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Subject: Management Accounting (4519201)

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Module 01
Chapter 01
Meaning And Definition

Meaning of Management Accounting

A business firm is established with certain objectives. Earning maximum profit is generally the ultimate objective of the business. The management of a firm has to take a series of decisions every day in order to achieve this objective. The wisdom of the management decisions and the resultant transactions related to corporate objectives, the risk undertaken and profitability achieved, have to be evaluated. In this process a large size of information is generated in quantitative terms. This information is mainly generated from accounts. Therefore the accounting function has a significant role in the firm's management information system. Accounting measures and reports in monetary terms, the firm's resources and their flows.

Management Accounting is the presentation of accounting information in order to formulate the policies to be adopted by the management and assist its day-to-day activities. In other words, it helps the management to perform all its functions including planning, organizing, staffing, directing and controlling.

Definition of Management Accounting

"Management accounting is the adoption and analysis of accounting information and its diagnosis and explanation in such a way to assist management"

- T. G. Rose

"Management accounting is concerned with accounting information that is useful to the management"

- Robert N. Antony

"Management accounting is the term used to describe the accounting methods, systems and techniques which coupled with special knowledge and ability, to assist the management in its task of maximizing profits or minimizing losses"

- J. Batty

"Management accounting includes the methods and concepts necessary for effective planning, for choosing along alternative business actions and for control through evaluation and interpretation of performance".

- American Accounting Association

"Management accounting is the presentation of accounting information in such a way as to assist management in the creation of policy and in the day to day operations of an undertaking".

- ICMA (London)

Management accounting as practice extends to the following three areas:

· Strategic management: Acting the role of management accountant as a strategic partner in the organization.

· Performance management: Developing the practice of business decision making and managing the performance of the organization.

· Risk management: Contributing to frameworks and practices for identifying, managing and reporting risks to the achievement of the objectives of the organization.

- American Institute of Certified Public Accountants (AICPA)

Management Accounting = Cost accounting + Financial Accounting.

Nature of Management Accounting

1) **Providing Accounting Information:**

The basic responsibility of an Accounts Department of any organisation is to record, collect and classify the data relating to the business transactions. Such information is redesigned by the Management Accounting' functionaries and presented to the Management' in a form so as to enable them (the Management) to make optimum utilisation thereof in 'Decision Making Process', 'Policy Formulation', 'Planning & Budgeting, and similar management functions.

2) **Cause and Effect Analysis:**

This is one of the most important features of 'Management Accounting'. Cause and effect of any activity in a business is subjected to a study under the 'Management Accounting'. For example, if the business suffered a loss in a particular year, the reasons thereof are examined and similarly in case of huge profits, the reasons behind such profitability are also looked into and analysed. The factors leading to profitability or business loss are studied and necessary actions, wherever needed, are taken.

3) **Use of Special Techniques and Concepts:**

Various tools / techniques used under the 'Management Accounting' are Financial Planning & Analysis to Budgetary Control", "Marginal Costing", "Project Appraisal", Control Accounting', etc. They are put to use as per the demand of the situation and timing.

4) **Vital Decisions-Making:**

'Management Accounting' furnishes the required inputs in the form of financial data to the management, which in turn becomes the basis for the management's 'Decision Making Process. The Historical Data supplied by the Management Accountants' is further analysed by the management with a view to see its effect on future decisions.

5) **Achievement of Objectives:**

The information received from 'Management Accountants', though historical in nature, facilitates in achieving the 'Organizational Objectives'. It also helps in setting up new 'Goals & Objectives' and making strategies for achieving the same. The break-up of actual performance of individual departments, against the target fixed for it, enables the management to assess their strengths and weaknesses and take requisite remedial measures, if needed.

6) **Increase in Efficiency:**

The inputs received from the source of 'Management Accounting', if properly put to use. would definitely result in enhancement of the organisation's overall efficiency. It is, however, necessary to fix targets for each department and monitor their performance separately, so that the management may identify the efficient and inefficient departments and take appropriate action timely.

Objectives of Management Accounting

The objectives of 'Management Accounting' may be put under three main categories, viz. (i) Measuring Performance, (ii) Assessing Risks, and (iii) Allocating Resources. These objectives enable the 'Management' to ensure overall improvement in the performance and planning strategies for the future growth of the organisation.

1) **Measuring Performance:**

'Management Accounting' acts as a yardstick to measure the performance of a business enterprise. Such performance evaluation may be carried out at two levels: one is at the organisational level and the other is at individual level. At 'Organisational Level', such measurement assesses the efficiency at which various resources like 'Capital', 'Raw Materials', 'Manpower', etc. are put to use. At 'Individual Employee Level, the assessment is made with regard to 'Output Efficiency', 'Achievement of Targets', etc. Assessment at both the above levels is made by using various Accounting Techniques..

2) **Assessing Risks:**

Various kinds of risks are associated with the conduct of any business; avoiding risks altogether in carrying out a business are impossible. However, the level of risk may be managed by having a proper control over the risks and their efficient mitigation, with a view to ensuring that the business is exposed to the bare minimum risk and the objective of 'Maximisation of Profit' is also achieved.

Taking risks, which is unavoidable, works like a double edged sword; it may result either in losses or gains for the business organisation.

3) **Allocating Resources:**

Various resources, e.g. 'Capital', 'Manpower', 'Raw Material', etc. is the backbone of any business organisation. Their allocation in a prudent manner is of paramount importance, especially in cases where such resources are scarce, i.e. their availability is limited. 'Management Accounting' acts as a guiding factor in this regard, as it determines the quantum of different resources to be channeled / diverted to various projects/ departments, so that the corporate objective of 'Maximization of Profit' is achieved.

For example, the 'Management Accountant of a manufacturing unit is in a position to identify the most efficient Product Portfolio for the organisation. Such identification is possible on the basis of the (i) Availability of resource (funds), (ii) Manufacturing time, (iii) Selling price of the product, and (iv) Demand from the market.

Scope of Management Accounting

Management Accounting' has a wide and far-reaching scope as it has access to the ideologies from various branches of accountancy and management:

1) **Financial Accounting:**

It is the conventional way of recording and presenting various business transactions. The information put forward through Financial Accounting' are historical in nature. The past data disclosed through the Financial Accounting' are, however, made use for forecasting of a business organisation. For example, the historical data revealed by the Financial Statements may be taken as a basis for planning future strategy with regard to the various business parameters, viz. 'Amount of Sale/Purchase', 'Level of the Debtors / Creditors', 'Inventory Level', 'Liquidity required to be maintained by the enterprise to meet its day-to-day business obligations', etc

2) **Cost Accounting:**

Cost accounting is a process through which the information regarding the costing of goods produced and / or services rendered is collected, analyzed and interpreted. Such information is obtained through the application of various tools and techniques like 'Marginal Costing', 'Standard Costing', 'Process Costing', 'Unit Costing", and "Batch Costing', etc. On the basis of the advice received from the 'Cost Accountants', the future course of action, including policy formulation, is determined by the management with regard to cost efficiency and capabilities.

3) **Statistical Methods:**

'Statistical Methods', which are yet an important tool of Management Accounting', portray the accounting data through 'Charts', 'Tables', 'Graphs', 'Diagrams', etc.

4) **Operations Research:**

'Operations Research' is a discipline, which deals with the usage of modern and advanced OR analytical techniques (like 'Tree Analysis', 'Simulation', 'Mathematical Optimization', 'Queuing Theory', etc.) to facilitate the 'Decision Making Process'. It is an innovative tool of 'Management Accounting'.

Functions of Management Accounting

The role of Management Accounting' in a business organisation is a crucial one. It performs the following functions:

1) **Planning and Forecasting:**

'Planning' and 'Forecasting' are integral parts of the corporate strategy for achieving overall Organisational Objectives'. With a view to achieving the above, sub-targets are prescribed for various departments. 'Management Accounting' provides necessary inputs in this regard, which facilitates the management of the organisation in 'Planning' and 'Forecasting' in the short-term as well as long-term perspective. plan

2) **Modification of Data:**

The basic accounting data provided by the Financial Accounting' are subjected to re-arrangement and modification of the Management Accounting' and thereafter reported in such a manner that it becomes 'Ready to Use' for the management of the organisation.

3) **Financial Analysis and Interpretation:**

The information provided by the traditional Financial Accounting' is generally 'Raw' and rather Technical' in nature. The job of the Management Accountant is to make it 'Simple', 'Easy to interpret' and 'Ready to be used' by the management of the organisation.

4) **Facilitates Managerial Control:**

Through various Accounting Tools', the 'Management Accountant' monitors the performance of different departments/individual employees and ensures that the targets prescribed for them by the management are achieved. On the basis of the feedback received from the Management Accountant' in this regard, necessary corrective measures / steps, wherever required, are initiated by the management.

5) **Communication:**

The system of 'Management Accounting' acts as a communication link, not only within the organisation (between the 'Management' and 'Others'), but also between the Organisation' on one hand and the 'Outside World' on the other.

6) **Use of Qualitative Information:**

In addition to the collection, simplification, interpretation, and analysis of financial data received through the Financial Statements' (which are quantitative in nature), the job of a Management Accountant includes collection, simplification, interpretation and analysis of non-monetary data also (which are qualitative in nature).

7) **Coordinating Various Departments:**

A proper coordination and synchronisation between different departments of an organisation is necessary for its hassle-free operation and smooth sailing. The system of 'Management Accounting' acts as a coordinator in this regard. Through the 'Budgeting' and 'Financial reporting system, the 'Management Accountant' is able to maintain coordination amongst all the departments.

8) **Helpful in taking Strategic Decision:**

The analytical information provided by the system of 'Management Accounting' empowers the management of an organisation with various options for taking Strategic Decisions'. The data made available to the management clearly indicates the 'Pros' and 'Cons' of each option.

Tools and Techniques of Management Accounting

1) **Financial Policy and Accounting:**

Capital Structure of an organisation reflects the sources of raising finance for the conduct of business. Depending upon the management policies, the finances may be raised through 'Equity Route' or 'Debt Route'. Under the first route, there is an option for the Issue of Share Capital' or 'Issue of Preference Share Capital'. Similarly, under the 'Debt Route', various alternatives are available, like 'Long Term Debts' or 'Short Term Debts'. Then there are options to issue 'Bonds' / 'Debentures' or 'Institutional Borrowings'. In all such exercises pertaining to 'Decision Making' and 'Policy Formulation', the system of Management Accounting provides necessary techniques to the management so as to make their job smooth.

2) **Analysis of Financial Statements:**

Financial Statements', viz., 'Profit & Loss Accounts' & 'Balance Sheet' or even 'Funds Flow Statement' & 'Cash Flow Statements' are rather technical in nature and not easy to comprehend. They are subjected to rearrangement, proper classification and analysis (including ratio analysis) by the Management Accountant and presented in such form and manner that they become simple, easily

comprehensible and 'Ready to Use' by the management for 'Decision Making' and 'Policy Formulation' exercises.

3) Historical Cost Accounting:

Under the system of Historical Cost Accounting the information regarding 'Costing' is recorded either on the date of the actual transaction or on a subsequent date. A comparison between the 'Actual Cost' and the 'Standard Cost' (predetermined by the management) gives an indication with regard to the performance of the organisation in this area. Historical Cost Accounting', though quite useful, has certain restrictions with regard to its application.

4) **Budgetary Control:**

The system of 'Budgetary Control' helps in preparation of 'Budgets' for all the 'Functional Departments' of the organisation on the basis of past data and the potential of the department. The actual performance of the departments and individual employees is monitored on an on-going basis with reference to the targets fixed under the 'Budget'. The entire process enables the management to have control over the affairs of different se departments and its employees and prompt it for necessary action (including changes in its planning and policy).

5) Standard Costing:

Under the system of 'Standard Costing', costs involved in each activity are pre-decided on the basis of study and analysis of the prevailing internal and external circumstances. Subsequent to the determination of Standard Costs' in the above manner, the 'Actual Costs' incurred at a later stage are compared with 'Standard Costs'. Any deviation between the two is analysed with a view to ascertaining the causes of such variance and initiating appropriate measures. 'Standard Costing' acts as an effective tool for (i) Cost control, (ii) Increasing overall organisational efficiency, and (ii) 'Management by Exception'.

6) Marginal Costing:

The underlying principle of the system of 'Marginal Costing' is the fact that "With the changes in the volume of production, the cost also undergoes changes". The 'Cost Element' of a product is bifurcated into (i) Fixed Cost, and (ii) Marginal Cost. The 'Fixed Cost' of production remains constant irrespective of the level of production (up-to a certain level). It means that even if a single unit of a product is produced, the minimum 'Fixed Cost' would be incurred, which would remain unchanged at a certain level. Thereafter, with the production of every additional unit, only the variable cost will be added.

7) Decision Accounting:

One of the most important functions of the management of any organisation is to make decisions. 'Decision Making' exercise involves (i) availability of data and multiple choices, (ii) 'pros' and 'cons associated with each of those choices, and (iii) deciding the best course of action keeping in mind the interest and welfare of the organisation. With the necessary inputs made available by the system of

Management Accounting', the Decision Making Process' becomes smooth and hassle-free for the management of an organisation.

8) **Revaluation Accounting / Replacement Accounting:**

The management of any organisation is entrusted with the time consuming task of ensuring that its capital remains intact, i.e. there is no erosion of capital under any circumstances. The Management Accountant' is helpful to the management in performing this task; computation of profits is carried out in such a manner that the Capital' remains unaffected, even when the inflationary forces are very strong. Replacement of 'Fixed Assets' is planned in advance without putting undue strain on 'Profitability' and 'Capital'.

9) **Management Information Systems:**

With the advent of electronic devices and growth of Information Technology of late, various steps involved in accounting, viz. recording, classifying data and analysis thereof, etc. have become easy, convenient, and fast. The flow of data through various channels of management takes place very fast (some of them on 'Real Time Basis'). 'Decision Making Process' at top levels of management and flow of information at lower levels of management in the form of instructions (with regard to further course of action) has also improved a lot during the recent times.

10) **Working Capital Management:**

The system of 'Management Accounting' uses this tool for the efficient management of Working Capital'. It includes handling of 'Short Term Assets' (cash, sundry debtors, inventories, etc.) and 'Short Term Liabilities' (sundry creditors, miscellaneous expenses, etc.). Any mismatch between them (Working Capital Gap) needs to be filled without any loss of time. The target is to reduce the time taken for conversion of 'Raw Material' into 'Sales' and 'Sundry Debtors' into 'Cash'.

Advantages of Management Accounting

In the context of present day business environment, the role of 'Management Accounting' is very important, as may be seen from the following:

1) **Increasing Efficiency:**

Under the system of 'Management Accounting', each department is brought under the purview of the 'Performance Budgeting' exercise; targets are prescribed in advance and performance is monitored on an ongoing basis. As the efficiency of all the departments is measured through the system, there is significant improvement in their performance. Better performance of departments results in overall improved efficiency of the organisation.

2) P**roper Planning:**

The inputs and feedback received through the various techniques applied by the system of 'Management Accounting' are of immense help to the management of the organisation especially in the area of 'Forecasting' and 'Future Planning'.

3) **Measurements of Performance:**

There are certain tools under the Management Accounting', through which the performance of departments of organisation may be measured. They are (i) Budgetary Control, and (ii) Standard Costing.

i) Budgetary Control: This tool forecast targets for departments in advance, against which their performance is monitored. Any shortfall in achievement of the targets is treated as a negative performance of the individual / concerned department.

ii) Standard Costing: Under this technique, 'Standards with activities is prescribed beforehand and all the 'Actual deviation in the 'Actual Cost from the 'Standard Cost'

4) **Maximizing Profitability:**

Various techniques of Management Accounting' focus on controlling the costs involved in different steps of the production cycle. This leads to reduction in the cost of production and efficiency boosting in respect of each department. The final outcome is the 'Maximization of Profit' for the business organisation.

5) **Improves Service to Customers:**

Once the cost of production is curbed through the techniques of 'Management Accounting', the organisation finds itself in a position to reduce the prices of finished goods. Further, the quality of goods produced is also maintained because of the application of 'Standard Costing' technique. As a result, the organisation is able to supply good quality products to its customers at a fair price without compromising with its 'Profitability. It is a 'Win Win' situation both for the enterprise and its customers.

6) **Effective Management Control:**

Various techniques and tools applied under the system of ``Management Accounting acts as a major support for the management in discharging its core functions like 'Coordinating', 'Controlling', 'Planning'. 'Forecasting' etc. The Standard Costing technique, which envisages setting Standard' and comparing the same with the 'Actual' performance, is an example of 'Management by Exception'.

Disadvantages of Management Accounting

However, it is deficient in certain respect, some of which are as follows:

1) **Based on Accounting Information:**

The entire gamut of 'Management Accounting' is based on the Financial Statements, viz. Profit & Loss Account' and 'Balance Sheet' prepared under the system of Financial Accounting'. It is expected that the data furnished through the 'Financial Statements are reliable. In case of any doubt in the authenticity of such data, the whole exercise becomes meaningless and futile.

2) **Lack of Knowledge:**

The personnel associated with the work relating to 'Management Accounting' are expected to have good knowledge of a wide range of subjects like 'Accounting", "Statistics', 'Economics', 'Management', etc. In the absence of such a condition, the feedback furnished to the management would be of not much use, as it would lack the quality and authenticity.

3) **Intuitive Decisions:**

The information furnished by the Management Accounting' is backed by facts, figures and a thorough scientific analysis using various techniques. However, at times it has been found that the management tends to make decisions spontaneously (which may involve an easy and convenient course) ignoring the feedback received through the Management Accountant' (which may involve a lengthy and complicated course). Such a tendency deprives the management benefits of 'Management Accounting'.

4) **Do Not Provide Alternative to Administration:**

The information provided by the management accounting system is generally advisory in nature and is not a substitute of 'Administration'.

5) **Personal Bias:**

There is a certain amount of subjectivity in the analysis and interpretation of data received through the Financial Accounting', as personal prejudices, and biases of the analyst play important roles in management accounting.

6) **Psychological Resistance:**

Setting up of the system of Management Accounting' in an organisation entails a major change in the Organizational Setup'. Introduction of new rules and regulations in the system generates some resistance from the groups of unsatisfied personnel. This results in some problems during the introduction of the system, which need to be sorted out.

Module 01
Chapter 02
Comparison among Financial Accounting, Management Accounting and Cost Accounting.

The economic development and technological improvements have resulted in an increase in the scale of operations and the advent of the company form of business organization. This has made the management function more and more complex and increased the importance of accounting information. This gave rise to special branches of accounting. These are briefly explained below:

a) Financial Accounting :

i) It satisfies all the disclosure as per the law.

ii) Its primary work is to prepare a Balance Sheet for depicting financial condition of the company and Profit and Loss Account for evaluation of expenses and income.

iii) All the information is shown on the basis of "Generally Accepted Accounting Standard".

iv) The outcome from financial accounting is used by Management and Cost Accounting. It is also used by outsiders in the form of printed accounts.

v) It takes past data into account.

b) Cost Accounting :

i) The cost accounting uses primary records ie vouchers for producing information

ii) In India, some industries only follow Cost Accounting (Records) Rule than any other standard.

iii) It records, classifies, analyses and reports the company performance in respect of cost.

iv) The outcome derived is used for short-term decision making and management accounting.

v) The major focus is on cost performance and cost interpretation.

vi) The outcome is basically associated with operations management i.e., manufacturing organisation and for short-term decision-making.

c) Management Accounting :

i) For achieving the organisational goals, management mainly uses management accounting.

ii) All the information gathered from Financial Accounting, Cost Accounting and other subjects i.e., Economics, Mathematics, etc. is used by Management Accounting.

iii) It does not follow any conventions or standards.

iv) It takes future viewpoints into account and it also requires maximum ability in studying and recording data.

v) The outcome derived from it is usually very private and is used only within the business.

vi) Its working can be seen in the entire organisation.

vii) The decision being studied is outside the examination of cost accounting (operational accounting) and far reaching.

Differentiation

Points	Financial Accounting	Cost Accounting	Management Accounting
Orientation	Financial Accounting concerned with funds as economic resource, i.e., cash	Cost Accounting is concerned with money as a measure of commercial activities of the business organisation.	Management Accounting is concerned with all the economic affairs from the management angle, irrespective of the fact whether the same is monetary or non-monetary in nature.
Scope	The scope of financial accounting deals with the financial aspect of a business entity. It is done by preparing Trading and Profit and Loss A/c for a specific period (accounting year), and Balance Sheet of a business organisation as of a specific date.	The scope of cost accounting includes the measurement of the economic performance of various cost centres. It provides appropriate data for the measurement of the economic performance of cost centres / cost units.	Management accounting accounting information covers the system, which includes financial accounting as well as cost accounting, in addition to other facets of financial management. It facilitates the management in discharging its various functions especially the decision making and evaluation of its performance

Analysis of performance	Financial accounting focuses on recording, summarising, classification, and analysis of financial data.	Cost accounting focuses on collection, classification and analysis of cost data.	Management emphasises focus on various departments of the business organisation and submit reports regarding the performance in relation to the profitability of the business organisation.
Time Factor	Financial accounts focus on past and present operations.	Cost accounting is concerned with the data pertaining to the past and current operations.	Management accounting is futuristic in nature. It pays more attention to future operations, profitability, etc.
Legal Compulsion	Financial accounting is compulsory for all the companies due to legal provision.	Maintenance of records pertaining to the costing is also not compulsory under the law. Such records are maintained with a view to fulfilling the requirements of the management. However, the latest Companies' Act has made it mandatory to keep the cost records for some manufacturing industries.	Management accounting system is mpulsion introduced in organisation with a business view to facilitating the management in discharging some of its basic functions, e.g. decision making, capital budgeting, budgetary control, etc. However, there is no statutory compulsion of having a management accounting system.

Module 01
Chapter 03
Accounting Principles and Process

Meaning and Definition of Accounting Principles

The 'Principle' may be defined as "The fundamental heralisation that is accepted as true and that can be used as a basis for conduct". However, in the present context 'Accounting Principles' means the rules and guidelines that companies are required to follow while reporting the financial data. Such principles differ from one country to another around the world, and each country usually has its own version of Generally Accepted Accounting Principles (GAAP).

Accounting principles may be defined as, "Those rules of action or conduct which are adopted by the accountants universally while recording accounting transactions". This is also known as 'Generally Accepted Accounting Principles' (GAAP).

Generally Accepted Accounting Principles may be defined as, "Those rules of action or conduct which are derived from experience and practice and when they prove useful, they become accepted as principles of accounting".

The accounting principles or practices are acceptable if they fulfil the following basic criteria:

1) Relevance: Application of a principle should be relevant to the interested users of accounting information if it is meaningful and practical.

2) Objectivity: 'Objectivity' is another criterion for the acceptance of an accounting principle. It means the presence of 'dependability and integrity' and absence of 'subjectivity (personal prejudices)'. Further, there should be some way to ensure the validity and accuracy of the reported financial data.

3) Feasibility: The feasibility of an accounting principle is ascertained on the basis of its simplicity, easiness, cost effectiveness and convenience with which it may be implemented.

Features of Accounting Principles

All the accounting principles essentially display the following features:

1) **Based on General Rules:**

The foundation of accounting principles are "general rules', 'conventions, and certain assumptions' recognised by all the stakeholders, viz. accountants, auditors, managers, regulators, and various Government agencies. It is worthwhile to highlight the fact that the accounting principles cannot be considered perfect and there is no way to ensure their correctness.

2) **Launched on the Basis of Logic and Experience:**

'Accounting Principles' have no statutory background and, as mentioned earlier, they are based on general 'logic', 'conventions' and 'certain assumptions'. Formulation of accounting principles are dependent upon the practical expectations/requirements of all the stakeholders, viz. creditors, shareholders, regulators, tax-authorities, law enforcement and other Government agencies.

3) **Widely Accepted:**

One of the most important features of accounting principles is their acknowledgement/recognition by all the stakeholders. It is very common for an organisation to have some deviations from the common accounting practices to suit its requirement,,,,,,,,,,,,,,,,,,.s, which is accepted by all. For example, a 'Hire-Purchase' company has an option to use either 'Asset Accrual Method' or 'Total Cash Price Method' for accounting hire-purchase transactions.

Need/Utility of Accounting Principles

The accounting principles are necessary in view of the following utilities:

1) Accounts and financial data prepared on the basis of accounting principles depict the accurate and authentic picture of a business.

2) Accounting process carried out on the foundation of the accounting principles makes it a science.

3) Accounting statements prepared on the basis of these principles (accounting principles) are more authentic, significant, candid and comparable.

4) Financial results of two companies can be compared only, if both of them have prepared their accounts on the basis of the same accounting principles.

Classification of Accounting Principles

Accounting rests on a small set of fundamental assumptions and principles. These fundamentals are referred to as the Generally Accepted Accounting Principles' (GAAP). Understanding the principles gives context and makes accounting practices easier to implement. The underlying objective of

Accounting Statements' is the true, fair and authentic reflection of the business operations and its results. This objective is achieved through the support of Accounting Concepts' and 'Accounting Conventions', which are the two components of the accounting principles.

Accounting principles can be categorised into two parts:

1) Accounting Concepts, and

2) Accounting Conventions.

Accounting Concepts

The word 'Concept' may be defined as "a general idea or understanding of thought". It is an idea of what thought is or how it works. "Accounting concepts" are the necessary assumptions, conditions or postulates upon which the accounting is based. They are developed to facilitate communication of the accounting and financial information to all the readers of Financial Statements, so that all readers can interpret the statements with the same meaning and context.

Following are the accounting concepts, which have been broadly accepted by accountants:

1) **Separate Entity Concept**

There is a presumption under 'Separate Entity Concept' that as far as accounting is concerned the owners of a business organisation and the business organisation itself are two independent and separate entities. The business transactions undertaken by the owner are altogether separate from the personal transactions undertaken by him. For example, the capital invested by the owner in a business is recorded as a liability for the business. Similarly, if any asset (including cash or goods) belonging to the business is taken by the owner for his personal use, it is not considered as business expenditure, instead it is treated as "withdrawal' or 'drawing' by the owner. This is the cornerstone of Accounting Concepts'.

2) **Going Concern Concept**

Going concern is one of the fundamental assumptions in accounting on the basis of which financial statements are prepared. The assumption is that a business entity will continue to operate in the foreseeable future without the need or intention on the part of management to liquidate the entity and it will realise its assets and settle its obligations in the normal course of the business. In simple words, it means that every business entity has continuity of life and it will not be dissolved in the near future.

The assumption of going concern is the basis of all the financial transactions of a business entity like entering into long term contracts with other parties, obtaining loans from banks/financial institutions, extending loans, investing in long-term securities, purchasing bonds/debentures, etc. This concept

also enables a business entity to defer some of their costs like prepaid expenditure, closing stocks, etc. which are required to be charged against future incomes.

3) Money Measurement Concept

In accounting, every transaction is recorded in terms of money, i.e. rupees and paise in India. Receipt of income, payment of expenses, purchase and sale of assets, etc., are monetary transactions and therefore are recorded in the books of accounts. The assumption under the money measurement concept enables us to have a common measure, in terms of money, for all the transactions, assets and liabilities, which facilitate the preparation of financial statements. This concept would be better understood with the help of a few examples. A company, on a particular day, makes some purchases, viz 10 office chairs, 50 meters of curtain cloth and 20 rims of A-4 paper, all of which have different measuring units. However, as all the transactions can be measured in terms of money, they can be easily recorded in the books of accounts.

On the other hand, an event of a machinery breakdown in a manufacturing unit cannot be recorded in the books of accounts as it does not have a monetary value. However, the expenditure incurred for the repair of the machinery can be measured in monetary terms and hence can be recorded. Similarly, the quality of service, health of the owner or the morale of the workforce of a company cannot be measured in terms of money and therefore cannot be recorded in the books of accounts.

4) Accounting Period Concept

An accounting period is the interval of time at the end of which the financial statements are prepared to ascertain the financial performance of a company. This is known as the accounting period concept. Although the "going concern" concept emphasises the continuing nature of an organisation, it is necessary to review its performance. The preparation of financial statements (balance sheet and profit & loss account) at periodic intervals (known as accounting period) helps in taking timely corrective action and developing appropriate strategies. The accounting period is generally of twelve months (which may be a calendar year or a financial year), although it may be for three months or six months as well in case of a new startup. Preparation of financial statements also serves some other purposes like calculation of profit, tax calculation, submission of reports to regulators and other Government agencies, etc.

5) Cost Concept

As per this concept, cost of an asset is recorded in the books of accounts at the price paid to acquire it (including overheads like transportation and installation charges, if any) and not at the market price. Fixed assets, e.g., land, building, plants, machinery, furniture, fixtures, etc. are taken in the record at the price paid for acquiring them, which is also termed as' Historical Cost'. However, the cost of assets recorded at the time of purchase may be systematically reduced through depreciation.

The significance of cost concept is that the records kept on the basis of it are considered as consistent, comparable, verifiable and reliable.

This concept may be better described through an example. If a piece of land is purchased to set-up a factory for ₹50,000 in the books of accounts this would be recorded at 250,000 only. After sometime there may be an increase in the market value of the land, but in the books of account, the cost would continue to be shown at 250,000 only. Further, at the end of the financial year the land would be subject to depreciation and the reduced cost would be taken over as the opening balance for the next financial year. This will be repeated year after year and the cost would be shown at a lower level despite appreciation in the market price of the land.

6) **Dual Aspect Concept**

This concept of accounting follows from the Entity Concept. All entities own certain assets. Such assets are acquired through contributions of those who have provided the funds for the purpose. Funds are made available either through the surplus of the entity or loans. Logically such providers of funds are claimants to the assets. At any point of time, the assets will be equal to the claims. It may thus be concluded that each and every transaction, a business entity enters into, has a dual effect. With every increase in the money owed to others, there has to be an equal increase in assets or loss.

This concept supports the accounting equation, i.e., Assets = Owner's Funds (Capital and Reserves) + Liabilities Or Owner's Funds = Asset - Liabilities

This concept may be understood in a better way by an example. A business is started by Mr. 'X' with an investment of *2,50,000. This transaction has two aspects, viz. Capital Account' and 'Asset Account'. While the amount lying in 'Capital Account' (2,50,000) is a liability for the business (which it owes to Mr. 'X'), whereas the amount lying in 'Asset Account' (2,50,000) is an asset for the business.

7) **Accrual Concept**

Under the cash system of accounting, the incomes and expenditures are recorded only if there is actual receipt or payment in cash, irrespective of the accounting period to which they belong. But, under the accrual concept, occurrence of claims and obligations in respect of incomes or expenditures, assets or liabilities, diminution in values, etc., are recorded even though actual receipts or payments of money may not have taken place. This concept depicts that incomes and expenses need to be recognised as and when they are earned and incurred respectively, notwithstanding the fact whether the money is actually received or paid in this regard.

This concept may be understood in a better way by an example. If a company dealing in medicines gets supply of medicine worth 20,000 on March 29, 2014 (during the year 2013-14) and the payment is made on April 2, 2014 (during the year 2014-15), under the accrual system, the expenditure though

incurred during 2014-15 needs to be recognised for the year 2013-14 (the year during which the supply was made).

8) **Matching Concept**

The matching concept is an outcome drawn from the accrual concept. It emphasises that the revenue earned and the expenditure incurred must belong to the same accounting period. To ascertain the surplus or deficit made by a business entity during an accounting period, it is necessary that the costs incurred are matched with the revenue earned by the entity during that accounting period. Therefore, once the revenue is realised or expenditure incurred, they need to be allocated to the relevant accounting period. The matching concept is different under 'Cash System' and 'Accrual Systems' of accounting.

9) **Realisation Concept**

According to this concept, revenue needs to be accounted for only when it is actually realised or it has become certain that the revenue will be realised. However, in order to recognise revenue, actual receipt of cash is not necessary. What is important is that the organisation should be legally entitled to receive the amount for the services rendered or the goods sold. Revenue is said to have been realised when cash has been received or right to receive cash on the sale of goods or services or both has been created. It means that selling goods is realisation, whereas receiving orders is not.

Accounting Conventions

Accounting Conventions are the guidelines that arise from the practical application of accounting principles. They are not a legally binding practice, rather they are generally accepted practices based on customs, and are designed to help accountants to overcome practical problems faced by them during the preparation of financial statements.

As customs change, so will accounting conventions.

1) **Consistency**

The convention of consistency emphasises that the accounting principles/practices followed by an entity should be consistently applied by it over the years so as to achieve compatibility. It facilitates comparison of financial performance of an entity from one accounting period to another.

This convention may be understood in a better way by an example, There are a number of methods for the valuation of inventories, viz. 'First In First Out' (FIFO), 'Last In First Out' (LIFO), or 'Weighted Average Method'. If an organisation has adopted one method of valuation, say 'Weighted Average Method' during one accounting year, the same method needs to be followed during the subsequent

accounting years. Any change in the method of inventory valuation would distort the financial results in a substantial manner. In case a change is made, it should be disclosed.

2) Full Disclosure

The term "disclosure" implies that there must be a sufficient exposure of information which is of material interest to all the stakeholders, viz. owners, creditors, lenders, investors, public, etc. The accounts and the financial statements of an entity should disclose full and fair information to the beneficiaries in order to enable them to form a correct opinion on the performance of such an entity, which in turn would allow them to make informed and correct decisions.

For example, the Accounting Principles that have been followed for preparation of the Financial Statements should be disclosed along with the Financial Statements for proper understanding and interpretation of the same. Further, any other information relevant to the users of the financial statements should also be disclosed. Such information may pertain to the period covered by the financial statement or may even pertain to the period subsequent to the finalization of the balance sheet.

3) Convention of Conservatism (or Prudence)

This convention means a cautious approach or policy of having a conservative approach. According to this convention, the anticipated profits need to be ignored but all anticipated losses need to be provided for in the books of accounts of an entity. In other words, all the prospective losses are taken into consideration, while no doubtful income is taken into consideration in recording of transactions by an entity.

This convention also states that the financial statement should be made on verifiable evidence. There are numerous examples of the Convention of Conservatism', which are adopted and practiced by many of the business organisations. Some of them are stated in the following points:

1) Providing for the Bad and Doubtful Debts (BDD) in the anticipation of some debtors' inability to pay their debts.

2) Providing for 'Discount' on debtors.

3) Valuation of the 'Stock-in-hand' at the Market Price' or 'Cost Price', whichever is lower.

4) Creation of Investment Fluctuation Reserve'.

4) Materiality

The term material refers to the relative importance of an item or event. An item should be regarded as material, if there is a sufficient reason to believe that knowledge of it would influence the decision of informed creditors, lenders, investors, public and other stakeholders. The accounts and the financial statements should impart importance of all material information so that a true and fair view of the state of affairs of the entity is given to its beneficiaries. Hence, keeping the convention of materiality in view, unimportant items are not disclosed separately and are merged with other items.

The concept of materiality is relative. What is material for a small company may not be material for a large company. The cost of small tools may be material for a small vehicle repair workshop, but the same may not be material for large manufacturers of vehicles. Similarly, the nature of a transaction is also important in deciding the Materiality'. A difference of 1,000 in cash would be considered 'Material', whereas the difference of the same amount (1,000) otherwise would be considered 'Immaterial'.

Module 01
Chapter 04
OVERVIEW OF ACCOUNTING PROCESS

The accounting process or cycle starts with the identification and measurement of the financial transactions. It is followed by the recording of the transactions and subsequent steps involved in the 'Accounting Cycle' and ultimately culminates in the preparation of the final accounts in the form of Financial Statements', viz. "Profit & Loss Account' and 'Balance Sheet'. Various steps involved in an 'Accounting Cycle' are depicted in graphic form as under, which is followed by their description in the subsequent points:

Steps Involved in Accounting Process/Cycle

Steps involved in an accounting process or cycle are as follows:

Step 1: Business Transactions Take Place:
Source documents, viz. receipts, bills, vouchers, invoices, bank are as follows: etc. are created.

Step 2: Analysis and Recording of the Transaction: Information from the source documents is entered in the primary deposit slip, books of account (i.e., journal or subsidiary books).

Step 3: Posting the Information (Journal to the Ledger): Entries made in the journal/subsidiary books are posted/recorded into the 'General Ledger' (A general ledger is a complete record of financial transactions over the life of a company. It contains account information, which is required to prepare financial statements, and includes accounts for assets, liabilities, owner's equity, revenues and expenses).

Step 4: Preparation of a Trial Balance: Trial Balance' is a bookkeeping statement in which the balances of all the accounts of General Ledger' (assets, liabilities, owner's equity, revenue and expense accounts) are compiled into debit and credit columns. A company prepares a trial balance periodically, usually at the end of every reporting period.

Step 5: Journal the Adjusting Entries: For recording the 'Adjusting Entries' in the 'Journal' there are no source documents. Adjusting entries are usually made on the last day of an accounting period (year, quarter, or month) so that the financial statements truly reflect the revenues that have been earned and the expenses that were incurred during the accounting period.

Step 6: Posting of Adjusting Entries from the Journal to the Ledger: The 'Adjusting Entries' recorded in the 'Journal' are posted into the 'General Ledger'.

Step 7: Preparation of an 'Adjusted Trial Balance': The 'Adjusted Trial Balance' is the trial balance prepared after the 'Adjusting Entries' have been posted in the 'General Ledger'. This is the second trial balance prepared in the accounting cycle. The value of some items in the 'Unadjusted Trial Balance' may obviously undergo changes in the 'Adjusted Trial Balance'.

Step 8: Journalise Closing Entries: This step involves closing of all the temporary (nominal) accounts by transferring the amount to the respective Permanent Accounts' and bringing the balance in such temporary accounts to 'Nil'. Such accounts would start with zero balance in the next accounting period.

Step 9: Posting of Closing Entries (Journal to the Ledger): In this step, closing entries of the journal are posted into the 'General Ledger'.

Step 10: Preparation of a Post-Closing Trial Balance: 'Post Closing Trial Balance' is prepared on the basis of the 'General Ledger' prepared after the posting of closing entries therein. It shows only the items of 'Permanent Accounts', which are permanent in nature (they carry current balances as long as the business continues) and are not closed at the end of the period. These are balance sheet accounts (except for withdrawals).

Step 11: Preparation of the Financial Statements: The last step of the Accounting Cycle is preparation of the financial statements, viz. Profit & Loss Account' and 'Balance Sheet' with the help of 'Post Closing Trial Balance'.

Module 01
Chapter 05
Journal Entries, Ledger Posting & Preparation of Trial Balance

Journal Entries

Journal Entries.pdf

Ledger Posting

Ledger posting.pdf

Trial Balance

Trial Balance.pdf

Module 01
Chapter 06
Basic overview of IFRS and Indian Accounting Standards (Ind.AS)

Indian Accounting Standards

Meaning of Accounting Standards

An accounting standard is a common set of principles, standards, and procedures that define the basis of financial accounting policies and practices.

Accounting standards apply to the full breadth of an entity's financial picture, including assets, liabilities, revenue, expenses, and shareholders' equity.Banks, investors, and regulatory agencies, count on accounting standards to ensure information about a given entity is relevant and accurate.

Accounting standards improve the transparency of financial reporting in all countries. In the United States, the Generally Accepted Accounting Principles form the set of accounting standards widely accepted for preparing financial statements. International companies follow the International Financial Reporting Standards (IFRS), which are set by the International Accounting Standards Board and serve as the guideline for non-U.S. GAAP companies reporting financial statements.

Objectives of Accounting Standards

Accounting Standards are intended to standardise accounting procedures and reporting methods. At the very same time, these standards are also flexible enough to change in tune with the change in the environment. Following are the main objectives of Accounting Standards:

1) Accounting Standards seek to harmonise a myriad of practices followed to record and present financial transactions, which help in comparison among companies.

2) It helps in making financial statements more consistent and comparable.

3) Increases the utility of financial statements.

4) Helps in producing judicious and timely information for various stakeholders.

Significance/Benefits of Accounting Standards

Accounting Standards have following main advantages:

1) Decreases Deviations:
Accounting Standards help to decrease the instances of deviation between the treatment of various accounting transactions, which are helpful for making uniform financial statements.

2) Better Reporting:
Accounting Standards help in providing a better picture of the financial situation of the concern. It generally provides wider disclosure than required by law.

3) Makes Comparison Easier:
Since Accounting Standards help in homogenising, recording and reporting of financial transactions, it also makes comparison easier between similar occurrences of companies located at the same or different countries. However, it should be observed that the reporting may differ due to different legal requirements followed in different countries.

Accounting Standards Board of India

The Accounting Standards Board of India, was established by The Institute of Chartered Accountants of India (ICAI), in April 1977. The Board was constituted to bring about uniformity in Indian accounting procedures. The Accounting Standards Board is primarily responsible for ensuring that its formulated standards are established by the Council of Institute of Chartered Accountants of India.

Procedure for Issuing Accounting Standards

Accounting Standards are established by following procedure:

- Identify the wide areas which require the formulation of accounting standards and their relative priority.

- Communicate and collaborate with Government, Industry, Public Sector undertakings and other organisations to have their perspectives.

- Create study groups then prepare preliminary drafts (through conversations with various authorities and professional bodies). Then put forward the draft for opinion to the council of the institute and general public.

- Finalise the draft after proper deliberations.

- Submit the final draft to the Council of the Institute of Chartered Accountants for approval.

The Council of ICAI goes through the final draft and may suggest changes. After proper deliberations, the standards may be issued under the direction of the Council.

Objectives & Functions of the Accounting Standards Board of India

Accounting Standards Board of India has following objectives:

1) To identify and propose areas which require Accounting Standards to grow.

2) Formulation of Accounting Standards to aid the Council of ICAI in the formation of Accounting Standards in India.

3) To study International Accounting Standards as well as Reporting Standards to determine their applicability in the Indian scenario.

4) Review Accounting Standards to keep them relevant to changed scenarios.

5) Offer interpretation and guidance on Accounting Standards.
6) Workout other related functions to Accounting Standards.

Accounting Standards Issued by ICAI

Following are the Accounting Standards issued by Institute of Chartered Accountants of India;

AS No.	Title
AS 1 AS 2 AS 3 (Revised)	Disclosure of Accounting Policies. Valuation of Inventories. Cash Flow Statements.

AS 4 (Revised)	Contingencies and Events occurring after Balance Sheet Date.
AS 5 (Revised)	Prior Period and Extraordinary Items and Changes in Accounting Policies.
AS 6 (Revised)	Depreciation Accounting.
AS 7	Accounting for Construction Contracts.
AS 8	Accounting for Research and Development.
AS 9	Revenue Recognition.
AS 10	Accounting for Fixed Assets.
AS 11 (Revised 2003)	Accounting for the Effects of Changes in Foreign Exchange Rates.
AS 12	Accounting for Government Grants.
AS 13	Accounting for Investments.
AS 14	Accounting for Amalgamations.
AS 15	Accounting for Retirement Benefits in Employer's Financial Statements.
AS 16	Borrowing Costs.
AS 17	Segment Reporting.
AS 18	Related Party Disclosures.
AS 19	Leases.
AS 20	Earnings Per Share.
AS 21	Consolidated Financial Statements.
AS 22	Accounting for Taxes on Income.
AS 23	Accounting for Investments in Consolidated Financial Statements.
AS 24	Discontinuing Operations.
AS 25	Interim Financial Reporting.
AS 26	Intangible Assets.
AS 27	Financial Reporting of Interest in Joint Ventures.
AS 28	Impairment of Assets.
AS 29	Provisions, Contingent Liabilities & Contingent Assets.
AS 30	Financial Instruments: Recognition and Measurements
AS 31	Financial Instruments: Presentation
AS 32	Financial Instruments: Disclosure

International Financial Reporting Standards (IFRS)

Introduction

International Financial Reporting Standards (IFRS) were introduced by the International Accounting Standards Board (IASB), which took over the job of harmonisation of accounting standards throughout the world from the International Accounting Standards Committee (IASC) in the year 2001. The standardisation of international accounting practices was necessitated in view of the growing phenomenon of globalisation and with a view to fulfil the day to day need; IASC was brought into existence in the year 1973.

IASB which replaced IASC, is also a 'not for profit' and independent body, the primary objective of which is to develop a set of quality standards pertaining to the financial reporting, which is easy to understand and is acceptable all over the globe for the preparation of financial statements. IFRS is, thus, quite different from the IAS (International Accounting Standards), which were developed by the erstwhile IASC. IFRS have been developed with a view to provide a common structure and guidelines for the entire world as to how the public companies need to prepare their financial statements with necessary disclosures in a transparent manner.

The guidelines framed under IFRS for the preparation of financial statements are general in nature, and as such applicable to all kinds of business and industries; there are no industry-specific rules. Such standards are of immense significance for those business entities which have their businesses spread over a number of countries across the globe or those who have future plans to expand globally. A single set of widely accepted financial standards facilitates integration and simplification of financial statements prepared by the branches spread over various parts of the world. Other stakeholders also find it convenient to understand the overall performance and financial health of a company and make appropriate decisions.

Standard No.	Standard Title
IFRS 1	First-time Adoption of International Financial Reporting Standards
IFRS 2	Share-based Payment
IFRS 3	Business Combinations
IFRS 4	Insurance Contracts
IFRS 5	Non-current Assets Held for Sale and Discontinued Operations
IFRS 6	Exploration and Evaluation of Mineral Resources
IFRS 7	Financial Instruments: Disclosures
IFRS 8	Operating Segments
IFRS 9	Financial Instruments
IFRS 10	Consolidated Financial Statements
IFRS 11	Joint Arrangements
IFRS 12	Disclosure of Interests in Other Entities
IFRS 13	Fair Value Measurement
IFRS 14	Regulatory Deferral Accounts
IFRS 15	Revenue from Contracts with Customers
IFRS 16	Leases
IFRS 17	Insurance Contracts
IAS 1	Presentation of Financial Statements
IAS 2	Inventories
IAS 7	Statement of Cash Flows
IAS 8	Accounting Policies, Changes in Accounting Estimates and Errors
IAS 10	Events after the Reporting Period

IAS 11	Construction Contracts
IAS 12	Income Taxes
IAS 16	Property, Plant, and Equipment
IAS 17	Leases
IAS 18	Revenue
IAS 19	Employee Benefits
IAS 20	Accounting for Government Grants and Disclosure of Government Assistance
IAS 21	The Effects of Changes in Foreign Exchange Rates
IAS 23	Borrowing Costs
IAS 24	Related Party Disclosures
IAS 26	Accounting and Reporting by Retirement Benefit Plans
IAS 27	Separate Financial Statements
IAS 28	Investments in Associates and Joint Ventures
IAS 29	Financial Reporting in Hyperinflationary Economies
IAS 32	Financial Instruments Presentation
IAS 33	Earnings per Share
IAS 34	Interim Financial Reporting
IAS 36	Impairment of Assets
IAS 37	Provisions, Contingent Liabilities, and Contingent Assets
IAS 38	Intangible Assets
IAS 39	Financial Instruments: Recognition and Measurement
IAS 40	Investment Property
IAS 41	Agriculture

Composition of IFRS

IFRS include, in addition to the main IFRS developed and recommended by the International Accounting Standards Board (LASB), standards recommended by various committees from time to time (1973 to 2001), e.g. IASC (International Accounting Standard Committee) and interpretations derived from IFRIC (International Financial Interpretation Committee).

Features of IFRS

The salient features of IFRS are as follows:

1) Principle Based Approach:
The rules framed under IFRS are broad based and not very elaborative, prescriptive or inflexible in nature. They are basically founded upon various principles and some of the regulatory outcomes. This approach does not envisage micro-management at any level, and the business entities are

free to use their commercial judgement/discretion within the overall framework of IFRS. It has given a long rope to the management of a business entity for taking decision with regard to:
i) The accounting methodology to be adopted by them, and
ii) Assessment of recounting figures, during the preparation of financial statements.

2) Fair Value Accounting:
The accounting based upon the historical cost-based principles suffers from a number of shortcomings. IFRS encourages the fair value accounting principles, which are considered forward-looking and a superior one as compared with the historical cost-based principles (i.e. GAAP). Financial reporting based upon the fair-value of accounting principles is most suitable for the potential investors, who get preference over other stakeholders under the IFRS. The logic behind this is very simple; the investors/potential investors believe in the power of market forces and market-based valuation of assets is acceptable to them for taking decisions with regard to buying or selling of stocks. Under IFRS, a number of items appearing in the financial statements are based upon the principles of fair-value accounting.

3) Comprehensive Income:
The concept of comprehensive income is of recent origin in the evolution process of accounting standards and it occupies an important place in the agenda of IFRS. Comprehensive income provides transparency in showing all revenue expenses, gains, losses, etc. to be recognised during a specific timeframe. Their summary is recorded in a special financial statement, termed as the 'statement of comprehensive income".

4) Consolidation:
Under the consolidation technique, which is a part of IFRS, the assets and liabilities of a company's subsidiaries are required to be valued at their fair value as on the date of the acquisition. As a sequel to this, the minority interest (also referred to as non-controlling interest) is also valued at fair value on the same date. This is a significant departure from the traditional GAAP standards, under which the minority interest is excluded from the fair value adjustments.

5) Transparency:
Transparency is yet another striking feature of IFRS. Transparency in accounting, and especially in the preparation of financial statements, comes from the underlying and strong faith in the market forces; it is presumed that the markets are competent enough, and as such the information communicated to various stakeholders through the financial statements, are reflected in the stock prices of a company also in an accurate and reliable manner.

This feature of IFRS, which is qualitative in nature, enables stakeholders of a company, particularly the investors, to take necessary decisions on the basis of relevant information.

Objectives of IFRS world

1) To make available in the public interest, a single set of financial reporting standards on the basis of principles, which are of high quality, easy to understand, enforceable and acceptable to the entire global community. These standards, inter alia, require the financial statements and other reports prepared by a company to be of high quality and transparent, which provide comparable information for various stakeholders including the investors, the player in the world's capital markets, and other users, so as to enable them to take necessary decisions;

2) To encourage the application of the standards under the IFRS amongst various stakeholders to the maximum possible extent; motivate to and support the application of standards under IFRS

3) To take into account suitably, the requirements of an array of sizes and types of entities in different economic settings prevailing in the world; and

4) As the standards and interpretation thereof originated from IASB, one of the objectives of IFRS is to facilitate its adoption by various business entities spread over the globe. For this, it is necessary to integrate the national accounting standards of a country with the IFRS.

Significance/Needs for IFRS

Followings are the arguments in favour of adopting IFRS:

1) Improved Consistency and Transparency of Financial Reporting: It provides high quality, transparent, understandable, globally enforceable reporting standards for the preparation of financial statements.

2) Benefits the Economy:
It benefits the economy by increasing the growth of its international business.

3) Level of Confidence:
The main advantage of adopting IFRS, which is considered to be a stable, transparent, and fair accounting system across the world, would be that the confidence level of investors - domestic as well as foreign would be boosted.

4) Risk Evaluation:
If the financial data and other statements are not prepared in terms of international standards, the investors generally assign some premium. Introduction of IFRS would rule out such hurdles to cross-border listings and as such the investors would be the gainers.

5) Merger and Takeover Activity:
As the introduction of IFRS would eliminate the need to redesign the financial statements, the way to cross-border mergers and acquisitions would be facilitated.

6) Helps in Understanding Investment Opportunities:
Financial statements prepared using a common set of accounting standards help investors better understand investment opportunities as opposed to financial statements prepared using a different set of national accounting standards.

7) Investments:
If the IFRS is introduced in a country, and various business entities become IFRS compliant, the comfort level of foreign investors would be enhanced and they would find such destinations more lucrative.

8) Opportunities for Accounting Professionals:
It offers accounting professionals more opportunities in any part of the world if the same accounting practices prevail throughout the world.

Module 01
Chapter 07
Corporate Profit and Loss A/c and Corporate Balance Sheet
(Vertical B/S only)

Format of Profit and Loss Statement

Statement of Profit and Loss

Name of the company.....

Balance Sheet as at..... (Rupees in .....)

Sr. No.	Particulars	Note No.	Figures as at the end of current reporting period	Figures as at the end of previous reporting period
I	Revenue from operations			
II	Other income			
III	Total Revenue			
IV	Expenses: a) Cost of materials consumed b) Purchase of stock-in-trade c) Changes in inventories of finished goods, Work-in progress and Stock-in-trade d)Employee benefits expense			

	e) Finance costs f) Depreciation and amortization expenses g) Other expenses Total expenses			
V	Profit before tax (III -IV)			
VI	Tax			
VII	Profit after tax (V-VI)			

Format of Balance Sheet

Balance Sheet

Name of the company.....

Balance Sheet as at..... (Rupees in .....)

Particulars	Note No.	Figures as at the end of current reporting period	Figures as at the end of previous reporting period
I. EQUITY AND LIABILITIES			
1) Shareholder's Funds (a) Share Capital (b) Reserves and Surplus (c) Money received against share warrants (d)Non-controlling interest (Minority Interest)	1 2		
(2) Share application money pending allotment			

(3) Non-Current Liabilities (a) Long-term borrowings (b) Deferred tax liabilities (Net) (c) Other Long term liabilities (d) Long term provisions	 3 4 5		
(4) Current Liabilities (a) Short-term borrowings (b) Trade payables (c) Other current liabilities (d) Short-term provisions	 6 7 8 9		
Total			
II. ASSETS			
(1) Non-current assets (a) Fixed assets (i) Tangible assets (ii) Intangible assets (iii) Capital work-in-progress (iv) Intangible assets under development (b) Non-current investments (c) Deferred tax assets (net) (d) Long term loans and advances (e) Other non-current assets	 10 11 12 13 14		
(2) Current assets (a) Current investments (b) Inventories (c) Trade receivables (d) Cash and cash equivalents (e) Short-term loans and advances (f) Other current assets	 15 16 17 18 19 20		
Total			

Final Accounts (vertical).pdf

Module 02
Financial Statement Analysis
Chapter 01
HORIZONTAL ANALYSIS/COMPARATIVE STATEMENT

Meaning and Definition of Financial Statement Analysis

The in-depth study and interpretation of the data provided in the Financial Statements is known as "Financial Analysis With the help of various lemis provided in the Profit and Loss Account'. 'Balance Sheet and other operative data and their strategy interrelationship, it is possible to ascertain the financial strength and weaknesses of an organisation, through the process of Financial Analysis

"Financial statements analysis is largely a study of relationships among the various financial factors in a business as disclosed by single set-of statements, and study of the trend of these factors as shown in a series of statements."

-Myers

"Analysis of financial statement is the process of determining the significant operating and financial characteristics of a firm from accounting data"

-Hampton

Therefore, it may be concluded that the Financial Analysis is a systematic in-depth study of the relationship between a fact revealed through one component and the other facts revealed through other components of the Financial Statements with a view to measure "Profitability', 'Operational Efficiency', 'Solvency', 'Growth Potentials, etc. of a business organisation.

Objectives of Financial Statement Analysis

Objectives of financial statement analysis are enumerated in a nutshell as follows:

1) **Assessment of Past Performance:**

Trend revealed through the various financial data, like 'Sales', 'Cast of Goods Sold', 'Operating Expenses', 'Net Income". "Cashflow', etc. of an organisation's past performance may be a good pointer to its future performance. Prospective investors and current creditors rely on such past data to predict the future prospects of an organisation.

2) **Assessment of Current Position:**

Through the exercise of financial statement analysis, the current status of an organisation with regard to the type of assets held by it and the nature of its liabilities, etc. can be ascertained.

3) **Prediction of Profitability and Growth Prospects:**

The assessment and forecasting of the 'Earning Prospects of a business organisation can be made through the exercise of Financial Statement Analysis. It helps the prospective investors in comparing and choosing an investment out of the many investment opportunities available before them. It is also used by other stakeholders for various other purposes.

4) **Prediction of Bankruptcy and Failure:**

"Financial Statement Analysis is a vital technique, through which the possibilities of an organisation going bankrupt in future or the chances of failure of a business can be predicted.

5) **Assessment of the Operational Efficiency:**

Financial Statement Analysis facilitates the assessment of the "Operational Efficiency of an organisation's management. It can be done through setting standards of performance on the basis of certain parameters and comparing them with the actual performance of the organisation. Any deviation between the 'Set Standards of Performance and the Actual Performance may be used as an indicator of 'Management Efficiency.

Importance/Advantages of Financial Statement Analysis

The importance/advantages of financial statement analysis are as follows:

1) **Measurement of Short-Term Solvency:**

An organisation's ability to pay its short term liabilities is referred to as its Short Term Solvency', assessment of which can be made through the Financial Statement Analysis. If an organisation has a positive 'Short Term Solvency', its creditors would not hesitate in lending funds to it. On the other hand, if an organisation suffers from the lack of 'Short Term Solvency', the creditors would refrain from lending funds to it.

2) **Measurement of Long-Term Solvency:**

An organisation's ability to repay its 'Long Term Liabilities, i.e. bonds and debentures issued by it and other secured liabilities, is referred to as its 'Long Term Solvency'. A company having such capability is said to be 'Solvent'. Thus, status of an organisation in terms of long term solvency is revealed through the analysis of financial statements.

3) **Measurement of Operating Efficiency:**

Through the analysis of 'Financial Statements of an organisation, the position with regard to its profitability can easily be ascertained. If a business organisation is incurring losses, the reasons thereof may also be found out through such analysis, and necessary corrective actions may be taken to curb losses and turn the loss incurring organisation into a profit earning organisation.

4) **Measurement of Profitability:**

The existing earning capacity of an organisation as well as forecasting in respect of its future earnings can be gathered through the earning ratio analysis, inputs for which are provided by the Financial Statements'. 'Measurement of Profitability' is an important indicator, which helps in taking decisions by the 'Investors' and 'Lenders' (Banks/FIs).

5) **Comparison of Inter-Firm Position:**

The comparison of the financial position of one organisation with that of another organisation is an exercise undertaken through the Financial Analysis'. Such a comparative study is useful in deciding the course of action to be taken by 'Investors' and other 'Stakeholders'.

Tools and Techniques of Financial Statement Analysis

The Financial Statement Analysis' is a tool through which various components of 'Profitability' during a specific period and Financial Status' as on a specific date, of an organisation are subjected to a detailed scrutiny, analysis and interpretation. This enables one to draw further meaning and conclusions from the data already provided through the Financial Statements

Various tools and techniques used for the analysis of 'Financial Statements are as under.

1) **Horizontal Analysis/Comparative Statements:**

The Financial Statements of an organisation for different time periods are referred to as 'Comparative Financial Statements'. Various items of 'Financial Statements are presented in a 'Comparative Form', which may be in the form of a table. This enables one to have a comparative view of various parameters for two or more time-periods at a glance.

2) **Vertical Analysis/Common-Size Statements:**

A company's Financial Statements, which displays all items as percentage of a common base figure, (e.g. "Total Assets', Total Liabilities' and 'Total Sales') is known as 'Common Size Statement'. It facilitates comparative analysis between two or more companies, or between two or more time periods of a company.

3) **Trend Analysis:**

Trend analysis is a technique based on the underlying premise that what has happened in the past gives an indication as to what will happen in the future. It may be defined as a mathematical technique that uses historical data to forecast future outcomes. Trend Analysis may be undertaken in respect of two organisations for the same time-period or an organisation for different time-periods (two or more years). A trend is a series of information from the 'Financial Statements, analysed to arrive at some meaningful conclusion.

4) **Ratio Analysis:**

‘Ratio Analysis' is a technique of quantitative analysis by establishing a relationship between two or combination of more than two items of 'Financial Statements, viz. 'Balance Sheet', 'Income Statement' and/or 'Cash Flow Statement. It is used to evaluate various aspects of a company's operating and financial performance such as its efficiency, liquidity, profitability and solvency, which is helpful for the management in making certain decisions.

5) **Funds Flow Analysis/Statement:**

'Funds Flow Statement is a statement, which depicts the sources and applications of funds for a specific time-period. Through the 'Fund Flow Statement' an analysis with regard to the changes in the financial position of an organisation from the beginning of a time-period to its end, is undertaken.

6) **Cash Flow Analysis/Statement:**

A Cash Flow Statement' is a financial statement, which shows how 'Cash' and 'Cash Equivalents' in a business are affected by the changes in various components of 'Balance Sheet' and 'Profit and Loss Accounts'. It summarises the reasons behind the changes in cash position of a business entity between the dates of two balance sheets.

HORIZONTAL ANALYSIS/COMPARATIVE STATEMENT

Meaning and Definition of Horizontal Analysis/Comparative Statements

The comparative financial statements, also referred to as 'Horizontal Analysis', are the financial statements of a business organisation covering specific periods of accounting. Various items of financial statements are displayed in a horizontal format which provides a convenient and quick view thereof pertaining to two or more accounting periods at a glance. Any statement prepared in a comparative format is covered under 'Comparative Statements".

"Comparative financial statements are statements of the financial position of a business designed to provide a time perspective to the consideration of various elements of financial position embodied in such statements."

-A.F. Foulke

In practice, for the purpose of financial analysis, two of the Financial Statements', viz. 'Balance Sheet' and 'Profit and Loss Account' are prepared in the Comparative Format. The analysis of two or more accounting periods facilitates na only the comparison of various items, but also an in-depth study of an organisation's financial position and operating results as well as the inter-relationship between the various components of 'Balance Sheet' and 'Profit and Loss Accounts.

Formula Used for Comparative Statement

Following formulas are used for determining absolute change amount and percentage change in comparative balance sheet and income statement:

Absolute Change (Rupee) = Current Year (Rupee) - Base Year (Rupee), Percentage Change = Absolute Change/Base Year x 100.

Objectives of Comparative Statements

Preparation of comparative statements serves the following objectives:

1) Changes occurring in respect of various items of financial performance are taken as a basis for further study and analysis.

2) Comparative statements in respect of a business organisation disclose certain qualitative data, especially those in terms of 'Solvency'. 'Liquidity', 'Profitability', etc.

3) Historical financial data of a business organisation provides a number of vital inputs, which are helpful in taking decisions in respect of its future planning and forecasting.

Advantages of Comparative Statements

Preparation of comparative statements is of paramount importance in view of the following advantages:

1) Comparative Statements' indicate the variations in the trend of various components of 'Balance Sheet' (e.g. 'Fixed Assets, "Current Assets', 'Intangible Assets', 'Deferred Revenue Expenditures', 'Current Liabilities', 'Shareholding Pattern", etc.) and "Profit and Loss Account' (e.g. 'Income Pattern', 'Expenditure Pattern', etc.) over a period of time. They are of extreme use for the Financial Analysts' with a view to undertake in-depth study of the business pattern and forecasting.

2) These statements can be prepared less frequently, say, on a monthly or quarterly basis. Comparison of a business organisation's performance at short intervals helps in bringing operational weaknesses in the notice. Timely identification of such weaknesses enables the organisation to initiate appropriate corrective steps with a view to eradicating the shortcomings and improving the operational efficiency.

3) Preparation of comparative statements gives an opportunity to undertake a review exercise in respect of the organisation's past activities and also their growing impact on its financial position.

4) Financial statements are helpful reports reflecting the performance of an organisation during a specific period. However, preparation of the comparative statements augments the efficacy of such reports, as it facilitates in bringing out the nature of important current changes with more clarity.

Forms of Comparative Statements

There are two comparative statements:
1) Comparative Balance Sheet, and 2) Comparative Income Statement.

Comparative Balance Sheet

The analysis of a comparative balance sheet involves the study of movement (upwards or downwards) in various balance sheet items for two or more accounting periods of a business organisation. Such an analysis reveals the pattern/trend of conduct of the business and its efficiency. It also discloses the strengths and weaknesses of an enterprise, which enables the management in taking decisions with regard to future course of action to be taken for further progress and growth.

Comparative Income Statement

The income statement of an organisation depicts the profits earned or the losses incurred by it as an outcome of conducting the core business. The comparative study of income statements of different accounting periods enables an analyst to have a clear vision of the progress made during that period.

The study of the profitability may be undertaken on the basis of absolute figures as shown in the statement or in percentage terms in relation to various 'Balance Sheet"/"Income Statement' items.

The following items of income statement are generally explained through profitability analysis:

1) Increase/decrease in sales.
2) Increase/decrease in cost of goods sold.
3) Increase/decrease in gross profit.
4) Increase/decrease in operating profit.
5) Increase/decrease in operating expenses.
6) Increase/decrease in non-operating expenses.
7) Analysis of various items of income.
8) Adequate provision for income tax is provided.
9) Increase/decrease in net profit.

Horizontal Analysis/ Comparative Statement

Format of Comparative Balance Sheet

Comparative Balance Sheet

Particulars	Figures for Past Year	Figures for Current Year	Absolute Change	Percentage Change
1	2	3	4 = 3-2	5 = 4/2 x 100
1) Equity and Liabilities i) Shareholders' Funds a) Share Capital b) Reserves and Surplus ii) Non-Current Liabilities a) Long-Term Borrowing b) Long-Term Provisions iii) Current Liabilities a)Short-Term Borrowings b)Trade Payables c) Other Current Liabilities				

d) Short-Term Provisions				
Total				
2)Total Assets i)Not Current Assets a)Fixed Assets • Tangible Assets • Intangible Assets b) Non-Current Investments c) Long-Term Loans and Advances ii)Current Assets a) Current Investments b) Inventories c) Trade Receivables d) Cash and Cash Equivalents e) Short-Term Loans and Advances f)Other Current Assets				
Total				

Illustration 1

Following are the Balance Sheet of ABC Ltd as at 31st March 2017 and 31st March 2018.

Balance Sheet

Liabilities	2017	2018	Assets	2017	2018
Equity Share Capital Reserve & Surplus Secured Loan Current Liabilities	2,50,000 1,25,000 2,50,000 2,75,000	4,00,000 2,00,000 3,50,000 50,000	Fixed Assets Investment Stock Debtors Other Current Assets	5,00,000 20,000 3,00,000 50,000 30,000	7,00,000 50,000 2,00,000 20,000 30,000
	9,00,000	10,00,000		9,00,000	10,00,000

Prepare a comparative balance sheet.

Answer:

Comparative Balance Sheet of ABC ltd.
(As on 31st March 2017 and 31st March 2018)

Particulars	Figures for Past Year	Figures for Current Year	Absolute Change	Percentage Change
1	2	3	4 = 3-2	5 = 4/2 x 100
1) Equity and Liabilities				
i) Shareholders' Funds				
a) Equity Share Capital	2,50,000	4,00,000	1,50,000	60
b) Reserves and Surplus	1,25,000	2,00,000	75,000	60
ii) Non-Current Liabilities				
a) Long-Term Borrowing(Secured loan)	2,50,000	3,50,000	1,00,000	40
iii) Current Liabilities	2,75,000	50,000	-2,25,000	-81.82
Total	9,00,000	10,00,000	1,00,000	11.11
2)Total Assets				
i)Non Current Assets				
a)Fixed Assets	5,00,000	7,00,000	2,00,000	40
b) Non-Current Investments	20,000	50,000	30,000	150
ii)Current Assets				
a) Inventories (stock)	3,00,000	2,00,000	-1,00,000	-33.33
b) Trade Receivables (debtors)	50,000	20,000	-30,000	-60
c) Other Current Assets	30,000	30,000	-	-
Total	9,00,000	10,00,000	1,00,000	11.11

$$\text{Percentage Change} = \frac{\text{Absolute Change}}{\text{Base Year}} \times 100$$

Illustration 2

Following are the Balance Sheet of XYZ Ltd as at 31st March 2017 and 31st March 2018.

Balance Sheet

Liabilities	2017	2018	Assets	2017	2018
Capital Bank Loan Creditors	1,70,750 24,000 39,500	1,50,500 20,500 42,000	Fixed Assets Investment Stock Debtors Loans and Advances Cash at Bank	1,52,500 13,500 22,000 30,500 14,000 1750	1,43,750 11,750 15,500 26,250 13,000 2750
	2,34,250	2,13,000		2,34,250	2,13,000

Prepare a comparative balance sheet.

Answer:

Comparative Balance Sheet of ABC ltd.
(As on 31st March 2017 and 31st March 2018)

Particulars	Figures for Past Year	Figures for Current Year	Absolute Change	Percentage Change
1	2	3	4 = 3-2	5 = 4/2 x 100
1) Equity and Liabilities i) Shareholders' Funds a)Share Capital ii) Non-Current Liabilities a) Long-Term Borrowing(Bank loan) iii) Current Liabilities a) Trade Payables (creditors)	 1,70,750 24,000 39,500	 1,50,500 20,500 42,000	 -20,250 -3500 2500	 -11.86 -14.58 6.33
Total	2,34,250	2,13,000	-21,250	-9.07
2)Total Assets i)Non Current Assets a)Fixed Assets b) Non-Current Investments ii)Current Assets a) Inventories (stock) b) Trade Receivables (debtors) c) Cash and Cash Equivalents d) Short-Term Loans and Advances	 1,52,500 13,500 22,000 30,500 1750 14,000	 1,43,750 11,750 15,500 26,250 2750 13,000	 -8750 -1750 -6500 -4250 1000 -1000	 -5.74 -12.96 -29.55 -13.93 -7.14 57.14

Total	2,34,250	2,13,000	-21,250	-9.07

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Format of Comparative Income Statement

Comparative Profit and Loss Statement

Particulars	Figures for Past Year	Figures for Current Year	Absolute Change	Percentage Change
1	2	3	4 = 3-2	5 = 4/2 x 100
Revenue from Operation Add: Other Income				
Total				
Less: Expenses: Cost of Materials Consumed Purchase of Stock-in-Trade Changes in Inventories of Finished Goods Work-in-Progress and Stock-in-Trade Employees Benefits Expenses Finance Costs Depreciation and Amortization Expenses				
Other Expense				
Total Expense Profit Before Tax (3-4) Less: Tax				
Profit After Tax (5-6)				

Illustration 3

Prepare a comparative statement.

Particulars	2017	2018
Revenue from operations Other Income Expenses Income Tax	30,00,000 70,000 22,00,000 35%	40,00,000 60,000 25,00,000 30%

Comparative Profit and Loss Statement

Particulars	Figures for Past Year	Figures for Current Year	Absolute Change	Percentage Change
1	2	3	4 = 3-2	5 = 4/2 x 100
1. Revenue from Operation 2. Add: Other Income	30,00,000 70,000	40,00,000 60,000	10,00,000 -10,000	33.33 -14.29
3. Total	30,70,000	40,60,000	9,90,000	32.25
4. Less: Expenses:	22,00,000	25,00,000	3,00,000	13.64
5)Profit Before Tax (3-4) 6) Less: Tax	8,70,000 3,04,500	15,60,000 4,68,000	6,90,000 1,63,500	79.31 53.69
7)Profit After Tax (5-6)	5,65,500	10,92,000	5,26,500	93.10

Illustration 4

Prepare Comparative Statement.

Particulars	2017	2018	Particulars	2017	2018
Purchases Adjusted Salaries Rent, Rates and Insurance Depreciation Debenture Interest	5,00,000 42,000 35,000 40,000 12,000	5,50,000 64,000 40,000 60,000 12,000	Sales Less Returns Discount Received Income Tax	10,00,000 5000 20%	12,00,000 7500 30%

Answer:

Comparative Profit and Loss Statement

Particulars	Figures for Past Year	Figures for Current Year	Absolute Change	Percentage Change
1	2	3	4 = 3-2	5 = 4/2 x 100
1. Revenue from Operation(Sales -return)	10,00,000	12,00,000	2,00,000	20
2. Add: Other Income(Dis rec))	5000	7500	2500	50
3. Total	10,05,000	12,07,500	2,02,500	20.15
4. Less: Expenses:				
Cost of Materials Consumed(Purchase))	5,00,000	5,50,000	50,000	10
Employees Benefits Expenses (Salary)	42,000	64,000	22,000	52.38
Finance Costs (Deb interest)	12,000	12,000	-	-
Depreciation and Amortization Expenses	40,000	60,000	20,000	50
Other Expense(Rent, rates and ins)	35,000	40,000	5000	14.29
Total Expense	6,29,000	7,26,000	97,000	15.42
5)Profit Before Tax (3-4)	3,76,000	4,81,500	1,05,500	28.06
6) Less: Tax	75,200	1,44,450	69,250	92.09
7)Profit After Tax (5-6)	3,00,800	3,37,050	36,250	12.05

Module 02
Chapter 02
VERTICAL ANALYSIS/COMMON-SIZE STATEMENT

Meaning of Vertical Analysis/Common-Size Statement

In the common-size statement, balance sheet and income statements of a business organisation are analysed in percentages with reference to the 'Total Assets; Total Liabilities' and 'Total Sales'. This statement is also referred to as Vertical Analysis. The total assets are presumed to be 100 and various other assets are articulated as a percentage of that. In the same way, total liabilities are presumed to be 100 and other items of liabilities are expressed as a percentage of total liabilities. *Common-size statements are also termed as "Component Percentage' or 'Hundred Percent Statements', because of the fact that every individual asset and liability item is expressed as a percentage of the total 100. The deficiencies prevailing in the comparative statements, where the emphasis is laid on absolute data, is taken care of under this type of analysis.

'Vertical Analysis' is the most common and well-known form of Financial Analysis', in which each and every item of Financial Statements are expressed as a percentage of a base figure within the statement. It has certain advantages over the comparative statements.

Formula Used for Common-Size Statement

Following formulae are used for determining percentage in common-size balance sheet and income statement:

Common-Size Balance Sheet

Percentage of the Item = Actual Amount of Particular Item/ Base Amount of Total Asset or Total Liabilities x Base Percentage (i.e, 100).

Common-Size Income Statement

Percentage of the item = Actual Amount of Particular Item/ Base Amount of Net Sales x Base Percentage (i.e, 100).

Preparation of Common-Size Statement

Preparation of common-size statement involves following simple steps:

1) The totals of assets/liabilities are taken as 100.

2) The individual assets/liabilities are expressed as a percentage of total assets/liabilities, i.e., 100.

Examples:

1) If the 'Total Assets' of a company are 5,00,000 and its Current Assets' are 50,000, then it will be 10% of total assets = $\frac{50{,}000 \times 100}{5{,}00{,}000}$

2) Similarly, if the 'Current Liabilities of the above company stands at 30,000, then it will be 6% of the total liabilities = $\frac{30{,}000 \times 100}{5{,}00{,}000}$

Objectives of Common-Size Statement

Preparation of the common-size statement serves the following significant Objectives:

1) **Presenting the Change in Various Items in Relation to Total Assets or Total Liabilities or Net Sales: '**

Comparative Financial Statements', though quite useful in its own way, suffer from certain deficiencies, one of which is the fact that the changes in individual items of 'Balance Sheet'/'Income Statement' in relation to the Total Assets/Total Liabilities'/'Net Sales' are not reflected through them. This deficiency is taken care of through the preparation of the common-size statements.

2) **Establishing a Relationship:**

There is a relationship between the various items of 'Income Statement' on one hand and 'Sales' on the other hand. Similarly, there is also a relationship between various items of "Balance Sheet' to 'Total Assets/Total Liabilities. Such relationships may be dynamic over a period of time, i.e., they may undergo major changes. Through a study of such changes in relationships, a number of conclusions may be drawn, as these changes give direction to the organisation, as to where it is heading.

3) **Providing a Common Base for Comparison:**

Through the preparation of Common-Size Statements', a common platform is created, which facilitates comparison between various items of Financial Statements of two or more organisations or two or more periods of an individual organisation. Creation of a Uniform Common-size Format' for

different accounting periods or different organisations is possible, even in cases where there is a large variation in the size of individual items of 'Financial Statements'.

Advantages of Common-Size Statement

Preparation of a common-size statement has following advantages:

1) The relative importance of each and every item of the Financial Statements is reflected in Percentage Terms' through common-size statements.

2) In the common-size statement, all the items of 'Income Statement' are subject to conversion in 'Percentage Terms of "Sales'. Such conversion makes it easy for an organisation to ascertain the portion of its sales, which is used up in cost of sales, operating expenses, interest and tax.

3) In a common-size balance sheet, every item is shown in 'Percentage Terms' (in relation to a base figure, which is' Total Assets' or 'Total Liabilities'). It facilitates an analyst to know how the 'Total Assets' have been bifurcated between the 'Current Assets' and 'Fixed Assets', etc. Similarly, the information with regard to the percentage of the Total Liabilities' payable to the owners (insiders) and the outsiders is also gathered from the common-size balance sheet.

4) Common-size statement depicts various components of capital structure at a glance. It discloses the percentage of 'Equity Capital', 'Debt Instruments', 'Hybrid Instruments', and other sources of funds in 'Total Capital Structure.

5) It facilitates the comparison of financial statements of two or more companies, especially the companies having huge differences in their 'Capital Structure', 'Sales Level', 'Profitability', 'Leverage', etc.

6) Common-size statements are helpful in finding out the financial position of an organisation in 'Short Term' as well as in 'Long-Term' perspective.

Forms of Common-Size Statement

Common-size statements indicate the position of an item of financial statements in relation to other items. Various components of 'Balance Sheet' and 'Income Statements and their relative ratios in totality are clearly depicted in the common-size statements in percentage terms. Comparison of two companies is, therefore, convenient irrespective of their size or scale of operation.
There are two types of "Common-size Statements':

1) Common-size Balance Sheet, and
2) Common-size Income Statement.

Common-Size Balance Sheet

Common-size balance sheet is a statement, in which each of the individual balance sheet items, viz. "Assets' and Liabilities' are expressed as:

1) The ratio of each individual asset to total assets; and

2) The ratio of each individual liability to total liabilities.

Common-Size Income Statement

The common-size income statement is a statement, in which:

1) Various items of 'Income' are expressed as percentage of total income indicating the relationship between each individual item of income and the total income, and

2) Various items of expenditure are expressed as percentage of total expenditure indicating the relationship between each individual item of expenditure and total expenditure. This enables carrying out a meaningful and useful analysis from different angles and arriving at significant conclusions.

i) An increase in sales would mean an increase in selling expenses and not administrative or financial expenses(upto some extent).

ii) If the sales level crosses a significant level, then the administrative/financial expenses would also increase.

iii) In the scenario of declining sales, a reduction in selling expenses should be a normal outcome.

Such analysis facilitates the evaluation of operational activities of a business organisation.

Vertical Analysis/ Common-size Statement

Format of Common size Balance Sheet

Common-size Balance Sheet

Particulars	Figures for Past Year	Percentage change for Past year (%)	Figures for Current Year	Percentage Change for current year (%)
1	2	3	4	5
1) Equity and Liabilities i) Shareholders' Funds a) Share Capital b) Reserves and Surplus ii) Non-Current Liabilities a) Long-Term Borrowing b) Long-Term Provisions iii) Current Liabilities a)Short-Term Borrowings b)Trade Payables c) Other Current Liabilities d) Short-Term Provisions				
Total				
2)Total Assets i)Not Current Assets a)Fixed Assets • Tangible Assets • Intangible Assets b) Non-Current Investments c) Long-Term Loans and Advances ii)Current Assets a) Current Investments b) Inventories c) Trade Receivables d) Cash and Cash Equivalents e) Short-Term Loans and Advances f)Other Current Assets				
Total				

Illustration 5

The Balance Sheet of SBI and BOB are as follows:

Balance Sheets

Liabilities	SBI	BOB	Assets	SBI	BOB
Preference Share Capital	1,20,000	1,60,000	Land and Building	80,000	1,23,000
Equity Share Capital	1,50,000	4,00,000	Plant & Machinery	3,34,000	6,00,000
Reserve & Surplus	14,000	18,000	Investment	1000	40,000
Long-term Loans	1,15,000	1,30,000	Inventories	10,000	25,000
Bills Payable	2000	-	Bad Debts	4000	8000
Sundry Creditors	12,000	4000	Prepaid Expenses	1000	2000
Outstanding Expenses	15,000	6000	Cash and Bank Balances	8000	10,000
Proposed Dividend	10,000	90,000			
	4,38,000	8,08,000		4,38,000	8,08,000

Answer:

Common-size Balance Sheet

Particulars	SBI	Percentage change for SBI (%)	BOB	Percentage Change for BOB (%)
1	2	3	4	5
1) Equity and Liabilities				
i) Shareholders' Funds				
a) Preference Share Capital	1,20,000	27.39	1,60,000	19.80
b) Equity Share Capital	1,50,000	34.25	4,00,000	49.50
c) Reserves and Surplus	14,000	3.19	18,000	2.23
ii) Non-Current Liabilities				
a) Long-Term Borrowings	1,15,000	26.25	1,30,000	16.09
iii) Current Liabilities				
a)Bills Payables	2000	0.46	-	-
b)Sundry Creditors	12,000	2.74	4000	0.49
c) Outstanding Expenses	15,000	3.42	6000	0.74

d) Proposed dividend	10,000	2.28	90,000	11.14
Total	4,38,000	100	8,08,000	100
2)Total Assets				
i)Not Current Assets				
a)Fixed Assets				
• Land and Building	80,000	18.26	1,23,000	15.22
• Plant and Machinery	3,34,000	76.26	6,00,000	74.26
b) Non-Current Investments	1000	0.23	40,000	4.95
ii)Current Assets				
a) Inventories	10,000	2.28	25,000	3.09
b) Bad debts	4000	0.91	8000	0.99
c) Prepaid Expenses	1000	0.23	2000	0.25
d) Cash and Cash Equivalents	8000	1.83	10,000	1.25
Total	4,38,000	100	8,08,000	100

Illustration 6

The Balance sheets of 2017 and 2018 ltd are as follows:

Balance Sheet

(Rs. in Lakhs)

Liabilities	2017	2018	Assets	2017	2018
Share Capital:			Fixed Assets:		
8% Preference	80	80	Buildings	120	125
Shares	100	120	Plant and Machinery	80	100
Equity Shares			Furniture and Fittings	10	10
Reserve and Surplus:	20	24	Investments	20	19
General Reserve	10	12	Current Assets, Loans		
Profit and Loss A/c			and Advances:		
Secured Loans:	25	20	Stock	8	10
8% Debentures			Debtors	5	7
Unsecured Loans:	-	5	Bank	4	5
Fixed Deposits			Bills receivable	3	4
Current Liabilities and					
Provisions:	8	9			
Sundry Creditors	3	4			
Bills Payable	4	6			

Provision for Taxation					
	250	280		250	280

Answer:

Common-size Balance Sheet

Particulars	Figures for Past Year 2017	Percentage change for Past year (%)	Figures for Current Year 2018	Percentage Change for current year (%)
1	2	3	4	5
1) Equity and Liabilities				
i) Shareholders' Funds				
a) 8% Preference Share	80	32	80	28.57
Capital	100	40	120	42.86
b) Equity Share Capital	20	8	24	8.57
c) General Reserve	10	4	12	4.29
d) Profit and Loss Account				
ii) Non-Current Liabilities	25	10	20	7.14
a)8% Debentures	-	-	5	1.79
b) Fixed Deposits				
iii) Current Liabilities	8	3.2	9	3.21
a)Bills Payables	3	1.2	4	1.43
b)Sundry Creditors	4	1.6	6	2.14
c)Provision for taxation				
Total	250	100	280	100
2)Total Assets				
i)Not Current Assets				
a)Fixed Assets				
• Building	120	48	125	44.64
• Plant and Machinery	80	32	100	35.71
• Furniture and Fittings	10	4	10	3.57
•				
b) Non-Current Investments	20	8	19	6.79

ii)Current Assets a) Inventories b) Debtors c) Bank d) Bills Receivables	 8 5 4 3	 3.2 2.0 1.6 1.2	 10 7 5 4	 3.57 2.50 1.79 1.43
Total	250	100	280	100

Format of Common-size Income Statement

Common-size Profit and Loss Statement

Particulars	Figures for Past Year	Percentage of Past year	Figures for Current Year	Percentage of Current year
1	2	3	4	5
1. Revenue from Operation				
2. Add: Other Income				
3. Total (1+2)				
4. Less: Expenses: Cost of Materials Consumed Purchase of Stock-in-Trade Changes in Inventories of Finished Goods Work-in-Progress and Stock-in-Trade Employees Benefits Expenses				
Finance Costs				
Depreciation and Amortization Expenses Other Expense				
Total Expense				
5. Profit Before Tax (3-4) 6. Less: Tax 7. Profit After Tax (5-6)				

Illustration 7

Prepare Common-size Income Statement

Particulars	2017	2018
Sales	10,00,000	12,00,000
Cost of Materials Consumed	6,00,000	6,60,000
Employees Benefits Expense	85,000	1,14,000
Finance Costs	2,00,000	1,93,200

Rent Received Preliminary Expenses	24,000 36,000	34,200 53,280

Answer:

Common-size statement of Profit and Loss

Particulars	Figures for Past Year	Percentage of Past year	Figures for Current Year	Percentage of Current year
1	2	4	3	5
1. Revenue from Operation 2. Add: Other Income	10,00,000 24,000	100 2.4	12,00,000 34,200	100 2.85
3. Total (1+2)	10,24,000	102.4	12,34,200	102.85
4. Less: Expenses: Cost of Materials Consumed Employees Benefits Expenses Finance Costs Other Expense	 6,00,000 85,000 2,00,000 36,000	 60 8.5 20 3.6	 6,60,000 1,14,000 1,93,200 53,280	 55 9.5 16.10 4.44
Total Expense	9,21,000	92.10	10,20,480	84.04
5)Profit Before Tax (3-4) 6) Less: Tax	1,03,000 -	10.3 -	2,13,720 -	17.81 -
7)Profit After Tax (5-6)	1,03,000	10.3	2,13,720	17.81

Illustration 8

Prepare Common-size Income Statement

Particulars	2016-17	2017-18
Revenue from Operation Other Income Employees Benefits Expense	12,50,000 1,62,500 4,12,500	10,00,000 1,25,000 2,25,000

Other Expenses Income Tax	1,00,000 15%	50,000 10%

Answer:

Common-size statement of Profit and Loss

Particulars	Figures for Past Year	Percentage of Past year	Figures for Current Year	Percentage of Current year
1	2	4	3	5
1. Revenue from Operation 2. Add: Other Income	12,50,000 1,62,500	100 13	10,00,00 1,25,000	100 12.5
3. Total (1+2)	14,12,500	113	11,25,000	112.5
4. Less: Expenses: Employees Benefits Expenses Other Expense	4,12,500 1,00,000	33 8	2,25,000 50,000	22.5 5
Total Expense	5,12,500	41	2,75,000	27.5
5)Profit Before Tax (3-4) 6) Less: Tax	9,00,000 1,35,000	72 10.8	8,50,000 85,000	85 8.5
7)Profit After Tax (5-6)	7,65,000	61.2	7,65,000	76.5

Module 02
Chapter 03
Trend Analysis

Meaning and Definition of Trend Analysis

The study and analysis of index numbers relating to changes in various items of ``Financial Statements of a company over a period of time (accounting years) is termed as 'Trend Analysis'. It is a statistical tool, which is used for the analysis of Financial Statements over a period of time with a view to study the pattern of movement (increasing or decreasing) in respect of various items of 'Balance Sheet' and 'Income Statement'. "Trend Analysis' provides a horizontal presentation of comparative statements, which discloses the behavioural pattern of each item during a time period under analysis. The analysis is undertaken in absolute as well as in percentage terms.

The ratios provided by such a tool are extremely useful for the management of any company, as is evident from the

1) They give a clear and objective assessment of the direction, in which the performance of an organisation is moving (better or otherwise);

2) Such data may be presented in a graphical manner also for easy understanding at a higher level of the management; and

3) They facilitate the forecasting in respect of the behaviour of the various financial factors, which may relate to either 'Internal' (change in income and its distributions, etc.) or 'External' ('government policies', 'general economic conditions', etc.). The organisation may take appropriate action in respect of both the factors. Although it exercises no control over the external factors, it may still form a strategy to sort out the impending problems.

"The average of time series data in order that a smooth curve showing general growth or decline may be developed for some past period of time".

-Kohler

Objectives of Trend Analysis

Trend analysis is undertaken with the following objectives in view:

1) Ascertaining the level of 'Actual' and 'Prospective' performance of the business;

2) Getting a clear picture regarding the profitability of the business organisation;

3) Assessing the 'Operational Efficiency of the enterprise;

4) Displaying an indication of the business organisation's 'Financial Health' (long term as well as short term); and

5) Facilitating the decision-making process by the management with regard to future course of action for the growth and betterment of the business organisation.

Advantages of Trend Analysis

The process of 'Trend Analysis' proves to be very advantageous for a company in view of the following:

1) Vital areas for 'Audit Investigation' are disclosed through it;

2) Major changes in various items are revealed; to find major changes 3) Findings are clear and precise, which is easy to comprehend and communicate; and

4) As it is extensively used by most of the organisations, it is readily acceptable.

Computation of Trend Analysis

While calculating the 'Trend Index Percentages', certain basic points need to be taken into consideration, some of which are as follows:

1) Similar 'Accounting Principles and Practices' should be applied for all the 'Accounting Periods';

2) The base year chosen should be a year displaying normal business activities;

3) Analysis of 'Trend Percentages' may be taken carefully after taking into account the absolute figures on which they are based. It is necessary to ensure that every item in the base statements are expressed at 100;

4) The items in respect of which 'Trend Index Percentages' are calculated should have a logical relationship with each other; and

5) The following formula is used for calculating the 'Trend Index Percentage' of each item in another statement with reference to the same item in the base statement:

Trend Index Percentage = Current Year x 100
Base Year

Trend Analysis

Format of Trend Percentages

Particulars	Year 1	Trend %	Year 2	Trend %	Year 3	Trend %	Year 4	Trend %
Net Profit/ Total								

Trend Percentage = Current Year x 100

Base Year

Illustration 1

From the following data relating to XYZ Co. for the years 2013 to 2016, calculate the trend percentages.

Particulars	2013	2014	2015	2016
Net Sales	2,00,000	1,90,000	2,40,000	2,60,000
Less: Cost of goods sold	1,20,000	1,17,800	1,39,200	1,45,600
Gross Profit	80,000	72,200	1,00,800	1,14,400

Less: Expenses	20,000	19,400	22,000	24,000
Net Profit/ Total	60,000	52,800	78,800	90,400

Answer:

Trend Percentage

Particulars	2013	Trend %	Year 2	Trend %	Year 3	Trend %	Year 4	Trend %
Net Sales **Less:** Cost of goods sold Gross Profit **Less:** Expenses	2,00,000 1,20,000 80,000 20,000	100 100 100 100	1,90,000 1,17,800 72,200 19,400	95 98.2 90.3 97	2,40,000 1,39,200 1,00,800 22,000	120 116 126 110	2,60,000 1,45,600 1,14,400 24,000	130 121 143 120
Net Profit/ Total	**60,000**	100	**52,800**	**88**	**78,800**	**131.3**	**90,400**	**150.6**

Illustration 2

From the following data relating to assets and liabilities of EFG Co. for the years 2014-15 to 2017-18, calculate the trend percentages.

(Rs. in Lakhs)

Particulars	2014-15	2015-16	2016-17	2017-18
Cash and Bank	200	240	160	280
Debtors	400	500	650	800
Stock	600	800	700	1000
Bills Receivables	100	150	250	300
Land	800	1000	1000	1000
Building	1000	2000	2400	3000
Machinery	2000	2000	2400	3000

Answer:

Trend Percentages

Particulars	2014-15	Trend %	2015-16	Trend %	2016-17	Trend %	2017-18	Trend %
Current Assets: Cash and Bank Debtors Stock Bills Receivables	200 400 600 100	100 100 100 100	240 500 800 150	120 125 133.33 150	160 650 700 250	80 162.5 116.67 250	280 800 1000 300	140 200 166.67 300
	1300	**100**	**1690**	**130**	**1760**	**135.38**	**2380**	**183.08**
	800 1000 2000	100 100 100	1000 2000 2000	125 200 100	1000 2400 2400	125 240 120	1000 3000 3000	125 300 150
Fixed Assets: Land Building Machinery	**3800**	**100**	**5000**	**131.58**	**5800**	**152.63**	**7000**	**184.21**
Total Assets	**5100**	**100**	**6690**	**131.18**	**7560**	**148.23**	**9380**	**183.92**

Module 02
Chapter 04
Ratio Analysis

Meaning and Definition of Ratio Analysis

A ratio may be defined as an arithmetical expression which shows the relationship of one number to another. In mathematical terms, a ratio is the quotient of two numbers.

"A ratio is the relation, of the amount, a, to another, b, expressed as the ratio of a to b; a : b (a is to b); or as a simple fraction, integer, decimal fraction or percentage".

-Kohler,

Ratio uses two numbers and is obtained by dividing one number by another. It expresses one number in terms of another.

Following are the main ways to express ratios:

1) In Proportion:
Ratios may be expressed by the way of proportions. For example, the current ratio may be defined as the proportion of current assets to current liabilities, e.g., 3: 2.

2) In Rate or Times or Coefficient:
This ratio is defined in terms of a time period. For example, debtor turnover is generally expressed as ‘n’ times a year.

3) In Percentage:
This type of ratio defines the relationship between two numbers per hundred. For example, net profit ratio is expressed as n% of revenue.

Ratio analysis is used for analysing and interpreting financial statements. It also helps in the decision-making process by providing useful inferences.

"Ratio analysis is a study of the relationship among the various financial factors in a business".

-Myers

Ratio analysis may be used for determining financial and efficient robustness of the business.

Objectives of Ratio Analysis

The objectives of ratio analysis are as follows:

1) Measuring the Profitability:
Various ratios such as net profit, gross profit and expense ratio can be used for the purpose of measuring profitability.

2) Measuring Efficiency:
Operating ratios are calculated for the purpose of measuring operational efficiency of the business.

3) Solvency of the Business:
Solvency ratios establish the relationship between total assets and total liabilities of a concern. It helps to show whether the firm has enough assets to fulfil its debt obligations. Any firm which has enough assets will be considered solvent.

4) Financial Status of the Company:
Fixed assets ratio and debt equity ratio come under this category. These ratios are used to determine the financial status of the company. It is also useful for determining and comparing long term and short term financial standing of the firm. For long term financial status, various ratios such as proprietary ratios and fixed assets ratios are used. Current and Liquid ratios are used for determining short term financial status.

5) Comparative Analysis:
Ratios can be used for making temporal comparisons between the performances of the business. It can also be used for comparing two business identities having similar or different features. This analysis helps in determining strengths and shortcomings of a business.

Importance of Ratio Analysis

Following are the importance of ratio analysis:

1) Helpful in Financial Analysis:
Ratio analysis helps businesses in assessing their financial standing. It can be used for short term as well as long term financial analysis. Financial statements such as Profit & Loss Account and Balance Sheet are used for this purpose

2) For Explaining Financial Robustness:

Various ratios such as net profit ratio, debt equity ratio may be used for expressing financial health of the business.

3) Useful for Locating Weak Areas:
Ratio analysis can be used for finding areas of weakness such as high ratio of expenses or ease in debt and taking remedial measures.

4) For Future Forecasting:
Financial ratios can be used for the purpose of future planning and forecasting by the way of budgeting.

5) Inter-Firm Comparison:
Financial analysis facilitates inter-firm comparison by bringing their performance to the same scale.

6) Simplified Presentation of Accounting Figures:
Ratio analysis provides more meaningful figures by showing relationships with different metrics. An absolute profit figure such as 74 lacs of profit does not say much until or unless it is put in relation to total revenue. It offers information in a more comprehensive manner.

7) Assessing Operating Efficiency:
Ratio analysis not only shows the financial standing of the business but also helps in evaluating operating efficiency. Various ratios such as debtor turnover or inventory turnover may be used for this purpose. These ratios help in analysing different aspects of the business quickly and accurately. This is done by calculating accounting ratios.

Limitations of Ratio Analysis

Following are the limitations of ratio analysis:

1) False Results:
Ratio analysis statements are erroneous.calculated using financial statements. The analysis would be incorrect if the statements are erroneous

2) Limited Utility of Particular Ratio:
In order to make a comprehensive analysis, it is important to use different ratios. A particular ratio may give misleading results. It is advisable to use various ratios for making meaningful and correct conclusions.

3) No Fixed Terminology:
Ratio analysis is still evolving and various terms may be interpreted in different ways. This makes comparison difficult. For example, a ratio requiring use of profit may be calculated using profit before tax or profit after tax. This may give erroneous results.

4) No Attention to Qualitative Factors:
Ratio analysis is quantitative and does not take into account qualitative factors. This gives a one-sided view.

5) Overlooks Inflation:
Since ratio analysis does not pay attention to change in price level, the temporal comparison does not serve much purpose. For example, the cost of production for two years cannot be meaningfully compared if there has been a big change in figures due to change in price level. Inflation or deflation also affects revenue and profits.

6) Misleading Results:
Ratio analysis brings financial statements of different firms to the same level. Such analysis does not provide information about the magnitude of their operations. For example, two firms may have similar net profit ratio but greatly different scale of business. A firm generating 250,000 profit on 25,00,000 in sales is more efficient than the firm generating the same profit on 10,00,000 sales.

7) Window Dressing:
Ratio analysis may provide misleading results if the financial statements used for this purpose are window dressed. Window dressing is generally done to show a better financial position of a business than its real situation. It is difficult for an outsider to differentiate between actual figures and window dressed figures.

8) Personal Bias:
Ratios may be interpreted in different ways and thus have subjectivity. This affects the utility of the analysis as different people may presume different results from the same ratio.

Types of Ratios

1. **Liquidity Ratios**
   i) Current Ratio
   ii) Quick Ratio (Acid Test or Liquid Ratio)

2. **Solvency/Leverage Ratios**
   i) Debt Equity Ratio
   ii) Proprietary/Equity Ratio
   iii) Interest Coverage Ratio
   iv) Capital Gearing Ratio

3. **Profitability Ratios**
   i) Gross Profit Ratio
   ii) Net Profit Ratio
   iii) Operating Ratio
   iv) Operating Profit Ratio
   v) Expense Ratio
   vi) Return on Capital Employed Ratio
   vii) Return on Equity Ratio
   viii) Earnings Per Share
   ix) Market Capitalization Ratio
   x) Price-Earning Ratio

4. **Activity/Turnover Ratios**
   i) Fixed Assets Turnover Ratio
   ii) Stock Turnover Ratio
   iii)Debtors/Receivables Turnover Ratio
   iv) Creditors/Payables Turnover Ratio
   v) Working Capital Turnover Ratio
   vi) Total Assets Turnover Ratio

1. Liquidity Ratios

i) Current Ratio

Current Ratio = Current Assets

Current Liabilities

Illustration 1

Balance sheet as on 31-3-2018

Liabilities	Rs	Assets	Rs.
Share Capital	1,90,000	Trade Investments (Long-term)	2,00,000
Reserves	1.50,000	Stock	1,00,000
15% Debentures	50,000	Debtors	45,000
Trade Creditors	30,000	Marketable Securities	40,000
Bills Payable	40,000	Cash	60,000
Outstanding Expenses	15,000	Bills Receivables	55,000
Bank Overdraft	20,000	Prepaid Expenses Preliminary	10,000
Provision for Tax	25,000	Expenses	10,000
	5,20,000		5,20,000

Calculate Current Ratio.

Answer:

Current Ratio = Current Assets

Current Liabilities

Current Assets = Stock + Debtors + Marketable Securities + Cash + Bills Receivable + Prepaid Expenses

= 1,00,000+ 45,000 + 40,000+ 60,000 + 55,000 + 10,000

= 3,10,000

Current Liabilities = Trade Creditors + Bills Payable + Outstanding Expenses + Bank Overdraft + Provision for Tax

= 30,000 + 40,000+ 15,000+20,000 + 25,000
= 1,30,000

Current Ratio = 3,10,000
1,30,000
= 2.38 or 2.38 : 1

ii) Quick / Acid / Liquid Ratio

Quick Ratio = Quick Assets

Quick Liabilities

Quick Assets = Current Assets - (Stock + Prepaid Expenses)
Quick Liabilities = Current Liabilities - (Bank Overdraft + Cash Credit)

Illustration 2

Information as on 31-3-2018.

Liabilities	Rs	Assets	Rs.
Bank Loan	1,00,000	Stock-in-trade	1,35,000
Sundry Creditors	1,50,000	Sundry Debtors 72,000	
Bills Payables	20,000	Less: Provision 2000	70,000
Creditors for expense	10,000	for doubtful debts	
6% Debentures	2,00,000	Cash-in-hand	15,000
Bank Overdraft	3,00,000	Cash at bank	1,10,000
		Short term investments	1,50,000
		Prepaid Insurance	5000

Calculate Quick Ratio.

Answer:

Quick Ratio = Quick Assets
Quick Liabilities

Quick Assets = Current Assets - (Stock + Prepaid Expenses)

Current Assets = Stock-in-Trade + Sundry Debtors + Cash in Hand + Cash at Bank + Short-term Investments + Prepaid Insurance
= 1,35,000 +70,000+ 15,000 + 1,10,000+ 1,50,000 + 5,000
= 4,85,000

Quick Assets = 4,85,000-(1,35,000 + 5,000) = 3,45,000

Quick Liabilities = Current Liabilities - Bank Overdraft
Current Liabilities=Sundry Creditors + Bills Payable + Creditors for Expenses + Bank Overdraft
= 1,50,000+20,000+ 10,000+ 3,00,000
= 4,80,000

Quick Liabilities = 4,80,000-3,00,000= 1,80,000

Quick Ratio = $\frac{3,45,000}{1,80,000}$
= 1.916 or 1.9 : 1

2. Solvency/Leverage Ratios

i) Debt Equity Ratio

Debt Equity Ratio = $\frac{\text{Total Long term debt}}{\text{Shareholder's Funds}}$

Total Long-term Debt = Debentures + Term Loans + Loan on Mortgage + Loans from Financial Institutions + Other Long-term Loans + Redeemable Preference Share Capital

Shareholders Funds = Equity Share Capital + Irredeemable Preference Share Capital + Capital Reserves + Retained Earnings + Any Earmarked Surplus like Provision for Contingencies, etc. Fictitious Assets

Illustration 3

From the following info, calculate Debt-Equity Ratio

Particulars	Rs.
Debentures	1,40,000

Long term loans	60,000
Bank Balance	30,000
Debtors	70,000
General Reserves	40,000
Creditors	66,000
Share Capital	1,20,000
Bills Payable	14,000

Answer:

Debt Equity Ratio = $\frac{\text{Total Long term debt}}{\text{Shareholder's Funds}}$

Total Long-term Debts = Debentures +Long-term Loan
= 1,40,000+ 60,000 = 2,00,000

Shareholder's Funds = Share Capital + General Reserve
= 1,20,000 + 40,000 = 1,60,000

Hence, Debt-Equity Ratio = $\frac{2,00,000}{1,60,000}$
= 20:16
= 5:4, or 1.25:1

ii) Proprietary Ratio

Proprietary Ratio = $\frac{\text{Proprietors Funds/ Shareholders Funds}}{\text{Total Assets}}$

Illustration 4

Proprietors funds are 6,00,000 and Total assets are 8,00,000. Calculate Proprietary Ratio.

Answer:

Proprietary Ratio = $\frac{\text{Proprietors Funds/ Shareholders Funds}}{\text{Total Assets}}$

= $\frac{6,00,000}{8,00,000}$

= 3 : 4 = 0.75 : 1

iii) Interest Coverage Ratio/ Debt-Service Ratio

Interest Coverage Ratio = Net Profit before Interest and Taxes / Interest on Long-term Debt

Illustration 5

The Net Profit (after taxes) of a firm is Rs. 75,000 and its fixed interest charges on long-term borrowings are Rs. 30,000. The rate of income-tax is 50%. Calculate interest coverage ratio.

Answer:

Interest Coverage Ratio = Net Profit before Interest and Taxes / Interest on Long-term Debt

$$= \frac{75{,}000 + (75{,}000 \times 50\%) + 30{,}000 \text{ (interest)}}{30{,}000}$$

$$= \frac{75{,}000 + 37{,}500 + 30{,}000}{30{,}000}$$

$$= \frac{1{,}42{,}500}{30{,}000}$$

= 4.75 times

iv) Capital Gearing Ratio

Capital Gearing Ratio = Equity Share Capital + Reserve & Surplus / Preference Share Capital + Long term Debt Bearing Fixed Interest

Illustration 6

From the information given as under, find out Capital Gearing Ratio.

Particulars	2017	2018
Equity Share Capital Reserves & Surplus 8% Preference Share Capital	6,00,000 3,00,000 2,50,000	4,00,000 2,00,000 4,00,000

6% Debentures	2,50,000	4,00,000

Answer:

Capital Gearing Ratio = Equity Share Capital + Reserve & Surplus
Preference Share Capital + Long term Debt Bearing Fixed Interest

Capital Gearing Ratio (2017) = 6,00,000 + 3,00,000
2,50,000 + 2,50,000
= 9,00,000
5,00,000
= 9 : 5 or 1.8 : 1

Capital Gearing Ratio (2018) = 4,00,000 + 2,00,000
4,00,000 + 4,00,000
= 6,00,000
8,00,000
= 6 : 8 or 0.75 : 1

3. Profitability Ratios

i) Gross Profit Ratio

Gross Profit Ratio = Gross Profit x 100
Net Sales

Gross Profit = Net Sales - Cost of goods sold
Cost of goods sold = Opening stock + Purchases(Net) + Direct Expenses - Closing stock

Net Sales = Total Sales - Sales Return

Illustration 7

The Trading and P/L account and Balance Sheet of ABC ltd are as under:

Trading and Profit/Loss Account

Particulars	Rs.	Particulars	Rs.

To Opening Stock	50,000	By Sales	18,00,000
To Purchases	11,50,000	By Closing Stock	1,00,000
To Wages	80,000	By Interest & Dividend on Long-term investment	3000
To Carriage Inward	20,000		
To Office & Administrative Expenses	1,00,000	By Profit on Sales of Long term investment	20,000
To Finance Expenses	80,000	By Compensation of acquisition of Land	1000
To Cash Discount allowed to customers	10,000	By Rent Received	2,00,000
To Bad Debts	6000	By Interest Received	2,00,000
To Interest on Bills Payable	4000		
To Interest on Debentures	1,20,000		
To Value of Furniture lost by fire	6000		
To Provision for Tax	2,40,000		
To Net Profit (After Interest and Tax)	4,58,000		

Prepare a statement showing computation of gross profit and calculate gross profit ratio.

Answer:

Statement showing computation of Gross Profit

Particulars		
Sales		18,00,000
Less: Cost of goods sold		
Opening Stock	50,000	
Purchases	11,50,000	
Wages	80,000	
Carriage inward	20,000	
	13,00,000	
Less: Closing Stock	1,00,000	12,00,000
Gross Profit		6,00,000

Gross Profit Ratio = Gross Profit = 6,00,000 x 100 = 33.33%
Net Sales 18,00,000

ii) Net Profit Ratio

Net Profit Ratio = Net Profit x 100
Net Sales

Net Profit = Net Sales - (Cost of sales + Indirect Expenses)
Net Sales = Total sales - Sales return

Illustration 8

From the following details, calculate net profit ratio:

Particulars	Rs.
Total Sales	1,00,000
Sales Returns	6000
Cost of Sales	70,000
Indirect Expenses	10,000

Answer:

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100$$

Net Profit = Net Sales - (Cost of Sales + Indirect Expenses)
Net Sales = Total Sales - Sales Returns = 1,00,000 - 6,000 = 94,000
Net Profit = 94,000 (70,000 + 10,000) = 94,000-80,000= 14,000

$$\text{Net Profit Ratio} = \frac{14{,}000}{94{,}000} \times 100 = 14.89\%$$

iii) Operating Ratio

$$\text{Operating Ratio} = \frac{\text{Cost of goods sold + Operating Expenses}}{\text{Net Sales}} \times 100$$

Illustration 9

From the following details, calculate operating ratio:

Particulars	Rs.

Sales	8,50,000
Opening stock	99,500
Purchases	5,50,500
Carriage Inwards	10,000
Administrative Expenses	1,40,000
Closing Stock	20,000
Selling Expenses	1,50,000
Loss on the Sale of Assets	30,000
Depreciation	4000

Operating Ratio = $\frac{\text{Cost of goods sold + Operating Expenses}}{\text{Net Sales}} \times 100$

Operating Ratio = $\frac{\text{Cost of goods sold + Administrative Expenses + Selling \& Distribution Expenses + Depreciation}}{\text{Net Sales}} \times 100$

Cost of Goods Sold = Sales - Gross Profit

Gross Profit = (Sales + Closing Stock) - (Opening Stock + Purchases + Carriage Inward)
= (8,50,000 + 1,40,000) - (99,500 +5,50,500 + 10,000)
= 9,90,000 - 6,60,000
= 3,30,000

Cost of Goods Sold = Sales - Gross Profit = 8,50,000-3,30,000
= 5,20,000

Operating Ratio = $\frac{5,20,000 + 1,50,000 + 30,000 + 20,000}{8,50,000} \times 100$
= $\frac{7,20,000}{8,50,000} \times 100$
= 84.70%

iv) Operating Profit Ratio

Operating Profit Ratio = $\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$

Operating Profit = Sales - (Cost of goods sold + Administrative Expenses

+ Selling and distribution Expenses)

Illustration 10

From the following information, calculate Operating Profit Ratio.

Particulars	Rs.
Cost of goods sold Admin & Office Expenses Selling and Distribution Expenses Net Sales	4,00,000 40,000 40,000 6,00,000

Answer:

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

Operating Profit = Sales - (Cost of goods sold + Administrative Expenses + Selling and distribution Expenses)

= 6,00,000 - (4,00,000 + 40,000 + 40,000)
= 1,20,000

$$\text{Operating Profit Ratio} = \frac{1,20,000}{6,00,000} \times 100$$

= 20%

v) Expenses Ratio

$$\text{Expenses Ratio} = \frac{\text{Amount of Expenses}}{\text{Net Sales}} \times 100$$

$$\text{Administrative Expenses Ratio} = \frac{\text{Administrative and Office Expenses}}{\text{Net Sales}} \times 100$$

$$\text{Selling and Distribution Expenses Ratio} = \frac{\text{Selling and Distribution Expenses}}{} \times 100$$

Net Sales

Financial Expenses Ratio = Financial Expenses and Interest x 100
Net Sales

Illustration 11

Following is the P/L account of ABC Trading House.

Profit/Loss Account

Particulars	Rs.	Particulars	Rs.
To Administrative Expenses To Selling and Distribution Expenses To Financial Expenses To Other Non-Operating Expenses To Net Profit	80,000 50,000 6,000 4000 65,000	By Gross Profit b/d By Interest on Investments	2,00,000 5000
	2,05,000		2,05,000

The net sales during the year were 5,00,000. You are required to calculate:
1) Administrative Expenses Ratio
2) Selling and Distribution Expenses Ratio
3) Financial Expenses Ratio

Answer:

Administrative Expenses Ratio = Administrative and Office Expenses x100
Net Sales

= 80,000 x 100
5,00,000

= 16%

Selling and Distribution Expenses Ratio = Selling and Distribution Expenses x 100
Net Sales

= 50,000 x 100
5,00,000

= 10%

Financial Expenses Ratio = Financial Expenses and Interest x 100
Net Sales

= 6000 x 100
5,00,000

= 1.2%

vi) Return on Capital Employed/Return on Investment

Return on Capital Employed = Net Income before Interest and Tax x 100
Capital Employed

Gross Capital Employed = Fixed Assets + Current Assets
Net Capital Employed = working capital + fixed assets.
Net Capital Employed = total assets - current liabilities.

Illustration 12

From the following details, calculate Return on Investment

Particulars	Rs.
Share Capital:	
Equity	4,00,000
Preference	1,00,000
General Reserve	1,89,000
10% Debentures	4,00,000
Current Liabilities	1,00,000
Discount on Shares	5000
Net Profit (after debenture interest but before income tax)	80,000

Answer:

Return on Capital Employed = Net Income before Interest and Tax x 100
Capital Employed

Net profit before Interest and Tax = Net Profit + Debenture Interest
= 80,000 + 10% of 4,00,000
= 80,000 = 40,000
= 1,20,000

Capital Employed = Equity Share Capital + Preference Share Capital + 10% Debentures + General Reserve + Profit - Discount on Shares

= 4,00,000 + 1,00,000+ 4,00,000+ 1,89,000 + 40,000 (50% of Net Profit i.e. 80,000) - 5,000

=11,24,000

Return on Capital Employed = $\frac{1,20,000}{11,24,000} \times 100$

= 10.68%

vii) Return on Equity or Return on Equity shareholder's Funds

Return on Shareholder's Funds = $\frac{\text{Net Income before Interest and Tax}}{\text{Shareholder's Funds}} \times 100$

Shareholder's Funds = Equity Share Capital + Preference Share Capital + Share Premium + Revenue Reserve + Capital
Reserve + Retained Earnings - Accumulated Losses

Or

Shareholder's Fund = Fixed Assets + Current Assets - Current and Long-term Liabilities

Illustration 13

From the following data, calculate return on equity shareholder's funds.

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Equity Share Capital (*10 each)	1,00,000	Fixed Assets (Net)	12,00,000
		Trade Investments	1,00,000
18% Pref. Share Capital	1,00,000	(Long-term)	
Reserves	60,000	Current Assets	4,40,000
Profit & Loss A/c (for 2017-18)	4,40,000	Preliminary Expenses	60,000
		Underwriting Commission	40,000
15% Debentures	8,00,000		
Current Liabilities Provision	1,00,000		

for Tax	2,40,000		
	18,40,000		18,40,000

Answer:

Particulars	Rs.
Net Profit after Interest & Tax Less: Preference Dividend (1,00,000 x 18/100)	4,40,000 18,000
Net Profit after Interest, Tax & Preference Dividend	4,22,000
Calculation of Equity Shareholder's Funds: Net Fixed Assets Trade Investments Current Assets Total Assets Less: Current Liabilities (Current Liabilities + Provision for Tax) Capital Employed Less: Long-term Debt (Debenture) Shareholder's Funds Less: Pref. Share Capital Equity Shareholder's Funds	12,00,000 1,00,000 4,40,000 17,40,000 3,40,000 14,00,000 8,00,000 6,00,000 1,00,000 5,00,000

Return on Shareholder's Funds = $\frac{\text{Net Income before Interest and Tax}}{\text{Shareholder's Funds}} \times 100$

Return on Shareholder's Funds = $\frac{4,22,000}{5,00,000} \times 100$

= 84.4%

viii) Earnings per share(EPS):

Earnings per Share= $\frac{\text{Net Profit after Tax, Interest and Preference Dividend}}{\text{Number of Equity Shares}}$

Illustration 14

From the extracted dete., calculate earnings per share from the following data:

Particulars	Rs.
20,000 Equity Shares of ₹10 each 20,000 10% Preference Shares of ₹10 each Net Profit before paying dividend to Preference Shares	2,00,000 2,00,000 1,00,000

Answer:

Particulars	Rs.
Net Profit as per Profit & Loss A/c Less: Dividend to Preference Shareholders 10% on 2,00,000	1,00,000 20,000
Balance of Profit Available to Equity Shareholders	80,000

Earnings per Share= Net Profit after Tax, Interest and Preference Dividend / Number of Equity Shares

Earnings per Share= 80,000 x 100 / 20,000

= Rs. 4 per share

ix) Market Capitalisation Ratio

Market Capitalisation Ratio = Earnings per share x 100 / Market Price per share

Earnings per Share= Net Profit after Tax, Interest and Preference Dividend / Number of Equity Shares

Dividend Yield Ratio = Dividend per share x 100 / Market Price per share

Dividend per share = Unit per share x % of Dividend

Illustration 15

From the following data, calculate dividend yield ratio:

Particulars	Rs.
10,000 Equity Shares of 100 each Dividend paid during the year Market price per share	10,00,000 20% 120

Dividend Yield Ratio = $\frac{\text{Dividend per share}}{\text{Market Price per share}} \times 100$

$= \frac{20}{120} \times 100$

$= 16.67\%$

x) Price Earning Ratio or P/E Ratio

Price Earning Ratio = $\frac{\text{Market Price per share}}{\text{Earnings per equity share}}$

Illustration 16

The capital of ABC ltd. is as follows:

Particulars	Rs.
80,000 Equity Shares of 10 each 10% 30,000 Preference Shares of ₹10 each	8,00,000 3,00,000
	11,00,000

The following information has been obtained from the books of company:

Profit after tax at 60% Depreciation Equity Dividend paid Market Price of Equity share	2,70,000 60,000 20% 40

Calculate the Price Earning Ratio.

Answer:

Price Earning Ratio = Market Price per share / Earnings per equity share

Earnings per Share= Net Profit after Tax, Interest and Preference Dividend / Number of Equity Shares

= 2,70,000 - 30,000 / 80,000

= 3

Price Earning Ratio = 40 / 3

= 13.3:1

4. Activity/Turnover Ratios

i) Fixed Assets Turnover Ratio

Fixed Assets Turnover Ratio = Net Sales / Net Fixed Assets

Net Sales = Gross Sales - Sales Return
Net Fixed Assets = Gross Fixed Assets - Depreciation

Illustration 17

ABC Company has gross fixed assets of ₹5,00,000 and accumulated depreciation of 2,00,000. Sales over the last 12 months totalled 9,00,000. The calculation of ABC's fixed asset turnover ratio is:

Answer:

Net Sales = 9,00,000

Net Fixed Assets = Gross Fixed Assets - Depreciation = 5,00,000 -2,00,000

=3,00,000

Fixed Assets Turnover Ratio = Net Sales / Net Fixed Assets

= 9,00,000 / 3,00,000

= 3 times

ii) Stock Turnover Ratio

Stock Turnover Ratio = Cost of goods sold / Average Inventory

Cost of goods sold = Net Sales - Gross Profit

Or

Cost of goods sold = Opening stock + Purchases + Direct Expenses - Closing Stock

Average Stock/Inventory = (Opening Stock + Closing Stock) / 2

Illustration 18

ABC & Co. supplies the following information for the year ending 2020:

Particulars	Rs.
Credit Sales	1,75,000
Cash Sales	2,50,000
Returns Inward	25,000
Opening Stock	25,000
Closing Stock	35,000
Gross Profit	20%

Find out Stock turnover ratio.

Answer:

Stock Turnover Ratio = Cost of goods sold / Average Inventory

Cost of goods sold = Net Sales - Gross Profit
Net Sales = Credit Sales + Cash Sales - Return Inwards
= 1,75,000 + 2,50,000 - 25,000
= 4,00,000

Gross Profit on Sales = $\frac{4,00,000 \times 20}{100}$ = 80,000

Cost of goods sold = Net Sales - Gross Profit = 4,00,000 - 80,000
= 3,20,000

Average Stock = $\frac{\text{Opening Stock + Closing Stock}}{2}$
= $\frac{25,000 + 35,000}{2}$ = 30,000

Stock Turnover Ratio = $\frac{3,20,000}{30,000}$ = 10.67 times

iii) Debtors Turnover Ratio

Debtors Ratio = $\frac{\text{Total Debtors}}{\text{Net Credit Sales}} \times$ Time Period

Debtors Turnover Ratio = $\frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable or Average Trade Debtors}}$

Average Accounts Receivable = $\frac{\text{Opening Account Receivables + Closing Account Receivables}}{2}$

When Credit sales and average debtors are not available,

Debtors Turnover Ratio = $\frac{\text{Total Sales}}{\text{Closing Debtors}}$

Illustration 19

Calculate debtor's turnover for the year 2020-2021 from the following information:

Particulars	2020	2021
Sundry Debtors Bills Receivables Provision for Doubtful Debts	15,000 5000 1500	45,000 15,000 4500

Total sales = Rs. 2,20,000, Sales Return = Rs. 20,000, Cash Sales = Rs. 40,000

Answer:

Debtors Turnover Ratio = Net Credit Sales / Average Accounts Receivable

Net Credit Sales = Total Sales - Sales REturn - Cash Sales
= 2,20,000 - 20,000 - 40,000 = 1,60,000

Average Debtors/
Accounts Receivable = Opening Debtors + Closing Debtors + Opening Bills Receivables + Closing Bills Receivables / 2

= 15,000 + 45,000+ 5000 + 15,000 / 2

= 40,000

Debtors Turnover Ratio = 1,60,000 / 40,000
= 4 times

vi) Creditors Turnover Ratio

Creditors Ratio = Total Creditors x Time Period / Net Credit Purchases

Creditors Turnover Ratio = Net Credit Purchases / Average Accounts Payables or Average Trade Creditors

Net Credit Purchases = Gross Credit Purchase - Purchase Return

Average Trade Creditors = $\frac{\text{Opening Trade Creditors + Closing Trade Creditors}}{2}$

If the opening figure of creditors is not available, then the closing figure may be used.

Creditors Turnover ratio = $\frac{\text{Total Purchases}}{\text{Closing Creditors}}$

Illustration 20

Calculate creditors turnover ratio from the following information:

Particulars	Rs.
Cash Purchases	1,00,000
Opening Sundry Creditors	25,000
Closing Bills Payable	25,000
Purchases Return	7000
Total Purchases	4,07,000
Closing Sundry Creditors	30,000
Opening Bills Payable	20,000

Answer:

Creditors Turnover Ratio = $\frac{\text{Net Credit Purchases}}{\text{Average Accounts Payables or Average Trade Creditors}}$

Net Credit Purchases = Total Purchase - Cash Purchases - Purchase Return
= 4,07,000 - 1,00,000 - 7000 = 3,00,000

Average Creditors = $\frac{\text{Opening Creditors + Closing Creditors + Opening Bills Payables + Closing Bills Payables}}{2}$

$= \frac{25,000 + 20,000 + 30,000 + 25,000}{2}$

= 50,000

Creditors Turnover Ratio = $\frac{3,00,000}{50,000}$

= 6 times

v) Working Capital Turnover Ratio

Working Capital Turnover Ratio = Net Sales / Working Capital
= Cost of goods sold / Net Working Capital

Net Sales = Gross sales - Sales return
Working Capital = Current Assets - Current Liabilities

Illustration 21

Calculate Working Capital Turnover Ratio from the following information:

Current Assets	6,00,000
Current Liabilities	1,20,000
Credit Sales	12,00,000
Cash Sales	2,60,000
Sales Return	20,000

Answer:

Working Capital Turnover Ratio = Net Sales / Working Capital

Net Sales = Cash Sales + Credit Sales - Sales Return
= 2,60,000 + 12,00,000 - 20,000
= 14,40,000

Working Capital = Current Assets - Current Liabilities
= 6,00,000 - 1,20,000
= 4,80,000

Working Capital Turnover Ratio = 14,40,000 / 4,80,000
= 3 Times

vi) Total Assets Turnover Ratio

$$\text{Total Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Total Assets}}$$

Illustration 22

Compute Total Assets Turnover from the following particulars:

Sales	3,00,000
Sales Return	40,000
Fixed Assets	2,00,000
Current Assets	1,50,000

Answer:

$$\text{Total Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Total Assets}}$$

Net Sales = Sales - Sales Return
= 3,00,000 - 40,000
= 2,60,000

Total Assets = Fixed Assets + Current Assets
= 2,00,000 + 1,50,000
= 3,50,000

$$\text{Total Assets Turnover Ratio} = \frac{2,60,000}{3,50,000}$$
$$= 0.74 : 1$$

Illustration 23

Using the following data, complete the Balance Sheet.

Particulars	Rs.+
Gross Profit (20% of Sales)	60,000
Shareholder's Equity	50,000

Credit Sales to Total Sales	80%
Total Assets Turnover	3 times
Inventory Turnover (to Cost of Sales)	8 times
Average Collection Period (360 days year)	18 days
Current Ratio	1.6
Long-term Debt to Equity	40%
Creditors	?
Cash	?
Long-term Debt	?
Debtors	?
Shareholder's Equity	?
Inventory	?
Fixed Assets	?

Illustration 24

Using the following data, complete the Balance Sheet.

1. Debtors Turnover Ratio - 4
2. Creditors Turnover Ratio - 6 (to purchases)
3. Capital Turnover Ratio - 2 (to sales)
4. Stock Turnover Ratio - 8 (to cost of sales)
5. Fixed Asset Turnover Ratio - 8 (to sales)
6. Gross Profit Ratio - 25%
7. Gross Profit during the year - 1,00,000
8. Reserves and Surplus - ₹35,000
9. Closing stock is more by 20,000 than opening stock.
10. There were no long-term liabilities.
11. All sales are on credit basis.

Illustration 25 (2022)

Using the following data, complete the Balance Sheet.

1. Current Ratio: 2.5:1
2. Acid Test Ratio: 1.5:1
3. Gross Profit/Sales Ratio: 0.2:1
4. Net-Working Capital/Net Worth Ratio: 0.3:1
5. Sales/Net Fixed Assets Ratio: 2.0:1
6. Sales/Net-Worth Ratio: 1.5:1
7. Sales Debtors Ratio: 6.0:1
8. Reserves Capital Ratio:1.0:1
9. Net Worth Long-Term Loan Ratio: 20.0:1
10. Stock Velocity: 2 Months
11. Paid-up Share Capital: Rs. 10,00,000.

Illustration 26 (2018)

Fixed assets to net-worth: 0.75:1
Current ratio 2:1
Liquid ratio 3:2
Reserves included in Proprietors" Fund 1:4
Current Liabilities Rs.2,00,000
Cash and bank balances Rs. 10,000
Fixed Assets Rs.6,00,000.

Module 02
Chapter 05
CASH FLOW STATEMENT

Meaning and Definition of Cash Flow Statement

'Cash' is a vital element of any business entity, as it plays a crucial role throughout the entire lifetime of a business enterprise. 'Cash' for a Business' has been aptly compared with the 'Blood' for a 'Human Body'. 'Cash' is required to meet day-to-day requirements for running the business and for making payments to 'Suppliers', 'Wages/Salaries to the Employees', 'Interest', 'Dividends', etc. Maintenance of an optimum level of cash is, therefore, of paramount importance for a business entity.

According to Indian Accounting Standard (AS-3), cash flow means inflows and outflows of cash and cash equivalents. Cash comprises cash in hand and demand deposits with the banks. Cash equivalents are short-term, highly liquid investments which are readily convertible into cash.

Preparation of the Statement of Changes in the financial position (with regard to cash only) of a business entity is referred to as 'Cash Flow Statement/Analysis'. In this type of analysis, following items are included:

1) Net impact of all the business transactions undertaken on 'Cash Basis';

2) All the 'Cash Payments' and 'Cash Receipts'; and

3) Summary of reasons leading to the changes in the 'Cash Position' of a business entity between the dates of two 'Balance Sheets'.

'Cash Flow Statement' may be defined as a statement, which depicts the changes in financial position of a business organisation due to 'Inflows' and 'Outflows' of cash. Analysis of such 'Inflows' and 'Outflows' is necessitated for a short range of business activities.

Features of Cash Flow Statement

A cash flow statement is characterized by the following:

1) This statement is useful for 'Financial Planning' of a business enterprise;

2) It is prepared on the basis of actual 'Cash Receipts' and actual 'Cash Payments' during a specific period;

3) The underlying principle of the 'Cash Flow Statement' is based on 'Past Data';

4) For the preparation of 'Cash Flow Statement', 'Balance Sheets' of two consecutive years are required. It is, therefore, prepared once in a year;

5) Data' gathered from the 'Cash Flow Statement' may become the basis of preparing 'Cash Budget';

6) 'Cash Flows' constitute two distinct parts, viz., 'Cash Inflows' and 'Cash Outflows';

7) Cash Flow Statement' is prepared for a specific period, generally the period between the dates of two consecutive 'Balance Sheets';

8) Cash Flow Statement' is mandatory to be prepared and presented by the 'Listed Companies'; and

9) Cash Flow Statement' is generated from the financial statements, i.e., 'Balance Sheet' and 'Profit & Loss Account'.

Objectives of Cash Flow Statement

The fundamental objective behind the preparation of the 'Cash Flow Statement' is to underline and emphasise the changes that have taken place in the 'Cash Position' during a specific period. The sources from where the cash was procured by an organisation and the uses, to which it (the cash) was put, are elaborated in the cash flow statement.

Other objectives for preparing cash flow statement are discussed in the following points:

1) Showing the 'Inflows' and 'Outflows' (sources and applications) of cash into/out of the business during a specific period;

2) Disclosing the 'Positive' and 'Negative' features of 'Cash Management' undertaken by the organisation;

3) Facilitating the policy formulation by the management in respect of certain financial matters such as 'Dividend Policy';
4) Ascertaining the 'Liquidity Position of the business organisation;

5) Finding out the net changes having taken place in respect of 'Cash' and 'Cash Equivalents';

6) Studying the trend regarding 'Cash Receipts' and 'Cash Payments';

7) Finding out the 'Deviation of Cash' from 'Earnings'; and

8) Assessing the Financial Position of the business enterprise in a more realistic manner and forecasting the 'Cash Position'.

Advantages of Cash Flow Statement

Preparation and analysis of cash flow statement have the following advantages:

1) It facilitates measurement of the business enterprise's ability to meet its fixed charges;

2) It is useful in bringing to the forefront the business enterprise's status with regard to its 'Liquidity' and 'Solvency' during adverse conditions;

3) It is helpful in assessing the changes in 'Cash Position' between 'Profit & Loss Account' and 'Balance Sheet' items of two consecutive accounting periods;

4) Disclosures made by the 'Cash Flow Statement' enables the management of a business enterprise to initiate preventive measures in financially difficult situations;

5) Identification of 'Discretionary Cash Flows' from business transactions becomes possible through 'Cash Flow

6) It facilitates listing out the 'Potential Financial Flows', which may be put to use during crisis conditions; and

7) Cash Flow Statement' reveals the information with regard to the availability of 'Cash'. Such information is very useful in deciding the quantum of 'Dividend' to be distributed to the shareholders or in extreme cases whether or not to skip a dividend payment altogether.

Disadvantages of Cash Flow Statement

Cash flow statement is deficient in certain respects, some of which are as follows:

1) Non-Cash Transactions are Overlooked:

The entire focus of 'Cash Flow Statement' is exclusively on the 'Inflows' and Outflows' of cash. 'Non-Cash Transactions' like purchase of buildings by issuing shares/debentures to the vendors or issue of bonus shares are out of its purview.

2) Not a Substitute for an Income Statement:
An Income Statement' of a business organisation covers both 'Cash' and 'Non-Cash' items and reveals the 'Net Income'. 'Cash Flow Statement', on the other hand, takes into consideration only 'Cash Flows' and as such can show only 'Net Cash Flows' (inflows or outflows). It cannot disclose the 'Net Profit/Loss' of the organisation.

3) Limited Use:
Cash Flow Statement' has very limited use in isolation. Only when it is accompanied by other 'Financial Statements' like 'Balance Sheet' and 'Profit & Loss Account', it provides some meaningful and useful results.

4) Historical in Nature:
Preparation of 'Cash Flow Statement' involves rearranging other 'Financial Statements, viz. 'Balance Sheet' and 'Profit & Loss Account', which contain past data and are historical in nature. It would have been more useful and prospective in nature, when accompanied with 'Projected Cash Flow Statement'.

5) Ignoring the 'Accrual Concept':
'Accrual Concept', one of the basic accounting concepts, is totally ignored while preparing a cash flow statement.

Cash Flow Statement As Per AS-3

The Accounting Standard-3 (AS-3), relating to the 'Cash Flow Analysis', issued by the Institute of Chartered Accountants of India' (ICAI) earlier was revised in the year 1997. Further, in terms of the instructions issued by the Securities and Exchange Board of India (SEBI), listed companies are required to furnish a copy of 'Cash Flow Analysis' prepared by it, alongwith a copy of its 'Final Accounts'.

Before undertaking 'Cash Flow Analysis', a business organisation may categorise its activities into following three groups:
1) Operating activities;
2) Investing activities; and
3) Financing activities.

Cash is generated from the operations of a business enterprise through any one' or a combination of more than one' of the above activities, depending upon the nature of its core business. Categorisation of activities enables an analyst to have more precise information with regard to the impact of those activities on the position of 'Cash/Cash Equivalent' of the enterprise. Such classified information may also be useful during the evaluation of interrelationship between different categories of activities. Sometimes a single transaction may involve 'Cash Flows' from different activities.

For example, when a fixed asset is purchased on 'Deferred Payment Basis', the installment payment includes both the Principal' amount and the amount of Interest Accrued' on that principal amount. While the interest payment is categorized as 'Financing Activity', the payment of principal is categorised as 'Investing Activity'.

Operating Activities

Cash Flow' from the Operating Activities' forms the major position of the 'Total Cash Flows' and its source is from the core 'Income Generating Activity' of the enterprise. The amount of 'Cash Flows' generated out of the Operating activities' is also an important indicator of the enterprise's 'Operational Efficiency' and its ability to pay dividends, repay Dans and make investments in new projects without looking for any external resource of finance. Information with regard to the level of 'Cash Flows' from a specific category may be very useful, along with certain other information, in predicting future 'Operating Cash Flows'.

Examples of Cash Flows Arising from Operating Activities Some examples of cash flows arising from operating activities are as follows:

1) Cash received from the sale of goods and services;

2) Cash received as 'Fees', 'Commission' and 'Royalties', etc.;

3) Cash paid to the suppliers for goods and services;

4) Cash paid to and on behalf of employees;

5) Cash paid to and received from an 'Insurance Company' in connection with 'Premium', 'Claims', 'Annuities' and other policy benefits;

6) Cash relating to the refund of 'Income Tax' (provided they are classified either as 'Investing Activities' or 'Financing Activities'); and

7) Cash transactions of the contracts pertaining to the Futures', 'Forwards', 'Options' and 'Swaps', are provided contracts/derivatives are kept in the books for trading purposes.

There are certain transactions, which generally create some doubts with regard to their classification:

1) Sale of a Plant/Machinery, which results in a Gain/Loss and is included in 'Profit & Loss Account': 'Cash Flows' generated out of such transactions are considered 'Cash Flows' from 'Investing Activities' and not from the 'Operating Activities', because such transactions do not form part of an enterprise's core activity.

2) Instruments/Securities held for Trading Purpose: 'Cash Flows' generated out of the trading in Financial Instruments'/'Securities are considered a part of 'Operating Activities, because such instruments are acquired for the purpose of selling them at an appropriate time, and as such they are similar to 'Inventories'. Their sale/purchase is therefore the core activity of an enterprise.

3) Loans and Advances extended in 'Cash' by 'Finance Companies': As some of the Finance Companies' are primarily engaged in extending or recovering loans and advances, it is considered their 'Principal Income Generating Activities'. Such transactions are generally categorised as 'Operating Activities'.

Investing Activities

The details of 'Cash Flows' generated out of 'Investing Activities' need to be revealed separately. This is significant in view of the fact that such 'Cash Flows' symbolise the degree of the expenditure incurred for resources meant to generate income and cash flows in the future.

Examples of Cash Flows Arising from Investing Activities Following are some examples of cash flows arising from investing activities:

1) Cash payments made for the acquisition of 'Fixed Assets' (including those which are intangible in nature). Further, cash payments made in connection with the 'Capitalised Research and Development Costs' and 'Self-Constructed Fixed Assets' are also considered as 'Cash Flows' arising from 'Investing Activities'.

2) Cash proceeds received from disposal of 'Fixed Assets' (including those which are intangible in nature).

3) Cash paid for the purchase of 'Shares', 'Debentures', 'Warrants' and other such instruments of other companies and interest in Joint Ventures' (JVs). However, cash payments for the purchase of instruments, which are: i) Cash and cash equivalents, and
ii) Held for trading purposes, are excluded.

4) Cash received from the sale of 'Shares', 'Debentures', 'Warrants', and other such instruments of other companies and interest in 'Joint Ventures' (JVs). However, cash received from the sale of instruments, which are:

i) Cash and cash-equivalents, and
ii) Held for trading purposes, are excluded.

5) Cash loans and advances extended to third parties (other than cash loans and advances extended by a financing company).

6) Cash received as the repayment of loans and advances extended to third parties (other than cash received as the repayment of loans and advances extended by a financing company).

7) Cash paid for the contracts relating to 'Futures', 'Forwards', 'Options' and 'Swaps', except when such contracts are held for trading purposes, or the transaction is categorised as Financing Activities', and

8) Cash received for the contracts relating to 'Futures', 'Forwards', 'Options' and 'Swaps', except when such contracts are held for trading purposes, or the transaction is categorised as 'Financing Activities'.

Financing Activities

*Cash Flows' generated out of 'Financing Activities' are required to be shown separately, as it facilitates forecasting of claims on future 'Cash Flows' by the fund providers (both 'Long Term' as well as 'Short Term') to the enterprise.

Examples of Cash Flows Arising from Financing Activities

Some examples of cash flows arising from financial activities are as follows:

1) Cash proceeds of 'Share Issue' and other such instruments;

2) Cash proceeds of 'Debenture Issue' and other debt instruments like 'Bonds', 'Loans', 'Notes' and other borrowings (both 'Short Term' and 'Long Term'); and

3) Repayment of the borrowed funds in cash.

Preparation of Cash Flow Statements

Cash flow statement may be prepared by either of the two methods mentioned below:

1) Preparation of 'Cash Flow Statement' Under Traditional Method': The 'Traditional Method' is a simple and basic procedure of preparing 'Cash Flow Statement'. This method does not have any standard format to be adopted and "Inflows' and 'Outflows' are not categorised as 'Operating Activities', 'Investment Activities, and Financing Activities' separately; and

2) Preparation of 'Cash Flow Statement' Under AS-3: The fundamental difference between preparation of "Cash Flow Statement under AS-3 and the one under 'Traditional Method' are the reporting and presentation of the statement. There are two methods of reporting 'Cash Flows' from the operating activities point of view:

i) Direct Method, and
ii) Indirect Method.

Direct Method

Under direct method few steps need to be followed:

1) The first step under the Direct Method' of preparing 'Cash Flow Statement' is ascertaining different categories of 'Cash Receipts' and 'Cash Payments', e.g., 'Cash received from customers', 'Cash paid to suppliers', 'Cash paid (wages / salaries) to employees', etc.

2) The next step involves placing them together under the 'Cash Flows from operating section' of 'Cash Flow Statement'.

3) Then the calculations are carried out by taking the 'Opening Balances' and 'Closing Balances' of various accounts maintained by the business enterprise and arriving at the 'Net Balances' (increase or decrease in the account).

For example, each of the following categories of cash transaction is taken separately:

i) Cash collected from the customers;
ii) Interest received;
iii) Dividends received;
iv) Cash paid for inventory;
v) Cash paid as wages/salaries to employees;
vi) Interest paid in cash; and
vii) Taxes paid in cash.

Format of Cash Flow Statements (Direct Method)

Cash Flow Statement

Particulars	**Rs.**
Cash Flow from Operating Activities: Cash receipts/collected from customers Cash paid to suppliers and employees Income tax paid **Net Cash Flows from Operating Activities** **Cash Flows from Investment Activities:** Purchase of plant and machinery Sale of an old office vehicle **Net Cash Received/Used in Investment Activities:** **Cash Flow from Financing Activities:** Proceeds from issuance of equity capital Redemption of preference shares Redemption of debentures Dividends paid 1) On preference shares 2) On equity shares **Net Cash Flows from Financing Activities** **Net Increase/Decrease in Cash and Cash equivalents Cash and Cash Equivalents at the Beginning of the Year Cash and Cash Equivalents at the End of the Year**	

Indirect Method

*Cash from Operations', 'Net Profit' is taken as the base, which is subject to various adjustments as follows:

1) Transactions relating to 'Non-cash Items' such as 'Depreciation', 'Goodwill', 'Preliminary Expenses', etc.;

2) Changes having taken place in 'Inventories', 'Operating Receivables and Payables' during the period; and

3) Other remaining transactions, which have an impact on cash and are included in Financing and Investing' activities'.

For example, 'Loss or Gain on Sale of Fixed Assets', 'Loss or Gain on Sale of Investments', etc.

Listed companies have, however, no choice of preparing 'Cash Flow Statement' under 'Indirect Method'. As prescribed under AS-3, they are required to prepare and report 'Cash Flow Statement' under the 'Direct Method' only.

Format of Cash Flow Statement (Indirect Method)

Cash Flow Statement

Particulars	Rs.
Cash Flows from Operating Activities Net Profit as per P&L A/C **Add: Non-Operating Items:** Depreciation on Building Depreciation on Machinery Depreciation on Machinery sold Increase in Provision for doubtful debts Dividend paid	

Transfer to Reserves	
Goodwill written off	
Preliminary Expenses written-off	
Other tangible assets written-off	
Loss on sale or disposal of fixed assets	
Less: Profit on sale of investment	
Profit on sale of machinery	
Operating Profit before Working Capital Changes	
Add: Increase in Current liabilities	
Decrease in Current assets	
Less: Increase in Current assets	
Decrease in Current liabilities	
Cash Generated from Operating Activities	
Less: Income tax Paid	
Net Cash Flows from Operating Activities (A)	
Cash Flows from Investing Activities:	
Add: Sale of Investments	
Sale of Machine	
Less: Purchase of Buildings	
Purchase of Machinery	
Net Cash Flows from Investing Activities (B)	
Cash Flows from Financing Activities:	
Add: Issue of Share	
Add: Issue of Debenture	
Less: Redemption of Debentures	
Less: Interim Dividend Paid	
Less: Dividend Paid	
Net Cash Flows from Financing Activities (C)	
Net Increase/Decrease in Cash & Cash Equivalents (A + B + C)	
Cash & Cash Equivalents at the Beginning of the Year	
Cash & Cash Equivalents at End of the Year	

Illustration 1

Prepare Cash Flow Statement using Indirect Method (AS-3) from the following information of Balance Sheets of ABC ltd.

Liabilities	2017	2018	Assets	2017	2018
Equity Share Capital	3,00,000	4,00,000	Fixed Assets Stock	4,00,000 2,00,000	5,50,000 2,25,000

Profit and Loss A/c	85,000	1,10,000	Debtors	2,10,000	1,90,000
Bank Loan	1,00,000	75,000	Bills Receivable	80,000	1,10,000
Accumulated Depreciation	80,000	1,35,000	Bank	30,000	-
Creditors	3,10,000	2,95,000			
Proposed dividend	45,000	60,000			
	9,20,000	10,75,000		9,20,000	10,75,000

Adjustments:

1. A machinery costing Rs. 60,000 on which accumulated Depreciation was Rs. 15,000 was sold for Rs. 30,000

Answer:

Cash Flow Statement of ABC Ltd.
(for the period ended 2018)

Particulars		Rs.
Cash Flows from Operating Activities		
Net Profit as per P&L A/C		25,000
Add: Non-Operating Items:		
Depreciation	70,000	
Dividend paid	60,000	
Loss on sale of machinery	15,000	1,45,000
Operating Profit before Working Capital Changes		1,70,000
Add: Decrease in Debtors	20,000	
Less: Increase in Stock	25,000	
Increase in B/R	30,000	
Decrease in Creditors	15,000	(50,000)
Net Cash Flows from Operating Activities (A)		1,20,000
Cash Flows from Investing Activities:		
Add: Sale of Machine	30,000	
Less: Purchase of Machinery	2,10,000	(1,80,000)
Net Cash Flows from Investing Activities (B)		(60,000)
Cash Flows from Financing Activities:		
Add: Increase in equity share capital	1,00 000	
Less: Repayment of Loan	25,000	
Proposed Dividend paid	45,000	
Net Cash Flows from Financing Activities (C)		30,000
Net Increase/Decrease in Cash & Cash Equivalents (A + B + C) Cash		(30,000)
& Cash Equivalents at the Beginning of the Year		30,000

Cash & Cash Equivalents at End of the Year	Nill

Working Notes:

Fixed Assets (Machinery) Account

Particulars	Rs.	Particulars	Rs.
To Balance b/d To Bank A/c (Purchase) (Balancing Figure)	4,00,000 2,10,000	By Accumulated Depreciation A/c By Cash A/c (Sale of Machinery) By P&L A/c (Loss on Sale of Machinery) By Balance c/d	15,000 30,000 15,000 5,50,000
	6,10,000		6,10,000

Accumulated Depreciation Account

Particulars	Rs.	Particulars	Rs.
To Machinery A/c To Balance c/d	15,000 1,35,000	By Balance b/d By Adjusted P&L A/c (Current year's depreciation) (Balancing Figure)	80,000 70,000
	1,50,000		1,50,000

Illustration 2

From the following Comparative Balance Sheets prepare Cash Flow Statement:

Comparative BAlance Sheet

Liabilities	2017	2018	Assets	2017	2018
Share Capital	45,000	50,000	Land	7000	8000

Sinking Fund	12,000	16,000	Building	60,000	60,000
Retained Earnings	16,275	13,950	Furniture	10,000	10,000
Provision for Doubtful Debts	1425	1350	Sinking Fund Investment	12,000	16,000
Accumulated Depreciation:			Stock	20,600	25,000
			Debtors	15,000	15,000
Building	9000	12,000	Bills Receivable	3500	6200
Furniture	2400	3200	Cash at Bank	23,500	21,300
Loan on Mortgage	40,000	40,000			
Bills Payable	25,500	25,000			
	1,51,600	1,61,500		1,51,600	1,61,500

Adjustments:

1) The net profit for the year amounted to ₹6,675.
2) A dividend amounting to ₹5,000 was paid during the year.

Answer:

Cash Flow Statement
(for the year ended 31st March, 2018)

Particulars		Rs.
Cash Flows from Operating Activities:		
Net Profit as per P&L A/c (Given)		6675
Add: Non-Operating Items:		
Depreciation on Building	3000	
Depreciation on Furniture	800	3800
Operating Profit before Working Capital Changes		10,475
Less: Increase in Stock	4400	
Increase in Bills Receivable	2700	
Decrease in Provision for doubtful debts	75	
Decrease in Bills Payable	500	(7675)
***Net Cash Flows from Operating Activities (A)**		2800
Cash Flows from Investing Activities:		
Less: Purchase of Land	1000	
Purchase of Investment	4000	
		(5000)

Net Cash Flows from Investing Activities (B)		(2200)
Cash Flows from Financing Activities:		
Add: Issue of Share Capital	5000	
Less: Dividend Paid	5000	Nil
***Net Cash Flows from Financing Activities**		(2200)
Net Decrease in Cash and Cash Equivalents (A + B + C)		23,500
Cash & Cash Equivalents at the Beginning of the Year		21,300
Cash & Cash Equivalents at End of the Year		

Illustration 3

Prepare Cash Flow Statement from the following Comparative Balance Sheets of ABC ltd. for the year ended 31st March 2018.
Comparative Balance Sheet

Liabilities	2017	2018	Assets	2017	2018
Share Capital	7,00,000	7,40,000	Goodwill	1,00,000	50,000
Profit and Loss A/c	1,00,800	1,05,600	Land	2,00,000	3,00,000
9% Debentures	1,20,000	60,000	Stock	4,92,000	4,27,000
Creditors	1,03,200	1,18,400	Cash at Bank	84,000	70,000
			Temporary Investments	6000	8000
			Debtors	1,42,000	1,69,000
	10,24,000	10,24,000		10,24,000	10,24,000

Adjustments:

1) Dividend declared and paid during the year is ₹35,000;
2) Land was revalued during the year at 3,00,000; and
3) Profit on revaluation was transferred to the profit and loss account.

Answer:

Cash Flow Statement of ABC ltd.
(for the year ended 2018)

Particulars		Rs.
Cash Flows from Operating Activities:		
Net Profit as per P&L A/c (1,05,600-1,00,800)		4800
Add: Non-Operating Items:		
Goodwill Written-off (1,00,000 - ₹50,000)	50,000	
Dividend Declared	35,000	
Less: Profit on Revaluation of Land (3,00,000 - ₹2,00,000)	1,00,000	(15,000)
Operating Profit before Working Capital Changes		(10,200)
Add: Increase in Creditors (1,18,400-1,03,200)	15,200	
Decrease in Stock (4,92,000 -74,27,000)	65,000	
Less: Increase in Debtors (1,69,000 -1,42,000)	27,000	53,200
Net Cash Flows from Operating Activities (A)		43,000
Cash Flows from Investing Activities		
Net Cash Flows from Investing Activities (B)		-
Cash Flows from Financing Activities:		
Add: Issue of Share Capital (7,40,000 - ₹7,00,000)	40,000	
Less: Redemption of 9% Debentures (₹1,20,000 - ₹60,000)	60,000	
Less: Dividend Paid	35,000	
Net Cash Flows from Financing Activities (C)		(55,000)
Net Decrease in Cash and Cash Equivalents (A + B + C)		(12,000)
Cash & Cash Equivalents at the Beginning of the Year (84,000+ 6000)		90,000
Cash & Cash Equivalents at the End of the Year (70,000+8000)		78,000

Illustration 4

Following are the Balance Sheets of ABC ltd. for the years 2017 & 2018.

Liabilities	2017	2018	Assets	2017	2018
Equity Share Capital	3,00,000	3,50,000	Fixed Assets (Net) (Machinery)	5,10,000	6,20,000
15% Preference Share Capital	2,00,000	1,00,000	Investments	30,000	80,000
15% Debentures			Current Assets	2,00,000	3,05,000
Reserves & Surplus	1,00,000	2,00,000	Cash-in-hand	40,000	70,000
Current Liabilities	1,10,000	2,70,000	Discount on Issue of Debentures	10,000	5000
	80,000	1,60,000			
	7,90,000	10,80,000		7,90,000	10,80,000

Adjustments:

1) A machine with a book value of ₹40,000 was sold for ₹25,000.
2) 15% preference shares were redeemed at a premium of 15% on 31.3.17 for ₹1,00,000.
3) Dividend on equity shares @ 15% was paid for the year 2017 during 2018.
4) Depreciation charged during 2018 was ₹60,000.

Answer:

Cash Flow Statement of ABC ltd.

Particulars		Rs.
Cash Flows from Operating Activities:		
Excess of Reserves & Surplus (2,70,000 - 1,10,000)		1,60,000
Add: Non-Operating Items:		
Depreciation	60,000	
Loss on Sale of Machine	15,000	
Premium on Redemption of Preference Shares	15,000	
Dividend paid	45,000	
Discount on Debentures	5000	1,40,000
Operating Profit before Working Capital Changes		3,00,000
Add: Increase in Current Liabilities (1,60,000 - 80,000)	80,000	
Less: Increase in Current Assets (3,05,000 -2,00,000)	1,05,000	(25,000)
Net Cash Flows from Operating Activities (A)		2,75,000
Cash Flows from Investing Activities:		
Add: Sale of Machine	25,000	
Less: Purchase of Machine	2,10,000	
Purchase of Investment	50,000	(2,35,000)
Net Cash Flows from Investing Activities (B)		40,000
Cash Flow from Financing Activities:		
Add: Issue of Shares	50,000	
Issue of Debentures	1,00,000	
Less: Redemption of Preference Shares at premium	1,15,000	
Dividend Paid on Equity Shares	45,000	(10,000)
Net Cash Flows from Financing Activities (C)		
Net Increase in Cash & Cash Equivalents (A + B + C)		30,000
Cash & Cash Equivalents at the Beginning of the Year		40,000
Cash & Cash Equivalents at End of the Year		70,000

Working Notes:

Machinery Account

Particulars	Rs.	Particulars	Rs.
To Balance b/d To Cash A/c (Purchase)	5,10,000 2,10,000	By Cash A/c (Sale) By P/L A/c (Loss) By Depreciation By Balance b/d	25,000 15,000 60,000 6,20,000
	7,20,000		7,20,000

2. Dividends paid on equity shares = 15% of 3,00,000
   = 3,00,000 x 15/100
   = Rs. 45,000

3. Redemption of Preference Shares = 1,00,000 + (1,00,000 x 15/100)
   = 1,00,000 + 15,000
   = 1,15,000

Illustration 5

Prepare Cash FLow Statement from the following information.

Liabilities	2017	2018	Assets	2017	2018
Outstanding Liabilities for Wages Creditors Bills Payable Bank Overdraft Capital	500 8500 3500 30,000 50,000	750 8500 4000 40,000 65,000	Cash Bills Receivable Debtors Stock-in Trade Plant and Machinery Land and Buildings	5000 2500 15,000 7500 22,500 40,000	2500 3500 20,000 10,000 34,500 47,750
	92,500	1,18,250		92,500	1,18,250

Adjustments:

1) Net profit earned for the year 2017 Rs.20,000.

2) Plant and machinery purchased in the early years for 5,000 was sold for 3,500 in the year 2017. Upto the point of sale of the machinery, depreciation was charged for ₹1,000. Accumulated balances

of depreciation on plant and machinery on 31st December, 2016 and 31st December, 2017 were 7,500 and 10,000, respectively.

3) No depreciation was charged on land and buildings.

Answer:

Cash Flow Statement

Particulars		Rs.
Cash Flows from Operating Activities:		
Net Profit		20,000
Add: Non-Operating Items:		
Depreciation	3500	
Loss on Sale of Plant and Machinery	500	4000
Operating Profit before Working Capital Changes		24,000
Add:Increase in Outstanding Liabilities for Wages	250	
Increase in Bills Payable	500	
Less: Increase in Bills Receivable	1000	
Increase in Debtors	5000	
Increase in Stock	2500	(7750)
Net Cash Flows from Operating Activities (A)		16,250
Cash Flows from Investing Activities:		
Add: Sale of Plant and Machinery	3500	
Less: Purchase of Plant and Machinery	19,500	
Purchase of Land and Buildings	7750	(23,750)
Net Cash Flows from Investing Activities (B)		7500
Cash Flows from Financing Activities:		
Add: Increase in Overdraft	10,000	
Less: Drawings by the Owner	5000	
Net Cash Flows from Financing Activities (C)		5000
Net Decrease in Cash and Cash Equivalents (A + B + C)		(2500)
Cash & Cash Equivalents at the Beginning of the Year		5000
Cash & Cash Equivalents at End of the Year		2500

Module 03
Chapter 01

Inventory Valuation

Last In First Out (LIFO) Method

This method operates in an inverse manner to the FIFO method. Under this method, most recently purchased goods are released first. However, this assumption is made only for the purpose of valuing the issues of an inventory. The actual flow of inventory may differ. This method employs the price of the latest lot until all the units from the lot are exhausted. Afterwards, it continues with the previous lots. If a new batch is received, then such batch is considered to be the last lot.

Advantages of LIFO Method

The advantages associated with LIFO method are as follows:

1) It is easy to understand.

2) This method is suitable for the time period when prices are rising.

3) Since material is charged at the latest price level, the cost of production is realistic.

4) This leads to minimal unrealised gains.

Disadvantages of LIFO Method

LIFO method has following disadvantages:

1) Inventory is not priced at current market price.

2) It can be difficult to calculate if there are frequent price changes.

3) Price comparison is different if similar jobs are carried out using material from different lots.

4) This method leads to inflated profits and tax liability in the time of downward prices.

5) This method is not supported by the Income Tax Act or Accounting Conventions.

6) It does not conform to the physical flow of the goods.

Format

Date	Receipts			Issues			Balance		
	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt

Illustration 1

Prepare Store Ledger Account using LIFO method showing pricing of materials from following transaction:

Date	Particulars
March 1 3 9 12 15 20 25 30	 Opening stock 1,000 units @ ₹20 each Purchased 800 units @ 21 each Issued 1,200 units Purchased 1,600 units @ 24 each Issued 1,000 units Issued 600 units Purchased 1,000 units @ 25 each Issued 800 units

Answer:

LIFO Method
Store Ledger Account

Date	Receipts			Issues			Balance		
March	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
1	-	-	-	-	-	-	1000	20	20,000
3	800	21	16,800	-	-	-	1000 800	20 21	20,000 16,800
9	-	-	-	800 400	21 20	16,800 8000	600	20	12,000

12	1600	24	38,400	-	-	-	600 1600	20 24	12,000 38,400
15	-	-	-	1000	24	24,000	600 600	20 24	12,000 14,400
20	-	-	-	600	24	14,400	600	20	12,000
25	1000	25	25,000	-	-	-	600 1000	20 25	12,000 25,000
30	-	-	-	800	25	20,000	**600** **200**	**20** **25**	**12,000** **5000**

Illustration 2

Using LIFO method, prepare a Store Ledger Account from the following transactions:

Date	Particulars
March 1 5 7 13 18 21 26 29	 Opening stock 1,200 units @ ₹14 each Purchased 600 units @ 15 each Issued 1,000 units Purchased 1,800 units @ 16 each Issued 1,200 units Issued 400 units Purchased 800 units @18 each Issued 1,000 units

Answer:

LIFO Method
Store Ledger Account

Date	**Receipts**			**Issues**			**Balance**		
March	**Qty**	**Rate**	**Amt**	**Qty**	**Rate**	**Amt**	**Qty**	**Rate**	**Amt**
1	-	-	-	-	-	-	1200	14	16,800
5	600	15	9000	-	-	-	1200 600	14 15	16,800 9000

7	-	-	-	600 400	15 14	9000 5600	800	14	11,200
13	1800	16	28,800	-	-	-	800 1800	14 16	11,200 28,800
18	-	-	-	1200	16	19,200	800 600	14 16	11,200 9600
21	-	-	-	400	16	6400	800 200	14 16	11,200 3200
26	800	18	14,400	-	-	-	800 200 800	14 16 18	11,200 3200 14,400
29	-	-	-	800 200	18 16	14,400 3200	**800**	**14**	**11,200**

Illustration 3

Using LIFO method, prepare a Store Ledger Account from the following transactions:

Date	Transactions	Units	Rate
March			
1	Balance in hand	300	2
2	Purchased	200	2.20
4	Issued	150	-
6	Purchased	200	2.30
11	Issued	150	-
19	Issued	200	-
22	Purchased	200	2.40
27	Issued	150	-

Answer:

LIFO Method
Store Ledger Account

Date	Receipts			Issues			Balance		
March	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt

1	-	-	-	-	-	-	300	2	600
2	200	2.20	440	-	-	-	300 200	2 2.20	600 440
4	-	-	-	150	2.20	330	300 50	2 2.20	600 110
6	200	2.30	460	-	-	-	300 50 200	2 2.20 2.30	600 110 460
11	-	-	-	150	2.30	345	300 50 50	2 2.20 2.30	600 110 115
19	-	-	-	50 50 100	2.30 2.20 2	115 110 200	200	2	400
22	200	2.40	480	-	-	-	200 200	2 2.40	400 480
27	-	-	-	150	2.40	360	**200** **50**	**2** **2.40**	**400** **120**

First In First Out (FIFO) Method

This method of material pricing is by far more systematic than the methods discussed above. The receipts and the issues follow a sequential pattern. i.e., the materials which are received first are also issued first, and when the complete lot is done with, then the further receipt is considered for issue. In simple words, the closing inventory simply represents the stock which was procured at the last and thus represents the latest price levels. This method is suitable during deflation, when the latest prices are low. The obvious reason being that the materials procured at higher rates have already been absorbed and closing inventory thus appearing at a minimum level following the principle of conservatism.

Advantages of FIFO Method

Advantages of FIFO method are as follows:

1) It is very simple and easily understandable.

2) Materials are issued on the basis of purchases.

3) Mostly used in case of perishable goods.

4) Better to follow in case of deflation then inflation to reduce the tax liability.

5) The closing inventory is valued at the current level prices.

Disadvantages of FIFO Method

Disadvantages of FIFO method are as follows:

1) Regular purchases and issues can make this cumbersome.

2) If followed during inflationary situations, the value of the closing stock will be higher, thereby tax liability will increase.

3) Due to frequent price changes, comparison between similar jobs becomes difficult.

4) It is difficult to record the returns and rejected items.

5) As in the warehouse, all the materials are kept together, there is no surety that the one which was purchased earlier is issued first.

Illustration 1

Using FIFO method, prepare a Store Ledger Account from the following transactions:

Date	Purchases		Issues
Dec	Quantity	Rate per kg.	Quantity
2	400	20	-
5	-	-	200
11	-	-	100

19	600	18	-
22	-	-	600
29	100	15	-
31	-	-	200

Answer:

FIFO Method
Store Ledger Account

Date	Receipts			Issues			Balance		
Dec	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
2	400	20	8000	-	-	-	400	20	8000
5	-	-	-	200	20	4000	200	20	4000
11	-	-	-	100	20	2000	100	20	2000
19	600	18	10,800	-	-	-	100 600	20 18	2000 10,800
22	-	-	-	100 500	20 18	2000 9000	100	18	1800
29	100	15	1500	-	-	-	100 100	18 15	1800 1500
31	-	-	-	100 100	18 15	1800 1500	-	-	-

Illustration 2

Using FIFO method, prepare a Store Ledger Account from the following transactions:

Date	Particulars
September, 2017 1 3 5 7 8	 Opening stock 1,200 units @ ₹14 each Purchased 600 units @ 15 each Issued 1,000 units Purchased 1,800 units @ 16 each Issued 1,200 units

12 23 27	Issued 400 units Purchased 800 units @18 each Issued 1,000 units

Answer:

FIFO Method
Store Ledger Account

Date	Receipts			Issues			Balance		
Sep. 2017	**Qty**	**Rate**	**Amt**	**Qty**	**Rate**	**Amt**	**Qty**	**Rate**	**Amt**
1	-	-	-	-	-	-	1200	14	16,800
3	600	15	9000	-	-	-	1200 600	14 15	16,800 9000
5	-	-	-	1000	14	14,000	200 600	14 15	2800 9000
7	1800	16	28,800	-	-	-	200 600 1800	14 15 16	2800 9000 28,800
8	-	-	-	200 600 400	14 15 16	2800 9000 6400	1400	16	22,400
12	-	-	-	400	16	6400	1000	16	16,000
23	800	18	14,400	-	-	-	1000 800	16 18	16,000 14,400
27	-	-	-	1000	16	16,000	**800**	**18**	**14,400**

Illustration 3

Using FIFO method, prepare a Store Ledger Account from the following transactions:

Date	Particulars
July 1	Opening stock 1000 units @ ₹4.00 each

4	Issued 400 units
5	Purchased 400 units @ 4.25 each
10	Issued 800 units
12	Purchased 300 units @ 4.10 each
15	Issued 200 units
19	Issued 200 units
20	Purchased 600 units @4.50 each
25	Purchased 800 units @4.00 each
26	Issued 400 units
30	Issued 500 units

Answer:

FIFO Method
Store Ledger Account

Date	Receipts			Issues			Balance		
July	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
1	-	-	-	-	-	-	1000	4	4000
4	-	-	-	400	4	1600	600	4	2400
5	400	4.25	1700	-	-	-	600 400	4 4.25	2400 1700
10	-	-	-	600 200	4 4.25	2400 850	200	4.25	850
12	300	4.10	1230	-	-	-	200 300	4.25 4.10	850 1230
15	-	-	-	200	4.25	850	300	4.10	1230
19	-	-	-	200	4.10	820	100	4.10	410
20	600	4.50	2700	-	-	-	100 600	4.10 4.50	410 2700
25	800	4	3200	-	-	-	100 600 800	4.10 4.50 4	410 2700 3200
26	-	-	-	100	4.10	410	300	4.50	1350

				300	4.5	1350	800	4	3200
30	-	-	-	300 200	4.5 4	1350 800	**600**	**4**	**2400**

Simple Average Price Method

When the materials are kept in store and they are homogeneous in nature, they tend to get mixed up with each other in a way that they lose their identity. This makes it rather difficult or almost impossible at times to identify the lot to which the material belongs and when the above was procured. So, for pricing purposes, the average price is considered till the time the existing lot is totally consumed. Further, when a new lot is purchased, the price is re-computed again.

Advantages of Simple Average Price Method

The advantages of simple average price method are as follows:

1) Simplicity of the method makes it easily operational.

2) The end results are often accurate when identical purchases are made at a similar rate.

3) Even though the purchases are being made at an inflated or deflated rate, the prices are not affected much.

Disadvantages of Simple Average Price Method

The disadvantages of a simple average price method are as follows:

1) The end results may not be accurate where the purchases are not similar and when there is fluctuation in prices.

2) Number of units at the level of price is ignored. Weightage is only given to the prices and not the quantity. This makes this method impractical.

3) As the material issued carries a different price than the price at which it was procured. There will arise certain profit or

4) Closing inventory is not easily identifiable.
5) Closing inventory may appear to be negative (credit balance) in inflationary situations.

Average price = Total unit prices of all lots in stores
Total Number of units purchased

Illustration 1

Prepare a store ledger account by Simple Average Method from the following transactions:

Date	Particulars
Jan	
1	Opening stock 1000 units @ ₹20 each
3	Purchased 800 units @ 21 each
9	Issued 1200 units
12	Purchased 1,600 units @ 24 each
15	Issued 1000 units
20	Issued 600 units
25	Purchased 1000 units @ 25 each
30	Issued 800 units

Answer:

Simple Average Method
Store Ledger Account

Date	Receipts			Issues			Balance		
Jan	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
1	1000	20	20,000	-	-	-	1000	20	20,000
3	800	21	16,800	-	-	-	1800	-	36,800
9	-	-	-	1200	20.5	24,600	600	-	12,200
12	1600	24	38,400	-	-	-	2200	-	50,600
15	-	-	-	1000	22.5	22,500	1200	-	28,100
20	-	-	-	600	24	14,400	600	-	13,700

25	1000	25	25,000	-	-	-	1600	-	38,700
30	-	-	-	800	24.5	19,600	**800**	**-**	**19,100**

Working Notes:

1) Issue price for 9th Jan = $\frac{20 + 21}{2}$ = 20.50

2) Issue price for 15th Jan = $\frac{21 + 24}{2}$ = 22.50

3) Issue price for 20th Jan = 24/1 = 24

4) Issue price for 30th Jan = $\frac{24 + 25}{2}$ = 24.50

Illustration 2

Prepare a store ledger account by Simple Average Method from the following transactions:

Date	Particulars
Jan 1 5 6 8 10 13 16 22 27	 Purchased 100 units @ Rs. 10.00 each Purchased 200 units @ Rs. 10.20 each Issued 250 units Purchased 300 units @ Rs. 10.50 each Purchased 200 units @ Rs. 10.80 each Issued 200 units Issued 200 units Purchased 100 units @ Rs. 11.00 each Issued 150 units

Answer:

Simple Average Method
Store Ledger Account

Date	Receipts			Issues			Balance		
Jan	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
1	100	10	1000	-	-	-	100	-	1000
5	200	10.20	2040	-	-	-	300	-	3040
6	-	-	-	250	10.10	2525	50	-	515
8	300	10.50	3150	-	-	-	350	-	3665
10	200	10.80	2160	-	-	-	550	-	5825
13	-	-	-	200	10.35	2070	350	-	3755
16	-	-	-	200	10.65	2130	150	-	1625
22	100	11	1100	-	-	-	250	-	2725
27	-	-	-	150	10.80	1620	**100**	**-**	**1105**

Weighted Average Price Method

Advantages of Weighted Average Price Method

1) This method is simple and easy.

2) When prices fluctuate the debits are set-off as against the credits, thus no profit and loss exist on account of issues.

3) The value of closing inventory calculated is quite accurate and can be taken into consideration while preparing the financial statements.

4) There is not much clerical work as the price of issue is constant till the expiry of the current lot.

Disadvantages of Weighted Average Price Method

1) Closing inventory is valued as per the calculations and not the current cost.

2) The issues continue to be made at a fixed price even after the previous lot of stock has been totally consumed till the new stock comes in.

3) In order to minimize clerical error, calculations are made to 4/5 decimal places, which makes the job tedious.

Weighted Average price = Total Cost of materials in stock / Total Quantity of materials in stock

Illustration 1

Prepare a store ledger account by Weighted Average Method from the following transactions:

Date	Particulars
May	
1	Opening stock 1000 units @ ₹20 each
3	Purchased 800 units @ 21 each
9	Issued 1200 units
12	Purchased 1,600 units @ 24 each
15	Issued 1000 units
20	Issued 600 units
25	Purchased 1000 units @ 25 each
30	Issued 800 units

Answer:

Weighted Average Method
Store Ledger Account

Date	Receipts			Issues			Balance		
May	Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
1	-	-	-	-	-	-	1000	20	20,000
3	800	21	16,800	-	-	-	1800	20.44	36,800
9	-	-	-	1200	20.44	24,528	600	20.44	12,272

12	1600	24	38,400	-	-	-	2200	23.03	50,672
15	-	-	-	1000	23.03	23,030	1200	23.03	27,642
20	-	-	-	600	23.03	13,818	600	23.03	13,824
25	1000	25	25,000	-	-	-	1600	24.26	38.824
30	-	-	-	800	24.26	19,408	**800**	**24.26**	**19,416**

Working Notes:

1) Balance Rate for 3rd May = $\frac{20,000 + 16,800}{1000 + 800}$ = 20.44

2) Balance Rate for 12th May = $\frac{12,272 + 38,400}{600 + 1600}$ = 23.03

3) Balance Rate for 25th May = $\frac{13,824 + 25,000}{600 + 1000}$ = 24.26

Illustration 2

Date	Receipts		Issues	
	Quantity	Price	Quantity	Amount
May 1 Opening Bal	3200	2	-	-
May 9	6000	2.20	-	-
May 13	-	-	2400	5112
June 5	-	-	1800	3834
June 17	7200	2.40	-	-
June 24	-	-	3600	8244
July 11	5000	2.50	-	-
July 27	-	-	4200	9954
July 29	-	-	1400	3318

Physical verification on July 30 revealed an actual stock of 7,600 units. You are required to:

1) Indicate as to which pricing method is employed in the above.

2) Complete the above account by making entries you would consider necessary including adjustments, if any, and giving explanations for such adjustments.

Answer:

Weighted Average Method
Store Ledger Account

Date	Receipts			Issues			Balance		
Month	**Qty**	**Rate**	**Amt**	**Qty**	**Rate**	**Amt**	**Qty**	**Rate**	**Amt**
May 1				-	-	-	3200	2	6400
May 9	6000	2.20	13,200	-	-	-	9200	2.13	19,600
May 13	-	-	-	2400	2.13	5112	6800	2.13	14,488
June 5	-	-	-	1800	2.13	3834	5000	2.13	10,654
June 17	7200	2.4	17,280	-	-	-	12,200	2.29	27,934
June 24	-	-	-	3600	2.29	8244	8600	2.29	19,690
July 11	5000	2.5	12,500	-	-	-	13,600	2.37	32,190
July 27	-	-	-	4200	2.37	9954	9400	2.37	22,236
July 29	-	-	-	1400	2.37	3318	8000	2.37	18,918
July 30	-	-	-	400	2.37	948	**7600**	**2.37**	**17,970**

Working Notes:

4) Balance Rate for 9th May = $\frac{6400 + 13,200}{3200 + 6000}$ = 2.13

5) Balance Rate for 17th June = $\frac{10,654 + 17,280}{5000 + 7200}$ = 2.29

6) Balance Rate for 11th July = $\frac{19,690 + 12,500}{8600 + 5000}$ = 2.37

Module 03
Chapter 02
Depreciation

Meaning and Definition of Depreciation

The term depreciation has been derived from the Latin words, 'do' and 'pretium', which mean 'down' and 'price' respectively. The word 'depreciation' denotes the loss in the value of an asset due to its continuous usage, change in technology, time, etc.

Depreciation is a concept used to measure the decrease in the usefulness of an asset. It is generally assumed that all fixed assets lose their efficiency with time. In other words, depreciation may be described as lasting and perpetual decline in value of an asset. This can happen due to passage of time, use and change in technology, etc.

Depreciation does not occur due to change in the market price of the fixed asset. It is, instead, related to the historical cost of the asset.

According to Malchman and Slavin, "Depreciation refers to the process of estimating and recording the periodic charges to expense due to expiration of the usefulness of a capital asset".

According to R.N. Carter, "Depreciation is the gradual and permanent decrease in the value of an asset from any cause".

According to Spicer and Pegler, Depreciation may be defined as, "The measure of the exhaustion of the effective life of an asset from any cause during a given period".

Features of Depreciation

Following are the main features of depreciation:

1) The concept of depreciation is applicable only to fixed assets like, building, furniture and machinery,

2) It denotes decrease in the book value of an asset. etc.

3) Such decrease in book value may occur due to time, change in technology, legal rights expiry and other reasons.

4) Depreciation refers to continuous decline in the book value of a fixed asset.

5) With the exception of land, all tangible assets have a limited useful span of life.

6) Depreciation is a method of allocating the cost of a depreciable fixed asset to its useful life span.

7) Depreciation is not related to the value of the asset.

8) Depreciation is a cost which has already been incurred. It should be taken into account for the purpose of determining taxable profits.

Terms Related to Depreciation Depreciation has various terms associated with it, which are as follows:

1) Amortisation:

It denotes the process of allocating the cost of an asset over the course of its probable useful life. The term is associated with intangible assets such as copyrights, patents, goodwill and trademarks.

2) Depletion:
This term is applicable to assets in the form of natural resources. It is a deduction which allows accounting for the decline in the resources' reserves. Various natural resources such as forests, mines and oil wells experience this phenomenon.

3) Obsolescence:
It occurs due to change in technology. Unlike other causes, obsolescence leads to sudden fall in value of the asset. For example, with the advent of CD Players, video cassette players were made redundant and faced obsolescence.

4) Dilapidation:
This type of loss in value is associated with leasehold assets. Dilapidation is charged on a pro rata basis during the tenure of the lease. It can also be defined as the maintenance cost of leasehold property.

Reasons/Causes for Depreciation on Assets

Major reasons for creating provision for depreciation on 'Fixed Assets and charging the same to 'Profit & Loss Account'
are as follows:

1) Wear and Tear:
With the passage of time in the normal course due to wear and tear, a 'Fixed Asset' tends to break down slowly and its parts need to be repaired or replaced. Such repairing or replacement of parts has some limitations and finally when it becomes difficult to repair the asset, it is required to be disposed of. This reason is valid in most of the Production Equipments', which have a manufacturer's guarantee with regard to the 'Life period', based on a certain number of units produced. Other assets, like buildings, are repairable and upgradable for long periods of time.

2) Perishability:
The life span of all the assets is not the same. While some have a rather long life (e.g. Fixed Assets, like Land and Building, etc.) others have a shorter life (e.g. 'Raw Materials', 'Work in Progress', 'Finished Goods', etc.).

3) Usage Rights:
A fixed asset may not necessarily be acquired with full ownership. At times, certain classes of assets (such as software or a database) are acquired with a 'Usage Right' (a right to use them for

a fixed period of time). Under such circumstances, the life span of those assets is co-terminus with that of the 'Usage period'. Provision for depreciation, therefore, needs to be made in such a manner that the value of asset is written off completely within the 'Usage Period'.

4) Natural Resources Usage:
If an asset happens to be a product derived from natural resources, there is a specific terminology for 'Depreciation', i.e. 'Depletion'. Examples of such natural resources are 'Oil Fields', 'Coal Mines', etc. The rate of 'Depletion' in such cases depends upon the estimated level of remaining 'Reserves' of the resources. In case of any subsequent change in such estimation, the rate of depletion would also change.

5) Inefficiency/Obsolescence:
Due to 'Research & Developments' (R & D) in almost all the fields, few equipments become less efficient very fast and are replaced by new and more efficient ones. This is an on-going phenomenon,
which results in the reduction in utility of the original equipment.

Need or Importance of Depreciation

The need/importance of depreciation is as follows:

1) For Determining Actual Business Performance:
Depreciation is important for determining true profit or loss incurred by a business. If depreciation is not charged, then the profits will be artificially inflated and it would be difficult to know the exact profit and the business performance.

2) For Stating Correct Financial Position:
Accounting conventions expect the balance sheet to state the true and correct value of its assets. In the absence of depreciation charge, the value of assets on the balance sheet would be overstated.

3) To Make Provision for Replacing the Assets:
Assets need to be replaced after some time due to wear and tear, obsolescence or depletion. Provision for depreciation allows for the periodic charges (by saving every year) to pay for such replacement of assets.

4) To Fulfill Legal Requirements:
Companies need to follow directives provided by the Companies Act, which states that depreciation should be charged before any distribution of profits as dividends.

5) To Maintain the Level of Nominal Capital:
Depreciation is a method of recovering the expired cost of the capital. This helps in keeping the capital intact in the business. In case provision for depreciation is not allowed, this will lead to shutdown of the business.

Methods of Charging Depreciation

1) Straight Line or Fixed (SLM) or Equal Installment Method:
This is one of the basic and simplest depreciation methods. Under this method, an equal amount of depreciation is charged for every year of useful life of the asset. It is

2) Diminishing or Reducing Balance Method:
This method is also known as 'Written-Down Value Method'. Under this method, a fixed percentage of written-down value is charged as depreciation for every year of useful life of the Equal Installment Method.

3) Sinking Fund Method:
Under this method, a sinking fund is created by payment of periodic installments so that there are sufficient funds for the purchase of a new asset.

4) Annuity Method:
Under this method, the opportunity cost of the asset is taken into account, which is ignored under other methods such as straight line method or written-down value method. Most of the time, it is not considered.

5) Insurance Policy Method:
Under this method, an insurance policy which is equivalent to the value of the asset is calculated. In exchange for payment of fixed periodic premium, the organisation gets a set amount from the insurance company at the end of the policy

6) Sum of Year Digit Method:
Under this method, the annual depreciation is calculated using following formula:

$$= \frac{\text{The Number of Years (Including the Present Year) of Remaining Life of the Asset}}{\text{Total of All Digits of the Life of the Asset (in Years)}}$$

7) Machine Hour Rate Method:
Under this method, the estimated useful life of the asset is calculated in terms of hours. Depreciation for a particular period is calculated using the actual number of hours the asset was used. Following formula is used for this purpose:

$$\text{Depreciation} = \frac{\text{Original Cost of the Asset-Scrap Value}}{\text{Life of the Assets in Hours}}$$

8) Revaluation Method:
In certain cases, the life estimates of the asset need to be revalued after periodic intervals. It is generally done at the date corresponding to the balance sheet date. Depreciation is equal to the difference between the revalued figure and book value of the asset.

9) Depletion Method:
Under this method, the following formula is used for the purpose of calculating depreciation: Depreciation = [Output (in Tonnes) of One Year/Total Quantity of Material Expected to be taken out during the Life of the Natural Asset] x Original Cost of the Natural Asset Computation of Depreciation

Step 1: The rate of depreciation may be calculated as follows: Rate of Depreciation per Unit = Original Cost of Assets - Salvage/Estimated Scrap Value

Life of Asset (Number of Accounting Periods)

The rate of depreciation is expressed in percentage (%).

Step 2: Amount of depreciation can be calculated as below: Amount of Depreciation = Actual Output (in Units) x Rate of Depreciation per Unit (as Calculated in Step 1) The rate of depreciation is expressed in rupee.

Straight Line or Fixed or Equal Installment Method

Under this method, the same amount of depreciation is charged every year. Following formula is used to determine the annual charge:

= Original Cost of Assets- Salvage/Estimated Scrap Value Expected Life of the Asset (Number of Accounting Periods)

Advantages of Straight Line Method

Straight line method has the following advantages:

1) Simple:
This is one of the simplest methods of charging depreciation. It is easy to understand and calculate.

2) Offers Complete Write-Off:
This method allows the reduction of the book value of the asset to zero. Under this method, depreciation is charged on acquisition cost at the rate provided till the end of its estimated useful life.

3) Total Amount of Depreciation:
This method facilitates the calculation of the total amount of depreciation charged. This can be done by applying the formula:

Total Amount of Depreciation = Yearly Amount of Depreciation x Number of Years of Useful Life of Assets

4) Simple to Implement:
This method is simple to calculate and thus is suitable for small firms with limited expertise.

5) Suitable for Firms with Varied Machine Mix:
This method is suitable for the companies having a mixture of old and new machines as the depreciation charges get balanced.

6) Suitable for Low Value Assets:
This method is ideal for assets with low value such as fixtures.

Disadvantages of Straight Line Method

Straight line method also has some drawbacks which are as follows:

1) High Charges during Final Years:
The Straight Line Method charges an equal amount of depreciation for all the years. However, the total burden is more during the final years as the firm also has to incur higher repair charges.

2) No Replacement Provision:
This method allows the depreciation charges to be kept in the business and hence there is no separate provision for the replacement of the asset.

3) Loss of Interest:
Since the depreciation amount is not invested, the firm loses the unearned interest.

4) Weak Logic:
This method allows for the charge of depreciation on the original amount, although the book value decreases every year.

5) Unsuitable for Certain Assets:
This method is not suitable for high value assets (fixed assets like furniture and fixtures) with long useful lives.

Straight Line Method

Also called Fixed or Equal Installment Method

$$\text{Depreciation} = \frac{\text{Original Cost of Assets - Scrap Value}}{\text{Expected life of Assets}}$$

$$\text{Rate of Depreciation} = \frac{\text{Amount of Depreciation}}{\text{Total cost of Assets}}$$

Illustration 1

On 1st January 2020, X Ltd. purchased a second-hand machine for ₹52,000 and spent ₹2,000 as shipping and forwarding charges, ₹5,000 as import duty, ₹500 as carriage inwards, 1,500 as repair charges, ₹500 as installation. charges, 400 as brokerage of the middleman and ₹100 for an iron pad.

It was estimated that the machine will have a scrap value of 2,000 at the end of its useful life which is 20 years. On 1st July 2022, this machinery was sold for 30,600.
B
Required: Prepare the machinery account for the first three years.

Answer:

Total cost of Machinery = Purchase price + (Expenses + Import Duty)
= 52,000 + (2000 + 5000 + 500 + 1500 + 500 + 400 + 100)
= Rs. 62,000

Depreciation = $\frac{\text{Original Cost of Assets - Scrap Value}}{\text{Expected life of Assets}}$
= $\frac{62,000 - 2000}{20}$
= 3000

In the books of X ltd.
Machinery Account

Date	Particulars	Rs.	Date	Particulars	Rs.
1/1/20	To Bank A/c (Cost) To Bank A/c (Expenses)	52,000 10,000	31/12/20	By Depreciation A/c By Balance c/d	3000 59,000
		62,000			**62,000**
1/1/21	To Balance b/d	59,000	31/12/21	By Depreciation A/c By Balance c/d	3000 56,000
		59,000			**59,000**
1/1/22	To Balance b/d	56,000		By Depreciation A/c By Bank A/c By P/L A/c (loss)	1500 30,600 23,900
		56,000			**56,000**

Illustration 2

ABC Traders purchased a Machinery on 1.1.2016 for Rs. 5,00,000. On 1.1.2018 the machinery was sold for Rs. 4,00,000. The firm charges depreciation at the rate of 15% per annum under Straight Line Method. The books are closed on 31 March every year. Prepare Machinery account and Depreciation account.

Answer:

In the books of ABC Traders
Machinery Account

Date	Particulars	Rs.	Date	Particulars	Rs.
1/1/16	To Bank A/c (Cost)	5,00,000	31/3/16	By Depreciation A/c By Balance c/d	18,750 4,81,250
		5,00,000			**5,00,000**
1/4/16	To Balance b/d	4,81,250	31/3/17	By Depreciation A/c By Balance c/d	75,000 4,06,250
		4,81,250			**4,81,250**
1/4/17 1/4/17	To Balance b/d To P/L A/c (profit)	4,06,250 50,000	1/1/18 1/1/18	By Depreciation A/c By Bank A/c (Sale)	56,250 4,00,000
		4,56,250			**4,56,250**

Depreciation Account

Date	Particulars	Rs.	Date	Particulars	Rs.
31/3/16	To Machinery A/c	18,750	31/3/16	By P/L A/c	18,750
		18,750			**18,750**
31/3/17	To Machinery A/c	75,000	31/3/17	By P/L A/c	75,000
		75,000			**75,000**
1/1/18	To Machinery A/c	56,250	1/1/18	By P/L A/c	56,250
		56,250			**56,250**

Working Note:

Date	Particulars	Amount

1/1/16	Cost	5,00,000
31/3/16	Less: Depreciation (5,00,000 x 15/100 x 3/12)	18,750
	Book Value	4,81,250
	Less: Depreciation (5,00,000 × 15/100)	75,000
31/3/17	Book Value	4,06,250
	Less: Depreciation (5,00,000 × 15/100 × 9/12)	56,250
1/1/18	Book Value	3,50,000
	Less: Sale Value	4,00,000
1/1/18	Profit on Sale	50,000

Illustration 3

ABC & Co. purchased a second hand plant for ₹4,70,000 on 1st July 2015. They spent 30,000 on the repairs and installed the plant. Depreciation is written-off at 10% p.a. under the Straight Line Method. On 30th September 2017, the plant was found to be unsuitable and sold for 3,50,000. Prepare a Plant account and Depreciation account for three years assuming that the accounts are closed on 31st March every year.

Answer:

In the books of ABC & Co.
Plant Account

Date	Particulars	Rs.	Date	Particulars	Rs.
1/7/15	To Bank A/c (Cost)	4,70,000	31/3/16	By Depreciation A/c	37,500
	To Bank A/c (Expense)	30,000		By Balance c/d	4,62,500
		5,00,000			**5,00,000**
1/4/16	To Balance b/d	4,62,500	31/3/17	By Depreciation A/c	50,000
				By Balance c/d	4,12,500
		4,62,500			**4,62,500**
1/4/17	To Balance b/d	4,12,500	31/9/17	By Depreciation A/c	25,000
1/4/17			31/9/17	By Bank A/c (Sale)	3,50,000
			31/9/17	By P/L A/c (loss)	37,500
		4,12,500			**4,12,500**

Depreciation Account

Date	Particulars	Rs.	Date	Particulars	Rs.
31/3/16	To Plant A/c	37,500	31/3/16	By P/L A/c	37,500
		37,500			**37,500**
31/3/17	To Plant A/c	50,000	31/3/17	By P/L A/c	50,000
		50,000			**50,000**
31/9/17	To Plant A/c	25,000	31/9/17	By P/L A/c	25,000
		25,000			**25,000**

Working Note:

Date	Particulars	Amount
1/7/15	Cost	4,70,000
	Add: Repair Charges	30,000
	Book Value	5,00,000
31/3/16	Less: Depreciation (5,00,000 x 10/100 × 9/12)	37,500
	Book Value	4,62,500
31/3/17	Less: Depreciation (5,00,000 x 10/100) Book Value	50,000
	Less: Depreciation (5,00,000 × 10/100 × 6/12)	4,12,500
31/9/17	Book Value	25,000
	Less: Sale Value	3,87,500
	Loss on Sale	3,50,000
		37,500

Written-Down Value or Diminishing or Reducing Balance Method

Under this method of depreciation, the charge is made on the basis of fixed percentage. For the first year, the fixed percentage is charged on original cost and for subsequent years, the written-down value is used. This method ensures that while the amount of depreciation decreases every year, the percentage rate remains the same.

Advantages of Diminishing Balance Method

Following are the advantages of diminishing balance method:

1) Easy to Calculate:
Diminishing balance method is one of the easiest methods to calculate. It is calculated by using the opening balance of assets.

2) Smoothens the Impact on the Financial Statements:
This method charges a higher amount of depreciation during the initial year when maintenance charges are lower. This helps in presenting a balanced impact on the financial statements.

3) Compliant with Income Tax Provisions:
This method is approved by the income tax department.

4) Rational Method:
This method is more logical as it ties the amount of depreciation to the book value of the asset.

5) Appropriate for Long Lasting Assets:
This method is especially appropriate for the assets which face frequent alterations and additions and have long life too,

Disadvantages of Diminishing Balance Method

Following are the disadvantages of diminishing balance method:

1) No Complete Write Off:
This method does not reduce the value of the asset to zero:

2) Loss of Interest:
Under this method, the depreciation charged is not invested outside the business and hence does not earn any interest.

3) No Provision of Replacement Funds:
This method does not provide for the creation of the replacement fund as depreciation charges are retained in the business.

4) High Depreciation:
This method requires a high rate of depreciation charge to ensure that the investment is recouped before the asset is rendered obsolete.

5) Unbalanced Charges:
The amount of depreciation decreases every year despite the fact that the asset has been used equally during the time.

Change in the Method of Depreciation (Retrospective Effect)

Once an organisation decides on the method of depreciation, it should use the method consistently. However, in certain circumstances, the organisation may need to change the method employed for the purpose of calculating depreciation. This may occur due to various reasons. Change in legal requirements may call for change in the method of depreciation or the organisation may decide that an alternate method would present a more accurate financial position. In such situations, depreciation according to the new method should be calculated right from the date of commissioning of the asset.

Any deficit or surplus should be appropriately adjusted in the financial statements of the year when such change was made. While the deficit may be charged to the Profit and Loss Account, it is recommended to transfer the surplus to the "Appropriations" section of the statement and subsequently to the General Reserve. It should be disclosed and quantified appropriately as change in depreciation method amounts to a change in accounting policy.

Written Down Value Method

Also called Diminishing or Reducing Balance Method

$R = [1 - \sqrt[n]{S/C}] \times 100$

n = useful life of the asset

Illustration 1

Mr. XYZ on 1.1.2014 purchased a machine of 1,00,000. On 30.9.2016 a new machine was purchased for 20,000 installation expenses being ₹5,000.

Show the Machinery Account upto 31st Dec. 2017 assuming that the rate of depreciation was 10% under written down value method.

Answer:

In the books of XYZ
Machinery Account

Date	Particulars	Rs.	Date	Particulars	Rs.
1/1/14	To Bank A/c (Cost)	1,00,000	31/12/14	By Depreciation A/c By Balance c/d	10,000 90,000
		1,00,000			**1,00,000**
1/1/15	To Balance b/d	90,000	31/12/15	By Depreciation A/c By Balance c/d	9000 81,000
		90,000			**90,000**
1/1/16 30/9/16	To Balance b/d To Bank A/c (Cost) To Bank A/c (Installation Exp.)	81,000 20,000 5000	31/12/16	By Depreciation A/c By Balance c/d	8725 97,275
1/1/17	To Balance b/d	**1,06,000**	31/12/17	By Depreciation A/c By Balance c/d	**1,06,000**
		97,275			9728 87,547
		97,275			**97,275**

Working Note:

Date	Particulars	Amount
1/1/14	Cost	1,00,000
31/12/14	Less: Depreciation (1,00,000 x 10%)	10,000
	Book Value	90,000
31/12/15	Less: Depreciation (90,000 × 10%)	9000
	Book Value	81,000
30/9/16	Purchase of New Machine	20,000
	Add: Installation Expenses	5000
31/12/16	Less: Depreciation on Old Machine (81,000 x 10%)	8100
31/12/16	Less: Depreciation on New Machine (25,000, x 10% × 3/12)	625
	Book Value	97275
31/12/17	Less: Depreciation (97,275 x 10%)	9728
	Book Value	87,547

Illustration 2

A company whose accounting year is the calendar year purchased on 1st April, 2015 machinery costing Rs. 30,000. It further purchased machinery on 1st October 2015 costing 20,000 and on 1st July 2016, costing 10,000. On 1st January 2017 one third of the machinery which was installed on 1st April became obsolete and was sold for Rs. 3,000. Show how the machinery account would appear in the books of the company. The depreciation is to be charged at 10% p.a. under the Written-down Value Method.

Answer:

In the books of .....
Machinery Account

Date	Particulars	Rs.	Date	Particulars	Rs.
1/4/15	To Bank A/c (1st Machine Cost)	30,000	31/12/15	By Depreciation A/c 1st Machine 2250	
1/10/15	To Bank A/c (2nd Machine Cost)	20,000	31/12/15	2nd Machine 500	2750
			31/12/16	By Balance c/d	47,250
		50,000			**50,000**
1/1/16	To Balance b/d	47,250	31/12/16	By Depreciation A/c 1st Machine 2775	
21/7/16	To Bank A/c (3rd Machine Cost)	10,000		2nd Machine 1950	
				3rd Machine 500	5225
				By Balance c/d	52,025
		57,250			**57,250**
1/1/17	To Balance b/d	52,025	1/1/17	By Bank A/c (Sale)	3000
			1/1/17	By Profit & Loss A/c (Loss on Sale of 1/3 of 1st Machine)	5325
			31/12/17	By Depreciation A/c 1st Machine 1665	
				2nd Machine 1755	
				3rd Machine 950	4370
			31/12/17	By Balance c/d	39,330
		52,025			**52,025**

Working Note:

Date	Particulars	Amount
1/4/15	Cost	30,000
1/10/15	Purchase of New Machinery	20,000
		50,000
31/12/15	Less: Depreciation:	
	1st Machine (30,000 x 10/100 x 9/12)	2250
	2nd Machine (20,000 x 10/100 x3/12)	500
	Book Value	47,250
1/7/16	New Purchase of Machine	10,000
31/12/16	Less: Depreciation:	
	1st Machine (27,750 x 10/100)	2775
	2nd Machine (19,500 × 10/100)	1950
	3rd Machine (10,000 × 10/100 × 6/12)	500
	Book Value	52,025
1/1/17	Less: Sale Value (10,000 - 750 - 925 = 8,325)	3000
	Loss (Sale of 2nd Machine)	5325
31/12/17	Less: Depreciation:	
	1st Machine Remaining (16,650 x 10/100)	1665
	2nd Machine (17,550 × 10/100)	1755
	3rd Machine (9,500 × 10/100)	950
		39,330

Illustration 3

On 1 April, 2015 ABC Traders purchased machinery for 50,000. On 1st October, 2015, they further purchased machinery costing 10,000. On 1st October, 2017 they sold for 24,000 the machine purchased on 1 April, 2015 and bought another machine for 12,000 on the same date. Depreciation was provided on machinery @ 10% p.a. under the diminishing balance method.

The financial year closes on every 31st March, preparing Machinery A/c. and Depreciation A/c. for the years of 2015-2016, 2016-2017 and 2017-2018.

Answer:

In the books of ABC traders
Machinery Account

Date	Particulars	Rs.	Date	Particulars	Rs.
1/4/15	To Bank A/c (1st Machine Cost)	50,000	31/12/15	By Depreciation A/c	
				1st Machine 5000	
1/10/15	To Bank A/c (2nd Machine Cost)	10,000	31/12/15	2nd Machine 500	5500
			31/12/16	By Balance c/d	54,500
		60,000			**60,000**
1/4/16	To Balance b/d	54,500	31/3/17	By Depreciation A/c 1st Machine 4500	
21/7/16				2nd Machine 950	5450
				By Balance c/d	49,050
		54,500			**54,500**
1/4/17	To Balance b/d	49,050	1/10/17	By Depreciation A/c	2025
1/10/17	To Bank A/c (Purchase of 3rd machine)	12,000	1/1/17	By Bank A/c (Sale)	24,000
				By Profit & Loss A/c (Loss on Sale of 1st Machine)	14,475
			31/12/17	By Depreciation A/c	
				2nd Machine 855	
				3rd Machine 600	1455
				By Balance c/d	19,095
		61,050	31/12/17		**61,050**

Depreciation Account

Date	Particulars	Rs.	Date	Particulars	Rs.
31/3/16	To Machinery A/c	5500	31/3/16	By P/L A/c	5500
		5500			**5500**
31/3/17	To Machinery A/c	5450	31/3/17	By P/L A/c	5450
		5450			**5450**
1/10/17	To Machinery A/c	2025	31/3/18	By P/L A/c	3480
31/3/18	To Machinery A/c	1455			
		3480			**3480**

Working Note:

Date	Particulars	Amount
1/4/15	Cost	50,000
1/10/15	Purchase of New Machinery	10,000
		60,000
31/3/16	Less: Depreciation:	
	1st Machine (50,000 × 10%)	5000
	2nd Machine (10,000 × 10% × 6/12)	500
	Book Value	54,500
31/3/17	Less: Depreciation:	
	1st Machine (45,000 × 10%)	4500
	2nd Machine (9,500 × 10%)	950
	Book Value	49050
1/10/18	Add: Purchase of 3rd Machine	12,000
1/10/18	Less: Deprecation on 1st Machine (40,500 x 10/100 × 6/12)	2025
	Less: Sale Value	24,000
	Loss on Sale of 1st Machine	14,475
31/3/18	Less: Depreciation:	
	2nd Machine (8,550 × 10%)	855
	3rd Machine (12,000 × 10% × 6/12)	600
		19,095

Module 03
Chapter 03
Introduction to Cost Accounting

COST ACCOUNTING

Meaning and Definition of Cost

The total expenditure inclusive of money, labour and time incurred on goods and services is called "Cost". In certain exceptional situations, the costs which are generally considered as expenses in the present scenario might not go into the record books.

The term 'Cost' is the money used for the purpose of producing something. Since it has been already utilized, it is not available for any other use. The cost also includes the money spent for acquiring something. From a business point of view. The expenditure incurred for acquisition and repair purposes constitutes "cost".

According to ICMA, London, "Cost is the amount of expenditure (actual or notional) incurred on, or attributable to, a specified thing or activity or cost unit".

According to the AICPA Committee, "It is the amount measured in money or in cash expended or other property transferred. capital stock issued, services performed, or a liability incurred in consideration of goods or services received or to be received".

Meaning and Definition of Cost Accounting

Cost Accounting may be defined as, "the process of accounting for cost". The process involves recording as well as controlling various costs. This is a formal system of accounting which ascertains and controls costs related to various products and services.

According to the ICMA, London, cost accounting is "the process of accounting for cost which begins with the recording of income and expenditure and ends with the preparation of periodical statements and reports for ascertaining and controlling costs".

According to L.C. Cropper, "cost accounting means a specialized application of the general principles of accounting in order to ascertain the cost of producing and marketing any unit of manufacture or of carrying out any particular job or contract.

Objectives of Cost Accounting

Cost accounting serves various objectives which are as follows:

1) Preparation of Cost Statement:
Different elements of total costs are shown in a cost statement. This statement shows total cost, unit cost, units produced and sold, closing stock in terms of units and value, etc. Production processes and other processes should be constantly reviewed to maintain efficiency. Cost accounting presents information (such as production units and its total costs) with proper analysis for different time periods ranging from daily basis to yearly. Thus, a cost statement serves complete information tools for the management.

2) Ascertainment of Profitability:
The determination of profits for the activities carried out or planned is one of the important objectives of cost accounting. When a company enters into the new product market, the important consideration is given to earning profit from that product. But the same consideration should also be given on the current activities/performances at the factory.

3) Determination of Selling Price:
The demand and supply mechanism plays a crucial role for any business in determining the tender price. The tender price concludes total cost plus a margin of profits and proprietors have to set it after considering the demand and supply factors. Thus, cost accounting helps in deciding of selling price and bifurcate the cost into variable and fixed cost in order to assist the organization in price decision making, to remain competitive in the market.

4)Formulation of Base for Business Policy:
Cost accounting objectives help in formulating business policies and assisting in decision making. The management deals with various crucial matters and for proper profit planning, they have to analyze various factors such as gross-profit analysis, the cost-volume-profit relationship, the break-even point of sales, and the differential costing method, etc.

5) Helpful in Managerial Decisions:
Cost accounting is framed in a manner to help the management. It provides information for making various decisions such as "product diversification", "fixing of selling prices" and "make or buy decisions". It is also helpful for evaluating a "product line", "factory shut down decision" and "determination of alternative methods of manufacture". Cost accounting is useful for the purpose of making various other decisions such as "shut down decision", "dropping a product line", "key factor areas" and "selection of profitable product-mix".

Functions of Cost Accounting

Cost accounting serves various functions which are as follows:

1) Ascertainment of Cost:
The process of ascertainment of costs involves computation of costs which have been incurred. The costs may be ascertained for different products, services or activities using various costing methods. Determination of costs is important for the purpose of controlling them and for providing cost information to the top management for decision making. It should be ensured that the costs of a particular product or service are properly assessed.

2) Estimation of Cost:
While costs are ascertained after it has been incurred, the estimation of costs is done before their actual incidence. For the purpose of estimation, an allowance is generally made for adjusting deviations as various costs such as material costs, labour costs and overheads tend to fluctuate, Cost estimation is useful for the following purposes:

i) Cost estimation is important for the purpose of bidding and submitting quotations & tenders.

ii) It is also useful for preparing budgets.

iii) Cost estimation helps in evaluating projected performance.

iv) Cost estimation is useful for the purpose of financial statement projection.

v) It is important for cost control purposes.

3) Control of Cost:
Cost control is related to controlling and reducing costs for the purpose of improving efficiency. Cost control can achieve this efficiency by full utilization of output at minimum cost. Two main

techniques used for this purpose are Budgetary Control and Standard Costing. Under this process, various areas are identified where the efficiency may be increased by reducing wastage and costs. Various remedial measures may also be taken for cost control.

4) Reduction of Cost:
The ending of the cost control function is the starting of the cost reduction function. It involves making actual and permanent reduction in the production costs of goods and services. It achieves the objective by eradicating non essential or inefficient activities. Technological advances may render many activities non-essential. Similarly, brain t storming sessions may be carried out to question standard activities. Various areas where costs may be controlled are product designing, administration, finance and production.

Advantages of Cost Accounting

Cost accounting has many advantages which are as follows:

1) Aid to Management:
Cost accounting helps the management in taking various decisions regarding different functions. The data provided by cost accounting helps the management in determining unprofitable activities. It also helps in measuring efficiency of various processes and functions.

2) Advantage to Employee:
Cost accounting helps in reducing costs and increasing profitability with regard to cost incurred and production unit required in different departments and processes. It is also helpful for the purpose of introducing incentive compensation systems and bonus plans.

3) Useful for Outsiders:
An efficient cost accounting system is good for outsiders (creditors, investors and bankers) as well. The data provided by the cost accounting system helps them in evaluating the financial soundness of the organization. Organizations with well-established accounting systems are considered to be more efficient. This can help the firm in attracting more investment.

4) Useful for Government and the Society:
Cost accounting helps organizations in reducing costs and increasing profits. It results in payment of higher taxes which helps the society and economy. Cost control helps in providing goods at lower costs. Cost accounting also helps in making national policies.

Disadvantages of Cost Accounting

Cost accounting has several shortcomings which are as follows:

1) System is More Complex:
Establishing cost accounting processes is a complex system. It requires various forms and formulas for proper calculations and presentations. This system may be difficult to implement. The employees may also resist its implementation. The complexity of the system may make it difficult for a firm to implement it.

2) Expensive:
Cost accounting system is not only complex but also involves outflow of substantial hours of funds which provide surety of increased wages for the workaholic employees. The ample of investment and work required in the process of analysis, allocation and absorption of overhead. Many small and medium scale organizations may not afford such expenses. It should be established that the benefits derived from such a system are higher than the costs involved. The cost involved is one of the biggest limiting factors for a firm.

3) Inapplicability of Costing Method and Technique:
Different organizations use different techniques and methods of cost accounting. These methods are based on the nature and requirements of different circumstances. It should be ensured that accounting procedures are in accordance with the requirements of the organization. Due to this reason, a firm needs to design its own accounting system to suit its procedures, making the process more difficult and expensive.

4) Not Suitable for Small-Scale Units:
Cost accounting systems are generally not suitable for small scale units. For such units, traditional cost accounting methods are more suitable.

5) Lack of Accuracy:
Cost accounting may not provide accurate information as it uses notional costs such as estimated costs and standard costs.

Components of cost concepts

Various components of cost concepts are shown in the following figure, which is followed by a detailed description of each component.

1) Concept of Objectivity:

This is the fundamental concept, which forms the basis of various activities relating to cost finding, cost analysis, recording and cost reporting. It ensures that the costs carried out are in tune with the overall objectives of setting up the system of cost accounting. Objectives may include reporting for various decisions internal (operational and specific) as well as external. Objectives can impact cost treatment and cost strategies.

2) Concept of Materiality:

The underlying essence of this concept is that accuracy may be moderated with good judgement. Otherwise, the product cost is likely to be distorted. The concept would be clearer from an example. Under the heading 'Overhead Expenses' there may be certain items of small value representing direct cost, which need to be overlooked; perhaps tracing those items to a specific unit of production would not be worthwhile. A specific course of action may be logically justified and useful, but if the benefits are likely to accrue from such action are not material enough, then there is no point in implementing the same. The basis for determination of materiality is

(i) nature of the organisation's activities,

(ii) managerial policies, and

(iii) competitors' practices.

3) Concept of Time Span:

The validity of various postulations pertaining to respective cost is applicable only for a specific time span under consideration. The statement that "Cost is fixed" is true only for a specific period (under consideration), as no cost would continue to remain fixed forever. Selection of the time span should be sufficiently long, so as to ensure smooth procedure for recording the accurate associated cost, output, labour hours and other factors, which are required for the purpose of a meaningful analysis. If the time span taken is not long enough, it may result in 'Leads and Lags' in recording the cost data. And if the cost relating to a specific time span activity is recorded to a different time span activity, the cost results would not be correct.

4) Concept of Relevant Range of Activity:

Relevant range of activity may be defined as the level of activity within which a business organisation is expected to operate. Various budgeting and costing are carried out with the underlying presumption of relevant range of activity. Fixed costs may not be fixed and variable cost may not be variable outside the relevant range of activity. The relevant range of activity differs from one organisation to another. Even in the case of an individual business entity, it may change from time to time.

5) Concept of Relevant Cost and Benefit:

This concept is the most significant one, as far as the decision making process is concerned. While assessing the best course of action, the most important aspect to be focused by the management is the pertinent cost and benefit likely to accrue from individual alternatives and

undertake a comparison of various alternatives on hand. Immaterial costs and benefits in this regard need to be overlooked.

Cost Classification

There are several ways in which costs may be classified. Following are the main basis of cost classification:

1) According to Elements:

The cost may be classified into a) Direct Cost, and (b) Indirect Cost according to elements, viz, Materials, Labour and Expenses.

i) Material: Substances or commodities used for producing a product are "Materials". Materials consumed may be direct or indirect.

a) Direct Material: The materials which can be directly identified with the product are called "Direct Material". These materials can be easily measured and can be directly charged to the product. For example, steel used for producing a container.
b) Indirect Material: These materials are used for production but cannot be directly identified with the product. These expenses are included in the overhead category. Main examples of this category are consumable stores and stationery.

ii) Labour: Like material goods, labour can also be divided into direct and indirect categories.

a) Direct Labour: Wages and salaries paid to workers and employees directly involved in the process of manufacturing goods is known as "Direct Labour". Wages paid to a machine operator is an example of direct labour.

b) Indirect Labour: Wages and salaries payable to workers ancillary to the production process are included in "Indirect Labour". The contribution of such workers cannot be directly traced to the product. For example, wages for store keepers are included in the indirect labour category.

iii) Expenses: Expenses may also be direct or indirect.

a) Direct Expenses: These expenses are incurred in relation to a specific product. This category does not include direct material cost and direct. wages. For example, the cost of secret formulas and special drawing are included in this category.

b) Indirect Expenses: These expenses cannot be directly and completely allocated to a specific product or cost centre. Office and administrative expenses are included under this category.

2) According to Functions or Operations:

On the basis of functions, the costs may be classified as under:

i) Production Cost:
Production costs include all such costs which are incurred directly for producing goods either manually or through machine. It includes direct material cost, direct labour costs, direct expenses and overhead expenses related to production.

ii) Administration Cost:
It includes all costs associated with the cost of formulating the policy and measures required for running the operations. However, these costs are not directly traceable to production, selling and distribution or research and development activities. Salaries paid to managerial personnel and workers are included in this category.

iii) Selling Cost:
This category includes the cost of all the activities which aid in the process of selling the goods. It includes sales promotion costs, consumer services costs and selling organizations. These costs help in increasing the revenue of the firm by ensuring customer satisfaction.

iv) Distribution Cost:
This cost includes packing expenses and other expenses related to making the product available for distributing and dispatch. It includes the salary of dispatch clerks and running penses of delivery trucks.

v) Research Cost:
The research cost is incurred for the purpose of carrying out research in order to come up with new manufacturing processes or for improving the quality of the product.

vi) Development Cost:
This is the cost of converting research into practical mode.

vii) Pre-Production Cost:
These are the costs incurred in case of a new manufacturing unit. Costs associated with the launch of a new product also come under this category. These costs are treated as deferred revenue expenditure as these are matched against the cost of future production.

3) According to Nature or Behavior:

On the basis of nature, following are the main categories of con Cost: These costs change

i) Variable Cost

These costs change proportionally in response to change in volume of production. Direct material and direct labour costs are prime examples of variable cost and include fuel expenses, electricity expenses, etc.

ii) Fixed Cost:

These costs do not vary with the change in level of production upto a certain level. These costs do change in the long run but remain fixed in the short term. Fixed costs can be further divided as follows:

a) Committed Fixed Costs: These costs arise due to possession of assets such as building and plants. The main examples are depreciation, insurance premium and rent. Basic organizational expenses such as staff salaries are also included in this category. Such costs generally cannot be reduced without having adverse impact on the long term performance of the concern.

b) Discretionary Fixed Costs: These costs are incurred on the basis of decisions made by the management. Following are the main features of such costs:

- These costs may arise out of regular decisions about the maximum outflow. Such decisions are generally taken on an annual basis.
- These costs do not have clear correlation between inputs and outputs.

For example, advertising, executives training, health care and teaching expenses are included in this category.

iii) Semi-Variable Cost:

These costs are partly fixed and partly variable. These do not bear a linear relationship to the level of production. Telephone and electricity bills are examples of such costs.

4) According to Controllability:

i) Controllable Cost:

CIMA states, "a cost which can be *influenced by the action of a specified member of an undertaking". These costs may be controlled by a specific authority within a specific period of time. These are variable costs and can be affected in a time period which is sufficiently long. It requires proper delegation of authority for effective cost control.

ii) Uncontrollable Cost:
These costs cannot be controlled at any level of management. These costs are defined as the "cost which cannot be influenced by the action of a specified member of an undertaking".

5) According to Normality:

On the normality basis the classification of costs is as under:

i) Normal Cost: These are the usual costs which are incurred for a given level of output under the given conditions. These costs are charged to the profit and loss account.

ii) Abnormal Cost: These costs occur over and above normal costs and are not usual costs for a given level of production. These are also charged to costing profit and loss account.

6) According to Time or Periodicity:

These costs may be classified as below:

i) Historical Cost: These are the actual costs which are determined after their occurrence. These costs may be calculated using financial records and accounts. However, these figures may not be appropriate for future projections during the times with frequent changes. These costs form the basis of financial accounting.

ii) Future Cost: These are the costs which are likely to be incurred in the future. This is an important category of costs as these can be easily controlled by the management. These costs are also important for control, projection, budgeting and appraisal.

7) According to Association with Product:

On this basis, the costs may be classified as follows:

i) Product Cost:
These costs can be directly traced back to a product. Product costs are the costs which are assigned to a particular product or a line of products. Under marginal costing, product cost would include variable manufacturing costs while in the case of absorption costing, product costs will include total manufacturing costs.

ii) Period Cost:
These costs are incurred during a specified period of time and are not assigned to a product. The main examples of such costs are general and administrative expenses. These costs are charged

against revenue of that particular period. While fixed factory overheads are treated as period costs under marginal costing, these may be considered product cost under absorption costing.

8) According to Relevance to Decision Making and Control:

Following are the main categories of costs under this criteria:

i) Marginal Cost:
It is the amount by which total costs change in response to increase or decrease in volume of output by one unit. In other words, this is the amount which could not be avoided if that particular unit was not produced.

ii) Differential Cost:
Management is expected to compare the costs of alternatives proposals in order to make decisions. For this purpose, the costs which are common across different alternatives are ignored and only the differential is considered. Thus, a differential cost is the difference in cost among various alternatives. Incremental cost is the increase in cost due to the decision while decremental cost is the decrease in total cost.

iii) Joint Cost:
These are the costs incurred upto the point till the products cannot be separately identified. Same raw material used for producing two different products is an example of joint cost. These costs are apportioned among concerned products.

iv) Shut-down Costs:
These are the costs which are incurred even if the firm completely stops production. Office rent, insurance premiums are examples of such costs. These costs are important to make decisions regarding continuing operations during off-season'. In general, it is decided to remain open as long as the revenue is sufficient to meet variable costs and a part of fixed costs.

v) Sunk Cost:
These are the costs which have already been incurred and cannot be recovered. These costs are considered irrelevant for the purpose of decision making. This cost may be defined as. "an expenditure for equipment or productive resources which has no economic relevance to the present decision-making process". It may also be defined as, "the difference between purchase price and the salvage value of the asset". Sunk costs may also be non-incremental costs.

vi) Opportunity Cost:
These are the economic resources which are required to be given up for accepting one proposal over another. CIMA states, "Opportunity cost is the value of a benefit sacrificed in favour of an

alternative course of action". For example, a firm could sell its land for 75,00,000 but decided to retain it for setting up a factory. In such a case, 5,00,000 is the opportunity cost.

vii) Imputed/Notional Cost:

These are the costs which are implicit in the product and are not physically recorded in the accounts. These costs are hypothetical in nature and do not require actual cash outflow. Interest on capital is an example of such costs as no actual payment is required to be made. Although no actual payments are made, an estimation of earnings, had the funds been invested elsewhere is made. These costs are important for decision making and forms a part of opportunity costs.

viii) Out of Pocket Cost:

These are the costs which require an actual outflow of cash. It includes historical costs as well as future costs. Most of the expenses fall under this category. These costs are important for the managerial decision making process and for determining the profitability of a project. Many fixed costs and most of the variable and semi-variable costs fall under this category.

ix) Replacement Cost:

These costs need to be incurred for replacing a product with an identical one on the date of valuation. It excludes change in cost due to improvement in the product. This cost is different from the actual acquisition cost of the asset. It represents the outflow required for replacing an asset at present or at some point in future time.

x) Programmed Cost:

These costs are incurred for long-term survival and have less importance to current processes. These costs are incurred at the discretion of management and can be controlled accordingly. Advertising cost is an example of such cost. Sales promotion expenses and research & development expenses also fall under this category.

Module 03
Chapter 04
Costing Methods

Costing Methods

Costing methods may be broadly classified into two categories:

Both the categories of the costing methods and their subcategories are described in the following points:

1) Job Costing:
This type of costing is applied in business organisations, which carry out production according to the specific requirements of a customer. Each of such job work (production of merchandise) is unique / distinctive and customer-specific. Job costing method is generally used by the business entities engaged in the profession of house building, ship-building, production of machineries, repairing, etc. Job costing method may be classified into following sub-categories:

i) Batch Costing:
Foundation of this method of costing is the theory of contract costing. It is applied for ascertaining the cost of a group having products with similar characteristics. Instead of an individual product, the entire batch containing such products is considered as one unit. Batch costing method is used effectively by business entrepreneurs engaged in manufacturing of nuts and bolts, medicines and other components, which are produced in specific batches.

ii) Contract or Terminal Costing:
Foundation of this method of costing is based on job costing. It is generally used by business enterprises engaged in the business of house building and civil contractors. The contract entered into is considered as the cost unit and relevant costs are accumulated accordingly.

iii) Multiple or Composite Costing:

This method of costing is common amongst the enterprises engaged in the manufacture of complex products, e.g. aeroplanes, motor cars, etc. In such cases, accumulation of costs is done in respect of individual components (constituting the final product). Thereafter, their total is taken to arrive at the total cost of the product.

2) Process Costing:
This method of costing is used by those manufacturing sectors, which are engaged in the manufacture of products in a continual manner on an on-going basis, e.g. gas, chemicals, oil, paper, etc. In the case of such industries, it is not easy to compute the costs of specific units; the average of total cost is taken for the number of units produced. For the monitoring & supervision purpose, the total cost and per unit cost is computed at each stage of production. Process costing may be classified into following sub-categories:

i) Unit or Single Output Costing:
This method of costing is popular amongst the entrepreneurs engaged in the production of a single item, i.e. the end products are identical in nature. Per unit cost is computed by using simple. arithmetic, i.e. dividing the total cost by the total number of units produced.

ii) Operating (Service) Costing:
This method of costing is common in the business entities not engaged in manufacturing any product; they are engaged in providing services like education, transportation, power supply, hospitals, etc. Calculation of per unit cost is different for different service providers depending upon the nature of services provided. Examples of the units are per student (college), per passenger (bus), tonne/kilometres (Truck), bed/patient (hospital), etc.

iii) Operation Costing:
Under this method of costing, the costs are assessed operation-wise (instead of process. wise). The underlying presumption of operation costing is that the final accomplishment is arrived at through various operations.

UNIT/OUTPUT COSTING

Meaning & Definitions of Unit/Output Costing

Unit or Output costing is used in these industries or factories where standard products are produced from a common process and all the units produced are more or less similar to each other. Unit or output costing is also known as single costing method.

According to J.R. Batliboi, "Output or single cost method is used in business where a standard product is turned out and it is desired to find out the cost of a basic unit of production."

According to Herald J. Wheldon, "Unit of output costing is a method of costing by the units of production, where manufacture is continuous and the units are identical or can be made by means of ratios."

Features of Unit or Output Costing

Following are the main features of unit or output costing:

1) Production consists of a single product or a few of the same product,

2) Production units should be identical;

3) Production is uniform and on continuous basis, and

4) Per unit cost has to be determined in this method.

Objectives of Unit or Output Costing

The following are the main objectives of unit or output or single costing:

1) To know the total cost of production as well as the cost per unit of output.

2) To know the profit or loss on the production or output.

3) To classify various costs under relevant categories and its detailed analysis.

4) To facilitate the preparation of tender price or quotation price.

5) To control the cost of a product through comparative statement study of the cost of two or more periods.

6) To analyse the effect of each element of cost on total cost.

Methods of Unit or Output Costing

Following methods are adopted to calculate the unit or output costing:

1) Cost Sheet (Statement of Cost), and
2) Production Account.

Cost Sheet

This is a statement to show the output during a particular period of time. It also shows the classification of costs. The data for the purpose of preparing this statement is collected from various sources. This sheet is useful for the purpose of analysing total cost of production and cost of sales. This statement shows per unit cost structure for various levels of production. It is important to identify the stage of production and relevant price. Cost sheet is generally prepared in the case of manufacturing the single product. Cost sheet may be prepared for different time periods ranging from weekly to annually. It bifurcates the costs into various categories such as prime costs, cost of production and total costs. The main classifications used are prime cost, cost of production, works cost and cost of goods sold.

Objectives of Cost Sheet

Following are the main objectives of cost sheet:

1) This statement shows total cost as well as cost per unit of production.

2) It also provides detailed analysis of costs under various categories such as material cost, labour cost, etc.

3) It helps in making time series comparisons. This is done by comparing current costs with past costs and analysing the deviations.

4) The cost sheet is an important tool for making managerial decisions, making bids and cost control, etc.

Types of Cost sheet

Historical and estimated data is used for the purpose of preparing a cost sheet:

1) Historical Cost Sheet:

Actual costs are used for preparing this type of cost sheet. The statement showing costs after it has been incurred is known as a historical cost sheet.

2) Estimated Cost Sheet:

Estimated costs are used for preparing this cost sheet. It is prepared before the commencement of production. Such cost sheets are useful for various purposes such as bidding for tender. It is also used for estimating various components of cost. The estimates are made using present conditions and likely future conditions.

Format of Cost Sheet

Cost Sheet

Particulars	Total Cost (Rs.)	Cost Per Unit (Rs.)
Opening Stock of Raw Material **Add:** Purchase of Raw Material Carriage Inward Other Expenses on Purchase **Less:** Closing Stock of Raw Material **Direct Material Consumed**		
Add: Direct Labour/Wages Direct Expenses **Direct Cost/Prime Cost**		
Add: Factory/Manufacturing/Production/Work Overhead: Factory Rent Power and Fuel Haulage Charges Indirect Material Supervisor Salary Depreciation on Machinery Oil and Water Charges, etc. **Factory Cost**		
Add: Opening Work-in-Progress **Less:** Closing Work-in-Progress **Factory/Manufacturing/Production/Work Overhead Cost**		

Add: Office and Administration Overheads: Audit Fees Director Fees Legal Charges Depreciation on furniture General expenses Postage, Telephone, Printing and Stationary Donation, Bank Charges, Insurance of Office, etc.		
Office Cost/Cost of Production		
Add: Opening Stock of Finished Goods **Less:** Closing Stock of Finished Goods **Cost of Goods Sold**		
Add: Selling and Distribution Overheads: Trade Discount, Cash Discount Allowed, Brokerage, Commission, Sample Expenses, Branch Expenses, Delivery Van Expenses, Advertisement, Bad Debts, Free Gifts, After-Sale Service, Expenses of Catalog and Price List, Driver Salary, etc.		
Total Cost		
Profit/Loss		
Sales		

Illustration 1

Mr. ABC furnishes the following data relating to the manufacture of a Standard Product for the month of January 2020.

Particulars	Rs.
Materials	90,000
Direct Wages	60,000
Depreciation of Machinery	11,500
Power and Consumable Stores	12,000
Indirect Wages at Factory	15,000
Lighting of Factory	5500
Cost of Rectification of Defective Work	3000
Sale of Scrap	2000

Office and Selling Overheads Selling Price	39,000 3,16,000

Answer:

Cost Sheet
(For the Month of January 2020)

Particulars	Rs.
Materials Direct Wages **Prime Cost**	90,000 60,000 1,50,000
Factory Overheads: Depreciation of Machinery Power and Consumable Stores Indirect Wages at Factory Lighting of Factory Cost of Rectification of Defective Work	 11,500 12,000 15,000 5500 3000
Less: Sale of Scrap	1,97,000 2000
Work Cost/Production Cost Office and Selling Overheads **Cost of Sales**	1,95,000 39,000
Profit (Balancing figure)	2,34,000 82,000
Sales	3,16,000

Illustration 2

In a factory 20,000 units of product 'A' were manufactured in the month of March 2020. From the following figures obtained from the costing records. Prepare a cost sheet showing cost per unit.

Particulars	Rs.
Opening stock	5000

Raw materials	55,000
Closing stock of finished goods	1000
Closing stock of raw materials	10,000
Direct wages	25,000
Factory overhead	40,000
Office overhead	20,000
Material returned to seller	4000

Answer:

Cost Sheet
(For March 2020)

Particulars		Total Cost	Cost per Unit
Opening Stock	5000		
Add: Purchases of Raw Materials	55,000		
	60,000		
Less: Closing Stock of Raw Material	10,000		
	50,000		
Add: Direct Wages	25,000		
Prime Cost		75,000	3.75
Factory Overhead		40,000	2.00
Factory Cost/Works Cost		1,15,000	5.75
Office Overhead		20,000	1.00
		1,35,000	6.75
Less: Closing Stock of Finished Goods		1000	0.05
Cost of Production		1,34,000	6.7
Less: Material Returned to Seller		4000	0.2
Cost of Goods Sold/Cost of Sales		1,30,000	6.5

Illustration 3

The following information has been obtained from the records of ABC Co. ltd. for the year ended 31-3-2018.

Particulars	Rs.

Stock on 1-4-2017:	
Raw Materials	40,000
Work-in-Progress	16,000
Finished Goods	70,000
Stock on 31-3-2018:	
Raw Materials	30,000
Work-in-Progress	20,000
Finished Goods	60,000
Productive Wages	2,50,000
Depreciation on Machinery	46,000
Direct Chargeable Expenses	32,000
Factory Rent	50,000
Director's Fees	20,000
Selling Overheads	25,000
General Expenses	15,000
Printing and Stationery	10,000
Sales	10,00.000
Underwriting Commission	20,000
Purchases of Raw Materials	5,00,000

Prepare a Statement of Cost showing:

1) Cost of materials consumed
2) Prime Cost
3) Factory Cost
4) Cost of Production
5) Cost of Goods sold
6) Cost of Sales
7) Profit

Answer:

Cost Sheet
(For the year 31st March, 2020)

Particulars		Total Cost
Opening Stock of Raw Materials	40,000	
Add: Purchase of Raw Materials	5,00,000	

	5,40,000	
Less: Closing Stock of Raw Materials	30,000	
Cost of Material Consumed		**5,10,000**
Add: Production Overheads:		
Productive Wages	2,50,000	
Direct Chargeable Expenses	32,000	2,82,000
Prime Cost		**7,92,000**
Factory Overheads:		
Factory Rent	50,000	
Depreciation on Machinery	46,000	
	96,000	
Add: Opening Stock of Work in Progress	16,000	
	1,12,000	
Less: Closing Stock of Work in Progress	20,000	92,000
Factory Cost		**8,84,000**
Add: Office and Administrative Overheads		
Director's Fees	20,000	
General Expenses	15,000	
Printing and Stationery	10,000	45,000
Cost of Production		**9,29,000**
Add: Opening Stock of Finished Goods		70,000
Less: Closing Stock of Finished Goods		(60,000)
Cost of Goods Sold		**9,39,000**
Add: Selling and Distribution Overheads		25,000
Cost of Sales		**9,64,000**
Profit (balancing figure)		36,000
Sales		**10,00,000**

Illustration 4

The following information has been obtained from the records of Ashoka Company ltd. for the year ended 31-3-2017.

Particulars	Rs.

Stock on 1st April, 2016:	
Raw materials	72,000
Work-in-progress	40,000
Finished goods (1,000 units)	40,000
Stock on 31st March, 2017:	
Raw materials	55,600
Work-in-progress	50,000
Finished goods (2,000 units)	?
Purchase of raw materials	3,10,000
Direct wages	2,30,000
Indirect wages	20,000
Rent, Rates and Insurance (2/3 factory, 1/3 office)	66,000
Carriage inwards	8600
Salaries (2/4 factory, 1/4 office, 1/4 selling department)	80,000
General Expenses	6250
Manager's Salary (2/3 factory, 1/3 office)	24,000
Carriage Outwards	8000
Electricity (50% factory, 25% office, 25% selling department)	25,000
Sales	9,75,000

Production for the period is 16,000 units and selling and distribution expenses Rs. 4 per unit.

PROCESS COSTING

Meaning and Definition of Process Costing

Process costing is a costing methodology, which is used by the manufacturing industries, wherein the conversion of the raw material into a finished product involves its undergoing into more than one process. This methodology is quite prevalent amongst manufacturers of chemicals, soaps, vegetable oils, paints, varnishes, etc., where the manufacturing process is uninterrupted and the raw-material is subject to pass through more than one process till the final product is obtained.

Process costing may be viewed as an accounting technique, which can be;

1) Trace and collect direct costs,

2) Allocate indirect costs in respect of a manufacturing process.

According to Chartered Institute of Management Accountants (CIMA) the process costing has been defined as "the costing method applicable where goods or services result from a sequence of

continuous or repetitive operations or processes. Costs are arranged over the units produced during the period".

Features of Process Costing The process costing is characterized by the following attributes:

1) Costs Flow from one Process to Another:

The process cost covers direct materials, direct wages, factory overheads, etc. In a series of processes, the cost of finished output of one process becomes the input cost of the next process; and this continues till the final finished product is obtained.

2) Equivalent Production Computation:

At every stage of production, the units which remain incomplete are transferred into equivalent production based on the level of incompleteness.

3) Average Unit Cost Computation:

In order to arrive at the average cost of each unit (average cost per unit), the total costs incurred during a specific period is divided by the total output (number of units) during that period.

4) Normal and Abnormal Losses:

Due to natural or unnatural causes, such as evaporation, chemical reactions, scrapping, etc., loss of materials take place. Such losses may be normal or abnormal, and need to be properly stated and accounted with no uncertain terms.

5) Year End Work in Process:
On account of the manufacturing process being a continuous and ongoing process, at any point of time, especially at the end of any accounting year, some of the semi-finished goods or work in process would remain in stock. Therefore, it becomes imperative at the end of each accounting period, to ensure apportionment of the process cost between the finished output (i.e. final output) and semi-finished output (work in process).

Applications of Process Costing

The application of process costing is most appropriate for and is used by the manufacturers engaged in the production of homogeneous goods having the same standards. Such

manufacturing units produce articles in an uninterrupted and continuous manner. Such continuity of manufacturing activity is possible only if the plants and machineries are arranged in such a manner that the production of a standardized article takes place for a long period of time without any break.
The process costing may be preferred, under the following conditions:

1) A single article is being manufactured;

2) A single article is being processed for some specified period;

3) A number of articles with uniform standard design are manufactured in the same plant; and

4) Separate processes are taking place in separate divisions of a factory.

Process costing is applied in the following Industries :

1) Textiles mills;

2) Chemical works;

3) Oil refining;

4) Cement manufacture;

5) Paper manufacture;

6) Food processing;

7) Steel mills;

8) Paint manufacture;

9) Soap making;

10) Sugar works;

11) Confectionaries;

12) Plastic manufacture, etc.

Preparation of Process Costing

Process costing is presented in the form of a report, referred to as 'production cost report', which contains the following five distinctive steps:

Step 1: Analysis of the Flow of Physical Units:

This step includes the accounting aspect of inputs as well as outputs. It identifies the number of units at the beginning of a specified accounting period and at the end of the same period. In between, at each stage the number of units at the beginning of that stage and the number of units at the end of that stage is also determined. The output of one stage may become the input for the next stage in a continuous manner, till the final product is obtained.

Step 2: Calculation of Equivalent Units:

With a view to measure the total work efforts made for the production work during a specific accounting year, it is necessary to compute the equivalent units of production in respect of direct materials, direct labours and the factory overheads. The units, which could be completed only partially at the end of the specific accounting period, are appropriately converted into the equivalent number of whole units.

Calculation of the equivalent units, as mentioned above, becomes an inevitable exercise in view of the fact that some of the physical units of the output remain incomplete at the end of the accounting period. Equivalent units are calculated by multiplying the number of physical units on hand by the percentage of completed units. If the physical units are 100% completed, equivalent units will be the same as the physical units. However, in case the completion of physical units remains less than 100%, the equivalent units would be less than the physical units.

Step 3: Determination of the Total Costs for Accounting:

The sum total of the manufacturing cost, which needs to be accounted for, is inclusive of the current costs incurred and the cost of work in progress inventory in the beginning. The amount of cost may be calculated from material requisitions, labour time cards and factory overhead allocation sheets.

Step 4: Computation of Unit Costs:

The costs of direct material, direct labour and factory overhead per equivalent unit of production is computed with a view to arrive at an appropriate product costing and income determination for an accounting period.

Step 5: Assignment of Total Manufacturing Costs:

The 'production cost report' is prepared with the objective of assigning total manufacturing cost incurred to the completed units transferred out of the production department during the period and the work in progress units at the end of that period. It is important to ensure that the total costs assigned (cf. step 5) matches with the total costs to be accounted for (cf. step 3).

Advantages of Process Costing

In view of the following advantages, process costing may be considered favourable, especially by the process industries:

1) Helpful in Comparison:
Comparison of process costs is possible at regular intervals (e.g. every month). In fact, such comparison may be undertaken on a weekly or even daily basis in cases where predetermined overhead rates are used.

2) Simple and Economic:
Process costing is comparatively simple, less expensive, and needs minimum clerical support.

3) Use for Control:
As the actual and projected figures are easily available in respect of each process, the exercise managerial control and monitoring is easy.

4) Accurate Cost Allocation:
Calculation of the average cost of a homogenous product is easy. Further, the calculated costs are considered accurate in view of the smooth allocation of expenses to various processes.

5) Standard Process:
In view of the standardization of process, which is the standard of the process costing, submission of price quotation poses no problem.

Disadvantages of Process Costing

The disadvantages of process costing are evident from the following:

1) Historical Costs:
Costs arrived at the end of an accounting period are historical in nature and significant to some extent only. They are not of much use as a tool for management control.

2) Inaccurate Average Costs:
Average cost per unit arrived under this method may not be taken as a basis for in-depth analysis and assessment of operational efficiency, due to the fact that there is a possibility of such figures being inaccurate. Even a small mistake in the calculation of average cost per unit may be carried over through various processes, which may result in distorted valuation of work in progress and finished goods.

3) Problem of Apportionment:
If a single process is used for the production of a number of products, the apportionment of the joint costs amongst different products is a challenging job and there are chances of creeping in of the approximation, which is unscientific and may lead to inaccuracies.

4) Inaccurate Work in Progress:
During the valuation of work in progress inventory, no scientific method is applied to ascertain the accurate completion stage of work in progress; it is determined by estimation. Accuracy of the work in progress completion stage is, therefore, always doubtful.

Treatment of Wastage

In a broader perspective, the term 'losses', comprises waste, scrap, spoilage and every other phenomenon which lower down the quantity of a product. wastage may be classified into the following categories:

Treatment of Wastage

In a broader perspective, the term 'losses', comprises waste, scrap, spoilage and every other phenomenon which lower down the quantity of a product. wastage may be classified into the following categories:

1) **Normal Loss**

Normal loss is a loss, which is incurred in a business because of some deficiencies in the raw-materials and production process. It takes place under normal circumstances and at times it is inevitable. However, it may be assessed and forecasted on the basis of previous experience of an industry or an individual business organization and occurs at the time of process. There are

various forms of normal loss, e.g. normal wastage, normal scrap, normal spoilage and normal operational deficiencies.

Normal wastage may be defined as the loss of material in a manner, which is intrinsic to the nature of work. With the help of previous trends and / or technical specifications, it is possible to forecast such wastage. Wastage is considered normal, if it remains within a specified limit. For example, a company engaged in the manufacturing of a product X has specified the wastage limit at 5% of the input. Any wastage up to the 5% limit of the input would be considered as normal wastage.

Normal wastage may or may not realize any value on sale. If no value is realized from the wastage, the cost of such wastage has to be absorbed by the good units of the product manufactured, and as a result the cost per unit of the output goes up to that extent. In case

there is realization of some value, the same is added to the process account to calculate the cost of the normal output.

Treatment in accounts

The effect of normal wastage is seen in the form of reduced quantity of output. The normal loss is absorbed by the normal output of the products, due to which cost per unit of output is proportionately increased. Scraps with some monetary value are sold and the process account is credited with the amount realized.

The quantity of wastage, which can't be sold, is required to be shown under the quantity column and 'Nil' is shown against the amount column.

2) Abnormal Loss

Abnormal losses occur due to abnormal and unforeseen circumstances or events, like plant break-down, poor quality of raw-materials, fire, theft, poor supervision, etc. They are in excess of the normal anticipated losses of a business organization. The difference between the actual losses and the anticipated losses is the abnormal loss. Unlike the normal losses, it is not inevitable and can be avoided by proper care and planning.

The value of abnormal loss may be calculated by applying the following formula:

$$\text{Value of Abnormal Loss} = \text{Total Cost Incurred} - \text{Scrap Value of Normal Loss Units of Abnormal Loss} \over \text{Input Units} - \text{Normal Loss Units}$$

Value of the Unit of abnormal losses' may be calculated as under: Abnormal Loss (Units) = Input - Normal Loss - Actual Output

Abnormal loss may be defined as the wastage which is not an integral part of the manufacturing process. Any wastage in excess of the normal wastage is considered as the abnormal wastage.

Some examples of the abnormal wastage / loss are substandard materials, machine break-downs, slow machines, lack of appropriate supervision, and natural disasters like fire, flood, etc.

Valuation of the abnormal loss units is treated in the same manner as the valuation of the normal units. However, such a valuation amount is debited to an account specifically maintained for the purpose, which is named as 'abnormal loss account'. In case some value is realized out of the sale of wastage, the same is credited to the abnormal wastage account'.

Treatment in Accounts

The amount representing the loss caused by abnormal wastage is charged to the profit and loss account as under:

1) The amount of abnormal loss is debited to the 'Abnormal Loss Account' and 'Process Account' is credited with the amount of abnormal loss.

2) If some amount is fetched by selling the wastage in the market, the 'Abnormal Loss Account' is credited with the sale proceeds, and the balance is transferred to the Profit and Loss Account'.

3) Abnormal Gains/Effectiveness

Abnormal Effectiveness is also known as Abnormal Gain. The amount of abnormal loss is just an estimation and not the actual one, which may be more or less than the estimated loss. The gap between the above two, i.e. the actual loss and the estimated loss may be positive or negative. If the actual loss happens to be more than the estimated loss (negative gap), the result is abnormal loss. However, if the actual loss happens to be less than the estimated loss (positive gap), the result is what may be termed as abnormal gains, which is also referred to as Abnormal Effectiveness.

Valuation of the abnormal gain is carried out in the same way as the valuation of the abnormal loss is carried out, by applying the following formula:

Value of Abnormal Gain

Total Cost Incurred-Scrap Value of Normal Loss - x Units of Abnormal Gain

Input Units - Normal Loss Units

Value of the abnormal gain units is calculated by applying the following formula:

Abnormal Gain (units) = Input - Normal Loss - Actual Output

Normal loss account is required to be credited with the sale proceeds of abnormal gain units, and as a result that account (normal loss account) stands benefitted. The difference is transferring to a Profit & Loss Account.

For the calculation of abnormal loss and abnormal gain, the same methods are used. However, there is a difference in the accounting treatments; while the abnormal gain finds a place on the debit side of the process account; the abnormal loss is shown on the credit side of the process account.

Inter Process Profits

Manufacturing activities generally consist of a series of processes. Output of one process is passed on to the next process in the series as its input. Such transfers may take place either at cost or at a price, which may result in a profit to the transferee process. When the transfer takes place at a price other than the cost price, the transfer price is determined either at cost price plus a mutually agreed percentage or corresponding market price (wholesale) prevailing at the time of transfer.

The objectives of determining the transfer price is mentioned below:

1) To ascertain whether the cost of production has a competitive edge in the market; and

2) To maintain the independence of each process in terms of its efficiency and economies. To ensure this, the benefits of economies pertaining to a process are not passed on to the next process.

Normal Loss

Illustration 1

The ABC Chemical Company produces three types of chemicals during the month of July 2020 by three consecutive processes. In each process 2 percent of the total weight put in is lost and 10 per

cent is scrap which from process (I)and (II) derives Rs. 50 a ton and from process (III) Rs. 10 a ton. The product of three processes is dealt with as follows:

Particulars		Process I		Process II		Process III
Passed to next Process Stock kept for sale		75% 25%		50% 50%		- 100%
	Process I		Process II		Process III	
Expenses Incurred:	Rs.	Tons	Rs.	Tons	Rs.	Tons
Raw Materials Manufacturing Wages General Expenses	60,000 10,250 5150	500 - -	14,000 9260 3625	70 - -	53,920 7500 1550	674 - -

Prepare process cost accounts, showing the cost per ton of each product.

Answer:

Process I Account

Particulars	Tons	Rs.	Particulars	Tons	Rs.
To Raw Materials To Manufacturing Wages To General Expenses	500 - -	60,000 10,250 5150	By Loss of Weight (2% of 500 tons) By Sales of Scrap (10% of 500 tons); (10% of 500 tons) x 50 By Transfer to Warehouse By Transfer to Process II	10 50 110 330	- 2500 18,225 54,675
	500	75,400		500	75,400

Process II Account

Particulars	Tons	Rs.	Particulars	Tons	Rs.

To Transfer from Process No. I	330	54,675	By Loss of Weight (2% of 400 tons)	8	-
To Raw Materials	70	14,000	By Sales of Scrap (10% of 400 tons); (10% of 400 tons) x 50	40	2000
To Manufacturing Wages		9260			
To General Expenses		3625			
			By Transfer to Warehouse	176	39,780
			By Transfer to Process No.III	176	39,780
	400	81,560		400	81,560

Process III Account

Particulars	Tons	Rs.	Particulars	Tons	Rs.
To Transfer from Process No. II	176	39,780	By Loss of weight (2% of 850 tons)	17	-
To Raw Materials	674	53,920	By Sale of Scrap (10% of 850 tons); (10% of 850 tons) x 10	85	850
To Manufacturing Wages		7500			
To General Expenses		1550			
			By Transfer to Warehouse	748	1,01,900
	850	1,02,750		850	1,02,750

Abnormal Loss/ Abnormal Gain

Illustration 2

The product of a company passes through three distinct processes to completion. They are known as A, B and C. From past experience it is ascertained that wastage is incurred in each process as under.

Process A 2%; Process B 5%; Process C 10%.

In each case the percentage of wastage is computed on the number of units entering the process concerned.

The wastage of each process possesses scrap value. The wastage of process A is sold at Rs. 2 per 50 units and B is sold at Rs. 5 per 100 units and that of process C at Rs. 10 per 50 units. The output of each process passes immediately to the next process and the finished units are passed from process C into stock.

The following information is obtained.

Particulars	Process A	Process B	Process C
Materials consumed Direct Labour Manufacturing Expenses	3000 4000 500	2000 3000 500	1000 1500 750

10,000 units have been issued to process A at a cost of ₹5,000. The output of each process has been as under:
Process A-9,750; Process B- 9,400; Process C- 8,000.

There is no work-in-progress in any process.

Prepare Process Accounts and the calculations should be made to the nearest rupee.

Illustration 3

The product of a company passes through three distinct processes to completion. They are known as A, B and C. From past experience it is ascertained that wastage is incurred in each process as under.

Process A 2.5%; Process B 5%; Process C 10%.

The wastage of each process possesses scrap value. The wastage of process A, B and C is sold at Rs. 10, 20 and 50 per 10 units. The output of each process passes immediately to the next process and the finished units are passed from process C into stock.

The following information is obtained.

Particulars	Process A	Process B	Process C
Materials consumed	24,000	12,000	6000

Direct Labour Manufacturing Expenses	36,000 6000	24,000 6000	18,000 9000

4000 units have been issued to process A at a cost of ₹32,000. The output of each process has been as under:
Process A-3900; Process B- 3600; Process C- 3250.

There is no work-in-progress in any process. Prepare Process Accounts and Abnormal wastage and efficiency accounts.

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Module 04
Chapter 01
Marginal Costing and CVP Analysis

MARGINAL COSTING

Meaning and Definition of Marginal Costing

The term 'marginal cost' is derived from an important economic concept of 'margin'. However, the economic concept of 'margin' is different from the accounting concept. As an economic concept, marginal cost is the expenses incurred for producing an additional unit of a product, while accounting concept of margin cost implies the total cost by aggregating prime cost and variable cost. Thus, it includes all costs except fixed costs.

Marginal costing is not a costing method like process costing or job costing. It is a distinct technique and is primarily used for the purpose of managerial decision-making. Marginal costing may be used for measuring the profitability of various product lines or cost centres. This technique is helpful in bifurcating costs into distinct categories such as "variable costs" and "fixed costs". Variable cost constitutes marginal cost of the product.

The Institute of Cost and Management Accountants, London, has defined Marginal Costing as "The ascertainment of variable costs and of the effect on profit of changes in volume or type of output by differentiating between fixed costs and variable costs".

'Variable Costing' is another term used for Marginal Costing. It denotes the amount by which total cost changes when there is an increase or decrease in the production volume by one unit. It equates to the total variable cost of a unit.

Features of Marginal Costing

Marginal costing has following main features:

1) This technique is used for analysing and presenting costs to the management for helping in decision-making. It is not a separate costing technique like job costing or process costing.

2) It classifies all elements of cost into fixed and variable categories. Semi-variable costs are also bifurcated and variable categories.

3) The variable component of the total cost is considered to be the marginal cost of the product.

4) Contribution margin is used for determining the profitability of products and cost centres.

5) Variable cost is used for valuing closing stock.

Objectives of Marginal Costing

Marginal costing serves the following objectives:

1) Since total fixed cost is same at all levels of output and sales, the change in total cost is not proportional to the change in the volume of output.

2) Inclusion of fixed cost for valuing a product leads to different results in different periods as it tends to vary with change in production level.

3) Fixed costs are incurred irrespective of production or utilisation level.

4) Fixed costs are related to a particular accounting period and thus should not be carried forward to the next accounting period in the form of inventory valuation.

5) Fixed costs are not important for the purpose of decision-making as these costs do not change with output and sales quantity.

Scope of Marginal Costing

The wide scope of marginal costing can be explained in the following points:

1) Profit Forecasting:

Marginal costing has a wide role in forecasting the future profits of the company. Also, the percentage of profit in future years can be ascertained. Hence, a flexible budget can be prepared by using this information.

2) Price Determination:

Companies decide the prices of their products after analysing various critical factors. One of the critical factors in price determination is marginal costing. For a company, it is essential to alter their product prices in order to maintain competition in the market. Marginal costing is thus important in analysing the necessary changes in prices of the company's products and services.

3) Facilitates-Decision-Making:

Marginal costing helps in executing cost-volume-profit analysis that facilitates decision-making for the company. Several important decisions related to production, volume, manufacturing, research are taken by the company in which the cost-volume-profit analysis is required.

4) Profit Planning:

The company plans the profit when the price determination and profit forecasting is done. The planning for a particular profit is done with reference to the marginal costing and to the cost-volume-profit analysis. Since cost-volume-profit analysis supports decision-making, it also assists in profit planning:

i) The analysis assists in the estimation of income at a specific level of sales.

ii) The change in the level of profit due to the change in the sales volume can also be ascertained.

iii) The analysis assists in the execution of the profit planning, as it provides the information related to dependence of cost, profit and volume.

Advantages of Marginal Costing

Following are the main advantages of marginal costing

1) Simple to Use and Understand:

Marginal costing technique is simple and convenient to use. Since this technique excludes fixed costs and uses only variable costs, the cost statements are easy to understand and implement.

2) Avoids Under-Absorption of Overheads:

This technique does not use the process of allocation, absorption or apportionment of fixed costs and thus reduces the issues related to under-absorption of fixed cost.

3) Aids in Production Planning:

Variable costs per unit are constant in nature and remain the same regardless of the level of activity. The use of these costs simplifies the process of production management.

4) No Over-Valuation of Stocks:

Marginal costing does not carry forward fixed costs in the form of inventory valuation and thus avoids the possibility of over-inflating profit by inflated closing stock valuation.

5) Facilitates Calculation:

Marginal costing helps in the calculation of various important factors such as key factor, make or buy decision, pricing decision, optimal sales mix, etc.

6) Helps with Management:

Marginal costing helps the management in taking key decisions. These decisions may relate to shut down designing of optimal production and sales mix and performance evaluation

7) Useful for Cost Control:

Only variable or marginal costs can be controlled while fixed costs cannot be controlled Marginal costs help in cost control measures by segregating costs into fixed and variable categories.

8) Profit Planning:
Marginal costing helps in profit planning by providing various tools such as graphs, break-even charts and Cost Volume Profit (CVP) analysis.

Disadvantages of Marginal Costing

Marginal costing has following disadvantages:

1) Segregation of Costs:

Marginal costing works by dividing costs into fixed and variable categories. However, in many cases, such segregation is not clear. For example, expenses related to payment of bonuses to employees.

2) No Cognizance of Fixed Overhead:

Marginal costing ignores fixed overheads and thus is unrealistic.

3) Not Designed for Contract Costing:

Marginal costing cannot be used for job or contract costing purposes.

(4) Unrealistic Assumptions:

Marginal costing tends to make unrealistic assumptions while making analysis.

5) Apportionment of Fixed Costs:

Marginal costing requires calculation of separate break-even points for different products. This leads to the problem of apportionment of fixed expenses.

6) Multiple Assumptions:

Marginal costing uses various assumptions for analysis. Such assumptions may not be true in the real life scenario.

7) Under or Over-Absorption:

Marginal costing may lead to the problem of sub-optimal absorption of variable overheads

8) No Cognizance of Recovering Fixed Cost:

Marginal costing does not acknowledge the process of recovering fixed costs by incorporating them in product price. This process is not feasible in the long run.

COST-VOLUME-PROFIT (CVP) ANALYSIS

Meaning and Definition of Cost-Volume- Profit (CVP) Analysis

Cost-Volume-Profit (CVP) analysis is used for establishing the relationship between cost, volume and profit with a product. There are many factors which have an impact on profitability of the business however, the most important determinants are the cost of production, sales volume and selling price.

According to Herman C. Helser, "The most significant single factor in profit plaising of the average business is the relationship between the volume of business, costs and profits" The CVP relationship is an important text for the

profit planning of a business. CVP analysis uses costx, volume and profit figures. These factors are interrelated as sales price impacts profit of a concert and in turn are determined by the costs

incurred for production. The costs are determined by volume of production which is impacted by the expected sales volume CVP analysis endeavour to analyse the relationship between change in volume and change in costs

Features of CVP Analysis

Cost-Volume-Profit analysis has the following features:

1) It studies the behaviour of cost with regard to production sales volume. sales volume. cost production,

2) It shows the impact of change in cost and volume of output

3) It forecasts the profit for a given volume or value of sales on profit volume.

4) It projects the amount and quantity of production or sales to be achieved for a set profit level.

5) It helps to calculate value and volume of sales required for reaching break-even point.

Assumption of CVP Analysis

CVP Analysis uses following assumptions:

1) Total costs comprises fixed costs and variable costs

2) Variable Costs tend to change with the level output while Fixed Costs remain the same regardless of output volume.
3) Selling Price per Unit remains same for different quantities of sales.

4) The business sells only one type of product. In case of multi-product business, the sales mix remains the same throughout.

5) Volume of production equals sales volume and thus, there is no opening or closing stock.

6) The efficiency and productivity level remains constant.

7) Material Price, wages rates and other factors remain the same for all levels of production.

Techniques of CVP Analysis

CVP analysis uses sales volume, selling price, variable cost per unit and total fixed costs. The main techniques for CVP analysis are:

1. Contribution
2. Profit/ Volume Ratio
3. Break-even Analysis

Contribution

Contribution is also known as "marginal cost of sales' '. It is calculated by deducting variable costs from sales. Other terms used for contribution are "Gross Margin" and "Contribution Margin". It denotes the excess of sales over variable costs

Contribution can be represented as:

Contribution-Sales-Variable (Marginal) Cost

Or

Contribution (per unit) = Selling Price per unit-Variable (or Marginal)

Or

Contribution = Fixed Costs + Profit (Loss)

Uses of Contribution

Contribution is useful for following purposes

1) Contribution is useful for making the calculation of net income easy and for break-even analysis.

2) Contribution margin is used for calculating break-even point, desired income sales and product line decision. It is also helpful for pricing and bonus decisions.

3) Contribution explains the relationship between sales and profit.

4) Contribution Income Statement is used for the purpose of calculating contribution margin. This statement groups fixed and variable costs.

Advantages of Contribution

Following are the main advantages of contribution:

1) It helps managers in fixing sales prices

2) It is helpful in calculating break-even points.

3) It is helpful in determining suitable product mix.

4) It is helpful in determining most efficient production method

5) It can be used for making or buying decisions.

6) It can be used for making decisions like, adding and dropping product lines.

Marginal Cost Equation

Marginal cost equation exhibits the relationship between contribution, fixed cost and profit. It explains that the excess of sales over the variable cost is the contribution towards fixed cost and profit.

The marginal cost equation can be derived as follows:

Sales-Variable Cost = Contribution
Or
Sales = Variable Cost + Contribution
Or

Sales = Variable Cost + (Fixed +/- Profit/Loss)
Or
Sales-Variable Cost = (Fixed Cost +/- Profit/Loss)

Or S-V=F+P

where,
'S' = Sales
'V' = Variable Cost
'F' = Fixed Cost
'P' = Profit/Loss

The marginal cost equation helps in determining the value of the fourth factor if any three factors are known.

Profit-Volume Ratio (P/V Ratio or C/S Ratio) The Profit/Volume ratio is also known as the 'Contribution Ratio' or 'Marginal Ratio'. It shows the relation between contribution to sales and can be expressed as under:

$$\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

Improvements of P/V Ratio

P/V ratio depends on the contribution margin of a product. Following measures can be taken to improve the margin of a product

1) Increase in sale price.

2) Reducing marginal cost by optimum usage of 3M's, i.e., Men, Material and Machines.

3) Focusing on the sale of products with a relatively better P/V ratio.

Significance/Uses of P/V Ratio

P/V ratio is useful for the following purposes:

1) For determining variable cost for any volume of sales,

2) For calculating margin of safety and break-even point,

3) Calculating profit or loss for a given sales volume,

4) Determining sales volume for achieving desired profit,

5) Determining selling price,

6) Determining most profitable line or lines of products,

7) Designing optimal sales-mix, and

8) P/V ratio may also be used for comparing sales methods, companies and individual factories, etc.

Limitations of P/V Ratio

Following are the main limitations of P/V ratio:

1) P/V ratio assumes a linear relationship between costs and volumes. This may not hold true in real life.

2) P/V ratio requires classification of costs into variable and fixed categories. This process may turn complicated.

3) This analysis is useful for short-term analysis as fixed costs tend to change in the long run.

Break-Even Analysis

Cost-Volume-Profit analysis is also known as Break-Even analysis. The latter term may be used in a narrow or broad sense. In a broad view, break-even analysis studies the relationship between costs, volume and profit for different levels of production and sales.

In the narrow sense, the term break-even analysis determines the level of operation which gives no profit and no loss. At this point, the total revenue is equal to total costs.

According to Matz, Curry and Frank, "A Break-even analysis indicates at what level costs and revenue are in equilibrium".

Assumptions of Break-Even Analysis

Break-even analysis makes following assumptions:

1) All components of cost can be divided into fixed and variable categories, to change in production level,

2) Total variable cost changes proportionately in response

3) Fixed cost remains same for all output levels,

4) Selling price per unit does not change with change in output quantity,

5) Cost is influenced only by production volume,

6) General price level does not change,

7) Sales mix remains the same and does not undergo change, and

8) Production and sales are inter-related.

Significance of Break-Even Analysis

Break-even analysis is important due to following reasons:

1) It is important to understand the relationship between costs, profits and volume for efficient forecasting of profit.

2) Break-even analysis helps in setting up a flexible budget for showing costs for different output levels.

3) Break-even analysis helps in the process of performance evaluation.

4) Break-even analysis helps in the process of price fixation by showing the effect of different price structures on profits and costs.

5) Break-even analysis helps in determining the amount of overhead costs to be charged to product costs for different operation levels.

6) Break-even analysis is also useful for making various short-term decisions such as designing sales mix.

Limitations of Break-Even Analysis

Break-even analysis has following limitations:

1) Break-even analysis may give wrong results for different changes,

2) Segregating costs into fixed and variable parts is a difficult procedure,

3) Total fixed costs tend to change after certain point of activity volume,

4) It is difficult to predict sales mix in case of continuous change in demand,

5) Significant differences in opening and closing stock may affect results of the analysis, and

6) Break-even relationship changes in response to selling price and other factors such as wage rates and material prices.

Break-Even Point (BEP)

Break-even point denotes the quantity of sales where the firm neither earns any profit nor incurs any loss. At this volume level, sales revenue is equal to the total cost. Following equations elucidates the concept of break-even point:

Break-Even Sales = Fixed Cost + Variable Cost

Break-even point is also known as Balancing Point, Equilibrium Point, Critical Point or No-Profit No-Loss Point.

According to Keller and Ferrara, "The break-even point of a company or a unit of a company is the level of sales income which will be equal to the sum of its fixed costs and variable costs".

According to Charles T. Horngren, "The break-even point is that point of activity (sales volume) where total revenues and total expenses are equal; it is the point of zero profit and zero loss".

Contribution = Sales - Variable Cost
Contribution per unit = Selling price per unit - Variable cost per unit
Contribution = Fixed Cost +/- Profit/Loss

Marginal Cost Equation

Sales - Variable Cost = Contribution
OR
Sales = Variable Cost + Contribution
Sales = Variable Cost + (Fixed Cost +/- Profit/Loss)
Sales - Variable Cost = Fixed Cost +/- Profit/Loss

Illustration 1

From the following information, find out the amount of profit earned during the year using the marginal costing technique:

Particulars	Rs.
Fixed Cost Variable Cost Selling Price Output level	2,00,000 15 per unit 18 per unit 80,000

Answer:

Sales = 80,000 x 18 = Rs.= 14,40,000
Variable Cost = 80,000 x 15 = Rs, 12,00,000
Fixed Cost = Rs. 2,00,000
Profit/Loss = ?

Sales - Variable Cost = Fixed Cost +/- Profit/Loss
14,40,000 - 12,00,000 = 2,00,000 +/- Profit/Loss
2,40,000 = 2,00,000 +/- Profit/Loss
Profit/Loss = 2,40,000 - 2,00,000

Profit = Rs. 40,000

Profit-Volume Ratio (P/V Ratio or C/S Ratio)

P/V Ratio = Contribution x 100
Sales

OR

P/V Ratio = Fixed Cost + Profit x 100
Sales

P/V Ratio = Change in Profit or Contribution x 100
Change in Sales

Illustration 2

Find out i) P/V Ratio, ii) Fixed Cost, iii) Sales Volume to earn a Profit of Rs. 45,000, from the following data given below:

Sales	1,20,000
Profit	30,000
Variable Cost	60%

Answer:

Variable Cost = 60% of Sales
= 60% x 1,20,000
= Rs. 72,000

Contribution = Sales - Variable Cost
= 1,20,000 - 72,000
= 48,000

i) P/V Ratio:

P/V Ratio = Contribution x 100
Sales
= 48,000 x 100
1,20,000
= 40%

ii) Contribution = Fixed Cost + Profit
48,000 = FC + 30,000
FC = 48,000 - 30,000
= Rs. 18,000

iii) P/V Ratio = Fixed Cost + Profit x 100
Sales
40 = 18,000 + 45,000 x 100
Sales
Sales = 18,000 + 45,000 x 100
40
= 63,000 /40 x 100
= 1,57,500

Illustration 3

The sales turnover and profit during 2 years were as follow:

Year	Sales (Rs.)	Profit (Rs.)
2016 2017	1,60,000 1,80,000	20,000 25,000

You are required to calculate:
i) P/V Ratio
ii) Sales required to earn profit of Rs. 60,000.
iii) Profit when sales are Rs. 1,40,000.

Answer:

i) P/V Ratio = Change in Profit x 100
Change in Sales
= 5000 x 100
20,000
= 25%

ii) Sales required to earn a profit of Rs. 60,000

P/V Ratio = Fixed Cost + Profit x 100

$$25 = \frac{FC + 20,000}{1,60,000} \times 100$$

$$FC + 20,000 = \frac{1,60,000 \times 25}{100}$$

FC + 20,000 = 40,000
FC = 40,000 - 20,000
= 20,000

$$Sales = \frac{Fixed\ Cost + Profit}{P/V\ Ratio} \times 100$$

$$= \frac{20,000 + 60,000}{25} \times 100$$

= 3,20,000

iii) Profit when SAles are Rs. 1,40,000

$$Sales = \frac{Fixed\ Cost + Profit}{P/V\ Ratio} \times 100$$

$$1,40,000 = \frac{20,000 + Profit}{25} \times 100$$

$$Profit + 20,000 = \frac{1,40,000 \times 25}{100}$$

Profit + 20,000 = 35,000
Profit = 35,000 - 20,000
= 15,000

Illustration 4

Sale of a product amounts to 230 units per month at 12 per unit. Fixed overhead cost is Rs. 420 per month and variable cost is Rs. 7 per unit. There is a reduction of prices by 10%. Calculate current and future P/V ratio. How many units must be sold to earn the current total profits?

Answer:

Calculation of Current P/V Ratio

Sales = 230 x 12 p.u. = 2,760
Variable Cost = 230 x 7 p.u. = 1,610
Contribution = Sales - Variable Cost = 2,760-1,610= 1,150

P/V Ratio = Contribution x 100
Sales
= 1150 x 100
2760
= 41.66%

P/V Ratio after reducing price by 10%

Particulars	Rs.
Current Price per unit **Less:** Reducing 10% Future Price per unit (12% - 10%) Variable Cost (V.C.) per unit Contribution per unit (Sales - V.C. = 10.8-7)	12.00 1.20 10.80 7.00 3.80

P/V Ratio = Contribution x 100
Sales
= 3.8 x 100
10.8
=35.19%

Future Sales for Earning Current Profits

Current Profit = Contribution - Fixed Cost = 1,150-420= Rs. 730
So, we have to find out the volume of Sales to earn a profit of ₹730.

Sales = Fixed Cost + Profit = 420+730 = 1,150 x 100 = 3267.97
P/V Ratio 35.19% 35.19

Sales (in units) = 3,267.97 = 303 units.
10.8

Break even Analysis

Break even point (units) = $\frac{\text{Fixed Cost}}{\text{Selling Price per unit - Variable Cost per unit}}$

= $\frac{\text{Fixed Cost}}{\text{Contribution per unit}}$

Break Even Sales (in Rs.) = $\frac{\text{Fixed Cost}}{\text{Sales - Variable Cost}}$ x Sales

= $\frac{\text{Fixed Cost}}{\text{Contribution}}$ x Sales

= $\frac{\text{Fixed Cost}}{\text{P/V Ratio}}$

B.E. P. (as a % of capacity) = $\frac{\text{Fixed Cost}}{\text{Total Contribution}}$

Illustration 5

From the given data, you are required to calculate the breakeven point in units and in sales value:

Output	4000 units
Selling price per unit	Rs. 35
Variable cost per unit	Rs. 25
Total fixed cost	Rs. 30,000

Answer:

Break even point (units) = $\frac{\text{Fixed Cost}}{\text{Selling Price per unit - Variable Cost per unit}}$

= $\frac{30,000}{35-25}$

= $\frac{30,000}{10}$

= 3000 units

Break even point (in sales value) = $\frac{\text{Fixed Cost}}{\text{Sales - Variable Cost}}$ x Sales

Fixed Cost = 30,000
Sales = 4000 x 35 per unit = 1,40,000
Variable Cost = 4000 x 25 per unit = 1,00,000

Break even point (in sales value) = $\frac{30,000}{1,40,000 - 1,00,000}$ x 1,40,000

$= \frac{30,000 \times 1,40,000}{40,000}$

= Rs. 1,05,000

OR

B. E. P. (in sales value) = B. E. P. (in units) x Selling price per unit
= 3000 x 35
= 1,05,000

Illustration 6

ABC manufacturing, incurred following cost for a biscuit pack:

Fixed Factory Overheads Cost	Rs. 70,000
Fixed Selling Overheads Cost	Rs. 20,000
Variable Manufacturing Cost per unit	Rs. 16
Variable Selling Cost per unit	Rs. 4
Selling Price per unit	Rs. 25

Calculate:

i) Break-even point in terms of sales value and in units.
ii) Number of units that must be sold to earn a profit of 95,000.

Answer:

i) Break even point (units) = $\frac{\text{Fixed Cost}}{}$

Selling Price per unit - Variable Cost per unit

Variable Cost per unit = 16 + 4 = Rs. 20
Total fixed cost = 70,000 + 20,000 = Rs. 90,000

B. E. P = $\frac{90,000}{25-20}$ = 18,000 units

B. E. P. (in sales value) = 18,000 x 25 = 4,50,000

ii) No. of units that must be sold to earn a profit of Rs. 95,000

$$= \frac{\text{Fixed Cost + Profit}}{\text{Selling price per unit - Variable Cost per unit}}$$

$$= \frac{90,000 + 95,000}{25-20}$$

$$= \frac{1,85,000}{5}$$

= 37,000 units

Illustration 7

From the following given data:

Sales price	400 per unit
Variable Cost	300 per unit
Fixed Expenses	17,50 000

You are required to calculate:
1) Break-even point
2) Selling price per unit if break-even point is brought up to 20,000 units; and
3) Selling price per unit if break-even point is brought down to 15,000 units.

Answer:

i) Calculation of Break even point:

Break even point (units) = $\frac{\text{Fixed Cost}}{\text{Selling Price per unit - Variable Cost per unit}}$

= 17,50,000
400 - 300
= 17,500 units

ii) Selling price per unit if break-even point is brought up to 20,000 units:

Break even point (units) = Fixed Cost
Selling Price per unit - Variable Cost per unit
20,000 = 17,50,000
Sales per unit - 300
Sales per unit - 300 = 17,50,000
20,000
Sales per unit = 87.50 + 300
=Rs. 387.50 per unit

iii) Selling price per unit if break-even point is brought down to 15,000 units.

Break even point (units) = Fixed Cost
Selling Price per unit - Variable Cost per unit
15,000 = 17,50,000
Sales per unit - 300
Sales per unit - 300 = 17,50,000
15,000
Sales per unit = 116.67 + 300
=Rs. 416.67 per unit

Margin of Safety (MOS)

Margin of Safety is the excess of actual sales over the break-even sales. It may also denote excess of budgeted sales over break-even sales.

Margin of Safety = Total Sales -Break-Even Point (in Sales)

Margin of Safety is calculated at a selected level of production. It involves finding the difference between sales/production and the Break-Even sales or production. Higher the Margin of Safety, the better is for business.

High Margin of Safety shows that the business can survive substantial fall in its revenue without undergoing losses. However, businesses with lower Margin of Safety need to be more careful. In case of unsatisfactory Margin of Safety, following measures can be taken:

1) Margin of Safety may be boosted by increasing the selling price. However, proper attention should be paid to the price elasticity of demand.

2) Curtailing fixed costs.

3) Controlling variable costs.

4) Changing sales mix. Increasing output volume.

5) Modernising production facilities and undertaking cost effective practices.

6) Margin of Safety (MOS) = Sales at Selected Activity - Sales at Break-Even Point.

MOS = Total Sales - Sales at BEP

$$\text{MOS} = \frac{\text{Profits}}{\text{P/V Ratio}}$$

$$\text{MOS as percentage of sale} = \frac{\text{MOS}}{\text{Actual Sales}} \times 100$$

Illustration 8

From the following information:

Break even sales = 1,00,000 Rs.
Fixed Cost = 25,000 Rs.

Calculate:
1) P/V ratio
2) Profit when sales are 1,50,000
3) Sales to earn a profit of ₹50,000 and margin of safety at the level.
4) If the selling price is reduced by 10%, what will be the new break-even point?

Answer:

1) P/V Ratio = Fixed cost/Break-even Sales = 25,000/1,00,000 = 25%

2) Profit when sales are 1,50,000

Profit= (Sales XP/V Ratio) - Fixed Cost = (1,50,000 x 25%)-25,000=Rs. 12,500

3) Sales to earn a profit of ₹ 50,000

Sales (Fixed Costs + Profit)/P/V Ratio = (25,000 + 50,000)/25% = Rs. 3,00,000

Margin of Safety = Profit/P/V Ratio = 50,000/25% = Rs. 2,00,000

4) If the selling price is reduced by 10%, New Break-Even Point

Assuming the following data:

Particulars	Old (Rs.)	New (Rs.)
Selling price Variable Cost Contribution	100 (75) 25	90 (75) 15

Break-Even Point (in sales) = Fixed Cost/P/V Ratio
New, P/V Ratio = 15/90= 1/6 or, 16.667%
Break-Even Point (in sales) = 25,000/1/6= 1,50,000

Illustration 9

From the following information you are required to calculate:

1) Contribution
2) Fixed cost
3) Break-even point (in sales)
4) Margin of safety as percentage of sales.

Particulars	2016	2017
Sales	3,00,000	4,00,000

Total Cost	2,80,000	3,60,000
Profit	20,000	40,000

Answer:

1. Contribution = Sales - Variable Cost

Variable Cost to Sales Ratio = Change in Cost x100 = 80,000 x 100 = 80%
Change in Sales 100,000

Variable Cost is 80% of the total sales.

Variable Cost for 2016= 3,00,000 x 80% = 2,40,000

Variable Cost for 2017 = 4,00,000 x 80% = 3,20,000

Contribution for 2016 = 3,00,000 - 2,40,000 = 60,000
Contribution for 2017 = 4,00,000 - 3,20,000 = 80,000

2. Fixed Cost = Total Cost - Variable Cost

Fixed Cost for 2016= 2,80,000-2,40,000 = 40,000

Fixed Cost for 2017=3,60,000-3,20,000 = 40,000

3. Break Even Point = Fixed Cost
P/V Ratio

P/V Ratio = Change in Profit × 100 = 20,000 × 100 = 20%
Change in Sales 1,00,000

Break Even Point (in Value) = Fixed Cost = 40,000 = 2,00,000
P/V Ratio 20%

4) Margin of Safety as Percentage of Sale = Margin of Safety x 100

Actual Sales

Margin of Safety (in value)
2016 = Actual Sales - Break-even Sales
= 3,00,000 - 2,00,000 = 1,00,000

Margin of Safety (in Percentage) = $\frac{1,00,000}{3,00,000}$ x 100= 33 1/3%

2017 = Actual Sales - Break-even Sales
= 4,00,000 - 2,00,000 = 2,00,000

Margin of Safety (in Percentage) = $\frac{2,00,000}{4,00,000}$ x 100 = 50%

Illustration 10

The turnover and profits of the two years were as follows:

Particulars	Sales	Profit/Loss
1st year 2nd year	8,000 units 10,000 units	15,000 loss 15,000 profit

The Selling Price per Unit is ₹120.

Calculate:

1) P/V Ratio
2) Fixed Cost
3) Sales at Break-Even Point
4) The number of units to be sold to earn a profit of 45,000.
5) Profit when sales are 30,000 units.

Answer:

1. P/V Ratio = $\frac{\text{Change in Profit}}{\text{Change in Sales}}$ x 100 = $\frac{15,000 - (-15,000)}{12,00,000 - 9,60,000}$ x 100 = $\frac{30,000}{2,40,000}$ x 100

= 12.5%

2. Fixed Cost = Contribution - Profit

Contribution = Sales x P/V Ratio
Contribution I Year = 9,60,000 x 12.5% = 1,20,000
Contribution II Year = 12,00,000 x 12.5% = 1,50,000
Fixed Cost I Year 1,20,000-(-15,000)= 1,35,000
Fixed Cost II Year = 1,50,000 - 15,000 1,35,000

3. Sales at Break-even Point = $\frac{\text{Fixed Cost}}{\text{P/V Ratio}} = \frac{1,35,000}{12.5\%}$ =10,80,000

4. Number of units to be sold to earn a profit of 45,000
= $\frac{\text{Fixed Cost + Desired Profit}}{\text{P/V Ratio}} = \frac{1,35,000 + 45,000}{12.5\%}$ = 14,40,000

5. Profit when sales are 30,000 units

Profit = Contribution - Fixed Cost
= (P/V Ratio x Sales) - Fixed Cost
=(12.5% x 36,00,000) - 1,35,000 = 4,50,000 - 1,35,000 = 3,15,000

Sales = 30,000 units x 120 per unit = 36,00,000

Example 11

The sales and profits during the two years were as follows:

Particulars	Sales	Profit/Loss
1st year 2nd year	50,00,000 70,00,000	5,00,000 9,00,000

Assuming that the Cost Structure and Selling Prices remain the same in the two years, calculate:

1) Profit Volume Ratio:
2) Break-Even Point (in Sales)

3) The Sales required to earn a profit of ₹8,00,000
4) Margin of Safety in II Year
5) Profit when sales are 40,00,000

Answer:

1. Profit Volume Ratio = Change in Profit / Change in Sales x 100 = 4,00,000 / 20,00,000 x 100 = 20%

2. Break-Even Point (in Sales) = Fixed Cost / P/V Ratio

Fixed Cost = Contribution - Profit

Contribution = Sales x P/V Ratio

1st Year = 50,00,000 x 20/100 = 10,00,000

2nd Year 70,00,000 × 20/100 = 14,00,000

Fixed Cost = 10,00,000 - 5,00,000 = 5,00,000
or = 14,00,000 - 9,00,000 = 5,00,000

- Break-even Point (in Sales) = 5,00,000 / 20% = 25,00,000

3. Sales required to earn a profit of 8,00,000

Desired Sales = (Fixed Cost + Desired Profit) / P/V Ratio = (5,00,000 + 8,00,000) / 20% = 65,00,000

4. Margin of Safety (2nd Year) = Actual Sales - Break-Even Point Sales
= 70,00,000 - 25,00,000 = 45,00,000

5. Profit when Sales are 40,00,000

Required Profit = (Sales x P/V Ratio) - Fixed Cost = (40,00,000 x $\frac{20}{100}$) - 5,00,000 = 3,00,000

Module 04
Chapter 02

Short-term Decision Making in Marginal Costing

Types of Deciosion Making

- **Profit Planning Decisions**
- **Make or Buy Decisions**
- **Pricing DEcisions**
- **Dropping a Product Line**
- **Replacement Decisions**
- **Special Order - Accept or Reject Decisions**
- **Shut Down DEcisions**
- **Key or Limiting Factor DEcisions.**

Profit Planning Decisions

Illustration 1

The budgeted results for Y Co. Ltd. includes the following:

Sales	Rs. (in Lac)	Variable COst as a % of Sales Value
Products: P Q R S T	30 25 45 20 33	70 40 60 90 70
	153	66%

Fixed Overheads for the period are Rs. 50 Lac.

You are required to prepare

1. A statement showing the expected loss.
2. Recommend a change in sales volume of each product, which will eliminate the expected loss,assuming that the sale of only one product can be increased at a time.

Answer:

1. Statement showing Expected Loss

Product	Sales	Variable Cost		PV Ratio	Contribution
		%	Amount		
1	2	3	4	5	6(2-4)
P Q R S T	30 25 45 20 33	70 40 60 90 70	21 10 27 18 23.10	30 60 40 10 30	9 15 18 2 9.9
Total Contribution Less : Fixed Cost					53.90 50.00
Loss					

2. Additional Sales required to eliminate the expected loss for each product at a time.

$$\text{Additional Sales Required} = \frac{\text{Expected Loss}}{\text{PV Ratio}}$$

Particulars	Amount of Additional Sales required
P = 3,90,000 / 30%	13
Q = 3,90,000 / 60%	6.5
R = 3,90,000 / 40%	9.75

S = 3,90,000 / 10%	39
T = 3,90,000 / 30%	13

Pricing Decisions

(Single Product)

Illustration 2

The PV Ratio of a company is 85%. Marginal Cost of the product is Rs.60. Determine the selling price of the product.

Answer:
Let the selling prive be 100

Variable Cost = ?

$$PVR = \frac{Sales - VC}{Sales} \times 100$$

$$85 \times 100 = 100 - VC \times 100$$
$$\frac{85 \times 100}{100} = 100 - VC$$
$$VC = 100 - 85$$
$$VC = 15$$

Contribution = S - VC
= 100 - 15 = 85

Selling Price of the product when variable cost is 60 = ?

VC : Sales
15 100
60 ?

Sales = $\frac{100 \times 60}{15}$

= Rs. 400

(Multi-product Pricing)

Illustration 3

Pesso goods limited manufactures pesticides. The accounts of the company show an expected profit of Rs. 15,00,000 from the manufacture of pesticides after charging fixed cost of Rs. 12,00,000. The pesticides is sold for Rs. 60 per cup and has a variable unit cost of Rs. 20.

Following responses to price changes:

Alternatives	Selling Price reduced by	Quantity sold increased by
P	5%	10%
Q	7%	20%
R	10%	25%

Evaluate the alternatives and state which according to the profitability be adopted.

Answer:

Computation of Contribution

Particulars	Amount
Net Profit Add: Fixed Cost	15,00,000 12,00,000
Contribution	27,00,000

Contribution per unit = SP - VC

= 60 - 20 = 40

Units sold = $\frac{\text{Total Contribution}}{\text{Contribution/unit}}$

= 27,00,000/40 = 67,500 units

Statement showing profitability

Alternatives (1)	Reduction in SElling Price (2)	Rate (3) = 60 x (2)	Revised Contribution (4) = 40 - (3)	Rate increase in sale (5)	Quantity (6) = 67500 x (5)	REvised sales (7) = 67500 + (6)	Total Contribution (8) = (7) x (4)
P Q R	5 7 10	3 4.2 6	37 35.8 34	10 20 25	6750 13,500 16,875	74,250 81,000 84,375	27,47,250 28,99,800 28,68,750

(Make or Buy Decision)

Illustration 4

TPCL Ltd. is producing 30,000 units of a component at a cost of Rs. 60 per unit. Fixed cost at this level of output is Rs. 20 per unit. 40% fixed cost is avoidable. TPCL can buy the product from outside at Rs. 40 per unit. Should the company make or buy ?

(Dropping a line)

Illustration 5

A manufacturer is thinking whether he should drop one item from his product line andreplace it with another. Given below are his present cost and output data:

Products	Price	Variable cost	Percentage of sales
Chairs Cupboards Table Total fixed costs per year Sales last year	60 100 200	40 60 120 7,50,000 25,00,000	30 20 50

The change under consideration consists of dropping the line of cupboards in favour of cabinets. If this dropping and change is made, the manufacturer forecasts the following cost and output data.

Products	Price	Variable cost	Percentage of sales
Chairs Cabinets Table Total fixed costs per year Sales last year	60 160 200	40 60 120 7,50,000 26,00,000	50 10 40

Should this proposal be accepted? Comment.

(Replacement Decisions)

Illustration 6

A company has decided to replace an old machine with a new machine for increasing production capacity. It has received 2 proposals of machine P1 and P2. Further details:

Particulars	P1	P2
Installed capacity (units) Fixed Overheads per annum Estimated Profit	5000 2,00,000 1,50,000	5000 80,000 90,000

The product manufactured by these machines is sold at Rs. 120 per unit. You are required to determine:

1. Break-even Sales for each machine
2. Level of sales at which both the machines will earn same profit.
3. Machine suitable for different levels of demand for the product.

(Special order - Accept or Reject Decisions)

Illustration 7

Trishul ltd. receives a special order Quiral Private Ltd. for supply of 30,000 units of a product that usually sells at Rs. 10 per unit. Quiral Ltd. offers Rs. 9 per unit for this product. Trishul Ltd. incurs Rs. 6 per unit in variable cost to manufacture each item, plus Rs. 2 per unit for administrative cost. Total fixed manufacturing cost amount to Rs. 1,60,000 and other fixed costs amount to Rs. 80,000 per year.Production capacity is 2,10,000 units anuallys and sales volume through normal sales outlets will be about 1,60,000 units.

Draw the marginal cost statement showing profitability and also advice the company.

(Shut Down Decisions)

Illustration 8

The cost per unit of 3 products M, S, and T of a company are given below:

Particulars	Products		
Direct Materials	30	20	20
Direct Labour	20	16	14
Variable Expenses	10	12	8
Fixed Expenses	8	8	6
	68	56	48
Profit	26	16	14
Selling Price	94	72	62
No. of units produced	12,000	6000	10,000

Produxtion arrangements are such that if one product is dropped down, the production of the others can be raised by 50%. The directors propose that T should be dropped because the product has less selling value. Show analysis and propose if T should be dropped or not.

(Key Limiting Factor Decisions)

Illustration 9

The following information is obtained from a company producing products M and N.

Particulars	Product M	Product N
Selling price Direct Materials Direct Labour (Rs. 5 per hr)	255 90 10 hrs bn bnb bb b bn bn bn bn bn bn bn bn bn	165 90 6 hrs

	bn bn bn bn bn bn bn bnbn	

Variable overheads 50% of Direct wages.

Show the profitability statement of products considering Labour as key factor.