PRE 571

INTRODUCTION TO FINANCIAL MANAGEMENT

1.0 Financial Statements and Accounting Methods

Accounting is a system meant for measuring business activities, processing of information into reports and making the findings available to decision-make. The documents, which communicate these findings about the performance of an organisation in monetary terms, are called financial statements.

Usually, accounting is understood as the **Language of Business**. However, a business may have a lot of aspects which may not be of financial nature. As such, a better way to understand accounting could be to call it **The Language of Financial Decisions**. The better the understanding of the language, the better is the management of financial aspects of living. Many aspects of our lives are based on accounting, personal financial planning, investments, income-tax, loans, etc. We have different roles to perform in life-the role of a student, of a family head, of a manager, of an investor, etc. The knowledge of accounting is an added advantage in performing different roles. However, we shall limit our scope of discussion to a business organisation and the various financial aspects of such an organisation.

All business organisations work in an ever-changing dynamic environment. Any new programme of the organisation or of its competitor will affect the business. Accounting serves as an effective tool for measuring the financial pulse rate of the company. It is a continuous cycle of measurement of results and reporting of results to decision make#

Just like arithmetic is a procedural element of mathematics, book keeping is the procedural element of accounting.

1.1 Types of Accounting

The financial literature classifies accounting into two broad categories, viz, Financial Accounting and Management Accounting. Financial accounting is primarily concerned with the preparation of financial statements whereas management accounting covers areas such as interpretation of financial statements, cost accounting, etc. Both these types of accounting are examined in the following paragraphs.

1.1.1 Financial Accounting

As mentioned earlier, financial accounting deals with the preparation of financial statements for the basic purpose of providing information to various interested groups like creditors, banks, shareholders, financial institutions, government, consumers, etc. Financial statements, i.e. the income statement and the balance sheet indicate the way in which the activities of the business have been conducted during a given period of time.

Financial accounting is charged with the primary responsibility of external reporting. The users of information generated by financial accounting, like bankers, financial institutions, regulatory authorities, government, investors, etc. want the accounting information to be consistent so as to

facilitate comparison. Therefore, financial accounting is based on certain concepts and conventions which include separate business entity, going concern concept, money measurement concept, cost concept, dual aspect concept, accounting period concept, matching concept, realization concept and conventions of conservatism, disclosure, consistency, etc.

The significance of financial accounting lies in the fact that it aids the management in directing and controlling the activities of the firm and to frame relevant managerial policies related to areas like production, sales, financing, etc.

1.1.2 Management Accounting

Management accounting is 'tailor-made' accounting. It facilitates the management by providing accounting information in such a way so that it is conducive for policy making and running the day-to-day operations of the business. Its basic purpose is to communicate the facts according to the specific needs of decision-makers by presenting the information in a systematic and meaningful manner. Management accounting, therefore, specifically helps in planning and control. It helps in setting standards and in case of variances between planned and actual performances, it helps in deciding the corrective action.

An important characteristic of management accounting is that it is forward looking. Its basic focus is one future activity to be performed and not what has already happened in the past.

Since management accounting caters to the specific decision needs, it does not rest upon any well-defined and set principles. The reports generated by a management accountant can be of any duration–short or long, depending on purpose. Further, the reports can be prepared for the organisation as a whole as well as its segments.

1.1.3 Cost Accounting

One important variant of management accounting is the cost analysis. Cost accounting makes elaborate cost records regarding various products, operations and functions. It is the process of determining and accumulating the cost of a particular product or activity. Any product, function, job or process for which costs are determined and accumulated, are called cost centers.

The basic purpose of cost accounting is to provide a detailed breakup of cost of different departments, processes, jobs, products, sales territories, etc., so that effective cost control can be exercised.

Cost accounting also helps in making revenue decisions such as those related to pricing, product-mix, profit-volume decisions, expansion of business, replacement decisions, etc.

The objectives of cost accounting, therefore, can be summarized in the form of three important statements, viz, to determine costs, to facilitate planning and control of business activities and to supply information for short- and long-term decision. Cost accounting has certain distinct advantages over financial accounting. The cost accounting system provides data about profitable and non-profitable products and activities, thus prompting corrective measures. It is easier to

segregate and analyse individual cost items and to minimize losses and wastages arising from the manufacturing process. Production methods can be varied so as to minimize costs and increase profits. Cost accounting helps in making realistic pricing decisions in times of low demand, competitive conditions, technology changes, etc.

Various alternative courses of action can be properly evaluated with the help of data generated by cost accounting. It would not be an exaggeration if it is said that a cost accounting system ensures maximum utilization of physical and human resources. It checks frauds and manipulations and directs the employer and employees towards achieving the organisational goal.

1.2 Accounting Concepts and Conventions

Accounting is often called the language of business because the purpose of accounting is to communicate or report the results of business operations and its various aspects to various users of accounting information. Accounting could become an intelligible and commonly understood language if it is based on generally accepted accounting principles. Hence, you must be familiar with the accounting principles behind financial statements to understand and use them properly.

1.2.1 Meaning and Features of Accounting Principles

Accounting principles have been defined by the Canadian Institute of Chartered Accountants as "The body of doctrines commonly associated with the theory and procedure of accounting serving as an explanation of current practices and as a guide for the selection of conventions or procedures where alternatives exists. Rules governing the formation of accounting axioms and the principles derived from them have arisen from common experience, historical precedent statements by individuals and professional bodies and regulations of Governmental agencies".

According to Hendriksen (1997), Accounting theory may be defined as logical reasoning in the form of a set of broad principles that (i) provide a general frame of reference by which accounting practice can be evaluated, and (ii) guide the development of new practices and procedures. Theory may also be used to explain existing practices to obtain a better understanding of them. But the most important goal of accounting theory should be to provide a coherent set of logical principles that form the general frame of reference for the evaluation and development of sound accounting practices.

Generally accepted accounting principles encompass the conventions, rules and procedures necessary to define accepted accounting practice at a particular time..... generally accepted accounting principles include not only broad guidelines of general application, but also detailed practices and procedures (Source: AICPA Statement of the Accounting Principles Board No. 4, "Basic Concepts and Accounting Principles underlying Financial Statements of Business Enterprises ", October, 1970, pp 54-55)

According to 'Dictionary of Accounting' prepared by Prof. P.N. Abroal, "Accounting standards refer to accounting rules and procedures which are relating to measurement, valuation and disclosure prepared by such bodies as the Accounting Standards Committee (ASC) of a

particular country". Thus, we may define Accounting Principles as those rules of action or conduct which are adopted by the accountants universally while recording accounting transactions. Accounting principles are man-made. They are accepted because they are believed to be useful. The general acceptance of an accounting principle usually depends on how well it meets the following three basic norms: (a) Usefulness; (b) Objectiveness; and (c) Feasibility.

1.2.2 Accounting Concepts

1. **Separate Business Entity Concept:** In accounting we make a distinction between business and the owner. All the books of accounts records day to day financial transactions from the view point of the business rather than from that of the owner. The proprietor is considered as a creditor to the extent of the capital brought in business by him. For instance, when a person invests 10 Naira into a business, it will be treated that the business has borrowed that much money from the owner and it will be shown as a 'liability' in the books of accounts of business. Similarly, if the owner of a shop were to take cash from the cash box for meeting certain personal expenditure, the accounts would show that cash had been reduced even though it does not make any difference to the owner himself.
2. ***Money Measurement Concept:*** In accounting, only those business transactions are recorded which can be expressed in terms of money. In other words, a fact or transaction or happening which cannot be expressed in terms of money is not recorded in the accounting books. As money is accepted not only as a medium of exchange but also as a store of value, it has a very important advantage since a number of assets and equities, which are otherwise different, can be measured and expressed in terms of a common denominator. For example, general health condition of the Managing Director of the company, working conditions in which a worker has to work, sales policy pursued by the enterprise, quality of product introduced by the enterprise, though exert a great influence on the productivity and profitability of the enterprise, are not recorded in the books. Similarly, the fact that a strike is about to begin because employees are dissatisfied with the poor working conditions in the factory will not be recorded even though this event is of great concern to the business.
3. ***Dual Aspect Concept:*** Financial accounting records all the transactions and events involving financial element. Each of such transactions requires two aspects to be recorded. The recognition of these two aspects of every transaction is known as a dual aspect analysis. According to this concept every business transactions has dual effect. For example, if a firm sells goods of #5,000 this transaction involves two aspects. One aspect is the delivery of goods and the other aspect is immediate receipt of cash (in the case of cash sales). In fact, the term 'double entry' book keeping has come into vogue and in this system the total amount debited always equals the total amount credited. It follows from 'dual aspect concept' that at any point of time owners' equity and liabilities for any accounting entity will be equal to assets owned by that entity.
4. ***Going Concern Concept:*** Accounting assumes that the business entity will continue to operate for a long time in the future unless there is good evidence to the contrary. The enterprise is viewed as a going concern, that is, as continuing in operations, at least in the foreseeable future. In other words, there is neither the intention nor the necessity to liquidate the particular business venture in the predictable future. Because of this

assumption, the accountant while valuing the assets does not take into account forced sale value of them. In fact, the assumption that the business is not expected to be liquidated in the foreseeable future establishes the basis for many of the valuations and allocations in accounting. For example, the accountant charges depreciation on fixed assets. It is this assumption which underlies the decision of investors to commit capital to enterprise. Only on the basis of this assumption accounting process can remain stable and achieve the objective of correctly reporting and recording on the capital invested, the efficiency of management, and the position of the enterprise as a going concern.

5. ***Accounting Period Concept:*** This concept requires that the life of the business should be divided into appropriate segments for studying the financial results shown by the enterprise after each segment. A year is the most common interval on account of prevailing practice, tradition and government requirements. Some firms adopt financial year of the government, some other calendar year. Although a twelve month period is adopted for external reporting, a shorter span of interval, say one month or three month is applied for internal reporting purposes. This concept poses difficulty for the process of allocation of long term costs. Despite the difficulties which stem from this concept, short term reports are of vital importance to owners, management, creditors and other interested parties.
6. ***Cost Concept:*** The term 'assets' denotes the resources land building, machinery etc. owned by a business. The money values that are assigned to assets are derived from the cost concept. According to this concept an asset is ordinarily entered on the accounting records at the price paid to acquire it. For example, if a business buys a plant for 5,000 the asset would be recorded in the books at 5,000, even if its market value at that time happens to be 6,000. Thus, assets are recorded at their original purchase price and this cost is the basis for all subsequent accounting for the business. The assets shown in the financial statements do not necessarily indicate their present market values. The term 'book value' is used for amount shown in the accounting records. The cost concept does not mean that all assets remain on the accounting records at their original cost for all times to come. The asset may systematically be reduced in its value by charging 'depreciation'. The prime purpose of depreciation is to allocate the cost of an asset over its useful life and not to adjust its cost.
7. ***The Matching concept:*** This concept is based on the accounting period concept. In reality we match revenues and expenses during the accounting periods. Matching is the entire process of periodic earnings measurement, often described as a process of matching expenses with revenues. In other words, income made by the enterprise during a period can be measured only when the revenue earned during a period is compared with the expenditure incurred for earning that revenue. Broadly speaking revenue is the total amount realised from the sale of goods or provision of services together with earnings from interest, dividend, and other items of income. Expenses are cost incurred in connection with the earnings of revenues. Costs incurred do not become expenses until the goods or services in question are exchanged. Cost is not synonymous with expense since expense is sacrifice made, resource consumed in relation to revenues earned during an accounting period. Only costs that have expired during an accounting period are considered as expenses. For example, if a commission is paid in January, 2002, for services enjoyed in November, 2001, that commission should be taken as the cost for services rendered in November 2001. On account of this concept, adjustments are made

for all prepaid expenses, outstanding expenses, accrued income, etc, while preparing periodic reports.

8. ***Accrual Concept:*** It is generally accepted in accounting that the basis of reporting income is accrual. Accrual concept makes a distinction between the receipt of cash and the right to receive it, and the payment of cash and the legal obligation to pay it. Accrual principle tries to evaluate every transaction in terms of its impact on the owner's equity. The essence of the accrual concept is that net income arises from events that change the owner's equity in a specified period and that these are not necessarily the same as change in the cash position of the business. Thus it helps in proper measurement of income.
9. ***Realisation Concept:*** Realisation is technically understood as the process of converting non-cash resources and rights into money. As accounting principle, it is used to identify precisely the amount of revenue to be recognised and the amount of expense to be matched to such revenue for the purpose of income measurement. According to realisation concept revenue is recognised when sale is made. Sale is considered to be made at the point when the property in goods passes to the buyer and he becomes legally liable to pay. This implies that revenue is generally realised when goods are delivered or services are rendered. The rationale is that delivery validates a claim against the customer. However, in case of long run construction contracts revenue is often recognised on the basis of a proportionate or partial completion method. Similarly, in case of long run instalment sales contracts, revenue is regarded as realised only in proportion to the actual cash collection. In fact, both these cases are the exceptions to the notion that an exchange is needed to justify the realisation of revenue.

1.2.3 Accounting Conventions

1. ***Convention of Materiality:*** Materiality concept states that items of small significance need not be given strict theoretically correct treatment. In fact, there are many events in business which are insignificant in nature. The cost of recording and showing in financial statement such events may not be well justified by the utility derived from that information. For example, an ordinary calculator costing #100 may last for ten years. However, the effort involved in allocating its cost over the ten year period is not worth the benefit that can be derived from this operation. The cost incurred on calculator may be treated as the expense of the period in which it is purchased. Similarly, when a statement of outstanding debtors is prepared for sending to top management, figures may be rounded to the nearest ten or hundred.
2. ***Convention of Conservatism:*** According to this concept, revenues or gains should be recognised only when they are realised in the form of cash or assets (i.e. debts) the ultimate cash realisation of which can be assessed with reasonable certainty. Further, provision must be made for all known liabilities, expenses and losses, Probable losses regarding all contingencies should also be provided for. 'Valuing the stock in trade at market price or cost price whichever is less, 'making the provision for doubtful debts on debtors in anticipation of actual bad debts', 'adopting written down value method of depreciation as against straight line method', not providing for discount on creditors but providing for discount on debtors', are some of the examples of the application of the convention of conservatism.

3. ***Convention of Consistency:*** The convention of consistency requires that once a firm decided on certain accounting policies and methods and has used these for some time, it should continue to follow the same methods or procedures for all subsequent similar events and transactions unless it has a sound reason to do otherwise. In other worlds, accounting practices should remain unchanged from one period to another. For example, if depreciation is charged on fixed assets according to straight line method, this method should be followed year after year. Analogously, if stock is valued at 'cost or market price whichever is less', this principle should be applied in each subsequent year. However, this principle does not forbid introduction of improved accounting techniques. If for valid reasons the company makes any departure from the method so far in use, then the effect of the change must be clearly stated in the financial statements in the year of change. The application of the principle of consistency is necessary for the purpose of comparison.

1.3 Recording of Transactions- Voucher System, Accounting Process, Journal

A business enterprise generally prepares the following two basic financial statements:

Profit and Loss Account to ascertain the profit earned or loss incurred during an accounting period.

Balance Sheet to ascertain the financial position of the business as on a particular date.

Generally, a business enterprise has numerous transactions every day during an accounting period. Unless the transactions are recorded and analysed, it is not possible to determine the impact of each transaction in the above two basic statements. **Traditionally**, accounting is a method of collecting, recording, classifying, summarising, presenting and interpreting financial data aspect of an economic activity. The series of business transactions occurring during the accounting period and its recording is referred to an **accounting process/mechanism**. An **accounting process** is a complete sequence of accounting procedures which are repeated in the same order during each accounting period. Therefore, accounting process involves the following steps or stages:

1. **Identification of transaction:** In accounting, only business transactions are recorded. A **transaction** is an event which can be expressed in terms of money and which brings change in the financial position of a business enterprise. **An event** is an incident or a happening which may or may not being any change in the financial position of a business enterprise. Therefore, all transactions are events but all events are not transactions. A **transaction** is a complete action, to an expected or possible future action. In every transaction, there is movement of value from one source to another. For example, when goods are purchased for cash, there is a movement of goods from the seller to the buyer and a movement of cash from buyer to the seller. Transactions may be **external** (between a business entity and a second party, e.g., goods sold on credit to Hari or **internal** (do not involve second party, e.g., depreciation charged on the machinery).
2. **Recording the transaction:** Journal is the first book of original entry in which all transactions are recorded event wise and date-wise and presents a historical record of all

monetary transactions. It may further be divided into sub-journals as well which are also known subsidiary books.

3. **Classifying:** Classification means statement setting out for a period where all the similar transactions relating to a person, a thing, expense, or any other subject are groped together under appropriate heads of accounts.
4. **Summarising:** Summarising is the art of making the activities of the business enterprise as classified in the ledger for the use of management or other user groups i.e. Sundry debtors, Sundry creditors etc. Summarisation helps in the preparation of Profit and Loss Account and Balance sheet for a particular fiscal year.
5. **Analysis and Interpretation:** The financial information or data as recorded in the books of a account must further be analysed and interpreted so to draw useful conclusions. Thus, analysis of accounting information will help the management to assess in the performance of business operation and forming future plans also.
6. **Presentation or reporting of financial information:** The end users of accounting statements must be benefited from analysis and interpretation of data as some of them are the 'stock holders' and other one the 'stake holders'. Comparison of past and present statement and reports, use of ratio and trend analysis are the different tools of analysis and interpretation.

1.3.1 Voucher

Each transaction is recorded in books of accounts providing all the required information of the transaction. Since each transaction has an effect on the financial position of the business, there should be a documentary evidence to establish the monetary accounts at which transactions are recorded and also the transactions are properly authorised. The common documents that are generally used are as under:

(i) Payment voucher;
(ii) Receipt voucher; and
(iii) Transfer voucher.

(i) A *Payment voucher* usually on a printed standard form, is a record of payment. When payment is made for an expense, generally a bills is prepared to record full particulars of the claim by the person or organisation receiving payment. From the bill, the accounting department prepares a voucher for each payment to be made, no matter whether the amount that is paid for the goods purchased, or to pay employee's salaries, or to pay for services or to pay for any other asset acquisition.

(ii) A *Receipt voucher* is a document which is issued against cash receipts. It may also be a printed standard form. This document shows that a certain sum of money was received from a person or organisation and also, contains information of the purpose for which the money is received. It is signed by a responsible employee, authorised by the management to receive the money.

(iii) A *Transfer voucher* is used to record the residuary transactions. An internal transaction or a transaction not involving any cash payment or cash receipt, is recorded in the transfer voucher. Examples are: Goods purchased on credit; depreciation of assets, outstanding expenses, accrued income, etc.

1.3.2 Journal

Journal is a historical record of business transaction or events. The word journal comes from the French word "Jour" meaning "day". It is a book of original or prime entry. Journal is a primary book for recording the day to day transactions in a chronological order i.e. the order in which they occur. The journal is a form of diary for business transactions. This is called the book of first entry since every transaction is recorded firstly in the journal.

1.3.2.1 Journal Entry

Journal entry means recording the business transactions in the journal. For each transaction, a separate entry is recorded. Before recording, the transaction is analysed to determine which account is to be debited and which account is to be credited. The performa of journal is shown as follows:

Journal

Date	Particulars	L. F.	Debit (Amount)	Credit (Amount)
(1)	(2)	(3)	(4)	(5)

Column 1 (Date): The date of the transaction on which it takes pale is written in this column.

Column 2 (Particulars): In this column, the name of the accounts to the debited is written first, then the names of the accounts to be credited and lastly, the narration (i.e. a brief explanation of transaction) are entered.

Column 3 (L.F.): L.F. stands for ledger folio which means page of the ledger. In this column are entered the page numbers on which the various accounts appear in the ledger.

Column 4 (Dr. Amount): In this column, the amount to be debited against the 'Dr.' Account is written along with the nature of currency.

Column 5 (Cr. Amount): In this column the amount to be credited against the 'Cr.' Account is written along with the nature of currency.

Advantages of Using Journal

Journal is used because of the following advantages:

i. A journal contains a permanent record of all the business transactions.

ii. The journal provides a complete chronological (in order of the time of occurrence) history of all business transactions and the task of later tracing of some transactions is facilitated.
iii. A complete information relating to one single business transaction is available in one place with all its aspects.
iv. The transaction is provided with an explanation technically called a narration.
v. Use of the journal reduces the possibility of an error when transactions are first recorded in this book.
vi. The journal establishes the quality of debits and credits for a transaction and reconciles any problems. If a business purchases a bicycle, it is necessary to decide whether the bicycle represents ordinary goods or machinery. Further any amount paid is debited to bicycle account and credited to cash account.
vii. The use of journals avoids omission or duplication of transactions or parts of transaction. Without the journal the accountant would be forced to got to the individual account to enter debits and credits. Therefore it is possible for accountant to miss part of a transaction, duplicate all or part of a transaction or incorrectly record debits and credits. Even with the Journal, it is still possible to omit transactions and make other erro# However, the Journal reduces these problems.
viii. Once a transaction is recorded in the journal, it is not necessary to post it immediately in the ledger accounts. In this, way, the journal allows the delayed posting.

In connection with the journal, the following points are to be remembered:

i. For each transaction, the exact accounts should be debited and credited. For that, the two accounts involved must be identified to pass a proper journal entry.
ii. Sometimes, a journal entry may have more than one debit or more than one credit. This type of journal entry is called compound journal entry. Regardless of how many debits or credits are contained in a compound journal entry, all the debits are entered before any credits are entered. The aggregate amount of debits should be equal to the aggregate amount of credits.
iii. For a business, journal entries generally extend to several pages. Therefore, the total are cast at the end of each page, against the debit and credit columns, the following words and written in the particular column, which indicates, carried forward (of the amount on the next page) "Total c/f".

The debits and credits totals of the page are then written on the next page in the amount columns; and opposite to that on the left, the following words are written in the particulars column to indicate **brought forward** (of the amount of the previous page) "Total b/f". This process is repeated on every page and on the last page, "Grand Total" is cast.

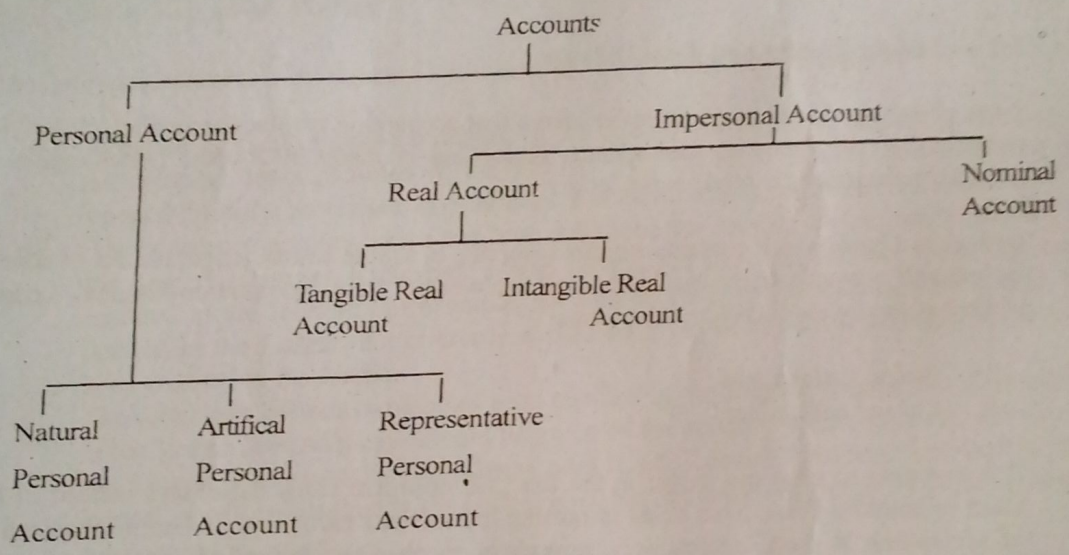
1.3.3 Classification of Accounts

1. ***Personal Accounts:*** Accounts which are related with accounts of individuals, firms, companies are known as personal accounts. The personal accounts may further be classified into three categories:
   (i) *Natural Personal Accounts*: Accounts of individuals relating to natural persons such as Eghosa's A/c, Blessing's A/c, Ugo's A/c are natural personal accounts.

(ii) *Artificial Personal Accounts*: Accounts of companies, institutions such as Reliance Industries Ltd; Lions Club, M/s Sham & Sons, National College account are artificial personal accounts. These exist only in the eyes of law.

(iii) *Representative Personal Accounts*: The accounts which represent some person such as wage outstanding account, prepaid insurance account, accrued interest account are considered as representative personal accounts.

2. ***Real Accounts:*** Real accounts are the accounts related to assets/properties. These may be classified into tangible real account and intangible real account. The accounts relating to tangible assets such as building, plant, machinery, cash, furniture etc. are classified as tangible real accounts. Intangible real accounts are the accounts related to intangible assets such as goodwill, trademarks, copyrights, franchisees, Patents etc.
3. ***Nominal Accounts:*** The accounts relating to income, expenses, losses and gains are classified as nominal accounts. For example Wages Account, Rent Account, Interest Account, Salary Account, Bad Debts Accounts.



Rules for Debit and Credit

Type of Accounts		Rules for Debit	Rules for Credit
(a)	Personal Account	Debit the receiver	Credit the giver
(b)	Real Account	Debit what comes in	Credit what goes out
(c)	Nominal Account	Debit all expenses and losses	Credit all incomes and gains

1.3.4 Journalizing

Journalism is the process of recording journal entries in the Journal. It is a systematic act of entering the transaction in a day book in order of their occurrence i.e., date-wise or event-wise. After analysing the business transactions, the following steps in journalising are followed:

(i) Find out what accounts are involved in business transaction.
(ii) Ascertain what is the nature of accounts involved?

(iii) Ascertain the golden rule of debit and credit is applicable for each of the accounts involved.
(iv) Find out what account is to be debited which is to be credited.
(v) Record the date of transaction in the "Date Column".
(vi) Write the name of the account to be debited very near to the left hand side in the 'Particulars Column' along with the word 'Dr' on the same line against the name of the account in the 'Particulars Column' and the amount to be debited in the 'Debit Amount column' against the name of the account.
(vii) Record the name of the account to be credited in the next line preceded by the word 'To' at a few space towards right in the 'Particulars Column' and the amount to be credited in the 'Credit Amount Column' in front of the name of the account.
(viii) Record narration (i.e. a brief explanation of the transaction) within brackets in the following line in 'Particulars Column'.
(ix) A thin line is drawn all through the particulars column to separate one Journal entry from the other and it shows that the entry of a transaction has been completed.

1.4 Ledger Posting and Trial Balance

It has already been discussed in earlier lesson that accounting involves recording, classifying and summarising the financial transactions. Recording is made in Journal classification of the recorded transactions is made in the ledger.

Ledger is a book which contains various accounts. In simple words, ledger is a set of accounts. It includes all accounts of the business enterprise whether Real, Nominal or Personal. Ledger may be kept in any of the following two forms:

- Bound Ledger; and
- Loose Leaf Ledger.

It is common to keep the ledger in the form of loose-leaf cards these days instead of keeping them in bounded form. This helps in posting transactions particularly when mechanised system of accounting is used. Interestingly, nowadays, mechanised system of accounting is preferred over the manual system of accounting.

1.4.1 Posting

The term 'Posting' means transferring the debit and credit items from the Journal to their respective accounts in the ledger. It is important to note that the exact names of accounts used in the Journal should be carried to the ledger.

Ledger posting may be done at any time. However, it must be completed before the annual financial statements are prepared. It is advisable to keep the more active accounts posted upto date. The examples of such accounts are the cash account, personal accounts of various parties, etc.

The Ledger Folio (L.F.) column in the Journal is used at the time when debits and credits are posted to the Ledger. The page number of the Ledger on which the posting has been done is mentioned in the L.F. Column of the Journal. Similarly a folio column in the Ledger can also be kept where the page from which posting has been made from the Journal. Thus, these are cross references in both the Journal and the Ledger. A proper index must be maintained in the Ledger giving the names of the accounts and the page number. A specimen of Ledger is given below:

XYZ A/C

Dr. Cr.

Date	Particular	J.F	Amount	Date	Particular	J.F	Amount

1.4.2 Rules Regarding Posting

The following rules must be observed while posting transactions in the Ledger from the Journal:

i) Separate accounts should be opened in the Ledger for posting transactions relating to different accounts recorded in the Journal. For example, separate accounts may be opened for sales, purchases, sales returns, purchases returns, salaries, rent, cash, etc.

ii) The concerned account which has been debited in the Journal should also be debited in the Ledger. However, a reference should be made of the other account which has been credited in the Journal. For example, for salaries paid, the salaries account should be debited in the Ledger, but reference should be given of the Cash Account which has been credited in the Journal.

iii) The concerned account, which has been credited in the Journal; should also be credited in the Ledger, but reference should be given of the account, which has been debited in the Journal. For example, for salaries paid, Cash Account has been credited in the Journal. It will be credited in the Ledger also, but reference will be given of the Salaries Account in the Ledger.

Thus, it may be concluded that while making posting in the Ledger, the concerned account which has been debited or credited in the Journal should also be debited or credited in the Ledger, but reference has to be given of the other account which has been credited or debited in the Journal, as the case may be. This will be clear with the following example:

Suppose salaries of #100,000 have been paid in cash, the following entry will be passed in the Journal:

Salaries Account Dr. 100,000

To Cash Account 100,000

In the Ledger two accounts will be opened (i) Salaries Account, and (ii) Cash Account. Since Salaries Account has been debited in the Journal, it will also be debited in the Ledger. Similarly

Cash Account has been credited in the Journal and, therefore, it will also be credited in the Ledger, but reference will be given of the other account involved. Thus, the accounts will appear as follows in the Ledger:

Salaries Account

Dr.			Cr.
Cash A/c (i)	#100,000		

Cash Account

Dr.			Cr.
		Salary A/c (ii)	#100,000

1.4.3 Balancing of an Account

In business, there may be several transactions relating to one particular account. In Journal, these transactions appear on different pages in a chronological order while they appear in a classified form under that particular account in the Ledger. At the end of a period (say a month, a quarter or a year), the businessman will be interested in knowing the position of a particular account. This means, he should total the debits and credits of his account separately and find out the net balance. This technique of finding out the net balance of an account, after considering the totals of both debits and credits appearing in the account is known as 'Balancing the Account'. The balance is put on the side of the account which is smaller and a reference is given that it has been carried forward or carried down (c/f or c/d) to the next period. On the other hand, in the next period a reference is given that the opening balance has been brought forward or brought down (b/f or b/d) from the previous period. This will be clear with the help of the following illustration.

Illustration 1: Journalise the following transactions, post them in the Ledger and balance the accounts as on 31st March, 2006.

1. Ram started business with a capital of #10,000.
2. He purchased goods from Mohan on credit #2,000.
3. He paid cash to Mohan #1,000.
4. He sold goods to Suresh #2,000.
5. He received cash from Suresh #3,000.
6. He further purchased goods from Mohan #2,000.
7. He paid cash to Mohan #1,000.
8. He further sold goods to Suresh #2,000.
9. He received cash from Suresh #1,000

Solution

Journal

Date	Particular		L.F.	Debit Amount (#)	Credit Amount (#)
	Cash Account	Dr.		10,000	
	Capital Account				10,000
	(being commencement of business)				

	Purchase Account Dr. Mohan (being purchase of goods on credit)		2,000	2,000
	Mohan Dr. Cash (Being payment of cash to Mohan)		1,000	1,000
	Suresh Dr. Sales (Being goods sold to Suresh)		2,000	2,000
	Cash Account Dr. Suresh (Being cash received from Sureshi)		3,000	3,000
	Purchase Account Dr. Mohan (Being purchase of goods from Mohan)		2,000 2,000	
	Mohan Dr. Cash Account (Being payment of cash to Mohan)		1,000	1,000
	Suresh Dr. Sales Account (Being goods sold to Suresh)		2,000	2,000
	Cash Account Dr. Suresh (Being cash received from Sureshi).		3,000	3,000
			24,000	24,000

Cash Account

Dr. Cr.

Date	Particular	Amount	Date	Particular	Amount
	Capital A/c	10,000		Mohan	1,000
	Suresh	3,000		Mohan	1,000
	Suresh	1,000		Balance c/d	12,000
		14,000	Mar. 31		14,000
April 1	Balance b/d				

Capital Account

Mar.31	Balance c/d	10,000		Cash Account	10,000
		10,000			10,000
			April 1	Balance b/d	10,000

Purchase Account

	Mohan	2,000	Mar 31	Balance c/d	4,000
	Mohan	2,000			4,000
		4,000			
April 1	Balance b/d	4,000			

Mohan

	Cash	1,000		Purchase	2,000
	Cash	1,000		Purchase	2,000
	Balance c/d	2,000			
		4,000			4,000
			April 1	Balance b/d	2,000

Suresh

	Sales	2,000		Cash A/c	3,000
	Sales	2,000		Cash A/c	1,000
		4,000			4,000

Sales Account

Mar 31	Balance c/d	4,000		Suresh	2,000
				Suresh	2,000
		4,000			4,000
			April 1	Balance b/d	4,000

It is to be noted that the balance of an account is always known by the side which is greater. For example, in the above illustration, the debit side of the Cash Account is greater than the credit side by #12,000. It will be therefore said that Cash Account is showing a debit balance of #12,000. Similarly, the credit side of the Capital Account is greater than debit side by #10,000. It will be, therefore, said that the Capital Account is showing a credit balance of #10,000.

1.5 Trial Balance

In case, the various debit balances and the credit balances of the different accounts are taken down in a statement, the statement so prepared is termed as a 'Trial Balance'. In other words, Trial Balance is a statement containing the various ledger balances on a particular date.

1.5.1 Objectives of Preparing a Trial Balance

(i) ***Checking of the arithmetical accuracy of the accounting entries:*** Trial Balance helps in knowing the arithmetical accuracy of the accounting entries. This is because according to the dual aspect concept for every debit, there must be an equivalent credit. Trial Balance represents a summary of all ledger balances and, therefore, if the two sides of the Trial Balance tally, it is an indication of this fact that the books of accounts are arithmetically accurate.

(ii) ***Basis for financial statements:*** Trial Balance forms the basis for preparing financial statements such as the Income Statement and the Balance Sheet. The Trial Balance represents all transactions relating to different accounts in a summarised form for a particular period.

(iii) ***Summarised ledger:*** It has already been stated that a Trial Balance contains the ledger balances on a particular date. Thus, the entire ledger is summarised in the form of a Trial Balance. The position of a particular account can be judged simply by

looking at the Trial Balance. The Ledger may be seen only when details regarding the accounts are required.

Illustration 2: Journalise the transactions in illustration 1. Also make their Ledger Postings and prepare a Trial Balance.

Trial Balance
(As at 31st March, 2006)

Particular	Dr.	Cr.
Cash Account	12,000	
Capital Account		10,000
Purchase Account	4,000	
Mohan		2,000
Sales Account		4,000
	16,000	16,000

1.6 Subsidiary Books of Accounts

All business transactions, at the first stage, are recorded in the book of original entry i.e. Journal and then posted into the ledger under the double entry system of book-keeping. This procedure is easy and practicable in small business houses where the number of business transactions are less and when a single person can handle the business transactions. But it is practically very difficult, rather impossible, to record all the business transactions of a day in the Journal of a large business house where the number of business transactions are varied and enormous because of the following reasons:

(a) The system of recording all transactions in a journal requires (i) writing down of the name of the account involved as many times as the transactions occur; and (ii) an individual posting of each account debited and credited and hence, involves the repetitive journalising and posting labour.
(b) Such a system does not provide the information on a prompt basis.
(c) The journal becomes bulky and voluminous.
(d) Such a system does not facilitate the installation of an internal check system since the journal can be handled by only one person.

Therefore, to overcome the shortcomings of the use of the journal as the only book of original entry, the journal is subdivided into special journals. It is divided in such a way that a separate book is used for each category of business transactions which are repetitive in nature, similar and are sufficiently large in number. Special journals refer to the journals meant for recording specific business transactions of similar nature. These special journals are also known as "Subsidiary Books" or "Day Books". The main types of special journals are as follows:

(i) **Cash Book**: It records all those transactions which are in cash or by cheques.
(ii) **Purchases Book**: It records all transactions relating to goods purchased on credit.
(iii) **Sales Book**: It records all transactions relating to goods sold on credit.
(iv) **Purchases Return Book**: It records return of goods to suppliers.
(v) **Sales Return Book**: It records return of goods by the customers.

(vi) **Bills Receivable Book**: It records entries regarding bills receivables. The details of bills are given in this book.

(vii) **Bills Payable Book**: All bills which are accepted and payable by a business house are recorded in this book.

(viii) **Journal Proper**: Those transactions which are not recorded in any of the above mentioned books are recorded in the Journal Proper.

Before recording transactions in these day books, it is necessary to explain the special meaning given in business to the words 'Goods', 'Purchases' and 'Sales'.

Goods: It refers to items forming part of the stock-in-trade of a business house which are purchased and are to be resold at a profit. A business house may purchase fixed assets or stationery for use in business, but they are not purchases of goods.

Purchases: It refers to the purchase of goods for resale, and not the purchase of assets or stationery. The Purchases Account, therefore, only contains purchases of goods for resale.

Sales: It refers to the sale of goods which form part of the stock-intrade of the business.

1.7 Preparation of Profit and Loss Account and Balance Sheet

The transactions of a business enterprise for the accounting period are first recorded in the books of original entry, then posted there from into the ledger and lastly tested as to their arithmetical accuracy with the help of trial balance. After the preparation of the trial balance, every businessman is interested in knowing about two more facts. They are: (i) Whether he has earned a profit or suffered a loss during the period covered by the trial balance, and (ii) Where does he stand now? In other words, what is his financial position?

For the above said purposes, the businessman prepares financial statements for his business i.e. he prepares the Trading and Profit and Loss Account and Balance Sheet at the end of the accounting period. These financial statements are popularly known as final accounts. The preparation of financial statements depends upon whether the business concern is a trading concern or manufacturing concern. If the business concern is a trading concern, it has to prepare the following accounts along with the Balance Sheet: (i) Trading Account; and (ii) Profit and Loss Account.

But, if the business concern is a manufacturing concern, it has to prepare the following accounts along with the Balance Sheet: (i) Manufacturing Account; (ii) Trading Account; and (iii) Profit and Loss Account.

Manufacturing Account is prepared to know the cost of manufactured goods. Trading Account is prepared to know the Gross Profit or Gross Loss. Profit and Loss Account discloses net profit or net loss of the business. Balance sheet shows the financial position of the business on a given date. For preparing final accounts, certain accounts representing incomes or expenses are closed either by transferring to Trading Account or Profit and Loss Account. Any Account which cannot find a place in any of these two accounts goes to the Balance Sheet.

1.7.1 Trading Account

After the preparation of trial balance, the next step is to prepare Trading Account. Trading Account is one of the financial statements which shows the result of buying and selling of goods and/or services during an accounting period. The main objective of preparing the Trading Account is to ascertain gross profit or gross loss during the accounting period. Gross Profit is said to have made when the sale proceeds exceed the cost of goods sold. Conversely, when sale proceeds are less than the cost of goods sold, gross loss is incurred. For the purpose of calculating cost of goods sold, we have take into consideration opening stock, purchases, direct expenses on purchasing or manufacturing the goods and closing stock. The balance of this account i.e. gross profit or gross loss is transferred to the Profit and Loss Account. The specimen of a Trading Account is given below:

Trading Account
For the Year Ended ...

Particulars	Amount	Particulars	Amount
Opening Stock		Sales	
Purchases		*Less* Sales Returns	
Less Purchases Returns		Closing Stock	
Direct Expenses:		Gross Loss transferred to P & L A/c	
Carriage Inward			
Wages			
Fuel, Power and Lighting Expenses			
Manufacturing Expenses			
Coal, Water and Gas			
Motive Power			
Import Duty			
Custom Duty			
Consumable Stores			
Freight and Insurance			
Royalty on manufactured			
Goods			
Packing charges			
Gross Profit transferred to P & L A/c			

Stock: The term 'stock' includes goods lying unsold on a particular date.

The stock may be of two types:

(a) Opening stock
(b) Closing stock

Opening stock refers to the closing stock of unsold goods at the end of previous accounting period which has been brought forward in the current accounting period. This is shown on the debit side of the Trading Account.

Closing stock refers to the stock of unsold goods at the end of the current accounting period. Closing stock is valued either at cost price or at market price whichever is less. Such valuation of stock is based on the principle of conservatism which lays down that the expected profit should not be taken into account but all possible losses should be duly provided for.

Closing stock is an item which is not generally available in the trial balance. If it is given in Trial Balance, it is not to be shown on the credit side of Trading Account but appears only in the Balance Sheet as an asset. But if it is given outside the trial balance, it is to be shown on the credit side of the Trading Account as well as on the asset side of the Balance Sheet.

Purchases: Purchases refer to those goods which have been bought for resale. It includes both cash and credit purchases of goods. The following items are shown by way of deduction from the amount of purchases:

(a) Purchases Returns or Return Outwards.
(b) Goods withdrawn by proprietor for his personal use.
(c) Goods received on consignment basis or on approval basis or on hire purchase.
(d) Goods distributed by way of free samples.
(e) Goods given as charity.

Direct Expenses: Direct expenses are those expenses which are directly attributable to the purchase of goods or to bring the goods in saleable condition. Some examples of direct expenses are as under:

(a) **Carriage Inward:** Carriage paid for bringing the goods to the godown is treated as carriage inward and it is debited to Trading Account.
(b) **Freight and insurance:** Freight and insurance paid for acquiring goods or making them saleable is debited to Trading Account. If it is paid for the sale of goods, then it is to be charged (debited) to Profit and Loss Account.
(c) **Wages:** Wages incurred in a business is direct, when it is incurred on manufacturing or merchandise or on making it saleable. Other wages are indirect wages. Only direct wages are debited to the Trading Account. Other wages are debited to the Profit and Loss Account. If it is not mentioned whether wages are direct or indirect, it should be assumed as direct and should appear in the Trading Account.
(d) **Fuel, Power and Lighting Expenses:** Fuel and power expenses are incurred for running the machines. Being directly related to production, these are considered as direct expenses and debited to Trading Account. Lighting expenses of factory is also charged to Trading Account, but lighting expenses of administrative office or sales office are charged to Profit and Loss Account.
(e) **Packing Charges:** There are certain types of goods which cannot be sold without a container or proper packing. These form a part of the finished product. One example is ink, which cannot be sold without a bottle. These type of packing charges are debited to Trading Account. But if the goods are packed for their safe dispatch to customers, i.e. packing meant for transportation or fancy packing meant for advertisement will appear in the Profit and Loss Account.

(f) **Manufacturing Expenses:** All expenses incurred in manufacturing the goods in the factory such in factory rent, factory insurance etc. are debited to Trading Account.

(g) **Royalties:** These are the payments made to a patentee, author or landlord for the right to use his patent, copyright or land. If royalty is paid on the basis of production, it is debited to Trading Account and if it is paid on the basis of sales, it is debited to Profit and Loss Account.

Sales: Sales include both cash and credit sales of those goods which were purchased for resale purposes. Some customers might return the goods sold to them (called sales return) which are deducted from the sales in the inner column and net amount is shown in the outer column. While ascertaining the amount of sales, the following points need attention:

(h) If a fixed asset such as furniture, machinery etc. is sold, it should not be included in sales.

(i) Goods sold on consignment or on hire purchase or on sale or return basis should be recorded separately.

(j) If goods have been sold but not yet dispatched, these should not be shown under sales but are to be included in closing stock.

(k) Sales of goods on behalf of others and forward sales should also be excluded from sales.

Illustration I: From the following balances extracted from the books of Mr. Bansi Lal, prepare the Trading Account for the year ending 31st March, 2006.

Purchases	42,500	Wages	5,000
Manufacturing Expenses	1,950	Opening stock	10,000
Sales	67,500	Sales returns	50
Carriage inwards	100	Purchases returns	200
Freight and duty	5,000	Power	300
Stores consumed	200		

The value of stock unsold (closing stock) 12,000

Solution

Trading Account

For the year ended 31st March, 2006

Dr.			Cr.		
Opening Stock		10,000	Sales	67,500	
Purchases	42,500		Less returns	50	67,450
Less returns	200	42,300	Closing stock		12,000
Manufacturing Expenses		1,950			
Carriage inwards		100			
Freight and duty		5,000			
Stores consumed		200			
Power		300			
Wages		5,000			
Gross profit transferred to Profit and loss Account		14,600			
		79,450			79,450

1.7.2 Manufacturing Account

The concern which are engaged in the conversion of raw materials into finished goods, are interested to knowing the cost of production of the goods produced. The cost of the goods produced cannot be obtained from the Trading Account. So, it is desirable to prepare a Manufacturing Account prior to the preparation of the Trading account with the object of ascertaining the cost of goods produced during the accounting period. The format of Manufacturing Account is given as under:

MANUFACTURING ACCOUNT
FOR THE YEAR ENDING.....

Dr. Cr.

	#		#
Work-in process (Opening) Raw Materials consumed: Opening Stock *Add* Purchases of Raw Materials *Less* Closing Stock of Raw Materials Direct or Productive Wages Factory Overheads: Power & Fuel Repairs of Plant Depreciation on Plant Factory Rent		Work-in-process (Closing) Sale of Scrap Cost of Production of finished goods during the period transferred to the Trading Account	

The Trading Account in case of manufacturers will appear as follows:

TRADING ACCOUNT
FOR THE YEAR ENDING.....

Dr. Cr.

	#		#
Opening Stock of Finished Goods Cost of Production of finished goods transferred from Manufacturing Account Purchases of Finished Goods *less* Returns Carriage Charges on goods purchased Gross Profit transferred to Profit and Loss A/c		Sales *less* Returns Closing Stock of Finished goods Gross Loss transferred to Profit and Loss A/c	

The gross profit or loss shown by the Trading Account will be taken to the Profit and Loss Account which will be prepared in the usual way as explained in the following pages.

Important Points Regarding Manufacturing Account

1. Raw Materials Consumed

The cost of raw materials consumed to be included in the debit side of the Manufacturing Account shall be calculated as follows:

Opening Stock of raw materials	.....	
Add Purchases of raw materials	.....	.....
Less Purchase return of raw materials		.....
Less Closing stock of raw materials		.....
Cost of raw material consumed		

2. Direct Expenses

The expenses and wages that are directly incurred in the process of manufacturing of goods are included under this head..

3. Factory Overheads

The term "overheads" includes indirect material, indirect labour and indirect expenses. Therefore, the term "factory overheads" stands for all factory indirect material, indirect labour and indirect expenses. Examples of factory overheads are: rent for the factory, depreciation of the factory machines and insurance of the factory, etc.

4. Cost of Production

Cost of production is computed by deducting from the total of the debit side of the Manufacturing Account, the total of the various items appearing on the credit side of the Manufacturing Account.

Difference between trading account and manufacturing account

	Manufacturing Account	Trading Account
1	Manufacturing account is prepared to find out the cost of goods produced.	Trading Account is prepared to find out the Gross Profit/Gross Loss.
2	The balance of the manufacturing Account is transferred to the Trading Account.	The balance of the Trading account is transferred to the Profit and Loss Account.
3	Sale of crap is shown in the Manufacturing Account.	Sale of scrap is not shown in the Trading Account.
4	Stocks of raw materials and work-in- progress are shown in the Manufacturing Account.	Stocks of finished goods are shown in the Trading Account.
5	Manufacturing Account is a part of the Trading account.	Trading Account is a part of the Profit and Loss Account.

1.7.3 Profit and Loss Account

Trading Account results in the gross profit/loss made by a businessman on purchasing and selling of goods. It does not take into consideration the other operating expenses incurred by him during the course of running the business. Besides this, a businessman may have other sources of income. In order to ascertain the true profit or loss which the business has made during a particular period, it is necessary that all such expenses and incomes should be considered. Profit and Loss Account considers all such expenses and incomes and gives the net profit made or net loss suffered by a business during a particular period. All the indirect revenue expenses and losses are shown on the debit side of the Profit and Loss Account, where as all indirect revenue incomes are shown on the credit side of the Profit and Loss Account.

Profit and Loss Account measures net income by matching revenues and expenses according to the accounting principles. Net income is the difference between total revenues and total expenses. In this connection, we must remember that all the expenses, for the period are to be debited to this account - whether paid or not. If it is paid in advance or outstanding, proper adjustments are to be made. Likewise all revenues, whether received or not are to be credited. Revenue if received in advance or accrued but not received, proper adjustment is required.

A format of the Profit and Loss Account showing probable items therein is as follows:

PROFIT AND LOSS A/C
FOR THE YEAR ENDED .....

Dr.	#	Cr.	#
Gross Loss b/d		Gross Profit b/d	
Selling and Distribution Expenses:		*Other Income*:	
Advertisement		Discount received	
Travellers' Salaries		Commission received	
Expenses & Commission		By Non-trading Interest:	
Godown Rent		Bank Interest	
Export Expenses		Rent of property let-out	
Carriage Outwards		Dividend from shares	
Bank Charges		*Abnormal Gains*:	
Agent's Commission		Profit on sale of machinery	
Upkeep of Motor Lorries		Profit on sale of investment	
Management Expenses:			
Rent, Rates and Taxes		Net Loss transferred to Capital Account	
Heating and Lighting			
Office Salaries			
Printing & Stationary			
Postage & Telegrams			
Telephone Charges			
Legal Charges			

Audit Fees Insurance General Expenses			
Depreciation and Maintenance: Depreciation Repairs & Maintenance			
Financial Expenses: Discount Allowed Interest on Loans Discount on Bills			
Abnormal Losses: Loss by fire (not covered by Insurance) Loss on Sale of Fixed Assets Loss on Sale of Investments			
Net profit transferred to Capital A/c			

Important points in Profit and Loss account

1. ***Selling and Distribution Expenses:*** These expenses are incurred for promoting sales and distribution of sold goods. Example of such expenses are rent, carriage outwards, advertisement, cost of after sales service, selling agents commission, etc.
2. ***Management Expenses:*** These are the expenses incurred for carrying out the day-to-day administration of a business. Expenses, under this head, include office salaries, office rent and lighting, printing and stationery and telegrams, telephone charges, etc.
3. ***Maintenance Expenses:*** These expenses are incurred for maintaining the fixed assets of the administrative office in a good condition. They include repairs and renewals, etc.
4. ***Financial Expenses:*** These expenses are incurred for arranging finance necessary for running the business. These include interest on loans, discount on bills, etc.
5. ***Abnormal Losses:*** There are some abnormal losses that may occur during the accounting period. All types of abnormal losses are treated as extra ordinary expenses and debited to Profit and Loss Account. Examples are stock lost by fire and not covered by insurance, loss on sale of fixed assets, etc

Following are the expenses not to appear in the Profit and Loss Account:

(i) Domestic and household expenses of proprietor or partners.
(ii) Drawings in the form of cash, goods by the proprietor or partners.
(iii) Personal income tax and life insurance premium paid by the firm on behalf of proprietor or partners.

6. ***Gross Profit:*** This is the balance of the Trading Account transferred to the Profit and Loss Account. If the Trading Account shows a gross loss, it will appear on the debit side.

7. ***Other Income:*** During the course of the business, other than income from the sale of goods, the business may have some other income of financial nature. The examples are discount or commission received.
8. ***Non-trading Income:*** Such incomes include interest on bank deposits, loans to employees and investment in debentures of companies. Similarly, dividend on investment in shares of companies and units of mutual funds are also known as non-trading incomes and shown in Profit and Loss Account.
9. ***Abnormal Gains:*** There may be capital gains arising during the course of the year, e.g., profit arising out of sale of a fixed asset. Such profit is shown as a separate income on the credit side of the Profit and Loss Account.

Illustration II: From the following balances extracted at the close of year ended 31 March, 2006, prepare Profit and Loss Account as at that date:

	#		#
Gross Profit	51,000	Discount (Dr.)	500
Carriage outward	2,500	Apprentice Premium (Cr.)	1,500
Salaries	5,500	Printing and Stationary	250
Rent	1,100	Rates and Taxes	350
Fire Insurance Premium	900	Travelling Expenses	200
Bad debts	2,100	Sundry Trade Expenses	300
Commission Received	1,000	Discount allowed by Creditors	800

Solution

Profit and Loss Account of M/S
For the Year Ended 31st March, 2006

Dr. Cr.

Particulars	#	Particulars	#
Carriage outwards	2,500	Gross Profit b/d	51,000
Salaries	5,500	Apprentice Premium	1,500
Rent	1,100	Discount by Creditors	800
Fire Insurance Premium	900	Commission	1,000
Bad debts	2,100		
Discount	500		
Printing and Stationary	250		
Rent and Taxes	350		
Travelling Expenses	200		
Sundry Trade Expenses	300		
Net Profit	40,600		
	54,300		54,300

Distinction between Trading and Profit and Loss Account

	Profit and Loss Account	Trading Account
1	Profit and Loss Account is prepared as a main account.	Trading Account is prepared as a part or section of the Profit and Loss Account.
2	Indirect expenses are taken in Profit and Loss Account.	Direct Expenses are taken in Trading Account.

3	Net Profit or Net Loss is ascertained from the Profit and Loss Account.	Gross Profit or Gross Loss is ascertained from Trading Account.
4	The balance of the Profit and Loss Account i.e. Net Profit or Net Loss is transferred to proprietor's Capital Account.	The Balance of the Trading Account i.e. Gross Profit or Gross Loss is transferred to the Profit and Loss Account.
5	Items of accounts written in the Profit and Loss Account are much more as compared to the Trading Account.	Items of account written in the Trading Account are few as compared the Profit and Loss Account.

1.7.4 Balance Sheet

A Balance Sheet is a statement of financial position of a business concern at a given date. It is called a Balance Sheet because it is a sheet of balances of those ledger accounts which have not been closed till the preparation of Trading and Profit and Loss Account. After the preparation of Trading and Profit and Loss Account the balances left in the trial balance represent either personal or real accounts. In other words, they either represent assets or liabilities existing on a particular date. Excess of assets over liabilities represent the capital and is indicative of the financial soundness of a company.

A Balance Sheet is also described as a "Statement showing the Sources and Application of Capital". It is a statement and not an account and prepared from real and personal accounts. The left hand side of the Balance Sheet may be viewed as description of the sources from which the business has obtained the capital with which it currently operates and the right hand side as a description of the form in which that capital is invested on a specified date.

Characteristics

The characteristics of a Balance Sheet are summarised as under:

(a) A Balance Sheet is only a statement and not an account. It has no debit side or credit side. The headings of the two sides are 'Assets' and 'Liabilities'.
(b) A Balance Sheet is prepared at a particular point of time and not for a particular period. The information contained in the Balance Sheet is true only at that particular point of time at which it is prepared.
(c) A Balance Sheet is a summary of balances of those ledger accounts which have not been closed by transfer to Trading and Profit and Loss Account.
(d) A Balance Sheet shows the nature and value of assets and the nature and the amount of liabilities at a given date.

1.7.4.1 Classification of assets and liabilities

Assets

Assets are the properties possessed by a business and the amount due to it from others. The various types of assets are:

(a) **Fixed Assets:** All assets that are acquired for the purpose of using them in the conduct of business operations and not for reselling to earn profit are called fixed assets. These assets are not readily convertible into cash in the normal course of business operations. Examples are land and building, furniture, machinery, etc.

(b) **Current Assets:** All assets which are acquired for reselling during the course of business are to be treated as current assets. Examples are cash and bank balances, inventory, accounts receivables, etc.

(c) **Tangible Assets:** There are definite assets which can be seen, touched and have volume such as machinery, cash, stock, etc.

(d) **Intangible Assets:** Those assets which cannot be seen, touched and have no volume but have value are called intangible assets. Goodwill, patents and trade marks are examples of such assets.

(e) **Fictitious Assets:** Fictitious assets are not assets at all since they are not represented by any tangible possession. They appear on the asset side simply because of a debit balance in a particular account not yet written off e.g. provision for discount on creditors, discount on issue of shares etc.

(f) **Wasting Assets:** Such assets as mines, quarries etc. that become exhausted or reduce in value by their working are called wasting assets.

(g) **Contingent Assets:** Contingent assets come into existence upon the happening of a certain event or the expiry of a certain time. If that event happens, the asset becomes available otherwise not, for example, sale agreement to acquire some property, hire purchase contracts etc.

In practical no reference is made to contingent assets in the Balance Sheet. At the most, they may form part of notes to the Balance Sheet.

Liabilities

A liability is an amount which a business is legally bound to pay. It is a claim by an outsider on the assets of a business. The liabilities of a business concern may be classified as:

(a) **Long Term Liabilities:** The liabilities or obligations of a business which are not payable within the next accounting period but will be payable within next five to ten years are known as long term liabilities. Public deposits, debentures, bank loan are the examples of long term liabilities.

(b) **Current Liabilities:** All short term obligations generally due and payable within one year are current liabilities. This includes trade creditors, bills payable etc.

(c) **Contingent Liabilities:** A contingent liability is one which is not an actual liability. They become actual on the happenings of some event which is uncertain. In other words, they would become liabilities in the future provided the contemplated event occurs. Since such a liability is not actual liability it is not shown in the Balance Sheet. Usually it is mentioned in the form of a footnote below the Balance Sheet.

BALANCE SHEET

Liabilities	#	Assets	#
Capital		Goodwill	
Add Net Profit		Land	
Add Interest		Building	
Less Drawings		Plant and machinery	
Reserves		Fixtures and fittings	
Outstanding expenses		Loose tools	
Sundry creditors		Stock-in-trade	
Loans		Bills receivable	
Bills payable		Sundry debtors	
		Investments	
		Cash at bank	
		Cash in hand	

Illustration III: The following balances are extracted from the books of Kautilya & Co. on 31st March, 2006. You are required to prepare the Trading and Profit and Loss Account and a Balance Sheet as on that date.

	#		#
Stock on April, 1	500	Commission (Cr.)	200
Bill Receivable	2,250	Returns Outwards	250
Purchases	19,500	Trade Expenses	100
Wages	1,400	Office Fixtures	500
Insurance	550	Cash in Hand	250
Sundry Debtors	15,000	Cash at Bank	2,375
Carriage Inwards	400	Rent & Taxes	550
Commission (Dr.)	400	Carriage Outwards	725
Interest on Capital	350	Sales	25,000
Stationary	225	Bills Payable	1,500
Returns Inwards	650	Creditors	9,828
		Capital	8,950

The closing stock was valued at #12,500.

Solution

TRADING A/C OF MESSRS KAUTILYA & CO.
FOR THE YEAR ENDED 31ST MARCH, 2006

Dr.					Cr.
Opening Stock		500	Sales	25,000	
Purchases	19,500		Less returns	650	24,350
Less returns	250	19,250	Closing stock		12,500
Carriage inwards		400			
Wages		1,400			

Gross profit c/d		15,300			
		36,850			36,850

PROFIT AND LOSS A/C OF MESSRS KAUTILYA & CO.
FOR THE YEAR ENDED 31ST MARCH, 2006

Dr.		Cr.	
Insurance	550	Gross Profit b/d	15,300
Commission	400	Commission	200
Interest on Capital	350		
Stationary	225		
Trade Expenses	100		
Rent and Taxes	550		
Carriage Outwards	725		
Net Profit	12,600		
	15,500		15,500

BALANCE SHEET OF MESSERS KAUTILYA & CO
AS ON 31ST MARCH, 2006

Liabilities		Amount	Assets	Amount
Creditors		9,825	Cash in Hand	250
Bills Payable		1,500	Cash at Bank	2,375
Capital	8,950		Bill Receivable	2,250
Add Net Profit	12,600	21,550	Stock	12,500
			Sundry Debtors	15,000
			Office Fixtures	500
		32,875		32,875

Illustration IV: From the following Trial Balance of Mr. Garg as on 31st March, 2006, prepare Trading Account, Profit and Loss Account and Balance Sheet.

TRIAL BALANCE

Debit Balance	#	Credit Balance	#
Stock on 1st April, 2005	500	Capital	2,000
Purchases	1,500	Sales	3,500
Land and Building	2,000	Sunday Creditors	750
Bills Receivable	300	Commission	50
Wages	300	Bills payable	300
Machinery	800	Loan	600
Carriage Inward	100		
Carriage Outward	100		
Power	150		
Salaries	200		
Discount Allowed	30		
Drawings	100		
Insurance Premium	20		
Cash at Bank	500		

Cash in Hand	100		
Investments	500		
	7,200		7,200

Adjustments

1. Stock as on 31st March 2006 is valued at 200.
2. Provide depreciation @ 10% on Machinery and @ 5% on Land and Building.
3. Outstanding salaries amounted to 50.
4. Insurance premium is paid in advance to the extent of 10.
5. Allow interest on Capital @ 6% per annum.
6. Interest on loan @ 12% per annum is due for one year.

Solution

TRADING A/C
FOR THE YEAR ENDED 31ST MARCH, 2006

Dr. Cr.

Particulars	#	Particulars	#
Opening Stock	500	Sales	3,500
Purchases	1500	Closing stock	200
Carriage inwards	100		
Wages	300		
Power	150		
Gross profit c/d	1,150		
	3,700		3,700

PROFIT AND LOSS A/C
FOR THE YEAR ENDED 31ST MARCH, 2006

Dr. Cr.

Particulars		#	Particulars	#
Salaries	200		Gross profit b/d	1,150
Add Outstanding Salaries	50	250	Commission	50
Carriage Inward		100		
Insurance Premium	20			
Less prepaid Ins.	10	10		
Discount allowed		30		
Depreciation on:				
Machinery	80			
Land and Building	100	180		
Interest on Loan		72		
Interest on Capital		120		
Net Profit		435		
		1,200		1,200

BALANCE SHEET AS ON 31ST MARCH 2006

Liabilities			Assets		
Capital	2,000		Land and Building	2,000	
Add Interest on Capital	120		Less Dep.	100	1,900
Add Net profit	438		Machinery	800	
	2,558		Less Dep.	80	720
Less Drawings	100	2,458	Investments		500
Loan	600		Closing stock		200
Add Interest on loan	72	672	Bills Receivable		300
Sundry Creditors		750	Cash at Bank		500
Bills payable		300	Cash in Hand		100
Outstanding Salaries		50	Prepaid Insurance		10
		4,230			4,230

Illustration V

On December 3 **1,1987,** the following balances appeared in the books of Ravi:

Balance on January 1, 1987	
Raw Materials (opening stock)	12,400
Work-in-progress at commencement	10,600
Finished Goods (opening stock)	24,000
Purchases of Raw Materials	86,000
Freight Inwards	3,500
Manufacturing Wages	36,000
Import Duty	6,000
Dock Dues	1,200
Motive Power	5,000
Oil, Grease, etc.	300
Factory Insurance	500
Factory Rent	12,000
Repairs to Plant and Machinery	600
Depreciation on Plant and Machinery	3,000
Sales of Finished Goods	215.000
Sale of Scrap	2,800
Balances on December	**31, 1987**
Raw Materials (closing stock)	10,800
Work-in-progress at end of period	9,200
Sales salaries	2000
Outstanding salaries sales	500
Stationaries	520
Sales commission (Dr.)	430
Trade expenses	1000
Ware house rent	1000
Sales commission (Cr.)	2000
Capital	2000

Drawings	100
Loan	100
Sundry creditors	750
Bill payable	300
Land and building	2000
Investments	15,900
Bills receivable	2,900
Cash at Bank	8,400
Cash in hand	6,350
Prepaid insurance	750
Finished Goods (closing stock)	32,000

Adjustments: Allow interest on capital @ 6% per annum, provide depreciation @ 5% on land and building, interest on loan 12% per annum

Required: Prepare the manufacturing account, trading account, profit and loss account and the balance sheet for the year ended December 31, 1987.

Solution

Manufacturing Account of Ravi for the year ended December *31, 1987*

Dr Particulars	Amount	Amount	Cr. Particulars	Amount
Work-in-Progress at Commencement		10600	Sales of Scrap	2,800
Raw material (Opening Stock)	12,400		Work-in-Progress at end	9,200
Add Purchase of raw material	86,000		Cost of Goods Produced	154,300
	98400			
Less Closing Stock raw material	10,800	87,600		
Freight Inwards		3,500		
Import Duty		6,000		
Dock Dues		1,200		
Manufacturing Wages		36,000		
Motive Power		5,000		
Oil, Grease, etc		300		
Factory Rent		12,000		
Factory Insurance		500		
Repairs to Plant and Machinery		600		
Depreciation on Plant and Machinery		3,000		
		166300		**166,300**

Trading Account of Ravi for the year ended December *31, 1987*

Dr			Cr.	
Particulars	**Amount**	**Amount**	**Particulars**	**Amount**
Opening Stock of Finished Goods		24,000	Sales	215,000
Cost of Goods Manufactured		154,300	Closing Stock of Finished Goods	32,000
Gross Profit c/d		68,700		
		247,000		**247,000**

Profit and Loss Account of Ravi for the year ended December *31, 1987*

Dr			Cr.	
Particulars	**Amount**	**Amount**	**Particulars**	**Amount**
Sales Salaries	2000		Gross Profit b/d	68,700
Add Outstanding Salaries	500	2,500	Commission	2,000
Stationaries		520		
Sales Commission		430		
Trade Expenses		1,000		
Warehouse Rent		1,000		
Interest on Loan		12		
Interest on Capital		120		
Depreciation on Land & Building		100		
Net Profit		65,018		
		70,700		**70,700**

Balance Sheet of Ravi for the year ended December *31, 1987*

Liability			Assets		
Particulars	**Amount**	**Amount**	**Particulars**	**Amount**	**Amount**
Capital	2000		Closing Stock		32,000
Add Interest on Capital	120	2,120	Land and Building	2000	
Net Profit	65,018		Less Depreciation	100	1,900
Less Drawings	100	64,918	Investments		15,900
Loan	100		Bills Receivable		2,900
Add interest on Loan	12	112	Cash at Bank		8,400
Sundry Creditors		750	Cash in Hand		6,350
Bills Payable		300	Prepaid Insurance		750
		68200			**68200**

Illustration VI

The following trial balance was extracted from the books of IZ Enterprises for the year ended 31st December 2018.

Particulars	Amount	Particulars	Amount
Rent	3,000	Stock of raw material, 31st Dec 2018	32,000
Purchases of raw materials	100,000	Sales of scrap	3,000
Machinery	50,000	Sales commission (Dr.)	1,070
Stock of raw materials, 1st Jan 2018	20,000	Commission (Cr.)	2,000
Stock of finished goods, 1st Jan 2018	60,000	Capital	20,000
Carriage inwards – raw materials	3,000	Drawings	110
Factory power	4,000	Loan	1,000
Salaries	7,500	Sundry creditors	15,500
Outstanding salaries	1,000	Bill payable	13,000
Factory wages	40,000	Land and building	2,000
Trade expenses	4,500	Investments	29,100
Factory rent	2,000	Bills Receivable	8,520
Sales	300,000	Cash at bank	13,700
Work in progress 1st Jan 2018	20,000	Cash in hand	12,000
Work in progress, 31st Dec 2018	15,000	Prepaid insurance	9,000
Advertisement	2,000		

i. Stock of finished goods, 31st December, 2018
ii. Provide depreciation on machinery at 18% and @ 10% on land and building per annum
iii. Allow interest on capital @ 8% and @ 12% on loan per annum

Prepare the Manufacturing Account, Trading Account, Profit and Loss Account and the Balance Sheet for IZ Enterprises for the year ended 31st December 2018.

Solution

Manufacturing Account of IZ Enterprises for the year ended December *31, 2018*

Dr Particulars	Amount	Amount	Cr. Particulars	Amount
			Sales of Scrap	3,000
Work-in-Progress at Commencement		20,000		
Opening Stock of Raw Materials	20,000		Work-in-Progress at end	15,000
Add Purchase of Raw Materials	100,000		Cost of Goods Produced	148,000
	120000			
Less Closing Stock of Raw Mat	32,000	88,000		
Carriage Inwards (Raw Mat)		3,000		

	40,000	
Factory Wages	4,000	
Factory Power	2,000	
Factory Rent	9,000	
Depreciation on Machinery	**166,000**	166,000

Trading Account of IZ Enterprises for the year ended December *31, 2018*

Dr			Cr.	
Particulars	**Amount**	**Amount**	**Particulars**	**Amount**
Opening Stock of Finished Goods		60,000	Sales	300,000
Cost of Goods Manufactured		148,000	Closing Stock of Finished Goods	45,000
Gross Profit c/d		137,000		
		345,000		**345,000**

Profit and Loss Account of IZ Enterprises for the year ended December *31, 2018*

Dr			Cr.	
Particulars	**Amount**	**Amount**	**Particulars**	**Amount**
Salaries	7,500		Gross Profit b/d	137,000
Add Outstanding Salaries	1,000	8,500	Commission	2,000
Advertisement		2,000		
Sales Commission		1,070		
Trade Expenses		4,500		
Rent		3,000		
Interest on Loan		120		
Interest on Capital		1,600		
Depreciation on Machinery		9,000		
Depreciation on Land & Building		200		
Net Profit		109,010		
		139,000		**139,000**

Balance sheet of IZ Enterprises for the year ended December *31, 2018*

Liability			Assets		
Particulars	**Amount**	**Amount**	**Particulars**	**Amount**	**Amount**
Capital	20,000		Closing Stock of finished goods		45,000
Add Interest on Capital	1,600	21,600	Land and Building	2,000	

Net Profit	109,010		Less Depreciation	200	1,800
Less Drawings	110	108,900	Machinery	50,000	
Loan	1,000		Less Depreciation	9,000	41,000
Add interest on Loan	120	1,120	Investments		29,100
Sundry Creditors		15,500	Bills Receivable		8,520
Bills Payable		13,000	Cash at Bank		13,700
			Cash in Hand		12,000
			Prepaid Insurance		9,000
		160120			**160120**

SUMMARY

Every businessman is interested in knowing about two facts i.e. whether he has earned a profit or suffered losses and what is his financial position. To fulfill above said purposes, the businessman prepares financial statements for his business i.e. trading A/c, Profit & Loss Account and Balance Sheet. Trading Account shows the result of buying and selling of goods/services during an accounting period. Profit & Loss Account considers all the indirect revenue expenses and losses and all indirect revenue incomes. If indirect revenue income exceeds indirect expenses and cases, it is called net loss. Balance sheet is a statement of financial position of a business concern at a given date. The left hand side of the balance sheet shows the liabilities and right hand the assets of the business.

2.0 DEPRECIATION

Any equipment which is purchased today will not work for ever. This may be due to wear and tear of the equipment or obsolescence of technology. Hence, it is to be replaced at the proper time for continuance of any business. The replacement of the equipment at the end of its life involves money. This must be internally generated from the earnings of the equipment. The recovery of money from the earnings of an equipment for its replacement purpose is called *depreciation fund* since we make an assumption that the value of the equipment decreases with the passage of time. Thus, the word "depreciation" means *decrease* in value of any physical asset with the passage of time.

2.2 Methods of Depreciation

There are several methods of accounting depreciation fund. These are as follows:

1. Straight line method of depreciation
2. Declining balance method of depreciation
3. Sum of the years—digits method of depreciation
4. Sinking-fund method of depreciation
5. Service output method of depreciation

2.2.1 Straight Line Method of Depreciation

In this method of depreciation, a fixed sum is charged as the depreciation amount throughout the lifetime of an asset such that the accumulated sum at the end of the life of the asset is exactly equal to the purchase value of the asset. Here, we make an important assumption that inflation is absent.

Let

P = first cost of the asset,

F = salvage value of the asset,

n = life of the asset,

B_t = book value of the asset at the end of the period t,

D_t = depreciation amount for the period t.

The formulae for depreciation and book value are as follows:

$$D_t = \frac{(P-F)}{n}$$

$$B_t = B_{t-1} - D_t = P - t\left[\frac{(P-F)}{n}\right]$$

Example 1: A company has purchased an equipment whose first cost is #100,000 with an estimated life of eight years. The estimated salvage value of the equipment at the end of its lifetime is #20,000. Determine the depreciation charge and book value at the end of various years using the straight line method of depreciation.

Solution

$P = \#100{,}000$

$F = \#20{,}000$

$n = 8$ years

$Dt = (P - F)/n = (1{,}00{,}000 - 20{,}000)/8 = \#10{,}000$

In this method of depreciation, the value of Dt is the same for all the years. The calculations pertaining to Bt for different values of t are summarized in Table 1.

Table 2.1 Dt and Bt Values under Straight line Method of Depreciation

End of year (t)	Depreciation (D_t)	Book value ($B_t = B_{t-1} - D_t$)
0		100,000
1	10,000	90,000
2	10,000	80,000
3	10,000	70,000
4	10,000	60,000
5	10,000	50,000
6	10,000	40,000
7	10,000	30,000
8	10,000	20,000

If we are interested in computing D_t and B_t for a specific period (t), the formulae can be used. In this approach, it should be noted that the depreciation is the same for all the periods.

2.2.2 Declining Balance Method of Depreciation

In this method of depreciation, a constant percentage of the book value of the previous period of the asset will be charged as the depreciation amount for the current period. This approach is a more realistic approach, since the depreciation charge decreases with the life of the asset which matches with the earning potential of the asset. The book value at the end of the life of the asset may not be exactly equal to the salvage value of the asset. This is a major limitation of this approach.

Let

P = first cost of the asset,

F = salvage value of the asset,

n = life of the asset,

B_t = book value of the asset at the end of the period t,

K = a fixed percentage, and

D_t = depreciation amount at the end of the period t.

The formulae for depreciation and book value are as follows:

$$D_t = K \times B_{t-1}$$

$$B_t = B_{t-1} - D_t = B_{t-1} - K \times B_{t-1} = (1-K) \times B_{t-1}$$

The formulae for depreciation and book value in terms of P are as follows:

$$D_t = K(1-K)^{t-1} \times P$$

$$B_t = (1-K)^t \times P$$

While availing income-tax exception for the depreciation amount paid in each year, the rate K is limited to at the most 2/n. If this rate is used, then the corresponding approach is called the double declining balance method of depreciation.

Example 2: Consider Example 1 and demonstrate the calculations of the declining balance method of depreciation by assuming 0.2 for K.

Solution

P = #100,000

F = #20,000

n = 8 years

K = 0.2

The calculations pertaining to D_t and B_t for different values of t are summarized in Table 2 using the following formulae:

$$D_t = K \times B_{t-1}$$

$$B_t = B_{t-1} - D_t$$

Table 2.2 *Dt* and *Bt* according to Declining Balance Method of Depreciation

End of year (t)	Depreciation (D_t)	Book value ($B_t = B_{t-1} - D_t$)
0		100,000.00
1	20,000.00	80,000.00
2	16,000.00	64,000.00
3	12,800.00	51,200.00
4	10,240.00	40,960.00
5	8,192.00	32,768.00
6	6,553.60	26,214.40
7	5,242.88	20,971.52
8	4,194.30	16,777.22

If we are interested in computing *Dt* and *Bt* for a specific period *t*, the respective formulae can be used.

2.2.3 Sum-of-the-Years-Digits Method of Depreciation

In this method of depreciation also, it is assumed that the book value of the asset decreases at a decreasing rate. If the asset has a life of eight years, first the sum of the years is computed as

Sum of the years $= 1+2+3+4+5+6+7+8 = 36 = n(n+1)/2$

The rate of depreciation charge for the first year is assumed as the highest and then it decreases. The rates of depreciation for the years 1–8, respectively are as follows: 8/36, 7/36, 6/36, 5/36, 4/36, 3/36, 2/36, and 1/36.

For any year, the depreciation is calculated by multiplying the corresponding rate of depreciation with $(P-F)$.

$$D_t = Rate \times (P-F)$$

$$B_t = B_{t-1} - D_t$$

The formulae for D_t and B_t for a specific year t are as follows:

$$D_t = \frac{n-t+1}{n(n+1)/2}(P-F)$$

$$B_t = (P-F)\frac{(n-t)}{n}\frac{(n-t+1)}{(n+1)} + F$$

Example 3: Consider Example 1 and demonstrate the calculations of the sum-of-the-years-digits method of depreciation.

Solution

$P = \#100{,}000$

$F = \#20{,}000$

$n = 8$ years

Sum $= n(n + 1)/2 = 8 \times 9/2 = 36$

The rates for years 1–8, are respectively 8/36, 7/36, 6/36, 5/36, 4/36, 3/36, 2/36 and 1/36

The calculations of D_t and B_t for different values of t are summarized in Table 9.3 using the following formulae:

$$D_t = Rate \times (P-F)$$

$$B_t = B_{t-1} - D_t$$

Table 2.3: D_t and Bt under Sum-of-the-years-digits Method of Depreciation

End of year (t)	Depreciation (D_t)	Book value ($B_t = B_{t-1} - D_t$)
0		100,000.00
1	17,777.77	82,222.23
2	15,555.55	66,666.68
3	13,333.33	53,333.33
4	11,111.11	42,222.24
5	8,888.88	33,333.36
6	6,666.66	26,666.70
7	4,444.44	22,222.26
8	2,222.22	20,000.04

If we are interested in calculating D_t and B_t for a specific t, then the usage of the formulae would be better.

Example 4: Consider Example 9.1 and find the depreciation and book value for the 5th year using the sum-of-the-years-digits method of depreciation.

Solution

$P = \#100{,}000$

$F = \#20{,}000$

$n = 8$ years

$$D_t = \frac{n-t+1}{n(n+1)/2}(P-F) = \frac{8-5+1}{8(8+1)/2}(100{,}000-20{,}000)$$

$$D_t = \#8{,}888.88$$

$$B_t = (P-F)\frac{(n-t)}{n}\frac{(n-t+1)}{(n+1)} + F$$

$$B_t = (100{,}000-20{,}000)\frac{(8-5)}{8}\frac{(8-5+1)}{(8+1)} + 20{,}000 = \#33{,}333.33$$

2.2.4 Sinking Fund Method of Depreciation

In this method of depreciation, the book value decreases at increasing rates with respect to the life of the asset. Let

P = first cost of the asset,

F = salvage value of the asset,

n = life of the asset,

i = rate of return compounded annually,

A = the annual equivalent amount,

B_t = the book value of the asset at the end of the period t, and

D_t = the depreciation amount at the end of the period t.

The loss in value of the asset $(P - F)$ is made available an the form of cumulative depreciation amount at the end of the life of the asset by setting up an equal depreciation amount (A) at the end of each period during the lifetime of the asset.

$$A = (P - F) \times [A/F, i, n]$$

The fixed sum depreciated at the end of every time period earns an interest at the rate of $i\%$ compounded annually, and hence the actual depreciation amount will be in the increasing manner with respect to the time period. A generalized formula for D_t is

$$D_t = (P - F) \times (A/F, i, n) \times (F/P, i, t-1)$$

The formula to calculate the book value at the end of period t is

$$B_t = P - (P - F)(A/F, i, n)(F/A, i, t-1)$$

The above two formulae are very useful if we have to calculate D_t and B_t for any specific period. If we calculate D_t and B_t for all the periods, then the tabular approach would be better.

Example 5: Consider Example 1 and give the calculations regarding the sinking fund method of depreciation with an interest rate of 12%, compounded annually.

Solution

$P = \#100{,}000$

$F = \#20{,}000$

$n = 8$ years

$i = 12\%$

$$A = (P - F) \times [A/F, 12, n] = 100{,}000 - 20{,}000 \times 0.0813 = \#6{,}504$$

In this method of depreciation, a fixed amount of #6,504 will be depreciated at the end of every year from the earning of the asset. The depreciated amount will earn interest for the remaining period of life of the asset at an interest rate of 12%, compounded annually. For example, the calculations of net depreciation for some periods are as follows:

Depreciation at the end of year 1 (D_1) = #6,504.

Depreciation at the end of year 2 $D_2 = 6{,}504 + 6{,}504 \times 0.12 = \#7{,}284.48$

Depreciation at the end of the year 3 $D_3 = 6{,}504 + (6{,}504 + 7{,}284.48) \times 0.12 = \#8{,}158.62$

Depreciation at the end of year 4 $D_4 = 6{,}504 + (6{,}504 + 7{,}284.48 + 8{,}158.62) \times 0.12 = \#9{,}137.65$

These calculations along with book values are summarized in Table 2.4.

End of year, t	Fixed depreciation (#)	Net depreciation, D_t (#)	Book value, B_t (#)
0	6,504	-	100,000.00
1	6,504	6,504.00	93,496.00
2	6,504	7,284.00	86,211.52
3	6,504	8,158.62	78,052.90
4	6,504	9,137.65	68,915.25
5	6,504	10,234.17	58,681.08
6	6,504	11,462.27	47,218.81
7	6,504	12,837.74	34,381.07
8	6,504	14,378.27	20,002.80

Example 6: Consider Example 1 and compute $D5$ and $B7$ using the sinking fund method of depreciation with an interest rate of 12%, compounded annually.

Solution

$P = \#100{,}000$

$F = \#20{,}000$

$n = 8$ years

$i = 12\%$

$$D_t = (P-F)\times(A/F,i,n)\times(F/P,i,t-1) = (P-F)\times(A/F,12\%,8)\times(F/P,12\%,4)$$
$$= (100{,}000-20{,}000)\times 0.0813\times 1.574 = \#10{,}237.30$$

This is almost the same as the corresponding value given in the table. The minor difference is due to truncation error.

$$B_t = P-(P-F)(A/F,i,n)(F/A,i,t-1) = P-(P-F)(A/F,12\%,8)(F/A,12\%,7)$$
$$B_7 = 100{,}000-(100{,}000-20{,}000)\times 0.0813\times 10.089 = \#34{,}381.10$$

2.2.5 Service Output Method of Depreciation

In some situations, it may not be realistic to compute depreciation based on time period. In such cases, the depreciation is computed based on service rendered by an asset. Let

P = first cost of the asset

F = salvage value of the asset

X = maximum capacity of service of the asset during its lifetime

x = quantity of service rendered in a period.

Then, the depreciation is defined per unit of service rendered:

$$\text{Depression/unit of service} = \frac{(P-F)}{X}$$

$$\text{Depression for x units of service in a period} = \frac{(P-F)}{X}(x)$$

Example 7: The first coat of a road laying machine is #8,000,000. Its salvage value after five years is #50,000. The length of road that can be laid by the machine during its lifetime is 75,000 km. In its third year of operation, the length of road laid is 2,000 km. Find the depreciation of the equipment for that year.

Solution

$P = \#8{,}000{,}000$

$F = \#50{,}000$

$X = 75{,}000$ km

$x = 2{,}000$ km

$$\text{Depreciation for } x \text{ units of service in a period} = \frac{(P-F)}{X}(x)$$

$$\text{Depression for year 3} = \frac{(8{,}000{,}000 - 50{,}000)}{75{,}000}(2{,}000) = \#212{,}000$$

BASIC COST CONCEPTS

If you decide to manufacture say electronic digital meter, you will need raw material, labour and incur other incidental expenses to manufacture. These constitute the cost of manufacturing. You will incur expenses till your products are sold. You need to learn the concept of cost, its elements and types etc. In this lesson you will learn about the basic cost concepts.

3.1 Meaning of Cost

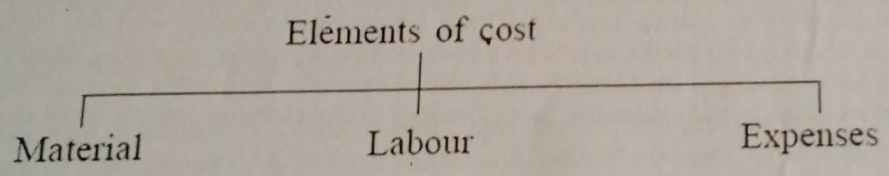
The term 'cost' means the amount of expenses [actual or notional] incurred on or attributable to specified thing or activity.

Cost is 'measurement in monetary terms of the amount of resources used for the purpose of production of goods or rendering services.

To get the results we make efforts. Efforts constitute cost of getting the results. It can be expressed in terms of money; it means the amount of expenses incurred on or attributable to some specific thing or activity. The term cost is used in this very form. In reference to production/manufacturing of goods and services cost refers to sum total of the value of resources used like raw material and labour and expenses incurred in producing or manufacturing of given quantity.

3.2 Elements of Cost

Cost of production/manufacturing consists of various expenses incurred on production / manufacturing of goods or services. These are the elements of cost which can be divided into three groups : Material, Labour and Expenses.



3.2.1 Material

To produce or manufacture material is required. For example to manufacture shirts cloth is required and to produce flour wheat is required. All material which becomes an integral part of finished product and which can be conveniently assigned to specific physical unit is termed as **"Direct Material"**. It is also described as raw material, process material, prime material, production material, stores material, etc. The substance from which the product is made is known as material. It may be in a raw or manufactured state. Material is classified into two categories:

- Direct Material
- Indirect Material

3.2.1.1 Direct material

Direct Material is that material which can be easily identified and related with specific product, job, and process. Timber is a raw material for making furniture, cloth for making garments, sugarcane for making sugar, and Gold/silver for making jewellery, etc are some examples of direct material.

3.2.1.2 Indirect material

Indirect Material is that material which cannot be easily and conveniently identified and related with a particular product, job, process, and activity. Consumable stores, oil and waste, printing and stationery etc, are some examples of indirect material. Indirect materials are used in the factory, the office, or the selling and distribution department.

3.2.2 Labour

Labour is the main factor of production. For conversion of raw material into finished goods, human resource is needed, and such human resource is termed as labour. Labour cost is the main element of cost in a product or service. Labour can be classified into two categories:

- Direct Labour, and
- Indirect labour

3.2.2.1 Direct labour

Labour which takes active and direct part in the production of a commodity. Direct labour is that labour which can be easily identified and related with specific product, job, process, and activity. Direct labour cost is easily traceable to specific products. Direct labour costs are specially and conveniently traceable to specific products. Direct labour varies directly with the volume of output. Direct labour is also known as process labour, productive labour, operating labour, direct wages, manufacturing wages, etc. Cost of wages paid to carpenter for making furniture, cost of a tailor in producing readymade garments, cost of washer in dry cleaning unit are some examples of direct labour.

3.2.2.2 Indirect labour

Indirect labour is that labour which can not be easily identified and related with specific product, job, process, and activity. It includes all labour not directly engaged in converting raw material into finished product. It may or may not vary directly with the volume of output. Labour employed for the purpose of carrying out tasks incidental to goods or services provided is indirect labour. Indirect labour is used in the factory, the office, or the selling and distribution department. Wages of store-keepers, time-keepers, salary of works manager, salary of salesmen, etc, are all examples of indirect labour cost.

3.2.3 Expenses

All cost incurred in the production of finished goods other than material cost and labour cost are termed as expenses. Expenses are classified into two categories:

- Direct expenses, and
- Indirect expenses (An item of overheads)

3.2.3.1 Direct expenses

These are expenses which are directly, easily, and wholly allocated to specific cost units. All direct cost other than direct material and direct labour are termed as direct expenses.

Direct expenses are also termed as chargeable expenses. Some examples of the direct expenses are hire of special machinery, cost of special designs, moulds or patterns, feed paid to architects, surveyors and other consultants, inward carriage and freight charges on special material, Cost of patents and royalties.

3.2.3.2 Indirect expenses

These expenses cannot be directly, easily, and wholly allocated to specific cost center or cost units. All indirect costs other than indirect material and indirect labour are termed as indirect expenses. Thus,

Indirect Expenses = Indirect cost – Indirect material – Indirect labour.

Indirect expenses are treated as part of overheads. Rent, rates and taxes of building, repair, insurance and depreciation on fixed assets, etc, are some examples of indirect expenses.

3.2.3 Meaning of Overheads

The term overhead has a wider meaning than the term indirect expenses. Overheads include the cost of indirect material, indirect labour and indirect expenses. This is the aggregate sum of indirect material, indirect labour and indirect expenses.

Overhead = Indirect material + Indirect labour + Indirect expenses

Overheads are classified into following three categories:

- Factory/works/ production overheads
- Office and administrative overheads
- Selling and distribution overheads

3.2.3.1 Factory/works overheads

All indirect costs incurred in the factory for production of goods is termed as factory/works overheads. Such costs are concerned with the running of the factory or plant. These include indirect material, indirect labour and indirect expenses incurred in the factory. Some examples are as follows:

Indirect materials:

i. Grease, oil, lubricants, cotton waste etc.
ii. (ii) Small tools, brushes for sweeping, sundry supplies etc.
iii. Cost of threads, gum, nails, etc.
iv. Consumable stores
v. Factory printing and stationery

Indirect wages

i. Salary of factory manager, foremen, supervisors, clerks etc.
ii. (ii) Salary of storekeeper
iii. Salary and fee of factory directors and technical directors
iv. Contribution to ESI, PF., Leave pay etc. of factory employee.

Indirect expenses

i. Rent of factory buildings and land
ii. (ii) Insurance of factory building, plant, and machinery
iii. Municipal taxes of factory building
iv. Depreciation of factory building, plant and machinery, and their repairs and maintenance charges
v. Power and fuel used in factory
vi. Factory telephone expenses.

3.2.3.2 Office and administrative overheads

These expenses are related to the management and administration of the business. They are incurred for the direction and control of an undertaking. These represent the aggregate of the cost of indirect material, indirect labour, and indirect expenses incurred by the office and administration department of an organisation. Some examples are as follows:

Office printing and stationery, Cost of brushes, dusters etc. for cleaning office building and equipments, Postage and stamps. Salary of office manager, clerks, and other employees, Salary of administrative directors, Salaries of legal adviser, Salaries of cost accountants and financial accountants, Salary of computer operator. Rent, insurance, rates and taxes of office building, Office lighting, heating and cleaning, Depreciation and repair of office building, furniture, and Equipment etc., Legal charges, Bank charges, Trade subscriptions, Telephone charges, Audit fee etc.

3.2.3.3 Selling and distribution overheads

Selling and distribution overheads are incurred for the marketing of a commodity, for securing order for the articles, dispatching goods sold or for making efforts to find and retain customers. These expenses represent the aggregate of indirect material, indirect labour, and indirect expenses incurred by the selling and distribution department of the organisation. These overheads have two aspects (i) procuring orders (ii) executing the order. Based upon this concept the selling and distributions are studied separately.

I. Selling overheads

Indirect costs incurred in relation to the procurement of sale orders are termed as selling overheads. Some of the examples of selling overheads are as follows:

Indirect material

i. Catalogues, price list
ii. (ii) Printing and stationery
iii. Postage and stamps
iv. cost of sample

Indirect wages

i. Salaries of sales managers, clerks and other employees
ii. (ii) Salaries and commission of salesmen and technical representatives
iii. Fees of sales directors

Indirect expenses

i. Advertising
ii. (ii) Bad debts
iii. Rent and insurance of showroom
iv. Legal charges incurred for recovery of debts
v. Travelling and entertainment expenses
vi. Expenses of sending samples
vii. Market research expenses.

II. Distribution overheads

Indirect costs incurred in relation to the execution of the sales order is termed as distribution overheads. Some of the examples of distribution overheads are as follows:

Indirect material

i. Cost of packing material
ii. oil, grease, spare parts etc. for maintaining delivery vans

Indirect wages

i. Salaries of godown employees
ii. Wages of drivers of delivery vans
iii. Wages of packers and dispatch staff.

Indirect expenses

i. Packing expenses
ii. (ii) Godown rent, insurance, depreciation, and repair etc.
iii. Freight carriage outwards and other transport charges.
iv. Running expenses of delivery vans, repair, and depreciation.
v. Insurance in transit etc.

3.3 Classification of Cost

3.3.1 Fixed cost

Another term that can be used to refer to a fixed cost is a period cost. This highlights the fact that a fixed cost is incurred according to the time elapsed, rather than according to the level of activity.

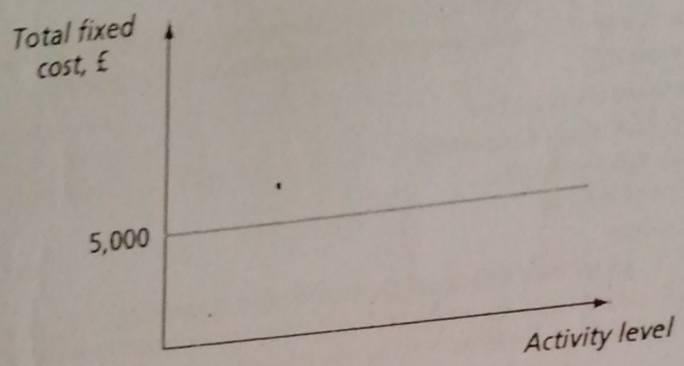


Figure 3.2: Fixed cost

A fixed cost can be depicted graphically as shown in Figure 3.2 . Examples of fixed costs are rent, rates, insurance and executive salaries.

The graph shows that the cost is constant (in this case at £5,000) for all levels of activity. However, it is important to note that this is only true for the relevant range of activity. Consider, for example, the behaviour of the rent cost. Within the relevant range it is possible to expand activity without needing extra premises and therefore the rent cost remains constant. However, if activity is expanded to the critical point where further premises are needed, then the rent cost will increase to a new, higher level.

This cost behaviour pattern can be described as a stepped fi xed cost or step cost (Figure 3.3).

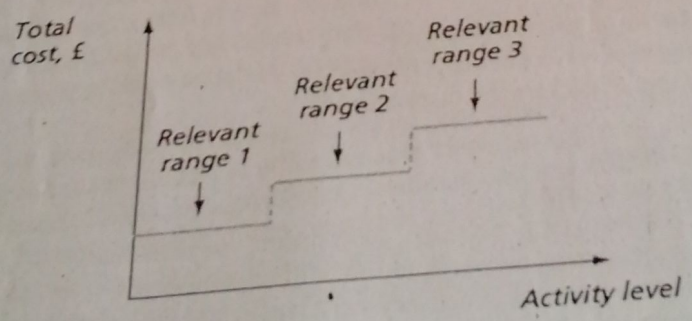


Figure 3.3: Stepped fixed cost

The cost is constant within the relevant range for each activity level but when a critical level of activity is reached, the total cost incurred increases to the next step.

3.3.2 Variable cost

Variable costs are those cost which vary directly in proportion to change in volume of production/output. The cost which increases or decreases in the same proportion in which the units produced is termed as variable cost. Direct material, direct labour, direct expenses, variable overheads are some examples of variable cost.

Figure 3.5 depicts a linear variable cost. It is a straight line through the origin, which means that the cost is nil at zero activity level. When activity increases, the total variable cost increases in direct proportion, that is, if activity goes up by 10 per cent, then the total variable cost also increases by 10 per cent, as long as the activity level is still within the relevant range.

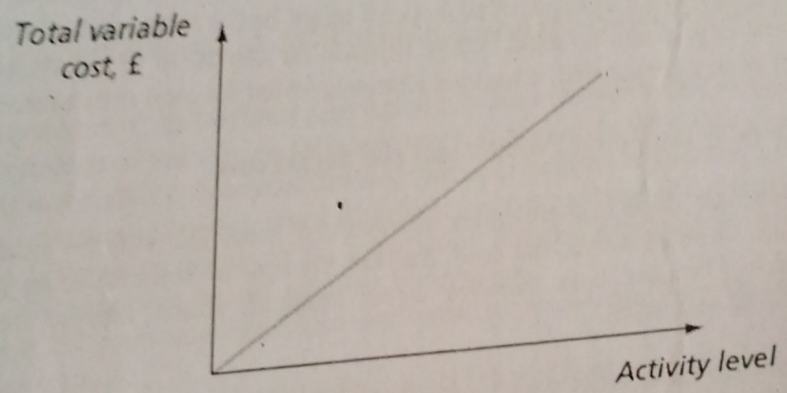


Figure 3.5 Linear variable cost

The gradient of the line will depend on the amount of variable cost per unit.

3.3.3 Semi-variable cost

A cost contains both fixed and variable component and which is thus partly affected by fluctuations in the level of activity. Semi-variable costs is that cost of which some part remains fixed at the given level of production and other part varies with the change in the volume of production but not in the same proportion of change in production. For example, expenses may not change if output is upto 50% capacity but may increase by 5% for every 20% increase in output over 50% but up to 70%. For example, Telephone expenses of which rent portion is fixed and call charges are variable. The figure 3.6 gives an idea of semivariable cost.

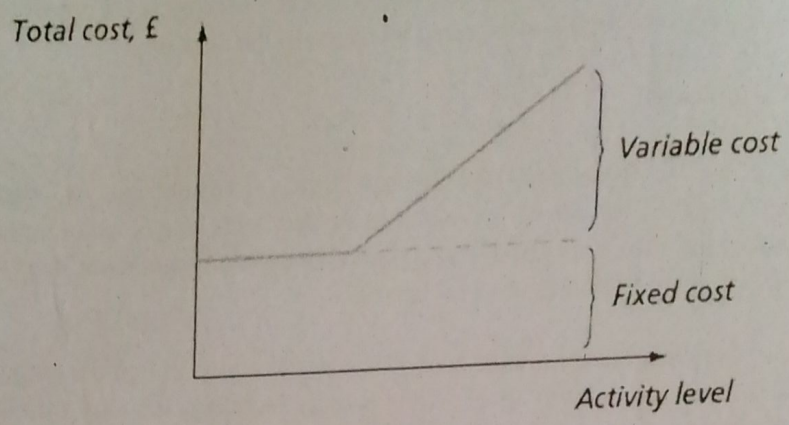


Figure 3.6: Semi-variable cost

This cost remains constant up to a certain level of activity and then increases as the variable cost element is incurred. An example of such a cost might be the rental cost of a photocopier where a fi xed rental is paid and no extra charge is made for copies up to a certain number. Once this number of copies is exceeded, a constant charge is levied for each copy taken.

3.3.4 Costs by inventory: Product cost and period cost

Product costs are those cost which are charged and identified with the product and included in stock value. In other words, the costs that are the cost of manufacturing a product are called product cost. Product cost includes direct material, direct labour, direct expenses, and manufacturing overheads.

Period costs are those costs which are not charged to products but are written off as expenses against revenue of the period during which these are incurred. They are not transferred as a part of value of stock to the next accounting year. They are charged against the revenue of the relevant period. Period costs include all fixed costs and total administration, selling and distribution costs.

3.3.5 Cost Relation to Cost Centre: Direct and Indirect costs

All costs are subdivided into direct and indirect costs. The concept of direct and indirect cost is of basic importance in costing. Costs which are easily and directly allocated to products or units are termed as direct cost. Direct costs include all traceable costs. In the process of manufacturing of a product, materials are purchased, wages are paid to labour, and certain other expenses are also incurred directly. All these expenses are called as direct costs.

The expenses incurred on those items which are not directly charged to a single product because they are incurred for many products are termed as indirect Costs. The example of indirect costs are Oil and scrap materials, [indirect materials], salary of factory supervisors [indirect labour],rent rates and depreciation [indirect expenses]. Indirect costs, often referred to as overheads have to be apportioned to different products on suitable criterion/criteria.

3.4 Cost Control and Cost Reduction

3.4.1 Cost Control

Costs can be controlling by employing the following methods:

- Material Control
- Labor Control
- Overheads Control
- Standard costing
- Budgetary Control
- Capital Expenditure Control
- Productivity and Accounting Ratios

3.4.2 Requirements for Successful Cost Control

The following requirements are to be fulfilled to implement successful cost control:

i. A plan and a set of well-defined responsibilities to all executives are essential.
ii. Clear definition of tasks for performance and cost to execute those tasks.
iii. A fixed responsibility, in case of deviation between targeted and actual.
iv. Prompt collection of performance data from each department of an organization as the delay in information equals to no information and the management is unable to take correct decision due to lack of complete information.
v. Highlights of good and bad, both performances to enable the management to take corrective steps.
vi. Reward for good performances and Punishment for the poor ones.

3.4.3 Cost Reduction

Cost reduction is to be understood as the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for the use intended or diminution in the quality of product.

There are only two ways to maximize profit of any organization: either to increase sale price of unit, or to reduce cost of that unit. Both above cases may result into gaining good profit. As we are seeing today, most of the businesses are facing tough competitive market situation where increase in sale price may result in to loss of sale. Increasing sale price is possible only in case of those products where the company is dealing in monopoly items and we all are aware that this situation cannot prolong for any company and its products. Therefore, cost reduction is only one scientific way to deal with this situation; provided it is real and permanent. Cost reduction should not be the result of any temporary decrement in cost of raw material, change in government polices etc. and most importantly, reduction of cost should not be on price of quality of that product.

Reduction of cost should be in the following manner:

- Volume of production should be same but cost of expenditure should be reduced.
- Without changing level of production there should be increase in production.

3.4.5 Cost Reduction Program

Followings are the essentials of a cost reduction program:

i. Cost reduction program should be according to requirement of the company.
ii. Cost reduction program is a continuous activity that cannot be treated as one time or short term activity. Success of any cost reduction program may lie in only continuous improvement of efforts.
iii. Cost reduction program should be real and permanent.
iv. Example setter of cost reduction program should be top management employee. Success of this program depends on co-operation of all employees and department of an organization.
v. Employees should be rewarded for their participation in cost reduction program and for giving innovative ideas related to this program.

3.4.6 Fields Covered under the Cost Reduction Program

A number of fields come under the scope of cost reduction. They are discussed below.

1. **Design:** Manufacturing of any product starts with the design of product. At the time of improvement in design of old product as well as at the time of designing new product, some investment is recommended to find a useful design that may reduce the cost of the product in following terms:
2. **Material Cost:** Design of product should encourage to find out possibility of cheaper raw material as a substitute, maximum production, less quantity etc.
3. **Labor Cost:** Design of product may reduce time of operation, cost of after-sale service, minimum tolerance, etc.
4. **Organization:** Employees should be encouraged for cost reduction scheme. There should be no scope for doubts and frictions; there should be no communication gap between any department or any level of management; and there must be proper delegation of responsibilities with defined area of functions of an organization.
5. **Factory Layout and Equipment:** There should be a proper study about unused utilization of material, manpower and machines, maximum utilization of all above may reduce cost of any product effectively.
6. **Administration:** An organization should make efforts to reduce the cost of administrative expenses, as there is ample scope to do so. A company may evaluate and reduce the cost of following expenses, but not the cost of efficiency:
   i. Telephone expenses
   ii. Travelling expenses
   iii. Salary by reducing staff
   iv. Reduction in cost of stationery
   v. Postage and Telegrams
7. **Marketing:** Following areas can be covered under the cost reduction program:

i. Advertisement
ii. Warehouse
iii. Sales Promotion
iv. Distribution Expenses
v. Research & Development Program

8. **Financial Management:** Attention should be given to the following areas:
   i. If there is any over-investment.
   ii. How much economical is the cost of capital received?
   iii. If the organization is getting maximum returns for the capital employed.
   iv. If there is any over-investment, that should be sold and similarly, unutilized fixed assets should be eliminated. Slow-moving or non-moving inventories should be removed and should transfer this surplus to the working capital to re-invest it in a cycle of more profitable area of business.
9. **Personal Management:** Cost reduction programs can be run using staff welfare measures and improving labor relation. Introduction of incentive schemes for labor and giving them better working conditions is very important to run an efficient cost reduction program.
10. **Material Control:** Cost reduction program should be run by purchasing economical and more useful material. Economic Order Quantity (EOQ) technique should be used. Inventory should be kept low. Proper check on inward material, control over warehouse and proper issuance of material, and effective material yield should be done.
11. **Production:** Using effective control over material, labor, and machine a better cost reduction program may be run.

3.4.7 Tools and Techniques of Cost Reduction

The following tools and techniques are used to reduce costs:

i. Budgetary Control
ii. Standard Costing
iii. Simplification and Variety Reduction
iv. Planning and Control of Finance
v. Cost Benefit Analysis
vi. Value Analysis
vii. Contribution Analysis
viii. Job Evaluation and Merit Rating
ix. Improvement in Design
x. Material Control
xi. Labor Control
xii. Overhead Control
xiii. Market Research

3.5 Value Analysis

Value analysis is one of the major techniques of cost reduction and cost prevention. It is a disciplined approach that ensures necessary functions for minimum cost without sacrificing

quality, reliability, performance, and appearance. According to the Society of American Value Engineers (SAVE), "Value Analysis is the systematic application of recognized techniques which identify the function of a product or service, establish a monetary value for the function and provide the necessary function reliably at the lowest overall cost.

It is an organized approach to identify unnecessary costs associated with any product, material part, component, system or service by analysing the function and eliminating such costs without impairing the quality, functional reliability, or the capacity of the product to give service.

3.5.1 When to Apply Value Analysis

One can definitely expect very good results by initiating a VA programme if one or more of the following symptoms are present:

i. Company's products show decline in sales.
ii. Company's prices are higher than those of its competitors.
iii. Raw materials cost has grown disproportionate to the volume of production.
iv. New designs are being introduced.
v. The cost of manufacture is rising disproportionate to the volume of production.
vi. Rate of return on investment has a falling trend.
vii. Inability of the firm to meet its delivery commitments.

3.5.2 Value

The term '**value**' is used in different ways and, consequently, has different meanings. The designer equates the value with reliability; a purchase person with price paid for the item; a production person with what it costs to manufacture, and a sales person with what the customer is willing to pay. Value, in value investigation, refers to "economic value", which itself can be divided into four types: cost value, exchange value, use value, and esteem value. These are now briefly described.

Cost value: It is the summation of the labour, material, overhead and all other elements of cost required to produce an item or provide a service compared to a base.

Exchange value: It is the measure of all the properties, qualities and features of the product, which make the product possible of being traded for another product or for money. In a conventional sense, *exchange value* refers to the price that a purchaser will offer for the product, the price being dependent upon satisfaction (value) which he derives from the product. Value derived from the product consists of two parts "use value" and "esteem value", which are now described.

Use value: It is known as the function value. The *use value* is equal to the value of the functions performed. Therefore, it is the price paid by the buyer (buyer's view), or the cost incurred by the manufacturer (manufacturer's view) in order to ensure that the product performs its intended functions efficiently. The use value is the fundamental form of economic value. An item without "use value" can have neither "exchange value" nor "esteem value".

Esteem value: It involves the qualities and appearance of a product (like a TV set), which attract persons and create in them a desire to possess the product. Therefore, *esteem value* is the price paid by the buyer or the cost incurred by the manufacturer beyond the use value.

3.5.3 Performance

The performance of a product is the measure of functional features and properties that make it suitable for a specific purpose. Appropriate performance requires that

(a) the product reliably accomplish the intended use of work or service requirement (functional requirements),
(b) the product provide protection against accident, harmful effects on body and danger to human life (safety requirements),
(c) the product give trouble-free service cover during its specified life span (reliability requirements),
(d) service and maintenance work can be carried out on the product with ease and with simple tools (maintainability requirements), and
(e) appearance of the product creates an impression on the buyer and induces in him or her the desire to own the product (appearance requirements).

Performance and cost must be interwoven. Desired performance at the least cost should be achieved by selecting appropriate materials and manufacturing operations, which is the measure of value. Therefore, the value of the product is the ratio of performance (utility) to cost. Thus,

$$Value = \frac{Performance\ (utility)}{cost}$$

Value can be increased by increasing the utility for the same cost or by decreasing the cost for the same utility. Satisfactory performance at lesser cost through identification and development of low cost alternatives is the philosophy of Value analysis.

3.5.4 Function

Function is the purpose for which the product is made. Identification of the basic functions and determination of the cost currently being spent on them are the two major considerations of value analysis.

Function identifies the characteristics which make the product/component/ part/item/device to work or sell. "Work functions" lend performance value while "sell functions" provide esteem value. Verbs like "support", "hold", "transmit", "prevent", "protect", "exhibits", "control", etc., are used to describe work functions, while "attract", enhance", "improve", "create", etc., are used to describe "sell" functions. For example, in a "bus driver cabin", the functional analysis of some of the parts are given in Table 3.1.

Table 3.1 Functional Analysis of Some Parts of a Bus Driver Cabin

Component of study	Functional analysis	
	Verb	Noun
Steering wheels	Control	Direction
Gear box	Change	Speed
Brake system	Stop	Vehicle
Wiper	Clear	Water
Horn	Make	Sound
Side mirror	Show	Side traffic

3.5.3 Classification of the functions

Rarely do all functions assume equal importance. Usually, some functions are more important than others. Functions can be classified into the following three categories:

i. Primary function
ii. Secondary function
iii. Tertiary function

Primary functions are the basic functions for which the product is specially designed to achieve. Primary functions, therefore, are the most essential functions whose non-performance would make the product worthless, e.g. a photo frame exhibits photographs, a chair supports weight, a fluorescent tube gives light.

Secondary functions are those which, if not in-built, would not prevent the device from performing its primary functions, e.g., arms of a chair provide support for hands. Secondary functions are usually related to convenience. The product can still work and fulfill its intended objective even if these functions are not in-built and yet they may be necessary to sell the product.

Tertiary functions are usually related to esteem appearance. For example, Sunmica top of a table gives esteem appearance for the table.

Let us consider a single example of painting a company bus to explain all the above three functions. Here, the primary function of painting is to avoid corrosion. The secondary function is to identify the company to which the bus belongs by the colour of the paint (e.g. blue colour for Ashok Leyland Ltd.). The tertiary function is to impart a very good appearance to the bus by using brilliant colours.

BUDGET AND BUDGETARY CONTROL

Budgeting is used by businesses as a method of financial planning for the future. Budgets are prepared for main areas of the business – purchases, sales (revenue), production, labour, trade receivables, trade payables, cash – and provide detailed plans of the business for the next three, six or twelve months.

Businesses need to plan for the future. In large businesses such planning is very formal while, for smaller businesses, it will be less formal. Planning for the future falls into three time scales:

- **long-term**: from about three years up to, sometimes, as far as twenty years ahead
- **medium-term**: one to three years ahead
- **short-term**: for the next year

Clearly, planning for these different time scales needs different approaches: the further on in time, the less detailed are the plans. In the medium and longer term, a business will establish broad **business objectives**. Such objectives do not have to be formally written down, although in a large business they are likely to be. In smaller businesses, objectives will certainly be considered and discussed by the owners or managers. Planning takes note of these broader business objectives and sets out how these are to be achieved in the form of detailed plans known as **budgets**.

4.1 Budget

According to CIMA (Chartered Institute of Management Accountants) UK, a budget 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, expenditure to be incurred during the period and the capital to be employed to attain a given objective."

In a view of Keller & Ferrara, "a budget is a plan of action to achieve stated objectives based on predetermined series of related assumptions."

G.A.Welsh states, "a budget is a written plan covering projected activities of a firm for a definite time period."

A budget is a financial plan for a business, prepared in advance.

A budget may be set in money terms, eg a sales budget of £500,000, or it can be expressed in terms of units, eg a purchases budget of 5,000 units to be bought.

Budgets can be income budgets for money received, eg a sales budget, or expenditure budgets for money spent, eg a purchases budget.

A budget is a formal expression of policies, plans, objectives and goals laid down for a definite period in the future. The budget expresses revenue goals in the sales budget and expense

limitations in the expense budgets that must be attained in order to realize the desired profit objective.

The Institute of Cost and Management Accountants, London, defines budgets as, "Financial and/or quantitative statements, prepared prior to a definite period of time, of the policy to be pursued during that period for the purpose of attaining a given objective." The basic elements of a budget are:

b) It is a future plan of activity for a specified period of time.
c) It is expressed in physical or monetary units or in both.
d) It is prepared in advance, i.e., before the period dur-ing which it is to operate.
e) The objectives to be attained and the policy to be pursued to achieve those objectives are required to be laid down before its preparation.

Most budgets are prepared for the next financial year (the **budget period**), and are usually broken down into shorter time periods, commonly four-weekly or monthly. This enables **budgetary control** to be exercised over the budget: the actual results can be monitored against the budget, and discrepancies between the two can be investigated and corrective action taken where appropriate.

4.2 Budgetary Control

Budgetary control involves the use of budgets and budgetary reports throughout the period of budget to coordinate, evaluate and control day-to-day operations in accordance with the goals specified by the budget. Budgetary control involves a constant checking and evaluation of actual results compared with the budgeted goals, which should result in corrective action where indicated. The Institute of Cost and Management Accountants, London, defines budgetary control as, "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."

The main features of budgetary control are:

i. Establishment of budgets for each purpose of the business.
ii. Revision of budget in view of changes in conditions.
iii. Comparison of actual performances with the budget on a continuous basis.
iv. Taking suitable remedial action, wherever necessary.
v. Analysis of variations of actual performance from that of the budgeted performance to know the reasons thereof.

The process of budgetary control involves the following steps:

i. Defining and specifying the objectives to be achieved by the business.
ii. Preparing business plans in order to ensure that the desired objectives are accomplished.
iii. Translating the plans into budgets, and relating the responsibilities of individual executives and managers to particular sections of the budget.

iv. Continuous comparison of actual results with the budget, and the calculation of differences between the budgeted and actual performance.

v. Investigating major differences in order to establish the causes.

vi. Presentation of the information to management in a suitable form, relating the variances to individual responsibility.

vii. Corrective action by the management in order to avoid a repetition of any wastage or over-expenditure. Alternatively, where it is not possible to achieve the budgeted targets due to change in cir-cumstances, the revision of the budget.

4.3 Difference between Budget, Budgeting and Budgetary Control

The difference between budget, budgeting and budgetary control may be stated thus — Budgets are the individual objectives of a Department, etc. whereas budgeting may be said to be the act of setting budgets. Budgetary control embraces all and includes the science of planning the budgets themselves and utilization of such budgets as an overall management tool for the business planning and control. Thus, the term budgetary control is wider in meaning and it includes both budget and budgeting.

4.4 Objectives of Budgetary Control:

Budgeting is a forward planning. It serves basically as a tool for management control; it is rather a pivot of any effective scheme of control.

G. A. Welsch in his book, 'Budgeting - Profit Planning and Control' has rightly pointed out that 'Budgeting is the principal tool of planning and control offered to management by accounting function.'

The objectives of budgeting may be summarized as follows:

1) **Planning:** Planning has been defined as the design of a desired future position for an entity and it rests on the belief that the future position can be attained by uninterrupted management action. Detailed plans relating to production, sales, raw-material requirements, labour needs, capital additions, etc. are drawn out. By planning many problems estimated long before they arise and solution can be thought of through careful study. In short, budgeting forces the management to think ahead, to foresee and prepare for the anticipated conditions. Planning is a constant process since it requires constant revision with changing conditions.

2) **Co-ordination:** Budgeting plays a significant role in establishing and maintaining coordination. Budgeting assists managers in coordinating their efforts so that problems of the business are solved in harmony with the objectives of its divisions. Efficient planning and business contribute a lot in achieving the targets. Lack of co-ordination in an organization is observed when a department head is permitted to enlarge the department on the specific needs of that department only, although such development may negatively affect other departments and alter their performances. Thus, co-ordination is required at all vertical as well as horizontal levels.

3) **Measurement of Success:** Budgets present a useful means of informing managers how well they are performing in meeting targets they have previously helped to set. In many companies, there is a practice of rewarding employees on the basis of their accomplished low budget targets or promotion of a manager is linked to his budget success record. Success is determined by comparing the past performance with a previous period's performance.
4) **Motivation:** Budget is always considered a useful tool for encouraging managers to complete things in line with the business objectives. If individuals have intensely participated in the preparation of budgets, it acts as a strong motivating force to achieve the goals.
5) **Communication:** A budget serves as a means of communicating information within a firm. The standard budget copies are distributed to all management people that provides not only sufficient understanding and knowledge of the programmes and guidelines to be followed but also gives knowledge about the restrictions to be adhered to.
6) **Control:** Control is essential to make sure that plans and objectives laid down in the budget are being achieved. Control, when applied to budgeting, as a systematized effort is to keep the management informed of whether planned performance is being achieved or not.

4.5 Requisites of an effective system of Budgetary Control

a) A clearly defined organisational structure, which emphasizes areas of responsibility.
b) Adequate accounting records and procedures, so that measurement of performance may be relied on.
c) Participation by individuals within the budgeting process.
d) Awareness by management of the uses of the budge-tary control system.
e) Awareness by the top management of the problems of budgetary control, and especially of the reaction of individuals to budgets.
f) Flexibility, so that plans and objectives may be revised.

4.6 Advantages of Budgetary Control

The advantages of a budgetary control system are as follows:

i. It defines the objectives of the organisation as a whole, and within this overall framework, it defines the results which each department should achieve.
ii. It reveals the extent by which actual results have exceeded or fallen short of the budget.
iii. It indicates, with variances or other measures of performance, the reasons why actual results differ from those budgeted, and establishes the magnitude of the differences.
iv. As a result of reporting on actual performance along with variances and other performance measures, it provides a basis for guiding executive action to correct adverse trends.
v. It provides a basis for the revision of the current budget, or for the preparation of future budgets.

vi. It provides a system whereby the resources of the organisation are used in the most efficient way possible.

vii. It indicates the efficiency with which the various activities of the organisation have been co-ordinate.

viii. It provides some centralizing control where activities and responsibilities are decentralised.

ix. Where the activities of an organisation are subject to seasonal variations, it provides a means of stabilizing the organization's activities.

x. It establishes a basis for internal audit by means of regular examination of departmental results.

xi. It enables standard costs to be used.

xii. It provides a basis for measuring productive efficiency with a view to paying a bonus to employees.

4.7 Limitations of Budgetary control:

1. It tends to bring about rigidity in operation, which is harmful. As budget estimates are quantitative expression of all relevant data, there is a tendency to attach some sort of rigidity or finality to them.
2. It being expensive is beyond the capacity of small undertakings. The mechanism of budgeting system is a detailed process involving too much time and costs.
3. Budgeting cannot take the position of management but it is only an instrument of management. 'The budget should be considered not as a master, but as a servant.' It is totally misconception to think that the introduction of budgeting alone is enough to ensure success and to security of future profits.
4. It sometimes leads to produce conflicts among the managers as each of them tries to take credit to achieve the budget targets.
5. Simple preparation of budget will not ensure its proper implementation. If it is not implemented properly, it may lower morale.
6. The installation and function of a budgetary control system is a costly affair as it requires employing the specialized staff and involves other expenditure which small companies may find difficult to incur.

4.8 Essentials of Effective Budgeting:

i. **Support of top management:** If the budget structure is to be made successful, the consideration by every member of the management not only is fully supported but also the impulsion and direction should also come from the top management. No control system can be effective unless the organization is convinced that the management considers the system to be important.

ii. **Team Work:** This is an essential requirement, if the budgets are ready from "the bottom up" in a grass root manner. The top management must understand and give enthusiastic support to the system. In fact, it requires education and participation at all levels. The benefits of budgeting need to be sold to all.

iii. **Realistic Objectives:** The budget figures should be realistic and represent logically attainable goals. The responsible executives should agree that the budget goals are reasonable and attainable.

iv. **Excellent Reporting System:** Reports comparing budget and actual results should be promptly prepared and special attention focused on significant exceptions i.e. figures that are significantly different from expected. An effective budgeting system also requires the presence of a proper feed-back system.

v. **Structure of Budget team:** This team receives the forecasts and targets of each department as well as periodic reports and confirms the final acceptable targets in form of Master Budget. The team also approves the departmental budgets.

vi. **Well Defined Business Policies:** All budgets reveal that the business policies formulated by the higher level management. In other words, budgets should always be after taking into account the policies set for particular department or function. But for this purpose, policies should be precise and clearly defined as well as free from any ambiguity.

vii. **Integration with Standard Costing System:** Where standard costing system is also used, it should be completely integrated with the budget programme, in respect of both budget preparation and variance analysis.

viii. **Inspirational Approach:** All the employees or staff other than executives should be strongly and properly inspired towards budgeting system. Human beings by nature do not like any pressure and they dislike or even rebel against anything forced upon them.

4.9 Benefits of Budgets and Budgetary Control

Budgets provide benefits both for the business, and also for its managers and other staff:

i. **The budget assists planning:** By formalising objectives through a budget, a business can ensure that its plans are achievable. It will be able to decide what is needed to produce the output of goods and services, and to make sure that everything will be available at the right time.

ii. **The budget communicates and co-ordinates:** Because a budget is agreed by the business, all the relevant managers and staff will be working towards the same end. When the budget is being set, any anticipated problems should be resolved and any areas of potential confusion clarified. All departments should be in a position to play their part in achieving the overall goals.

iii. **The budget helps with decision-making:** By planning ahead through budgets, a business can make decisions on how much output – in the form of goods or services – can be achieved. At the same time, the cost of the output can be planned and changes can be made where appropriate.

iv. **The budget can be used to monitor and control:** An important reason for producing a budget is that management is able to use budgetary control to monitor and compare the actual results. This is so that action can be taken to modify the operation of the business as time passes, or possibly to change the budget if it becomes unachievable.

v. **The budget can be used to motivate:** A budget can be part of the techniques for motivating managers and other staff to achieve the objectives of the business. The extent to which this happens will depend on how the budget is agreed and set, and whether it is

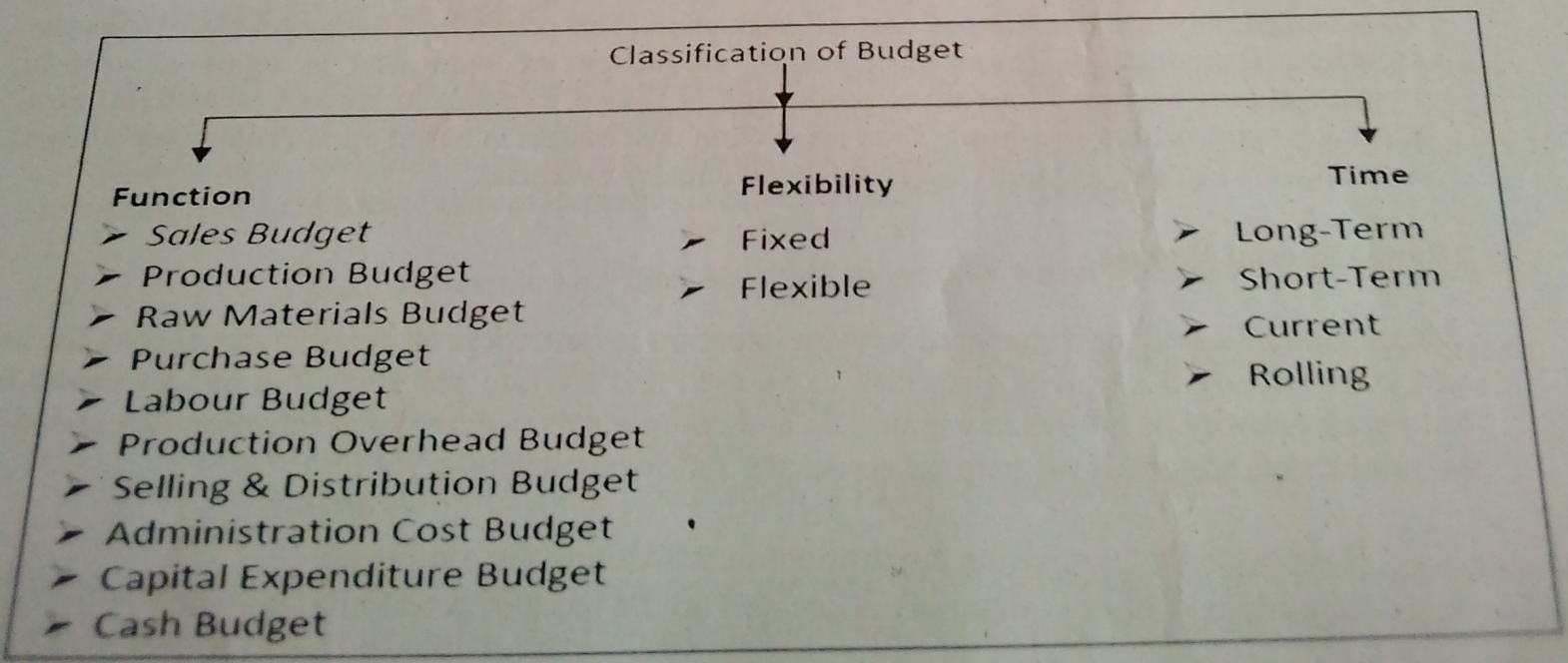
thought to be fair and achievable. The budget may also be linked to rewards (for example, bonuses) where targets are met or exceeded.

4.10 Steps in Preparing a Budget Preparing a budget involves the following steps:

i. Establish budget centres (for the purposes of budge-tary control)
ii. Prepare a clearly defined organisational chart stating the functional responsibilities of each member of the management team.
iii. Prepare a budget manual (specifies in detail the pro-cedures to be followed)
iv. Form a budget committee.(for co-ordinating and reviewing the budget programme)
v. Determine the limiting or key factor
vi. Select the budget period. (period of time for which the budget is prepared and employed)
vii. Set objectives to be reached by the end of the budget period.
viii. Prepare forecasts for the period.
ix. Determine enterprise policies (e.g., product range, normal hours of work per week, channels of distri-bution, stocks, research and development appropria-tion, investments).
x. Compute from the forecasts the requirements in terms of the economic quantities needed to meet the objectives while complying with the policies — and subsequently convert these quantities into monetary values. This results in an initial provisional budget.
xi. Review this initial budget with respect to the planned objectives and amend objectives or policies or both repeatedly until an acceptable budget emerges.
xii. Formally accept the budget which then becomes the master budget and as such is an executive order.

4.11 Classification of Budget:

The extent of budgeting activity varies from firm to firm. In a smaller firm there may be a sales forecast, a production budget, or a cash budget. Larger firms generally prepare a master budget. Budgets can be classified into different ways from different points of view. The following are the important basis for classification:



4.11.1 Functional Classification:

Sales budget

The sales budget is an estimate of total sales which may be articulated in financial or quantitative terms. It is normally forms the fundamental basis on which all other budgets are constructed. In practice, quantitative budget is prepared first then it is translated into economic terms. While preparing the Sales Budget, the Quantitative Budget is generally the starting point in the operation of budgetary control because sales become, more often than not, the principal budget factor. The factor to be consider in forecasting sales are as follows:

i. Study of past sales to determine trends in the market.
ii. Estimates made by salesman various markets of company products.
iii. Changes of business policy and method.
iv. Government policy, controls, rules and Guidelines etc.
v. Potential market and availability of material and supply.

Production Budget

The production budget is prepared on the basis of estimated production for budget period. Usually, the production budget is based on the sales budget. At the time of preparing the budget, the production manager will consider the physical facilities like plant, power, factory space, materials and labour, available for the period. Production budget envisages the production program for achieving the sales target. The budget may be expressed in terms of quantities or money or both. Production may be computed as follows:

Units to be produced = Desired closing stock of finished goods + Budgeted sales – Beginning stock of finished goods.

Production Cost Budget

This budget shows the estimated cost of production. The production budget demonstrates the capacity of production. These capacities of production are expressed in terms of cost in production cost budget. The cost of production is shown in detail in respect of material cost, labour cost and factory overhead. Thus production cost budget is based upon Production Budget, Material Cost Budget, Labour Cost Budget and Factory overhead.

Raw-Material Budget

Direct Materials budget is prepared with an intention to determine standard material cost per unit and consequently it involves quantities to be used and the rate per unit. This budget shows the estimated quantity of all the raw materials and components needed for production demanded by the production budget. Raw material serves the following purposes:

i. It supports the purchasing department in scheduling the purchases.
ii. Requirement of raw-materials is decided on the basis of production budget.

iii. It provides data for raw material control.
iv. Helps in deciding terms and conditions of purchase like credit purchase, cash purchase, payment period etc.

It should be noted that raw material budget generally deals with only the direct materials whereas indirect materials and supplies are included in the overhead cost budget.

Purchase Budget

Strategic planning of purchases offers one of the most important are as of reduction cost in many concerns. This will consist of direct and indirect material and services. The purchasing budget may be expressed in terms of quantity or money.

The main purposes of this budget are:

i. It designates cash requirement in respect of purchase to be made during budget period; and
ii. It is facilitates the purchasing department to plan its operations in time in respect of purchases so that long term forward contract may be organized.

Labour Budget

Human resources are highly expensive item in the operation of an enterprise. Hence, like other factors of production, the management should find out in advance personnel requirements for various jobs in the enterprise. This budget may be classified into labour requirement budget and labour recruitment budget. The labour necessities in the various job categories such as unskilled, semi-skilled and supervisory are determined with the help of all the head of the departments. The labour employment is made keeping in view the requirement of the job and its qualifications, the degree of skill and experience required and the rate of pay.

Production Overhead Budget

The manufacturing overhead budget includes direct material, direct labour and indirect expenses. The production overhead budget represents the estimate of all the production overhead i.e. fixed, variable, semi-variable to be incurred during the budget period. The reality that overheads include many different types of expenses creates considerable problems in:

i. Fixed overheads i.e., that which is to remain stable irrespective of vary in the volume of output,
ii. Apportion of manufacturing overheads to products manufactured, semi variable cost i.e., those which are partly variable and partly fixed.
iii. Control of production overheads.
iv. Variable overheads i.e., that which is likely to vary with the output.

The production overhead budget engages the preparation of overheads budget for each division of the factory as it is desirable to have estimates of manufacturing overheads prepared by those

overheads to have the responsibility for incurring them. Service departments cost are projected and allocated to the production departments in the proportion of the services received by each department.

Selling and Distribution Cost Budget

The Selling and Distribution Cost budget is estimating of the cost of selling, advertising, delivery of goods to customers etc. throughout the budget period. This budget is closely associated to sales budget in the logic that sales forecasts significantly influence the forecasts of these expenses. Nevertheless, all other linked information should also be taken into consideration in the preparation of selling and distribution budget. The sales manager is responsible for selling and distribution cost budget. Naturally, he prepares this budget with the help of managers of sub-divisions of the sales department. The preparation of this budget would be based on the analysis of the market condition by the management, advertising policies, research programs and many other factors. Some companies prepare a separate advertising budget, particularly when spending on advertisements are quite high.

Administration Cost Budget

This budget includes the administrative costs for non-manufacturing business activities like directors fees, managing directors' salaries, office lightings, heating and air condition etc. Most of these expenses are fixed so they should not be too difficult to forecast. There are semi-variable expenses which get affected by the expected rise or fall in cost which should be taken into account. Generally, this budget is prepared in the form of fixed budget.

Capital- Expenditure Budget

This budget stands for the expenditure on all fixed assets for the duration of the budget period. This budget is normally prepared for a longer period than the other functional budgets. It includes such items as new buildings, land, machinery and intangible items like patents, etc. This budget is designed under the observation of the accountant which is supported by the plant engineer and other functional managers. At the time of preparation of the budget some important information should be observed:

- Overfilling on the production facilities of certain departments as revealed by the plant utilization budget.
- Long-term business policy with regard to technical developments.
- Potential demand for certain products.

Cash Budget

The cash budget is a sketch of the business estimated cash inflows and outflows over a specific period of time. Cash budget is one of the most important and one of the last to be prepared. It is a detailed projection of cash receipts from all sources and cash payments for all purposes and the resultants cash balance during the budget. It is a mechanism for controlling and coordinating the fiscal side of business to ensure solvency and provides the basis for forecasting and financing

required to cover up any deficiency in cash. Cash budget thus plays a vital role in the financing management of a business undertaken.

Cash budget assists the management in determining the future liquidity requirements of the firm, forecasting for business of those needs, exercising control over cash. So, cash budget thus plays a vital role in the financial management of a business enterprise.

Function of Cash Budget:

i. It makes sure that enough cash is available when it is required.
ii. It designates cash excesses and shortages so that steps may be taken in time to invest any excess cash or to borrow funds to meet any shortages.
iii. It shows whether capital expenditure could be financed internally.
iv. It provides funds for standard growth.
v. It provides a sound basis to manage cash position.

Advantages of Cash Budget:

i. **Usage of Cash:** Management can plan out the use of cash in accord with the changes of receipt and payment. Payments can be planned when sufficient cash is available and continue the business activity with the minimum amount of working capital.
ii. **Allocation for Capital Investment:** It is dual benefits such as capital expenditure projects can be financed internally and can get an idea for cash availability of capital investment.
iii. **Provision of Excess Funds:** It reveals the availability of excess cash. In this regard management can decide to invest excess funds for short term or long term according to the requirements in the business.
iv. **Pay-out Policy:** This budgetary system may help the management for future pay-out policy in the form of dividend. In case the cash budget liquid position is not favourable, the management may reduce the rate of dividend or maintain dividend amount or skip dividend for the year.
v. **Provision for acquiring Funds:** It gives the top level management ideas for acquiring funds for a particular time duration and sources to be explored.
vi. **Profitable Use of Cash:** Business person can take decision for the best use of liquidity to make more profitable transaction. It can be used at the time of bulk purchase payments and one get the benefit of discount.

Limitation of Cash Budget:

i. **Complex Assumption:** Business is full of uncertainties, so it is very difficult to have near perfect estimates of cash receipts and payments, especially for a longer duration. It can be predicted for short duration such as of three to four months.
ii. **Inflexibility:** If the finance manager fails to show flexibility in implementing the cash budget, it will incur adverse effects. If the manager follows strictly adheres to the estimates of cash inflow it may negatively result in losing customers. Likewise, loyalty in payments may lead to deterioration of liquid position.

iii. **Costly:** Application of this technique necessitates collecting of statistical information from various sources and expert personnel in operation research would be the costliest deal. It becomes expensive which may not be affordable to small business houses. In addition, finding out experts is not always possible. In this situation the long term predictions do not prove correct.

4.11.3 Time Budget:

With regard to time, budgets may be classified into four categories:

(a) **Long-term Budget**: These budgets are prepared on the basis of long-term projection and portray a long-range planning. These budgets generally cover plans for three to ten years. In this regard it is mostly prepared in terms of physical quantities rather than in monetary values.

(b) **Short-term Budget:** In this budget forecasts and plans are given in respect of its operations for a period of about one to five years. They are generally prepared in monetary units and are more specific than long-term budgets.

(c) **Current Budgets:** These budgets cover a very short period, may be a month or a quarter or maximum one year. The preparation of these budgets requires adjustments in short-term budgets to current conditions.

(d) **Rolling Budgets:** A few companies follow the practice of preparing a rolling or progressive budget. In this case companies prepare the budget for a year in advance. A new budget is prepared after the end of each month or quarter for a full year in advance. The figures for the month or quarter which has rolled down are dropped and the statistics for the next month or quarter are added.

4.12 Master Budget

The master budget is a review budget which combines all functional budgets and it may take the form of Financial Statements at the end of budget period. It is also called the operating budget. It embraces the impact of both operating decisions and financing decisions. It provides the necessary plan for operations during the period when all detailed budgets have been completed. A master budget becomes a principal document for the operations of the industry during the period it covers. Actually, budgets have to be amended several times before the position disclosed by the summary budget is accepted. A master budget is an annual profit plan, which may be broken into months or quarters.

As a result a master budget is:

- A statement of a company's operating policy for the budget period, and
- A budgeted profit and loss account for the budget period and a balance sheet as at the end the period.

Merits of the Master Budget:

- A review of all the functional budgets in specific form is available in one report.

- It presents an overall profit position of the organization for the budget.
- It also contains the information regarding the forecast balance sheet.
- It examines the fitness of all the functional budgets

4.13 Performance Budgeting (PB)

The term performance implies results or outputs. ' A performance budget is one which presents the purposes and objectives for which funds are required, the costs of the programmes proposed for achieving those objectives, and quantitative data measuring the accomplishments and work performed under programme. Thus, PB is a technique of presenting budgets for costs and revenues in terms of functions, programmes and activities and correlating the physical and financial aspects of the individual items comprising the budget.

As per the National Institute of Bank Management, PB technique is, "the process of analyzing, identifying, simplifying and crystallizing specific performance objectives of a job to be achieved over a period in the framework of the organizational objectives, the purpose and objectives of the job. The technique is characterized by its specific direction towards the business objectives of the organization." As a result, performance budget accentuates the execution of specific goals over a period of time.

Steps in Performing Budgeting (PB)

- Establishment of performance targets
- Establishment of responsibility centre
- Estimating financial requirements
- Comparison of actual with budgeted performance
- Reporting and action

4.14 Zero-Base Budgeting (ZBB)

Traditionally budgeting is done on the basis of the tar-gets set in the last year. Certain additions and deductions are made in the last year's budget figures- to arrive at the figures for the current budget. Thus, in traditional budget making we depend on the last year's targets and on the principle of increment or decrement to decide upon the additions and deletions required to the incorporated in the previous budget figures to arrive at the current budget figures.

In case of ZBB it is assumed that there was no previous year's budget and the current budget proposals are independently evaluated in the light of expected benefits and costs involved. ZBB, therefore, refers to formulating a budget without making any reference to previous plans and achievements, but making particular reference to the justification of the proposed allocation of resources. This is not once. Every time a budget is to be prepared, the process of budgeting should start from zero and the pro-posed allocation of resources should be justified in terms of cost-benefit analysis.

I.C.M.A., London, defined ZBB as "a method of budgeting whereby all activities are re-evaluated each time a budget is formulated. Each functional budget starts with the assumption

that the function does not exist and is at zero cost. Increments of cost are compared with increments of benefits culminating in the planned maximum benefit given by budgeted cost."

Peter A. Pyhrr, the father of ZBB, defined ZBB as "an operating planning and budgeting process which re-quires each manager to justify his entire budget request in detail from scratch. Each manager states why he should spend any money at all. This approach requires that all activities be identified as decision packages which would be evaluated by systematic analysis and ranked in order of importance."

Zero-base budgeting becomes ideal in case of planning and decision making. Development planning includes undertaking of various types of work of which there is no previous experience. Budgets in these cases cannot be based on past targets modified by certain additions and deletions. Every budget proposal has to be evaluated on the basis of cost-benefit analysis. All proposed activities are to be identified as decision packages to be evaluated by systematic analysis and ranked in order of priority. Decision making depends on priority list.

Main Features of ZBB

The following are the principal features:

a. Zero (or scratch) is taken as the basis of budgeting and not the targets of previous budgets.
b. Management of each decision unit must have to justify the fund demanded.
c. All proposed activities are grouped into various decision packages.
d. All decision packages are adequately evaluated and arranged according to priority.
e. Alternative decision packages are also taken into consideration after evaluating properly.
f. Final allocation of resources is done on the merits of evaluation of all decision packages including the alternative decision packages.

How ZBB differs from Traditional Budgeting

The following are the points of distinction between traditional budgeting and zero-base budgeting:

a. In traditional budgeting previous level of expenditure is given emphasis, whereas, in ZBB new economic appraisal is made every time a budget is pre-pared.
b. Traditional budgeting is an accounting oriented function, whereas, ZBB is project (or decision) oriented function.
c. For preparing a traditional budget existing programme need not be rejustified, whereas, for preparing a zero-base budget the existing and new projects are to be justified in the light of benefits and costs.
d. In case of a traditional budget the top management of the organisation justifies why a particular amount of expenditure is decided upon for a particular decision unit, whereas, in case of ZBB it is the manager of the decision unit (and not the top management) who justifies the amount of expenditure.

e. In case of traditional budgeting how much is to be added with or deleted from the previous budget figures is only taken into account, whereas, in case of ZBB appraisal of the existing level of expenditure is done and the future proposal for expenditure is justified from different angles.

f. Preparing a traditional budget is a simple job monotonously done year after year, whereas, preparing a zero-base budget requires logical approach and it involves many complex steps to establish logic be-hind a proposal.

Applicability of ZBB

ZBB is very suitably applicable in planning and development areas particularly of the government and local bodies. Projects of every ministry are thoroughly examined with reference to costs and benefits. Which projects of which ministry shall enjoy priority in respect of allocation of resources depends upon the report of cost-benefit examination by persons competent to do so. Where the resources are limited but there are many development works' to be done as in case of educational institutions, local bodies etc. ZBB becomes ideal, be-cause efficient use of limited resource is almost guaranteed.

In manufacturing concerns there are many devices like standard cost technique, work and motion study etc. to control cost. These techniques help controlling the prime costs and production overhead, because in these cases there is direct relationship between cost and output. But in manufacturing concerns there are various other expenditure which supports production function, but no relationship between cost and output can be established in these cases. This area of expenditure is a suitable field for application of ZBB. This area is covered by expenditure like accounting, research, development, maintenance, advertisement, postage, electricity, rent of administrative office and many others.

Merits of ZBB

The following merits of ZBB are claimed:

a. All projects — current and future are examined carefully with reference to cost and benefits and the most efficient project is accepted. Thus, ZBB is al-ways a technique based on logic. The current projects are continued only if they are logically sound and efficient.

b. Amongst the available alternatives the most efficient ones are chosen on the cost-benefit acceptability for rational planning. ZBB requires the managers of decision units to find out cost effective ways of implementing the plans. Thus, ZBB helps making best planning and it also helps controlling cost.

c. Cost-benefit analysis is done in respect of both existing and future projects. On the basis of the result of the analysis ranking of projects is done and funds are allocated in order of priority. Thus, ZBB helps efficient allocation of funds.

d. In zero-base budgeting most useful alternatives are found out for using the available resources of the organisation. In performing an activity also, alternative ways lire taken into consideration and alternative quanta of efforts to be put in are also considered. These help promoting new ideas for performing an activity in (lie best possible way.

e. Appraisal of existing activities and new projects is done, with equal importance, with regard to justifiability of continuing new undertaking on the basis of cost-benefit analysis.
f. In ZBB the managers of all decision units are to submit reports on their claims of funds and justification of the claims. Thus, in zero-base budget making, participation of all managers of decision units becomes compulsory. This promotes forthcoming of new ideas in allocation and utilisation of funds.
g. Since appraisal of the existing activities is done carefully in ZBB, activities failing to give desired results may be discontinued and thus unproductive expenditure may be saved.
h. ZBB technique being adopted all managers are obliged to make self-evaluation of projects under their command. Loopholes, if any, in the working progress are automatically detected and remedial measures are adopted. Managers' awareness in respect of detection of errors and their rectification helps attaining efficiency in performance.
i. ZBB creates automatic motivation and helps form-ing a management team of individuals having talents and skills.
j. ZBB helps linking up top management with medium and lower level management. Thus, speedy communication is ensured which helps expediting appropriate decision-making.
k. 'Management by objectives' (or MBO) can be introduced and implemented with the help of ZBB. ZBB can be used for fulfilling the objectives of traditional budgeting, as it can be used for fulfilling other objectives as well.

Demerits of ZBB

The following demerits of ZBB are apprehended:

a. Collection and analysis of data of alternative future projects as well as existing activities requires time, money and energy.
b. Implementation of ZBB technique becomes difficult, if full co-operation amongst management staff is not forthcoming.
c. Evaluation often becomes very difficult, as ideal standard of evaluation is not available. Evaluation in a desired manager requires technical knowledge which may not be available.
d. Managers are to undergo continuous training. If basic idea and objectives of ZBB are not crystal clear to the managers, implementation of ZBB sys-tem in a right way cannot be expected.
e. In care of ZBB projects are to be ranked according to priority. Ego of top management may lead to irrational ranking of projects (i.e., if the top management favors a projects, irrespective of its merits it may be ranked high). Moreover, confusion may arise among the management staff regarding the method of ranking to be adopted.
f. ZBB requires involvement of a good number of individuals. This may create complications in communication system, difficulty in managing the huge volume of data, involvement of voluminous paper work etc.

Procedure of Zero-base Budgeting:

i. Determination of the objective: This is an initial step for determining the objective to introduce ZBB. It may result into the decreased cost in personnel overheads or debunk the projects which do not fit in the business structure or which are not likely to help accomplish the business objectives.

ii. **Degree at the ZBB is to be introduced:** It is not possible every time to evaluate every activity of the whole business. After studying the business structure, the management can decide whether ZBB is to be introduced in all areas of business activities or only in a few selected areas on the trial basis.

iii. Growth of Decision units: Decision units submit their data as to which cost benefit analysis should be done in order to arrive at a decision that helps them decide to continue or abandon. It could be a functional department, a programme, a product-line or a sub-line. Here the decision units exist independent of all the other units so that when the cost analysis turns unfavourable that particular unit could be closed down.

iv. Growth of Decision packages: Decision units are to be identified for preparing data relating to the proposals to be included in the budget, concerned manager analyzes the activities of his or her own decision units. His job is to consider possible different ways to fulfill objectives. The size of the business unit and the volume of goods it deals with determine the number of decision units and packages. The decision package has to contain all the information which helps the management in deciding whether the information is necessary for the business, what would be the estimated costs and benefits expected from it.

v. **Assessment and Grading of decision packages:** These packages invented and formulated are submitted to the next level of responsibility within the organization for ranking purposes. Ranking basically decides as to whether or not to include the proposals in the budget. The management ranks the different decision packages in the order from decreasing benefit or importance to the organization. Preliminary ranking is done by the unit manager himself and for the further review it is sent to the superior officers who consider overall objectives of the organization.

vi. **Allotment of money through Budgets:** It is the last step engaged in the ZBB process. According to the cost benefit analysis and availability of the funds management has ranks and thereby a cut-off point is established. Keeping in view reasonable standards, the approved designed packages are accepted and others are rejected. The funds are then allotted to different decision units and budgets relating to each unit are prepared.

4.15 Budgets Reports:

Ascertaining budget in itself is of no use unless there is a constant flow of budget reports showing assessment of the actual and the budget figures. It should be prepared at regular intervals like every month showing results of the difference between actual and budgeting figure. The reports should be prepaid in such a way that they establish responsibility for the variances. Reports should also disclose whether or not variances are favourable and that they are controllable.

The contents of the budget report vary according to the need of the managerial level. Reports are prepared in such a way that the concerned manager is directly concerned to be provided with detailed information. As the level grows higher, the amount of detail becomes less although the coverage of the report will widen.

Essentials of a Budget Report:

i. The following essentials should be kept in view while preparing budget reports: The budget reports should be simple, appropriate and understandable for the concerned person.
ii. The report should be presented in time.
iii. The report should be precise. However, its accuracy should not be at the cost of clarity.
iv. The principle of exemption should be utilized, where possible.
v. It should contain only necessary information according to the need of the concerned person.