

- It provides the organisation with systematic way to evaluate different operations and programmes undertaken. It enables management to allocate resources according to priority of the programmes.

- It ensures that each and every programme undertaken by managers is really essential for the organisation, and is being performed in the best possible way.

- It enables the management to approve departmental budgets on the basis of cost-benefit analysis. No arbitrary cuts or increase in budget estimates are made.

- It links budgets with the corporate objectives. Nothing will be allowed simply because it was being done in the past. An activity may be shelved if it does not help in achieving the goals of the enterprises.

- It helps in identifying areas of wasteful expenditure and, if desired, it can also be used for suggesting alternative courses of action.

- It facilitates the introduction and implementation of the system of `management by objectives'. Thus it can be used not only for fulfillment of the objectives of traditional budgeting, but also for a variety of other purposes.

It is contended that zero base budgeting is time consuming. Of course, it is true, but it happens only in the initial stages when decision units have to be identified and decision packages have to be developed or completed. Once this is done, and the methodology is clear, zero base budgeting is likely to take less time than the traditional budgeting. In any case, till such time the organisation is properly acclimatized to the technique of zero base budgeting, it may be done in a way that all responsibility centres are covered at least once in three or four years.

Zero base budgeting as a concept has become quite popular these days. The technique was first used by the U.S. Department of Agriculture in 1962. Texas Instruments, a multinational company, pioneered its use in the private sector. Today, a number of major companies such as Zerox, BASF, International Harvester and Easter Airlines in the United State are using the system.

Some departments of the Government of India have recently introduced zero base budgeting with a view to making the system of budgetary control more effective.

Activity 14.7

Discuss again with an official concerned with the budgetary control system in your organisation in the light of new developments that have taken place in the field of budgeting. Has your organisation adopted any of the features of the new developments of innovations, such as Performance Budgeting, Zero Base Budgeting, etc.? List some of the important steps taken in the recent past.

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14.9 SUMMARY

Since finance is regarded as the life blood of business, financial planning is of utmost significance to management. A budget is a quantitative expression, usually in financial terms , of the future plans of an organisation. It includes projections regarding the levels of activity, expenses and revenues. A budget is an important tool of financial planning. It helps in uncovering inefficiencies in operations, in minimising wasteful expenditure and in bringing out weaknesses in the organisation structure.

The responsibility for preparing the budget rests on the Budget Controller, who is assisted in his work by a Budget Committee. The Budget Committee may consist of heads of various departments, viz., Sales, Production, Personnel, Purchase, and Finance etc. Each head of the department is made responsible for preparing and executing the budget of his department. In a business organisation, preparation of any budget is preceded by a sales forecast. Production budget is prepared after considering the forecasts embodied in the sales budget and the available productive capacity etc. Production budget includes the preparation of various cost budgets associated with production process. Budgets pertaining to different functions or units are then combined and coordinated into one Master Budget.

The budget may be revised from time to time if the changed conditions or new developments so warrant. A budget may be fixed or flexible. A fixed budget is based on fixed volume of activity. If actual capacity utilisation is likely to vary from period to period, flexible budgets are more desirable. A flexible budget is thus prepared for changing levels of activity. It considers fixed and variable costs separately and is therefore more useful to a business where the level of activity cannot be exactly predicted.

In a system of budgetary control, control ratios may be computed and used in order to compare the actual performance with the budgeted performance. These ratios are: activity ratio, capacity ratio and efficiency ratio. In case the ratio is hundred percent or more, it is considered favourable. If it is less than hundred percent, it is taken as unfavourable.

The traditional budgeting technique which takes the current level of operations as the basis for estimating the future level of operations is slowly going out of date. It is being increasingly realised that the traditional technique has serious shortcomings in view of the constantly changing conditions of today. The management is expected to review and re-evaluate the tasks in view of the increasing pressures of environment. The concept of `zero base budgeting' is being considered as a suitable alternative to replacing the traditional method.' `Zero base Budgeting' technique suggests that an organisation should not only make decisions about the proposed new programmes, but should also, from time to time, review the appropriateness of the existing programmes. Nothing is allowed simply because it w as being allowed in the past. Each programme, whether new or existing has to be justified in its entirety each time a new budget is formulated.

The concept of `Zero base Budgeting' has been accepted for adoption in the departments of the Central Government, and some State Governments.

14.10 KEY WORDS

Budget : A statement in financial terms, prepared prior to a defined period of time, showing the strategy to be pursued during that period for the purpose of attaining a given objective.

Budgeting: Art of building budgets.

Budgetary Control: The establishment of budgets relating to the responsibilities of executives to the requirements of a policy, and the continuous comparison of actual with budgeted results, either to secure by individual action the objective of that policy or to provide a basis for its revision.

Budget Manual: A document, which sets out, inter alia, the responsibilities of the persons engaged in the routine of and the forms and records required for budgetary control.

Master Budget: Summary budget, incorporating all component functional, budgets, which are finally approved, adopted and employed.

Fixed Budget: A budget designed to remain unchanged irrespective of the level of activity actually attained.

Flexible Budget: A budget designed to change in accordance with the level of activity actually attained.

Performance Budget: A budget, which specifies the outputs or results to be achieved along with the inputs or expenditure to be incurred during the budget period.

Zero Based Budgeting: An operating planning and budgeting process which required each manager to justify his entire budget in detail from scratch.

Decision Unit: A significant programme, individual department or unit or level of an organisation that can be analysed from the standpoint of decisions and funding.

Decision Package: A programme with goals, activities, and resources along with a document that identifies and describes the programme in terms of its (i) goals, (ii) activities by means of which goals are to be achieved, (iii) benefits to be expected (iv) alternatives to the programme, (v) consequences of not approving the programme and , (vi) financial and manpower resources required.

14.11 SELF-ASSESSMENT QUESTIONS / EXERCISES

1. What do you understand by 'Budgeting'? Mention the types of budgets that the management of a big industrial concern would normally prepare.

2. What is Budget? What is sought to be achieved by Budgetary Control?

3. What is the significance of' Budgetary Control' in modern business?

4. Outline a plan for Sales Budget and Purchase Budget. What considerations are necessary in the preparation of such budgets?

5. Distinguish between Master budget and Financial Budget. How does management make use of Master Budget

6. What is a `Flexible Budget' and how it is different from ` Fixed Budget'?

7. Explain the methods of forecasting cash requirements.

8. Sate whether each of the following statements is True of False

a)	There is no difference between a forecast and a budget	☐ True	☐
b)	A fixed budget is concerned with budgeting of fixed assets	☐ True	☐
c)	Sales budget is the most important budget among all budgets	☐ True	☐
d)	A 'fixed budget' is preferable to 'flexible budget'	☐ True	☐
e)	The principal budget factor constitutes the starting point for the preparation of various budgets.	☐ True	☐
f)	A budget manual contains a summary of all functional Budgets	☐ True	☐
g)	A fixed budget is one which is designed to remain unchanged irrespective of level of activity actually attained	☐ True	☐
h)	The first step in preparing the budget is determining the cost of goods sold.	☐ True	☐
i)	A flexible budget is necessary for a business enterprise whose demand of goods is stable	☐ True	☐

9. Fill in the blanks:

   a) A system by which budgets are used as a means of planning and controlling all aspects of a business ………….

   b) is a budget designed to furnish budgeted costs for any level of activity actually attained.

   c} is a summary of all functional budgets in a capsule form.

   d) Budgetary control helps management to ....

   e) Budget is an expression of a business plan in financial terms…………………….

   f) …………………shows the anticipated sources and utilisation of cash.

   g) ....determines the priorities of functional budgets.

   h) A document which sets out the responsibilities of the persons engaged in the routine of and the forms and records required for budgetary control is called ……………………..

i) Cash budget is a ………………budget.

j) ……………………..is a budget which states the 'additional workers to be engaged in the factory.

k) A budget which consolidates the organisation's overall plan is called…………..

l) Capacity Ratio x Efficiency Rate = ……………………………………..

m) It is essential to determine the proper……………and to have well defined ……………… .

10. Choose the correct answer :

i) Sales budget is a :

(a) functional budget, (b) master budget, (c) expenditure budget.

ii) In the case of plant the limiting factor may be :

(a) insufficient capacity, (b) shortage of experienced salesmen,
(c) general shortage of power.

iii) The difference between fixed and variable cost has a special significance in the preparations of :

(a) flexible budget, (b) master budget, (c) cash budget.

iv) The budget that is prepared first of all is :

(a) cash budget, (b) master budget, (c) budget for the key factor.

v) In case of materials, the key factor may be :

(a) insufficient advertising, (b) restrictions imposed by quota, (c) low market demand

vi) The budget which commonly takes the form of budgeted Profit and Loss Account and Balance Sheet is:

(a) cash budget, (b) master budget, (c) flexible budget.

11. Prepare a materials budget of Bihar Udyog Ltd, based on the following information. The production orders of the products show the following consumption

i) Consumption for a batch of 1,000 units of

Material No.	Rate per kg.	Product P kg	Product Q kg
1	Rs. 60	50	80
2	60	10	5
3	10	-	30
4	50	6	10
5	25	4	4
	Total	70	129

ii) Production (units)

Product P 12,000 units

Product Q 11,000 units

12. Draw a Material Procurement Budget (Quantitative) from the following information:

Estimated sale of a product is 20,000 units. Each unit of the product requires 3 units of material X and 5 units of Material Y.

Estimated opening balance at the commencement of the next year:

Finished Product	2,500 kgs.
Material X	6,000 units
Material Y	10,000 units
Material on order:	
Material X	3,500 units
Material Y	5,500 units
The desirable closing balances at the end of the next year:	
Finished Product	3,500 units
Material X	7,500 units
Material Y	12,500 units
Material on order:	
Material X	4,000 units
Material Y	5,000 units

Q13. Kashmir Valley Ltd. has submitted the following information :

2002	**Sales**	**Purchase**	**Wages**	**Other Expenses**
January	40,000	20,000	7,500	2,000
February	50,000	30,000	10,000	2,500
March	60,000	40,000	12,000	3,0'00
April	70,000	40,000	12,500	2,000
May	50,000	30,000	12,000	2,500
June	30,000	20,000	7,500	2,250
July	35,000	15,000	9,000	2,750
August	40,000	15,000	9,000	2,500
September	30,000	20,000	8,000	2,000
October	50,000	25,000	11,000	3,000
November	60,000	30,000	12,000	3,500
December	65,000	35,000	12,500	4,250

The company is engaged in the manufacture of furniture. It recently purchased machinery worth Rs. 50,000 on 1st April, 2003 on deferred payment basis with interest at 12% per annum with the stipulation that the principal is repayable in four quarterly equal installments beginning from April, 2003 and thereafter interest to be paid as at the end of each quarter, i.e. in July, October and January. The company has been carrying deposits of Rs. 50,000 at 16% interest, payable on the last day of June every year.

About 40% sales are made on cash basis. A credit period of two months is allowed for sales on credit. Closing cash balance as on 31st March 2003 is projected at Rs. 5,250.

Cash discount of 5 % is available if creditors are paid within one month, but not later. The company has been advised by its consultant to maintain minimum cash balance of Rs. 2,500 for day-to-day cash requirements.

As the Financial Controller of Kashmir Valley Ltd., please prepare a cash budget for the quarter April to June 2003.

14. Production cost of a factory for a year is as follows:

Direct Wages	Rs. 80,000
Direct Materials	1,20,000
Production overheads, fixed	40,000
Production overheads, variable	60,000

During the forthcoming year, it is anticipated that:

a) Average rate for direct labour remuneration will fall from Rs. 3 per hour to Rs. 2.50 per hour;

b) Production efficiency will remain unchanged; and

c) Direct labour hours will increase by 33 1/3 %

The purchase price per unit of direct materials and of the other materials and services which comprise overheads will remain unchanged.

Draw up a budget and compute a factory overhead rate, the overheads being absorbed on a direct wage basis.

15. ABC Co. wishes to arrange overdraft facilities with its bankers during the period April to June when it will be manufacturing mostly for stock. Prepare a Cash Budget including the extent of bank facilities the company will require at the end of each month for the above period from the following data.

a)	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	1,25,000	2,68,000	15,000

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

c) Cash at bank on the 1st April (estimated) is Rs. 25,000.

16. Jammu Manufacturing Company Ltd. is to start production on 1st January 2004. The Prime cost of a unit is expected to be Rs. 400 out of which Rs. 160 is for materials and Rs.240 for labour. In addition, variable expenses per unit are expected to be Rs. 80 and fixed expenses per month Rs.3,00,000. Payment for materials is to be made in the month following the purchase. One third of sales will be for cash and the rest on credit for settlement in the following month. Expenses are payable in the month in which they are incurred. The selling price is fixed at Rs.800 per unit. The number of units manufactured and sold are expected to be as under:

January	9,000	April	20,000
February	12,000	May	21,000
March	18,000	June	24,000

Draw a cash budget showing requirements of cash from month to month.

17. The Sudershan Chemicals Ltd., operates a system of flexible budgetary control. A flexible budget is required to show levels of activity at 70%, 80% and 90% The following is a summary of the relevant information:

a) Sales based on normal level of activity of 70 % (3,50,000) units at Rs. 200 each. If output is increased to 80% and 90% , selling prices are to be reduced by 2.5 % and 5 % of the original selling price respectively in order to reach a wider market.

b) Variable costs are Rs. 100 per unit (70 % is the cost of raw material). In case output reaches 80 % level of activity or above the effective purchase of raw material will be reduced by 5%

c) Variable overheads: Salesman's commission is 2 % of sale value.

d) Semi-variable overheads (total) at 3,50,000 units are Rs. 1,20,00,000. They are expected to increase by 5 % if output reaches a level of activity of 80 % and by a further 10% if it reaches the 90 % level.

e) Total fixed overheads are Rs. 2,00,000 which is likely to remain unchanged up to 100% capacity.

18. Calculate: (a) Efficiency Ratio (b) Activity Ratio (c) Capacity Ratio from the following figures:

Budgeted production	880 units
Standard hours per unit	10
Actual production	750 units
Actual working hours	6,000

Answers to Self-assessment Exercises

8 (a) F, (b) F, (c) T, (d) F, (e) T, (f) F, (g) T, (h) F, (i) F.

9. a) is called budgetary control
   b) Flexible Budget
   c) Master Budget
   d) plan and control
   e) for some specific future period
   f) Cash budget
   g) Principal budget factor
   h) is termed Budget Manual
   i) Short-term
   j) Labour Procurement Budget
   k) Master Budget
   1) Activity Ratio
   m) Budget Period, Responsibility Centre.

10. (i) a; (ii) a; (iii) a; (iv)c; (v) b; (vi) b;

Material No	1	2	3	4	5
Qty. (Kg.)	1,480	175	330	182	92
Amount (Rs.)	88,800	10,500	3,300	9,100	2,300

12. Units to be procured X: 65,000; Y: 1,07,000

13.

Closing balance	April	May	June
	Rs. 2,250	Rs. 2,500	Rs. 2,500

14. Cost of production Rs. 3,08,889, Production overhead rate 112.5 %.

15. Closing balance

	April	May	June
(Overdraft)	(Rs. 56,000)	(47,000)	(1,67,000)

17. Budgeted Profit: 70 % : Rs. 214 lakhs. 80 % : Rs. 250.4 lakhs, 90 % : Rs. 269.65 lakhs.

18. (a) 125%; (b) 85.23%; (c) 68.18%.

14.12 FURTHER READINGS

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