Semester VI

17PAU603A	SEC 4 - MANAGEMENT ACCOUNTING	L	T	P	C
		5	1	-	4

UNIT I

Introduction - Meaning - Objectives - Nature and Scope of Management Accounting - Difference between Financial Accounting, Cost Accounting and Management Accounting - Cost Control and Cost Reduction - Cost Management - Financial Statement Analysis - Trend Analysis - Comparative Statement - Common Size Statement.

UNIT II

Budgetary Control - Budgeting and Budgetary Control - Concept of Budget - Budgeting and Budgetary control - Objectives - Merits and Limitations - Budget Administration - Functional Budgets - Fixed and Flexible Budgets - Zero Base Budgeting - Programme and Performance Budgeting.

UNIT III

Standard Costing - Standard Costing and Variance Analysis - Meaning of Standard Cost and Standard Costing - Advantages - Limitations and Applications - Variance Analysis - Material - Labour - Overheads and Sales Variances - Disposition of Variances - Control Ratios - Ratio Analysis - Short term Solvency - Profitability - Turnover

UNIT IV

Marginal Costing - Absorption versus Variable Costing - Distinctive Features and Income Determination - Cost Volume Profit Analysis - Profit / Volume Ratio - Break-even analysis - Algebraic and Graphic Methods. Angle of Incidence - Margin of Safety - Key Factor - Determination of Cost Indifference Point - Decision Making - Steps in Decision Making Process - Concept of Relevant Costs and Benefits - Various Short Term Decision Making Situations - Profitable Product Mix - Acceptance or Rejection of Special / Export Offers - Make or Buy - Addition or Elimination of a Product Line - Sell or Process Further - Operate or Shut Down - Pricing Decisions - Major factors influencing pricing decisions, various methods of pricing

UNIT V

Contemporary Issues - Funds Flow Statement - Schedule of Changes in Working Capital - Calculation of Funds from Operation - Sources and Applications of Funds - Cash Flow Statement - Cash from Operation - Inflow and Outflow of Funds - Responsibility Accounting - Concept - Significance - Different Responsibility Centres - Divisional Performance Measurement - Financial and Non-Financial measures - Transfer Pricing - Accounting Standards (Theory Only) - AS 3: Cash flow Statement - AS 21: Consolidated Financial Statement - AS 23: Accounting for Investments in Associates in Consolidated Financial Statement.

Note: - Distribution of Marks: Theory- 20% and Problems -80% respectively.

SUGGESTED READINGS:

TEXT BOOKS

1. Maheswari, S.N. (2009). *Management Accounting*. New Delhi: Sultan Chand & Sons.

REFERENCES

1. Horngren, C.T., Gary L. Sundem, Jeff O. Schatzberg, & Dave Burgstahler. (2008). *Introduction to Management Accounting* (14thed.). New Delhi: Pearson Prentice Hall.
2. Arora, M.N. (2009). *A Textbook of Cost and Management Accounting* (8th ed.). New Delhi: Vikas Publishing House Pvt Ltd.
3. Khan, M.Y., & Jain, P.K. (2013). *Management Accounting*: *Text Problems and Cases* (6th ed.).Mumbai: Tata McGraw-Hill Education.
4. Maheshwari, S.N. & Maheshwari, S.K. (2009). *A Textbook of Accounting for Management* (1st ed.). New Delhi: Vikas Publishing House Pvt. Limited.

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)
(Established under section 3 of UGC Act 1956)
Coimbatore-641021
Department of Management

Name: **Mrs.R.Naveena**
Department: **Commerce**
Subject Code: **17PAU603A** Semester: **VI** Year: **2017-20 Batch**
Subject: **MANAGEMENT ACCOUNTING - Lesson Plan**

UNIT 1			
S.No	**Lecture Hours**	**Contents**	**References**
1	1	Management Accounting – Meaning, Definition, Nature	R1 : Page No : I.3– I.6
2	1	Scope of Management Accounting	R1: Page No : I.7 – I.12, W1
3	1	Management Accounting Vs Financial Accounting	R1 : Page No : I.13 – I.17
4	1	Management Accounting Vs Cost Accounting	R1 : Page No : 1.20 – 1.23
5	1	**Tutorial :** Cost Accounting – Meaning, Definition, Scope	R1 : Page No : 1.31 – 1.33
6	1	Objectives of Cost Accounting	T : Page No: D.9 – D.11
7	1	Importance of Cost Accounting	T : Page No: D.12 – D.13
8	1	Cost Management :Cost Control and Cost Reduction	T : Page No : D.14 – D.16
9	1	Financial Statement Analysis : Comparative Statement	W 1 : W 2 :
10	1	**Tutorial :** Financial Statement Analysis : Common Size Statement	R2 : Page No : 5.1 – 5.17
11	1	Financial Statement Analysis : Trend Analysis	R2 : Page No : 5.1 – 5.17
12	1	Recapitulation and discussion of important Questions	-
		Total Number of hours planned for Unit 1	**12**
UNIT 2			
1	1	Budget – Meaning, Definition	R2 : 10.1 – 10.3
2	1	Budgetary Control – Meaning, Nature, Objectives	R2 : 10.4 – 10.6 : W3 :
3	1	Essentials of Budgetary Control	R2 : 10.6 – 10.10
4	1	Characteristics of good budgeting	R2 : 10.11 – 10.13
5	1	**Tutorial :** Advantages and Limitations of Budgetary Control	R2 : 10.14 – 10.20

6	1	Classification of Budget - Operating and financial Budget	T : Page No: C.6 – C.10
7	1	Budget Administration – Functional Budgets	T : Page No:C.11 – C.14
8	1	Fixed and Flexible Budgets	T : Page No: C.15 – C.31
9	1	Zero Base Budgeting	T : Page No: C.32 – C.33
10	1	**Tutorial :** Sales Budget, Cash Budget	T : Page No: C.34 – C.37
11	1	Programme and Performance Budgeting	W4:
12	1	Recapitulation and discussion of important Questions	-
		Total Number of hours planned for Unit 2	**12**
UNIT 3			
1	1	Standard Costing – Meaning, Definition, Steps	R3 : 414 – 420, W5:
2	1	Standard Cost and Standard Costing	R3 : 421 – 430
3	1	Advantages and Limitations of standard costing	R3 : 431 – 435 T : Page No:C.96 – C.105
4	1	Variance Analysis : Material Cost Variance, Material price variance, Material usage variance.	T : Page No:C.106 – C.108
5	1	**Tutorial :** Variance Analysis : Material Mix Variance Material Yield Variance	T : Page No:C.109 – C.111
6	1	Variance Analysis : Labour Cost Variance Labour Rate Variance, Labour Efficiency Variance Labour Mix Variance	T : Page No: C.112 – C.121
7	1	Variance Analysis : Overhead Cost Variance Expenditure Variance , Volume Variance, Efficiency Variance	T : Page No: C.122 – C.135
8	1	Sales Price Variance, Sales Volume Variance Sales Mix Variance, Disposition of Variances	T : Page No: C.136 – C.147
9	1	Control Ratios : Ratio Analysis	T : Page No: C.136 – C.147
10	1	**Tutorial :** Short term Solvency Ratios	T : Page No: C.148 – C.149
11	1	Profitability Ratios and Turnover Ratios	T : Page No: C.150 – C.157
12	1	Recapitulation and discussion of Important questions	-
Total Number of hours planned for Unit 3			**12**
UNIT 4			
1	1	Marginal Costing : Absorption Vs Variable Costing Distinctive Features and Income Determination	R2 : Page No: 8.1 – 8.7
2	1	Marginal Cost Statement, Contribution, Marginal Cost Equation, Profit/Volume Ratio	R2 : Page No: 8.8– 8.10

3	1	Cost-Volume Profit analysis	R2 : Page No: 8.12 – 8.17 T : Page No:C.178 – C.179
4	1	Break Even Analysis : Algebraic and Graphic Methods	R2 : Page No: 8.18 – 8.23: T : Page No: C.179 – C.181
5	1	**Tutorial :** Margin of Safety, Angle of Incidence	R2 : Page No: 8.24 – 8.39
6	1	Key Factor, Determination of Cost Indifference Point	T : Page No:C.189 – C.191
7	1	Decision Making – Steps in Decision Making Situations	T: Page No: C.182 – C.187 W 5 :
8	1	Profitable Product Mix – Acceptance or Rejection of Special / Export Offers	T: Page No: C.224 – C.228
9	1	Make or Buy – Addition or Elimination of a Product Line – Sell or Process Further – Operate or Shut Down	T: Page No: C.224 – C.228
10	1	**Tutorial :** Pricing Decisions – Major Factors influencing Pricing decisions, various methods of pricing	T: Page No: C.232 – C.248 W 6:
11	1	Recapitulation and discussion of important Questions	-
Total Number of hours planned for Unit 4			**11**
UNIT 5			
1	1	Contemporary Issues – Funds Flow Statement	W 7:
2	1	Schedule of Changes in Working Capital – Calculation of Funds from Operation – Sources and Applications of Funds	R2 : Page No: 2.1 – 2.53
3	1	Cash Flow Statement – Cash form Operation – Inflow and Outflow of Funds	R2 : Page No: 2.54 – 2.109
4	1	Responsibility Accounting – Concept, Significance, Different Responsibility Centres: Divisional Performance	W 8:
5	1	**Tutorial :** Measurement – Financial and Non-Financial Measures, Transfer Pricing	W 8:
6	1	Accounting Standards	W 9:
7	1	AS3 : Cash Flow Statement	W 9:
8	1	AS21 : Consolidated Financial Statement	W 9:
9	1	**Tutorial :** AS23 : Accounting for Investments in Associates in Consolidated Financial Statement	W 9:
10	1	Recapitulation and discussion of Important questions	-
Total no. of hours planned for Unit - V			**10**
11	1	Discussion of previous year ESE Question papers	-
12	1	Discussion of previous year ESE Question papers	-

13	1	Discussion of previous year ESE Question papers	**3**
Total Number of hours planned for Unit 5 and discussion of previous year ESE Question papers			**13**
Total Number of hours allotted for all five units			**60**

SUGGESTED READINGS:

TEXT BOOKS

T – Maheswari, S.N., (2017). *Management Accounting*, Sultan Chand & Sons., New Delhi.

REFERENCES

R1 - Jain and Narang. (2016). *Cost Accounting: Principles and Practice.* Kalyani Publishers, Ludhiana.

R2 : Ramachandran R & Srinivasan R, (2012), *Management Accounting*, Sriram publications, Tennur, Trichy.

WEBSITES

W1 - https:// www.edupristine.com

W2 - https://www.costmanagement.eu>blog-article

W3 - https://www.tutorsonnet.com

W4 - https://accountingexplained.com

W5 - http://www.investopedia.com

W6 - https://www.referenceforbusiness.com

W7 - https://www.fundsflow.com

W8 - https://www.accountingtools.com

W9 - https://www.icai.org.com

UNIT I : Introduction :

Meaning – Objectives - Nature and Scope of Management Accounting – Difference between Cost Accounting and Management Accounting - Cost Control and Cost Reduction- Cost Management – Financial statement Analysis- Trend analysis - Comparative Statements -Common-Size Statements.

Cost accounting information is designed for managers. Since managers are taking decisions only for their own organization, there is no need for the information to be comparable to similar information from other organizations. Instead, the important criterion is that the information must be relevant for decisions that managers operating in a particular environment of business including strategy make. Cost accounting information is commonly used in financial accounting information, but first we are concentrating in its use by managers to take decisions.

The accountants who handle the cost accounting information generate add value by providing good information to managers who are taking decisions. Among the better decisions, the better performance of your organization, regardless if it is a manufacturing company, a bank, a non-profit organization, a government agency, a school club or even a business school. The cost-accounting system is the result of decisions made by managers of an organization and the environment in which they make them.

The cost accounting systems can be important sources of information for the managers of a company. For this reason, the managers understand the forces and weaknesses of the cost accounting systems, and participate in the evaluation and evolution of the cost measurement and administration systems. Unlike the accounting systems that help in the preparation of financial reports periodically, the cost accounting systems and reports are not subject to rules and standards like the Generally Accepted Accounting Principles. As a result, there is a wide variety in the cost accounting systems of the different companies and sometimes even in different parts of the same company or organization.

Cost accounting is a branch of accounting . It can be prepared to avoid the limitations of financial accounting to know the operating efficiency regarding labour, material and overhead of management policies, the costing is prepared.

The work of managers focuses on (1) planning, which includes setting objectives and outlining how to attain these objectives; and (2) control, which includes the steps to take to ensure that objectives are realized. To carry out these planning and control responsibilities,

managers need information about the organization. From an accounting point of view, this information often relates to the costs of organization.

The term cost is used in many different ways in managerial accounting. The reason is that there are many types of costs, and these costs are classified differently according to the immediate need of management. For example, managers may want cost data to prepare external financial reports, to prepare planning budgets, or to make decisions. Each different use of cost data demands a different classification and definition of cost. For example, the preparation of external financial reports require historical cost data, whereas decision making may require predictions about future costs. In the following paragraphs we have discussed many of possible use of cost data and how costs are defined and classified for each use.

Definition:

According to Horngren Charles. T. " Cost accounting is quantitative method that accumulates, Classifies, Summaries and interprets information for 3 major purposes. i) Operational planning and control. ii) Special decisions. iii) Product decisions."

According to WJ Morse, " Cost accounting is the processing and evaluation of monetary and non-monetary data to provide information for external reporting, internal planning and control of business operations and special analysis and decisions."

Scope of Costing:

The scope of cost accounting is very wide. There are lots of techniques, tools, procedures, processes, programs are used in cost accounting for calculating cost and its control. But basically, we divide its scope within three major parts namely a) Cost ascertainment b)Cost accounting c)Cost control .

1.Cost Ascertainment

In this region of cost accounting, cost accounting collects product's material, labor and overhead cost and try to calculate total and per unit cost of product. This total cost calculation will be based on historical or standard or estimated basis. After this, cost accountant will use any method of costing like specific order costing, operation costing, and direct costing technique. These techniques and methods may be used for calculating different nature products in same organization.

2.Cost Records (Cost Accounting)

In this part of cost accounting, cost accountant maintains cost books, vouchers, ledgers, reports and other cost related documents for future comparison and reference. It will also be under the scope of cost accounting.

3. Cost Control:

This is the end boundary of cost accounting scope. In this division, cost accountant used different techniques and methods for controlling the cost. Save One Rupees in the cost of product means we have earned one rupees in the production of goods. So, Cost accountant uses budgetary control, standard costing, break even point analysis and many other techniques for controlling the cost.

Objectives of Costing :

Cost

Cost may be define as the price of any asset when one company purchases it or it may the expenses for getting services . So , we can say that cost is total amount which is sacrificed for getting the goods , services and assets .In general , cost is calculated on production of goods . Total cost represents cost of raw material , cost of labour and cost of overheads after adding above we can find total cost and if we divide total numbers of units, then we can find cost per unit.

Costing

Costing is technique to determine the cost. It involves the process and method to classify and analysis of different expenditures.

Cost Accounting

Cost accounting is science of recording , classify , analyzing and allocation of cost to cost centers or cost unit . It also include cost control .

Cost accounting = Accounting used → **{ [** determine the cost + control the cost**] }**

Objective of Cost accounting

1. To determine the cost.

It is the objective of cost accounting that cost accountant has to determine the cost because, after this cost per unit, price per unit can be calculated and product can be sold in market

2. To analyze of cost

Under this objective , cost is calculated after analyze which is done in cost sheet by knowing different elements and writing in specific head .

3. To reduce the Wastage

Cost accounting's main objective is to reduce the wastage , Wastage may be in material labour cost or overhead cost . Cost accountant makes cost sheet and after this he compares it with standard cost and with this can find at where wastage are incurred and after this he can reduce it by making proper control .

4. Provide cost data

There are large no. of previous records of cost of different products are available, if cost accounting is maintained by accounting department. It can be given to other department for taking decision. It is the another objective of cost accounting .

5. Ascertain the profitability

We know that cost accounting is to determine cost and with this cost we can find profit margin

6. Control the cost

Cost accounting's objective is to control the cost . For example Over stocking and under stocking is loss of money by using cost control techniques in stock maintaining, we can keep optimum level of stock to control the cost of stock .

7. Advising the management

Cost accountant can advice to management for achieving the objectives of cost accounting Alexander Dusty of President of Global Shop Solutions' thought on Objectives of Cost Accounting .

"Cost accounting provides a richer information base for operations management. The collection, classification, and determination of cost through accounting becomes, then, a means by which efficiencies are discovered and implemented. To the extent that these implementations offer a greater return on investment, and perhaps a greater dividend to shareholders, cost accounting can be said to truly help build the bottom-line profit".

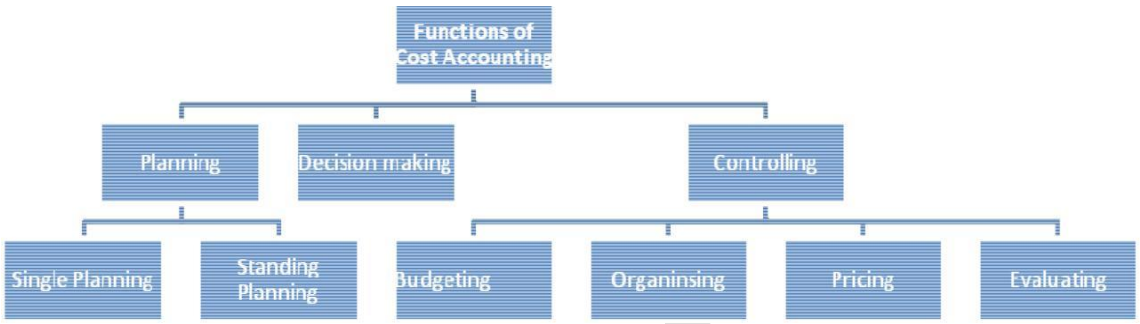
The above should be summarized in the following manner

- To ascertain the cost per unit of the different products manufactured by the business concern.
- To provide a correct analysis of cost both by process or operations and by different elements of cost.
- To disclose sources of wastage whether of material, time or expense or in the use of machinery equipment & tools .
- To provide requisite data & serve as a guide to price fixing of products manufactured or services rendered.
- To ascertain the profitability for advising the management.
- To exercise effective control of stock, raw materials, working progress & finished products.
- To reveal the sources of economy.
- To help in supervising.
- To organize the internal systems, Cost reduction programs.
- To Provide specialized services of cost audit.
- To Find out costing Profit or Loss .

Functions of Cost Accounting

Cost accounting analyzes corporate costs related to overhead, products, and manufacturing orders. It provides a variety of costing approaches such as standard, FIFO, LIFO, average, target, and activity-based costing (ABC). The software should support the following functionality: cost data; cost allocation definitions; cost allocation process; cost

management; cost and sales price calculation; activity based costing (ABC); and activity based cost tracing and tracking



Merits and Demerits of Cost Accounting :

Following are the most important advantages of a good cost accounting system:

1)Classification and Subdivision of Costs:

In the contrast to a single profit or loss figure supplied by general accounting, the cost accounting classifies costs and income by every conceivable subdivision of the business enterprise. In a good costing system data regarding costs by departments, processes, functions, products, orders, jobs, contracts and services can easily computed. This detailed cost information for managerial control is one of the most important contributions of cost accounting.

2)Adequacy Of Inadequacy of Selling Prices:

Unit cost of production, administration and safe made possible by cost accounting aids management in deciding the adequacy or inadequacy of selling prices i.e. neither too high detracting business, nor too low resulting in losses to the concern. In period of depressions, slumps, or in case of competition management forced to lower prices even below cost of production and sale. In such circumstances, cost accounting will help management in deciding the proper reduction.

3)Disclosure of profitable Products:

Cost Accounting will disclose activities, departments, products and territories, which bring profit and those that result in losses. Management to determine what products because of profit margin the sales department because of their greater profit margin should emphasize will use this information. What products arte unprofitable or less profitable and might be eliminated or lesser sales pressure be given to them. What activities or territories are not producing

sufficient profit and should be either further improved or eliminated and what methods of production and distribution are most profitable for the firm. This will increase the overall profit of the concern.

4)Control of Material and Supplies:

In a good costing system materials and supplies must be accounted for in terms of departments, jobs, units of production or service. This will eliminate altogether or reduce to the minimum misappropriations, embezzlements, deterioration, obsolescence, and losses from defective, spoiled, scrap and out of date materials and supplies.

5)Maintenance of Proper Investment in Inventories:

A costing system will help in the maintenance of various inventory items of materials and supplies in line with production and sale requirements. If these quantities are too small, production may stop or sales may be lost. On the other hand, if quantities of such materials and supplies are in excess of the production and sales requirements, too much working capital may unnecessarily tie up in inventories. The detailed quantity information furnished by the cost accountant at all times will go a long way in reducing or eliminating this possibility.

6) Correct Valuation of Inventories:

Cost Accounting plays a basic role in the correct valuation of inventories of finished goods, work in process, materials and supplies. The book inventory method (as opposed to physical inventory method) made possible by cost accounting system will involve the operation of the various inventory control accounts in such a manner that the balances of these accounts well be inventory valuations required for periodic financial statements. This enables the preparation of monthly financial statements without the trouble and expense of taking monthly physical inventories.

Further, the value of inventories shown by the book inventory will be more accurate than inventory values shown by the physical inventory method. If no cost system is in use and inventory values computed by physical inventory method, then the value of these inventories must either bean estimate of cost or be determined at market values. But in a cost accounting system accurate procedures and techniques are available by which inventory values can be computed in a relatively more exact fashion. The requirements of management, stockholders, creditors, employees and other groups interested in the financial statements of the firm naturally attach more emphasis on this objective of cost accounting. In most cases, this objective of cost accounting dominates the formal cost records and routines.

7) Whether to Manufacture or Purchase from Outsiders: Cost records furnish information regarding the cost of manufacturing of different finished parts, which assist management in making a decision whether to purchase these parts from outside manufacturers or manufacture them in the factory.

8) Control of Labour Cost:

Orders, jobs, contracts, departments, processes, or services record cost of labour. In many manufacturing enterprises, daily time reports are prepared showing the number of hours and minutes spent and the wage rate for each worker per job or operation. This enables management to compare the current cost of labour per job or operation with some previously incurred or determined cost thus measuring the efficiency or inefficiency of the labour force and assigning the work to employees best suited for it.

9) Use of Company-wide Wage Incentive Plans:

When labour cost is accounted for by jobs and operations, it is possible to use effectively wage incentive plans or bonus schemes for the remuneration of labour force. Carefully planned and administered incentive schemes are an effective means of enforcing superior performance and cost reduction. Workers are more co-operative, responsive and productive when some form of incentive offered to them for surpassing stipulated standards of perfection and performance. Cost of accounting has developed incentive plans, which are applicable not only to factory workers but also to clerks, salespersons, and other executives for above standard performance.

10) Controllable and Uncontrollable Cost:

Cost accounting exhibits at each stage of production and sale the controllable and uncontrollable items in the manufacturing, selling and administrative cost thus enabling management to concentrate attention on those costs, which can reduced of, eliminated. There is very little the management can do to reduce such uncontrollable items as idle time of machines and labour, wastage in the use of materials, supplies and power can controlled much more effectively.

11) Use of Standards for Measuring Efficiency:

A complete cost accounting system, generally, has a well-developed plan of standards to measure the efficiency of the organization in the use of materials, incurrence of labour and other manufacturing cost. Cora does this appraisal paring the work of factory workers, office and sales personnel and other executive with what should have done in manufacturing and selling a given quantity of units in a given period.

12) Reduction of Losses Due to Seasonal Conditions:

Cost accounting provides data for making a complete analysis of losses due to idle plant and equipment or due to the use of plant and equipment beyond normal capacity, irregular employment of labour, wastes in the use of materials. It indicates cost variations between active and inactive periods and seasonal conditions in the business or industry. Seasonal fluctuations in business activity affect profoundly the earnings of the concern. In many industries, seasonal variations are responsible for higher costs and lower profits.

13)Budgeting:

In a good cost accounting system, preparation of various budgets periods in advance of actual production and sale of goods is necessary. These budgets include budgeted statement of profits, budgeted cost of plant improvements, budgeted cost of production, budgeted cash receipts and payments, and so forth. These budgets show the plans of the management for future periods and they reflect the expected results of these plans. They are of great help in getting the sales manager, the works manager, and the treasurer into agreement as to a plan that can sold, manufactured and financed. In fact, the use of budgets has made costing a preventive device for the rectification of inefficiencies before they creep into the business operations or as they occur from day to day. In other words, budgeting, inculcates the habit of thinking and calculations before taking decisions.

14) Reliable Check on General Accounting:

Finally, an efficient and proper system of cost accounting is a most reliable and independent check on the accuracy of the financial accounts. This check made effective through reconciliation of the balance of profit or loss shown by the costing profit and loss account and the balance of profit of profit or loss revealed by the general accounting profit and loss account.

Advantages of Cost Accounting:

- Profitable and Unprofitable activities are disclosed.
- It enables a concern to measure the efficiency and then to improve and maintain.
- It provides information upon which estimates and tenders are based.
- It guides future production policies.
- It helps in increasing the profits.

- It enables the periodical determination of profits or losses.
- It is also very helpful to the Government.
- Sound business concern with a good system of cost can attract more investors.
- It's very helpful to the consumers.
- The efficiency of public enterprises can also be calculated.

Limitations of Cost Accounting:

- It lacks a uniform procedure.
- Many formalities are to be observed.
- Handling future situations has not been much.
- Its is very expensive.
- It is failure in many cases.

Distribution between Cost, Management and Financial accounting

IFAC Definition of Enterprise Financial Management embracing three broad areas: Cost Accounting; Performance Evaluation & Analysis; Planning & Decision Support. Copyright July 2009 Professional Accountants in Business Committee. International Good Practice Guidance: Evaluating and Improving Costing in Organizations

Cost Accounting is a branch of accounting, which has been developed because of the limitations of Financial Accounting from the point of view of management control and internal reporting. Financial accounting performs admirably, the function of portraying a true and fair overall picture of the results or activities carried on by an enterprise during a period and its financial position at the end of the year. Also, on the basis of financial accounting, effective control can be exercised on the property and assets of the enterprise to ensure that they are not misused or misappropriated. To that extent financial accounting helps to assess the overall progress of a concern, its strength and weaknesses by providing the figures relating to several previous years.

Data provided by Cost and Financial Accounting is further used for the management of all processes associated with the efficient acquisition and deployment of short, medium and long term financial resources. Such a process of management is known as Financial Management. The objective of Financial Management is to maximize the wealth of shareholders by taking effective Investment, Financing and Dividend decisions. Investment decisions relate to the effective

deployment of scarce resources in terms of funds while the Financing decisions are concerned with acquiring optimum finance for attaining financial objectives.

The last and very important 'Dividend decision' relates to the determination of the amount and frequency of cash which can be paid out of profits to shareholders. On the other hand, Management Accounting refers to managerial processes and technologies that are focused on adding value to organizations by attaining the effective use of resources, in dynamic and competitive contexts. Hence, Management Accounting is a distinctive form of resource management which facilitates management's 'decision making' by producing information for managers within an organization.

Definition

According to the Chartered Institute of Management Accountants (CIMA), Management Accounting is "the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of information used by management to plan, evaluate and control within an entity and to assure appropriate use of and accountability for its resources.

Management accounting also comprises the preparation of financial reports for non-management groups such as shareholders, creditors, regulatory agencies and tax authorities"(CIMA Official Terminology).

The Institute of Management Accountants (IMA)[2] recently updated its definition as follows: "management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy".

The American Institute of Certified Public Accountants (AICPA) states that management accounting as practice extends to the following three areas:

- Strategic Management—Advancing the role of the management accountant as a strategic partner in the organization.
- Performance Management—Developing the practice of business decision-making and managing the performance of the organization.
- Risk Management—Contributing to frameworks and practices for identifying, measuring, managing and reporting risks to the achievement of the objectives of the organization.

The Institute of Certified Management Accountants(ICMA), states "A management accountant applies his or her professional knowledge and skill in the preparation and presentation of financial and other decision oriented information in such a way as to assist management in the formulation of policies and in the planning and control of the operation of the undertaking". Management Accountants therefore are seen as the "value-creators" amongst the accountants. They are much more interested in forward looking and taking decisions that will affect the future of the organization, than in the historical recording and compliance (score keeping) aspects of the profession. Management accounting knowledge and experience can therefore be obtained from varied fields and functions within an organization, such as information management, treasury, efficiency auditing, marketing, valuation, pricing, logistics, etc.

Difference Between Financial and Managerial Accounting :

Financial accounting reports are prepared for the use of external parties such as shareholders and creditors, whereas managerial accounting reports are prepared for managers inside the organization. This contrast in basic orientation results in a number of major differences between financial and managerial accounting, even though both financial and managerial accounting often rely on the same underlying financial data. In addition to the to the differences in who the reports are prepared for, financial and managerial accounting also differ in their emphasis between the past and the future, in the type of data provided to users, and in several other ways. These differences are discussed in the following paragraphs.

Emphasis on the Future:

Since planning is such an important part of the manager's job, managerial accounting has a strong future orientation. In contrast, financial accounting primarily provides summaries of past financial transactions. These summaries may be useful in planning, but only to a point. The future is not simply a reflection of what has happened in the past. Changes are constantly taking place in economic conditions, and so on. All of these changes demand that the manager's planning be based in large part on estimates of what will happen rather than on summaries of what has already happened.

Relevance of Data:

Financial accounting data are expected to be objective and verifiable. However, for internal use the manager wants information that is relevant even if it is not completely objective

or verifiable. By relevant, we mean appropriate for the problem at hand. For example, it is difficult to verify estimated sales volumes for a proposed new store at good Vibrations, Inc., but this is exactly the type of information that is most useful to managers in their decision making.

The managerial accounting information system should be flexible enough to provide whatever data are relevant for a particular decision.

Less Emphasis on Precision:

Timeliness is often more important than precision to managers. If a decision must be made, a manager would rather have a good estimate now than wait a week for a more precise answer. A decision involving tens of millions of dollars does not have to be based on estimates that are precise down to the penny, or even to the dollar. In fact, one authoritative source recommends that, "as a general rule, no one need more than three significant digits. this means, for example, that if a company's sales are in the hundreds of millions of dollars, than nothing on an income statement needs to be more accurate than the nearest million dollars. Estimates that accurate to the nearest million dollars may be precise enough to make a good decision. Since precision is costly in terms of both time and resources, managerial accounting places less emphasis on precision than does financial accounting. In addition, managerial accounting places considerable weight on non monitory data, for example, information about customer satisfaction is tremendous importance even though it would be difficult to express such data in monitory form.

Segments of an Organization:

Financial accounting is primarily concerned with reporting for the company as a whole. By contrast, managerial accounting forces much more on the parts, or segments, of a company. These segments may be product lines, sales territories divisions, departments, or any other categorizations of the company's activities that management finds useful. Financial accounting does require breakdowns of revenues and cost by major segments in external reports, but this is secondary emphasis. In managerial accounting segment reporting is the primary emphasis.

Generally Accepted Accounting Principles (GAAP):

Financial accounting statements prepared for external users must be prepared in accordance with generally accepted accounting principles (GAAP). External users must have some assurance that the reports have been prepared in accordance with some common set of

ground rules. These common ground rules enhance comparability and help reduce fraud and misrepresentations, but they do not necessarily lead to the type of reports that would be most useful in internal decision making.

For example, GAAP requires that land be stated at its historical cost on financial reports. However if, management is considering moving a store to a new location and then selling the land the store currently sits on, management would like to know the current market value of the land, a vital piece of information that is igored under generally accepted accounting principles (GAAP).

Managerial Accounting Not Mandatory:

Financial accounting is mandatory; that is, it must be done. Various outside parties such as Securities and Exchange Commission (SEC) and the tax authorities require periodic financial statements. Managerial accounting, on the other hand, is not mandatory. A company is completely free to do as much or as little as it wishes. No regularity bodies or other outside agencies specify what is to be done, for that matter, weather anything is to be done at all. Since managerial accounting is completely optional, the important question is always, "Is the information useful?" rather than, "Is the information required?"

Financial Accounting	Managerial Accounting
Reports to those outside the organization owners, lenders, tax authorities and regulators.	Reports to those inside the organization for planning, directing and motivating, controlling and performance evaluation.
Emphasis is on summaries of financial consequences of past activities.	Emphasis is on decisions affecting the future.
Objectivity and verifiability of data are emphasized.	Relevance of items relating to decision making is emphasized.
Precision of information	Timeliness of information is

is required.	required.
□ Only summarized data for the entire organization is prepared.	□ Detailed segment reports about departments, products, customers, and employees are prepared.
□ Must follow Generally Accepted Accounting Principles (GAAP).	□ Need not follow Generally Accepted Accounting Principles (GAAP).
□ Mandatory for external reports.	□ Not mandatory.

Elements of cost

- Material (Material is a very important part of business)
  - Direct material
- Labor
  - Direct labor
- Overhead (Variable/Fixed)
  - Indirect material
  - Indirect labor
  - Maintenance & Repair
  - Supplies
  - Utilities
  - Other Variable Expenses
  - Salaries
  - Occupancy (Rent)
  - Depreciation
  - Other Fixed Expenses

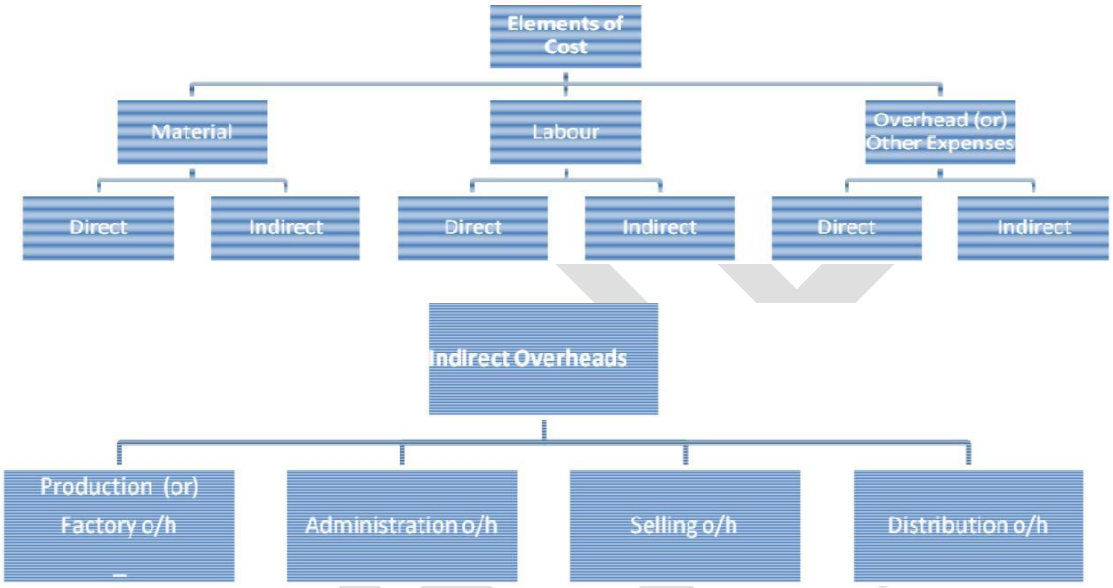
(In some companies, machine cost is segregated from overhead and reported as a separate element)

They are grouped further based on their functions as,

- Production or works overheads
- Administration overheads

- Selling overheads
- Distribution overheads
- Financial Expenses

Elements of Cost



Cost Classification:

- By Nature (materials, labor, expenses)
- By Function (production, selling, distribution, administration, R&D, development etc)
- By Degree of traceability to the product.(direct and indirect)
- By Changes in activity (fixed, variable, semi-variable)
- By Controllability (controllable, uncontrollable)
- By Normality (normal, abnormal)
- By Relationship with accounting Period
- By Time
- By Planning and Control
- By Association with the product
- By Management decisions.

Cost Classification as Manufacturing and Non-manufacturing:

Manufacturing firms are involved in acquiring raw materials producing finished goods and then administrative, marketing and selling activities. All these activities require costs to be incurred. These costs are normally classified by manufacturing companies as manufacturing and non-manufacturing costs. In the following paragraphs we will see how these costs are classified as manufacturing and non-manufacturing.

Manufacturing Costs:

Manufacturing costs are those costs that are directly involved in manufacturing of products and services. Examples of manufacturing costs include raw materials costs and salary of labor workers. Manufacturing cost is divided into three broad categories by most companies.

- Direct materials cost
- Direct labor cost
- Manufacturing overhead cost.

Direct Materials Cost:

The materials that go into final product are called raw materials. This term is somewhat misleading, since it seems to imply unprocessed natural resources like wood pulp or iron ore. Actually raw materials refer to any materials that are used in the final product; and the finished product of one company can become raw material of another company. For example plastic produced by manufacturers of plastic is a finished product for them but is a raw material for Compaq Computers for its personal computers.

Direct Materials are those material that become an integral part of the finished product and that can be physically and conveniently traced to it. Examples include tiny electric motor that Panasonic uses in its CD players to make the CD spin. According to a study of 37 manufacturing industries material costs averaged about 55% of sales revenue.

Sometimes it is not worth the effort to trace the costs of relatively insignificant materials to the end products. Such minor items would include the solder used to make electrical connection in a Sony TV or the glue used to assemble a chair. Materials such as solder or glue are called indirect materials and are included as part of manufacturing overhead, which is discussed later on this page.

Direct Labor Cost:

The term direct labor is reserved for those labor costs that can be essentially traced to individual units of products. Direct labor is sometime called touch labor, since direct labor

workers typically touch the product while it is being made. Indirect labor includes the labor costs of janitors, supervisors, materials handlers, and night security guards. Although the efforts of these workers are essential to production, it would be either impractical or impossible to accurately trace their costs to specific units of product. Hence, such labor costs are treated as indirect labor. In some industries, major shifts are taking place in the structure of labor costs. Sophisticated automated equipment, run and maintained by skilled workers, is increasingly replacing direct labor.

Direct Materials cost combined with direct labor cost is called prime cost**.**

In equation form:

Prime Cost = Direct Materials Cost + Direct Labor Cost

For example total direct materials cost incurred by the company is Rs.4,500 and direct labor cost is Rs.3,000 then prime cost is Rs.7,500 (Rs.4,500 + Rs.3,000).

Fixed Cost

A fixed cost is a cost that remains constant, in total, regardless of changes in the level of activity. Unlike variable costs, fixed costs are not affected by changes in activity. Consequently, as the activity level rises and falls, the fixed costs remain constant in total amount unless influenced by some outside forces, such as price changes. Rent is a good example of fixed cost. Fixed cost can create confusion if they are expressed on per unit basis. This is because average fixed cost per unit increases and decreases inversely with changes in activity. Examples of fixed cost include straight line depreciation, insurance property taxes, rent, supervisory salary etc.

Cost Control: Meaning, Tools, Techniques and Estimation of Cost Control

Cost control by management means a search for better and more economical ways of completing each operation. Cost control is simply the prevention of waste within the existing environment. This environment is made up of agreed operating methods for which standards have been developed.

Cost Control, Reduction and Estimation in Business!

Business firms aim at producing the product at the minimum cost. It is necessary in order to achieve the goal of profit maximisation. The success of financial management is judged by the action of the business executives in controlling the cost. This has led to the emergence of cost accounting systems. Cost control by management means a search for better and more economical ways of completing each operation. Cost control is simply the prevention of waste

within the existing environment. This environment is made up of agreed operating methods for which standards have been developed.

These standards may be expressed in a variety of ways, from broad budget levels to detailed standard costs. Cost control is the procedure whereby actual results are compared against the standard so that waste can be measured and appropriate action taken to correct the activity. Cost control is defined as the regulation by executive action of the costs of operating an undertaking. Cost control aims at achieving the target of sales. Cost control involves setting standards. The firm is expected to adhere to the standards.

Deviations of actual performance from the standards are analysed and reported and corrective actions are taken. Cost control emphasis is on past and present. Cost control is applied to things which have standards. It seeks to attain lowest possible cost under existing conditions. Cost control is a preventive function.

Aspects of Cost Control:

(i) Planning:

Initially a plan or set of targets is established in the form of budgets, standards or estimates.

(ii) Communication:

The next step is to communicate the plan to those whose responsibility is to implement the plan.

(iii) Motivation:

After the plan is put into action, evaluation of the performance starts. Costs are ascertained and information about achievements is collected and reputed. The fact that the costs are being reported for evaluating performance acts as a prompting force.

(iv) Appraisal:

Comparison has to be made with the predetermined targets and actual performance. Deficiencies are noted and discussion is started to overcome deficiencies.

(v) Decision-making:

Finally, the reported variances are received. Corrective actions and remedial measures are taken or the set of targets is revised, depending upon the administration's understanding of the problem.

The management and control of the resources used in most commercial organisations leaves a great deal to be desired. Waste is growing at such an enormous rate that it has spawned a new industry for recycling and extracting useful materials.

Materials are wasted in a number of ways such as effluents, breakage, contamination, inefficient storage, poor workmanship, low quality, pilfering and obsolescence. All these contribute to significantly increased material costs and all can be controlled by efficient working methods and effective control.

Advantages of Cost Control:

Cost control has the following advantages:

(i) It helps the firm to improve its profitability and competitiveness.

(ii) In the absence of cost control, profits may be drastically reduced despite a large and increasing sales volume.

(iii) It is indispensable for achieving greater productivity.

(iv) Cost control may also help a firm in reducing its costs and thus reduce its prices.

(v) If the price of the product is stable and reasonable, it can maintain higher sales and thus employment of work force.

Tools of Cost Control:

Control has a regulatory effect. For better performance and better results certain means of control have been evolved. These are called control techniques.

Mainly two types of standards are established to control costs:

(i) External (ii) Internal

External standards are applied for comparing performance with other organisations. The external standards are used for comparing the cost performance with the other firm take the shape of a set of cost ratios. Internal standards, on the other hand, are used for the evaluation of intra firm cost elements like materials, labour, etc.

The internal standards used for cost control are:

(i) Budgetary control

(ii) Standard costing

(i) Budgetary Control:

Budgetary control is derived from the concept and use of budgets. A budget is an anticipated financial statement of revenue and expenses for a specified period. Budgeting refers to the formulation of plan for given period in numerical terms. Thus budgetary control is a system which uses budgets as a means for planning and controlling entire aspects of organisational activities or parts thereof.

According to Floyd H. Rowland and William. H. Barr, "Budgetary control is a tool of management used to plan, carry out and control the operation of business. As a further explanation, it establishes predetermined objectives and provides the basis for measuring performance against these objectives."

George R. Terry has defined budgetary control as "a process of comparing the actual results with the corresponding budget data in order to approve accomplishments or to remedy differences by either adjusting the budget estimates or correcting the cause of difference".

The above definitions point out that budgeting is an aid to planning and control.

Features of Budgetary Control:

(i) Budgetary control establishes a plan or target of performance.

(ii) It tries to measure the outcomes of activities in quantified terms.

(iii) It tries to focus attention of the management on deviation between

What is planned and what is being achieved so that necessary actions can be taken.

Characteristics of Budgetary Control:

Budgetary control leads to maximum utilisation of resources. It also helps in coordination. Thus budgetary control can play five important roles in an organisation.

The following are the characteristics of budgetary control:

(i) Planning:

Budgetary Control forces managers to plan their activities of the each department of the enterprise. Since budgetary control is duly concerned with concrete numerical goals, it does not leave any ambiguity regarding the targets. It leads to a cautious utilisation of resources since it keeps a rigid check over activities in the organisation. It also contributes indirectly to the managerial planning at higher levels.

(ii) Co-ordination:

Budgetary control system promotes co-operation among various departments in the organisation. The system encourages exchange of information among various units of the organisation. The system promotes balanced activities in the organisation.

(iii) Recording:

Budgetary control enables to keep up-to-date records of all activities of the business unit as a whole. A budget can be defined as a numerical statement expressing the plans, policies and goals.

(iv) Control:

Budgetary control as a control device is very exact, accurate and precise. It pinpoints any deviation between budgeted standards and actual achievement. It also points out the reasons which may be responsible for deviation between budget and actual.

(v) Corrective Actions:

Budgetary control ensures corrective actions as the basis of deviations for better results. It helps in directing, counselling, guiding and supervising in a co-ordinated manner so this improves the overall performance of the business unit.

Advantages of Budgetary Control:

The following are the main advantages of budgetary control system:

(i) Budgetary control integrates and brings together all activities of the enterprise right from planning to controlling.

(ii) Budgetary control provides a yardstick against which actual results can be compared.

(iii) Budgetary control provides a clear definition of the objectives and policies of the concern.

(iv) Budgetary control is a useful tool in profit-planning.

(v) Budgetary control helps to eliminate or reduce unproductive activities and minimising waste.

(vi) Budgetary control makes everyone accountable for his work, as it defines the responsibility for performances.

(vii) Budgetary control system acts as a basis for internal audit by providing a method of continuous appraisal of performance.

Essentials of Budgetary Control System:

The conventional budgeting system gives a picture of expenditure made in the past. As a business firm becomes interested in cost reduction and control, the accounting manager is forced to become less interested in past history', and is more interested in the future.

The budget is a plan for the future and as such it is a base for cost control in the long run. The management may take up several cost reduction measures but without budgetary control there can be no long range process. Most of the managers are of the opinion that budgetary control requires time and money, but it is effective in bringing about cost improvement.

Budgetary control is not just the tool of the budget administrator but it is the tool of all. Budget preparation and administration should be fully supported by top management. If the top management encourages, budget will be most effectives. Budget estimates should be prepared

by those executives who are to be held responsible for performance. Another method of making budgets effective is to ensure that all managers participate in budget preparation.

Managers should get quick information whenever actual performance deviates from forecast performance. This means that actual progress at each and every stage should be made known to the manager. Yet another method of making budget effective is that it should not cost more to operate than it is worth. Finally, the standards established should be capable of being easily translated for measurement.

Limitations of Budgetary Control:

Though budgetary control provides a lot to management in planning, controlling and coordinating the activities of an organisation, it is not a fool- proof system. It has its own limitations. Therefore, managers should be well aware about these problems so as to take adequate precautions to minimise the impact.

(i) The main problem in budgetary control comes because of uncertainty of future. It is a known fact that budgets are formulated on the assumptions of future happenings in a certain way.

(ii) The budgetary programme takes a long time to develop a reasonably good system of budgetary control.

(iii) The role of budgetary control system in planning is sometimes over emphasised. Any deviation from budgeted figures is looked upon with contempt. This inflexibility contributes negatively to the organisational objectives.

(iv) The effectiveness of the budget depends largely on the dedication and co-ordination of the top management.

(v) Budgetary control system requires a lot of paper work which the technical personnel always resent.

(vi) Budgetary control may affect the organisational morale. Managers may adopt defensive attitude and this may create many types of problems and conflicts in the organisation.

Types of Budgets:

Every business unit has a variety of plans such as production plan, sales plan, financial plan and the like. When the plans are projected in advance, they are called budgets.

The budgets may be classified on the following basis:

(i) Coverage of functions: Master Budget and Functional Budget.

(ii) Nature of activities: Capital Budget and Revenue Budget.

(iii) Period: Long Term Budget and Short Term Budget.

(iv) Flexibility: Fixed Volume Budget and Flexible Budget.

(v) Preparation of budget methods: Performance Budget and Zero-base Budget.

They are explained as under:

(a) Master Budget and Functional Budget:

Master budget is the summary budget which covers all types of budgets such as sales, production, costs, profit and appropriation of profit, and major financial ratios. Thus this is nothing but the targeted profit and loss statement and balance sheet of the organisation.

The functional budgets have a number of classifications depending upon the type of functions performed and budgeting practices adopted by an organisation. Therefore, there can be budget for each major functions and sub-function like material budget, production budget, financial budget, marketing budget, sales budget, research and development budget, personnel budget and the like.

(b) Capital Budget and Revenue Budget: Business activity involves two processes:

(i) Creating of facilities for carrying the business activities; and (ii) carry out the activities. Budget in respect of the former is called capital budget and the latter is called revenue budget.

(c) Fixed and Flexible Budgets:

A fixed budget is prepared for a specific output level and it has no concern with the changes in the level of activity of the firm. Fixed budgets are called short period budgets. A flexible budget is also called variable budget. In the flexible budget, provision is made for changes in the production levels of the firm. Flexible budget is adaptable to changes in operating conditions.

(d) Performance Budget:

A performance budget is an input-output budget or costs and results budget. It shows costs matching with operation. The concept of performance budgeting originated in the USA around 1960s when defense budgeting led to the thinking of ways and means of linking outputs to inputs.

Afterwards, this became quite popular in many government departments outside the United States. Now it is being used in business and other organisations besides government departments. It emphasises non-financial measures of performance which can be related to financial measures in explaining changes and deviations from planned performance.

The conventional budget is not effective because the concerned department does not like expenditure with performance. The performance aspect is side-tracked in all government or public sector industries department. It is, therefore, necessary to have performance budgeting. In the performance budget each item of expenditure is related to a specific performance.

Performance budgeting results in the following:

(i) It measures progress towards long term objectives.

(ii) It makes possible more effective performance audit.

(iii) It correlates the financial and physical aspects of every programme.

(iv) It facilitates better appreciation and review of organisational activities by top management.

(v) It improves budget formulation, review and decision making at all levels of the organisation.

(vi) To achieve the most important facet of budgeting, that is, control of the performance in terms of physical unit and the related costs.

(vii) It makes possible to find out sufficient performance measures to represent adequately all important variables in determining the cost of an activity.

(e) Zero- Base Budgeting:

Zero-Base budgeting was originally developed by the Texas Instruments of USA in 1971. Subsequently, it was applied by the State of Georgia in 1973. Since then, it has been used by a number of states and business organisations in the U.S.A. and other countries.

The key element in zero-base budgeting is future objective orientation of past objectives. In the zero-base budgeting, it is assumed that the budget for the next year is zero and starts the demand for the project. It requires each manager to justify his entire budget in detail from scratch that is zero-base.

The burden of execution shifts on each manager and he has to justify the demand for money .Such an analysis indicates which activities are important and which are unimportant. Unimportant activities are eliminated or made into productive and profitable. Thus zero-base budgeting helps in choosing those activities which are essential and important.

Basic Steps of Zero-Base Budgeting:

The process of zero-base budgeting involves the four basic steps:

(i) Identification of decision units.

(ii) Analysis of each decision unit in the context of total decision package.

(iii) Evaluation and ranking of all decision units to develop the budget request.

(iv) Allocation of resources to each unit based on ranking.

Benefits of Zero-Base Budgeting:

The benefits of the zero-base budgeting are:

(i) Effective allocation of resources.

(ii) Identification of obsolete operations.

(iii) Effective means to control cost.

(iv) Improvement in productivity and cost effectiveness.

(v) Better focus on organisational objectives.

(vi) Saving time of top management.

(vii) Elimination of unnecessary activities.

(ii) Standard Costing:

Standard costing is one of the prominently used systems of cost control. It aims at establishing standards of performance and target costs which are to be achieved under a given set up working conditions. It is a pre-determined cost which determines what each product or service should cost under certain situation.

Standard costing is defined as the preparation and use of standard costs, their comparison with actual costs and the measurement and analysis of variances to their causes and points of incidence. Standard costs should be obtained under efficient operations.

It starts with an estimate of what a product should cost during a future period given reasonable efficiency Standard costs are established by bringing together information collected from various sources within the company.

The degree of success is measured by a comparison of actual performance and standard performance. For example, if the standard material input for a unit of production is Rs. 500 and the actual cost is Rs 475 then the variance of Rs. (-) 25 is the measure of performance, which shows that the actual performance is an improvement over the standard. This comparison of actual costs with standard cost will help in fixing responsibility for nonstandard performance and will focus attention on areas in which cost improvement should be sought by showing the source of loss and inefficiency.

Basic Requirements in the Use of Standard Costing:

(i) The ability to establish a meaningful standard.

(ii) A system for measuring actual quantities and costs at the same level as the standard costs and quantities.

(iii) The facilities to calculate variances over time, which will allow corrective action to be taken.

Advantages of Standard Costing:

(i) It helps in establishing a yardstick with which the efficiency of performance is measured that helps to exercise control.

(ii) It provides how the clear goal is to be achieved by providing incentive and motivation to work.

(iii) It provides the management the basic information to fix selling price, transfer pricing, etc.

(iv) It facilitates delegation of authority and fixation of responsibility.

(v) It helps in achieving optimum utilisation of plant capacity.

(vi) It provides means for cost reduction.

(vii) Variance analysis and reporting is helpful for taking corrective measures.

Limitations of Standard Costing:

(i) Application of standard costs is quite difficult in practice.

(ii) Frequently, standards become rigid over time and do not keep pace with changes in conditions.

(iii) If the standards are outdated, loose, inaccurate and unreliable, they are more harmful.

(iv) It standards set are higher than reasonable, they act as discouraging factor.

(v) When there are random factors, it is difficult to explain variance properly.

(vi) Standard costing may be found to be unsuitable and costly in the case of firms dealing in non-standard products.

(vii) It is difficult to distinguish between controllable and non-controllable variances.

(viii) Setting the standard costing are highly technical and mechanical.

Basis of Setting Standard Costs:

Without standards, a company's management has no way of knowing its overall performance. The standard costs are to be established by collecting all information pertaining to different cost functions. The main basis of setting standard costs is technical and engineering aspects. A major issue in standard costing is the determination of the tightness of standards which may range from a desire for engineering perfection to very slack practices.

The other basis of setting standards is:

(i) Time of use—current standard and basic standard

(ii) Performance level—normal, ideal, expected, attainable standards, etc.

(iii)Price level—ideal, normal, current, basic standard

(iv) Output level—theoretical, practical, normal expected standards.

(a) Normal Standards:

(i) Ideal Standards:

The standards represent the maximum level of efficiency, i.e., using minimum resources to complete the goal without any loss of time. In control terms, it is essential for standards to motivate individuals towards their attainment. It is very difficult to use ideal standards. Ideal standards are, therefore, more likely to be set for direct material costs and usage rather than for direct labour or overhead costs.

(ii) Target Standards:

These are the standards which can be attained during a future specified budget period. These are a modified version of ideal standard costs. Hence a certain amount of waste is permitted.

(b) Basic Standards:

Basic standards are those standards which are set at their initial level. In fact, basic standards are not very pragmatic as they emphasize the past instead of the future. Their effectiveness is very little in situations of change in production methods, range of products and prices.

(c) Currently attainable Standards:

Currently attainable standard costs are those costs that should be incurred currently under efficient operating conditions, but making allowances for normal spoilage, unavoidable idle time, unavoidable machine breakdown, set up time, etc. In other words, currently attainable standards or expected standards are the target standards minus a realistic allowance for normal or acceptable waste.

Tolerance Limit:

In reality, it is rare that the costs of the firm will exactly match the set standards. Management cannot insist that every time the performance must match the rigid standards. Limits of these deviations from the set standards which are called tolerance limits. The deviations are of two types: Random and significant. Random deviations are those which arise

purely due to chance and are therefore uncontrollable. Significant deviations are those that have assignable causes and are therefore largely subject to control of the management. Cost control must be based on some measure of importance of these significant deviations.

Variance Analysis:

If variances exist, their causes have to be determined for taking the corrective actions.

There are many causes for these variations which are listed below:

(i) Due to union negotiations, policy decision or changing composition of work force, labour rates or salary levels may change.

(ii) The product mix may change in a multi-product industry.

(iii) The improvements in systems can bring about reduction in costs.

(iv) Changes in productivity can alter the cost levels.

(v) Changes in product design will change cost.

(vi) Investment in new capital and replacement of old equipments can have immediate effects on both operating costs and overheads.

(vii) Policy decisions of various kinds may affect cost levels.

(viii) Changes in hours of working time will have its influence on costs.

(ix) The amount of idle hours will vary depending on the extent of lock-outs and lay-offs.

(x) Changes in the value of money.

If variance is significant, it signals the need for managerial investigation. An important thing about variances is that the causes of variance be personalised. So the variance analysis operates in accordance with the principles of responsibility accounting.

Computation and Analysis of Variances:

Once the standard costs are determined, the next step is to ascertain the actual cost. Finding variances cannot itself lead to control. Each of these variances is analysed to know the reason leading to the variance.

(i) The magnitude of variation.

(ii) Reasons for the occurrence of the variance.

(iii) The factors responsible for it.

(iv) The department on which the responsibility of the variance can be laid.

(v) The corrective measure for reducing the variance.

Kinds of Variance:

These are four kinds of variance:

(i) Material cost variance

(ii) Labour cost variance

(iii) Sales variance

(iv) Overhead variance

They are explained as under:

(i) Material Cost Variance:

Material cost variance is the difference between the standard cost of materials and actual cost of materials used.

Material cost variances are analysed in terms of:

(a) Materials price variance,

(b) materials usage variance,

(c) materials mix variance, and

(d) materials yield variance.

Materials price variance is the difference between the standard prices specified and the actual price paid.

Materials usage variance is the difference between the standard quantity specified and actual quantity used.

Materials mix variance is that portion which is due to change in the composition of materials mix. Materials yield variance is the difference between the standard yields specified and the actual yield obtained.

(ii) Labour Cost Variance (Direct Wage Variance):

It is the difference between the standard direct wages specified and the actual wages paid for an activity.

The labour cost variance is analysed into two separate variances:

(a) Wage rate variance, and

(b) labour efficiency. Wage rate variance arises due to difference between the standard and actual rate of wages. Labour efficiency variance is the difference between the standard labour hours specified and the actual labour hours spent.

(iii) Sales Variance:

It is the difference between the standard cost of sales specified and actual cost of sales.

There are four kinds of sales variances:

(a) Mix Variance

(b) Quantity Variance,

(c) Volume Variance, and

(d) Price Variance.

Mix Variance is due to the difference between the actual contribution of the sales mix and its standard contribution specified.

Quantity Variance is due to the difference between the standard sales mix and actual sales mix. Volume Variance is due to the difference between expected quantity of sales and the actual quantity of sales.

Price Variance is due to the difference between the actual price received and the standard price specified.

(iv) Overhead Variance:

It is the difference between the standard cost of overhead absorbed in the output achieved and the actual overhead cost.

The variable overhead variances are:

(a) Overhead expenditure variance, and

(b) Overhead efficiency variance.

The overhead expenditure variance is due to the difference between the standard allowance for the output achieved and the actual expenditure incurred. The overhead efficiency variance is due to the difference between the standard efficiency and the actual efficiency attained.

Ratio Analysis:

Ratio analysis is mainly used as an external standard, that is, for comparing performance with the other organisation in the industry. It can also be effectively used for comparing the performance of the firm over time.It is used to exercise cost control. Ratio is a yard stick which provides a measure of relationship between the two figures compared. The ratio may be expressed in percentage terms as a proportion or as a rate.

In the ratio analysis, an acceptable ratio is determined first and then it is compared with actual performance and the corrective measures can he resorted. The significant aspect in this

analysis is that the management can take a greater interest in relative as opposed to absolute figures.

A particular ratio can be chosen depending on the need. It is possible to calculate different ratios relating to aspects like liquidity, profitability, capital structure, etc. But for a programme of cost control and cost reduction, one need to concentrate only on the operating cost ratios.

Ratio analysis is used as an instrument of cost control in two ways:

(i) Ratios can be used to compare the performance of a business firm between two periods. It helps to identify areas which need immediate attention.

(ii) Besides, standard ratios are used to compare actual areas. Standard ratios are averages of the results achieved by several firms in the same line of business.

If these comparisons reveal any significant differences, the firm can take suitable action to eliminate the causes responsible for increase in costs.

Some of the most commonly used ratios for cost comparison are listed below:

(i) Net Profits/Sales

(ii) Gross Profits/ Sales

(iii) Net Profits/ Total Assets

(iv) Sales/ Total Assets

(v) Production Costs/Cost of Sales

(vi) Selling Costs/ Costs of Sales

(vii) Administration Cost / Cost of Sales

(viii) Sales/Inventory

(ix) Material Cost/ Production Costs

(x) Labour Cost/ Production Costs

(xi) Overheads/ Production Costs

Important Techniques of Cost Control:

There are two other techniques which are sometimes used by firms for cost control and reduction.

These are:

(i) Value Analysis

(ii) Method Study

(i) Value Analysis:

Value analysis is an approach to cost saving that deals with product design. Here, before buying any equipment or materials, a study is made as to what purpose these things serve? Would other lower- cost design work as well? Is there a cheap material which can serve the same purpose? So value analysis is a procedure which specifies the function of products or components, establishes appropriate costs, determines the alternatives and evaluates them.

Thus the objective of value analysis is the identification of such costs in a product that do not in any manner contribute to its specification or functional value. Thus, it is the process of reducing the cost without sacrificing the predetermined standards of performance. It is a supplementary device in addition to the conventional cost reduction methods.

Value analysis is closely related to Value Engineering. It is very helpful in industries where production is done on a large scale and in such cases even a fraction of savings in cost would help the firm significantly.

Some examples of savings through value analysis are:

(i) Discarding tailored products where standard components can do.

(ii) Dispensing of facilities not required by the customer.

(iii) Use of newly developed materials in place of traditional materials.

(iv) To examine the use of alternatives which are available at a lower price.

(ii) Method Study:

Method Study is a systematic study of work data and critical evaluation of the existing and proposed ways of undertaking the work. This technique is known as work study and organisation and method Work study helps to investigate all factors which enable the management to get the work done efficiently and economically.

The prime objective is to analyse all factors which affect the performance of a task, to develop and install work methods which make optimum use of human and material resources available and to establish suitable standards by which the performance of the work can be measured. Method study aims at analysing and evaluating all those conditions which influence the performance of a task. It is the creative aspect of work study.

Cost Reduction:

Cost reduction refers to bringing down the cost of production. This involves the examination of the purposes for which costs are incurred and by a variety of means, it eliminates

or reduces the reasons or spending. The existing standards are closely examined at the broad and detailed levels with a view to improvement. Cost reduction should not be a fire-fighting exercise but a continuing process of improving productivity within the organisation.

Any cost reduction service must be based on a full knowledge of the organisation's use of its resources. To achieve success in cost reduction, the management must be convinced of the need for cost reduction. It is a corrective function. It is just as much concerned with the stoppage of unnecessary activity as with the curtailing of expenditure on that which is essential.

Cost reduction is possible only when the firm makes the optimum utilisation of resources. It is possible by incorporating internal and external economies. This means that by economising the cost of manufacture, administration, selling and distribution, the average cost reduction may be achieved. Cost reduction is thus stated as the real and permanent reduction in unit costs of goods or services rendered without imparting their suitability for the intended use.

Reduction in per unit cost of production can be achieved broadly in two ways:

(i) Reducing expenses, given the volume of output.

(ii) Increasing the volume of output through increased productivity, given the same level of expenditure.

Cost reduction is achieved only through a process of analytical appraisal of all aspects of using resources, carried out on a continuous basis from the moment the product is conceived to the moment the consumer uses it. This calls for specialist knowledge, often of a technical nature.

Cost Reduction Techniques:

Techniques for reducing the cost cover a wide range of activities are:

(i) Organisation and Methods:

Organisation and Methods are defined as, "The systematic examination of activities in order to improve the effective use of human and other material resources". It is generally accepted to be concerned with improving the administrative work, the way it is organised and the way methods and procedures are used.

O & M services include the following activities:

(i) Organisation analysis

(ii) Activity analysis

(iii) Information analysis

(iv) Interviewing

(v) Systems design

(vi) Flow charting

(vii) Form design

(viii) Paper work flows.

(ii) Work Study:

Work study in its broadest sense is the application of systematic analysis to the work of men and machines so as to improve methods and to establish proper time values for that work.

The three main objectives of the work study are:

(a) The most effective use of plant

(b) The most effective use of human effort

(c) A reasonable work load for those employed.

(iii) Materials Handling:

The simple name materials handling' belies the extensive and complex nature of a production technology which is now a major industry in its own right. Most production processes require materials to be moved from one stage to the next. There are two principal aspects of materials handling.

These are concerned with (a) the flow of materials, and (b) the methods used.

(iv) Automation:

Automation is certainly a means of reducing costs. It also reduces human interaction. It is the advance of automatic techniques which has changed the face of industry and commerce. The proportion of people working in manual and semi-skilled jobs has been drastically reduced.

Automation is the use of automatic control equipment to operate and control machines. Automation is being used at an increasing speed, spurred on by the development of the large scale integrated circuits printed on to silicon chips. The next stage in the development of automated controls was the use of analogue computers. It is a machine designed to process electronic signals. There are three tasks for which automatic equipment can be used to replace the human being.

They are:

(a) Measurement, (b) Control, and (c) Data Processing.

There are a variety of reasons for introducing automation among which is the following:

(i) To reduce costs, (ii) To increase quality, and (iii) To meet shortages in skilled people.

(v) Value Analysis:

Value analysis is defined as the identification and elimination of unnecessary cost without reducing the quality, reliability, and aesthetic appeal of the product or service concerned".

The objectives of value analysis are:

(a) To analyse the value of the product and its components parts,

(b) To establish the cost of materials and production involved in creating the value.

(c) To determine whether the same or greater value can be created with a reduction in cost.

(vi) Variety Reduction:

Variety reduction can be applied to any production process. Although in theory this is true, the technique certainly has more effect if applied in the right place and the right time. Variety reduction has several stages each of which involves a considerable amount of detailed, sometimes tedious work.

There are four stages:

(a) Materials and components schedule

(b) Product analysis into components

(c) Identification of common components

(d) Product redesign for production

Benefits of Variety Reduction:

The benefits of variety reduction are felt in many areas of the business. These are the following:

(a) It reduces prices and administration and makes control easier.

(b) It improves efficiency and simplifies the assembly procedures.

(f) It reduces the production period considerably.

(d) Consumer may benefit from a reduction in the price and an improvement in the availability of parts.

(vii) Production Control:

Production control is not a technique. It is an attitude of mind towards the efficient organisation of men, machines and materials with the objective of producing a product of the right quality in the shortest time at the least cost.

It can be examined in four main sections:

(a) Planning

(b) Programming

(c) Scheduling

(d) Control

(viii) Design:

A product which performs the function, for which it was intended, is easy to use and is pleasing in appearance, is said to be well designed. Design is fundamental to the effectiveness of every product produced.

The principles of good design are:

(a) Durability and reliability must be a basic part of the design

(b) Quality of the product should stand out

(c) Safety features must be included

(d) It should be simple

(e) Easy to maintain

Main Approaches to the Design:

There are four main approaches to the design and they are listed below:

(a) New product design

(b) Redesign of an existing product

(c) Specific design to meet customer needs

(d) Design changes

(ix) Materials Control:

Materials control is a key activity which covers a wide range of different tasks from the moment the product is designed up to and including its final delivery.

Taking these tasks in the logical sequence in which they occur we have:

(a) Buying or resourcing

(b) Receipt and storage

(c) Preparation

(d) Handling

(e)Warehousing and despatch

(x) Quality Control:

The main role of quality control is to ensure that no defective products leave the company. This can be achieved by checking every one, by sampling, and by automated control. There are many products where quality is vital and where defects may cause their death. There are other cases where quality is unimportant. For every product there is a range between rejection and over-quality.

There are two aspects to the problem:

(i) What is the required standard of quality?

(ii) How can we ensure that all products achieve this standard with the minimum of waste?

(xi) Terotechnology:

Terotechnology is defined as "a combination of management, financial, engineering and other practices, applied to physical assets in pursuit of economic life-cycle costs." The cost of obtaining, operating and maintaining physical assets for their productive life is known as the life-cycle cost. The benefits claimed for terotechnology cover a wider area than cost reduction.

But this aspect is covered by reduction in the following costs:

(a) Cost of ownership of physical assets

(b)Lower material costs

(c) Reduced breakdown costs

(d)Improved quality and efficiency

(xii) Cost-Benefit Analysis:

The Cost-Benefit (C/B) analysis is the most popular and appropriate method of appraisal. It makes the business executive in making correct investment decisions to achieve optimum allocation of resources. This analysis involves the enumeration, comparison and evaluation of benefits and costs. In this criterion, the cost-benefit ratio is the measure for the evaluation of the business firm.

Evaluation can be undertaken on the basis of the following factors:

(a) Evaluation on the basis of benefits

(b) Evaluation on the basis of costs

If we indicate the ratio by C/B, then if C/B is less than one, the benefit is more than costs and hence the business can be undertaken. In fine, cost reduction is possible if the factors determining the cost behaviour are properly identified and handled. A business economist or

manager while thinking of cost reduction has separate approach to the problem than the accountant would suggest on the basis of costs.

Essentials for the success of a Cost Reduction Programme are:

(a) Every individual within the factory should recognise his responsibility.

(b) Employee resistance to change should be minimised.

(c) Cost reduction efforts should be continuously maintained.

(d) Efforts should be concentrated in the areas where the savings are likely to be the maximum.

(e) There should be routine business meetings with the employees to review the cost reduction programmes.

Economic Value:

For the successful operation of the business, cost management is vital. Therefore, the firm should aim at doing "whatever is done" at the minimum cost. The management should search for better and more economical ways of finishing each operation. Cost management is and will continue to be a perpetual process.

It is a systematic inter-disciplinary examination of factors affecting the cost of a product. It emphasizes the identification and elimination of unnecessary cost without reducing the quality, reliability or aesthetic appeal of the product.

The value of a product lies in the benefit obtained by the user in relation to price. If the benefit in increased at the same price then the value is increased. If the benefit remains the same and the price falls then again the value is increased. A product's value stems from its usefulness.

The objectives of this analysis are:

(i) To determine the quantum of value created with a reduction in cost.

(ii) To know the cost of materials of production involved in creating the value.

(iii) To examine the value of the product and its component parts.

The analysis should be applied to any situation where resources are consumed to produce value. The analysis will always be an important part of the approach to create improved value at lower cost. The impact of this analysis is generally found in the following four main areas—redesign, alternative materials, elimination of unnecessary features and changes in procedures.

This analysis is generally operated as a team activity. This technique is more popular in those cases, where large quantities of a good are produced. The analysis seems to be treated now as an established fact.

Cost Estimation:

Business managers make use of the cost figures for the determination of profits and other allied matters like payment of tax, bonuses and dividends.

Definition and distinction of cost concepts are necessary to stress:

(i) The cost estimates by conventional financial accounting are not appropriate for all managerial uses, and

(ii) that different business problems call for different kinds of cost.

Hence, different continuation of cost ingredients is right and appropriate for different kinds of management problems. Cost estimation is the process of pre-determining the cost of a certain product, job or order. Such pre-determinants may be required for several purposes such as budgeting, measurement of performance, efficiency preparation of financial statement, make or buy decisions, fixation of sale prices of the products, etc. In short, computation of future cost is cost estimation.

Management is vitally concerned with future costs for the simple reason that they are the only costs over which managers can exercise any control. Future costs are those that are reasonably expected to be incurred in some future period. Their actual incurrence is a forecast and their management is an estimate.

Future is uncertain. Therefore, future costs have to be estimated and they cannot be expressed in absolute current figures. Management accountants are more interested in future costs. Future costs are expectations rather than accomplished facts. Hence, their measurement and estimation depend upon conjectures concerning future situations.

The theory of cost estimation is a fundamental concern of managerial economics. Thus the knowledge of the firm's short run and long run cost functions is very essential for management to make many important decisions.

This requires the estimation of both short run and long run cost functions, which are discussed as under:

Estimation of Short-Run Cost Function:

One of the initial steps in estimating a cost function is to choose the mathematical form of relationship between output and cost. For this, managers use time-series data and relate the total cost of a firm in each time period to its output level in that period. Regression analysis is often used to estimate this relationship.

Cost Management

It is defined as the process of planning and controlling the budget of the business. It helps in predicting the expenses of the business so that one can avoid going over budget, thereby being an integral part of business management.

Cost management involves different cost accounting methods that have the goal of improving business cost efficiency by reducing costs or atleast having measures in place to restrict the growth of costs.

Cost can be managed by

- Cost estimation
- Cost budgeting and
- Cost Control

Cost management system helps in identifying, collecting, classifying and collating information that can be used by managers in planning, controlling and taking decisions to keep costs in the desirable limits.

Factors affecting cost management

- Growth in information technology
- Global and overall domestic competition
- Growth of service and manufacturing sectors

Cost management techniques

Managing a business has containing cost of utmost importance. Below are mentioned some of the techniques through which the overall cost of the business can be controlled and maintained within the required limits.

Capitalize on technology

This is one of the methods that help in streamlining the business. The latest of technology helps in getting quality of higher standards, less time consumption with higher productivity and keeps the employee count within the desirable range. All of this very strongly reflects in the overall cost of the business.

Time management

The one who owns the business definitely knows the value of time for his / her business. However, it is important to pass down the relevance across the hierarchy of business to view the desired results. It is very essential to make the employees understand the value of time and how to be efficient to do more work in the same time span. This is one of the methods that will help increase the productivity without adding to the labor cost.

Inventory management

One of the major cost as well as ways of generating revenues is through inventories. First and foremost one needs to chalk out the inventory requirements, the quantity check that needs to be stored, vendor costs etc as all of this helps in knowing the requirements of the business and helps avoid stocking excess inventory and deploy the capital elsewhere rather than tying up in the inventory stocks.

Outsourcing

Outsourcing is one way that helps take employees on third party roles especially when it is for one time projects. This saves the employer from taking the cost onto his books. This is definitely done keeping in mind that the outsourcing partners are of the standards that do not hamper the quality of services to the customers of the business. Besides the employees, certain projects also can be outsourced, which helps in saving the additional employee costs onboard as well as get access to outside talent and technology, helping in optimizing the resources.

Updated market sense

It is very important to be updated with the trends in the markets as it is game of survival of the fittest. One has to be constantly in touch with the vendors and see that renewal of the contracts keep happening with the trend in prices. This will help in negotiating for the best prices available rather than dragging on the set prices of long term contracts.

Control of headcount

The second most important cost to a business is the employee cost. Although we take employees as assets or the backbone of the business, one needs to keep in mind that they also have cost associated with them. Besides the regular pays and salaries, workplace, licenses, softwares are the additional costs added per employee. That is why, it is essential that the manager knows how to reduce the employee costs, either by taking less number of people onboard, or by taking more of low cost employees rather than few high costs ones.

Advantages of cost management

- It helps in controlling the project specific cost, in turn also the overall business cost.
- One can predict the future expenses and costs and accordingly work towards the expected revenues.
- Predefined costs can be maintained as records for the business.
- It helps in taking those actions that are necessary to assure that the resources and business operations aim at attaining the chalked objectives and goals.
- It helps in analysing the long term trends of the business.
- The actual cost incurred can be compared to the budgeted to see if any component of the business is spending more than expected.
- It helps in analysing the business positioning in terms of making an acquisition factoring the cost component involved.

Part – A

Online Examination from Qn. No. 1 – Qn. No.20

Each Question Carry One Mark

POSSIBLE QUESTIONS - PART B

1. Define Management accounting
2. Write any two importance of management accounting?
3. Give the meaning for the term cost accounting?
4. List out the functions of management accounting?
5. Write any two advantages of management accounting?
6. Draw a chart showing the classification of accounting?
7. What is meant by financial accounting?
8. Give any two limitations of management accounting?
9. Write the relationship between management accounting and cost accounting?
10. Distinguish between management accounting and financial accounting?
11. Give the relationship between management accounting and financial accounting?
12. What is meant by cost centre?
13. Distinguish between management accounting and cost accounting?
14. List out the features of management accounting?
15. Write the objectives of management accounting?

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. Explain the concept management accounting and also discuss the features of management accounting in detail?
2. Define Management accounting. Explain the functional areas of management accounting?
3. "Management accounting helps in decision making of a concern" Elaborate
4. Discuss the objectives, advantages and limitations of management accounting?
5. Explain the relationship between Financial Accounting, Cost Accounting and Management Accounting in detail?
6. Distinguish between Financial Accounting, Cost Accounting and Management Accounting?
7. Define the term costing and explain its nature and scope?
8. Define cost accounting. How does it differ from management accounting and financial accounting?
9. Determine the various types of costs?
10. Enumerate the term elements of cost?
11. Distinguish between 'Management Accounting' and 'Financial Accounting'. How does management accounting help in decision-making?
12. "Costing is an aid to the management" - Discuss.
13. From the following Profit and Loss Accounts and the Balance Sheet of Swadeshi polytex Ltd. For the year ended 31st December, 2016 and 2017, you are required to prepare a common Income Statement and Common Size Balance Sheet.

PROFIT AND LOSS ACCOUNT (In Lakhs of Rs.)

Particular	2016	2017	Particulars	2016	2017
	Rs.	Rs.		Rs.	Rs.
To Cost of Goods sold	600	750	By Net Sales	800	1,000
To operating Expenses					
Administrative Expenses	20	20			
Selling Expenses	30	40			
To Net Profit	150	190			
	800	**1,000**		**800**	**1,000**

Balance Sheet As On 31st December

(In Lakhs of Rs.)

Liabilities	2016	2017	Assets	2016	2017
	Rs.	Rs.		Rs.	Rs.
Bills Payable	50	75	Cash	100	140
Sundry Creditors	150	200	Debtors	200	300
Tax Payable 6%	100	150	Stock	200	300
Debentures 6%	100	150	Land	100	100
Preference Capital	300	300	Building	300	270
Equity Capital	400	400	Plant	300	270
Reserves	200	245	Furniture	100	140
	1300	**1520**		**1300**	**1520**

17. Calculate the trend percentage from the following figures of Priya Enterprises taking 2005 as the base and interpret.

Year	Sales	Stock	Profit before tax (Rs in Laksh)
2005	1,881	709	321
2006	2,340	781	435
2007	2,655	816	458
2008	3,021	944	527
2009	3,768	1,154	672

18. From the following Profit and Loss Accounts For the year ended 31st December, 2015 and 2016, you are required to prepare a common size Income Statement

PROFIT AND LOSS ACCOUNT
(In Lakhs of Rs.)

Particular	2009	2010	Particulars	2009	2010
	Rs.	Rs.		Rs.	Rs.
To Cost of Goods sold	600	750	By Net Sales	1,000	1,200
To operating Expenses					
Administrative Expenses	120	120			
Selling Expenses	130	140			
To Net Profit	150	190			
	1,000	**1,200**		**1,000**	**1,200**

19. From the following Profit and Loss Accounts and the Balance Sheet of Swadeshi polytex Ltd. For the year ended 31st December, 2016 and 2017, you are required to prepare a comparative Income Statement and Comparative Balance Sheet.

PROFIT AND LOSS ACCOUNT (In Lakhs of Rs.)

Particular	2016	2017	Particulars	2016	2017
	Rs.	Rs.		Rs.	Rs.
To Cost of Goods sold	600	750	By Net Sales	800	1,000
To operating Expenses					
Administrative Expenses	20	20			
Selling Expenses	30	40			
To Net Profit	150	190			
	800	**1,000**		**800**	**1,000**

Balance Sheet As On 31st December

(In Lakhs of Rs.)

Liabilities	2016	2017	Assets	2016	2017
	Rs.	Rs.		Rs.	Rs.
Bills Payable	50	75	Cash	100	140
Sundry Creditors	150	200	Debtors	200	300
Tax Payable 6%	100	150	Stock	200	300
Debentures 6%	100	150	Land	100	100
Preference Capital	300	300	Building	300	270
Equity Capital	400	400	Plant	300	270
Reserves	200	245	Furniture	100	140
	1300	**1520**		**1300**	**1520**

***CIA- 3 X 8 = 24 (Either or Pattern)**

****ESE – 5 X 6 = 30 (Either or Pattern)**

Karpagam Academy of Higher Education						
UNIT 1						
S.NO	QUESTION	OPTION1	OPTION2	OPTION3	OPTION4	ANSWER
1	The chief objective of management accounting is to serve.	Public at large	Employees	Management	Government	Management
2	The term management accounting was first coined by the British team of accountants that visited the.	USA	China	India	Japan	USA
3	Management accounting involves	Recording of costs	Recording of transaction	Preparation of accounts	Analysis and interpretation of data	Analysis and interpretation of data
4	Management accounting is also known as	Cost accounting	Financial accounting	Corporate accounting	Decision accounting.	Decision accounting.
5	Management accounting functions are	Complementary in nature	Contradictory nature	Neutral in effect	None of the above	Complementary in nature
6	Management accounting provides valuable services to management in performing.	Planning functions	Controlling functions	Co-ordinating functions	All managerial functions.	All managerial functions.
7	Management accounting is	An extension of financial accounting.	An extension of cost accounting.	A blend of these two and of financial management.	all the above	An extension of financial accounting.
8	Management accounting is concerned with formulation of _____ to meet enterprise objectives.	Plans	Cost	Both a and b	decision	Plans
9	Installation of management accounting is purely.	Compulsory	Optional	Both a and b	not necessary	Optional
10	The term of appointment of financial controller may be fixed by the	Board of Directors	Articles of association	Both a and b	Prospectus	Both a and b
11	Financial accounting deals with	Determination of costs	Determination of profits	Determination of prices	Determination of Expenses	Determination of profits
12	The term management accountancy was first used in	1910	1939	1950	1970	1950
13	Preparation of financial accounts is compulsory for	Sole trader business	Partnership firm	Join stock companies	Hindu Undivided Family	Join stock companies
14	A financial statement is outcome of _____ accounting	Cost	Management	Financial	Accounting	Financial
15	Provision of accounting information is known as	Reporting	Budgeting	Planning	Controlling	Reporting
16	_____is the oldest branch of accounting.	Management accounting	Cost accounting	Financial accounting	Corporate accounting.	Financial accounting
17	Management accounting also comprises the preparation of financial reports for non-management groups such as	Share holders	Creditors	Tax authorities	All of the above	All of the above
18	Information conveyed by the management accountant to the different levels of management groups should be.	Reliable	Valuable to the recipient	Relevant	All of the above	All of the above
19	Management accounting and cost accounting are	Supplementary to each other	Complementary to each other	Independent to each other	Opposite to each other	Complementary to each other
20	____ is also known as Management oriented accounting.	Management accounting	Cost accounting	Financial accounting	Corporate accounting	Management accounting
21	_____Is concerned with accounting information which is useful to management in maximizing profits or minimizing losses.	Management accounting	Cost accounting	Financial accounting	Corporate accounting	Management accounting
22	_____Is concern with future.	Forecasting	Supply information	Increase in efficiency	Planning	Forecasting
23	_____ Provides information to the management and not decisions.	Forecasting	Supply information	Increase in efficiency	Receiving Information	Supply information
24	_____Is basically concerned with “the problem of choice”.	Forecasting	Supply information	Increase in efficiency	Receiving Information	Increase in efficiency
25	_____To makes accounting data more useful.	Techniques and concepts	Cause and effect analysis	No fixed norms	Assists management	Techniques and concepts

S.NO	QUESTION	OPTION1	OPTION2	OPTION3	OPTION4	ANSWER
26	_____ Attempts to examine the 'cause' and 'effect' of different variables.	Techniques and concepts	Cause and effect analysis	No fixed norms	Assist management	Cause and effect analysis
27	_____ has no set of rules and formats like double entry system of book keeping.	Techniques and concepts	Cause and effect analysis	No fixed norms	Assist management.	No fixed norms
28	_____ in several ways in its functions but does not replace it.	Cause and effect analysis	No fixed norms	Assist management	Achieving of objectives	Assist management
29	_____ is the general accounting which relates to the recording of business transactions in the books of business transactions in the books of prime entry.	Financial accounting	Cost accounting	Management accounting	Budgeting.	Financial accounting
30	_____is the process and techniques of ascertaining costs.	Management accounting	Financial accounting	Cost accounting	Budgeting	Cost accounting
31	_____ Means expressing the plans, policies and goals of the enterprise for a definite period in future.	Budgeting	Forecasting	Statistical methods	Inventory control	Budgeting
32	---------- tools such as graphs, charts, diagrams, pictorial presentation, index number etc…	Budgeting	Forecasting	statistical	inventory control	statistical
33	---------- on the other hand, is a predication of what will happen, as a result of a given set of circumstances.	Budgeting	Forecasting	Statistical	Inventory control	Forecasting
34	---------- Includes control over inventory from the time it is acquired till its final disposal	Budgeting	Forecasting	Statistical	Inventory control	Inventory control
35	---------- is important part of management accounting	Budgeting	Statistical	Inventory control	Interpretation of data	Interpretation of data
36	----------May be sent monthly quarterly half yearly etc.	Report	Internal audit	Tax accounting	Methods and procedure	Report
37	---------- Needs devising a system of internal control by establishing internal audit coverage for all operating units	Report	Internal audit	Tax accounting report	Methods and procedure	Internal audit
38	----------includes the computation of taxable income as per tax law filling of returns etc….	Report	Internal audit	Tax accounting report	Internal audit	Tax accounting report
39	----------provides statistical data to the various departments of the organization	Report	Internal audit	Tax accounting	Methods and procedure	Methods and procedure
40	The primary objective of---------- is to enable the management to maximize or minimize losses	Cost accounting	financial accounting	management accounting	Corporate Accounting	management accounting
41	---------- is one of the primary function s of management	Planning	budgeting	Forecasting	Controlling	Planning
42	The main objective of management accounting is to present---------- information to the management	Cost	Financial	Management	Accounting	Financial
43	Management accounting makes---------- process more modern and scientific by providing significant information relating to various alternatives in terms of cost and revenue	Forecasting	Planning	Decision making	Budgeting	Decision making
44	Management accounting is a useful advice of managerial ----------	Planning	Control	Motivation	Forecasting	Control
45	---------- Presents the different alternative plans before the management in a comparative manner	Reporting	Motivating	Controlling	Forecasting	Reporting
46	---------- Increases the job satisfaction of employees and encourage them to look forward	Delegation	Motivation	Report	Directing	Delegation
47	----------provides tools which are helpful in co ordination the activities of different section or department	Planning	Forecasting	co- ordination	Budgeting	co- ordination
48	Increase the effectives of the organization and ----------the workers	Delegation	Motivation	Report	Directing	Motivation
49	Return on capital employed is one of the tools of ----------	Financial accounting	Cost accounting	Corporate accounting	Management accounting	Management accounting
50	Budget are important means of ----------	Motivation	Delegation	co- ordination	Directing	co- ordination
51	---------- is a part of accounting	Management accounting	Financial accounting	cost accounting	corporate accounting	Management accounting

S.NO	QUESTION	OPTION1	OPTION2	OPTION3	OPTION4	ANSWER
52	The---------- in similar groups make the data more useful and understandable	Modification of data	Planning and forecasting	Financial analysis and interpretation	Communication	Modification of data
53	---------- are essential for achieving business objectives	Modification of data	Planning and forecasting	Communication	Decision Making	Planning and forecasting
54	The ____ is most important function of management accounting.	Motivation	Delegation	Co-ordination	Interpretation	Interpretation
55	_____ of data are considered as back bone of management accounting.	modification of data	analysis and interpretation	communication	co-ordination	analysis and interpretation
56	Management accounting is an important medium of _____	Motivation	Co-ordination	Communication	Delegation	Communication
57	Mere financial data and its analysis and interpretation are not sufficient for purposes	Planning	Forecasting	Controlling	Decision-making	Decision-making
58	_____ supplies analytical information regarding various alternatives and the choice of management is made easy.	financial accounting	management accounting	cost accounting	corporate accounting	management accounting
59	____ is the essence of managerial activity.	Co-ordination	Control	Motivation	Decision making	Co-ordination
60	_____ has more or less become compulsory or statutory for every business.	financial accounting	cost accounting	management accounting	none of the above	financial accounting

UNIT II : Budgetary Control : Budgets and Budgetary Control – Concept of Budget, Budgeting and Budgetary Control - Objectives – Merits and Limitations – Budget Administration – Functional Budgets – Fixed and Flexible Budgets – Zero Base Budgeting – Programme and Performance Budgeting

Budgetary Control

Budget

According to ICMA England, A Budget is , "A Financial and /or quantitative statements, prepared and approved prior to a defined period of time, of the policy, to be purchased during the period for the purpose of attaining a given objective .

It is also defined as, " A blue print of a projected plan of action of a business for a definite period of time."

Budgetary Control

According to J. Vatty, "Budgetary Control is a system which uses budgets as a means of planning and controlling all aspects o producing and /or selling commodities and services."

TYPES OF BUDGETS

- Production Budget
- Production Cost Budget
- Sales Budget
- Sales Overhead Budget
- Cash Budget
- Flexible Budget
- Zero – Base Budget

By analyzing the behaviour of costs in relation to changes in volume of output it becomes evident that there are some items of costs which tend to vary directly with the volume of output, whereas there are others which tend to vary with volume of output, are called variable cost and those remain unaffected by change in volume of output are fixed cost or period costs.

BUDGETING AND PREPARATION OF VARIOUS BUDGETS

BUDGET

Budget is a financial and/or quantitative statement, prepared and approved prior to a defined period of time, of the policy to be pursued during that period for the purpose of attaining a given objective.

CIMA Official Terminology

It is a plan quantified in monetary terms, prepared and approved prior to a defined

period of time, usually showing planned income to be generated and/or expenditure to be incurred during that period and the capital to be employed to attain a given objective. It is a plan of future activities for an organisation. It is expressed mainly in financial terms, but also usually incorporates many non-official quantitative measures as well.

BUDGETING

Budgeting is the whole process of designing, implementing and operating budgets. The main emphasis in this is short-term budgeting process involving the prevision of resources to support plans which are being implemented.

BUDGETARY CONTROL

Budgetary control is the establishment of budgets relating 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.

- CMA Official Terminology

FORECAST Vs. BUDGET

A forecast is a prediction of the future state of world, in connection with those aspects of the world, which are relevant to and likely to affect on future activities. Forecast is calculation of probable events. Both forecasting and planning involve recognition of the relevant factors in a given situation and understanding of what each factor has contributed to it and how each is likely

to affect the future. Any organised business cannot avoid anticipating or calculating future conditions and trends for the framing of its future policy and decision. Forecast is concerned with 'probable events' and the budgeting relates to 'planned events' Budgeting should be preceded by forecasting, but forecasts may be made for purpose other than budgeting.

Requirements of a Sound Budgeting System

The following are the essential requirements of a sound budgeting system:

Clear lines of authority and responsibility have to be established throughout the organisation and the authority and responsibility of different levels of management and departmental executives are clearly defined.

The organisational goal should be quantified and clearly stated. These goals should be within the framework of organisation's strategic and long range plans. The setting of budgets is not a process detached from planning of the company's overall policy. A well defined business policy and objective is a prerequisite for budgeting.

The budget system should be established on the highest possible level of motivation. All levels of management should participate in setting budgets. Since this can produce more realistic targets, lead to better understanding of corporate objectives and the constraints within which organisation works. Participation in budgeting process will motivate the personnel to achieve budget levels of efficiency and activity.

The budget control system should provide for a degree of flexibility designed to change in relation to the level of activity attained and the impact of changes in sales and production levels on revenue, expenses are known. It enables more accurate assessment of managerial and organisational performance.

Proper communication systems should be established for management reporting and information service so that information relating to actual performance is presented to the manager responsible for it promptly to enable the manager to know the nature of variations so that remedial action is taken wherever necessary.

Educating the budget process and creation of cost awareness atmosphere will lead to effective implementation of budgets.

The top management's involvement in budget process is essential for successful implementation of the budgets. It should take interest not only in setting the budgets and targets but also to check upon the actual attainment, motivating the personnel, rewarding for achievements, investigation into reasons for any deviation of actuals from budgeted results, taking punitive action wherever necessary. A sound system for generating accurate and reliable and prompt accounting information is basic for successful implementation of budget system in an organisation.

Advantages of Budgeting

- Budgetary control establishes a basis for internal audit by regularly evaluating departmental results.
- Only reporting information which has not gone according to plan, it economies on managerial time and maximizes efficiency. This is called 'Management by Exception reporting.
- Scarce resources should be allocated in an optimal way, thus controlling expenditure
- It forces management to plan ahead so that long-term goals are achieved.
- Communication is increased throughout the firm and coordination should be improved.
- An effective budgetary control system will allow people to participate in the setting of budgets, and thereby have a motivational impact on the work force. Individual and corporate goals are aligned.
- Areas of efficiency and inefficiency are identified. Variance analysis will prompt remedial action where necessary
- The budget provides a yardstick against which the performance of the firm can be evaluated. It is better to compare actual with budget rather than with the past, since the latter may no longer be suitable for current and expected conditions.
- People are made responsible for items of cost and revenue, i.e. areas of responsibility are clearly delineate.

Problems in Budgeting

- Budgets are perceived by the work force as pressure devices imposed by top management. This can have an adverse effect on labour relations.
- It can be difficult to motivate an apathetic work force.

- The pressure in the budgeting system may result in inaccurate record keeping. :
- Managers may over-estimate costs in order that they will not be held responsible in the future for over spending. The difference between the minimum necessary costs and the costs built into the budget is called slack.
- Departmental conflict arises because of competition for resource allocation. Departments blame each other if targets are not achieved.
- Uncertainties can occur in the system,' e.g. uncertainty over demand, inflation, technological change, competition, weather etc. ;
- It may be difficult to align individual and corporate goals. Individual goals often change and may be much lower than the firm's goals.
- It is important to match responsibility with control, otherwise, a manager will be demotivated. Costs can only be controlled by a manager if they occur within a certain time span and can be influenced by that manager. A problem arises when a cost can be influenced by more than one person.
- Managers are often accused of wasting expenditure when they either

  demand a greater budget allowance than is really needed, or
  unnecessary spending in order to fully utilise their allowance through fear of future cut-backs. Zero base budgeting can overcome this problem.

- Sub-optimal decisions may arise when a manager tries to enhance his short-run performance in a way which is detrimental to the organisation as a whole, e.g. delaying expenditure urgently needed repairs.
- They are based on assumed conditions (e.g. rates of interest) and relationship (e.g. product-wise held constant) that are not varied to reflect the actual circumstances that come about.
- They make allowance for tasks to be performed only in relation to volume rather than time.
- They compare current costs with estimates "based only on historical analysis.
- Their short-term horizon limits the perspective, so short-term results may be sought at the expense of longer term stability or success.
- They have a built-in bias that tends to perpetuate inefficiencies. For example, next year's budget is determined by increasing last year's by 15 per cent, irrespective of the efficiency factor in last year.
- As with all types of budgets the game of 'beating the system' may take more energy factor in last year.

- The fragile internal logic of static budget will be destroyed if top management reacts to draft budgets by requiring changes to be made to particular items, which are then not reflected through the whole budget.

BUDGETING PROCESS

The method by which the annual budget is prepared will differ from organisation to organisation. In some organisations budgeting may be a well organised, well documented procedures while in others the budget may be prepared in a rather ad hoc and disorganised manner. The budget process is shown in the following figure. The steps in budgeting process representative to all organisations is given below:

1. Specification and Communication of Organisational Objectives :

Budget is a medium through which organisation's objectives and polices are reflected. Budgeting is used as a tool for implementing the organisational objectives. It is essential to understand, specification and documentation of organisational objectives before the managers start for budgeting the organisational activities. Following from a statement of objectives, a corporate long-range or strategic plan can be built up. Distinction may be drawn between current operating activities and future strategic activities. Budgeting is a management tool used for shorter term planning and control. This classification of activities into short-term and strategic long-term and communication to the managers will lay down a sort of guide for budgeting the activities within the specified objectives and activity

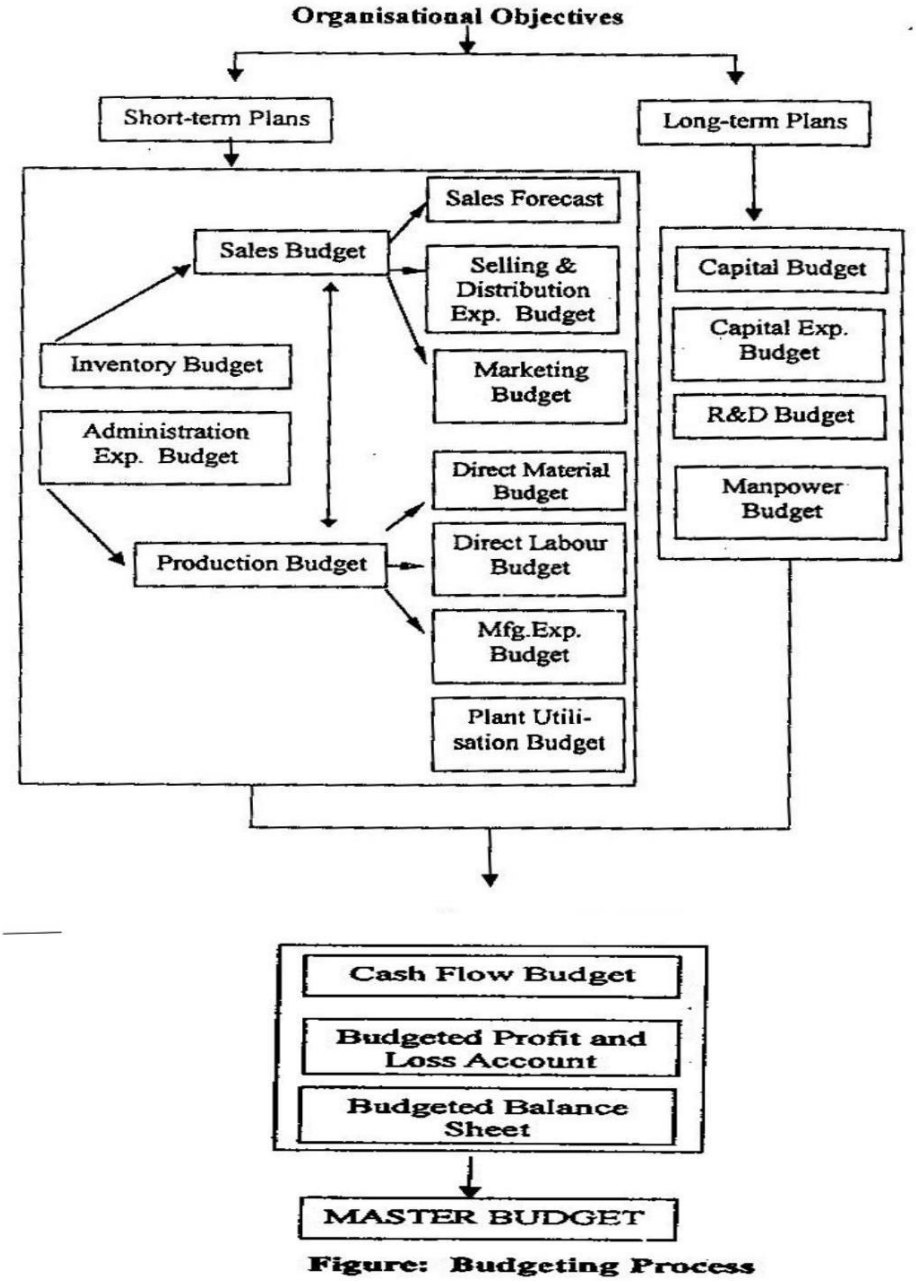


Figure: Budgeting Process

2. Determination of Key Success Factors :

The performance of every organisation will be particularly influenced by certain critical success factors, key factor will influence the activities of an undertaking and it will limit the volume of output and will have direct impact on the profitability of the organisation. Critical success factors may consist of a specified raw material, a specific type of labour skill, a tool, a service facility, floor space, cash resources etc. The limitation or shortage of such critical factors may result in restricting capacity utilisation. The limiting factors may shift from time to time due to external and internal circumstances,. In organisations which are already operating at maximum capacity, the most critical success factor is likely to be productive capacity. In majority of organisation the most critical factor is likely to be consumer demand or the expected level of revenues or funds. Because of this, the sales or funds budget is usually the first budget to be prepared. It will determine the content of other related budgets.

3. Establishment of Clear Ones of Authority and Responsibility:

An organisational chart defining the lines of authority and responsibility of the managers responsible for accomplishment of organisational objectives is to be prepared. The organisational chart should define the following:

- The responsibility of individual functional managers
- Delegation of authority to the concerned functional managers
- Inter-functional relationship of the organisation.

4.Establishment of Budget Centres :

Budget centre is a section of an organisation for which separate budgets can be prepared and control exercised (CMA official terminology). The entire organisation is divided into different segments, which are clearly defined for the purpose of budgetary control according to responsibilities of departmental heads. These segments of an organisation defined for the purpose of budgetary controL are technically referred to as budget centers.

5. Determination of Budget Period :

Budget period is a period for which the budget is prepared. A budget can; be a long-term budget or short-term budget. A short term budget is generally prepared for one year or lesser period. Quarterly, monthly or even weekly budget can be prepared for certain operations of the company. The short-term budget will generally not exceed the full accounting year. The long-term budget which extend to five or even more years. This long-term budget will agree with long-term forecast of sales, organisational schemes for expansion modernisation, diversification etc. The long-term budgets are used for planning whereas short-term budget is used for implementation of long range plans, activities, objectives and also for control purposes. Capital expenditure budget and Research and development

expenditure budget are the examples of long-term budgets. Annual sales budget, Income and expenditure budget are the examples of short-term budgets.

6. Establishment of Budget Committee :

In small organisations, the person incharge of finance and accounting functions will involve in preparation of budgets. The setting up of a budget Committee is necessary in case of large and complex organisations. As the budget involves the various functional activities, the closest association of functional managers is essential for satisfactory formulation and

implementation of the budget The budget committee will be composed of major functional heads. It can be effective medium for coordination and review of the budget programme. The main functions of budget committee are as follows:

To review the functional budget estimates.
To recommend the functional budgets for revision.
To review and advise on the general policies affecting more than one function.
To review, approval and adoption of revised budgets.
To receive and analyse the-periodic performance reports from budget centers.
To examine the budget reports showing actuals compared with budget.
To locate the responsibility for discrepancies between actuals and budgets, and recommends the corrective action.
To participate in decision making in strategic issue like, expansion, modernisation, diversification and revision of organisational activities, which have direct relationship to the company's budgets.

7.Appointment of Budget Controller :

Proper budget administration is facilitated by the budget controller who is made responsible for the preparation of the budget and coordinating activities of the individual departments. His functions and responsibilities will include the following:

Generation and dissemination of information needed for decision-making and planning to each person in the organisation having such responsibilities. The information may include, but is not limited to, forecasts of economic and social conditions, governmental influences, organisation goals and standards for decision making, economic and financial guidelines, performance data, performance standards and the prerequisite plans of others in the enterprise.

Establishing and maintaining a planning system which:

- Channels of information to each of persons responsible for planning,
- Schedules the formulation of plans,
- Structures the plans of sub-sections of the enterprise into composites at which points, tests are made for significant deviations from economic and financial guidelines and from goal

achievement and repeats the process for larger segments to and including the enterprises as a whole, and

- Disseminates advice of approval, disapproval or revision of plans to affected individuals in accordance with established lines of authority and organisational responsibilities.

Construction and using models of the enterprise both in total and by sub-sections, to test the effect of internal and external variables upon the achievement of organisation goals.

Ensuring the accumulation of performance data related to responsibility centers within the organisation, measured against the plans, whether period or project, for each centre, transmitted to each centre, and the analysis of deviations of actual from planned performance.

The budget controller is responsible for the final preparation, presentation and interpretation of the financial plan of the company. He is responsible for development of budget procedures. He will act as a staff manager coordinating all budget functions.

8. Preparation of Budget Manual:

Budget manual is the documentation of policies and procedures involved in implementation of budgetary control system. A budget manual will normally set out the following:

- Responsibility and authority of different levels of management.
- Establishment of organisational hierarchy.
- Definition and clarification of various terms used in budgets.
- Fixation of responsibility for preparation and implementation of budgets and budgetary system.
- Specification and timing of statements and reports.
- Procedures in management information system in the organisation.
- Procedures in feed-back and feed-forward control systems.
- Exhaustive programme of budget preparation.

The budget manual contains the standardised form which become information generation for preparation of budgets. It contains a complete programme of activities involved in budget preparation. The budget' manual should provide detailed procedure for preparation and development and control of each budget like Sales budget, Production budget, Direct material budget, Direct labour budget, Overhead budget, Capital expenditure budget, R&D expenses budget etc.

PREPARATION OF SALES OR REVENUE BUDGET

The sales revenue budget is the starting point of most master budgets. In manufacturing organisations sales budgeting begins with the forecasting of the sales of individual products. These forecasts may be by geographical area, by class of customer or by some other segment. In

case of manufacturing companies, the budgeting will begin with the Revenue budget of the organisation. Forecasting sales is a difficult task as many assumptions need to be made about consumer demand, environmental conditions likely customer demand at different prices, the probable prices for similar products sold by competitors, the number of economic activity in the regions where the product is sold, the number of sales personnel required to service the estimated demand, the appropriate level of advertising and promotional expenditures, the impact of anticipated changes in exchange rates and changes in the taxes such as value added tax or customs and excise duties.

PREPARATION OF BUDGETS

Once the sales budget has been determined from a range of sales forecasts it is possible to construct the following other budgets:

1. Production Budget

The production budget is an estimate of the quantity of goods that must be produced during the budget period. The aim of the production function will presumably be to supply finished goods of a specified quality to meet marketing demands. The sum of sales requirements plus changes in stock levels of finished goods gives the production requirements for the period being budgeted. In order to construct the production budget we need the level of sales expected and the desired levels of stock of finished goods. The following formula is used for calculation of units to be produced.

Production = Sales + Closing stock - Opening stock

Production budget should be developed keeping in view the optimal, balance between sales, inventories and production so as to result in minimum cost. Once the production level is determined, it becomes the starring point for the direct materials, direct labour and manufacturing overhead budgets.

2. Plant Utilisation Budget

Plant utilisation budget is prepared for the estimation of plant capacity to meet the budgeted production during the period considered under the budget" For this purpose the plant capacity is expressed in terms of convenient units of measurement like production in hours, production in weight (M.T./Kg.) production in units etc. Budgeted machine load in each department should be worked out.

In case the budgeted plant utilisation is more than the plant capacity the management may think of extra shift working, purchase of new machinery, overtime working, sub-contracting etc. When the budgeted plant utilisation in lesser than the plant capacity, management should consider the ways to increase sales volume.

3. Direct Materials Budget

The direct materials budget specifies the budgeted quantities of each raw material required for the budgeted production. The requirement to purchase of direct material can be calculated with the help of the following formula.

Purchases = Closing stock + Usage - Opening stock

The materials budget provides basis for fixing optimum levels of inventory stocks, establishment of control over material usage and purchase cost budget.

4. Direct Labour Budget

The direct labour budget will ensure that the plan will make the required number of employees of relevant grades and suitable skills available at the right times. It specifies the direct labour requirement, of various products as envisaged in the production budget. The direct labour budget will be developed for both direct labour hours and direct labour cost. After the labour requirements relating to different grades are finalized, estimated rate per hour and labour cost per unit is arrived at:

Illustration 1:

The direct labour hour requirements of three of the products manufactured in a factory, each involving more than one labour operation, are estimated as follows:

Direct Labour Hour / per unit (in minutes)

Product / Operation	1	2	3
1	18	42	30
2	-	12	24
3	9	9	-

The factory works 8 hours per day, 6 days in a week. The budget quarter is taken as 13 weeks and during a quarter, lost hours due to leave and holidays and other causes are estimated to be 124.

The budgeted hourly rates for the workers manning the operations, 1, 2 and 3 are Rs.2.00, Rs.2.50 and Rs.300 respectively. The budgeted sales of the product during the quarter are:

Product	1	9,000 units
	2	15,000 units
	3	12,000 units

There is a carryover of 5,000 units of Product 2 and 4,000 units of Product 3 and it is proposed to built up a stock at the end of the budget quarter as follows:

Product	1	1,000 units
	3	2,000 units

Prepare a manpower budget for the quarter showing for each operation:

(i) Direct labour hours, (ii) Direct labour cost, and (iii) Number of workers.

Before preparing the quarterly manpower budget for 3 products operation-wise, it is necessary to work out the following:

(a) Production budget, (b) Direct labour hours for each product operation-wise, (c) Number of workers required for each operation.

(a) Production Budget for the quarter ending .....

Particulars		Product 1	Product 2	Product 3
Budgeted Sales	(units)	9,000	15,000	12,000
Add: Stock to be built up	(closing)	1,000	-	2,000
Total		**10,000**	**15,000**	**14,000**
Less: Carry-over stock	(opening)	-	5,000	4,000
Budgeted Production		10,000	10,000	10,000

(b) Direct Labour Hour for each Product (operation-wise) Operation I

Particulars	Product 1	Product 2	Product 3
Direct labour hrs. per unit (minutes)	18	42	30
Budget Production (units)	10,000	10,000	10,000
Direct labour hrs. required:	$\left(\frac{10,00}{0} \times \frac{18}{60}\right)$	$\left(\frac{10,000}{} \times \frac{42}{60}\right)$	$\left(\frac{10,000}{} \times \frac{30}{60}\right)$
	3,000 hrs.	7,000 hrs.	5,000 hrs.

Total labour hours required for Operation I = 15,000 hours.

Operation II

Particulars	Product 1	Product 2	Product 3
Direct labour hrs. per unit (minutes)	-	12	24
Budget Production (units)	10,000	10,000	10,000
Direct labour hrs. required:	-	$\left(\frac{10,000}{} \times \frac{12}{60}\right)$	$\left(\frac{10,000}{} \times \frac{24}{60}\right)$
	-	2,000 hrs.	4,000 hrs.

Total labour hours required for Operation II = 6,000 hours.

Operation III

Particulars	Product 1	Product 2	Product 3
Direct labour hrs. per unit (minutes)	9	6	-
Budget Production (units)	10,000	10,000	10,000

Direct labour hrs. required:	$\left(\frac{10,00}{60} \times 9\right)$	$\left(\frac{10,000}{60} \times 6\right)$	-
	1,500 hrs.	1,000 hrs.	-

Total labour hours required for Operation III = 2,500 hours.

(c) Number of Workers required for each Operation

Working hrs. of factory in a quarter = 13 weeks x 6 days week x 8 hours a day	624 hours
Less: Loss of hours due to leave, holidays and others causes	124 hours
Total available hours per man	500 hours

Now, the requirements for manpower for each operation can be worked out.

Manpower Requirement:

Total direct labour hrs./ Total available hours required per man

a. Operation I	= 15,000/500	= 30 men
b. Operation II	= 6,000/500	= 12 men
c. Operation III	= 2,500/500	= 5 men

Now, manpower budget for the quarter can be prepared for the three products and for each operation. The same is given below:

5. Manufacturing Expenses Budget

Manufacturing overhead refers to the aggregate' of factory indirect material, indirect labour and indirect expenses which can be divided into fixed and variable elements of manufacturing overhead. The fixed manufacturing overhead will not vary with the change in the level of activity and it can be estimated with a fair degree of accuracy. On the other hand, variable manufacturing overhead per unit will be estimated and the total variable manufacturing overhead will be determined with the help of the activity level. Preparation of variable overhead budget is based on scheduled production and operating conditions.

Illustration 2:

Gama Engineering Company Limited manufacturers two Products X and Y. An estimate of the number of units expected to be sold in the first seven months of 2001 is given below:

Months	Product X	Product Y
January	500	1,400
February	600	1,400
March	800	1,200
April	1,000	1,000
May	1,200	800
June	1,200	800
July	1,000	980

It is anticipated that:

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

(b) Finished units equal to half the anticipated sales for the next month will be in stock at the end of each month (including June 2001).

The budgeted production and production costs for the year ending 31st June, 2001 are as follows:

Particulars		Product X	Product Y
Production	(units)	11,000	12,000
Direct materials per unit	(Rs.)	12	19
Direct wages per unit	(RS.)	5	7
Other manufacturing charges apportionable to each type of product	(Rs.)	33,000	48,000

You are required to prepare:

(a) Production budget showing the number of units to be manufactured each month.

(b) Summarised production cost budget for the 6 month-period January to June 2001.

(a) Production Budget (for the 6 months ending 30th June, 2001

(units)

Particulars			March	April	May	June
Product X						
Closing Stock			500	600	600	500
Sales			800	1,000	1,200	1,200
			1,300	1,600	1,800	1,700
Less:Opening Stock			400	500	600	600
Production(in units)			900	1,100	1,200	1,100

Product Y	Jan.	Feb.	March	April	May	June
Closing stock	700	600	500	400	400	450
Sales	1,400	1,400	1,200	1,000	800	800

	2,100	2,000	1,700	1,400	1,200	1,250
Less: Opening Stock	700	700	600	500	400	400
Production (in units)	1,400	1,300	1,100	900	800	850

(b) Summarised Production Cost Budget (for the 6 months ending 30th June, 2001) . (Rs.)

Production	**X-5,550 units**		**Y-6,350 units**	
	Unit Cost	**Total Cost**	**Unit Cost**	**Total Cost**
Direct materials	12	66,600	19	1,20,650
Direct wages	5	27,750	7	44,450
Manufacturing charges	3	16,650	4	25,400
Total	20	1,11,000	30	1,90,500

Note: Manufacturing charges have been presumed to be variable costs in the absence of any other information. They could, however be presumed to be fixed charges also for the whole year. In such a case they will be taken as 50% of the annual charges for the first six months in each case.

6. Administrative Expenses Budget

Administrative expenses in an organisation will be incurred for the following activities:

(a) Formulation of policies,
(b) Directing the organisation, and
(c) Controlling the operations of an organisation etc.

The administrative expenses will not include those expenses which are incurred for manufacturing, selling and distribution, R&D functions. The administrative overheads are of a fixed nature and the change in the level of activity will not bring any change in the administrative expenses incurred. Cm study o behaviour of costs, if any administrative expenses are of variable or semi-variable nature, those expenses can be budgeted with the Level of activity.

7. Selling and Distribution Expense Budget

Selling expenses refers to expenses incurred relating to the activities:

(a) Creation and stimulation of demand of company's product, and

(b) Secure orders.

Selling expenses include salesmen's salaries, commissions, expenses and related administrative cost etc. Distribution expenses refers fo expenses incurred relating to the following activities:

(a) Maintaining and creating demand of product, and

(b) Making the goods available in the hands of the customer.

Distribution expenses include transportation, freight charges, stock control, warehousing etc.

Preparation of selling and distribution expense budget is based on the sales budget. The selling and distribution expenditure can be estimated with the help of flexible budgeting technique.

8. Research and Development Budget

This will cover materials, equipment and suppliers, salaries, expenses and other costs relating to design, development and technical research projects.

9. Capital Expenditure Budget

The capital expenditure budget represents the expected expenditure on fixed assets during the budget period. It is an outlay on assets that are required and held for the purpose of generating income, e.g. plant and machinery, motor vehicles, premises etc. It is a plan for capital expenditure, in monetary terms. Capital expenditure may be incurred for expansion, diversification, modernisation plans. It relates to projects involving huge capital outlay and long-term commitments. A capital expenditure budget must reveal following information project wise:

- Original appropriation
- Cumulative expenditure up-to-date
- Unutilized appropriation
- Fresh appropriation, and
- Limit carried to next period

Programme budgeting technique is more appropriate for capital expenditure budgeting.

Capital expenditure authorisation is the formal authority to incur capital expenditure which meets the criteria defined to achieve the results laid down under a system of capital appraisal. Levels of authority must be clearly defined and the reporting structure of actual expenditure through prior authorisation on a formal proposal basis and monitoring as expenditure is incurred.

10. Manpower Budget

Manpower budget will taken an overall view of the organisations needs for manpower for all areas of activity - sales, manufacturing, administrative, executive and so on for a period of years.

11. Marketing Expenditure Budget

Marketing budget include estimated expenditure to be inquired for advertising promotional activities, public relations, marketing research, customer services etc. during the budget period.

12. Capital Budget

Capital budget is concerned with the question of capacity and strategic direction. This must deal with the evaluation of alternate dispositions of capital funds as well as with the choice of the best capital structure.

PREPARATION OF MASTER BUDGET AND ITS IMPLEMENTATION

Master budget is a budget which is prepared from, and summarises the functional budgets. It is a summary budget that incorporates the key figures and totals of ail other budgets. The process in preparation of Master budget is shown in the figure Budgetary Process (given at the beginning of this chapter).

The Master budget may closely reflect two dimension of the organisations:

1.Organisational Structure: All revenues and expenditures must be attributed to the budget centre and managers responsible for them. At the control stage, later, a system of responsibility accounting reports must be built up to inform responsible managers for the progress of that result against budgets.

2.Products or Programmes: In this dimension, the budget information is organised to show the revenues, costs, contributions, profits and levels of production/ sales activity for each product or programme produced by, the organisation.

Negotiation of Budgets :

Budgets may be prepared in a top-down or bottom-up manner. In either process, the budget will need to be negotiated by superiors, subordinates and by different departments competing for the

scarce resources. This process of negotiation allows the exercise of both formal and informal power. Participation in budgeting appears to lead to more positive attitude towards the budget and greater acceptance of it.

Coordination and Review of Budget:

Incompatibility and inconsistency may arise because the budgeting process, usually involves a number of different departments - e.g. sales,-production, marketing and numerous senior and lower level managers. It should be ensured that consistency is arrived at in finalisation of master budget.

Acceptance of Communication of Budgets :

After the master budget is accepted and agreed upon by all the levels of organisational hierarchy, it will be passed on for implementation. It is essential that each manager responsible for implementing the budget policy be informed as to his responsibility.

Budget Monitoring:

It is important that the actual performance of each manager should be regularly and frequently compared against budget targets in order to prevent it from getting 'out of control' and in case of change in internal and external business environment a revision of the budget may be necessitated.

CASH BUDGET

Cash flow budget is a detailed budget of income and cash expenditure incorporating both revenue and capital items. The cash flow budget should be prepared in the same format in which the actual position is to be presented. The year's budget is usually phased into shorter periods for control, e.g. monthly or quarterly. Cash budget is concerned with liquidity must reflect changes between opening and closing debtor balances and between opening and closing creditor balances as well as focusing attention on other inflows and outflows of cash. The cash budget shows the cash flows arising from the operational budgets and the profit and assets structure. A cash budget can be prepared in the following ways:

1. Receipts and Payments Method :

In this method all the expected receipts and payments for budget period are considered. All the ash inflow and outflow of all functional budgets including capital expenditure budgets are considered. Accruals and adjustments in accounts will not affect the cash flow budget. All anticipated cash inflow is added to the opening balance of cash and all ash payments are deducted from this to arrive at the closing balance of cash. This method is commonly used in business organisations.

2. Adjusted Income Method :

In this method the annual cash flows are calculated by adjusting the sales revenues and costing figures for delays in receipts and payments (changes in debtors and creditors) and eliminating non-cash items such as Depreciation.

3. Adjusted Balance Sheet Method :

In this method, the budgeted balance sheet is predicted by expressing each type of assets and short-term liabilities as percentage of the expected sales. The profit is also calculated as a percentage of sales, so that the increase in owners equity can be forecast. Known adjustments, may be made to long-term liabilities and the balance sheet will then show if additional finance is needed.

It is important to note that the capital budget will also be considered while preparation of cash flow budget because the annual budget may disclose a need for new capital investments and also, the costs and revenues of any new projects coming on stream will need to be incorporated in the short-term budgets. A number of additional financial statements, such as sources and application of funds statement or schedules or loan service payments or capital raising schedules may be produced.

Illustration 3:

Prepare a cash budget for the three months ending 30th June, 2001 from the information given below:

a. (Rs.)

Month	Sales	Materials	Wages	Overheads
February	14,000	9,600	3,000	1,700
March	15,000	9,000	3,000	1,900
April	16,000	9,200	3,200	2,000
May	17,000	10;000	3,600	2,200
June	18,000	10,400	4,000	2,300

b. Credit Terms:

Sales/ Debtor - 10% sales are on cash, 50% of the credit sales are collected next month and the balance in the following month.

Creditors	Materials	2 months
	Wages	¼ month
	Overheads	½ month

c. Cash and bank balance on l" April, 2001 is expected to be Rs.6,000.

d. Other relevant information is:

(i) Plant and Machinery will be installed in February 2001 at a cost of Rs.96,000. The monthly installments of Rs.2,000 is payable from April onwards.

(ii) Dividend @ 5% on Preference Share Capital of Rs.2,00,000 will be paid on 1st June.

(iii) Advance to be received for sale of vehicles Rs.9,000 in June.

(iv) Dividends from investments amounting to Rs. 1,000 are expected to be received in June.

(v) Income-tax (advance) to be paid in June, is Rs.2,000.

Working Notes:
Collection from Sales/ Debtors

Month	Calculation	April	May	June
February	(14,000-10% of 14,000) x 50%	6,300	-	-
March	(15,000-10% of 15,000) x 50%	6,750	6,750	-
April	10% of 16,000	1,600	-	-
	(16,000-10% of 16,000) x 50%	-	7,200	7,200
May	10% of 17,000	-	1,700	-
	(17,000-10% of 17,000) x 50%	-	-	7,650
June	10% of 18,000	-	-	1,800
		14,650	**15,650**	**16,650**

Cash budget for the quarter April - June 2001

Particulars	April	May	June	Total
1. Balance b/f	6,000	3,950	3,000	6,000
2. Receipts				
Sales (Note 1)	14,650	15,650	16,650	46,950
Dividend	-	-	1,000	1,000
Advanced against	-	-	9,000	9,000
vehicle				
Total	20,650	19,600	29,650	62,950
3. Payment				
Creditors*	9,600	9,000	9,200	27,800
Wages*	3,150	3,500	3,900	10,550
Overhead*	1,950	2,100	2,250	6,300
Capital Expenditure	2,000	2,000	2,000	6,000
Income tax advance	-	-	2,000	2,000
Total	16,700	16,600	29,350	62,650
4. Balance c/f	3,950	3,000	300	300

* Payments for creditors, wages and overhead have been computed on the same pattern.

FLEXIBLE BUDGETING

Flexible budget is a budget which, by recognising the difference in behaviour between fixed and variable costs in relation to fluctuations in output, turnover, or other variable factors etc. It is designed to change in relation to the level of activity actually attained.

A flexible budget is one that takes account of a range of possible volumes It is sometimes referred to as a multi-volume budget. The range of possible outputs may be known as the relevant range. 'Flexing' a budget takes place when the original budget is deliberately amended to take account of change activity levels.

The flexible budget is based on the fundamental difference in behaviour of fixed costs, variable costs and semi-variable costs. Since fixed costs do not vary with short-run fluctuations in activity it can be seen that the flexible budget will really consist of two parts: The first is a fixed

budget begin made up of fixed costs and the fixed component of semi-variable costs. The second part is a truly flexible budget that consists solely of variable costs.

Steps in Preparation

The steps involved in preparation of flexible budget are as follows:

- Specify the time period that is used.
- Classify all costs into fixed, variable and semi-variable categories.
- Determine the types of standards that are to be used.

- Analyse cost behaviour patterns in response to past levels of activity.
- Build up the appropriate flexible budget for specified levels of activity.

Importance

Flexible budgets are important aids to decision making which help the management in the following ways:

- Flexible budget enable an organisation to predict its performance and income levels at a given range of sales levels and activity levels. It can be seen the impact of changes in sales and production levels on revenue, expenses and ultimately income.
- Flexible budgets enables more accurate assessment of managerial and organisational performance.

Disadvantages

The procedure for drawing up a flexible budget is quite straight forward. The flexed budget is only accurate, if costs behave in a predicted manner. All too often assumptions are made about cost behaviour which are too simplistic and hence do not reflect what actually happens.

- Flexible budgets assume linearity of costs and therefore take no account of, for example discounts for bulk purchases of materials Labour costs are unlikely to behave in a linear fashion unless a piecework scheme is in operation.

- Such budgets also rely on the assumption of continuity when costs may actually behave in a stepped or discontinue matter.

- The method of determining the fixed and variable elements of costs is often arbitrary and hence the flexed cost bear little relation to the correct budgeted cost for the flexed level of activity.

- Although flexed budgets tend to maintain fixed costs at the same level whatever the level of output/ sales, very often fixed costs are actually fixed only over a relevant output range.

Illustration 4:

ABC Ltd. Manufactures a single product for which market demand exists for additional quantity. Present sale of Rs.60,000 per month utilised only 70% capacity of the plant. Sales Manager assures that with a reduction of 10% in the price he would be in a position to increase the sale by about 25% to 30%

The following data are available:

a) Selling price	Rs. 10 per unit
b) Variable cost	Rs.3 per unit
c) Semi-variable cost	Rs.6,000 fixed plus Re.0.50 per unit
d) Fixed cost	Rs.20,000 at present level estimated to be Rs.24,000 as 80% output.

You are required to submit the following statements to the Board showing:

1. The operating profits at 60%, 70% and 80% levels at current selling price and at proposed selling price.
2. The percentage increase in the present output which will be required to maintain the present profit margin at the proposed selling price.

Statement of Operating Profit at different capacity levels at Current Selling Price (Rs.)

Capacity Levels and Product Sales (units)	**60% 6,000**	**70% 7,000**	**80% 8,000**
Sales (@Rs. 10) (A)	60,000	70,000	80,000
Costs:			
Variable cost (@ Rs.3)	18,000	21,000	24,000
Semi-variable cost			
Fixed component	6,000	6,000	6,000
Variable component (@ Re.0.50 per unit)	3,000	3,500	4,000
Fixed cost	20,000	20,000	24,000
Total cost (B)	47,000	50,500	58,000
Profit (A) - (B)	13,000	19,500	22,000

Statement of Operating Profit at different capacity levels at proposed Selling Price

(Rs.)

Capacity Levels	**60 %**	**70 %**	**80 %**
Sales (@ Rs.9)	54,000	63,000	72,000
Less: Total cost	47,000	50,500	58,000
Profit	7,000	12,500	14,000

Calculation of Percentage Increase in present output for desired profit

(Rs. per unit)

Proposed selling price	9.00
Less: Variable cost (Rs.3.00 + Re.0.50)	3.50
Contribution per unit	5.50

(Rs.)

Present Profit	13,000

Add: Fixed cost	(Rs.20,000 + Rs.6,000)	26,000
Desired Contribution		39,000

Required Output

$$= \frac{\text{Desired Contribution}}{\text{Contribution per unit}}$$

$$= \frac{\text{Rs.39,000}}{\text{Rs.5.50}} = 7{,}091 \text{ units}$$

Increase in Production required

= 7,091 units - 6,000 units = 1,091 units

Percentage increase over present Output

$$= \frac{1{,}091}{6{,}000} \times 100 = 18.18\%$$

Transfer Pricing

In the post economic liberalization, multinational companies started expanding their business transactions across the border. The rapid growth of economic activities of multinational groups led to various complex issues regarding taxation. The multinational groups have more inter business activities like transfer of goods or services. One group transfers the goods and services to another group. Such transfers cause the problem of pricing the goods or services.

Thus it may not comply with necessary rules and regulations while transferring goods or services. This noncompliance with statutory provisions may tend to create revenue loss to the exchequer. Hence, there is a need to provide statutory framework which will lead to compute the profits and tax in a fair manner.

Provisions Regulating Transfer Pricing in India

The Finance Act, 2001 introduced law of transfer pricing in India through sections 92A to 92F of the Indian Income Tax Act, 1961 which guides computation of the transfer price and suggests detailed documentation procedures.

Scope & Applicability

Transfer Pricing Regulations ("TPR") are applicable to the all enterprises that enter into an 'International Transaction' with an 'Associated Enterprise'. Therefore, generally it applies to all cross border transactions entered into between associated enterprises. It even applies to transactions involving a mere book entry having no apparent financial impact. The aim is to arrive at the comparable price as available to any unrelated party in open market conditions and is known as the Arm's Length Price ('ALP').

Transfer Pricing

"Transfer price" is a price at which the value of goods or services being transferred between independently operating units of an organization. But, the expression "transfer pricing" generally refers to prices of transactions between associated enterprises may be different from the prices at which an independent enterprise transfers to another the same goods or services.

Arm's Length Price

The term arm's length price refers to a price which is applied or proposed to be applied in a transaction between persons other than associated enterprises, in uncontrolled conditions.

Objectives of Transfer Pricing

There are three objectives that should be considered for settingout a transfer price.

Autonomy of the Division. The prices should seek to maintain the maximum divisional autonomy so that the benefits, of decentralization (motivation, better decision making, initiative etc.) are maintained. The profits of one division should not be dependent on the actions of other divisions,

Goal congruence: The prices should be set so that the divisional management's desire to maximize divisional earrings is consistent with the objectives of the company as a whole. The transfer prices should not encourage suboptimal decision-making.

Performance appraisal: The prices should enable reliable assessments to be made of divisional performance.

Determination of Arm's Length Price

The arm's length price in relation to an international transaction can be determined by any of the following methods, The most appropriate

method, may be chosen having regard to the nature of transaction or class of transaction or class of associated persons or functions performed by such persons or such other relevant factors as the Board may prescribed namely:—

(*a*) Comparable uncontrolled price method;

(*b*) Resale price method;

(*c*) Cost plus method;

(*d*) Profit split method;

(*e*) Transactional net margin method;

Suppose more than one price is determined by the most appropriate method, the arm's length price shall be taken to be the arithmetical mean of such prices:

In case, the variation between the arm's length price so determined and price at which the international transaction has actually been undertaken does not exceed five per cent of the

latter, the price at which the international transaction has actually been undertaken shall be deemed to be the arm's length price.

Computation of Arm's Length Price

The Institute of Chartered Accountant of India (ICAI) has laid down certain guidelines which are to be followed when comparable uncontrollable price is determined. The guidelines are given below.

(a) Comparable Uncontrollable Price Method

i) Find out the price charged or paid for property transferred or services provided in a comparable uncontrolled transaction, or a number of such transactions, is identified,

ii) Adjust such price to account for differences, if any, between the international transaction and the comparable uncontrolled transaction, or between the enterprises entering into such transactions, which could materially affect the price in the open market;

iii) the adjusted price arrived at is taken to be an arm's length price in respect of the property transferred or services provided in the international transaction;

iv) If there is any variation between price charged (price paid) on the international transaction and arm's length price, then an adjustment has to be made in order to remove the variance.

(b) Resale Price Method

(i) Find out the international transaction through which property purchased or services obtained

(ii) Identify the price at which the property or services are resold or provided to a third party

(iii) Deduct the normal gross profit earned by the enterprise from the resale price of such property or services. The normal gross profit can be taken of a profit on a similar transaction made with unrelated party.

iv) The price so arrived at is further reduced by the expenses incurred by the enterprise in connection with the purchase of property or obtaining of service; The price so arrived at is adjusted to take into account the functional and other differences, including differences in accounting practices, if

any, between the international transaction and the comparable uncontrolled transactions, or between the enterprises entering into such transactions, which could materially affect the amount of gross profit margin in the open market;

v) the adjusted price arrived at is taken to be an arm's length price in respect of the purchase of the property or obtaining of the services by the enterprise from the associated enterprise;

(c) Cost Plus Method

i) Find the direct and indirect costs of production incurred by the enterprise in respect of property transferred or services provided to an associated enterprise

ii) Find a comparable uncontrollable transaction or a series of transaction with a third party for same property or service

iii) The amount of a normal gross profit mark-up to such costs (computed according to the same accounting norms) arising from the transfer or provision of the same or similar property or services by the enterprise, or by an unrelated enterprise, in a comparable uncontrolled transaction, or a number of such transactions, is determined;

iv) The normal gross profit mark-up to account the functional and other differences, if any, between the international transaction and the comparable uncontrolled transactions,

v) The sum so arrived at, is taken to be an arm's length price in relation to the supply of the property or provision of services by the enterprise;

d) **Profit Split Method**

Which may be applicable mainly in international transactions involving transfer of unique intangibles or in multiple international transactions which are so interrelated determining the arm's length price of any one transaction, by which,

i) The combined net profit of the associated enterprises arising from the international transaction, in which they are engaged, is determined;

ii) The relative contribution made by each of the associated enterprises to the earning of such combined net profit, is then evaluated on the basis of the functions performed, assets employed or to be employed and risks assumed by each enterprise and on the basis of

reliable external market data which indicates how such contribution would be evaluated by unrelated enterprise and on the basis of reliable external market data which indicates how such contribution would be evaluated by unrelated enterprises performing comparable functions in similar circumstances;

iii) The combined net profit is then split amongst the enterprises in proportion to their relative contributions,

iv) The profit thus apportioned to the assessee is taken into account to arrive at an arm's length price in relation to the international transaction;

e) Transactional Net Margin Method

i) The net profit margin realized by the enterprise from an international transaction entered into with an associated enterprise is computed in relation to costs incurred or sales effected or

assets employed or to be employed by the enterprise or having regard to any other relevant base;

ii) The net profit margin realised by the enterprise or by an unrelated enterprise from a comparable uncontrolled transaction or a number of such transactions is computed having regard to the same base;

iii) The net profit margin arising in comparable uncontrolled transactions is adjusted to take into account of the differences, if any, between the international transaction and the comparable uncontrolled transactions, or between the enterprises entering into such transactions, which could materially affect the amount of net profit margin in the open market;

iv) The net profit margin thus established is then taken into account

to arrive at an arm's length price in relation to be international transaction.

Illustration I

X Ltd., an Indian company, sells computer CPU to its 100 per cent subsidiary Y Ltd. in United States @ $ 50 per piece. X Ltd. also sells its computer CPU to another company Z Ltd. in United States @ $ 90 per piece. Total income of X Ltd. for the assessment year 2012-13 is 12,

00,000 which includes sales made for 100 computer CPU @ $ 50 to Y Ltd. Compute the arm's length price and taxable income of X Ltd. The rate of one dollar may be assumed to be equivalent to 47.

Solution

Computation of Arm's Length Price and Taxable Income of X Ltd.

Arm's length price:

100 x 90 x 47 = 4, 23,000

Total Income	12, 00, 000
Add: Arm's length price	4, 23,000
	16, 23,000
Less: Price charged 100 x 50 x 47	2, 35, 000
Taxable Income	13, 88, 000

Relevant Points

(1) Transfer pricing is the pricing of internal transfers between profit centres.

(2) Ideally the transfer prices should, promote goal congruence, enable effective performance appraisal and maintain divisional autonomy.

(3) Economy theory suggests that the optimum transfer price would be the marginal cost equal for buying division's marginal revenue product. Transfer prices should always be based on the marginal costs of the supplying division plus the opportunity costs to the organization as a whole.

(4) Because of information deficiencies, transfers pricing in practice does not always follow theoretical guidelines. Typically prices are market based, cost based or negotiated.

(5) Where an appropriate market price exists then this is an ideal transfer price. However, there may be no market for the intermediate product, the market may be imperfect, or the price may be considered unrepresentative.

(6) Where cost based systems are used then it is preferable to use standard costs to avoid transferring inefficiencies.

(7) Full cost transfer pricing for full cost plus a markup suffers from a number of limitations,; it may cause suboptimal decision-making.

The price is only valid at one output level, it makes genuine performance appraisal difficult.

(8) Provided that variable cost equates with economic marginal cost then transfers at variable cost will avoid gross sub optimality but performance appraisal becomes meaningless.

(9) Negotiated transfer prices will only be appropriate if there is equal bargaining power and if negotiations are not protracted.

Transfer price policies represent the selection of suitable methods relating to the computation of transfer prices under various circumstances. More precisely, transfer pricing should be closely related to management performance assessment and decision optimization. But the problem of choosing an appropriate transfer pricing for the two functions of management-performance measurement and decision optimization - does not hold any simple solution. There is no single measure of transfer price that can be adopted under all circumstances.

Part – A
Online Examination from Qn. No. 1 – Qn No.20
Each Question Carry One Mark
UNIT III- POSSIBLE QUESTIONS

PART B

1. Define the term budget
2. Define budgetary control
3. The sales of a concern for the next year is estimated at 50,000 units. Each unit of the product requires 2 units of Material „A and 3 units of Material "B. The estimated opening balances at the commencement of the next year are:

   Finished Product : 10,000
   Raw Material „A : 12,000
   Raw Material „B : 15,000

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

   Finished Product : 14,000
   Raw Material „A : 13,000
   Raw Material „B : 16,000
4. Write any two objectives of budgetary control
5. Material A: 60 tonnes @ Rs. 5 per tonne Material B: 40 tonnes @ Rs.10 per tonne Actual mixture being:

   Material A: 80 tonnes @ Rs.4 per tonne Material B: 70 tonnes @ Rs. 8 per tonne. Calculate

   Material Price Variance

   Material sub-usage Variance, and

   Material Mix Variance
6. Draw a chart showing the classification of budgets?
7. Write a note on zero base budgeting
8. With the help of the following information calculate

(a) Labour cost variance (b) Labour Rate Variance (c) Labour Efficiency Variance Standard hours: 40@ Rs. 3 per hour Actual hours: 50@ Rs. 4 per hour 9. Define standard costing

10. What is meant by variance analysis?
11. Following is the data of a manufacturing concern. Calculate:-Material Cost Variance, Material Price Variance and Material usage variance.

    The standard quantity of materials required for producing one ton of output is 40 units. The standard price per unit of materials is Rs. 3. During a particular period 90 tons of output was undertaken. The materials required for actual production were 4,000 units. An amount of Rs. 14,000 units. An amount of Rs.14, 000 was spent on purchasing the materials
12. List out the different types of variance?
13. From the following particulars calculate the followings:
    A) Total Materials Cost Variance
    B) Materials Price Variance and
    C) Materials Usage Variance

Materials `	Standard Units	Standard Price (Rs)	Actual Units	Actual Price (Rs)
A	1010	1.0	1080	1.2
B	410	1.5	380	1.8
C	350	2.0	380	1.9

14. The standard materials required for producing 100 units is 120 kgs. A standard price of 0.50 paise per kg is fixed 2,40,000 units were produced during the period. Actual materials purchased were 3,00,000 kgs. at a cost of Rs. 1,65,000. Calculate Materials Variance. (MCV - 21,000)
15. Write a note on sales budget
16. Give the meaning for market based transfer pricing
17. Define transfer price

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. Explain the different kinds of functional budget in detail?
2. Define budgetary control and also discuss the advantages and disadvantages of budgetary control?
3. Discuss the steps for establishing system of standard costing?
4. A manufacturing company submits the following figures relating to Product X for the first quarter of 2010:

   Sales Targets : January 60,000 units
   February 48,000 units
   March 72,000 units

   Stock position : 1st January 2010 (% of January 2010 sales) - 50%

   Stock position : 31st March 2010 - 40,000 units

   Stock position : end January & February - 50%
   (% of subsequent Month's Sales)

   You are required to prepare production budget for the first quarter of 2010.
5. The Royal Industries has prepared its annual sales forecast, expecting to achieve sales of Rs.30,00,000 next year. The Controller is uncertain about the pattern of sales to be expected by month and asks you to prepare a monthly budget of sales. The following sales data pertained to the year, which is considered to be representative of a normal year:

Month	Sales (Rs.)	Month	Sales (Rs.)
January	1,10,000	July	2,60,000
February	1,15,000	August	3,30,000
March	1,00,000	September	3,40,000

April	1,40,000	October	3,50,000
May	1,80,000	November	2,00,000
June	2,25,000	December	1,50,000

Prepare a monthly sales budget for the coming year on the basis of the above data.

6. From the following budgeted figures prepare a Cash Budget in respect of three months to June 30, 2006.

Month	Sales Rs.	Materials Rs.	Wages Rs.	Overheads Rs.
January	60,000	40,000	11,000	6,200
February	56,000	48,000	11,600	6,600
March	64,000	50,000	12,000	6,800
April	80,000	56,000	12,400	7,200
May	84,000	62,000	13,000	8,600
June	76,000	50,000	14,000	8,000

Additional information:

1. Expected Cash balance on 1st April, 2006 – Rs. 20,000
2. Materials and overheads are to be paid during the month following the month of supply.
3. Wages are to be paid during the month in which they are incurred.
4. All sales are on credit basis.
5. The terms of credits are payment by the end of the month following the month of sales: Half of credit sales are paid when due the other half to be paid within the month following actual sales.
6. 5% sales commission is to be paid within in the month following sales
7. Preference Dividends for Rs. 30,000 is to be paid on 1st May.
8. Share call money of Rs. 25,000 is due on 1st April and 1st June.
9. Plant and machinery worth Rs. 10,000 is to be installed in the monthof January and the payment is to be made in the month of June.

7. The following information at 50% capacity is given. Prepare a flexible budget and forecast the profit or loss at 60%, 70% and 90% capacity.

Fixed expenses:	Expenses at 50% capacity (Rs.)
Salaries	5,000
Rent and taxes	4,000
Depreciation	6,000
Administrative expenses	7,000
Variable expenses:	
Materials	20,000
Labour	25,000
Others	4,000
Semi-variable expenses:	
Repairs	10,000
Indirect Labour	15,000
Others	9,000

It is estimated that fixed expenses will remain constant at all capacities. Semi-variable expenses will not change between 45% and 60% capacity, will rise by 10% between 60% and 75% capacity, a further increase of 5% when capacity crosses 75%.

Estimated sales at various levels of capacity are:

Capacity	Sales
60%	1,10,000
70%	1,30,000
90%	1,50,000

8. From the following forecasts of income and expenditure, prepare a cash Budget for the month January to April, 2006.

Months	Sales (Credit) Rs.	Purchases (Credit) Rs.	Wages Rs.	Manufacturing expenses Rs.	Administrative expenses Rs.	Selling expenses Rs.

2005 Nov.	30,000	15,000	3,000	1,150	1,060	500
Dec.	35,000	20,000	3,200	1,225	1,040	550
2006 Jan.	25,000	15,000	2,500	990	1,100	600
Feb.	30,000	20,000	3,000	1,050	1,150	620
Mar.	35,000	22,500	2,400	1,100	1,220	570
Apr.	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 of January for Rs.5,000;
4. A building has been purchased on 1st March and the payments are to be made in monthly installments of Rs. 2,000 each.
5. The creditors are allowing a credit of 2 months.
6. Wages are paid on the 1st of the next month.
7. Lag in payment of other expenses is one month.
8. Balance of cash in hand on 1st January, 2006 is Rs. 15,000
9. The expenses of budgeted production of 20,000 units in a factory are furnished below:

Particulars	Per unit (Rs.)
Materials	140
Labour	50
Variable overheads	40
Fixed overheads	20

Variable expenses (direct)	10
Selling expenses (10% fixed)	26
Distribution expenses (20% fixed)	14
Administrative expenses	10

Prepare a Flexible Budget for the production of 16,000 units and 12,000 units. Indicate cost per unit at both the levels.

10. From the following information, calculate material mix variance:

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.
A	40	10	50	12
B	60	5	50	8

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.
A	50	2.00	60	2.25
B	100	1.20	90	1.75

Due to the shortage of material A, the use of material „A was reduced by 10% and that of „B increased by 5%

11. Transfer Pricing is one of the most important issue in international tax"

Do you agree with this statement? Explain

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X6 = 30 (EITHER OR TYPE)**

Karpagam Academy of Higher Education
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(Established Under Section 3 of UGC Act, 1956)
Coimbatore - 641 021.

UNIT II

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Budgetary control is a _____ of costing.	Branch	Technique	Batch	Set	Technique
The process of preparing a budget is known as _____	Budget	Budgeting	Budgetary control	costing	Budgeting
Budgetary control and budgets are the _____	same	Different	Vertical	Horizontal	same
Budgetary control relates to _____	Persons	product	Cost	balance sheet	Persons
Both budgetary control and _____ systems are interrelated.	Marginal costing	Standard costing	Budgeting	Variance	Standard costing
The _____ is the document which lays down the details of the budgeting organization and procedures.	Budget manual	Budget committee	Budget procedure	Budget period	Budget manual
The period covered by a budget is known as _____	Budget committee	Budget period	Budget manual	Budget procedure	Budget period
Generally the budget period is _____	two years	three years	one year	five years	one year
In most of the companies, the key factor is _____	Production	Finance	Sales	Cost	Sales
_____ budget is one among the functional budgets.	Sales	Production	Purchase	Cash	Sales

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
_____ budget is concerned with estimating the probable Output of each product in the forth coming budget period	Sales	Production	Cash	Purchase	Production
_____ refers to the quantity of work that can be performed in one hour.	Standard quantity	Standard hour	Actual hour	Actual quantity	Standard hour
Zero base budgeting overcomes the weakness of _____	Conventional budgeting	Sales budget	Production budget	Master budget	Conventional budgeting
A master budget is also known as _____ all functional budgets.	Summary	Production	Sales	Finance	Summary
A fixed budget is useful only when the actual level of activity corresponds to the _____ levels of activity.	Actual	Budgeted	Manual	Financial	Budgeted
A_____ is a department or section of the organisation defined for the purpose of budgetary control.	Budget committee	Budget centre	Budget manual	Budgeting	Budget centre
_____will influence the effects of all other budgets.	Key factor	Production	Sales	Finance	Key factor
A _____ budget is one which is established for use unaltered over a long period of time	Basic	Current	Sales	Production budget	Basic
_____ is a plan of estimated receipts and payment of cash for the budget period	Cash budget	Sales budget	Production budget	Purchase budget	Cash budget
_____ budget is one which incorporate all functional budgets.	Master	Flexible	Sales	Finance	Master

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
_____ budget is a budget which is designed to change in accordance with the level of activity actually attained.	Master	Flexible	Fixed	Sales	Flexible
_____ budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained.	Master	Flexible	Fixed	Sales	Fixed
The difference between the budgeted figures and actual figures is ___	Variance	Profit	Sales	Cost	Variance
_____ ratio gives the percentage of actual hours worked to the budgeted hours.	Capacity	Efficiency	Activity	cost	Capacity
Sales budget is a _____	functional budget	Expenditure budget	Master budget	Cost budget	functional budget
The difference in fixed cost and variable cost is a special significance in the preparation of ____	Cash budget	Static budget	Flexible budget	Master budget	Flexible budget
The budget which is prepared first of all is _____	Budget for key factor	Cash budget	Master budget	Flexible budget	Budget for key factor
A budget manual contains a summary of the responsibility of the persons engaged in the routine of and the forms and records required for_____	All financial budgets	Ratio	Budgetary control.	Flexible budget	Budgetary control.
Key factor is also known as ___ factor	principal	Limiting	Governing	covering	principal
The budgets are proper for a given level of activity, the budget is prepared before the beginning of a financial year is _____	Flexible	Fixed	Sales	Master	Flexible

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
A factor which influences all other budget	Limiting factor	Production factor	Main factor	Cost factor	Limiting factor
_____ budget is a plan of estimated receipts and payments of cash for the budget period.	Cash	Sales	Production	Raw material	Production
Before the implementation of the master budget it must be approved by the _____	Budget committee	Board of directors	Share holders	Government	Budget committee
Both budgetary control and _____ systems are inter related .	Marginal costing	Budgeting	Standard costing	Process costing	Budgeting
_____ is based on prospective approach	Performance budgeting	Flexible budgeting	Zero base budgeting	Functional budget	Performance budgeting
Zero base budgeting technique was first used in America in the year __	1960	1962	1968	1970	1962
Zero base budgeting was originally developed by _____	Peter A. Pyre	Brown & Howard	ICMA	ICSI	Peter A. Pyre
Ratios which are used to compare, to control and to appraise the operations of the management are known as ___	Control ratios	Current ratios	p/v ratio	profit ratios	Control ratios
Budgetary control is a system which uses budget as a means of _____ and controlling.	Planning	Staffing	Co-Ordination	Organizing	Planning
A budget is a plan of action for a _____ period.	Previous	Future	current year	past years	Future
A budget guides every manager in the process.	Planning	Staffing	Organizing	Decision making	Decision making

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
In budgetary control ____ costs are recorded	Actual	Variable	Fixed	Expected	Actual
Budgeted costs are compared with_____	Actual costs	Variable costs	Fixed costs	Expected	Actual costs
Activities of various departments are _____	Planned	Organized	Co-ordinated	Controlled	Co-ordinated
The _____ of a business must be defined clearly	Objectives	Delegation	Co-Operation	Flexibility	Objectives
Budgeting must have the complete _____ of the top management.	Objectives	Delegation	Co-Operation	Flexibility.	Co-Operation
Employee should be educated about the merits of _____ systems.	Budgeting	Budgetary control	Budget	Cost	Budgetary control
The employees must be _____ to improve their efficiency.	Motivation	Reporting	Follow up action	Cost of operation	Motivation
A good budgetary control system should include _____	Motivation	Reporting	Follow up action	Cost of operation	Follow up action
The _____ of budgetary control system should be considered	Motivation	Reporting	Follow up action	Cost of operation	Cost of operation
A good organization must be developed in order to achieve ____ benefits.	Maximum	Minimum	limited	unlimited	Maximum
The _____ must should not be an expensive one.	Motivation	Reporting	Follow up action	Cost of operation	Cost of operation
A _____ may be a department or section of a department or any other part of the department.	Budgetary control	Budges centers	Budget manual	Cost Centre	Cost Centre

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Budgets centers is also necessary for _____purpose	Control	Co-ordinate	Motivate	Organize	Control
The head or a budgetary control organisation is designed as the_____	Budgetary control	Budges centers	Budget officer	Budget manual	Budget officer
_____ is a written record.	Budgetary control	Budges centers	Budget officer	Budget manual	Budget manual
The budget officer is assisted by a _____	Budgetary control	Budges centers	Budget committee	Budget period	Budget committee
The _____ may be short term or long term.	Budgetary control	Budget centers	Budget committee	Budget period	Budget period
Production budget = Budgeted sales +	Opening stock - Closing stock	Opening stock - Purchases	Opening stock + Purchases	Opening Stock + Closing Stock	Opening stock - Closing stock
Purchase budget is a _____ budget	Fixed budget	Flexible budgeting	function budget	Cost budget	Functional Budget

UNIT III : Standard Costing : Standard Costing and Variance Analysis - Meaning of Standard Cost and Standard Costing - Advantages - Limitations and Applications – Variance Analysis - Material - Labour - Overheads and Sales variances - Disposition of Variances – Control Ratios – Ratio Analysis – Short term Solvency – Profitability – Turnover.

STANDARD COSTING

Standard costing is a specialized technique of costing under which standard costs are pre-determined, actual costs are compared with such pre-determined costs, the variations between the two are noted and analysed as to their causes so that corrective measures may be taken to control the factors leading to unfavorable variations.

The system of standard costing, thus, involves various steps- from the setting up of standards to finally exercising control over cost. It aims at assessing or prefixing the costs of a product, process or operation under standard operating conditions. It serves as an effective tool in the hands of the operating conditions. It serves as an effective tool in the hands of the management for planning, coordination and control of various activities of the business.

There is a continuous process of growth effected in business through the help of standard costing technique since the standard costs set in realistic, capable of being attained and are revised from time to time according to needs and requirements of the business enterprise. This technique is implemented in conjunction with the system of budgetary control, provides better and more successful operation of the business.

DEFINITION OF STANDARD COSTING

According to the Chartered Institute of Management Accountants, London, Standard Costing is "the preparation and use of standard costs, their comparison with actual costs, and the analysis of variances to their causes and points of incidence."

According to W.W. Bigg, "Standard Costing discloses the cost of deviations from standard and classifies these as to their causes, so that management is immediately informed of the sphere of operations in which remedial action is necessary."

Thus standard costing is a method of ascertaining costs whereby statistics are prepared to show:

The standard costs,

The actual costs: and

The difference between these costs which is termed as variance.

Standard costs are determined for each element of cost – direct materials, direct labour, overheads (Fixed and Variable)

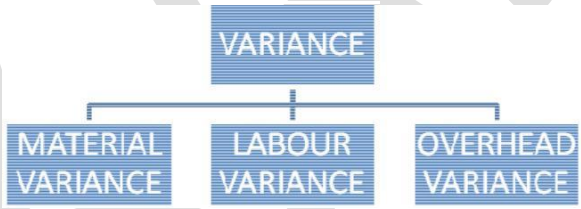
VARIANCE ANALYLSIS:

If the deviation of the actual cost or profit or sales from the standard cost or profit or sales is known as variance.

If the actual cost is less than the standard cost, it is favourable.

If the actual cost is more than the standard cost, it is unfavourable or adverse.

TYPES OF VARIANCE ANALYSIS



MATERIAL VARIANCES:

Material Cost Variance = Standard cost of materials for actual output – Actual cost of material used

Material Price Variance = Actual usage (Standard unit price – Actual unit price)

Material Usage Variance Or Quantity Variance = Standard price per unit
(Standard quantity + Actual quantity)

Material Mix Variance:

A) Actual weight of mix and standard weight of mix do not differ:

MMV = Standard unit cost (Standard quantity - Actual quantity) or

Standard cost of revised standard mix - Standard cost of revised actual mix

B) Actual weight of mix differs from standard weight of mix:

MMV = Total weight of actual mix /Total weight of revised standard mix – standard cost of actual mix.

Material Yield Variance :

A) When standard and actual mix do not differ:

MYV = Standard rate (Actual yield – Standard Yield)

Standard rate = Standard cost of standard mix / Net standard output

B) When actual mix differs from standard mix :

MYV = Actual Yield - revised standard yield

Labour Variances:

a) Labour Cost Variance = Standard cost of labour - Actual cost of labour
b) Labour rate Variance = Actual time taken (Standard rate – Actual rate)
c) Total Labour Efficiency Variance = Standard rate (standard time for actual output – Actual time paid for)

d) Labour Efficiency Variance : Standard rate (Standard time for actual output - Actual time worked)

Standard Costing and Variance Analysis Problems & Solution:
Problem 1:

Materials Variance Analysis:

The Schlosser Lawn Furniture Company uses 12 meters of aluminum pipe at $0.80 per meter as standard for the production of its Type A lawn chair. During one month's operations, 100,000 meters of the pipe were purchased at $0.78 a meter, and 7,200 chairs were produced using 87,300 meters of pipe. The materials price variance is recognized when materials are purchased.

Required: Materials price and quantity variances.

Solution:

		Meters of pipe	Unit Cost	Amount
Actual quantity purchased		100,000	$0.78	
actual quantity purchased		100,000	actual	$78,000
		----------	$0.80	
Materials purchase price variance		100,000	standard	$80,000
			----------	----------
		=======	$(0.02)	$(2,000) fav.
Actual quantity used		87,300	=======	=======
Standard quantity allowed		86,400	0.80	
		----------	standard	$69,840
Materials variance	quantity	900	0.80	
		=======	standard	$69120
			----------	----------
			0.80	$720 Unfav
			=======	=======

Problem 2:

Materials Variance Analysis:

The standard price for material 3-291 is $3.65 per liter. During November, 2,000 liters were purchased at $3.60 per liter. The quantity of material 3-291 issued during the month was 1775 liters and the quantity allowed for November production was 1,825 liters. Calculate materials price variance, assuming that:

Required: Materials price variance, assuming that:

1. It is recorded at the time of purchase (Materials purchase price variance).

2. It is recorded at the time of issue (Materials price usage variance).

Solution:			
	Liters	Unit cost	Amount
Actual quantity purchased	2,000	3.60 actual	$7,200
Actual quantity purchased	2,000	3.65 standard	7,300
	---------	----------	---------
Materials purchase price variance	2,000	$ (0.05)	$(100) fav.
	======	======	==========
Actual quantity used	1775	3.60 actual	$6390.00
Actual quantity used	1775	3.65 standard	$6478.75
	--------	----------	----------
Materials price usage variance	1775	$(0.05)	(88.75)
	======	======	==========

Problem 3:

Labor Variance Analysis:

The processing of a product requires a standard of 0.8 direct labor hours per unit for Operation 4-802 at a standard wage rate of $6.75 per hour. The 2,000 units actually required 1,580 direct labor hours at a cost of

$6.90 per hour.

Required: Calculate:

1. labor rate variance or Labor price variance.

2. Labor efficiency or usage or quantity variance.

Solution:

	Time	Rate	4,000 units 1 hour ---------- 4,000 hours ==========	Amount
Actual hours worked	1,580	$6.90 actual	4,000 hours	$10,902
Actual hours worked	1.580	$6.75 standard	(200) hours	10,665
	--------	--------	----------	----------
Labor rate variance	1,580	$0.15	3,800 hours	$237 unfav.
	=====	=====	==========	=====
Actual hours worked	1,580	$6.75 standard	$4.00	$10,665
Standard hours allowed	1,600	$6.75 standard	0.20	$10,800
	----------	----------	$4.20	----------
Labor efficiency variance	(20)	6.75 standard	==========	$(135) fav.
	==========	==========	$12,000	==========
			500	

			$12,500	
			==========	

ACTIVITY BASED COSTING

Activity-Based Costing (ABC) is a costing model that identifies activities in an organization and allocates the indirect resources to each activity for completion of the production of goods and services. It relates indirect cost to the activities that drive them to be incurred.

In traditional costing system, the indirect costs are allocated on the basis of volume of output. Over a period of time, the technology has been improved and it requires adopting a change in method of cost structures for the allocation of overhead on the basis of cost drivers.

Definition

Activity Based costing is "A method of measuring the cost and performance of activities and cost objects. Assigns cost to activities based on their use of resources and assigns cost to cost objects based on their use of activities. ABC recognizes the causal relationship of cost drivers to activities."
-- Peter B. B. Turney

Some examples of indirect costs and their drivers are:

1. ***Maintenance costs*** are indirect costs and the possible driver of this cost may be *the number of machine hours,*
2. ***Handling raw-material cost*** is another indirect cost that may be driven by *the number of orders received,*
3. ***Inspection costs*** that are driven by *the number of inspections or the hours of inspection or production runs.*

Generally, the cost driver for short term indirect variable costs may be the volume of output/ activity; but for long term indirect variable costs, the cost drivers cannot be related to volume of output/ activity.

Example

The activity is delivering goods. The costs of this activity include the truck drivers' wages, fuel, depreciation of the truck, insurance, etc. The quantities of the resources that will be consumed by this activity are influenced by the number of deliveries made per year. Hence the cost driver could be the number of deliveries. A cost driver is designed to allocate the delivery activity cost pool to the cost objects.

The activity driver measures how much of the activity is used by the cost object. **Example:** Product A is delivered once a month, whereas product B is delivered once a week. Products A and B require a different number of deliveries, hence the cost of the delivery activity should be assigned to each product on the basis of the number of deliveries each uses.

We can classify the cost drivers into two categories such as structural and execution. ***Structural cost drivers*** that are derived from the business strategic choices about its underlying economic structure such as scale and scope of operations, complexity of products, use of technology, etc and ***Execution cost drivers*** that are derived from the execution of the business activities such as capacity utilization, plant layout, work-force involvement, etc.

The establishment of cost drivers are essential for the different cost pool stream to carry out Activity based costing. It is developed to provide more-accurate ways of assigning the costs of indirect and support resources to activities, business processes, products, services, and customers.

ABC systems recognize that many organizational resources are required to provide a wide arrangement of support activities that enable a variety of products and services to be produced for a varied group of customers. The ABC goal is to measure and then price out all the resources used for activities that support the production and delivery of products and services to customers.

The basis of Activity Based Costing is

1. Identify the activities required to produce the cost of the product or service.
2. Allocate the resources on each activity
3. Establish the cost drivers on each activity and count its numbers,
4. Determine the cost per cost drivers,
5. Determine the amount of activity required for each product and service
6. Determine the real cost for a single product or services.

ACTIVITY	COST DRIVER
Production set-up	Number of production runs
Production control changes	Number of production process
Engineering orders	Number of engineering change
Maintenance	Number of machine hours
Power	Number of kilowatt hours

Difference between Traditional Cost System and Activity Based costing system

1 Uses Unit Based Costing Recognizes activities are the causes of costs

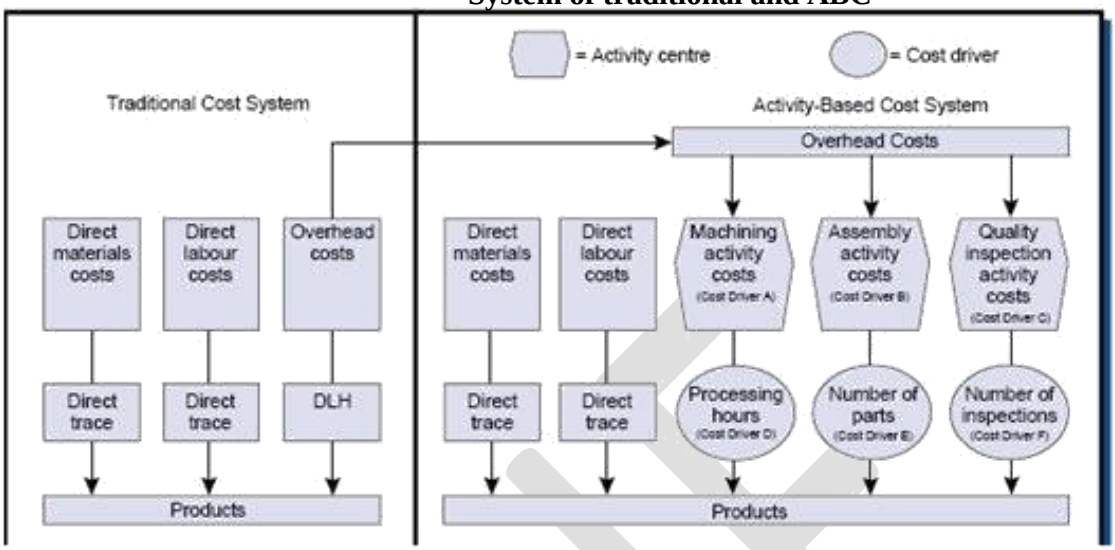
2 Geared to manufacturing Concepts can be implemented environments outside manufacturing

3 Useful in a one product Valuable in a multi-product environment environment

4 External reporting focus Internal management decision making focus

5 Potential for poor decisions due Potential to cut costs by to product cross-subsidization identifying the "true" costs of the product and increase profitability

System of traditional and ABC



In Traditional cost models the resources are applied to products in two ways. That is known as direct costs and indirect cost. The direct cost is the cost which is attributed directly to the product e.g., material and direct labor whereas the indirect cost like sales, marketing and administrative costs are not included in product costs.

Activity Based Costing (ABC) does not change the way material and direct labor are attributed to manufactured products. The primary task of activity based costing is to break out indirect activities into meaningful pools which can then be assigned to processes in a manner which better reflects the way costs are actually incurred. The system must recognize that resources are consumed by processes or products in different proportions for each activity.

All costs are existed in resources like material, labor, space, equipment and services. Resources are consumed by activities which have no inherent cost. The cost associated with activities represents the amount of resource they consume per unit of activity. Resources and activities are then applied to cost objects, that is, the purpose for which the resource is consumed and the activity is performed.

The resource and activity is measured in terms of units which defines the amount of the resource consumed or activity required by a unit of demand for it. Resources can be consumed by resources (e.g. office space resource is consumed by an employee resource), by activities (e.g. telephone resource is consumed by a customer service call activity) or by cost objects (e.g. material resource is consumed by a product cost object).

Activities can be performed in support of another activity (e.g. invoice printing activity supports the billing activity) or in response to a cost object (e.g. purchase orders are issued to support the material acquisition process). A cost object can be a process or product and either an interim cost object or an end user (customer) cost object. For example, hiring personnel may be a cost object of Human Resources Department utilizing space, utility, telephone, supply and labor resources and performing advertising, calling, interviewing and orientation activities. That cost object may be a resource used by other departments to secure labor resource for their department.

A network of resources, activities and cost objects are to be constructed in the operational flow of the process. Each resource and activity has a unit of measure which converts them at a unit of demand rate. First, we need to understand the business process and it is to be identified and develop a cost model. The cost model is essential and it must be useful

and effective in determining the process. The costs are attached to determine the cost of the defined process.

Activity-Based-Costing is necessary for the following reasons.

To Understand True profitability of the customers, products, or services

To Quantify the cost of non-value added activities such as errors and reworks,

To Identify opportunities to reduce costs and/or increase efficiency,

To Obtain actionable information to negotiate price increases for unprofitable clients,

To Understand why profitability may be mediocre despite good Strategic fundamentals,

To Stratify overhead costs so they can be managed more effectively

ABC Model

The objective of an ABC implementation is to relate all of the costs of doing business to products, services, or customers. Developing the initial model consists of the following five steps:

1. Identification of the Resources (expenditures) of an organization
2. Determination of Activities (work performed) that are supported by Resources
3. Description of the Cost Objects (products, services, customers)
4. Development of Resource Drivers to link Resources to Activities
5. To Develop the Cost Drivers to link Activities to Cost Objects

1: Identification of Resources

Resources represent the expenditures of an organization.

Example: production labour, sales and marketing labor, occupancy and utilities, equipment, and supplies. These are the same costs that are represented in a traditional accounting view; unlike traditional accounting, ABC links these costs to products, customers, or services.

2: Determination of Activities

Activities represent the work performed in an organization.

Example: ABC Activities for the sales department in a typical organization might include: Making sales calls to existing customers, Making sales calls to potential customers, Making customer service calls, Training product representatives, Evaluating products and improving product knowledge, Distributing samples, Attending trade shows and other events.

In traditional accounting, the cost of the sales department is breaking into salaries, benefits, allocated rent, supplies, and so on. Unlike traditional accounting, which reports what the costs are (i.e. salaries, benefits, rent); ABC accounts for these costs based on what activities caused them to occur. By determining the actual activities that occur in

various departments, such as accounting, customer service, and sales, it is then possible to more accurately relate these costs to customers, products, and services.

3: Description of the Cost Objects

ABC provides profitability by one or more cost object, usually represented by products, customers, and/or services. Cost Object profitability is utilized to identify money losing customers, to validate separate divisions or business units, or to measure the performance of individual projects, jobs, or contracts. Defining the outputs to be viewed is an important step in a successful ABC implementation.

4: Determination of Resource Drivers

Resource Drivers provide the link between the expenditures of an organization and the Activities performed within the organization.

For example, the total salary of a customer service representative would likely be allocated to the Activities performed based on the amount of time spent performing the Activity. If 50% of her time is spent performing the activity, taking orders for existing customers, 50% of her salary (including all costs such as benefits, taxes, and insurance) would be allocated to this Activity.

5: Determination of Cost Drivers

Determination of Cost Drivers completes the last stage of the model. Cost Drivers trace, or link, the cost of performing certain Activities to Cost Objects.

For example, taking orders for existing customers may be linked to specific customers based on the number of orders taken, if each order takes approximately the same amount of time. If order taking time varies based on the customer, this cost may be linked based on another driver or multiple drivers.

Today, companies are using ABC to make better-informed decisions about pricing, what type of customers to pursue, and what products or services to offer. Activity-Based Costing determines the TRUE COST & PROFITABILITY of customers, products, and/or services. While traditional accounting may provide the business with an accurate sense of the direct costs of the products or services, indirect costs are often less accurately applied. Overhead, such as customer support or marketing costs tend to be allocated based on arbitrary factors.

Activity-Based Costing measures the costs and profits of an organization based on the activities performed within that organization. By focusing on processes that contribute to revenues and business operations, ABC can accurately determine how each process relates back to specific products, customers, or services. This can make a big difference after considering warehouse, sales, customer service, administration and other costs that are often applied at a standard rate, if at all. With ABC, he organization can drill into profitability and performance and any other factor.

TARGET COST

Target cost is the maximum amount of cost that can be incurred on a product, however, the firm can still earn the required profit margin from that product at a particular selling price. Target costing decomposes the target cost from product level to component level. Broadly speaking, a target costing system has three objectives:

a. To lower the costs of new products so that the required profit level can be ensured.

b. The new products meet the levels of quality, delivery timing and price required by the market.

c. To motivate all company employees to achieve the target profit during new product development by making target costing a companywide profit management activity.

For any system to be effective in supporting decision making in an organization, the staff from the relevant departments must come together in order to tap their creativity so as to achieve goals. In other words, the company requires a non-conflicting and rational system for consensus building and decision-making.

5. Target Costing Process:

Just as there is no single definition of target costing, there is no single target costing process.

Nevertheless, all companies share a series of general steps:

a. Establishing the target price in the context of market needs and competition;

b. Establishing the target profit margin;

c. Determining the allowable cost that must be achieved; this cost should motivate all personnel to achieve;

d. Calculating the probable cost of current products and processes; and finally,

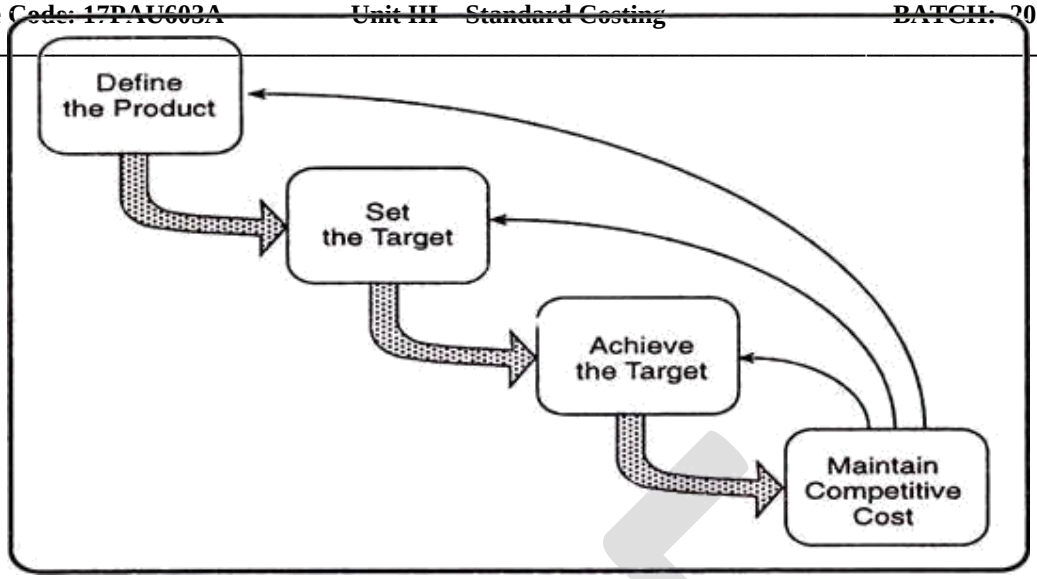
e. Establishing the target amount by which current costs must be reduced.

Once the target cost has been calculated, companies take the following steps to achieve it:

a. Establishing a cross functional team, which is involved in the implementation process from the earliest design stages,

b. Using tools such as value engineering in the design process; and

c. Pursuing cost reductions using **"kaizen costing"** once production has started.



A number of techniques and tools facilitate an effective and efficient costing process. Three externally oriented analyses market assessment tools, industry and competitive analysis and reverse engineering provide a firm with a foundation for defining the proposed new product and establishing its price.

The determination of the target profit margin relies heavily on the comprehensive and detailed financial planning and statement analysis. Every firm has relationship between prices, volumes and revenues; costs and investments, in the aggregate and for specific product lines and individual products. The management team should explore other tools like value engineering and quality function deployment.

6. Advantages of Target Costing: Main advantages of target costing are:

a. It reinforces top to bottom commitment to process and product innovation to achieve some competitive advantages.

b. It helps to create a company's market-driven management for designing and manufacturing products that meet the price required for the market success.

c. It uses management control system to support and reinforce manufacturing strategies, and to identify market opportunities that can be converted into real saving to achieve the best value for money rather than simply achieving the lowest cost.

d. Assures that products are better matched to their customers' needs.

e. Aligns the costs of features with customers' willingness to pay for them.

f. Reduces the development cycle of a product.

g. Reduces the costs of products significantly.

h. Increases the teamwork among all internal organizations associated with conceiving, marketing, planning, developing, manufacturing, selling, distributing and installing a product.

i. Engages customers and suppliers to design the right product and to more effectively integrate the entire supply chain.

7. Reasons for the Late Development of Target Costing:

Although target costing emerged more than 30 years ago, yet only in 1990's this system came into notice. Main reasons for late popularity of target costing could possibly be that target costing focuses heavily on new product development and Japanese companies which practice the system most are very secretive about their new products/activities.

Also, popularity of Japanese Just-in-time inventory system had dominated the attention of industry in 1980's and, therefore, target costing got the second seat.

8. Problems with Target Costing:

Talk with customers about a new product concept, find out which features they like and don't like, and find out how much they would pay. Subtract an acceptable profit margin, and you're left with the target cost of the product. Now all you have to do is get everyone inside and outside the company to adhere to this number. It sounds simple enough.

It is easier said than done. Yet, target costing-a cost-management process imported from Japan—is helping a few dozen companies in the United States gain an edge by having them listen harder to customers to gauge the right product or service price.

Boeing, Eastman Kodak, and Honda of America, for example, as well as pioneers Daimler Chrysler and Caterpillar, have implemented the strategy, reversing the way they traditionally design, price, and sell new products.

Companies that have implemented the cost-management strategy insist they have boosted profitability. But, although virtually the entire Japanese manufacturing sector has gone the target-costing route since its inception in the 1970s, it hasn't exactly taken root here in India.

Target Costing has a few problems that one should be aware of and guard against. These problems are as follows:

a. The development of the process can be lengthened to a considerable extent since the design team may require a number of design iterations before it can devise low cost product that meets the

target cost and margin criteria. This occurrence is most common when the project manager is unwilling to discontinue a design project that cannot meet its costing goals within a reasonable time frame.

Usually, If there is no evidence, it is better to either drop a project or at least shelve it for a short time and then try again, on the belief that new cost reduction methods or less expensive materials will be available in the near future that will make the target cost an achievable one.

b. A large amount of mandatory cost cutting can result in finger pointing in various parts of the company; especially if employees in one area feel they are being called on to provide a disproportionately large part of the saving.

For example the industrial staff will not be happy if it is required to completely alter the production layout in order to generate cost saving, while the purchase staff is not required to make any cost reductions through supplier negotiations. Avoiding this problem requires strong interpersonal and negotiation skills on the part of the project manager.

c. A design team having representatives from the number of departments can sometimes make it more difficult to reach a consensus on the proper design because there are too many opinions regarding design issues.

Life-Cycle Costing

Life-Cycle Costs are all the costs associated with the product for its entire life cycle. Product life cycle costing traces costs and revenues of each product over several calendar periods throughout their entire life cycle.

The costs are included in different stages of the product life cycle.

Development phase -R&D cost/Design cost.

Introduction phase – Promotional cost/Capacity costs.

Growth phase/Maturity – Manufacturing cost/Distribution costs/Product support cost.

Decline/Replacement phase – Plants reused/sold/scrapped/related costs.

Manufacturers would base life cycle costing expense allocations on an expected number of units to be sold over the product's life. Each period's internal income statement using life cycle costing would show revenues on a life-to-date basis along-with total cost of goods sold, total R and D project costs and total distribution and other marketing costs.

Benefits:

The following are the benefits of product life cycle costing:

(i) It results in earlier actions to generate revenue or to lower costs than otherwise might be considered.

(ii) It ensures better decision from a more accurate and realistic assessment of revenues and costs, at-least within a particular life cycle stage.

(iii) It promotes long-term rewarding.

(iv) It provides an overall framework for considering total incremental costs over the life span of the product.

Effects of Life-Cycle Costing:

Life cycle costing helps companies to be aware of where their products are in their life cycles, because in addition to the sales effects, the life-cycle stage may have a tremendous impact on costs and profits. The life-cycle impact on each of these items is shown in the following table

Stage	Costs	Approach to Costing	Sales	Profits
Development	No production costs, but R&D costs very high	Target costing	None	None; large loss on product due to expensing of R&D costs
Introduction	Production cost per unit; probably engineering change costs; high advertising cost	Kaizen costing	Very low unit sales; selling price may be high (for early profits) or low (for gaining market share)	Typically losses are incurred partially due to expensing of advertising
Growth	Production cost per unit decreases (due to learning curve and spreading fixed overhead over many units)	Kaizen costing	Rising unit sales; selling price is adjusted to meet competition	High
Maturity	Production cost per unit stable; costs of increasing product mix begin to rise	Standard costing	Peak unit sales; reduced selling price	Falling
Decline	Production cost per unit increases (due to fixed overhead being spread over a lower volume)	Standard costing	Falling unit sales; selling price may be increased in an attempt to raise profits or lowered in an attempt to raise volume	May return to losses

Part – A

Online Examination from Qn. No. 1 – Qn No.20

Each Question Carry One Mark

POSSIBLE QUESTIONS - PART B

1. Define target costing
2. What is meant by life cycle cost?
3. Define total cost

4. Material A: 60 tonnes @ Rs. 5 per tonne Material B: 40 tonnes @ Rs.10 per tonne Actual mixture being:

Material A: 80 tonnes @ Rs.4 per tonne Material B: 70 tonnes @ Rs. 8 per tonne. Calculate

Material Price Variance

Material sub-usage Variance, and

Material Mix Variance

5. With the help of the following information calculate

(a) Labour cost variance

(b) Labour Rate Variance

(c) Labour Efficiency Variance

Standard hours: 40@ Rs. 3 per hour Actual hours: 50@ Rs. 4 per hour

7. Define standard costing
8. Following is the data of a manufacturing concern. Calculate:-Material Cost Variance, Material Price Variance and Material usage variance.

The standard quantity of materials required for producing one ton of output is 40 units. The standard price per unit of materials is Rs. 3. During a particular period 90 tons of output was undertaken. The materials required for actual production were 4,000 units. An amount of Rs. 14,000 units. An amount of Rs.14, 000 was spent on purchasing the materials

9. List out the different types of variance?
10. From the following particulars calculate the followings:
    A) Total Materials Cost Variance
    B) Materials Price Variance and
    C) Materials Usage Variance

Materials	Standard Units	Standard Price (Rs)	Actual Units	Actual Price (Rs)
A	1010	1.0	1080	1.2
B	410	1.5	380	1.8
C	350	2.0	380	1.9

11. The standard materials required for producing 100 units is 120 kgs. A standard price of 0.50 paise per kg is fixed 2,40,000 units were produced during the period. Actual materials purchased were 3,00,000 kgs. at a cost of Rs. 1,65,000. Calculate Materials Variance. (MCV - 21,000)

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. "Target cost is an approach to determine a product life cycle cost which is sufficient to develop specified functionality and quality" Discuss
2. Structural cost should be managed and planned according to quantitative and qualitative required for internal activities not related to product standard of performance" Elaborate
3. Describe the benefits of Target Costing.
4. Describe the major characteristics of life cycle cost concept?
5. From the following information, calculate material mix variance:

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.
A	40	10	50	12
B	60	5	50	8

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.
A	50	2.00	60	2.25
B	100	1.20	90	1.75

Due to the shortage of material A, the use of material „A was reduced by 10% and that of „B increased by 5%

6. "ABC system recognizes the relationship between costs, activities and products and it assigns indirect costs to products" Describe this statement with suitable illustration?
7. "Activity Based Costing is an accounting method that identifies the activities that a firm performs" Comment
8. "Activity Based Costing is a best tool for controlling and reducing the cost" Comment
9. "Activity Based Costing identifies the activities that a firm performs" Comment
10. Explain the advantages and limitations of standard costing?

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X6 = 30 (EITHER OR TYPE)**

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UNIT III

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
The deviation of the actual cost from the standard cost is known as _____	Profit	Loss	Variance	invariable	Variance
_____ variance is the difference between standard cost of labour and actual cost of labour	Labour cost	Labour rate	Labour efficiency	Idle time	Labour Cost
Labour efficiency variance is = Labour rate variance + ____	Labour mix variance	Labour yield variance	Labour Rate variance	Labour Cost variance	Labour yield variance
_____ concerned with the control of expenses	Budgetary control	Standard costing	Marginal costing	Cost Management	Standard costing
_____ is one which tends to vary does with the volume of output.	Fixed cost	Variable cost	Total cost	Average cost	Variable cost
_____expenses are those expenses which vary according to the units of production.	Fixed	Variable	Semi- variable	Marginal	Variable
_____expenses are those which are partly constant and partly variable.	Fixed	Variable	Semi- variable	Marginal	Semi- variable

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Recording of actual performance is_____	a step in budgetary control	an advantage of budgetary control	a limitation of budgetary control	Systematic of economic refotm	a step in budgetary control
Standard costing is a _____	technique	procedure	method	system	technique
Standard cost is a _____	Past cost	Future cost	Planned cost	Concurrent cost	Planned cost
_____variance is the difference between the standard cost of materials specified and the actual cost of materials used	Material cost	Material price	Material usage	Material yield	Material cost
Material cost variance may be classified into_____ groups	Two	Three	Four	Five	Two
Which department is responsible for material price variance _____	Sales department	Production department	Finance department	Accounting department	Production department
_____ variance arises due to the difference between standard usage and actual usage of material	Material yield	Material usage	Material price	Material mix	Material price
Which department is responsible for labour rate variance?	Sales department	Personal department	Finance department	Accounting department	Personal department
Standard input allows for one unit is divided by standard cost per output unit for variable direct cost input to calculate _____	Standard price per input unit	Standard price per output unit	Standard cost per input unit	Standard cost per output unit	Standard price per input unit
Consideration of decreased operating income relative to budgeted amount in static budget is classified as _____	Revenue variance	Cost variance	Favorable variance	Unfavorable variance	Unfavorable variance
Quantity of input which is carefully determined is called _____	Output unit	Input unit	Standard input	Standard output	Standard input

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Variance is stated difference between expected performance and the _____	Revenue planning	Actual results	Marketing results	Cost planning	Actual results
A costing system which focuses on individual activities as particular cost object is classified as _____	Activity based costing	Improved costing	Learned improvements	Positive effectiveness	Activity based costing
Difference between actual input variance and budgeted input variance is called _____	Price variance	Actual output price	Budgeted output price	Actual selling price	Price variance
The deviation of the actual cost from the standard cost is known as _____	Profit	Loss	Variance	invariable	Variance
_____ variance is the difference between standard cost of labour and actual cost of labour	Labour cost	Labour rate	Labour efficiency	Idle time	Labour Cost
_____ = Labour rate variance + Labour yield variance	Labour mix variance	Labour efficiency variance	Labour Rate variance	Labour Cost variance	Labour efficiency variance
_____ concerned with the control of expenses	Budgetary control	Standard costing	Marginal costing	Cost Management	Standard costing
_____ is a cost management tool for reducing the overall cost of a product	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
_____ will help to reduce the overall cost of a product over its entier life cycle with the help of production, engineering, research and design	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
_____ is driven by external market factors	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
Target costing which has been widely used by _____ firms since 1970's	Japanese	Germany	Britain	USA	Japanese
Target costing which has been widely used by firms since _____	1980's	1970's	1960's	1990's	1970's

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
_____ allows the profitability of a product to be determined before it is produced	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
In_____, profit will be determined before designing and introducing the product	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
_____ is the maximum amount of cost that can be incurred on a product	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
Target costing system has _____ objectives	3	4	8	7	3
Target costing has _____ process	8	4	3	7	4
_____ is the first process in Target costing	Define the product	Set the target	Achieve the target	Maintain competitive cost	Define the product
_____ is the second process in Target costing	Define the product	Set the target	Achieve the target	Maintain competitive cost	Set the target
_____is the third process in Target costing	Define the product	Set the target	Achieve the target	Maintain competitive cost	Achieve the target
Target costing =	sales-total cost	Anticipated selling price - desired profit	Anticipated selling price + desired profit	Sales - Fixed cost	Anticipated selling price - desired profit
Procurement and production costing technique that considers all _____	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
_____ aims to determine the loweset cost of ownership of a fixed asset	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
In manufacturing, _____ aims to estimate not only the production costs, but also how much revenue a product will generate	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
The determination of_____ is an integral part of the asset management process	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
Life cycle begins with _____	Introduction of new product	Maturity	Growth	Decline	Introduction of new product
ABC denotes _____	Activity better costing	Activity based costing	Activity based control	Already better control	Activity based costing

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
ABC is a modern term used to for finding out ----------	Cost	Profit	Loss	Revenue	Cost
_____ focus is on activities as the fundamental cost objectives	Target cost	Transfer cost	ABC	Job cost	ABC
_____ was activities as the basis for calculating the costs of goods and service	Target cost	Transfer cost	ABC	Job cost	ABC
_____ attempts to absorb indirect over heads into product costs on a more realistic basis	Target cost	Transfer cost	ABC	Job cost	ABC
In a _____ system, direct costs are allocated to various products on the basis of use and indirect costs are allowed through cost centres	Traditional costing	ABC	Target costing	Transfer price	ABC
AMT denotes _____	Advanced manufacturing technology	Alternate manufacturing technology	Alternate modern technology	Advanced modern technology	Advanced manufacturing technology
There are _____ components in ABC	4	5	3	2	4
The traditional system of classifying over heads into _____ ways	4	5	3	2	2
The traditional system of identifying over heads into _____ and_____	Fixed and semi variable cost	Variable cost and semi variable cost	Fixed and Variable cost	Semi variable and fixed cost	Fixed and Variable cost
The first step in implementing ABC is _____	Identifycation of functional areas	Identify the relevant activities	Collect accurate data on labour	Allocate the common expenditure	Identifycation of functional areas
The Second step in implementing ABC is_____	Identifycation of functional areas	Identify the relevant activities	Collect accurate data on labour	Allocate the common expenditure	Identify the relevant activities

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
The Third step in implementing ABC is _____	Identifying of functional areas	Identify the relevant activities	Collect accurate data on labour, materials and overhead costs	Allocate the common expenditure to various activities	Collect accurate data on labour, materials and overhead costs
In_____ , the relationship between activities and indirect cost will help in formulating proper budgets	Target cost	ABC	Transfer price	Job costing	ABC
Target cost can be attained at the production stage by use of _____	Job cost	Batch cost	Standard cost	Unit cost	Standard cost
Target cost = Anticipated selling price - _____	Profit	Loss	Desired profit	Desired Loss	Desired profit

UNIT IV : Marginal Costing : Absorption versus Variable Costing – Distinctive Features and Income Determination - Cost Volume Profit Analysis - Profit / Volume Ratio – Break-even Analysis – Algebraic and Graphic Methods. Angle of Incidence - Margin of safety – Key Factor - Determination of Cost Indifference Point – **Decision Making :** Steps in Decision Making Process – Concept of Relevant Costs and Benefits – Various Short term Decision Making Situations – Profitable Product Mix – Acceptance or Rejection of special / export offers – Make or Buy, Addition or Elimination of a Product Line, Sell or Process Further, Operate or Shut Down. Pricing Decisions – Major Factors Influencing Pricing Decisions - Various Methods or Pricing.

MARGINAL COSTING

The costs that vary with a decision should only be included in decision analysis. For many decisions that involve relatively small variations from existing practice and/or are for relatively limited periods of time, fixed costs are not relevant to the decision. This is because either fixed costs tend to be impossible to alter in the short term or managers are reluctant to alter them in the short term. Marginal costing distinguishes between fixed costs and variable costs as convention ally classified. The marginal cost of a product –"is its variable cost". This is normally taken to be; direct labor, direct material, direct expenses and the variable part of overheads.

Definition of marginal costing

Marginal costing is formally defined as: 'the accounting system in which variable costs are charged to cost units and the fixed costs of the period are written-off in full against the aggregate contribution. Its special value is in decision making'. The term 'contribution' mentioned in the formal definition is the term given to the difference between Sales and Marginal cost. Thus

MARGINAL COST = VARIABLE COST DIRECT LABOUR + DIRECT MATERIAL + DIRECT EXPENSE + VARIABLE OVERHEADS

CONTRIBUTION SALES - MARGINAL COST

The term marginal cost sometimes refers to the marginal cost per unit and sometimes to the total marginal costs of a department or batch or operation. The meaning is usually clear from the context.

Theory of Marginal Costing

The theory of marginal costing as set out is as follows:

In relation to a given volume of output, additional output can normally be obtained at less than proportionate cost because within limits, the aggregate of certain items of cost will tend to remain fixed and only the aggregate of the remainder will tend to rise proportionately with an increase in output. Conversely, a decrease in the volume of output will normally be accompanied by less than proportionate fall in the aggregate cost.

The ascertainment of marginal cost is based on the classification and segregation of cost into fixed and variable cost. In order to understand the marginal costing technique, it is essential to understand the meaning of marginal cost.

Marginal cost means the cost of the marginal or last unit produced. It is also defined as the cost of one more or one less unit produced besides existing level of production. In this connection, a unit may mean a single commodity, a dozen, a gross or any other measure of goods.

The marginal cost varies directly with the volume of production and marginal cost per unit remains the same. It consists of prime cost, i.e. cost of direct materials, direct labor and all variable overheads. It does not contain any element of fixed cost which is kept separate under marginal cost technique.

Marginal costing may be defined as the technique of presenting cost data wherein variable costs and fixed costs are shown separately for managerial decision-making. It should be clearly understood that marginal costing is not a method of costing like process costing or job costing.

Rather it is simply a method or technique of the analysis of cost information for the guidance of management which tries to find out an effect on profit due to changes in the volume of output. Variable costing is another name of marginal costing. Marginal costing technique has given birth to a very useful concept of contribution where contribution is given by: Sales revenue less variable cost (marginal cost)

Contribution may be defined as the profit before the recovery of fixed costs. Thus, contribution goes toward the recovery of fixed cost and profit, and is equal to fixed cost plus profit (C = F + P).In case a firm neither makes profit nor suffers loss, contribution will be just equal to fixed cost (C = F). This is known as breakeven point.

The concept of contribution is very useful in marginal costing. It has a fixed relation with sales. The proportion of contribution to sales is known as P/V ratio which remains the same under given conditions of production and sales.

The principles of marginal costing

The principles of marginal costing are as follows:

a) For any given period of time, fixed costs will be the same, for any volume of sales and production (provided that the level of activity is within the 'relevant range'). Therefore, by selling an extra item of product or service the following will happen.

- Revenue will increase by the sales value of the item sold.
- Costs will increase by the variable cost per unit.
- Profit will increase by the amount of contribution earned from the extra item.

b) Similarly, if the volume of sales falls by one item, the profit will fall by the amount of contribution earned from the item.

c) Profit measurement should therefore be based on an analysis of total contribution. Since fixed costs relate to a period of time, and do not change with increases or decreases in sales volume, it is misleading to charge units of sale with a share of fixed costs.

d) When a unit of product is made, the extra costs incurred in its manufacture are the variable production costs. Fixed costs are unaffected, and no extra fixed costs are incurred when output is increased.

Features of Marginal Costing

The main features of marginal costing are as follows:

1. Cost Classification

The marginal costing technique makes a sharp distinction between variable costs and fixed costs. It is the variable cost on the basis of which production and sales policies are designed by a firm following the marginal costing technique.

2. Stock/Inventory Valuation

Under marginal costing, inventory/stock for profit measurement is valued at marginal cost. It is in sharp contrast to the total unit cost under absorption costing method.

3. Marginal Contribution

Marginal costing technique makes use of marginal contribution for marking various decisions. Marginal contribution is the difference between sales and marginal cost. It forms the basis for judging the profitability of different products or departments.

Utility of Marginal Costing:

Marginal costing is a special technique used for managerial decision making. The technique of marginal costing is used to provide a basis for the interpretation of cost data to measure the profitability of different products, processes and cost centers in the course of

decision making. It can, therefore, be used in conjunction with the different methods of costing such as job costing, process costing etc., or even with other techniques such as standard costing or budgetary control. The technique of marginal costing has become more relevant and useful in today's business environment of globalization. This is because in marginal costing the cost of a product or a service is computed only on the basis of variable costs. Global companies want to take advantage of cheap labor in developing or backward countries.

Marginal costing techniques help management in several ways in the present day context of global business environment. These are listed below:

Volume of production: Marginal costing helps in determining the level of output which is most profitable for running concern. The production capacity, therefore, can be utilized to the maximum possible extent. It helps in determining the most profitable relationship between cost, price, and volume in the business which helps the management in fixing best selling prices for its products.

Selecting product lines: The marginal costing technique helps in determining the most profitable production line by comparing the profitability of different products.

Produce or procure: The decision whether a particular product should be manufactured in the factory or procured from outside source can be taken comparing the price at which it can be had from outside. In case the procurement price is lower than the marginal cost of production, it will be advisable to procure the product from outside source.

Method of manufacturing: If a product can be manufactured by two or more methods, ascertaining the marginal cost of manufacturing the product by each method will be helpful in deciding as to which method should be adopted.

Shut down or continue: marginal costing, particularly in the times of depression, helps in deciding whether the production in the plant should be suspended temporarily or continued in spite of low demand for the firm's products.

Advantages and Disadvantages of Marginal Costing

Technique Advantages

1. Marginal costing is simple to understand.

2. By not charging fixed overhead to cost of production, the effect of varying charges per unit is avoided.

3. It prevents the illogical carry forward in stock valuation of some proportion of current year's fixed overhead.

4. The effects of alternative sales or production policies can be more readily available and assessed, and decisions taken would yield the maximum return to business.

5. It eliminates large balances left in overhead control accounts which indicate the difficulty of ascertaining an accurate overhead recovery rate.

6. Practical cost control is greatly facilitated. By avoiding arbitrary allocation of fixed overhead, efforts can be concentrated on maintaining a uniform and consistent marginal cost. It is useful to various levels of management.

7. It helps in short-term profit planning by breakeven and profitability analysis, both in terms of quantity and graphs. Comparative profitability and performance between two or more products and divisions can easily be assessed and brought to the notice of management for decision making.

Disadvantages

1. The separation of costs into fixed and variable is difficult and sometimes gives misleading results.
2. Normal costing systems also apply overhead under normal operating volume and this shows that no advantage is gained by marginal costing.
3. Under marginal costing, stocks and work in progress are understated. The exclusion of fixed costs from inventories affect profit and true and fair view of financial affairs of an organization may not be clearly transparent.
4. Volume variance in standard costing also discloses the effect of fluctuating output on fixed overhead. Marginal cost data becomes unrealistic in case of highly fluctuating levels of production, e.g., in case of seasonal factories.
5. Application of fixed overhead depends on estimates and not on the actuals and as such there may be under or over absorption of the same.
6. Control affected by means of budgetary control is also accepted by many. In order to know the net profit, we should not be satisfied with contribution and hence, fixed overhead is also a valuable item. A system which ignores fixed costs is less effective since a major portion of fixed cost is not taken care of under marginal costing.
7. In practice, sales price, fixed cost and variable cost per unit may vary. Thus, the assumptions underlying the theory of marginal costing sometimes becomes unrealistic.

ABSORPTION COSTING

Definition of Absorption Costing:

Absorption costing is a method of calculating the full cost of a product. As a result, absorption costing is also known as full costing. Under absorption costing, the entire cost of production is apportioned to products. These costs could be direct costs or indirect costs (variable and fixed overheads). Fixed overheads are usually applied based on a predetermined overhead absorption rate. One or more overhead absorption rates could be employed.

Difference Between Marginal Costing and Absorption Costing

There are two alternative approaches for the valuation of inventory; they are Marginal Costing and Absorption Costing. **Marginal Costing** excludes fixed cost of production, whereas **Absorption Costing** includes the same. There are instances, when people have doubts regarding which costing method will be better for valuing the inventory whether the former or the latter one. So we have compiled a detailed article, which might be helpful for you to know the differences between Marginal Costing and Absorption Costing.

Key Differences Between Marginal Costing and Absorption Costing

The following are the major differences between marginal costing and absorption costing.

1. The costing method in which variable cost is apportioned exclusively, to the products is known as Marginal Costing. Absorption Costing is a costing system in which all the costs are absorbed and apportioned to products.
2. In Marginal Costing, Product related costs will include only variable cost while in the case of Absorption costing, fixed cost is also included in product related cost apart from variable cost.
3. Marginal Costing divides overheads into two broad categories, i.e. Fixed Overheads and Variable Overheads. Look at the other term Absorption costing, which classifies overheads in the following three categories Production, Administration and Selling & Distribution.

4. In marginal costing profit can be ascertained through the help of Profit Volume Ratio [(Contribution / Sales) * 100]. On the other hand, Net Profit shows the profit in case of Absorption Costing.
5. In Marginal Costing variances in the opening and closing stock will not influence the per unit cost. Unlike Absorption Costing, where the variances between the stock at the beginning and the end will show its effect by increasing/decreasing per unit cost.
6. In marginal costing, the cost data is presented to outline total cost of each product. On the contrary, in absorption costing, the cost data is presented in traditional way, net profit of each product is ascertained after deducting fixed cost along with their variable cost.

Cost-Volume-Profit Analysis.

Cost-volume-profit(CVP) analysis is used to determine how changes incosts and volume affect a company's operating income and net income. In performing this analysis, there are several assumptions made, including: Sales price per unit is constant.

Overview

A critical part of CVP analysis is the point where total revenues equal total costs (both fixed and variable costs). At this break-even point, a company will experience no income or loss. This break-even point can be an initial examination that precedes more detailed CVP analysis.

CVP analysis employs the same basic assumptions as in breakeven analysis. The assumptions underlying CVP analysis are:

- The behavior of both costs and revenues are linear throughout the relevant range of activity. (This assumption precludes the concept of volume discounts on either purchased materials or sales.)
- Costs can be classified accurately as either fixed or variable.
- Changes in activity are the only factors that affect costs.
- All units produced are sold (there is no ending finished goods inventory).

- When a company sells more than one type of product, the product mix (the ratio of each product to total sales) will remain constant.

The components of CVP analysis are:

- Level or volume of activity
- Unit selling prices
- Variable cost per unit
- Total fixed costs

Cost-Volume-Profit Analysis: Subject Matter, Factors, Techniques and Objectives

Let us make an in-depth study of the subject matter, factors, techniques and objectives of cost-volume-profit analysis.

Subject Matter:

The Cost-Volume-Profit (CVP) analysis helps management in finding out the relationship of costs and revenues to output.

The aim of an undertaking is to earn profit. Profit depends upon a large number of factors, the most important of which are the cost of manufacture, selling price, and the volume of sales effected.

The three factors cost, volume and profit are interdependent—profit depends upon sales, selling price to a large extent depends upon cost, volume of sales depends upon the volume of production which, in turn, is related to costs. Cost, again, is the resultant of the operation of a number of varying factors.

Factors Affecting Cost-Volume-Profit Analysis:

Such factors affecting cost are:

(i) Volume of production,
(ii) Product mix,
(iii) Internal efficiency,
iv) Methods of production, and
(v) Size of plant etc.

Of all these, volume is perhaps the largest single factor which influence cost. Often, outside factors, over which the management has no control, necessitate changes in volume, and costs do not always vary in proportion to changes in levels of output. This type of situation poses special problems for the management.

Thus, cost-volume-profit analysis furnishes a complete picture of the profit structure which enables the management to distinguish between the effect of sales volume fluctuations and the results of selling price or cost changes upon profits.

This analysis helps in understanding the behaviour of profits in relation to Output. Fixed costs do not change with production, the amount per unit declines as output rises. On the other hand, variable costs react proportionately with production changes.

Technique of Cost-Volume-Profit Analysis:

The amount per unit is constant with output; under normal circumstances cost-volume-profit analysis uses the technique of:

(i) Break-even analysis, and
(ii) Profit-Volume (P/V) analysis.

Objectives of Cost-Volume-Profit Analysis:

(i) Cost-volume-profit analysis is very much useful for profit planning, cost control and decision-making.

(ii) It is useful in setting up flexible budgets which indicate cost and profit at various levels of activities.

(iii) It helps to determine the maximum sales volume required to avoid losses.

(iv) It helps to determine the sales volume at which the profit goal of the firm will be achieved.

(v) It helps management to find the most profitable combination of costs and volume.

(vi) It helps in evaluating the effect of change in selling price on profitability.

(vii)It provides a means for assessing the profitability of each product so that the optimum product mix may be determined.

(viii) The study of cost-volume relationship is necessary in order to know the amount of overhead costs which could be charged to product costs at various levels of operation.

(ix) It helps in evaluating performance of an organisation for the purpose of control.

Difference Between Profit and Contribution

Profit

All organisations that are run with the objective of making a profit will complete a profit and loss report at the end of each financial period. This will show the

revenue they have received, the amount that has been paid out in expenses, and the remaining amount of profit that has been made.

The profit and loss report takes into consideration all types of sales for all products and services. It also takes into account all the expenses of running the business, including both variable and fixed costs.

Variable costs are those that vary with the amount of output by the business. This includes the wages of staff involved in production, as well as the materials used to make products.

Fixed costs are those that remain the same regardless of the amount of product that is made. This includes things like rent, rates, salaries, fuel, and depreciation.

Contribution

As well as overall profit, organisations are often interested in the of contribution of specific products towards paying fixed costs and making a profit.

It's possible to calculate contribution per unit, or for the total number of units that are expected to sell. To calculate contribution per unit, you use the sales price per unit, minus variable cost per unit .

Application of Marginal Costing: 4 Purposes

Article shared by Pranav Kumar

Read this article to learn about the following four purposes for application of marginal costing, i.e., (a) Profit Planning, (b) Level of Activity Planning, (c) Profitable Mix of Sales, (d) Marginal Costing and Pricing.

(a) Profit Planning:

A business concern exists with the objective of making profits, and profits are the yardstick of its success. Profit planning is therefore a part of operations planning. It is the basis of planning cash, capital expenditure, and pricing. If growth and survival of a business are to be ensured, planning becomes an absolute necessity. Marginal costing assists profit planning through computation of contribution ratio.

It enables planning of future operations in such a way as to either maximize profits or maintain specified levels of profits. Normally, profits are affected by several factors such as the volume of sales, marginal cost per unit, total fixed costs, selling price,

sales mix, etc. Hence, management can achieve their profit goals by varying one or more of the above variables.

Basic marginal costing equations, which are useful in profit planning, are as follows:

Profit/Volume Ratio [P/V Ratio]:

This is the ratio of contribution to sales. Symbolically, it is expressed as follows:

$$P/V \text{ Ratio} = \frac{Contribution\ (C)}{Sales\ (S)} \times 100$$

From the above equation, we may derive the following equations:

$$Sales = \frac{Contribution}{\frac{P}{V}\ ratio}$$

Break-Even Point [BEP]:

BEP may be defined as that level or point of sales volume at which the total revenue is equal to total costs. It is a no-profit, no-loss point.

It may be expressed as follows:

$$\text{BEP (in rupees)} = \frac{Fixed\ cost}{\frac{P}{V}\ ratio}$$

$$\text{BEP (in units)} = \frac{Fixed\ cost}{Contribution\ per\ unit}$$

Margin of Safety [MS]:

MS may be defined as the excess of actual sales or production at the selected activity over break-even sales or production.

Margin of Safety = Actual sales – Break-even sales or point It may be calculated as follows:

$$\text{Margin of Safety (in rupees)} = \frac{\text{Profit (P)}}{\text{P/V Ratio}}$$

$$\text{Margin of Safety (in units)} = \frac{\text{Profit}}{\text{Contribution per unit}}$$

Margin of safety may also be expressed as a percentage on actual sales as follows:

$$\text{Margin of Safety Sales Ratio} = \frac{\text{Margin of Safety (Sales)}}{\text{Actual Sales at Selected activity}} \times 100$$

Margin of Safety [MS]: MS may be defined as the excess of actual sales or production at the selected activity over break-even sales or production.

Margin of Safety = Actual sales – Break–even sales or point

It may be calculated as follows:

$$\text{Margin of Safety (in rupees)} = \frac{\text{Profit (P)}}{\text{P/V Ratio}}$$

$$\text{Margin of Safety (in units)} = \frac{\text{Profit}}{\text{Contribution per unit}}$$

Margin of safety may also be expressed as a percentage on actual sales as follows:

$$\text{Margin of Safety Sales Ratio} = \frac{\text{Margin of Safety (Sales)}}{\text{Actual Sales at Selected activity}} \times 100$$

Example 1:

From the following information, calculate BEP and determine the net profit if sales are 25% above BEP.

Solution:

Marginal Cost Statement

	Rs.	Rs.
Selling price per unit:		50.00
Less: Marginal cost per unit		
Materials	20.00	
Wages	10.00	
Variable overheads	7.50	37.50
Contribution		12.50

$$\text{P/V ratio} = \frac{C}{S} \times 100 = \frac{12.50}{50} \times 100 = 25\%$$

$$\text{BEP} = \frac{F}{\text{P/V ratio}} = \frac{\text{Rs.50,000}}{25} \times 100 = \text{Rs.2,00,000}$$

BEP	=	Rs.2,00,000
25% of BEP	=	Rs.50,000
Total Sales	=	Rs.2,50,000
Contribution	=	Sales × P/V ratio
Contribution at Rs.2,50,000 sales	=	Rs.2,50,000 × 25%
Contribution	=	Rs.62,500
Less: Fixed cost	=	Rs.50,000
Net Profit	=	Rs.12,500

(b) Level of Activity Planning:

Business concerns may have plans to expand or contract the level of activities depending upon the conditions prevailing in the market. Such planning is to be considered before the events overtake the business. Marginal costing is very useful for taking such decisions by enabling management to compare the contribution at different levels of activities.

	Level of Activity		
	60%	70%	80%
Output (in unit)	2,400	2,800	3,200
Costs (Rs.)			
Materials	48,000	56,000	64,000
Wages	14,400	16,800	19,200
Factory overheads	25,600	27,200	28,800
Factory cost	88,000	1,00,000	1,12,000

Example 2:

Following is the Cost Structure of JB Limited:

The factory is considering an increase of production to 90% level of activity. No increase in fixed overheads is expected at this level. The management requires a statement showing all details of factory costs at 90% level of activity.

Solution:

Selection of Sales Alternatives

	Products		
	Z Rs.	Y Rs.	Total Rs.
(a) 450 units of Z and 300 units of Y contribution (450 × Rs.40) + (300 × Rs.90)	18,000	27,000	45,000
Less: Fixed overheads			20,000
Profit			25,000
(b) 900 units of Z only			
contribution (900 × Rs.40)	36,000		36,000

Note:

Factory overheads increase by Rs. 1,600 at each level of activity. Therefore, variable overheads must be Rs. 1,600/400 units = Rs. 4 per unit. At 80% level of activity, factory overheads are Rs. 28,000, of which variable cost are Rs.12,800 (Rs.4 x 3,200), resulting in fixed overheads of Rs. 16,000 (Rs.28,800 – 12,800)

(c) Profitable Mix of Sales:

A company, which has a variety of product lines, can employ marginal costing in order to determine the most profitable sales mix from a number of selected alternatives.

Example 3:

The directors of AB Ltd. are considering the sales budget for the next budget period.

	Product Z (per unit)	Product Y (per unit)
Direct materials	Rs.40	Rs.50
Selling price	Rs.120	Rs.200
Direct wages @ Rs.2 per hour	10 hours	15 hours

Variable overheads: 100% of direct wages.

Fixed overheads: Rs.20,000 p.a.

You are required to present to the management a statement showing the marginal cost of each product, and to recommend which of the following sales mix should be adopted:

(a) 450 units of Z and 300 units of Y
(b) 900 units of Z only
(c) 600 units of Y only
(d) 600 units of Z and 200 units of Y

Solution:

Marginal cost Statement

	Per unit			
	Product Z		Product Y	
	Rs.	Rs.	Rs.	Rs.
Selling Price		120		200
Less: Marginal cost				
Direct Materials	40		50	
Direct wages	20		30	
Variable overheads	20	80	30	110
Contribution		40		90

Selection of Sales Alternatives

	Products		
	Z Rs.	Y Rs.	Total Rs.
(a) 450 units of Z and 300 units of Y contribution (450 × Rs.40) + (300 × Rs.90)	18,000	27,000	45,000
Less: Fixed overheads			20,000
Profit			25,000
(b) 900 units of Z only			
contribution (900 × Rs.40)	36,000		36,000
Less: Fixed cost			20,000
Profit:			16,000
(c) 600 units of Y only			
contribution (600 × Rs.90)		54,000	54,000
Less: Fixed cost			20,000
Profit			34,000
(d) 600 units of Z and 200 units of Y			
Contribution (600 × Rs.40) + (200 × Rs.90)	24,000	18,000	42,000
Less: Fixed cost			20,000
Profit			22,000

Thus, alternative (c) is the one recommended.

(d) Marginal Costing and Pricing:

Pricing is a very difficult problem and the basic problem involved in pricing is the matching of demand and supply. Marginal costing is sometimes used to determine prices, a simple and familiar example being the railway ticket.

The normal fare will usually be more than the charge collected for excursion fare [concession fare], for the normal fare is calculated to cover all the railway costs including fixed overheads, which is a considerable item; whereas the excursion fare will probably cover only marginal cost (which is relatively small) and some contribution towards profit. The marginal costing technique can help management in fixing prices in such special circumstances as

1. A trade depression in the industry;
2. Spare capacity in the factory;
3. A seasonal fluctuation in demand; and
4. When it is desired to obtain a special contract.

Example 4:

M. Ltd manufactures and sells light engineering goods. Due to competitions, the company proposes to reduce its selling price. If the present level of profit is to be maintained, indicate the number of units to be sold if the proposed reduction in selling price is 5%, 10% and 15%

The following additional information is available:

	Rs.	Rs.
Present sales (60,000 units)	-	1,50,000
Variable cost (60,000 units)	90,000	
Fixed cost	35,000	1,25,000
Net Profit		25,000

Solution:

Marginal Cost Statement

	Present price	No.of units: 60,000 Price Reductions		
	Rs.	5% Rs.	10% Rs.	15% Rs.
Sales	1,50,000	1,42,500	1,35,000	1,27,500
Less: Marginal cost	90,000	90,000	90,000	90,000
Contribution	60,000	52,500	45,000	37,500
Less: Fixed cost	35,000	35,000	35,000	35,000
Profit	25,000	17,500	10,000	2,500
Contribution per unit	Re.1.00	Re.0.875	Re 0.75	Re.0.625

Profit to be maintained = Rs.25,000

Contribution to be earned = Profit to be earned + Fixed cost

= Rs.25,000 + Rs.35,000 = Rs.60,000

$$\text{reduction} = \frac{\text{Total contribution to be earned}}{\text{Contribution per unit}}$$

Hence,

$$\text{At 5\% Reduction} = \frac{\text{Rs.60,000}}{\text{Rs.0.875}} = 68{,}572 \text{ units (app)}$$

$$\text{At 10\% Reduction} = \frac{\text{Rs.60,000}}{\text{Rs.0.75}} = 80{,}000 \text{ units}$$

$$\text{At 15\% Reduction} = \frac{\text{Rs.60,000}}{\text{Rs.0.625}} = 96{,}000 \text{ units}$$

The Make or Buy Decision

Introduction

Are you outsourcing enough? This was one of the main questions asked by management consultants during the outsourcing boom. Outsourcing was viewed as one of the best ways of getting things done for a fraction of the original cost. Outsourcing is closely related to make or buy decision. The corporations made decisions on what to make internally and what to buy from outside in order to maximize the profit margins.

As a result of this, the organizational functions were divided into segments and some of those functions were outsourced to expert companies, who can do the same job for much less cost.

Make or buy decision is always a valid concept in business. No organization should attempt to make something by their own, when they stand the opportunity to buy the same for much less price.

This is why most of the electronic items manufactured and software systems developed in the Asia, on behalf of the organizations in the USA and Europe.

Four Numbers You Should Know

When you are supposed to make a make-or-buy decision, there are four numbers you need to be aware of. Your decision will be based on the values of these four numbers. Let's have a look at the numbers now. They are quite self-explanatory.

- The volume
- The fixed cost of making
- Per-unit direct cost when making
- Per-unit cost when buying

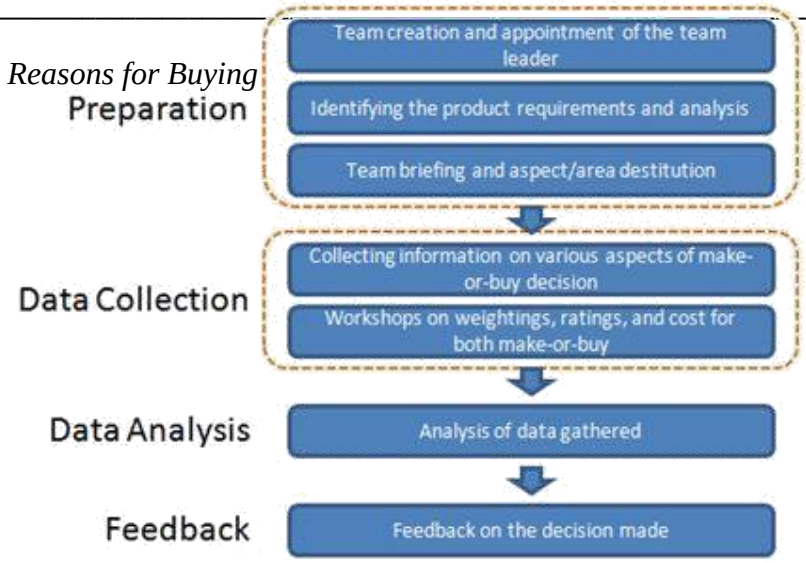
Now, there are two formulas that use the above numbers. They are 'Cost to Buy' and 'Cost to Make'. The higher value loses and the decision maker can go ahead with the less costly solution.

Cost to Buy (CTB) = Volume x Per-unit cost when buying
Cost to Make (CTM) = Fixed costs + (Per-unit direct cost x volume)

Reasons for Making

There are number of reasons a company would consider when it comes to making in-house. Following are a few:

- Cost concerns
- Desire to expand the manufacturing focus
- Need of direct control over the product
- Intellectual property concerns
- Quality control concerns
- Supplier unreliability
- Lack of competent suppliers
- Volume too small to get a supplier attracted
- Reduction of logistic costs (shipping etc.)
- To maintain a backup source
- Political and environment reasons
- Organizational pride



Following are some of the reasons companies may consider when it comes to buying from a supplier:

- Lack of technical experience
- Supplier's expertise on the technical areas and the domain
- Cost considerations
- Need of small volume
- Insufficient capacity to produce in-house
- Brand preferences
- Strategic partnerships

The Process

The make or buy decision can be in many scales. If the decision is small in nature and has less impact on the business, then even one person can make the decision. The person can consider the pros and cons between making and buying and finally arrive at a decision. When it comes to larger and high impact decisions, usually organizations follow a standard method to arrive at a decision. This method can be divided into four main stages as below.

1. Preparation

- Team creation and appointment of the team leader

- Identifying the product requirements and analysis
- Team briefing and aspect/area destitution

2. Data Collection

- Collecting information on various aspects of make-or-buy decision
- Workshops on weightings, ratings, and cost for both make-or-buy

3. Data Analysis

- Analysis of data gathered

4. Feedback

- Feedback on the decision made

By following the above structured process, the organization can make an informed decision on make-or-buy. Although this is a standard process for making the make-or-buy decision, the organizations can have their own varieties.

Make-or-buy decision is one of the key techniques for management practice. Due to the global outsourcing, make-or-buy decision making has become popular and frequent.

Since the manufacturing and services industries have been diversified across the globe, there are a number of suppliers offering products and services for a fraction of the original price. This has enhanced the global product and service markets by giving the consumer the eventual advantage.

If you make a make-or-buy decision that can create a high impact, always use a process for doing that. When such a process is followed, the activities are transparent and the decisions are made for the best interest of the company.

Break-even point analysis

Explanation of break-even point:

The point at which total of fixed and variable costs of a business becomes equal to its total revenue is known as **break-even point (BEP)**. At this point, a business neither earns any profit nor suffers any loss. Break-even point is therefore also known as no-profit, no-loss point or zero profit point. Calculation of break-even point is important for every business because it tells business owners and managers how much sales are needed to cover all fixed as well as variable expenses of the business or the sales volume after which the business will start generating profit. The computation of sales volume required to break-even

is known as *break-even analysis*. The concept explained above can also be presented as follows:

When there is a profit:

Revenues > Variable cost + fixed cost

At break-even point (BEP):

Revenues = Variable cost + fixed cost

When there is a loss:

Revenues < Variable cost + fixed cost

After reading this article you will be able to compute the break-even point of a single product company using two popular methods – *equation method* and *contribution margin method*. First we shall compute break-even point using these two methods and then present the information graphically (*preparation of break-even chart*).

Computation of break-even point:

(1). Use of equation method:

The application of equation method facilitates the computation of break-even point both in units and in dollars. As we have already described that the sales are equal to total variable and fixed expenses at break-even point, the equation can therefore be written as follows:

Sp × Q = Ve × Q + Fe

Or

SpQ = VeQ + Fe

Where;

Sp = Sales price per unit.

Q = Number (quantity) of units to be manufactured and sold during the period.

Ve = Variable expenses to manufacture and sell a single unit of product.

Fe = Total fixed expenses for the period.

Notice that the left hand side of the equation represents the total sales in dollars and the right hand side of the equation represents the total cost. If the information about sales price per unit, variable expenses per unit and the total fixed expenses is available, we can solve the equation for 'Q' to find the number of units to break-even. The break-even point in units can then be multiplied by the sales price per unit to calculate the break-even point in dollars. Suppose, for example, you run a manufacturing business that is involved in manufacturing and selling a single product. The annual fixed expenses to run the business are $15,000 and variable expenses are $7.50 per unit. The sale price of your product is $15 per unit. The number of units to be sold to break even can be easily calculated using ***equation method***: Sp × Q = Ve × Q + Fe

15 × Q = 7.5 × Q + 15,000

15 Q = 7.5 Q + 15,000

15Q – 7.5Q = 15,000

7.5Q = 15,000

Q = 15,000 / 7.5

Q = 2,000 units

The break-even point in units is 2,000 units and the break-even point in dollars can be computed as follows:

= (2,000 units) × ($15)

= $30,000

(2). Use of contribution margin method:

The method described above is known as ***equation method of calculating break-even point.*** Some people use another method called ***contribution margin method*** (read about contribution margin and its calculation). Under this method, the total fixed expenses are divided by contribution margin per unit. Consider the following computations: Total fixed expenses / Contribution margin per unit

= 15,000 / 7.5*

= 2,000

units or

= (2,000 units) × ($15)

= $30,000

*$15 – $7.5

A little variation of this method is to divide the total fixed expenses by the contribution margin ratio (CM ratio). Doing so results in break-even point in dollars. It is shown below: Total fixed expenses / Contribution margin ratio

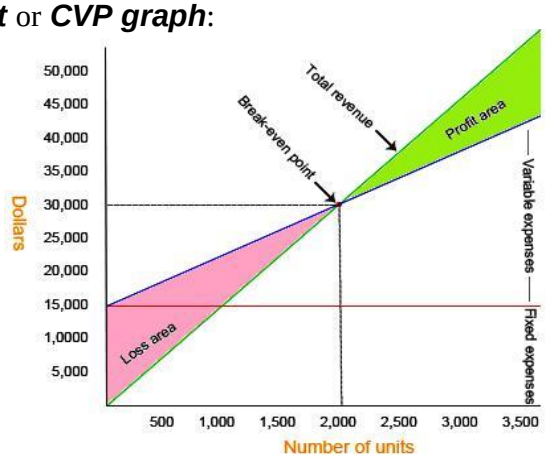
= $15,000 / 0.5*

= $30,000

*($15 – $7.5)/$15

Graphical presentation (Preparation of break-even chart or CVP graph):

The graphical presentation of dollar and unit sales needed to break-even is known as ***break-even chart*** or ***CVP graph***:



Explanation of the graph:

1. The number of units have been presented on the X-axis (horizontally) where as dollars have been presented on Y-axis (vertically).
2. The straight line in red color represents the total annual fixed expenses of $15,000.
3. The blue line represents the total expenses. Notice that the line has a positive or upward slop that indicates the effect of increasing variable expenses with the increase in production.
4. The green line with positive or upward slop indicates that every unit sold increases the total sales revenue.
5. The total revenue line and the total expenses line cross each other. The point at which they cross each other is the *break-even point*. Notice that the total expenses line is above the total revenue line before the point of intersection and below after the point of intersection. It tells us that the business suffers a loss before the point of intersection and makes a profit after this point. The break-even point in the above graph is 2,000 units or $30,000 that agrees with the break-even point computed using equation and contribution margin methods above.
6. The difference between the total expenses line and the total revenue line before the point of intersection (BE point) is the *loss area.* The loss area has been filled with pink color. Notice that this area reduces as the number of units sold increases. It means every additional unit sold before the break-even point reduces the loss.
7. The difference between the total expenses line and the total revenue line after the point of intersection (BE point) is the profit area. The profit area has been filled with green color. Notice that this area increases as the number of units sold increases. It means every additional unit sold after the break-even point increases the profit of the business.

The method of calculating break-even point of a single product company has been discussed in the break-even point analysis article. In this article, I would explain the procedure of calculating break-even point of a multi product company. A multi-product company means a company that sells two or more products. The procedure of computing break-even point of a multi product company is a little more complicated than that of a single product company.

Formula:

A multi product company can compute its break-even point using the following formula:

$$\text{Break-even point} = \frac{\text{Total fixed expenses}}{\text{Weighted average selling price - Weighted average variable expenses}}$$

Break-Even Analysis

Here is a compilation of top eight problems on break-even analysis with their relevant solutions.

Break-Even Analysis: Problem with Solution # 1.

From the following particulars, calculate:

(i) Break-even point in terms of sales value and in units.

(ii) Number of units that must be sold to earn a profit of Rs. 90,000.

	₹
Fixed Factory Overheads Cost	60,000
Fixed Selling Overheads Cost	12,000
Variable Manufacturing Cost per unit	12
Variable Selling Cost per unit	3
Selling Price per unit	24

Solution:

(i) ***Break–even point*** $= \dfrac{\text{Fixed Cost}}{\text{Selling Price per unit} - \text{Variable Cost per unit}}$

Variable Cost per unit = ₹ 12 + 3 = ₹ 15

Total Fixed Cost = ₹ 60,000 + 12,000 = ₹ 72,000

B.E.P. $= \dfrac{72,000}{24-15} = 8,000$ units

B.E.P. (in sales values) = 8,000 × 24 = ₹ 1,92,000

(ii) ***Number of units that must be sold to earn profit of ₹90,000***

$$= \frac{\text{Fixed Cost} + \text{Profit}}{\text{Selling Price per unit} - \text{Variable Cost per unit}}$$

$$= \frac{72,000+90,000}{24-15} = \frac{1,62,000}{9} = 18,000 \text{ units.}$$

Break-Even Analysis: Problem with Solution # 2.

From the following data, you are required to calculate:

(a) P/V ratio

(b) Break-even sales with the help of P/V ratio.

(c) Sales required to earn a profit of Rs. 4,50,000 Fixed Expenses = Rs. 90,000

Variable Cost per unit:

Direct Material = Rs. 5

Direct Labour = Rs. 2

Direct Overheads = 100% of Direct Labour

Selling Price per unit = Rs. 12.

Solution:

		₹
Selling Price per unit		12
Less : Variable Cost per unit :		
Direct Material	5	
Direct Labour	2	
Direct Overheads	2	
		9
Contribution per unit		3

(a) P/V ratio

$$= \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$= \frac{3}{12} \times 100 = 25\%$$

(b) Break–even Sales

$$= \frac{\text{Fixed Expenses}}{\text{P/V ratio}}$$

$$= \frac{90,000}{\frac{25}{100}} = \frac{90,000 \times 100}{25} = \text{Rs. } 3,60,000.$$

(c) Sales required to earn a profit of ₹4,50,000

$$= \frac{\text{Fixed Expenses} + \text{Desired Profit}}{\text{P/V ratio}}$$

$$= \frac{90,000 + 4,50,000}{25\%} = \frac{5,40,000}{\frac{25}{100}}$$

$$= \frac{5,40,000 \times 100}{25} = \text{Rs. } 21,60,000$$

	₹
Direct material cost per unit	10
Direct labour cost per unit	5
Fixed overhead	50,000
Variable overheads @ 60% on direct labour	
Selling price per unit	25
Trade discount	4%

Break-Even Analysis: Problem with Solution # 3.

From the following data, you are required to calculate break-even point and net sales value at this point:

If sales are 10% and 25% above the break even volume, determine the net profits.

Solution:

	₹	₹
Selling price per unit		25
Less : Trade discount (25 × 4/100)		1
Net selling price per unit		24
Less : Variable cost per unit	₹	
Direct material	10	
Direct labour	5	
Variable overheads (5 × 60/100)	3	18
Contribution per unit		6

Break-even point (in units) $= \dfrac{\text{Fixed Cost}}{\text{Contribution Per Unit}}$

$= \dfrac{50,000}{6} = 8,333$ units

Break - even Point (in sales value) $= \dfrac{\text{Fixed Cost}}{\text{P/V Ratio}}$

P/V Ratio $= \dfrac{\text{Contribution}}{\text{Sales}} \times 100$

$= \dfrac{6}{24} \times 100 = 25\%$

Hence, B.E.P. (in sales value) $= \dfrac{50,000}{25\%} = 50,000 \times \dfrac{100}{25}$

$= ₹\ 2,00,000$

Profit when sales are 10% above the break even volume

Sales = 2,00,000 + 10% of 2,00,000 = ₹ 2,20,000

Contribution = Sales × P/V Ratio = 2,20,000 × 25/100 = ₹ 55, 000

Contribution = Fixed Cost + Profit

₹ 55,000 = 50,000 + Profit

Profit = **₹ 5,000**

Profit when sales are 25% above the break even volume

Sales = 2,00,000 + 25% of 2,00,000 = ₹ 2,50,000

Contribution = 2,50,000 × 25/100 = ₹ 62,500,

Contribution = Fixed Cost + Profit

62,500 = 50,000 + Profit

Profit = **₹ 12,500**

Break-Even Analysis: Problem with Solution # 4.

From the following particulars, find out the break-even-point:

	₹
Variable Cost per unit	15
Fixed Expenses	54,000
Selling Price per unit	20

What should be the selling price per unit, if the break-even point should be brought down to 6,000 units?

Solution:

Contribution per unit = Selling Price–Variable cost per unit
= ₹ 20–15 = ₹ 5

(a) ***B.E.P.*** $= \frac{\text{Fixed Expenses}}{\text{Contribution per unit}}$

$= \frac{54,000}{5} = 10,800$ units

(b) ***What should be the selling price per unit, if the break–even–point should be brought down to 6000 units:***

B.E.P. $= \frac{\text{Fixed Expenses}}{\text{Contribution per unit}}$

Or, $6,000 = \frac{54,000}{\text{Contribution per unit}}$

Or, Contribution per unit $= \frac{54,000}{6,000} = \text{Rs. } 9$

Contribution = S.P.–V.C.

Or, 9 = SP–15

Or, Selling Price = ₹ 24.

Break-Even Analysis: Problem with Solution # 5.

The fixed costs amount to Rs. 50,000 and the percentage of variable costs to sales is given to be 66 ⅔%.

If 100% capacity sales are Rs. 3,00,000, find out the break-even point and the percentage sales when it occurred. Determine profit at 80% capacity:
Solution:

Percentage of Variable Cost to Sales is $66\frac{2}{3}\%$ i.e., $\frac{200}{3}$

$\therefore$ Percentage of Contribution to Sales is $100 - \frac{200}{3} = \frac{100}{3}$

$$\text{P/V ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$= \frac{100}{3} \times \frac{1}{100} \times 100 = \frac{100}{3} = 33\frac{1}{3}\%$$

$$\text{Break-even Sales} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$$

$$= \frac{50,000}{33\frac{1}{3}\%} = \frac{50,000}{100} \times 300 = \text{Rs. } 1,50,000.$$

100% Capacity Sales = ₹ 3,00,000

Hence, B.E.P. occurs at $\frac{1,50,000}{3,00,000} \times 100 = 50\%$ capacity.

Profit at 80% Capacity

At 100% Capacity Sales are ₹ 3,00,000

$\therefore$ 80% Capacity Sales $3,00,000 \times \frac{80}{100} = \text{Rs. } 2,40,000$

Total Contribution at 80% capacity $= 2,40,000 \times \frac{100}{3} \times \frac{1}{100}$

	= ₹ 80,000
Fixed Expenses	= ₹ 50,000
Profit at 80% capacity	= ₹ 30,000

Break-Even Analysis: Problem with Solution # 6.

From the following information, ascertain by how much the value of sales must be increased by the company to break-even:

	₹
Sales	3,00,000
Fixed Cost	1,50,000
Variable Cost	2,00,000

Solution:

$$\text{Break-even point} = \frac{\text{Fixed Cost} \times \text{Sales}}{\text{Sales} - \text{Variable Cost}}$$

$$= \frac{1,50,000 \times 3,00,000}{3,00,000 - 2,00,000}$$

$$= \frac{1,50,000 \times 3,00,000}{1,00,000} = \text{Rs. } 4,50,000.$$

Hence, Sales to be increased by the company to break-even are = ₹ 4,50,000 – 3,00,000 = ₹ 1,50,000.

Break-Even Analysis: Problem with Solution # 7.

Calculate:

(i) The amount of fixed expenses.
(ii) The number of units to break-even.
(iii) The number of units to earn a profit of Rs. 40,000.
The selling price per unit can be assumed at Rs. 100.

The company sold in two successive periods 7,000 units and 9,000 units and has incurred a loss of Rs. 10,000 and earned Rs. 10,000 as profit respectively.

Solution:

	Period I	*Period II*
Sales	₹ 7,00,000	₹ 9,00,000
Profit/Loss (—)	(—) ₹ 10,000	₹ 10,000

Thus for an additional sales of ₹ 2,00,000 there is an additional contribution of ₹ 20,000 which has wiped off the loss or ₹ 10,000 of period I and earned a profit of ₹ 10,000 in period II.

$$\text{P/V Ratio} = \frac{\text{Change in Contribution}}{\text{Change in Sales}} \times 100$$

$$= \frac{20,000}{2,00,000} \times 100 = 10\%$$

$$\text{Contribution of Period I} = 7,00,000 \times \frac{10}{100} = \text{Rs. } 70,000$$

$$\text{Loss of period I (given)} = ₹\ 10,000$$

(i) Fixed Cost $= ₹\ 80,000$

$$\text{Contribution} = \text{Fixed Cost} \pm \text{Profit/Loss}$$

$$\text{Fixed Cost} = \text{Contribution} \pm \text{Loss/Profit}$$

(ii) Break–Even Point $= \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$

$$= \frac{80,000}{\frac{10}{100}} = \frac{80,000 \times 100}{10} = \text{Rs. } 8,00,000$$

Number of units to break–even $= \frac{\text{Break– Even Sales}}{\text{Selling Price per unit}}$

$$= \frac{8,00,000}{100} = 8,000 \text{ units.}$$

(iii) Number of units required to earn a profit of ₹40,000.

$$= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{P/V Ratio}}$$

$$= \frac{80,000 + 40,000}{10\%}$$

$$= \frac{1,20,000 \times 100}{10} = \text{Rs. } 12,00,000$$

Break-Even Analysis: Problem with Solution # 8.

A company is making a loss of Rs. 40,000 and relevant information is as follows:

Sales Rs. 1,20,000; Variable Costs Rs. 60,000; Fixed costs Rs. 1,00,000.

Loss can be made good either by increasing the sales price or by increasing sales volume. What are Break even sales if

(a) Present sales level is maintained and the selling price is increased.

(b) If present selling price is maintained and the sales volume is increased. What would be sales if a profit of Rs. 1,00,000 is required ?

Solution:

(a) Break-even sales = Variable Cost + Fixed Cost = ₹ 60,000 + 1,00,000 = ₹ 1,60,000.

(b) Sales = ₹ 1,20,000

Variable cost = ₹ 60,000

∴ Contribution = ₹ 1,20,000 – 60,000 = ₹ 60,000

$$\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$= \frac{60,000}{1,20,000} \times 100 = 50\%$$

$$\text{Break-even sales} = \frac{\text{Fixed Costs}}{\text{P/V Ratio}}$$

$$= \frac{1,00,000}{50} \times 100 = \text{Rs. } 2,00,000$$

Desired sales to earn a profit of ₹ 1,00,000 :

$$\text{Desired Sales} = \frac{\text{Fixed Cost + Desired Profit}}{\text{P/V Ratio}}$$

$$= \frac{1,00,000 + 1,00,000}{50\%}$$

$$= \frac{2,00,000 \times 100}{50} = \text{Rs. } 4,00,000$$

Profit-Volume Chart

Definition: A profit-volume chart is a graphical representation of the relationship between the sales and profits of a business. The concept is especially useful for determining the breakeven point of a business, where the sales level generates a profit of exactly zero. Breakeven information is critical for adjusting the expenditure and margin levels of a business to improve the probability that it will earn a profit. A profit-volume chart can also be used to estimate the profit that will likely be earned based on a certain sales level.

The managers of a business should have an especially high familiarity with the entity's profit-volume chart when the firm has a high fixed cost level. The reason is that the company must attain a high sales volume just to earn enough money to cover fixed costs. If sales drop below this breakeven level, a high fixed-cost business could lose a substantial amount of money.

Profit Volume Analysis (Explained With Diagram)

Article shared by Rohit Agarwal

Read this article to learn about Profit Volume Analysis!

A P/V graph is sometimes used in place of or along with a break-even chart. Profits and losses are given on a vertical scale, and units of products, sales revenue or percentage of activity are given on a horizontal line. The horizontal line is drawn on the graph to separate profits from losses.

The profits and losses at various sales levels are plotted and connected by the profit line. The break-even point is measured at the point where the profit line intersects the horizontal line. The PV graph may be preferred to the break-even chart because profit and losses at any point can be read directly from the vertical scale, but the P/V graph does not clearly show how costs vary with activity.

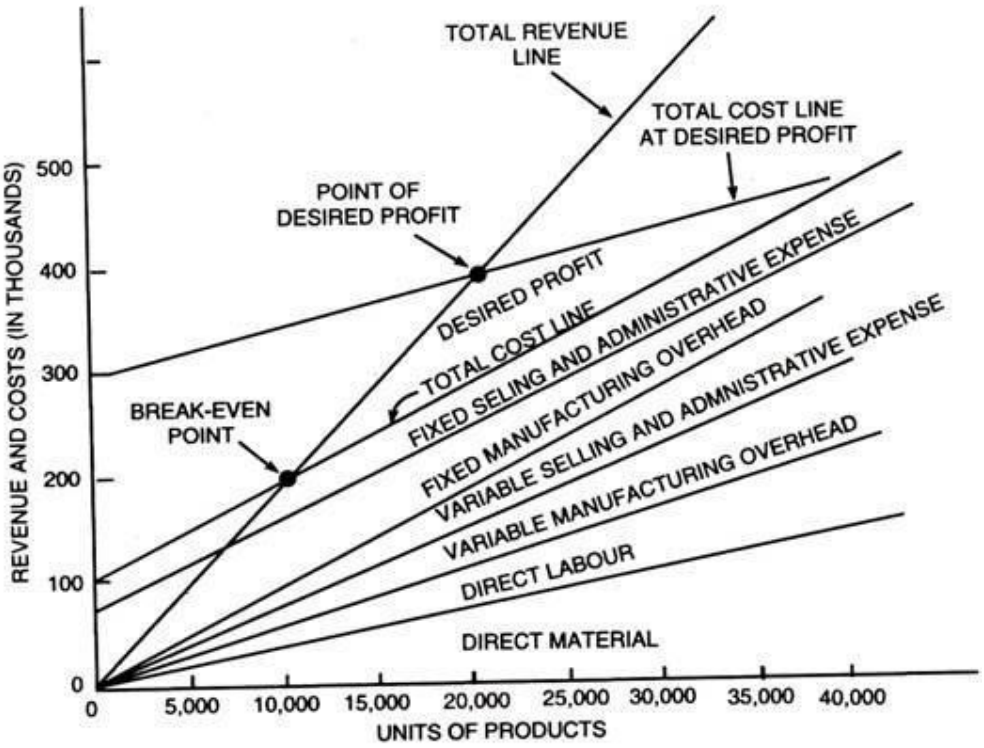


Exhibit. 6.2: Break-even chart showing cost and profit details

Data used earlier to prepare the break-even chart are also used in preparing the P/V graph (see Exhibit. 6.3):

Basic Assumption in CVP Analysis:

Whether income is computed under the absorption or marginal (variable) costing concept, these assumptions include the following:

1. Selling prices and pricing policy will remain constant at all sales levels; no quantity discounts are assumed to be available. If this is not true, sales revenue cannot be plotted as a straight line.
2. All costs and expenses can be separated into fixed and variable components.
3. The total of the fixed costs is constant at all sales levels; the unit variable costs remain the same and there is a direct relationship between costs and volume. If this is not true, straight lines cannot be drawn.
4. Production and sales quantities are equal.
5. Managerial policies, technological methods, and efficiency of men and machines will not change and cost control will be neither strengthened nor weakened.
6. Volume is assumed to be the only important factor affecting cost behaviour; other influencing factors such as unit prices, sales-mix, labour-strikes, and production methodology are ignored. Any change in cost behaviour will need the break-even point to be modified.
7. In case of multiple products being manufactured by the enterprises, the sales-mix should remain unchanged. That is, the calculation of the break-even point in the case of multiple products predetermines the number of units to be sold in respect of each product. This multiproduct sales-mix should remain unchanged.

Method of Constructing P/V Graph:

(a) Determine an appropriate scale for sales volume on the horizontal axis (which forms the sales line) and this line must be drawn up in the middle portion of the graph so that profit can be shown on the side above the sales line and loss or fixed cost below the sales line.

(b) Then select a scale for profit and loss (fixed cost) on the vertical axis. Thus, the total fixed costs are shown below the sales line on the left hand side of the vertical axis and profits are shown on the right hand side above the sales line of the graph.

(c) Now, points are plotted for profits and fixed costs which are connected by a straight line which again intersects the sales line at the horizontal axis. And BEP is the point of intersection.

The following illustration will make the above principle clear:

Illustration:

From following data prepare a P/V Graph:

	Rs.	
Fixed Costs	25,000	
Variable Cost	60,000	(Rs. 6 per unit)
Units produced	10,000	
Selling Price	1,00,000	(Rs. 10 per unit)

Solution:

Before constructing a P/V graph, it becomes necessary to determine the amount of profit at the present activity level which is as under:

	Rs.
Sales	1,00,000
Less : Variable Costs	60,000
Contribution	40,000
Less : Fixed Costs	25,000
Profit	15,000

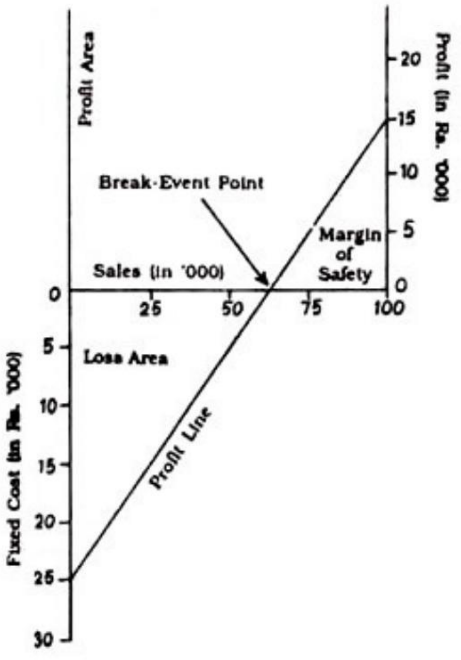


Fig. 4.3 Profit/Volume Graph.

(i)		X Ltd. Rs	Y Ltd Rs
Sales		1,50,000	1,50,000
Less :	Variable cost	1,20,000	1,00,000
	Contribution	30,000	50,000
	∴ P/V Ratio	20%	$33\frac{1}{3}\%$
$BES = \left(\frac{F}{P/V\ Ratio}\right)$		$= \left(\frac{Rs.\ 15,000}{20\%}\right)$	$= \frac{Rs.\ 35,000}{33\frac{1}{3}\%}$
		= Rs. 75,000	= Rs. 1,05,000
MS = (Actual Sales – BES)		= Rs. 75,000	= Rs. 45,000

From the above, it becomes clear that the BEP is Rs. 62,500 and Margin of Safety is Rs. 37,500. From the discussion we have made so far about the P/V Graph, we have found that a P/V Graph helps us to determine the BEP and its impact on profits at various levels of activity. It also highlights relative profitability under conditions of high or low demand for a product, for different product prices etc.

Some of them are discussed below:

(i) Relative Profitability under conditions of high or low demands: In order to show the relative profitability, the position of two separate firms can be taken into consideration.

Illustration:

Two business X Ltd. and Y Ltd. sell the same type of product in the same type of market.

Their budgeted Profit and Loss Account for the year ending 1994 are as follows:

			X Ltd. Rs.		Y Ltd. Rs.
Sales			1,50,000		1,50,000
Less :	Variable Cost	1,20,000		1,00,000	
	Fixed Cost	15,000		35,000	
			1,35,000		1,35,000
	Net Budgeted profit		15,000		15,000

You are required to:

(i) Calculate the BEP of each business; and

(ii) State which business is likely to earn greater profits in con editions of; Heavy demand for the product;

Low demand for the product

Solution:

(ii) From the above, we find that the total cost of both the firms X Ltd. and Y Ltd. are the same but fixed cost of X Ltd is comparatively low than the firm Y Ltd. As such, BEP of X Ltd. will come sooner which can be shown with the help of the following P/V Graph.

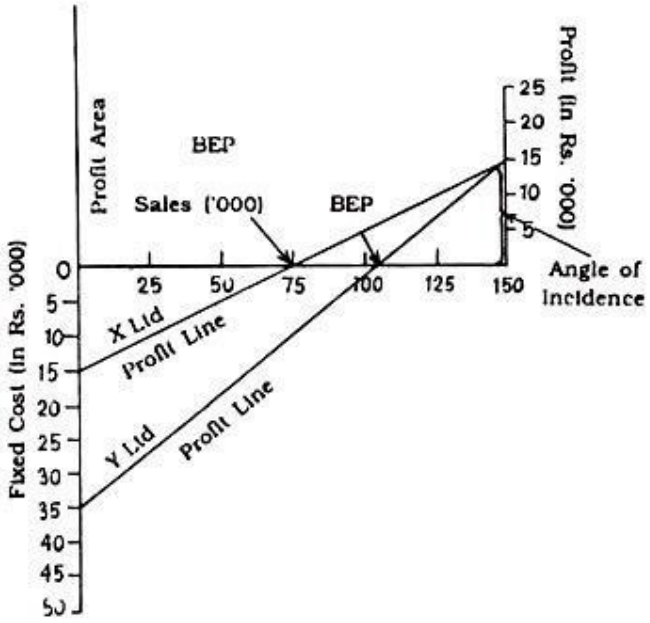


Fig. 4.4 Comparative Profit-Volume Graph.

From the above graph, it becomes crystal clear that X Ltd. will earn more profits than Y Ltd. against a demand below Rs 1, 50,000 sales since the BEP has been reached sooner in case of X Ltd. Moreover, at volume of Rs. 1, 50,000 both the firms will earn equal amount of profit. But as the rate of earning profit in case of Y Ltd. is more in comparison with X Ltd (which is proved by Angle of Incidence) for a Volume above Rs. 1,50,000 Y Ltd. will earn more profit than X Ltd.

Thus:

(i) In case of heavy demand Y Ltd. will earn more profit, and
(ii) In case of low demand, X Ltd. will earn more profit.

(b) For various product prices:

Under the circumstance, a profit chart depicts the effect on BEP for charging different prices for a product. One is to remember that the use of units is needed as different prices are compared. The following illustration will explain the principals clearly with the help of a profit chart.

Illustration:

Maximum Units sold	3,000
Variable Cost	Rs. 2 per unit
Fixed Cost	Rs. 5,000 (total)

Alternative Selling Price of a product Rs. 4, Rs. 5 and Rs. 6.

Solution:

First Calculate BEP

(i) BEP (in units) $= \frac{F}{C} = \frac{\text{Rs. } 5{,}000}{\text{Rs. } 2}$ = 2,500 units [C = S – V]

,, (in Sales) = 2,500 × Rs. 4 = Rs. 10,000

(ii) BEP (in units) $= \frac{F}{C} = \frac{\text{Rs. } 5{,}000}{\text{Rs. } 3}$ = 1,667 units

,, (in Sales) = 1,667 × Rs. 5 = Rs. 8,335 units

(iii) BEP (in units) $= \frac{F}{C} = \frac{\text{Rs. } 5{,}000}{\text{Rs. } 4}$ = 1,250 units

,, (in Sales) = 1,250 × Rs. 6 = Rs. 7,500

Profit is Calculated as under :

S. P. per unit	Rs. 4	Rs.5	Rs.6
Sales	12,000	15,000	18,000
Less : V. C.	6,000	6,000	6,000
Contribution	6,000	9,000	12,000
Less : F. C.	5,000	5,000	5,000
Net Profit	1,000	4,000	7,000

Now, the following P/V

Graph for different price may be constructed:

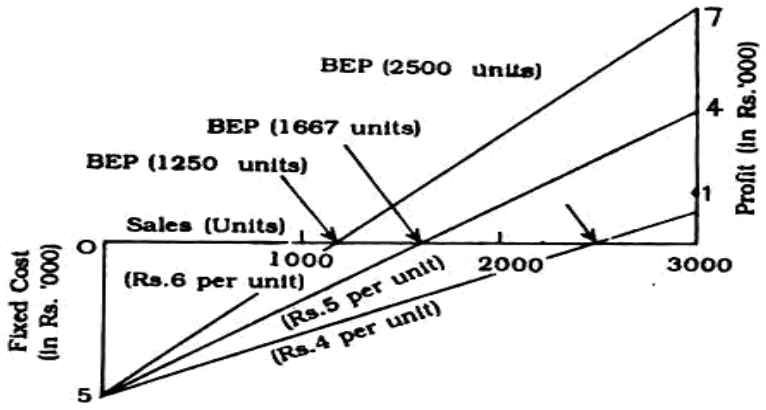


Fig. 4.5 P/V Graph for various Prices.

Decision-making is an integral part of modern management. Essentially, Rational or sound decision making is taken as primary function of management. Every manager takes hundreds and hundreds of decisions subconsciously or consciously making it as the key component in the role of a manager. Decisions play important roles as they determine both organizational and managerial activities. A decision can be defined as a course of action purposely chosen from a set of alternatives to achieve organizational or managerial objectives or goals. Decision making process is continuous and indispensable component of managing any organization or business activities. Decisions are made to sustain the activities of all business activities and organizational functioning.

Decisions are made at every level of management to ensure organizational or business goals are achieved. Further, the decisions make up one of core functional values that every organization adopts and implements to ensure optimum growth and drivability in terms of services and or products offered. As such, decision making process can be further exemplified in the backdrop of the following definitions.

Definition of Decision Making

According to the Oxford Advanced Learner's Dictionary the term decision making means - the process of deciding about something important, especially in a group of people or in an organization.

Trewatha & Newport defines decision making process as follows:, "**Decision-making involves the selection of a course of action from among two or more possible alternatives in order to arrive at a solution for a given problem"**.

As evidenced by the foregone definitions, decision making process is a consultative affair done by a comity of professionals to drive better functioning of any organization. Thereby, it is a continuous and dynamic activity that pervades all other activities pertaining to the organization. Since it is an ongoing activity, decision making process plays vital importance in the functioning of an organization. Since intellectual minds are involved in the process of decision making, it requires solid scientific knowledge coupled with skills and experience in addition to mental maturity.

Further, decision making process can be regarded as check and balance system that keeps the organisation growing both in vertical and linear directions. It means that decision making process seeks a goal. The goals are pre-set business objectives, company missions and its vision. To achieve these goals, company may face lot of obstacles in administrative, operational,

marketing wings and operational domains. Such problems are sorted out through comprehensive decision making process. No decision comes as end in itself, since in may evolve new problems to solve. When one problem is solved another arises and so on, such that decision making process, as said earlier, is a continuous and dynamic.

A lot of time is consumed while decisions are taken. In a management setting, decision cannot be taken abruptly. It should follow the steps such as

1. Defining the problem
2. Gathering information and collecting data
3. Developing and weighing the options
4. Choosing best possible option
5. Plan and execute
6. Take follow up action

Since decision making process follows the above sequential steps, a lot of time is spent in this process. This is the case with every decision taken to solve management and administrative problems in a business setting. Though the whole process is time consuming, the result of such process in a professional organization is magnanimous.

In general, the decision making process helps managers and other business professionals solve problems by examining alternative choices and deciding on the best route to take. Using a step-by-step approach is an efficient way to make thoughtful, informed decisions that have a positive impact on your organization's short- and long-term goals.

The business decision making process is commonly divided into seven steps. Managers may utilize many of these steps without realizing it, but gaining a clearer understanding of best practices can improve the effectiveness of your decisions.

Introduction

Decision making is a daily activity for any human being. There is no exception about that. When it comes to business organizations, decision making is a habit and a process as well.

Effective and successful decisions make profit to the company and unsuccessful ones make losses. Therefore, corporate decision making process is the most critical process in any organization.

In the decision making process, we choose one course of action from a few possible alternatives. In the process of decision making, we may use many tools, techniques and perceptions.

In addition, we may make our own private decisions or may prefer a collective decision.

Usually, decision making is hard. Majority of corporate decisions involve some level of dissatisfaction or conflict with another party.

Let's have a look at the decision making process in detail.

Steps of Decision Making Process

Following are the important steps of the decision making process. Each step may be supported by different tools and techniques.

Step 1: Identification of the purpose of the decision

In this step, the problem is thoroughly analysed. There are a couple of questions one should ask when it comes to identifying the purpose of the decision.

- What exactly is the problem?
- Why the problem should be solved?
- Who are the affected parties of the problem?
- Does the problem have a deadline or a specific time-line?

Step 2: Information gathering

A problem of an organization will have many stakeholders. In addition, there can be dozens of factors involved and affected by the problem.

In the process of solving the problem, you will have to gather as much as information related to the factors and stakeholders involved in the problem. For the process of information gathering, tools such as 'Check Sheets' can be effectively used.

Step 3: Principles for judging the alternatives

In this step, the baseline criteria for judging the alternatives should be set up. When it comes to defining the criteria, organizational goals as well as the corporate culture should be taken into consideration.

As an example, profit is one of the main concerns in every decision making process. Companies usually do not make decisions that reduce profits, unless it is an exceptional case. Likewise, baseline principles should be identified related to the problem in hand.

Step 4: Brainstorm and analyse the different choices

For this step, brainstorming to list down all the ideas is the best option. Before the idea generation step, it is vital to understand the causes of the problem and prioritization of causes.

For this, you can make use of Cause-and-Effect diagrams and Pareto Chart tool. Cause-and-Effect diagram helps you to identify all possible causes of the problem and Pareto chart helps you to prioritize and identify the causes with highest effect.

Then, you can move on generating all possible solutions (alternatives) for the problem in hand.

Step 5: Evaluation of alternatives

Use your judgement principles and decision-making criteria to evaluate each alternative. In this step, experience and effectiveness of the judgement principles come into play. You need to compare each alternative for their positives and negatives.

Step 6: Select the best alternative

Once you go through from Step 1 to Step 5, this step is easy. In addition, the selection of the best alternative is an informed decision since you have already followed a methodology to derive and select the best alternative.

Step 7: Execute the decision

Convert your decision into a plan or a sequence of activities. Execute your plan by yourself or with the help of subordinates.

Step 8: Evaluate the results

Evaluate the outcome of your decision. See whether there is anything you should learn and then correct in future decision making. This is one of the best practices that will improve your decision-making skills.

Conclusion

When it comes to making decisions, one should always weigh the positive and negative business consequences and should favour the positive outcomes.

This avoids the possible losses to the organization and keeps the company running with a sustained growth. Sometimes, avoiding decision making seems easier; especially, when you get into a lot of confrontation after making the tough decision.

But, making the decisions and accepting its consequences is the only way to stay in control of your corporate life and time.

Concept of relevant costs and benefits

Relevant Cost' Relevant cost is a managerial accounting term that describes avoidable **costs** that are incurred when making business decisions. The **concept of relevant cost** is used to eliminate unnecessary data that could complicate the decision-making process.

The Managerial Accountant's Role in Decision Making

Concept

Relevant costing attempts to determine the objective cost of a business decision. An objective measure of the cost of a business decision is the extent of cash outflows that shall result from its implementation. Relevant costing focuses on just that and ignores other costs which do not affect the future cash flows.

The underlying principles of relevant costing are fairly simple and you can probably relate them to your personal experiences involving financial decisions.

For example, assume you had been talked into buying a discount card of ABC Pizza for $50 which entitles you to a 10% discount on all future purchases. Say a pizza costs $10 ($9 after discount) at ABC Pizza and it subsequently came to your knowledge that a similar pizza is offered by XYZ Pizza for just $8. So the next time you would have ordered a pizza, you would have (hopefully) placed an order at XYZ Pizza realizing that the $50 you have already spent is irrelevant (see sunk cost below).

Relevant costing is just a refined application of such basic principles to business decisions. The key to relevant costing is the ability to filter what is and isn't relevant to a business decision.

Types of Relevant Costs	Types of Non-Relevant Costs
Future Cash Flows Cash expense that will be incurred in the future as a result of a decision is a relevant cost.	**Sunk Cost** Sunk cost is expenditure which has already been incurred in the past. Sunk cost is irrelevant because it does not affect the future cash flows of a business.
Avoidable Costs Only those costs are relevant to a decision that can be avoided if the decision is not implemented.	**Committed Costs** Future costs that cannot be avoided are not relevant because they will be incurred irrespective of the business decision bieng considered.
Opportunity Costs Cash inflow that will be sacrificed as a result of a particular management decision is a relevant cost.	**Non-Cash Expenses** Non-cash expenses such as depreciation are not relevant because they do not affect the cash flows of a business.
Incremental Cost	**General Overheads**

Where different alternatives are being considered, relevant cost is the incremental or differential cost between the various alternatives being considered.	General and administrative overheads which are not affected by the decisions under consideration should be ignored.

Example

Rubber Tire Company (RTC) received a request to provide a price quote for an order for the supply of 1000 custom made tires required for industrial vehicles. RTC is facing stiff competition from its business rivals and is therefore hoping to secure the order by quoting the lowest price. RTC plans to quote a price at 10% above its relevant cost.

Following is the calculation of total cost in respect of the order:

Relevant Cost		
Rubber	$10,000	The order requires a special type of rubber. Only 25% rubber is currently available in stock. The rubber was purchased 2 years ago at the cost of $3,000. If the rubber is not used on this order, it will have to scraped at a price of $1,000. Remaining quantity shall have to be procured at the price of $7,000.
Oil	$1,000	All the required quantity of oil is currently available in stock. The cost of oil that will be used on the order is $1,000. The current market value of the required quantity of oil is $1,200. If oil is not used on the order, it could be used in the production of other tires.
Other Materials	$2,000	All other materials will have to be procured.

Direct Labor	$5,000	$5,000 represents the cost that would be paid to direct labor in respect of the time that they work on the order. If direct labor is not utilized on this order, they remain idle for the entire time. Direct labor is paid idle time equal to 60% of the normal pay in order to retain them.
Supervisor's Salary	$1,000	This represents the share of factory supervisor's salary for the number of days in which production for the order will take place.
Depreciation of equipment	$3,000	This represents the manufacturing equipment's depreciation for the number of days in which production for the order will take place.
Lease rental of factory plant	$12,000	This represents the share of lease rentals of the factory plant for the number of days in which production for the order will take place.
Electricity	$8,000	The order would require 3000 units of electricity which is expected to cost $8,000.
Overheads Allocation	$6,000	This represents the apportionment of general and administrative overheads based on the number of machine hours that will be required on the order.
Total	$48,000	

Calculate the relevant cost for the order and the price RTC should quote.

Manufacturing Cost		
Rubber	$8,000	$1,000 Scrap Value - 25%

		Purchase Cost - 75% $7,000 Relevant Cost $8,000 The $3,000 paid two years ago is a sunk cost and should therefore be ignored. $1,000 represents the opportunity cost of using the rubber available in stock on this particular order.
Oil	$1,200	The $1,000 cost of oil is a sunk cost. The $1,200 current market value of the required oil is the relevant cost because utilizing it on this order will require purchase of additional oil at the market rates to meet the production needs of other tires. Alternatively, the oil could be sold for $1200.
Other Materials	$2,000	As these materials are not available in stock, these will have to be purchased at the market price which is their relevant cost.
Direct Labor	$2,000	Since $3,000 (60% of $5,000) idle time pay will be incurred even if this order is not taken, the relevant cost is the incremental cost of $2,000 ($5,000 - $3,000).
Supervisor's Salary	-	As supervisor's salary is a fixed cost unchanged by the work performed on this order, it is a non-relevant cost.
Depreciation of equipment	-	Non-cash expenses are not relevant for decision making.
Lease rental of factory plant	-	Lease rentals are a committed cost which cannot be avoided by withdrawing from this order which is why they should be ignored for the purpose of this analysis.
Electricity	$8,000	Electricity charges are incremental to this order and therefore

		relevant.
Overheads Allocation	-	General and administrative overheads that are not incurred directly as a result of this order should be considered irrelevant.
Relevant Cost of order	**$21,200**	
Profit Margin	**$2,120**	10% of the relevant cost of $21,200
Price to be quoted	**$23,320**	

Application & Limitations

While relevant costing is a useful tool in short-term financial decisions, it would probably not be wise to form it as the basis of all pricing decisions because in order for a business to be sustainable in the long-term, it should charge a price that provides a sufficient profit margin above its total cost and not just the relevant cost.

Examples of application of relevant costing include:

- Competitive pricing decisions
- Make or buy decisions
- Further processing decisions

For long term financial decisions such as investment appraisal, disinvestment and shutdown decisions, relevant costing is not appropriate because most costs which may seem non-relevant in the short term become avoidable and incremental when considered in the long term. However, even long term financial decisions such as investment appraisal may use the underlying principles of relevant costing to facilitate an objective evaluation.

SHORT-RUN DECISION MAKING

Short-run decision making involves choosing among alternatives and tends to be short-run in nature with an immediate end in view.

Sound short-run decision making results in decisions that achieve an immediate objective *and*serve the overall strategic goals of the organization.

A. The Decision-Making Model

The six steps in the decision making process are as follows:

1. Define the problem.
2. Identify alternatives as possible solutions to the problem; eliminate alternatives that are not feasible.
3. Identify the relevant costs and benefits associated with each feasible alternative; eliminate irrelevant costs and benefits from consideration.
4. Total the relevant costs and benefits for each alternative.
5. Assess qualitative factors.
6. Select the alternative with the greatest overall benefit.

B. Ethics in Decision Making

In tactical decision making, ethical concerns relate to the way in which decisions are implemented and the possible sacrifice of long-run objectives for short-run gain.

Objectives should be attained within an ethical framework and be consistent with the company's missions and goals.

C. Relevant Costs Defined

Relevant costs:

- are future costs, and
- differ among the alternatives.

An irrelevant cost can be:

- a past cost, or
- a future cost that does not differ among the alternatives being considered.

A **sunk cost** is a cost for which the outlay has already been made.Sunk costs are the result of past decisions and cannot be changed by current or future action. The acquisition cost of equipment purchased in the past is a sunk cost. After sunk costs are incurred, they are unavoidable. Since sunk costs are past costs that do not differ among the alternatives, sunk costs are irrelevant costs.

2. SOME COMMON RELEVANT COST APPLICATIONS

We all are aware of the need of quantitative numbers to make decisions, but there is a need to examine qualitative factors. Many times it is difficult to quantify qualitative factors, such as quality of materials, late orders, customer relations, and so on. Qualitative factors are very important when making decisions.

There are four major types of relevant costing decisions mentioned in this section: **make or buy**, **keep or drop**, **special order**, and **sell or process further**. Cornerstones can be used to illustrate each of the decision types.

Cornerstone 12-1: How to Structure a Make-or-Buy Problem

- See **Mowen and Hansen text** for demo problems.

Cornerstone 12-2: How to Structure a Special-Order Problem

- See **Mowen and Hansen text** for demo problems.

Cornerstone 12-3: How to Structure a Keep-or-Drop Product Line Problem

See **Mowen and Hansen text** for demo problems.

Cornerstone 12-4: How to Structure a Keep-or-Drop Product Line Problem with Complementary Effects

- See **Mowen and Hansen text** for demo problems.

Cornerstone 12-5: How to Structure the Sell-or-Process-Further Decision

- See **Mowen and Hansen text** for demo problems.

3. PRODUCT MIX DECISIONS

In some cases product resources, such as materials, labor, or equipment, may be limited.

Constraints are limitations due to limited resources or limited product demand. A manager must choose the optimal mix given the firm's constraints.

A. One Constrained Resource

When there is one scarce resource, determine which product results in the *highest contribution margin per unit of the scarce resource*.

For example, if the scarce resource is machine hours, for each product calculate the contribution margin per machine hour as follows:

$$\text{Contribution margin per machine hour} = \frac{\text{Contribution margin per unit of product}}{\text{Machine time required per unit}}$$

The quantity needed of the product with the highest contribution margin per machine hour should be produced before producing the other products.

Cornerstone 12-6: How to Determine the Optimal Product Mix with One Constrained Resource

- See **Mowen and Hansen text** for demo problems.

Cornerstone 12-7: How to Determine the Optimal Product Mix with One Constrained Resource and a Sales Constraint

- See **Mowen and Hansen text** for demo problems.

B. Multiple Constrained Resources

When more than one resource is limited, *linear programming* can be used to determine the optimal solution.

4. PRICING DECISIONS

Two approaches to pricing:

1. Cost-based pricin g—Cost-based pricing uses a **markup**, or percentage applied to the base price, to determine the selling price.

2. Target costing and pricin g—**Target costing** determines the cost of a product or service based on the price (target price) that customers are willing to pay. The marketing department deter mines what characteristics and price for the product are acceptable to customers, then engineers design and develop the product so that cost and profit can be covered by that price.

Cornerstone 12-8: How to Calculate Price by Applying a Markup Percentage to Cost

- See **Mowen and Hansen text** for demo problems.

Cornerstone 12-9: How to Calculate a Target Cost

- See **Mowen and Hansen text** for demo problems.

5. DECISION MAKING FOR INVENTORY MANAGEMENT

A. Inventory-Related Costs

Ordering costs are the costs of placing and receiving an order. Examples include the clerical costs of processing an order, the cost of insurance for shipment, and unloading costs.

Setup costs are the costs of preparing equipment and facilities for production. Examples include wages of idled production workers, lost income from idled production facilities, and the costs of test runs (labor, materials, and overhead).

Carrying costs are the costs of carrying inventory, such as storage and handling costs, the opportunity cost of funds invested in inventory, and insurance and taxes on the inventory.

Since both ordering costs and setup costs are costs of acquiring inventory, they are treated in the same manner.

Stockout costs are the costs associated with having insufficient amounts of inventory. Stockout costs include:

lost sales (both current and future)

costs of expediting (overtime or increased transportation costs)

costs of interrupted production

B. Traditional Reasons for Holding Inventory

Traditional reasons for holding inventories are:

to balance ordering or setup costs and carrying costs

to satisfy customer demand (meet delivery dates)

to avoid shutting down manufacturing facilities due to machine failure, defective or unavailable parts, and/or late delivery of parts.

to buffer against unreliable production processes

to take advantage of discounts

to hedge against future price increases

C. Economic Order Quantity: The Traditional Inventory Model

An inventory policy addresses two questions:

How much inventory should be ordered (or produced)?

When should the order be placed (or the setup performed)?

Order Quantity and Total Ordering and Carrying Costs

The order quantity used should minimize the total cost of ordering and carrying inventory.

Total inventory-related costs = Ordering cost + Carrying cost

$= P\,D/Q + C\,Q/2$

- where:

  P = the cost of placing and receiving an order (or the setup cost for a production run)
- D = the known annual demand
- Q = quantity (the number of units ordered each time an order is placed or the lot size for a production run)
- C = the cost of carrying one unit of stock for one year

The **economic order quantity** is the order quantity that minimizes the total cost.

Cornerstone 12-10: How to Calculate Ordering Cost, Carrying Cost, and Total Inventory-Related Cost

- See **Mowen and Hansen text** for demo problems.

D. Computing EOQ

The economic order quantity is calculated as:

$$EOQ = \sqrt{2PD/C}$$

The EOQ is the order size that results in ordering costs equaling carrying costs.

The economic order quantity model can also be used to determine the most economical size of a production run. The only difference is that setup costs for starting a production run are substituted for ordering costs.

Cornerstone 12-11: How to Calculate the EOQ, Ordering Cost, Carrying Cost, and Total Inventory-Related Cost

- See **Mowen and Hansen text** for demo problems.

E. EOQ and Inventory Management

The traditional approach to inventory management is called a *just-in-case system*.

The traditional manufacturing environment uses mass production of a few standardized products that typically have a very high setup cost. The high setup cost encourages a large batch size and long production runs. Diversity is viewed as being costly and is avoided.

F. Just-In-Time Approach to Inventory Management

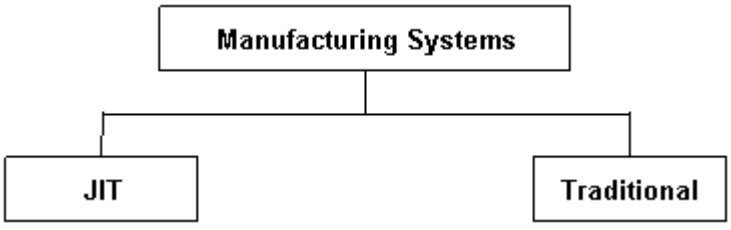
Competitive pressures have led many firms to abandon the EOQ model in favor of a just-in-time (JIT) approach to manufacturing and purchasing. JIT offers increased cost efficiency and simultaneously has the flexibility to respond to customer demands for better quality and more variety.

G. Basic Features of JIT

JIT (just-in-time) manufacturing is a demand-pull system. Products are produced only when demanded by customers.

JIT purchasing occurs when parts and materials arrive just in time to be used in production.

Differences between JIT and traditional manufacturing are summarized below:



System:	• pull-through system based on demand	• push-through system
Inventory effects:	• suppliers deliver parts just in time to be used in production • uses a few suppliers with	• higher levels of inventory than JIT • inventory used as a buffer

	long-term contracts	because of delayed reaction time • greater number of suppliers with short-term contracts
Plant layout:	• **manufacturing cells** consist of a set of machines that produce a particular product or product family • multiskilled labor where workers are trained to operate all machines within the cell • requires less space and reduces lead times	• departmental structure with machines performing similar functions are located together in a department • specialized labor where workers operate a specific machine
Grouping of employees:	• service departments providing support services, such as materials stores, are reassigned to work with manufacturing cells • cell workers perform more of support services, such as setup and preventive maintenance	• service departments providing support services are centralized • a central stores location handles materials • a central purchasing department places all purchase orders for materials
Employee empowerment:	• increased employee participation, which increases productivity and cost efficiency • input from employees is sought • managers act as facilitators to develop people and skills	• less participation by employees in management of organization • managers act as supervisors
Total quality	• poor quality cannot be	• **acceptable quality level**

control:	tolerated without inventories • quest for defective-free products	**(AQL)**permits defects to occur as long as they do not exceed a certain level
Traceability of overhead costs:	• uses more direct tracing of overhead costs and less driver tracing and allocation • use of manufacturing cells results in more costs being directly traceable to products	• relies more on driver tracing and allocation

H. Setup and Carrying Costs: The JIT Approach

The traditional approach takes setup costs as given and then tries to minimize total carrying costs and setup costs.

JIT attempts to reduce setup costs (or ordering costs) by:

reducing the time it takes to set up for production, and reducing the number of orders through long-term contracting.

If setup and ordering costs are insignificant, the only remaining cost to minimize is carrying cost, which is minimized by reducing inventories to insignificant levels.

Acceptance or rejection of special / export offers

Acceptance of a Special Order

The one-time special order will typically involve a large quantity of products or service at a specified price. Your accounting manager's feedback will hinge on how to maximize your profit. The proposal should be accepted only if the incremental revenue associated with the special order exceeds incremental costs and if present sales will be unaffected. With fixed costs already accounted for with regular production, you just need to optimize the price point based on the variable costs to turn a profit. Soft benefits, like maintaining a business relationship, should be considered as well.

Idle Capacity

In order to justify the special order, your company must have the ability to perform the task. To avoid disrupting regular production of customer orders, you need to have excess capacity to fill the special order in terms of personnel and equipment on the production line. If you're operating at full capacity and need to meet the special order, you'll have to turn away

regular customers to accommodate the special order. This can only be justified if the order produces a large enough profit to overcome the disruption.

Special Order Pricing

Since a special order is a one-time order, it represents a short-run pricing decision. Use the special order pricing technique to ensure profit -- calculate the lowest price of the product or service at which to accept the special order, below which you have to reject. Even if the price is set below regular price, the sale may still generate a profit above variable costs. When there is idle capacity or when sales are low, you can accept special orders as long as the incremental revenue surpasses incremental costs.

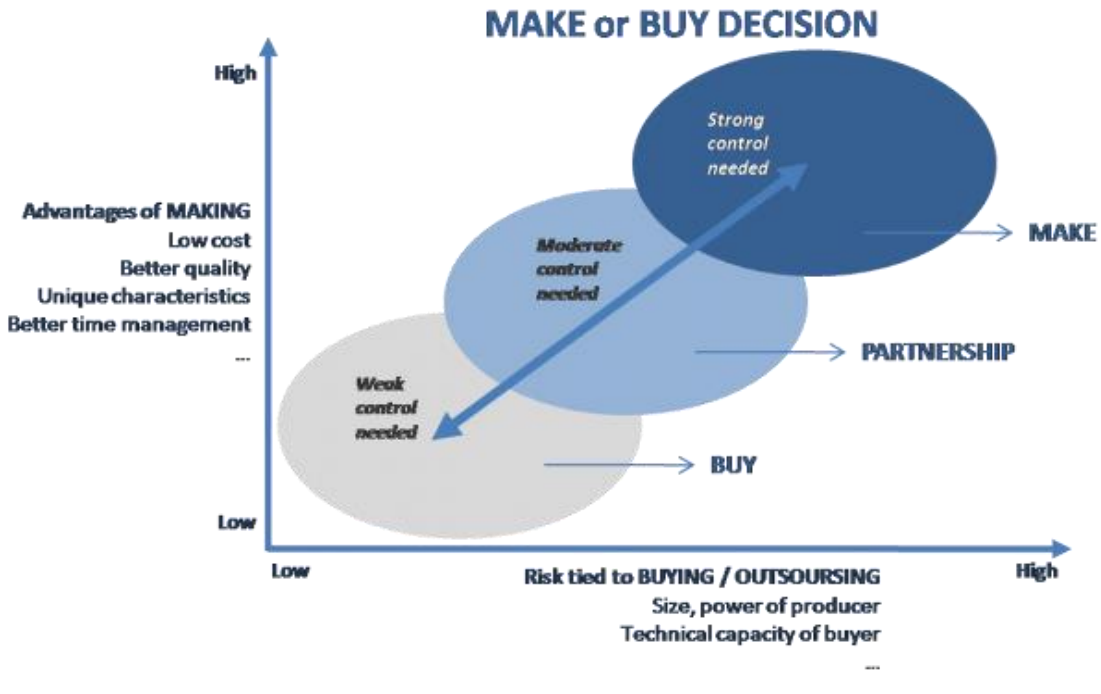
Example of Accounting Decision

Suppose your company manufactures caps for sports brand names and currently produces and sells 100,000 units. Your monthly fixed cost is $300,000 and the variable cost per cap is $4, comprising $3 for the material and $1 for labor. Sports retailers purchase each cap for $10. Assume you receive a special order for 15,000 caps at $9 each. Regardless of whether you take the special order or not, you incur the fixed cost -- a sunk cost that is irrelevant to your decision-making process. The same variable costs of $4 per unit apply and the special order will cost $60,000 to produce and sell for $135,000. With idle capacity you'll make 115,000 units, generating a profit of $375,000 instead of the regular $300,000. At full capacity, you displace 15,000 regular units, realizing an opportunity cost of $90,000 and a profit of $285,000.

MAKE-OR-BUY DECISIONS.

The **make-or-buy decision** is the act of **making** a strategic choice between producing an item internally (in-house) or **buying** it externally (from an outside supplier). The **buy** side of the **decision** also is referred to as outsourcing.

- Step-by-step guide to Make or Buy Decision



Save

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Manufacturing businesses have to consider cost-lowering decisions on a daily basis. This article will take you through all the basic things you need to know with respect to the vital cost-saving decision known as make-or-buy. You'll learn 1) **what is make-or-buy decision?** 2) **factors influencing the decision**, 3) **how to arrive at a make-or-buy decision**, and an 4) **example**.

WHAT IS MAKE-OR-BUY DECISION?

The make-or-buy decision is the action of deciding between manufacturing an item internally (or in-house) or buying it from an external supplier (also known as outsourcing). Such decisions are typically taken when a firm that has manufactured a part or product, or else considerably modified it, is having issues with current suppliers, or has reducing capacity or varying demand.

Another way to define make-or-buy decision that is closely related to the first definition is this: a decision to perform one of the activities in the value chain in-house, instead of purchasing externally from a supplier. A value chain is the complete range of tasks – such as design, manufacture, marketing and distribution of a product / service that businesses must get done to take a service or product from conception to their customers.

Some companies manage all of the tasks in the value chain from manufacturing raw materials all through to the ultimate distribution of the completed goods and provision of after-sales services. Some other companies are happy just to integrate on a smaller scale by buying a lot of the parts

and materials that are required for their finished products. When a business is involved in more than one activity in the whole value chain, it is vertically integrated. This kind of integration is quite common.

Vertical integration provides its own set of advantages. An integrated company depends less on its suppliers and so can be certain of a smoother flow of materials and parts for the manufacture than a non-integrated company. In addition, some companies believe they can manage quality better by manufacturing their own parts and materials instead of depending on the quality control standards of external suppliers. What's more, an integrated company realizes revenue from the parts and material that it is "making" rather than "buying" in addition to income from its usual operations.

The benefits of vertical integration are counterbalanced by the benefits of using outside suppliers. By combining demand from different companie, a supplier can enjoy econoies of scale. These economies of scale can cause better quality and lower expenses than would be possible if the business were to endeavor to manufacture the parts or provide a service by itself. At the same time, a business should be careful to retain control over those tasks that are necessary for maintaining its competitive position. Case in point: Hewlett Packard manages the software for laser printers that it manufactures in collaboration with Canon Inc. of Japan.

In the book "World Class Supply Management" published in 2003, Donald Dobler, Stephen Starling and David Burt provide a rule of thumb for outsourcing. The rule recommends that companies outsource all goods that do not fall into one of the following three classes: 1) the good is critical to the product's success including customer discernment of key product attributes 2) the good falls well within the firm's key competencies, or within those the company should develop to accomplish future plans, or 3) the item calls for specialized design and manufacturing equipment or skills.

FACTORS INFLUENCING THE DECISION

To come to a make-or-buy decision, it is essential to thoroughly analyze, all of the expenses associated with product development in addition to expenses associated with buying the product. The assessment should include qualitative and quantitative factors. It should also separate relevant expenses from irrelevant ones and consider only the former. The study should also look at the availability of the product and its quality under each of the two situations.

Introduction to quantitative and qualitative analysis

Quantitative aspects can be calculated and compared whereas qualitative aspects call for subjective judgment and, frequently require multiple opinions. In addition, some of the associated factors can be quantified with sureness while it is necessary to estimate other factors. The make-or-buy decision calls for a thorough assessment from all angles.

Quantitative aspects are essentially the incremental costs stemming from making or purchasing the component. Factors of this type to look at may incorporate things such as availability of manufacturing facilities, needed resources and manufacturing capacity. This may also incorporate variable and fixed expenses that can be found out either by way of estimation or with certainty. Similarly, quantitative expenses would incorporate the cost of the good under consideration as the price is determined by suppliers offering the product for sale in the marketplace.

Qualitative factors to look at call for more subjective assessment. Examples of such factors include control over component quality, the reliability and reputation of the suppliers, the possibility of modifying the decision in the future, the long-term viewpoint concerning manufacture or purchase of the product, and the impact of the decision on customers and suppliers.

Introduction to relevant and irrelevant expenses

As mentioned earlier, distinguishing between these two kinds of expenses is necessary to come to a make-or-buy decision. Relevant costs for manufacturing the good are all the expenses that could be avoided by not manufacturing the product in addition to the opportunity cost resulting from utilizing production facilities to manufacture the good as against the next best alternative utilization of the manufacturing facilities. Relevant costs for buying the product are all the expenses relating to purchasing a product from suppliers. Irrelevant costs are the expenses involved irrespective of whether the good is produced internally or bought externally.

Factors favoring in-house manufacture

- Wish to integrate plant operations
- Need for direct control over manufacturing and/or quality
- Cost considerations (costs less to make the part)
- Improved quality control
- No competent suppliers and/or unreliable suppliers
- Quantity too little to interest a supplier

- Design secrecy is necessary to protect proprietary technology
- Control of transportation, lead time, and warehousing expenses
- Political, environmental, or social reasons
- Productive utilization of excess plant capacity to assist with absorbing fixed overhead (utilizing existing idle capacity)
- Wish to keep up a stable workforce (in times when there are declining sales)
- Greater guarantee of continual supply

Factors favoring purchase from outside

- Suppliers' specialized know-how and research are more than that of the buyer
- Lack of expertise
- Small-volume needs
- Cost aspects (costs less to purchase the item)
- Wish to sustain a multiple source policy
- Item not necessary to the firm's strategy
- Limited facilities for a manufacture or inadequate capacity
- Brand preference
- Inventory and procurement considerations

Costs for the make analysis

- Direct labor expenses
- Incremental inventory-carrying expenses
- Incremental capital expenses
- Incremental purchasing expenses
- Incremental factory operating expenses
- Incremental managerial expenses
- Delivered purchased material expenses
- Any follow-on expenses resulting from quality and associated problems

Cost factors for the buy analysis

- Transportation expenses
- Purchase price of the part
- Incremental purchasing expenses
- Receiving and inspection expenses
- Any follow-on expenses associated with service or quality

Though the cost is rarely the sole criterion utilized to come to a make-or-buy decision, easy break-even analysis can be a useful way to quickly guess the expense implications within a decision.

HOW TO ARRIVE AT A MAKE OR BUY DECISION?

Here's one example of a process of how businesses can make a sensible make-or-buy decision. Businesses should first carry out an assessment of quantitative aspects before considering qualitative aspects to finalize their make or buy decisions.

Step 1

Carry out the **quantitative analysis** by comparing the expenses incurred in each option. The expense of purchasing products is the price paid to suppliers to purchase them. On the contrary, the cost of manufacture includes both variable and fixed expenses. For example, a business requires 10 units of its item in 10 consecutive periods. The company can either buy the units at $100 per unit or expend $1,000 to set up manufacture facilities and $8 to manufacture each unit. As the business expends $10,000 to buy the products and $9,000 to manufacture the same quantity of products, with respect to make-or-buy, the business would do better to manufacture the goods, on the basis of only quantitative factors.

Step 2

Think about all the **qualitative factors** that may have a bearing on the decision **to manufacture the products**. This incorporates all pertinent factors that cannot be decreased to numbers such as the quality of the business' production department and its experience. An example for this is that it may be possible that the business has zero experience in manufacturing a specific good and its previous experience in manufacturing other goods cannot be applied.

Step 3

Think about **qualitative factors** that may have a bearing on the decision **to buy the products from external suppliers**. Such factors include: the quality of the suppliers' management, its dependability and the quality of its goods. An example for this is that it is probable that the supplier has considerable experience in manufacturing the item being considered and the business may want to develop a long-term relationship with a supplier.

Step 4

Factor the **qualitative aspects into the quantitative assessment** so as to complete it. An example for this in this case is that: even though it is cheaper for the business to manufacture its products, there are grounds to believe that its goods would be of a lower grade than those it can

buy. In addition, as the business desires to forge a long-term relationship with its supplier, it may desire to purchase its goods from that supplier so as to commence the relationship.

Step 5

Arrive at **a final make-or-buy decision** after considering both quantitative and qualitative factors. This would depend on the particular business and what it is doing so as to create profits. Continuing with the above example, even if it is likely that the business may buy better grade products than those it can manufacture in-house, the quality of its goods/products may not have a bearing on its sales on the basis of its business model and what it is putting on the market. If such is the case, the wish to develop a long-term relationship may or may not be adequate to prevail over the $1,000 savings in expenses; instead it depends on how strong is the business' yearning for the relationship and what it hopes to accomplish by starting it.

EXAMPLE

Here is a hypothetical example for coming to a make-or-buy decision. A reputable skateboard company is now manufacturing the heavy duty bearing that is utilized in its most liked line of skateboards. The business' accounting section reports the following expenses for manufacturing 8000 units of the bearings internally every year.

Direct Materials	$6	x	8000	=	$48,000
Direct Labor	$4	x	8000	=	$32,000
Supervisor Salary	$3	x	8000	=	$24,000
Variable Overhead	$1	x	8000	=	$8,000
Allocated general overhead	$5	x	8000	=	$40,000
Depreciation of special equipment	$2	x	8000	=	$16,000
Total Expense	**$21**	**x**	**8000**	**=**	**$168,000**

An external supplier offered to sell 8000 bearings to the skateboard company for only $19 per bearing. Should the business cease manufacturing the bearings internally or instead, purchase them from an external supplier? To arrive at a make-or-buy decision, the focus should, at all times, be on the relevant costs (the ones that differ between the alternatives). The expenses that differ between alternatives comprise the expenses that could be prevented by buying the bearings from an external supplier.

If the expenses that can be avoided by buying bearings from the external supplier amount to less than $19, the business must continue to manufacture its bearings and reject the external supplier's offer. On the other hand, if the expenses that can be prevented by buying the bearings from the external supplier amount to more than $19, the external supplier's offer should be accepted.

Decision to Add or Drop Product Line

A decision whether or not to continue an old product line or department, or to start a new one is called an add-or-drop decision. An add-or-drop decision must be based only on relevant information.

Relevant information includes the revenues and costs which are directly related to a product line or department. Examples of relevant information are sales revenue, direct costs, variable overhead and direct fixed overhead. Such decision must not be based on irrelevant information such as allocated fixed overhead because allocated fixed overhead will not be eliminated if the product line or department is dropped.

The following example illustrates an add-or-drop decision:

Example

A company has three products: Product A, Product B and Product C. Income statements of the three product lines for the latest month are given below:

Product Line	A	B	C
Sales	$467,000	$314,000	$598,000
Variable Costs	241,000	169,000	321,000
Contribution Margin	$226,000	$145,000	$277,000
Direct Fixed Costs	91,000	86,000	112,000
Allocated Fixed Costs	93,000	62,000	120,000
Net Income	$42,000	− $3,000	$45,000

Use the incremental approach to determine if Product B should be dropped.

Solution

By dropping Product B, the company will loose the sale revenue from the product line. The company will also obtain gains in the form of avoided costs. But it can avoid only the variable costs and direct fixed costs of product B and not the allocated fixed costs. Hence:

If Product B is Dropped

Gains:		
Variable Costs Avoided	$169,000	
Direct Fixed Costs Avoided	$86,000	$255,000
Less: Sales Revenue Lost		$314,000
Decrease in Net Income of the Company		$59,000

.

Sell or process further decision

Sell or process further decision. The **sell or process further** decision is the choice of **selling** a product now or **processing** it **further** to earn additional revenue. ... The **sell or process further** decision most commonly arises when two or more products are generated by a manufacturing **process**.

A decision whether to sell a joint product at split-off point or to process it further and sell it in a more refined form is called a sell-or-process-further decision. Joint products are two or more products which have been manufactured from the same inputs and in a same production process (i.e. a joint process). The point at which joint products leave the joint process is called split-off point.

Some of the joint products may be in final form ready for sale, while others may be processed further. In such cases managers have to decide whether to sell the unfinished goods at split-off point or to process them further. Such decision is known as sell-or-process-further decision and it must be made so as to maximize the profits of the business.

A sell-or-process-further analysis can be carried out in three different ways:

- **Incremental (or Differential) Approach** calculates the difference between the additional revenues and the additional costs of further processing. If the difference is positive the product must be processed further, otherwise not.
- **Opportunity Cost Approach** calculates the difference between net revenue from further processed product and the opportunity cost of not selling the product at split-off point. If the difference is positive, further processing will increase profits.

- **Total Project Approach** (or the comparative statement approach) compares the profit statements of both options (i.e. selling or further processing) separately for each product. The option generating higher profit is chosen.

The following example illustrates the approaches to a sell-or-process-further decision:

Example

Product A and B are produced in a joint process. At split-off point, Product A is complete whereas product B can be process further. The following additional information is available:

Product	A	B
Quantity in Units	5,000	10,000
Selling Price Per Unit:		
At Split-Off	$10	$2.5
If Processed Further		$5
Costs After Split-Off		$20,000

Perform sell-or-process-further analysis for product B.

Solution

Incremental Approach:

Incremental Revenue	$25,000
Incremental Costs	20,000
Increase in Profits Due to Further Processing	$5,000

Opportunity Cost Approach:

Sales in Case of Further Processing	$50,000
Costs:	
Additional Costs	20,000
Opportunity Cost of Not Selling at Split-Off	25,000
Gain on Further Processing	$5,000

Total Project Approach:

	Split-Off Point	Further Processed
Revenue	$25,000	$50,000
Costs	0	20,000
Net Revenue	$25,000	$30,000
Gain from Further Processing		$5,000

Operate or Shut Down Decision

A **decision** to **shut down** means that the firm is temporarily suspending production. It does not mean that the firm is going out of business (exiting the industry). If market conditions improve, due to prices increasing or production costs falling, the firm can resume production. **Shutting down** is a short-**run decision**.

A shutdown point is a level of operations at which a company experiences no benefit for continuing operations, and therefore decides to shut down temporarily (or in some cases permanently). It results from the combination of output and price where the company earns just enough revenue to cover its total variable costs. The shutdown point denotes the exact moment when a company's (marginal) revenue is equal to its variable (marginal) costs - in other words, it occurs when the marginal profit becomes negative.

At this point, there is no economic benefit to continuing production. If an additional loss occurs, either through a rise in variable costs or a fall in revenue, the cost of operating will outweigh the revenue. At that point, shutting down operations is more practical than continuing, even if the company continues to experience losses in other areas, such as fixed costs. If the reverse occurs, continuing production is more practical.

If a company can produce revenues greater or equal to its total variable costs, it can use the additional revenues to pay down its fixed costs, assuming fixed costs, such as lease contracts or other lengthy obligations, will still be incurred when the firm shuts down. When a company can earn a positive contribution margin, it should remain in operations despite an overall marginal loss.

BREAKING DOWN Shutdown Point

The shutdown point does not include an analysis of fixed costs in its determination. It is based entirely on determining at what point the marginal costs associated with operation exceed the revenue being generated by those operations.

Levels of Shutdown

A shutdown point can apply to all of the operations a business participates in, or just a portion of its operations. Certain seasonal businesses, such as Christmas tree farmers, may shut

down almost entirely during the off-season. While fixed costs remain during the shutdown, variable costs can be eliminated.

Other businesses may experience fluctuations or produce some goods year-round, while others are only produced seasonally. For example, Cadbury chocolate bars are produced year-round, while Cadbury Cream Eggs are considered a seasonal product. The main operations, focused on the chocolate bars, may remain operational year-round while the cream egg operations may go through periods of shutdown during the off-season.

The length of a shutdown may be temporary or permanent, depending on the nature of the economic conditions leading to the shutdown. For non-seasonal goods, an economic recession may reduce demand from consumers, forcing a temporary shutdown (in full or in part) until the economy recovers. Other times, demand dries up completely due to changing consumer preferences or technological change. For instance, nobody produces cathode-ray tube (CRT) televisions or computer monitors any longer, and it would be a losing prospect to open a factory these days to produce them.

Fixed Costs vs. Variable Costs

Fixed costs are the costs that remain regardless of what operations are taking place. This can include payments to maintain the rights to the facility, such as rent or mortgage payments, along with any minimum utilities that must be maintained. Minimum staffing costs are considered fixed if a certain number of employees must be maintained even when operations cease.

Variable costs are more closely tied to actual operations. This can include, but is not limited to, employee wages for those whose positions are tied directly to production, certain utility costs or the cost of the materials required for production.

Pricing Decisions:

Cost **Accounting** & **Pricing Decisions**. Product **pricing decisions** are a very important aspect of any business and can be the hardest to make. ... **Management** can use this information to help set competitive and profitable product **prices**.

Pricing is one of the most important decisions made by the management. It is an important management tool to achieve the objectives of the organization. However, pricing decisions do not rely on any one discipline but follow a highly complex process encompassing many different theoretical aspects such as accounting, economics, and marketing. It is simultaneously affected by cost and demand conditions which are not parallel and are difficult to

align as an efficient decision supporting the strategic objectives of the firm. If the price of a product is too low, it leads to a high quantity of (demand and) sales but, at the same time, to low markup and profit (profitability).

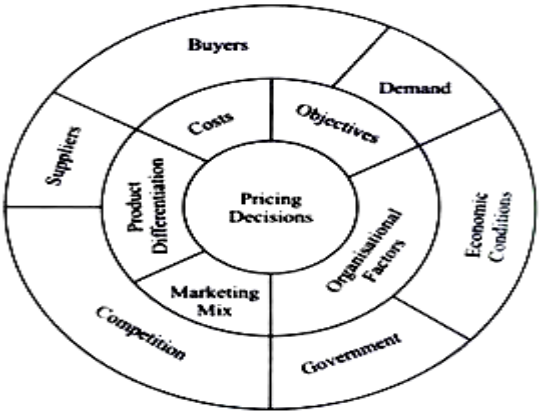
If the price is too high, it gives a high markup on variable cost but may lead to losses due to fixed costs and low demand quantity when sales volume does not exceed the breakeven point. In order to reach a reasonable size (and growth) and profitability, the price must be within a certain range. This price range determines in practice the degrees of freedom existing in pricing decision making. In this range, the price should be set to best support the strategy of the firm.

Pricing Decisions: Internal and External Factors (With Diagram)

The influencing factors for a price decision can be divided into two groups:

(A) Internal Factors and

(B) External Factors.



Factors Affecting Pricing Decisions

Fig. 14.1

(A) Internal Factors:

1. Organisational Factors:

Pricing decisions occur on two levels in the organisation. Over-all price strategy is dealt with by top executives. They determine the basic ranges that the product falls into in terms of market segments. The actual mechanics of pricing are dealt with at lower levels in the firm and focus on individual product strategies. Usually, some combination of production and marketing specialists are involved in choosing the price.

2. Marketing Mix:

Marketing experts view price as only one of the many important elements of the marketing mix. A shift in any one of the elements has an immediate effect on the other three—

Production, Promotion and Distribution. In some industries, a firm may use price reduction as a marketing technique.

Other firms may raise prices as a deliberate strategy to build a high-prestige product line. In either case, the effort will not succeed unless the price change is combined with a total marketing strategy that supports it. A firm that raises its prices may add a more impressive looking package and may begin a new advertising campaign.

3. Product Differentiation:

The price of the product also depends upon the characteristics of the product. In order to attract the customers, different characteristics are added to the product, such as quality, size, colour, attractive package, alternative uses etc. Generally, customers pay more prices for the product which is of the new style, fashion, better package etc.

4. Cost of the Product:

Cost and price of a product are closely related. The most important factor is the cost of production. In deciding to market a product, a firm may try to decide what prices are realistic, considering current demand and competition in the market. The product ultimately goes to the public and their capacity to pay will fix the cost, otherwise product would be flapped in the market.

5. Objectives of the Firm:

A firm may have various objectives and pricing contributes its share in achieving such goals. Firms may pursue a variety of value-oriented objectives, such as maximizing sales revenue, maximizing market share, maximizing customer volume, minimizing customer volume, maintaining an image, maintaining stable price etc. Pricing policy should be established only after proper considerations of the objectives of the firm.

(B) External Factors:

1. Demand:

The market demand for a product or service obviously has a big impact on pricing. Since demand is affected by factors like, number and size of competitors, the prospective buyers, their capacity and willingness to pay, their preference etc. are taken into account while fixing the price.

A firm can determine the expected price in a few test-markets by trying different prices in different markets and comparing the results with a controlled market in which price is not altered. If the demand of the product is inelastic, high prices may be fixed. On the other hand, if

demand is elastic, the firm should not fix high prices, rather it should fix lower prices than that of the competitors.

2. Competition:

Competitive conditions affect the pricing decisions. Competition is a crucial factor in price determination. A firm can fix the price equal to or lower than that of the competitors, provided the quality of product, in no case, be lower than that of the competitors.

3. Suppliers:

Suppliers of raw materials and other goods can have a significant effect on the price of a product. If the price of cotton goes up, the increase is passed on by suppliers to manufacturers. Manufacturers, in turn, pass it on to consumers.

Sometimes, however, when a manufacturer appears to be making large profits on a particular product, suppliers will attempt to make profits by charging more for their supplies. In other words, the price of a finished product is intimately linked up with the price of the raw materials. Scarcity or abundance of the raw materials also determines pricing.

4. Economic Conditions:

The inflationary or deflationary tendency affects pricing. In recession period, the prices are reduced to a sizeable extent to maintain the level of turnover. On the other hand, the prices are increased in boom period to cover the increasing cost of production and distribution. To meet the changes in demand, price etc.

Several pricing decisions are available:

(a) Prices can be boosted to protect profits against rising cost,

(b) Price protection systems can be developed to link the price on delivery to current costs,

(c) Emphasis can be shifted from sales volume to profit margin and cost reduction etc.

5. Buyers:

The various consumers and businesses that buy a company's products or services may have an influence in the pricing decision. Their nature and behaviour for the purchase of a particular product, brand or service etc. affect pricing when their number is large.

6. Government:

Price discretion is also affected by the price-control by the government through enactment of legislation, when it is thought proper to arrest the inflationary trend in prices of certain products. The prices cannot be fixed higher, as government keeps a close watch on

pricing in the private sector. The marketers obviously can exercise substantial control over the internal factors, while they have little, if any, control over the external ones.

Methods of Pricing

Cost-oriented methods or pricing are as follows:

- Cost plus **pricing**: Cost plus **pricing** involves adding a certain percentage to cost in order to fix the **price**. ...
- Mark-up **pricing**: ...
- Break-even **pricing**: ...
- Target return **pricing**: ...
- Early cash recovery **pricing**: ...
- Perceived value **pricing**: ...
- Going-rate **pricing**: ...
- Sealed-bid **pricing**:

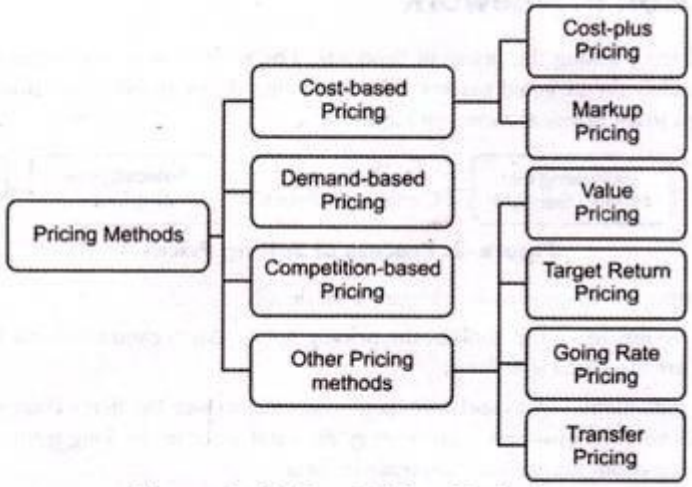


Figure-4: Various Pricing Methods

Different Pricing Strategies :

It's no secret that small businesses play a vital role in the US economy. However, most non-employer small businesses average just $44,000 a year in annual revenue, with many of these companies earning $25,000 or less. While various factors can affect a business' revenue potential, one of the most important is the pricing strategy utilized by its owners.

Good pricing strategy helps you determine the price point at which you can maximize profits on sales of your products or services. When setting prices, a business owner needs to

consider a wide range of factors including production and distribution costs, competitor offerings, positioning strategies and the business' target customer base.

While customers won't purchase goods that are priced too high, your company won't succeed if it prices goods too low to cover all of the business' costs. Along with product, place and promotion, price can have a profound effect on the success of your small business.

Here are some of the various strategies that businesses implement when setting prices on their products and services.

1. Pricing at a Premium

With premium pricing, businesses set costs higher than their competitors. Premium pricing is often most effective in the early days of a product's life cycle, and ideal for small businesses that sell unique goods.

Because customers need to perceive products as being worth the higher price tag, a business must work hard to create a value perception. Along with creating a high-quality product, owners should ensure their marketing efforts, the product's packaging and the store's décor all combine to support the premium price.

2. Pricing for Market Penetration

Penetration strategies aim to attract buyers by offering lower prices on goods and services. While many new companies use this technique to draw attention away from their competition, penetration pricing does tend to result in an initial loss of income for the business. Over time, however, the increase in awareness can drive profits and help small businesses to stand out from the crowd. In the long run, after sufficiently penetrating a market, companies often wind up raising their prices to better reflect the state of their position within the market.

3. Economy Pricing

Used by a wide range of businesses including generic food suppliers and discount retailers, economy pricing aims to attract the most price-conscious of consumers. With this strategy, businesses minimize the costs associated with marketing and production in order to keep product prices down. As a result, customers can purchase the products they need without frills.

While economy pricing is incredibly effective for large companies like Wal-Mart and Target, the technique can be dangerous for small businesses. Because small businesses lack the sales volume of larger companies, they may struggle to generate a sufficient profit when prices

are too low. Still, selectively tailoring discounts to your most loyal customers can be a great way to guarantee their patronage for years to come.

4. Price Skimming

Designed to help businesses maximize sales on new products and services, price skimming involves setting rates high during the introductory phase. The company then lowers prices gradually as competitor goods appear on the market.

One of the benefits of price skimming is that it allows businesses to maximize profits on early adopters before dropping prices to attract more price-sensitive consumers. Not only does price skimming help a small business recoup its development costs, but it also creates an illusion of quality and exclusivity when your item is first introduced to the marketplace.

5. Psychology Pricing

With the economy still limping back to full health, price remains a major concern for American consumers. Psychology pricing refers to techniques that marketers use to encourage customers to respond on emotional levels rather than logical ones.

For example, setting the price of a watch at $199 is proven to attract more consumers than setting it at $200, even though the true difference here is quite small. One explanation for this trend is that consumers tend to put more attention on the first number on a price tag than the last. The goal of psychology pricing is to increase demand by creating an illusion of enhanced value for the consumer.

6. Bundle Pricing

With bundle pricing, small businesses sell multiple products for a lower rate than consumers would face if they purchased each item individually. Not only is bundling goods an effective way of moving unsold items that are taking up space in your facility, but it can also increase the value perception in the eyes of your customers, since you're essentially giving them something for free.

Bundle pricing is more effective for companies that sell complimentary products. For example, a restaurant can take advantage of bundle pricing by including dessert with every entrée sold on a particular day of the week. Small businesses should keep in mind that the profits they earn on the higher-value items must make up for the losses they take on the lower-value product.

Pricing strategies are important, but it's also important to not lose sight of the price itself. Here are five things to consider, alongside your strategy, when pricing your products.

Part – A

Online Examination from Qn. No. 1 – Qn. No.20
Each Question Carry One Mark

POSSIBLE QUESTIONS - PART B

1. Define the term Decision Making
2. Write a short down on Operate or shut down decision
3. What is meant by Manufacturing Cost?
4. Give the meaning of Product Mix Decision
5. List out the Sell or process further decision process
6. Define the term Economic Order Quantity
7. What is meant be Just in Time?
8. List out the characteristics of relevant costs.
9. What are the objectives of Pricing?
10. What is cost plus pricing?

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**
****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. Determine the steps that are to be taken for rational decision making.
2. Elaborate the term Make or Buy Decision
3. Elucidate the different methods of Pricing
4. Enumerate the concepts of Decision making process
5. Explain the different pricing strategies with suitable examples
6. Determine the various factors influencing Pricing Decision
7. Distinguish between relevant cost and non-relevant cost
8. Following information has been made available from the cost records of United Automobiles Ltd., manufacturing spare parts :

Particulars	Amount
Direct Materials	Per Unit
X	Rs. 8
Y	Rs.6
Direct Wages	
X	24 hours @ 25 paise per hour
Y	16 hours @ 25 paise per hour

Variable Overheads	150 % of direct wages
Fixed Overheads (total)	Rs. 750
Selling Price	
X	Rs. 25
Y	Rs. 20

The directors want to be acquainted with the desirability of adopting any one of the following alternative sales mixes in the budget for the next period.

(a) 250 units of X and 250 units of Y

(b) 400 units of Y only

(c) 400 units of X and 100 units of Y

(d) 150 units of X and 350 units of Y

State which of the alternative sales mixes you would recommend to the management.

9. A machine tool manufacturing company sells its lathes at Rs. 36,500 each made up as follows:

Particulars	**Amount (Rs)**	
Direct Materials	16,000	
Direct Labour	2,000	
Variable Overheads	5,000	
Fixed Overheads	3,000	
Variable Selling Overheads	500	
Royalty	1,000	
Profit	5,000	32,500
Central Excise Duty		1,000
Sales Tax		3,000
		36,500

There is enough idle capacity.

(i) A firm in Arabia has offered to buy 10 company's lathes at Rs. 28,500 each. Should the company be interested in the business?

(ii) It has been decided to sell 5 such lathes to an engineering company under the same management at bare cost. What price should you charge?

10. Explain the different methods used for determining the selling price of a product

***CIA- 3 X 8 = 24 (Either or Pattern)**
****ESE – 5 X 6 = 30 (Either or Pattern)**

Part – A
Online Examination from Qn. No. 1 – Qn No.20
Each Question Carry One Mark
POSSIBLE QUESTIONS
PART B

1. Write any two features of marginal costing?
2. From the following information, calculate the break-even point in units and in sales value:

Output	-	3,000 units
Selling price per unit	-	Rs.30
Variable cost per unit	-	Rs.20
Total fixed cost	-	Rs.20,000

3. You are given the following information relating to a company for the year 2012 output 20000 units Selling price per unit Rs.12 Direct materials per unit Rs.5 Direct Labour per unit Rs.2 Variable overhears per unit Rs.1 Fixed cost per year Rs.60000

From the following information calculate

1. P/V Ratio
2. Breakeven point in Units
3. Breakeven point in Value

Selling price per unit Rs.20
Variable cost per unit Rs.12
Fixed costs Rs.32000

1. The number of units to be produced to break even
2. The number of units to be sold to earn a profit of Rs.10000

5. Define Marginal costing
6. Calculate BEP and Margin of safety from the following? Sales 50000 units @ Rs.6 per unit Prime cost Rs. 3 per unit Variable overhead Rs. 1 per unit Fixed costs Rs.75000 per annum
7. What is meant by angle of incidence?
8. Write the formula for calculating breakeven point?
9. Calculate BEP in units and value for the following:
10. A Ltd. has two factories X and Y producing same article whose selling price is Rs. 150 per unit. Other details are:

	X	Y
Capacity in units	10000	15000
Variable cost per unit (Rs)	100	120
Fixed expenses (Rs)	300000	210000

Determine the BEP for the two factories assuming constant sales mix also composite BEP.

11. From the following data calculate
Break even point (Units)
If sales are 10% and 15% above the break even sales volume determine the net profit

Selling price per unit	- Rs. 10
Direct material per unit	- Rs. 3
Fixed overheads	- Rs. 10000

12. Write a short note on profit volume ratio?
13. How will you calculate margin of safety?
14. Sales for the year 20000units Rs.2000000

Variable Costs	Rs.1600000
Fixed costs for the year	Rs.200000

Find BEP
What would be the profits when the output is 22000 units?

15. What is the formula for calculating profit volume ratio?

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**
****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. "Marginal costing is a valuable aid for managerial decision" Discuss?
2. From the following particulars, calculate:
   (i) Break-even point in terms of sales value and in units.
   (ii) Number of units that must be sold to earn a profit of Rs.90,000.

		Rs.
Fixed factory overheads cost	-	60,000
Fixed selling overheads cost	-	12,000
Variable manufacturing cost per unit	-	12
Variable selling cost per unit	-	3
Selling price per unit	-	24

3. following data have been obtained from the records of a manufacturing firm.

	Period I	Period II
Sales	300000	320000
Total cost	260000	272000

Calculate
1. Break even sales
2. Profit when sales are Rs.360000.
3. Sales required to earn a profit of Rs.50000

4. MNP ltd is working at 60% of capacity producing 6000 units of output. The following details are available from its cost records.

Direct materials	Rs.24000
Direct labour	Rs.12000
Variable overheads	Rs.6000
Fixed overheads	Rs.15000

The output is sold at a price of Rs 10 per unit. The company receives an offer to export 4000 units @Rs.8.50 per unit. Should the export order be accepted

5. ABC Ltd produces and sells two products A and B. the cost and sales data are given as

	Product A	product B
Selling price	20	30
Direct material	10	15
Direct labour	4	5

Fixed overheads Rs.1200

Variable overheads are absorbed at 50% of direct labour. The proposed sales mix are

a. 100 units of A and 200 units of B
b. 150 units of A and 150 units of B
c. 200 units of A and 100 units of B

Recommend which of the above sales mix the company should adopt

6. A television manufacturing company finds that while the cost of making component part No.Xo5 is Rs.4 per unit, the same is available in the market at rs. 350 per unit with assured supply. The cost details are

Material	1.50
Labour	1.00
Variable OH	0.50
Fixed cost allocated	1.00
Total	4.00

Should the component part be made or bought ?what would be your suggestion if the component part is available at 2.50 in the market ?

7. A toy manufacturing company produces two type of toys. The skilled labour required for the production of these toys is in short supply. You are given the following details of cost :-

	Toy A	Toy B
Direct materials	20	16
Standard time required		
For one unit [hrs.]	4 Hrs	16 Hrs
Direct labour cost @2/Hr	8	6
Variable overhead	4	3
Selling price	50	40

Which type of toy is more profitable to produce and why?

The skilled labour available during a month is only 1200 Hrs. and maximum sales possible of each toy are only 200 units per month. In such a case what would be the optimum product mix of toys?

8. Discuss the assumptions of marginal cost?
9. Explain the features of marginal cost?
10. Discuss the advantages and limitations of marginal cost?

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X6 = 30 (EITHER OR TYPE)**

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UNIT IV

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
For _____ marginal costing is more helpful to the management.	Planning	co-ordinating	Decision making	Planning and Decision Making	Planning and Decision Making
In _____ costing, only variable items of costs are taken into account.	Standard	Marginal	Working capital	Budgetary control	Marginal
_____ is not allocated to cost unit	Fixed costs	Variable cost	semi- variable cost	semi fixed cost	Variable cost
Marginal cost is _____ as variable cost	Same	Different	Variable	Fixed	Same
The accountant's concept of _____ different from economist's concept of marginal cost.	Total cost	Average cost	Additional cost	Marginal cost	Marginal cost
Economists define marginal cost as the_____ cost of producing one additional unit.	Total cost	Average cost	Additional cost	Marginal cost	Additional cost
Additional unit shall include an element of ____	Fixed cost	Variable cost	Total cost	semi variable cost	Fixed cost
Marginal cost = _____	prime cost – total variable	Total variable cost – prime cost	Prime cost + total variable cost	Prime cost + total fixed cost	Prime cost + total variable cost
Marginal cost = _____	Total cost – fixed cost	Total cost – variable cost	Total cost + fixed cost	Total cost + variable cost	Total cost – fixed cost
Total cost Rs.400, fixed cost Rs. 200 marginal cost =_____	Rs.600	Rs.200	Rs.500	Rs.100	Rs.200

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Marginal cost = _____	prime cost	variable cost	work cost	cost of production	variable cost
Total cost Rs. 600 fixed cost Rs. 200 marginal cost _____	Rs.100	Rs.200	Rs.800	Rs.400	Rs.400
Total cost Rs.800 fixed cost Rs. 200 marginal cost = _____	Rs.600	Rs.800	Rs.1000	Rs.200	Rs.600
_____ is one which tends to be unaffected by variation in volume of output.	Total cost	Average cost	Marginal cost	Fixed cost	Fixed cost
Marginal income or marginal contribution known as the ____	Income or expenses	Income or profit	Income or loss	Expenses or profit	Income or profit
The difference between the contribution and fixed costs is the_____	Net profit or loss	Net profit	Gross profit	Net loss	Net profit or loss
Fixed costs remain constant _____of level of activity.	Respective	Irrespective	Contribution	Variable	Irrespective
Sales price and variation cost per unit remain the _____	same	Different	Equal	no change	same
Cost volume profit relationship is fully employed to reveal the state of _____ at various level of activity.	Assets	Liability	Profitability	turnover	Profitability
_____ fluctuates from time to time but in the long run marginal cost are stable.	Fixed cost	Variable cost	Total cost	semi fixed cost	Variable cost
_____ remains the same, irrespective of the volume of production.	Total costs	Average costs	Marginal cost	cost of production	Marginal cost
When cost takes into account only variable cost and not the full production cost we will be using _____	Activity based costing	Absorption costing	Full costing	Marginal costing	Marginal costing
The management can take decision regarding _____ and tendering.	Pricing	Planning	co-ordinating	Controlling	Pricing

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
_____ expenses remain unchanged at any level of operation	Fixed	Variable	semi- variable	loss	Fixed
_____expenses are those expenses which vary according to the units of production.	Fixed	Variable	semi- variable	loss	Variable
____expenses are those which are partly constant and partly variable.	Fixed	Variable	semi- variable	semi fixed cost	semi- variable
The difference between sales value and variable cost is known as	Profit	Contribution	BEP	Fixed cost	Contribution
Contribution=_____	Sales – variable cost	Sales – fixed cost	Sales + variable cost	Sales + Fixed cost	Sales – variable cost
Marginal cost is also known as _____	Period cost	Fixed cost	Volume cost	Prime cost	Volume cost
Fixed cost is also known as _____	Period cost	Total cost	Volume cost	Prime cost	Period cost
_____ indicates the relation ship of contribution to sales	P/V ratio	Contribution	Profit	Sales.	P/V ratio
P/v ratio can be improved by _____	Increasing the selling price	Decreasing selling price	Increasing the variable cost	Increasing the value of sale	Increasing the selling price
_____= sales X P/V ratio.	Sales	Profit	Contribution	Fixed cost	Contribution
Contribution minus profit is equal to_____	Sales	Loss	Variable	Fixed cost	Fixed cost
P/V ratio=_____	Profit volume ratio	Profit variable ratio	Production volume ratio	Price of production	Profit volume ratio
Limiting factor is also known as _____	Key factor	Production factors	purchase factor	cost factor	Key factor

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
The criteria to select a suitable limiting factor is _____	Highest contribution per unit of	Highest profit	Highest reduction	Highest cost	Highest contribution per unit of limited factor
_____ is the point at which sales revenue is equal to total cost.	Margin of safety	Break even	Fixed cost	sales	Break even
Break even point in unit can be ascertained by dividing the break even sales value by _____	Profit	P/V ratio	Selling price	Fixed expenses	Selling price
Increase in fixed cost =_____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	No effect in P/V ratio
Decrease in sales volume = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	Lower profit
Increase in variable cost = _____	No effect in BEP	Higher BEP	No effect in P/Vratio	Lower profit	No effect in P/V ratio
Decrease in selling price = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	Higher BEP
Decrease in sales volume = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	No effect in BEP
Is the angle at which sales line cuts the total cost line	BEP	Angle of incidence	Contribution	Variable cost	Angle of incidence
If the angle of incidence is _____ it indicates that the profits are being made at higher rate	Large	Small	curve	bend	Large
_____ is the difference between the total sales revenue and the sales at breakeven point.	Actual sales	Margin of safety	Reducing the fixed costs	Increasing fixed cost	Margin of safety
Margin of safety can be improved by _____	Increasing the volume of sales	Decreasing the selling price	Reducing the fixed costs	Reducing the sales	Reducing he fixed costs
_____ margin safety indicates a favorable position of the business.	Large	high sales	Small	Lower profit	Large

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Cost volume profit analysis may be applied for _____	Profit planning	ascertainimg loss	calculating cost	calculating sales	Profit planning
Marginal cost is the sum of prime cost plus	Fixed cost	Variable cost	Variable overhead	Total cost	Variable overhead
At BEP contribution is equal to _____	Profit	Variable cost	Fixed cost	Sales	Fixed cost
At BEP, profit will be _____	High	Low	Zero	Medium	Zero
Total fixed cost of a company is Rs 21,000 per share ; variable cost per unit is Rs.7 and its selling price per unit is Rs10. BEP in units is equal to _____ units	3000	2100	7000	10,000	7000
P/V ratio of company A is 40% and company B is 50% state which company is likely to earn greater profits when the company have heavy demand for the product.	Company A	Company B	Can be determined	Question is vague	Company B
Margin of safety ratio =_____	Margin of safety/ actual sales	Margin of safety X actual sales	Margin of safety	Margin of safety + actual sales	Margin of safety/ actual sales
What will be the selling price per unit, when variable cost per unit Rs.5.60 p/v ratio 60%?	6	8	14	10	14
Changes in profit between the two period Rs.10,000 changes in sales for the above periods rs.40,000 p/v ratio is _____	25%	40%	10%	7%	25%
_____ is the difference between the sales and marginal cost.	Fixed cost	Contribution	Profit	Cost	Contribution
When fixed cost is Rs 10,000 and p/v ratio is 50% the break even point will be Rs._____	20,000	40,000	50,000	90,000	20,000

UNIT V : Contemporary Issues

Funds flow statement- Schedule of change in working Capital– Calculation of Funds from Operations – Sources and Applications of Funds – Cash Flow Statement – Cash from Operation – Inflow and Outflow of Funds - Responsibility Accounting – Concept - Significance - Different Responsibility Centres – Divisional Performance. Measurement – Financial and Non-Financial Measures – Transfer Pricing – Accounting Standards (Theory Only) – AS3: Cash Flow Statement – AS21 : Consolidated Financial Statement – AS 23: Accounting for Investments in Associates in Consolidated Financial Statement.

FUNDS FLOW ANALYSIS

Every business establishment usually prepares the balance sheet at the end of the fiscal year which highlights the financial position of the yester years It is subject to change in the volume of the business not only illustrates the financial structure but also expresses the value of the applications in the liabilities side and assets side respectively. Normally, Balance sheet reveals the status of the firm only at the end of the year, not at the beginning of the year. It never discloses the changes in between the value position of the firm at two different time periods/dates.

The method of portraying the changes on the volume of financial position is the statement fund flow statement. To put them in nutshell, fund between two different time periods. It is further illustrated that the changes in the financial position or the movement or flow of fund.

MEANING OF FUND FLOW STATEMENT ANALYSIS

A report on the movement of funds or working capital. In a narrow sense the term fund means cash and the fund flow statement depicts the cash receipts and cash disbursements/ payments. It highlights the changes in the cash receipts and payments as a cash flow statement in addition to the cash balances i.e., opening cash balance and closing cash balance. Contrary to the earlier, the fund means working capital i.e., the differences between the current assets and current liabilities.

The term flow denotes the change. Flow of funds means the change in funds or in working capital. The change on the working capital leads to the net changes taken place on the working capital i.e., especially due to either increase or decrease in the working capital. The change in the volume of the working capital due to numerous transactions. Some of the transactions may lead to increase or decrease the volume of working capital. Some other transactions neither registers an increase nor decrease in the volume of working capital.

Meaning of Funds

The term funds have been defined in number of ways in a narrow sense it means cash only. In a broader sense funds means all financial resources used in business whether in the form of men, materials, money, machinery and others. In Popular sense It means the working capita, it may be increased or decreased. Funds Flow Statement :

The Funds Flow Statement is a Statement which shows the movement of funds is a report of the financial operations of the business undertaking. It indicates various means by which funds were obtained during a particular period and the ways in which these funds were employed. In simple words it is a statement of sources and applications of funds.

According Foulke "A statement of source and application of funds is a technical device designed to analyse the changes to the financial condition of a business enterprise in between two dates"

Various Facets of Fund flow statement are as follows

Statement of sources and application of funds Statement changes in financial position

Analysis of working capital changes and Movement of funds statement

OBJECTIVES OF FUND FLOW STATEMENT ANALYSIS

- It pinpoints the mobilization of resources and the further utilization of resources
- It highlights the financing of the general expansion of the business firms It exemplifies the utilization of debt finance in the structure of financing
- It portrays the relationship between the financing, investment, liquidity and dividend decision of the firm during the given point of time.

METHODS OF PREPARING FUND FLOW STATEMENT

Steps in the preparation of Fund Flow Statement:

First and fore most method is to prepare the statement of changes in working capital i.e., to identify the flow of fund / movement of fund through the detection of changes in the volume of working capital.

Second step is the preparation of Non- Current A/c items-Changes in the volume of Non current a/cs have to be prepared only in order to quantify the flow fund i-e either sources or application of fund.

Third step is the preparation Adjusted Profit& Loss A/c, which already elaborately discussed in the early part of the chapter.

Last step is the preparation of fund flow statement.

ADVANTAGES OF PREPARING FUND FLOW STATEMENT

Illustrative Statement of Financing

It is a statement which highlights the role of various kinds of financing not only in the dimension of project development and expansion but also growth rate of the organization.

To fulfil the Primary Objective of the Financial Management

It not only elucidates the mode of financing but also the application of resources after raising. It answers to the following queries viz:

How the outsider's liabilities are redeemed?

What is the role of the fund from operation generated? How the raised funds applied into business?

How the decrease in working capital was applied?

What is the mode of raising of financial resources for an increase in the working capital?

Facilitation through Financial Planning

The projected fund flow statement from the past performance facilitates the firm to anticipate the future requirement of financial resources. It guides the management to prioritize the application in the future to the tune of scarce resources.

Guide to Working Capital Management

It acts as a guide to the management to maintain the working capital at optimum level through either purchase or sale of marketable securities during the periods of adequate and inadequate working capital respectively.

Indicator of Yester Track Path of the Firm

The insight on the financial performance of the firm can be had by the lending institutions through fund flow statement at the time of extending financial assistance to the firm.

LIMITATIONS

It is an extension of financial statements but it cannot be leveled with the emphasis of them

It is not a resultant of the transaction instead it is an arrangement of among the available information

Projected fund flow statement ever only to the tune of financial statements which are historic in feature

PREPARATION OF FUNDS FLOW STATEMENT

Two statements are involved in Funds Flow Analysis.

Statement or Schedule of Changes in Working Capital Statement of Funds Flow

Statement of Changes in Working Capital

This statement when prepared shows whether the working capital has increased or decreased during two Balance Sheet dates. But this does not give the reasons for increase or decrease in working capital. This statement is prepared by comparing the current assets and the current liabilities of two periods. It may be shown in the following form:

Current Assets

Cash Balances

Bank Balances

Marketable Securities

Stock in Trade

Pre-paid Expenses

Current Liabilities

Bank Overdraft

Outstanding Expenses

Accounts Payable

Provision for Tax

Dividend

Any increase in current assets will result in increase in Working Capital and any decrease in Current Assets will result in decrease in Working Capital. Any increase in current liability will result in decrease in working capital and any decrease in current liability will result in increase in working capital.

Funds Flow Statement

Funds Flow Statement is also called as Statement of Changes in Financial Position or Statement of Sources and Applications of Funds or where got, where gone statement. The purpose of the funds flow statement is to provide information about the enterprise's investing and financing activities. The activities that the funds flow statement describes can be classified into two categories:

activities that generate funds, called Sources, and

activities that involve spending of funds, called Uses

When the funds generated are more than funds used, we get an increase in working capital and when funds generated are lesser than the funds used, we get decrease in working capital. The increase or decrease in working capital disclosed

by the schedule of changes in working capital should tally with the increase or decrease disclosed by the Funds Flow Statement.

The Funds Flow Statement may be prepared either in the form of a statement or in `T' shape form. When prepared in the form of the statement it would appear as follows:

Funds Flow Statement			
Sources of Funds			
Issues of Shares	x	x	x
Issue of Debentures	x	x	x
Long term borrowings	x	x	x
Sale of Fixed Assets	x	x	x
*Operating Profit			
(Funds from Operations)	x	x	x
Total Sources	x	x	x
Application of Funds			
edemption of Redeemable			
Preference shares	x	x	x
Redemption of Debentures	x	x	x
Payments for other long-term loans	x	x	x
Purchase of fixed assets	x	x	x
* Operation loss (Funds lost from	x	x	x
Operations)			
Total uses	x	x	x

Net increase / decrease in working capital (Total Sources – Total uses)

When prepared in `T' shape form, the Funds Flow Statement would appear as follows:

Funds Flow Statement

Sources of Funds		Application of Funds	
* Funds from operation	x x x	*Funds lost in operations	x x x
Issue of shares	x x x	Redemption of Preference Shares	x x x
Issue of Debentures	x x x	Redemption of Debentures	x x x
Long-term borrowings	x x x	Payment of other long-term Loans	x x x
Sale of fixed assets	x x x	Purchase of fixed assets	x x x
* Decrease in working capital	x x x	Payment of dividend, tax, etc.	x x x
		Increase in working capital	x x x

*Only one figure will be there.

It may be seen from the proforma that in the Funds Flow Statement preparation, current assets and current liabilities are ignored. Attention is given only to change in fixed assets and fixed liabilities. In this connection an important point about provision for taxation and proposed dividend is worth mentioning. These two may either be treated as current liability or long-term liability. When treated as current liabilities they will be taken to `schedule of changes in working capital' and thereafter no adjustment is required anywhere. If they are treated as long-term liabilities there is no place for them in the schedule of changes in working capital. The amount of tax provided and dividend proposed during the current year will be added to net profits to find the funds from operations. The amount of actual tax and dividend paid will be shown as application of funds in the Funds Flow Statement. In this lesson, we have taken them as Current Liabilities.

Illustration 1:

The mechanism of preparation of Funds Flow Statement is proposed to be explained with the help of Annual Reports for the years 2003-04 and 2004-05 pertaining to Arasu Limited.

ARASU LIMITED
Balance Sheet as at 31st March 2005

	2004-05	2003-04
I. Source of Funds		
1. Share Capital	1,40,00	1,40,00
2. Reserves and Surplus	2,77,84	2,30,62
	4,17,84	3,70,62

II. Application of Funds				
1. Fixed Assets	4,83,15		4,61,23	
Less: Dep. Provision	2,57,85	2,25,30	2,27,36	2,33,87
2. Investments		20,25		20,30
3. **Current Assets, Loans and Advances**				
Inventories	1,52,83		1,92,54	
Debtors	51,41		64,29	
Cash and Bank	1,40,80		18,46	
Loans & Advances	17,82		14,73	
	3,62,86		2,90,02	
Less: **Current Liabilities & Provisions**				
Liabilities	89,81		76,70	
Provisions		100,76	96,87	
		1,90,57	1,73,57	
Net Current Assets (Working Capital)		1,72,29		1,16,45
		4,17,84		3,70,62

Profit and Loss Account
for the year ended 31st March 2005

	2004-05	**2003-04**
Income		
Sales	4,94,19	5,36,63
Other income	2,35,73	2,57,64
	7,29,92	**7,94,27**
Expenditure		
Opening Stock	20,45	25,59
Raw materials consumed	87,35	95,67
Packing materials consumed	2,87,78	3,29,04
Excise Duty	23,90	27,26
Expenses	1,65,38	1,29,94
Directors' Fees	11	10
Interest	94	5,69
Depreciation	30,49	39,98
	6,16,40	**6,53,27**

Less: Closing Stock	19,06	20,45
	5,97,34	**6,32,82**
Profit before Taxation	1,32,58	1,61,45
Provision for Income-tax	(64,36)	(82,40)
	68,22	**79,05**
Profit brought forward from Previous year	12	1
Balance	**68,34**	**79,06**
Provision for Taxation Relating to Earlier Year		(46,27)
Miscellaneous Expenditure Written off		(15,67)
Balance available for Appropriation	**68,34**	**17,12**
Appropriations		
General Reserve	47,25	3,00
Proposed Reserve for Appropriation	21,00	14,00
	68,25	**17,00**
Balance carried over to next year	9	12

For the above financial statements, Funds Flow Statement is prepared as follows with necessary workings:

I. Calculation of Funds from Operations for the year 2004-05

		(Rs.`000)
Balance of Profit carried over to next year		9
Add:	Provision for Depreciation	30,49
	Transfer to General Reserves	47,25
		77,83
Less:	Balance of Profit brought forward from previous year	12
Funds from operations		77,71

Note: Provision for income-tax and proposed dividend are taken as current liabilities. Hence they are not added here. They will be taken to Schedule of Changes in Working Capital.

II. Fixed Assets: From a perusal of schedule relating to `Fixed Assets' in the annual report, it is ascertained that there was a sale of fixed assets amounting to Rs.16,62,000 and purchase of fixed assets to the tune of Rs.38,54,000. These will be shown as source and application of funds respectively. (In examination problems information about, sale and purchase of assets can be ascertained by preparing respective Asset Accounts).

III. Investments: A similar perusal of schedule relating to `investments' gives information that there was a redemption of investment amounting to Rs.5,000 which is a source of fund.

Now the Schedule of Changes in Working Capital and Funds Flow Statement are prepared.

ARASU LIMITED

Schedule of Changes in Working Capital 2004-05

(Rs. '000)

	2003-04	2004-05	Increase	Decrease
Current Assets				
Inventories	1,92,54	1,52,83	-	39,71
Debtors	64,29	51,41	-	12,88
Cash and Bank	18,46	1,40,80	1,22,34	-
Loans and Advances	14,73	17,82	3,09	-
(A) Total of Current Assets	2,90,02	3,62,86		
Current Liabilities				
Creditors	75,43	88,81	-	13,38
Unpaid Dividend	1,27	1,00	27	-
Provision for Tax	82,87	79,76	3,11	-
Proposed Dividend	14,00	21,00	-	7,00
(B) Total of Current	1,73,57	1,90,57		
Working Capital (A)-(B)	1,16,45	1,72,29	-	-
Increase in Working Capital	55,84			55,84
	1,72,29	1,72,29	1,28,81	1,28,81

ARASU LIMITED Funds Flow Statement 2004-04

Sources	Rs.	Applications	Rs.
Funds from Operations	7771	Purchase of Fixed Assets	3854
Sale of Fixed Assets	1662	Increase in Working Capital	5584
Redemption of Investment	5		
	9438		**9438**

It may be seen from the above statement that Sources amount to Rs.94,38,000 and Applications amount to Rs.38,54,000, thereby resulting in an increase in Working Capital amounting to Rs.55,84,000. This figure tallies with the increase in working capital as shown by the Schedule of Changes in Working Capital.

Illustration 2: The Balance Sheet of Mathi Limited for two years were as follows:

Liabilities	2004	2005	Assets	2004	2005
Share Capital	40,000	60,000	Land & Buildings	27,700	56,600
Share Premium	4,000	6,000	Plant & Machinery	17,800	25,650
General Reserve	3,000	4,500	Furniture	1,200	750
Profit & Loss A/c	9,750	10,400	Stock	11,050	13,000
5% Debentures		13,000	Debtors	18,250	19,550
Creditors	16,750	18,200	Bank	2,400	2,000
Provision for	4,900	5,450			
Taxation					
	78,400	**1,17,550**		**78,400**	**1,17,550**
Additional Information					
Depreciation written off during the year was:					
Plant and Machinery		Rs.6,400			
Furniture		Rs.200			

Prepare: A Schedule of Changes in Working Capital and A Statement of Sources and Application of Funds.

Schedule of Changes in Working Capital				
			Working Capital	
	2004	2005	Increase	Decrease
	Rs.	Rs.	Rs.	Rs.
Current Assets				
Stock	11,050	13,000	1,950	-
Debtors	18,250	19,550	1,300	-
Bank	2,400	2,000		400
(A)	31,700	34,550		
Current Liabilities				
Creditors	16,750	18,200	-	1,450
Provision for Taxation	4,900	5,450	-	550
(B)	21,650	23,650		
Working Capital (A) – (B)	10,050	10,900		
Increase in Working Capital	850			850
	10,900	10,900	3,250	3,250

Calculation of Funds from Operations

Profit and Loss a/c as on 31-12-2005			10,400
Add:	Transfer to Reserve		1,500
	Depreciation –	Plant & Machinery	6,400
		Furniture	200
			18,500
Less:	P&L a/c as on 1-1-2005		9,750
	Funds from Operations		8,750

Land & Building A/c

To Balance b/d	27,700	By Balance c/d	56,600
To Bank Purchase (Balancing figure)	28,900		
	56,600		56,600

Plant & Machinery A/c

To Balance b/d	17,800	By Depreciation	6,400

To Bank Purchase (Balancing figure)	14,250	By Balance c/d	25,650
	32,050		32,050

Furniture A/c

To Balance b/d	1,200	By Depreciation	200
		By Bank – Sale (Balancing figure)	250
		By Balance c/d	750
	1,200		**1,200**

Statement of Sources and Application of Funds

Sources	Rs.	Applications	Rs.
Funds from Operations	8,750	Purchase of Land &	
Share Capital	20,000	Buildings	28,900
Share Premium	2,000	Purchase of Plant &	14,250
Debentures	13,000	Increase in working	850
Sale of Furniture	250	capital	
	44,000		**44,000**

Illustration 3: Following are Balance Sheet of a Limited Co. as on 31st Dec.2003 and 2004.

Liabilities	2003	2004	Assets	2003	2004
Share Capital	61,000	74,000	Plant	45,000	43,000
Reserves	13,000	15,500	Building	50,950	48,000
Creditors	28,000	24,000	Stock	20,500	18,800
Bank Overdraft	18,000	-	Debtors	20,000	16,200
Provision for Taxation	8,000	8,500	Cash	150	180
Profit & Loss A/c.	8,600	8,800	Cash at Bank		2,100
			Goodwill		2,520
	136600	**130800**		**1,36,600**	**1,30,800**

Taking into account the following information, calculate funds from operations:

1) Interim Dividend was paid Rs.2,000.

2) Dividend proposed for Rs. 4,000.

3) Provision of Rs.9,000 was made for Income Tax.

4) Rs. 2000 was written off as depreciation on Plant and Rs.2,950 on Building.
5) Profit on Sale of Fixed Investment Rs. 1,500.

Solution

Calculation of net profit for 2003

	Rs.	Rs.
Credit balance of P & L A/c on 31Dec. 2003		8,800
Less: Credit Balance of P& LA/c on 31Dec.2002		8,600
		200
Add:		
Interim Dividend	2,000	
Proposed Dividend	4,000	
Provision made for Income Tax	9,000	
Provision Made for Reserve	2,500	17,500
Net Profit During the Year		17,700

Particulars	**Rs.**	**Rs.**
Net Profit During the Year		17,700
Add:		
Depreciation on Building	2,950	
Depreciation on Plant	2,000	4,950
		22,650
Less:		
Profit on sale of Fixed Investment		1,500
Profit from Business Operations		21,150

The alternative method for calculation of Funds from operations is as follows:

Particulars	**Rs.**	**Particulars**	**Rs.**
To Interim Dividend	2,000	By Opening Balance	8,600
To Dividend Proposed	4,000	By Profit on Sale of Investment	1,500
To Provision for Income Tax	9,000	By Profit from Business Operations (B/f)	21,150
To Provision for Reserve	2,500		
To Plant A/c(Depreciation)	2,000		
To Building A/c	2,950		
(Depreciation) To Closing Balance	8,800		
	31,250		**31,250**

MEANING OF CONCEPTS OF CASH, CASH FLOW AND CASH FLOW ANALYSIS

While explaining the concept of `fund' it was mentioned that in a narrower sense the term `fund' is also used to denote cash. The term `cash' in the context of cash flow analysis stands for cash and bank balances. Cash flow refers to the actual movement of cash in and out of an organisation. When cash flows into the organisation it is called cash inflow or positive cash flow. In the same way when cash flows out of the organisation, it is called cash outflow or negative cash flows. Cash flow analysis is an analysis based on the movement of cash and bank balances. Under cash flow analysis, all movements of cash would be considered.

CASH FLOW STATEMENT

A cash flow statement is a statement depicting changes in cash position from one period to another i.e. the result of cash flow analysis is given in the cash flow statement. For example if the cash balance of a concern as per its Balance Sheet as on 31st March 2004 is Rs.90,000 and the cash balance as per its Balance Sheet as on 31st March 2005 is Rs.1,20,000, there has been an inflow of cash of Rs.30,000 in the year 2004-05 as compared to the year 2003-04. The cash flow statement explain the reasons for such inflows or outflows of cash as the case may be.

Normally the following are principal sources of inflows of cash:

a) Issue of shares and debentures for cash
b) Sale of fixed assets and investments for cash
c) Borrowings from banks and other financial institution
d) Cash from operations

Outflows of cash generally include:

a) Redemption of shares and debentures by cash
b) Purchase of fixed assets and investments by cash
c) Repayment of loans
d) Cash lost in operations

The following is the format of a cash flow statement:

Cash Flow Statement for the year ending say 31st March 2005

Balance as on 1-4-2004		**Balance as on 1-4-2004**	
Cash in hand	x x x	Bank overdraft (if any)	x x x
Cash at Bank	x x x		
Add: Cash Inflows:		**Cash Outflows**:	
Here the items mentioned as sources of cash inflows above will be recorded		Here the items mentioned as outflows of cash above will be recorded	
Balance as on 31-3-2005		**Balance as on 31-3-2005**	
Bank overdraft (if any)	x x x	Cash in hand	x x x
		Cash at Bank	x x x
	x x x		x x x

The Accounting Standard 3 issued by the Institute of Chartered Accountants of India requires the companies to prepare Cash Flow Statement and present them as part of their Annual Reports.

CALCULATION OF CASH FROM OPERATIONS

The important step in the preparation of cash flow statement is the calculation of cash from operations. It is calculated as follows:

The first step in the calculation of cash from operations is the calculation of funds from operations (which is already explained in the lesson on Funds Flow Analysis). To the funds from operations the decrease in current assets and increase in current liabilities will be added (except cash, Bank and Bank O.D.). From the added total increase in current assets and decrease in current liabilities will be deducted (except cash, Bank and Bank O.D.). The resultant figure is cash from operations (Refer Illustration 3).

Performa of Cash from Operations Statement

Funds from Operations or Funds lost from operations		x x x x
Add:	Decrease in current assets	x x x x
	Increase in current liabilities	x x x x
		x x x x

Less:	Inecrease in current assets	x x x	
	Decrease in current liabilities		
		x x x	
		---	
			x x x x

Cash from operations or cash lost from operations			x x x x

As in the case of Fund Flow Analysis here also we assume **Provision for Taxation** and **Proposed Dividend** as current liabilities.

UTILITY OF CASH FLOW ANALYSIS

Cash flow analysis yields the following advantages:

a) It is very helpful in understanding the cash position of the firm. This would enable the management to plan and coordinate the financial operations properly.

b) Since it provides information about cash which would be available from operations the management would be in a position to plan repayment of loans, replacement of assets, etc.

c) It throws light on the factors contributing to the reduction of cash balance in spite of increase in income and vice versa.

d) A comparison of the cash flow statement with the cash budget for the same period helps in comparing and controlling cash inflows and cash outflows.

However cash flow analysis is not without limitations. The cash balance as disclosed by the cash flow statement may not represent the real liquid position of the business since it can be easily influenced by postponing purchases and other payments. Further cash flow statement cannot replace the income statement or funds flow statement. Each of them has a separate function to perform.

CASH FLOW ANALYSIS Vs FUNDS FLOW ANALYSIS

a) A cash flow statement is concerned only with the changes in cash position while funds flow analysis is concerned with changes in working capital position between two balance sheet dates.

b) Cash flow analysis is a tool of short-term financial analysis while the funds flow analysis is comparatively a long-term one.

c) Cash position results in improvement in the funds position but not vice versa. In other words “inflows of cash” results in “inflow of funds” but inflow of funds may not necessarily result in “inflow of cash”.

d) In funds flow analysis, the changes in various current assets and current liabilities are shown in a separate statement called schedule of changes in working capital in order to ascertain the net increase or decrease in working capital. But in cash flow analysis, such changes are adjusted to funds from operations in order to ascertain cash from operations.

Illustration 3:

From the following balances calculate cash from operations:

Particulars	December 31	
	2004	2005
Profit and Loss A/c Balance	75,000	1,55,000
Debtors	45,000	42,000
Creditors	20,000	26,000
Bills Receivable	12,000	15,000
Cash in hand	2,500	3,000
Prepaid expenses	1,600	1,400
Bills Payable	18,000	16,000
Cash at Bank	8,000	10,000
Outstanding expenses	1,200	1,600
Income received in advance	250	300
Outstanding Income	800	900

Additional Information

a) Depreciation written off during the year Rs.10,000

b) Transfer to General Reserve Rs.10,000

Calculation of Funds from Operations

		Rs.
Profit & Loss A/c as on 31st December 2005		1,55,000
Add:	Depreciation	10,000
	Transfer to General Reserve	10,000
		1,75,000
Less:	P & L a/c as on 1st January 2005	75,000
	Funds from Operations	1,00,000

Calculation of Cash from Operations

Funds from Operations		1,00,000
Add:**Decrease in Current Assets**		
Decrease in Debtors		3,000
Decrease in Prepaid Expenses		200
Increase in Current Liabilities		
Increase in Creditors		6,000
Increase in Outstanding Expenses		400
Increase in Income Received in Advance		50
		1,09,650
Less:**Increase in Current Assets**		
Increase in Bills Receivables	3,000	
Increase in Outstanding Income	100	
Decrease in Current Liabilities		
Decrease in Bills Payable	2,000	
	5,100	
Cash from Operations		1.04,550

Note: Decrease in current assets means current assets are converted into cash and increase in current liabilities results in further generation of cash. Hence they are added. Increase in current assets and decrease in current liabilities result in outflow of cash. Hence they are deducted.

Illustration 4: Balance Sheets of Somy Thomas as on 1-1-2005 and 31-12-2005 were as follows:

Liabilities	**2004**	**2005**	**Assets**	**2004**	**2005**
	Rs.	**Rs.**		**Rs.**	**Rs.**
Credits	40,000	44,000	Cash	10,000	7,000
Bills payable	25,000	----	Debtors	30,000	50,000
Loans from Bank	40,000	50,000	Stock	35,000	25,000
Capital	1,25,000	1,53,000	Machinery	80,000	55,000
			Land	40,000	50,000
			Building	35,000	60,000
	2,30,000	**2,47,000**		**2,30,000**	**2,47,000**

During the year, a machine costing Rs.10,000 (accumulated depreciation Rs.3,000) was sold for Rs.5,000. The provision for depreciation against machinery as on 1-1-2005 was Rs.25,000 and 31-12-2005 it was Rs.40,000. Net profit for the year 2005 amounted to Rs.45,000. Prepare Cash Flow Statement.

Calculation of Cash from Operations

			Rs.
Net Profit for the year 2005			45,000
Add:	Addition to Provision for Depreciation		18,000
	Loss of Sale of Machinery		2,000
			65,000
	Funds from Operations		
Add:	Decrease in Stock		10,000
	Increase in Creditors		4,000
			79,000
Less:	Increase in Debtors	20,000	
	Decrease in Bills Payable	25,000	
			45,000
	Cash from Operations		34,000

Capital A/c

To Drawings (b/f)	17,000	By Balance b/d	1,25,000
To Balance c/d	1,53,000	By Net Profit for the year	45,000
	1,70,000		1,70,000

Machinery A/c

To Balance b/d (80000 + 25000)	1,05,000	By Bank Sale	5,000
		By Provision for Dep.	3,000
		By P&L a/c – Loss	2,000
		By Balance c/d (55000 + 40000)	95,000
	1,05,000		1,05,000

Provision for Depreciation A/c

To Machinery a/c (Dep. on machinery sold)	3,000	By Balance b/d By P&L a/c	25,000
To Balance c/d	40,000	Dep. for the current year	18,000
	43,000		43,000

Cash Flow Statement

Cash as on 1-1-2005	10,000		
Add: Inflows		Cash Outflows:	
Cash from Operations	34,000	Drawings	17,000
Loan from Bank	10,000	Purchase of Land	10,000
Sale of Machinery	5,000	Purchase of Building	25,000
		Cash as on 31-12-2005	7,000
	59,000		59,000

Illustration : 5

From the following information calculate cash from operations:

Particulars	Rs.
Net Profit for the year	30,000
Total Sales	60,000
Debtors Outstanding in the beginning of the year	20,000
Debtors outstanding at the end of the year	15,000

Solution:

Calculation of Cash from Operations

Particulars	Rs.
Net profit for the year	30,000
Less: Debtors outstanding at the end of the year	15,000
Add: Debtors outstanding in the beginning of the year	20,000
Cash from operations	35,000

Illustration 6 : Calculate Cash from operations from the following information's :

Particulars	Rs.
Sales	70,000
Purchases	40,000
Expenses	8,000
Creditors at the end of the year	15,000
Creditors in the beginning of the year	12,000

Solution

Particulars	Rs.	Rs.
Sales		70,000
Less: Purchases	40,000	
Expenses	8,000	48,000
Profit for the Year		22,000
Add: Creditors at the end of the Year		15,000
		37,000
Less: Creditors at the beginning of the Year		12,000
Cash from Operations		25000

APPLICATIONS OF CASH OR CASH OUTFLOWS

1. Cash Lost in Operations

Sometimes the net result of trading in a particular period is a loss and some cash may be lost during that period in trading operations. Such loss of cash in trading in called cash lost in operations and is shown as an outflow of cash in Cash Flow Statement.

2. Decrease in or Discharge of Liabilities

Decrease in or discharge of any liability, fixed or current results in outflow of cash either actual or notional. For example, when redeemable preference shares are redeemed and loans are repaid, it will amount to an outflow of actual cash. But when a liability is converted into another such as issue of shares for debentures, there will be a notional flow of cash into the business.

3. Increase in or Purchase of Assets

Just like decrease in .or sale of assets is a source or inflow of cash, increase or purchase of any assets is a out flow or application of cash.

4. Non Trading Payments

Payment of any non-trading expenses also constitute outflow of cash. For example, payment of dividends, payment of income-tax, etc.

Illustration 7:

The following details are available from a company.

Liabilities	31-12-98 Rs.	31-12-99 Rs.	Assets	31-12-98 Rs.	31-12-99 Rs.
Share Capital	70,000	74,000	Cash	9,000	7,800
Debentures	12,000	6,000	Debtors	14,900	17,700
Reserve for doubtful debts	700	800	Stock	49,200	42,700
Trade Creditors	10,360	11,840	Land	20,000	30,000
P & L A/c	10,040	10,560	Goodwill	10,000	5,000
	1,03,100	**1,03,200**		**1,03,100**	**1,03,200**

Additional Information

(i) Dividend paid total Rs. 3,500 (ii) Land was purchased far Rs. 10,000. Amount provided far amortisation of goodwill Rs. 5,000 and (iii) Debentures paid off Rs. 6,000. Prepare Cash Flow Statement.

Solution

Cash Flow Statement (for the year ended 31.12.1999)

Particulars	Rs.	Particulars	Rs.

Opening balance of Cash on	9,000	**Cash Outflows**	
Add: Cash Inflows :		Purchase of Land	10,000
Issue of Share Capital	4,000	Increase in Debtors	2,800
Increase in trade creditors	1,480	Redemption of Debentures	6,000
Cash inflow from operations	9,120	Dividends Paid	3,500
Decrease in stock	6,500	Closing balance of cash on	7,800
	30,100		**30,100**

Workings

Particulars	**Rs.**	**Particulars**	**Rs.**
To Dividend (non-operating)	3,500	By Balance b/d	10,040
To Goodwill (non-fund/cash)	5,000	By Cash inflow from operation	9,120
To Reserve for doubtful debts	100		
To Balance c/d	10,560		
	19,160		**19,160**

Alternatively

Balance of P & L A/c on 31.12.1999		10,560
Add: non-fund/cash and non-operating items which have already been debited to P & L A/c :		
Dividend paid		3,500
Goodwill written off		5,000
Reserve for doubtful debts		100
Less: Opening balance of P & L A/c and non-operating incomes :		
Opening Balance of P/L A/c. on 31.12.98	10,040	10,040
Cash Inflow from Operations		9,120

Illustration: 8

Prepare a funds flow statement

Balance Sheet of M/s ___

Liabilities	As on 31st December		Assets	As on 31st December	
	2004	2005		2004	2005
Share Capital	10,000	15,000	Cash	5,000	8,000
Profit and Loss			Debtors	10,000	15,000
Appropriation	5,000	8,000	Stock	10,000	12,000
account	4,000	6,000	Machiner	3,000	5,000
Long Term Loan	8,000	12,000	y	4,000	4,000
Sundry Creditors	5,000	3,000	Land		
Bills Payable					
	32,000	44,000		32,000	44,000

From the information relating to the non-current area from the balance sheet figures on 31st Dec 2004 and 31st Dec 2005, we would be able to prepare a funds flow statement for the period between 31st December 2004 and 31st December 2005 i.e. for the year 2005.

Balance Sheet of M/s ___

Schedule/Statement of Changes in Working Capital for the period from __ to __

	Balance as on 31st December		Working Capital Change	
	2004	2005		
a) CURRENT ASSETS				
1) Cash	5,000	8,000		3,000
2) Sundry Debtors	10,000	15,000		5,000
3) Stock	10,000	12,000		2,000
TOTAL	25,000	35,000		10,000
1) Sundry Creditors	8,000	12,000	4,000	
2) Bills Payable	5,000	3,000		2,000
TOTAL	13,000	15,000	4,000	2,000

Working Capital [(a) - (b)]	12,000	20,000		
Funds TOTAL			4,000	12,000
Net Change in Working Capital				8,000

Flow Statement for the period from __ to__

Particulars	**Amount**	**Amount**
a) **Sources (Inflow) of Funds**		
1) Share Capital	5,000	
2) Funds from Operations [P/L appropriation account]	3,000	8,000
b) **Applications (Outflow) of Funds**		
1) General Reserve	2,000	
2) Machinery	2,000	4,000
Change in Working Capital [a - b]		+ 4,000

Illustration: 9

From the following information prepare

A Schedule of Changes in Working

i) Capital

ii A Funds Flow Statement

Balance Sheet of M/s _____

Liabilities	as on 31st March		Assets	as on 31st March	
	2006	2007		2006	2007
Capital	18,50,000	21,00,000	Goodwill (at Cost)	6,00,000	6,00,000
Profit/Loss	14,78,000	17,64,000	Land and Buildings	18,50,000	22,00,000
Appropriation	12,00,000	9,00,0000	Plant and	4,74,000	
Bank Loan	4,00,000	6,80,000	Machinery	1,94,000	5,24,000
Bills Payable	14,00,000	12,20,000	Furniture and	8,26,000	1,94,000
Sundry Creditors	2,00,000	1,80,000	Fittings	12,00,000	7,24,000
Reserve for Taxation			Stock/Inventories	8,00,000	12,80,000
			Sundry Debtors	5,00,000	
			Bills Receivable	84,000	7,21,000
			Bank		4,83,000
			Cash		1,18,000
TOTAL	65,28,000	68,44,000	TOTAL	65,28,000	68,44,000

SOLUTION

Schedule/Statement of Changes in Working Capital for the period from 31/03/06 to 31/03/07

	Balance as on 31st March		Working Capital Change	
	2006	2007	Increase	Decrease
a) CURRENT ASSETS				
1) Stock/Inventories	8,26,000	7,24,000		1,02,000
2) Sundry Debtors	12,00,000	12,80,000	80,000	
3) Bills Receivable	8,00,000	7,21,000		79,000
4) Bank	5,00,000	4,83,000		17,000
5) Cash	84,000	1,18,000	34,000	
TOTAL	34,10,000	33,26,000	1,14,000	1,98,000
b) CURRENT LIABILITIES				
1) Bills Payable	4,00,000	6,80,000		2,80,000
2) Sundry Creditors	14,00,000	12,20,000	1,80,000	
3) Provision for Taxation	2,00,000	1,80,000	20,000	
TOTAL	20,00,000	20,80,000	2,00,000	2,80,000
Working Capital [(a) –(b)]				

	14,10,000	12,46,000		
TOTAL			3,14,00	4,78,000

	0	
Net Change in Working Capital		1,64,000

Funds Flow Statement

Funds Flow Statement for the period from 31/03/06 to 31/03/07

Particulars	Amount	Amount
a) Sources (Inflow) of Funds		
1) Share Capital	2,50,000	
	2,86,000	5,36,000
2) Funds from Operations [P/L appropriation account]		
b) Applications (Outflow) of Funds	3,50,000	
1) Land and Buildings	50,000	
2) Plant and Machinery	3,00,000	
	7,00,000	
3) Bank Loan		

Illustration: 10

Following are the Balance Sheets of BROYHILL Industries Ltd, as on 31.12.2005 and 31.12.2006

Balance Sheet of M/s BROYHILL Industries Ltd,

Liabilities	As on 31st December		Assets	As on 31st December	
	2005	2006		2005	2006
Share capital	12,00,000	16,00,000	Goodwill (at Cost)	6,00,000	5,50,000
Debentures	4,00,000	6,00,000	Plantand Machinery	8,00,000	14,90,000
Reserve	3,00,000	3,50,000	(Cost)	2,00,000	2,00,000
Profit & Loss a/c	2,50,000	5,00,000	Furniture	6,00,000	10,00,000
Creditors	4,50,000	3,80,000	Buildings	2,20,000	-
Bank Loan	8,00,000	13,00,000	Investments	3,50,000	4,70,000
Fixed Deposits	2,00,000	-	Land	3,38,000	3,72,000
Provision for			Debtors	6,00,000	8,00,000
Depreciation	12,000	6,000	Stock	40,000	80,000
	40,000	48,000	Bank	14,000	12,000
on Buildings			Preliminary expenses		
on Plant & Machinery	60,000	70,000			
Provision for:					
	50,000	1,20,000			
Bad & Doubtful Debts					
Taxation					
	37,62,000	49,74,000		37,62,000	49,74,000

You are required to analyze the Funds Flow and the Changes in working Capital in as much detail as possible, using the following additional details available.

M/S BROYHILL Industries Ltd

Schedule/Statement of Changes in Working Capital for the period from 31/12/05 to 31/12/06

Particulars/Account	Balance as on 31st March		Working Capital Change	
	2005	2006	Increase	Decrease
a) CURRENT ASSETS				
1) Debtors	3,38,000	3,72,000	34,000	-
2) Stock	6,00,000	8,00,000	2,00,000	-
3) Bank	40,000	80,000	40,000	-
TOTAL	9,78,000	12,52,000	2,74,000	-
b) CURRENT LIABILITIES				
1) Creditors	4,50,000	3,80,000	70,000	
2) Provision for Bad Debts	60,000	70,000		10,000
2) Provision for Taxation	50,000	1,20,000		70,000
TOTAL	5,60,000	5,70,000	70,000	80,000
Working Capital [(a) - (b)]	4,18,000	6,82,000		
		TOTAL	3,14,000	4,78,000
		Net Change in Working Capital	2,64,000	

Dr **Profit and Loss Appropriation a/c** **Cr**

Particulars	Amount	Particulars	Amount
To Reserve a/c	30,000	By Building Sale a/c	20,000
To Profit and Loss a/c	2,50,000	By Investments a/c	24,000
To Goodwill a/c	50,000	**By Funds From Operations**	3,64,000
To Reserve for Depreciation		**(?)**	
on Plant and Machinery	20,000		
To Machine Sale a/c	8,000		
To Depreciation on	44,000		
Furniture			
To Reserve for Depreciation	4,000		
on Building	2,000		
To Preliminary Expenses			
	4,08,000		4,08,000

Statement for Calculation of Funds from Operations

Particulars	Amount	Amount
Current Period Profit Capitalised		2,50,000
Add: Losses/Appropriations debited to Profit/Loss a/c		
1) Reserve created	30,000	
2) Goodwill written off	50,000	
3) Reserve for Depreciation on Plant and Machinery	20,000	
4) Loss on Sale of Machine	8,000	
5) Depreciation on Furniture	44,000	
6) Reserve for Depreciation on Building	4,000	
7) Preliminary Expenses Written off	2,000	1,58,000
Less: Gains and Adjustments credited to Profit/Loss a/c		4,08,000
1)Profit on Sale of Building	24,000	44,000
1) Profit on Sale of Investments		

Statement of Sources and Applications of Funds for the period from __ to __

Sources/Inflows of Funds	Amount	Applications/Outflows of Funds	Amount
Share Capital (Stock)	50,000	Purchase of Plant and Machinery	8,30,000
Share Capital	3,00,000	Purchase of Furniture	44,000
(Cash/Bank)	2,00,000	Purchase of Buildings	4,50,000
Debentures	5,00,000	Fixed Deposits Cleared	2,00,000
Bank Loan	1,20,000	Purchase of Land	2,70,000
Plant Sale	1,10,000		
Building Sale	2,44,000		
Investments Sale	1,70,000		
Land Sale	3,88,000		
Funds from Operations			
	20,58,000		17,94,000
		Change in Fund (Working Capital)	2,64,000

Illustration: 11

From the following data you are to calculate the cash from operations. Funds from operation for the year 2007 Rs.84, 000. Current assets and liabilities as on 1.1.2007 and 31.12.2007 were as follows:

Particulars	1.1.2007	31.12.2007
Trade Creditors	1,82,000	1,94,000
Trade Debtors	2,75,000	3,15,000
Bills Receivable	40,000	35,000
Bills payable	27,000	31,000
Inventories	1,85,000	1,70,000
Trade Investments	40,000	70,000
Outstanding Expenses	20,000	25,000

Prepaid expenses	5,000	8,000

Solution

Particulars	Rs.	Rs.
Funds from operations		84,000
Add: Increase in current liabilities		
Trade creditors	12,000	
Bills payable	4,000	
Outstanding expenses	5,000	
Decrease in current assets		
Bills receivable	5,000	
Inventories	15,000	41,000
Less: Decrease in Current liabilities		1,25,000
Increase in Current assets		
Trade debtors	40,000	
Trade investments	30,000	
Prepaid expenses	3,000	73,000
Cash from operations		**52,000**

Illustration: 12

Malar ltd. Furnish you the following Balance sheets for the years ending 31st Dec 1985-86. You are required to prepare a cash flow statement for the year ended 31.12.1986.

Liabilities	1985	1986	Assets	1985	1986
Equity share	20,000	20,000	Goodwill	2,400	2,400

Capital					
General reserve	2,800	3,600	Land	8,000	7,200
Profit and loss A/c	3,200	2,600	Building	7,400	7,200
Sundry Crs	1,600	1,080	Investments	2,000	2,200
Outstanding Expenses	240	160	Inventories	6,000	4,680
Provision for tax	3,200	3,600	A/cs receivable	4,000	4,440
Provision for bad debts	80	120	Bank balance	1,320	3,040
	31,120	31,160		31,120	31,160

1. A piece of land has also been sold for Rs.800
2. Depreciation amounting to Rs.1,400 has been charged on building
3. Provision for taxation has been made for Rs.3,800 during the year

Solution

Malar ltd cash flow statement for the year ended 31.12. 1986

Particulars	**Rs.**	**Rs.**
Opening bank balance		1,320
Add: Sources of cash		
Cash from operations	5,720	
Sale of land	800	6,520
Total Sources		**7,840**
Less: Applications of Cash		
Building purchased	1,200	
Investments purchased	200	
Tax paid	3,400	4800
Closing bank balance		**3,040**

Adjusted Profit and loss Account

Particulars	Rs.	Particulars	Rs.
To Transfer to General reserve	800	By balance b/d	3,200
To Depreciation on building	1,400	By Funds from operations	5,400
To Provision for Tax	3,800		
To Balance c/d	2,600		
	8,600		8,600

Statement of Cash From operations

Particulars	Rs.	Rs.
Funds from operations		5,400
Add: Increase in provision for doubtful debts	40	
Decrease in inventories	1,320	1,360
		6,760
Less: Decrease in Creditors	520	
Decrease in outstanding expenses	80	
Increase in accounts receivable	440	1,040
Cash from operations		**5,720**

Illustration: 13

Calculate funds from operations from the following Profit and Loss A/c

Profit and loss Account

Particulars	Rs.	Particulars	Rs.
To Expenses paid	3,00,000	By Gross Profit	4,50,000
To Depreciation	70,000	By Gain on sale of land	60,000
To Loss on sale of machine	4,000		
To Discount	200		

To Goodwill	20,000		
To Net profit	1,15,800		
	5,10,000		**5,10,000**

Solution

Particulars	Rs.	Rs.
Net profit as per Profit & Loss A/c		1,15,800
Add: Depreciation	70,000	
Loss on sale of Machine	4,000	
Goodwill written off	20,000	94,000
		2,09,800
Less: Gain on sale of land		60,000
Funds from operations		**1,49,800**

Responsibility Accounting

Meaning, Features and Steps for Achieving Goals

The systems of costing like standard costing and budgetary control are useful to management for controlling the costs. In those systems the emphasis is on the devices of control and not on those who use such devices. Responsibility Accounting is a system of control where responsibility is assigned for the control of costs. The persons are made responsible for the control of costs.

Proper authority is given to the persons so that they are able to keep up their performance. In case the performance is not according to the predetermined standards then the persons who are assigned this duty will be personally responsible for it. In responsibility accounting the emphasis is on men rather than on systems.

Charles, T. Horngreen:

"Responsibility accounting is a system of accounting that recognizes various responsibility centres throughout the organisation and reflects the plans and actions of each of these centres by assigning particular revenues and costs to the one having the pertinent responsibility. It is also called profitability accounting and activity accounting". According to this definition, the organisation is divided into various responsibility centres and each centre is responsible for its costs. The performance of each responsibility centre is regularly measured.

Anthony and Reece:

"Responsibility accounting is that type of management accounting that collects and reports both planned actual accounting information in terms of responsibility centres".

Institute of Cost and Works Accountants of India.

Responsibility accounting is "a system of management accounting under which accountability is established according to the responsibility delegated to various levels of management and a management information and reporting system instituted to give adequate feedback in terms of the delegated responsibility. Under this system divisions or units of an organisation under a specified authority in a person are developed as responsibility centres and evaluated individually for their performance."

Responsibility accounting is different from cost accounting in the sense that the future lays emphasis on cost control whereas the latter lays emphasis on cost ascertainment.

Essential Features of Responsibility Accounting:

An analysis of the definitions given above reveals the following important features or fundamental aspects of responsibility accounting:

1. Inputs and Outputs or Costs and Revenues:

The implementation and maintenance of responsibility accounting system is based upon information relating to inputs and outputs. The physical resources utilized in an organisation; such as quantity of raw material used and labour hours consumed, are termed as inputs. These inputs expressed in the monetary terms are known as costs. Similarly outputs expressed in monetary terms are called revenues. Thus, responsibility accounting is based on cost and revenue information.

2. Planned and Actual Information or Use of Budgeting:

Effective responsibility accounting requires both planned and actual financial information. It is not only the historical cost and revenue data but also the planned future data which is essential for the implementation of responsibility accounting system. It is through budgets that responsibility for implementing the plans is communicated to each level of management. The use of fixed budgets, flexible budgets and profit planning are all incorporated into one overall system of responsibility accounting.

3. Identification of Responsibility Centres:

The whole concept of responsibility accounting is focused around identification of responsibility centres. The responsibility centres represent the sphere of authority or decision points in an organisation. In a small firm, one individual or a small group of individuals, who are usually the owners

may possibly manage or control the entire organisation. For effective planning and control purposes, responsibility centres are, usually, classified under three categories:

(i) cost centres;

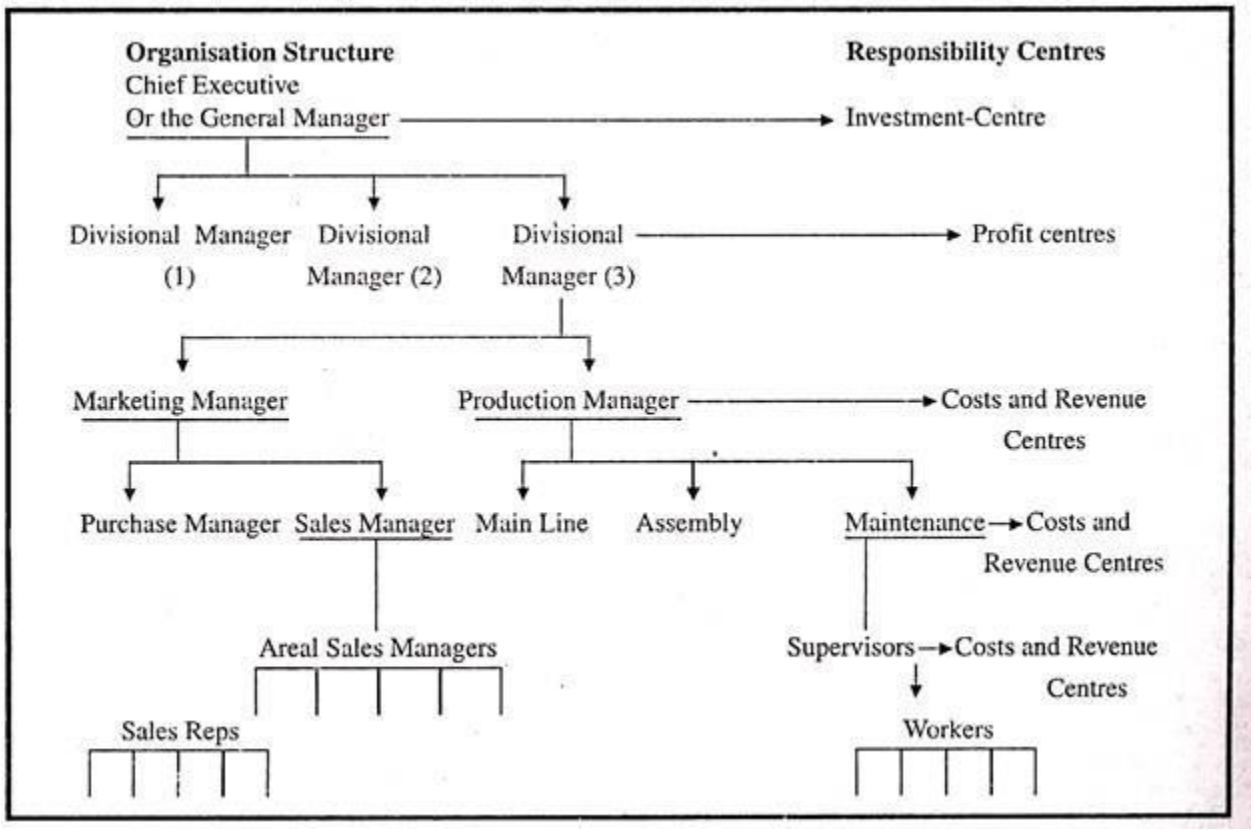
(ii) profit centres; and

(iii) investment centres.

4. Relationship between Organisation Structure and Responsibility Accounting System:

A sound organisation structures with clear-cut lines of authority—responsibility relationships are a prerequisite for establishing a successful responsibility accounting system. Further, responsibility accounting system must be so designed as to suit the organisation structure of the organisation. It must be founded upon the existing authority- responsibility relationships in the organisation. In fact, responsibility accounting system should parallel the organisation structure and provide financial information to evaluate actual results of each individual responsible for a function.

The following chart shows relationship between organisation structure and responsibility centres:



5. Assigning Costs to Individuals and Limiting their Efforts to Controllable Costs:

After identifying responsibility centres and establishing authority-responsibility relationships, responsibility accounting system involves assigning of costs and revenues to individuals. Only those costs and revenues over which an individual has a definite control can be assigned to him for evaluating his performance. Responsibility accounting has an appeal because it distinguishes between controllable and uncontrollable costs. Unlike traditional accounting where costs are classified and accumulated according to function such as manufacturing cost or selling and distribution cost, etc. or according to products, responsibility accounting classifies accumulated costs according to controllability.

'Controllable costs' are those costs which can be controlled or influenced by a specified person or a level of management of an undertaking. Costs which cannot be so controlled or influenced by the action of a specified individual of an undertaking are known as 'uncontrollable costs'. The difference in controllable and uncontrollable costs may only be in relation to a particular person or level of management.

The following guidelines recommended by the Committee of the American Accounting Association in regard to assigning of costs may be followed:

(a) If the person has authority over both the acquisition and use of the services, he should be charged with the cost of these services.

(b) If the person can significantly influence the amount of cost through his own action, he may be charged with such costs.

(c) Even if the person cannot significantly influence the amount of cost through his own direct action, he may be charged with those elements with which the management desires him to be concerned, so that he will help to influence those who are responsible.

6. Transfer Pricing Policy:

In a large scale enterprise having decentralized divisions, there is a common practice of transferring goods and services from one segment of the organisation to another. In such situations, there is a need to determine the price at which the transfer should take place so that costs and revenues could be properly assigned. The significance of the transfer price can well be judged from the fact that for the transferring division it will be a source of revenue, whereas for the division to which transfer is made it will be an element of cost. Thus, there is a need of having a proper transfer policy for the successful implementation of responsibility accounting system. There are various transfer pricing methods in use, such as cost price, cost plus normal profit, incremental cost basis, negotiated price, standard price, etc. These methods of intra-company transfers have been discussed in detail later in this chapter.

7. Performance Reporting:

As stated earlier, responsibility account is a control device. A control system to be effective should be such that deviations from the plans must be reported at the earliest so as to take corrective action for the future. The deviations can be known only when performance is reported.

Thus, responsibility accounting system is focused on performance reports also known as 'responsibility reports', prepared for each responsibility unit. Unlike authority which flows from top to bottom, reporting flows from bottom to top. These reports should be addressed to appropriate persons in respective responsibility centres.

8. Participative Management:

The function of responsibility accounting system becomes more effective if participative or democratic style of management is followed, wherein, the plans are laid or budgets/ standards are fixed according to the mutual consent and the decisions reached after consulting the subordinates. It provides motivation to the workers by ensuring their participation and self imposed goals.

9. Management by Exception:

It is a well accepted fact that at successive higher levels of management in the organisational chain less and less time is devoted to control and more and more to planning. Thus, an effective responsibility accounting system must provide for management by exception, i.e., it should focus attention of the management on significant deviations and not burden them with all kinds of routine matters, rather condensed reports requiring their attention must be sent to them particularly at higher levels of management.

10. Human Aspect of Responsibility Accounting:

'The aim of responsibility accounting is not to place blame. Instead it is to evaluate the performance and provide feedback so that future operations can be improved'. Goals and objectives are achieved through people and, hence, responsibility accounting system should motivate people. It should be used in positive sense. It should not be taken as a device to punish subordinates.

Steps for Achieving Goals of Responsibility Accounting:

1. The organisation is divided into various responsibility centres each responsibility centre is put under the charge of a responsibility manager. The managers are responsible for the performance of their departments.

2. The targets of each responsibility centre are set in. The targets or goals are set in consultation with the manager of the responsibility centre so that he may be able to give full information about his department. The goals of the responsibility centres are properly communicated to them.

3. The actual performance of each responsibility centre is recorded and communicated to the executive concerned and the actual performance is compared with goals set and it helps in assessing the work of these centres.

4. If the actual performance of a department is less than the standard set, then the variances are conveyed to the top management. The names of those persons who were responsible for that performance are also conveyed so that responsibility may be fixed.

5. Timely action is taken to take necessary corrective measures so that the work does not suffer in future. The directions of the top level management are communicated to the concerned responsibility centre so that corrective measures are initiated at the earliest.

The purpose of all these steps is to assign responsibility to different individuals so that the performance is improved. In case the performance is not up to their targets set, then responsibility may be fixed for it. Responsibility accounting will certainly act as control device and it will help in improving the overall performance of the business.

Responsibility Centres

A **responsibility center** is an organizational unit headed by a manager, who is **responsible** for its activities and results. In **responsibility** accounting, revenues and cost information are collected and reported on by **responsibility** centers.

Types of Responsibility Centres

Responsibility centres can be classified by the scope of responsibility assigned and decision-making authority given to individual managers.

The following are the four common types of responsibility centres:

1. Cost Centre:

A cost or expense centre is a segment of an organisation in which the managers are held responsible for the cost incurred in that segment but not for revenues. Responsibility in a cost centre is restricted to cost. For planning purposes, the budget estimates are cost estimates; for control purposes, performance evaluation is guided by a cost variance equal to the difference between the actual and budgeted costs for a given period. Cost centre managers have control over some or all of the costs in their segment of business, but not over revenues. Cost centres are widely used forms of responsibility centres.

In manufacturing organisations, the production and service departments are classified as cost centre. Also, a marketing department, a sales region or a single sales

representative can be defined as a cost centre. Cost centre may vary in size from a small department with a few employees to an entire manufacturing plant. In addition, cost centres may exist within other cost centres.

For example, a manager of a manufacturing plant organised as a cost centre may treat individual departments within the plant as separate cost centres, with the department managers reporting directly to plant manager. Cost centre managers are responsible for the costs that are controllable by them and their subordinates. However, which costs should be charged to cost centres, is an important question in evaluating cost centre managers.

2. Revenue Centre:

A revenue centre is a segment of the organisation which is primarily responsible for generating sales revenue. A revenue centre manager does not possess control over cost, investment in assets, but usually has control over some of the expense of the marketing department. The performance of a revenue centre is evaluated by comparing the actual revenue with budgeted revenue, and actual marketing expenses with budgeted marketing expenses. The Marketing Manager of a product line, or an individual sales representative are examples of revenue centres.

3. Profit Centre:

A profit centre is a segment of an organisation whose manager is responsible for both revenues and costs. In a profit centre, the manager has the responsibility and the authority to make decisions that affect both costs and revenues (and thus profits) for the department or division. The main purpose of a profit centre is to earn profit. Profit centre managers aim at both the production and marketing of a product.

The performance of the profit centre is evaluated in terms of whether the centre has achieved its budgeted profit. A division of the company which produces and markets the products may be called a profit centre. Such a divisional manager determines the selling price, marketing programmes and production policies.

Profit centres make managers more concerned with finding ways to increase the centre's revenue by increasing production or improving distribution methods. The manager of a profit centre does not make decisions concerning the plant assets available to the centre. For example, the manager of the sporting goods department does not make the decisions to expand the available floor space for the department.

Mostly profit centres are created in an organisation in which they (profit divisions) sell products or services outside the company. In some cases, profit centres may be selling products or services within the company. For example, repairs and maintenance department in a company can be treated as a profit centre if it is allowed to bill other production departments for the services provided to them. Similarly, the data processing department may bill each of company's administrative and operating departments for providing computer-related services.

Benefits of Creating Profit Centres:

The creation of profit centres in a diversified or divisionalized firm has many benefits:

(i) Better planning and decision making—Profit centres managers are independent in managing the activities and are responsible for profit and success of their business units. This encourages them to make better planning, profitable decisions and exercise control. It creates a sense of accountability among the profit centre managers.

(ii) Participation in organizational plans and policies— Although profit centre managers are independent in the management of their business units, they function within the umbrella of overall organization. They get opportunities to participate in the discussion of plans and policies at the firm level. This widens their perspective and inculcates the habit of taking an integrated and macro view of activities in place of a narrow division specific view. In this process, profit centres managers can get trained to be the senior managers of their companies or other firms in the future.

(iii) Beneficial competitive environment—All profit centres managers target success and profit by managing costs and aiming higher revenues. This creates a competitive environment among the managers managing their respective business units which is not only beneficial for them but also contributes in achieving the overall objectives of the firm and in maximizing the firm profit.

Essentials of a Profit Centre:

The basic requirements of a profit centre are as follows:

(i) Operational autonomy:

Business unit managers should have sufficient freedom to take operating decisions on a profit-oriented basis, for example, regarding purchase, product mix, pricing and inventory. Unless they have sufficient autonomy to take decisions in respect of the above, the very purpose of delegating authority and treating profit as a measure of divisional performance

would be defeated. Top management, therefore, must not impose its decisions on business unit managers. However, the decision taken by these divisional managers must be conducive to the achievement of the organisational objectives and policies.

(ii) Sourcing inputs and markets for products:

Business unit managers must have authority to source supply and markets to make profitable and sound make-or-buy decisions. Even if they are not permitted to actually purchase from external suppliers or from parties outside the organisation, they should be able to gain full information regarding demand and supply conditions and the prevailing and expected price trend in the industry.

(iii) Measurable costs and revenues of different profit centres:

The inputs and the outputs of the profit centres should be capable of separate measurement. By this, the need for apportionment of common input and output is minimised if not altogether eliminated. This makes it essential that the boundaries of different profit centres/divisions be clearly demarcated to preclude overlapping of activities. In the absence of well-defined boundaries and consequent overlapping of operations, unit managers may tend to take credit for everything that goes well and blame the other division for whatever goes wrong.

Also, it would be necessary not to include the corporate office and other administration costs, over which the business unit/divisional manager has no control, in the divisional profit performance reports. When the boundaries of the responsibility centres have a lot of overlapping operations/activities, managers are not adequately motivated to take decisions from the point of view of the likely impact on the profit of their unit.

(iv) Using profit as a measure of performance:

Although the contribution of a profit centre can not be measured solely by the amount of profit contributed by it, profit must be treated as the main measure of a business unit's performance by the top management. If the top management does not give weightage to this, the divisional manager will tend to show less concern for this vital aspect of performance.

Since the business unit manager can boost profit by ignoring the need for repairs to plant and machinery or by deliberately reducing certain expenses, it would be necessary to use three or four non-profit measures of performance, for example, sales per employee, and production hours lost as a result of breakdown of machinery for evaluation.

(v) Size of profit centre:

Unless the division is large enough, it should not be treated as a profit centre. A small workshop or a section of a department, for instance, can not be regarded as a profit centre. There should be a sizeable amount of work being performed in the business unit for it to be under the charge of a senior executive such as a general manager or divisional manager who could be given decision-making powers and the responsibility for all its activities, including profit performance.

4. Investment Centre:

An investment centre is responsible for both profits and investments. The investment centre manager has control over revenues, expenses and the amounts invested in the centre's assets. He also formulates the credit policy which has a direct influence on debt collection, and the inventory policy which determines the investment in inventory.

The manager of an investment centre has more authority and responsibility than the manager of either a cost centre or a profit centre. Besides controlling costs and revenues, he has investment responsibility too. 'Investment on asset' responsibility means the authority to buy, sell and use divisional assets.

Accounting Standards : AS3: Cash Flow Statements

Accounting standards are authoritative **standards** for **financial reporting** and are the primary source of generally accepted **accounting** principles (GAAP). **Accounting standards** specify how transactions and other events are to be recognized, measured, presented and disclosed in financial statements.

Accounting Standard (AS) 3* (revised 1997) Cash Flow Statements

This Accounting Standard is not mandatory for Small and Medium Sized Companies2 and non-corporate entities falling in Level II and Level III as defined in Appendix 1 to this Compendium 'Applicability of Accounting Standards to Various Entities.' Such entities are however encouraged to comply with this standard. Objective Information about the cash flows of an enterprise is useful in providing users of financial statements with a basis to assess the ability of the enterprise to generate cash and cash equivalents and the needs of the enterprise to utilise those cash flows.

The economic decisions that are taken by users require an evaluation of the ability of an enterprise to generate cash and cash equivalents and the timing and certainty of their generation. The Standard deals with the provision of information about the historical changes in cash and

cash equivalents of an enterprise by means of a cash flow statement which classifies cash flows during the period from operating, investing and financing activities.

Scope

1. An enterprise should prepare a cash flow statement and should present it for each period for which financial statements are presented.

2. Users of an enterprise's financial statements are interested in how the enterprise generates and uses cash and cash equivalents. This is the case regardless of the nature of the enterprise's activities and irrespective of whether cash can be viewed as the product of the enterprise, as may be the case with a financial enterprise. Enterprises need cash for essentially the same reasons, however different their principal revenue-producing activities might be. They need cash to conduct their operations, to pay their obligations, and to provide returns to their investors. Benefits of Cash Flow Information

3. A cash flow statement, when used in conjunction with the other financial statements, provides information that enables users to evaluate the changes in net assets of an enterprise, its financial structure (including its liquidity and solvency) and its ability to affect the amounts and timing of cash flows in order to adapt to changing circumstances and opportunities.

4. Historical cash flow information is often used as an indicator of the amount, timing and certainty of future cash flows. It is also useful in checking the accuracy of past assessments of future cash flows and in examining the relationship between profitability and net cash flow and the impact of changing prices.

Definitions 5.

The following terms are used in this Standard with the meanings specified:

5.1. Cash comprises cash on hand and demand deposits with banks.

5.2. Cash equivalents are short term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value.

5.3. Cash flows are inflows and outflows of cash and cash equivalents.

5.4. Operating activities are the principal revenue-producing activities of the enterprise and other activities that are not investing or financing activities.

5.5 Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents.

5.6 Financing activities are activities that result in changes in the size and composition of the owners' capital (including preference share capital in the case of a company) and borrowings of the enterprise.

AS:21: Consolidated Financial Statements

Accounting Standard (AS) 21* (revised 2016) Consolidated Financial Statements1

Objective

The objective of this Standard is to lay down principles and procedures for preparation and presentation of consolidated financial statements. Consolidated financial statements are presented by a parent (also known as holding enterprise) to provide financial information about the economic activities of its group. These statements are intended to present financial information about a parent and its subsidiary(ies) as a single economic entity to show the economic resources controlled by the group, the obligations of the group and results the group achieves with its resources. * The Standard was originally issued in 2001. The Standard has been revised by the Ministry of Corporate Affairs, Government of India, vide Notification dated 30th March, 2016, which is relevant for companies following Companies (Accounting Standards) Rules, 2006 and which should be used for preparation of accounts for accounting periods commencing on or after the date of notification. The Standard has been revised for entities other than companies in 2016 by the Council of the ICAI and is mandatory for accounting periods commencing on or after April 1, 2017 . Consequent to this revision, paragraph 9 stands revised.

1 It is clarified that AS 21 is mandatory if an enterprise presents consolidated financial statements. In other words, the accounting standard does not mandate an enterprise to present consolidated financial statements but, if the enterprise presents consolidated financial statements for complying with the requirements of any statute or otherwise, it should prepare and present consolidated financial statements in accordance with AS 21.

2 Attention is specifically drawn to paragraph 4.3 of the Preface, according to which Accounting Standards are intended to apply only to items which are material. Consolidated Financial Statements 393

Scope

1. This Standard should be applied in the preparation and presentation of consolidated financial statements for a group of enterprises under the control of a parent.

2. This Standard should also be applied in accounting for investments in subsidiaries in the separate financial statements of a parent.

3. In the preparation of consolidated financial statements, other Accounting Standards also apply in the same manner as they apply to the separate financial statements.

4. This Standard does not deal with: (a) methods of accounting for amalgamations and their effects on consolidation, including goodwill arising on amalgamation (see AS 14, Accounting for Amalgamations); (b) accounting for investments in associates (at present governed by AS 13, Accounting for Investments3); and (c) accounting for investments in joint ventures (at present governed by AS 13, Accounting for Investments4).

Definitions 5.

For the purpose of this Standard, the following terms are used with the meanings specified:

5.1 Control: (a) the ownership, directly or indirectly through subsidiary(ies), of more than one-half of the voting power of an enterprise; or (b) control of the composition of the board of directors in the case of a company or of the composition of the corresponding 3 Accounting Standard (AS) 23, 'Accounting for Investments in Associates in Consolidated Financial Statements', specifies the requirements relating to accounting for investments in associates in Consolidated Financial Statements. 4 Accounting Standard (AS) 27, 'Financial Reporting of Interests in Joint Ventures', specifies the requirements relating to accounting for investments in joint ventures.. 394 AS 21 (revised 2016) governing body in case of any other enterprise so as to obtain economic benefits from its activities.

5.2 A subsidiary is an enterprise that is controlled by another enterprise (known as the parent).

5.3 A parent is an enterprise that has one or more subsidiaries.

5.4 A group is a parent and all its subsidiaries.

5.5 Consolidated financial statements are the financial statements of a group presented as those of a single enterprise.

5.6 Equity is the residual interest in the assets of an enterprise after deducting all its liabilities.

5.7 Minority interest is that part of the net results of operations and of the net assets of a subsidiary attributable to interests which are not owned, directly or indirectly through subsidiary(ies), by the parent.

6. Consolidated financial statements normally include consolidated balance sheet, consolidated statement of profit and loss, and notes, other statements and explanatory material that form an

integral part thereof. Consolidated cash flow statement is presented in case a parent presents its own cash flow statement. The consolidated financial statements are presented, to the extent possible, in the same format as that adopted by the parent for its separate financial statements. Explanation: All the notes appearing in the separate financial statements of the parent enterprise and its subsidiaries need not be included in the notes to the consolidated financial statement. For preparing consolidated financial statements, the following principles may be observed in respect of notes and other explanatory material that form an integral part thereof:

(a) Notes which are necessary for presenting a true and fair view of the consolidated financial statements are included in the consolidated financial statements as an integral part thereof.

(b) Only the notes involving items which are material need to be disclosed. Materiality for this purpose is assessed in relation to Consolidated Financial Statements 395 the information contained in consolidated financial statements. In view of this, it is possible that certain notes which are disclosed in separate financial statements of a parent or a subsidiary would not be required to be disclosed in the consolidated financial statements when the test of materiality is applied in the context of consolidated financial statements.

(c) Additional statutory information disclosed in separate financial statements of the subsidiary and/or a parent having no bearing on the true and fair view of the consolidated financial statements need not be disclosed in the consolidated financial statements. An illustration of such information in the case of companies is attached to the Standard.

Presentation of Consolidated Financial Statements 7. A parent which presents consolidated financial statements should present these statements in addition to its separate financial statements.

8. Users of the financial statements of a parent are usually concerned with, and need to be informed about, the financial position and results of operations of not only the enterprise itself but also of the group as a whole. This need is served by providing the users - (a) separate financial statements of the parent; and (b) consolidated financial statements, which present financial information about the group as that of a single enterprise without regard to the legal boundaries of the separate legal entities.

Scope of Consolidated Financial Statements 9 A parent which presents consolidated financial statements should consolidate all subsidiaries, domestic as well as foreign, other than those referred to in paragraph 11. Where an enterprise does not have a subsidiary but has an associate

and/or a joint venture such an enterprise should also prepare consolidated financial statements in accordance with Accounting Standard (AS) 23, Accounting for Associates in Consolidated Financial Statements, and Accounting Standard (AS) 27, Financial Reporting of Interests in Joint Ventures respectively. 396 AS 21 (revised 2016)

10. The consolidated financial statements are prepared on the basis of financial statements of parent and all enterprises that are controlled by the parent, other than those subsidiaries excluded for the reasons set out in paragraph

11. Control exists when the parent owns, directly or indirectly through subsidiary(ies), more than one-half of the voting power of an enterprise. Control also exists when an enterprise controls the composition of the board of directors (in the case of a company) or of the corresponding governing body (in case of an enterprise not being a company) so as to obtain economic benefits from its activities. An enterprise may control the composition of the governing bodies of entities such as gratuity trust, provident fund trust etc. Since the objective of control over such entities is not to obtain economic benefits from their activities, these are not considered for the purpose of preparation of consolidated financial statements.

For the purpose of this Standard, an enterprise is considered to control the composition of: (i) the board of directors of a company, if it has the power, without the consent or concurrence of any other person, to appoint or remove all or a majority of directors of that company. An enterprise is deemed to have the power to appoint a director, if any of the following conditions is satisfied: (a) a person cannot be appointed as director without the exercise in his favour by that enterprise of such a power as aforesaid; or (b) a person's appointment as director follows necessarily from his appointment to a position held by him in that enterprise; or (c) the director is nominated by that enterprise or a subsidiary thereof. (ii) the governing body of an enterprise that is not a company, if it has the power, without the consent or the concurrence of any other person, to appoint or remove all majority of members of the governing body of that other enterprise. An enterprise is deemed to have the power to appoint a member, if any of the following conditions is satisfied: (a) a person cannot be appointed as member of the governing body without the exercise in his favour by that other enterprise of such a power as aforesaid; or Consolidated Financial Statements 397

Accounting Standard (AS) 23 (issued 2001) Accounting for Investments in Associates in Consolidated Financial Statements

Objective

The objective of this Standard is to set out principles and procedures for recognising, in the consolidated financial statements, the effects of the investments in associates on the financial position and operating results of a group.

Scope

1. This Standard should be applied in accounting for investments in associates in the preparation and presentation of consolidated financial statements by an investor.

2. This Standard does not deal with accounting for investments in associates 1 It is clarified that AS 23 is mandatory if an enterprise presents consolidated financial statements. In other words, if an enterprise presents consolidated financial statements, it should account for investments in associates in the consolidated financial statements in accordance with AS 23 from the date of its coming into effect, i.e., 1-4-2002.

Definitions .

For the purpose of this Standard, the following terms are used with the meanings specified:

An associate is an enterprise in which the investor has significant influence and which is neither a subsidiary nor a joint venture4 of the investor.

Significant influence is the power to participate in the financial and/ or operating policy decisions of the investee but not control over those policies.

Control: (a) the ownership, directly or indirectly through subsidiary(ies), of more than one-half of the voting power of an enterprise; or (b) control of the composition of the board of directors in the case of a company or of the composition of the corresponding governing body in case of any other enterprise so as to obtain economic benefits from its activities.

A subsidiary is an enterprise that is controlled by another enterprise (known as the parent).

A parent is an enterprise that has one or more subsidiaries.

A group is a parent and all its subsidiaries.

Consolidated financial statements are the financial statements of a group presented as those of a single enterprise. 3 Accounting Standard (AS) 13, 'Accounting for Investments', is applicable for accounting for investments in associates in the separate financial statements of an investor. 4 Accounting Standard (AS) 27, 'Financial Reporting of Interests in Joint Ventures', defines the term 'joint venture' and specifies the requirements relating to accounting for investments in joint ventures. Accounting for Investments in Associates 431

The equity method is a method of accounting whereby the investment is initially recorded at cost, identifying any goodwill/capital reserve arising at the time of acquisition. The carrying amount of the investment is adjusted thereafter for the post acquisition change in the investor's share of net assets of the investee. The consolidated statement of profit and loss reflects the investor's share of the results of operations of the investee.

Equity is the residual interest in the assets of an enterprise after deducting all its liabilities. 4. For the purpose of this Standard significant influence does not extend to power to govern the financial and/or operating policies of an enterprise. Significant influence may be gained by share ownership, statute or agreement. As regards share ownership, if an investor holds, directly or indirectly through subsidiary(ies), 20% or more of the voting power of the investee, it is presumed that the investor has significant influence, unless it can be clearly demonstrated that this is not the case. Conversely, if the investor holds, directly or indirectly through subsidiary(ies), less than 20% of the voting power of the investee, it is presumed that the investor does not have significant influence, unless such influence can be clearly demonstrated. A substantial or majority ownership by another investor does not necessarily preclude an investor from having significant influence. Explantion : In considering the share ownership, the potential equity shares of the investees held by the investor are not taken into account for determining the voting power of the investor. 5. The existence of significant influence by an investor is usually evidenced in one or more of the following ways: (a) Representation on the board of directors or corresponding governing body of the investee; (b) participation in policy making processes; (c) material transactions between the investor and the investee; (d) interchange of managerial personnel; or (e) provision of essential technical information. 432 AS 23 (issued 2001) 6. Under the equity method, the investment is initially recorded at cost, identifying any goodwill/capital reserve arising at the time of acquisition and the carrying amount is increased or decreased to recognise the investor's share of the profits or losses of the investee after the date of acquisition. Distributions received from an investee reduce the carrying amount of the investment. Adjustments to the carrying amount may also be necessary for alterations in the investor's proportionate interest in the investee arising from changes in the investee's equity that have not been included in the statement of profit and loss. Such changes include those arising from the revaluation of fixed assets and investments, from foreign exchange translation differences and from the adjustment of differences arising on amalgamations.

POSSIBLE QUESTIONS

UNIT V - PART B

1. Define fund flow statement

2. Write any two objectives of fund flow statement?

3. List out the steps for preparing fund flow statement?

4. Explain the concept of flow of funds

5. Listout the limitations of funds flow statements.

6. What is meant by responsibility accounting?

7. Write a short note on AS:3 –Cash Flow statements.

8. Write any two features of cash flow statement?

9. List out the importance of cash flow analysis?

10. Give short note on the significance of cash flow statements.

11. List out the statements which are helpful for observing the movement of fund?

12. What are the managerial uses of funds flow statement?

13. From the following particulars you are required to prepare the Statement showing schedules of changes in working capital

Liabilities	2008	2009	Assets	2008	2009
Share capital	8,000	8,500	Land	5,000	5,000
Profit & Loss A/C	1,450	2,450	Plant	2,400	3,400
Creditors	900	500	Debtors	1,650	1,950
Mortgage Loan	-	500	Stock	900	700
			Cash at Bank	400	900
	10,350	11,950		10,350	11,950

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1 Distinguish between cash flow analysis and funds flow analysis.

2 From the following particulars you are required to prepare the Funds Flow Statement

Liabilities	2007	2008	Particulars	2007	2008
Share capital	8,000	8,500	Land	5,000	5,000
Profit & Loss A/C	1,450	2,450	Plant	2,400	3,400
Creditors	900	500	Debtors	1,650	1,950
Mortgage Loan		500	Stock	900	700
			Cash at Bank	400	900
	10,350	**11,950**		**10,350**	**11,950**

3. From the following balance sheets of Damodar Ltd as on 31 December 2004 and 2005 you are required to prepare:

   1 A schedule of changes in working capital

   2 A funds flow statement

Assets	**2004**	**2005**
Goodwill	12,000	12,000
Building	40,000	36,000
Plant	37,000	36,000

Investments	10,000	11,000
Stock	30,000	23,400
Bills Receivable	2,000	3,200
Debtors	18,000	19,000
Cash at Bank	6,600	15,200
	---	---
	1,55,600	1,55,800
	---	---

Liabilities	**2004**	**2005**
Share capital	1,00,000	1,00,000
General Reserve	14,000	18,000
Creditors	8,000	5,400
Bills Payable	1,200	800
Provision for Taxation	16,000	18,000
Provision for doubtful debts	400	600
Profit & Loss A/c	16,000	13,000
	---	---
	1,55,600	1,55,800
	---	---

Additional Information:

a) Depreciation charged on plant was Rs.4,000 and on building Rs.4,000.
b) Provision for taxation Rs.19,000
c) Interim dividend of Rs.8,000 was paid during the year 2005.

4. **Balance Sheets of XYZ Ltd. as on 1-1-2000 and 31-12-2001 was as follows:**

Liabilities	***1-1-2001***	***31-12-2001***
Capital	1,25,000	1,53,000
Creditors	1,40,000	1,44,000
Bank loan	65,000	50,000
Bills Payable	20,000	30,000
	3,50,000	**3,77,000**
Assets:		
Cash	20,000	17,000
Debtors	30,000	80,000
Stock	45,000	35,000
Machinery	80,000	65,000
Land	90,000	80,000
Buildings	65,000	70,000
Goodwill	20,000	30,000
	3,50,000	**3,77,000**

During the year, a machine costing Rs. 12,000 (accumulated depreciation Rs.4,000) was sold for Rs.7,000. Balance of provisions for depreciation against machinery as on 1-1-2001 was Rs.35,000 and on 31-12-2001 Rs. 50000

Prepares cash Flow statement.

5. The following details are available from a company.

	31-12-09 Rs.	31-12-10 Rs.		31-12-09 Rs.	31-12-10 Rs.
Share capital	70,000	74,000	Cash	9,000	7,800
Debentures	12,000	6,000	Debtors	14,900	17,700
Reserve for doubtful debts	700	800	Stock	49,200	42,700
Trade Creditors	10,360	11,840	Land	20,000	30,000
P/L A/c	10,040	10,560	Goodwill	10,000	5,000
	1,03,100	1,03,200		1,03,100	1,03,200

In addition, you are given:

1. Dividend paid total Rs. 3,500.
2. Land was purchased for Rs.10,000.
3. Amount provided for amortization of goodwill Rs.5,000.
4. Debentures paid off Rs.6,000.

Prepare Fund Flow Statement and Cash Flow Statement.

6. Discuss the importance of cash flow analysis?

7. Explain the current account and non current account?

8. How Cash flow statement differs from Funds Flow statement?

9.. Explain the concepts of AS21: Consolidated Financial Statement.

10. Determine the steps involved in AS23: Accounting for Investments in Associates in Consolidated Financial Statements

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X6 = 30 (EITHER OR TYPE)**

Karpagam Academy of Higher Education
(Deemed to be University)
(Established Under Section 3 of UGC Act, 1956)
Coimbatore - 641 021.

UNIT V

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
The word 'fund' means the difference between _____	Current Assets	Current Liabilities	Current Assets and Current Liabilities	No Assets	Current Assets, Current Liabilities
Purchases of plant will mean_____ in working capital	increase	decrease	Liquidity	current	decrease
Issue of capital will mean_____in working capital	increase	decrease	Liquidity	current	increase
Goodwill is a _____ transaction	Fund	Non-Fund	current	Non-Current	Non-Fund
Depreciation of Machinery is _____	Source of Funds	Application of Funds	a indirect expense	Flow of funds	No flow of funds
Which of the following are non-current iterm_____	Share premium	sundry creditors	bank balance	payment of wages	Share premium
Which of the following will result into application of funds_____	Purchase of plant	Issue of share capital	payment of dividend	payment of creditors	Purchase of plant
State which of the following is non-current liability_____	Mortgage loan	bank balance	outstanding salary	creditors	Mortgage loan
Cash flow statement is useful for _____term financial anaysis	Long	Short	Medium	Short and Long	Short
Cash comprises cash on hand and _____ deposit with banks	Current	fixed	Demand	Saving	Saving
Cash flows are _____of cash and Cash equivalents	inflow	outflow	inflow and out flow	sources	inflow and out flow
Cash payments to suppliers for goods and services are classified as cash flow from _____activities	investing	operating	Non-operating	Non-investing	operating
Decrease in creditors is _____of cash	inflow	outflow	inflow and out flow	source	inflow

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
The term 'Fund' refers to _____	Reserves	Working capital	Profits	Loss	Working Capital
Gross working Capital is the _____	Total value of current assets	Total value of fixed assets	Total value of current liabilities	Total value of permanent liabilities	total value of current assets
Fund from operation is _____	Gross profit	Net profit	operating profit	non-operating profit	Operating profit
Depreciation is _____	An external source of funds	Application of Funds	A non fund item	A non-operating item	A non-fund item
Proposed dividend, if already reduced while ascertaining net profit, is _____	Added back to Net profit to find fund from operations	to be reduced from net profit	ignored while ascertaining fund from operations	no effect	Added back to Net profit to find fund from operations
Sale of fixed asset is _____	An item of funds from operation	an external source of fund	an application of fund	a flow of fund	an external source of fund
Short term investment is _____	a current asset	a current liability	an application of fund	a source of fund	a current asset
Payment of dividend is _____	An application of fund	a source of fund	Fixed expenses	operating expenses	An application of funds
Income tax paid is _____	current liability	current asset	an application of fund	a source of fund	An application of funds
Funds inflow from operation is	an internal source of funds	an application of funds	an external source of funds	net profit	An internal source of funds
Purchase of fixed assets by issue of shares is _____	Source of Funds	Application of Funds	an item to be ignored in Funds flow analysis	An item to be added in fund flow	An item to be ignored in fund flow analysis
Issue of bonus shares out of reserves _____	increase in working capital	decrease in working capital	does not affect working capital	Flow of funds	does not affect working capital
Difference between current assets and current liabilities is _____	permanent capital	working capital	additional capital	debt capital	Working Capital
_____ in current assets increases working capital	increase	decrease	constant	permanent	increase
_____ in current liability increases working capital	increase	decrease	constant	permanent	decrease
Loss on sale of fixed assets is a_____ item	Non- fund	non -operating	operating	current	Non-Fund

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Purchase of long term investment is an _____ of funds	Source of Funds	Application of Funds	flow of funds	no flow of funds	Application of funds
Issue of debenture for cash is _____ item	Source of Funds	Application of Funds	flow of funds	no flow of funds	Source of funds
Redemption of preference shares is an _____item	Source of Funds	Application of Funds	flow of funds	no flow of funds	Application of funds
Dividend received is an _____ source of funds	External	internal	Current	Non current	External
Cash flow includes _____	Cash receipts only	cash payments only	cash receipts and payments	cash and non cash incomes and expenses	cash receipts and payments
Cash from operation is the result of _____	profit from business activities	cash from business activities and changes in current assets and liabilities	sale of fixed assets	borrowing from outside source	cash from business activities and changes in current assets and liabilities
Income from long term investment is _____	Source of cash	application of cash	cash inflow from operations	cash out flow from operations	Source of cash
Premium on redemption of debentures is _____	cash inflow	cash outflow	an income	an asset	Cash outflow
Dividend paid is usually treated as	An application of cash	Source of cash	loss	gain	An application of cash
Cashflow includes cash inflows and cash ____	outflows	movements	changes	transactions	outflows
Cash from operation is a _____ of cash	source	application	external	fundamental	source
Cash outflow on account of operation is an _____ of cash	Sources	Application	Income or loss	expenditure	Application
Increase in current assets _____ in cash	increase in cash	decrease in cash	no change in cash	loss in cash	decrease in cash
Increase in current liability _____ in cash	increase in cash	decrease in cash	no change in cash	loss in cash	increase in cash
Tax paid usually shown as an _____ of cash	application	finance	source	loss	application

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Issue of shares result in _____ in flow	cash	Credit	debit	loss	cash
Purchase of fixed assets is an _____ of cash	application	Source of cash	loss of cash	gain of cash	application
Purchase of building by issue of debenture is a _____ item and it is ignored in cash flow statement	Non-cash	Non-fund	operating	non- operating	non- cash
Cash flow statement usually starts with opening balance of cash and Bank balance and _____ with closing balance of cash and bank balance	ends	begins	selects	starts	ends
Cash from oepration reveals _____	fund generated from routine and normal business operations	cash generated from routine or normal business operations	cash generated from non operating business activities	fund generated from non operating business activities	cash generated from routine or normal business operations
Cash flow statement is prepared on the basis of _____	income statement	balance sheet	fund flow statement	income statement, balance sheet and additional data	income statement, balance sheet and additional data
Decrease in current assets _____ in working capital	increase	decrease	constant	permanent	decrease
Redemption of debentures by converting them into shares is _____	Application of cash	Source of Cash	to be ignored	to be included	to be ignored
Cash received from sale of long term investments is _____	source of csh	application of cash	loss of cash	gain of cash	source of cash
Premium charged on issue of shares is also _____	Source of funds	application of funds	non fund item	non operating expenses	Source of funds
Goodwill written off should be _____ while ascertaining fund from operations	to be added back to net profit	deducted from net profit	ignored	considered	to be added back to net profit
Preliminary expenditure written off is a _____	Non fund expeneses	non- operating income	non- operating expenses	non- fund incomes	non- fund expenses
A source of fund always _____ cash position	increases	decreases	may or maynot increase	may or may not decrease	may or may not increases

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Increase in profit is a _____ source of funds	internal	external	debtors	investors	internal
Issue of bonus shares is a _____ of funds	sources	application	No flow of funds	inflow of funds	no flow of funds
Purchased of fixed assets is _____ of cash	source	application	No flow of funds	inflow of funds	application