Indira Gandhi National Open University
School of Management Studies

BCOE-142
Management Accounting

PROGRAMME DESIGN COMMITTEE B.COM (CBCS)

Prof. Madhu Tyagi
Former Director, SOMS, IGNOU

Prof. R.P. Hooda
Former Vice-Chancellor
MD University, Rohtak

Prof. B. R. Ananthan
Former Vice-Chancellor
Rani Chennamma University
Belgaon, Karnataka

Prof. I. V. Trivedi
Former Vice-Chancellor
M. L. Sukhadia University, Udaipur

Prof. Purushotham Rao (Retd.)
Department of Commerce
Osmania University, Hyderabad

Prof. D.P.S. Verma (Retd.)
Department of Commerce
University of Delhi, Delhi

Prof. K.V. Bhanumurthy (Retd.)
Department of Commerce
University of Delhi, Delhi

Prof. Kavita Sharma
Department of Commerce
University of Delhi, Delhi

Prof. Khurshid Ahmad Batt
Dean, Faculty of Commerce & Management
University of Kashmir, Srinagar

Prof. Debabrata Mitra Department of Commerce University of North Bengal, Darjeeling

Prof. R. K. Grover (Retd.)
School of Management Studies IGNOU

Faculty Members
SOMS, IGNOU

Prof. N V Narasimham
Prof. Nawal Kishor
Prof. M.S.S. Raju
Prof.. Sunil Kumar
Dr. Subodh Kesharwani
Dr. Rashmi Bansal
Dr. Madhulika P Sarkar
Dr. Anupriya Pandey

COURSE DESIGN COMMITTEE AND PREPARATION TEAM

Prof. BB Khanna, Director (I/C)
SOMS, IGNOU, New Delhi

Prof. R B Solanki
Vice Chancellor
CRS University, Jind

Prof. Pankaj Gupta
Centre for Management Studies
JMI, New Delhi

Prof. Ravinder Kumar, Dean
Deptt. of Commerce
JMI, New Delhi

Prof. R K Sharma, Dean,
Bharati, Vidyapeeth University
Paschim Vihar, New Delhi
Units 3-7, 9-16, and unit18 adopted from MCO-05

Prof. Pradeep Aggarwal
Dean, Deptt. of Mgmt. Studies,
Sharda University, G. Noida

Dr. Divya Verma, Faculty,
Deptt. of Mgmt. Studies,
GGSIP University, Delhi

Dr. Vikas Gupta, Faculty,
Deptt. of Mgmt. Studies,
Delhi Technical University,
Delhi (Unit 19)

Dr Sunil Kumar
Associate Professor
SOMS, IGNOU New Delhi
(Units 1, 2, 8 and 17)
Dr. Vikas Gupta (Unit-19)

Faculty Members
SOMS, IGNOU

Prof. N V Narasimham
Prof. Nawal Kishor
Prof. Madhu Tyagi
Prof. M.S.S. Raju
Prof. Sunil Kumar
Dr. Subodh Kesharwani
Dr. Rashmi Bansal
Dr. Madhulika P Sarkar
Dr. Anupriya Pandey

Course Coordinators
Prof. M. S. Senam Raju (E)
SOMS, IGNOU, New Delhi
Dr Rashmi Bansal (H)
SOMS, IGNOU, New Delhi

Content Editing
Prof M S S Raju

(Proof Reading & Format Editing)
Dr. Rashmi Bansal
SOMS, IGNOU, New Delhi

PRINT PRODUCTION

Mr. Tilak Raj
Assistant Registrar
MPDD, IGNOU, New Delhi

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BCOE - 142 MANAGEMENT ACCOUNTING

Management Accounting covers the basic cost and accounting concepts that are helpful in decision making and cost control. It provides a comprehensive introduction to cost and accounting concepts.

When the objectives of an enterprise are defined, the management must develop plans consistent with meeting those objectives. The efficiency of the management is judged the extent to accomplish these defined objectives with minimum effort and cost. For this purpose the management must prepare its course of action in advance. A systamatic approach to facilitate effective management performance is profit planning and control. A budget is a quantified plan for future activities to coordinate and control the use of resources for a specified period. Budgeting is a process which includes both Budget and Budgetary Control.

Standard Costing is one of the most important tools which helps the management to plan and control costs of business operations. It is a technique of cost accounting which compares the standard cost of each product or service with the actual cost, to determine the efficiency of the operation, so that any remedial action may be taken immediately.

This course also provides the basic knowledge of Marginal Costing and the necessity of Break-even Analysis and also Cost Volume Profit Analysis for effective planning and evaluation of business operations. For decision making it is very important to have an under of relevant cost, pricing decisions, responsibility accounting and contemporary issues in Management Accounting.

MANAGEMENT ACCOUNTING: INTRODUCTION AND BASIC TECHNIQUES

Unit 1 : Management Accounting: An Introduction, outlines the need for and objectives of accounting, accounting process and accounting equation. It also discusses the basic accounting concepts to be observed both at recording and reporting stages. It also explains the accounting standards to he followed while preparing financial statements.

Unit 2 : Cost Control, Cost Reduction and Cost Management, deals with the basic cost concepts, preparation of cost sheet and also explains different methods and types of costing.

Unit 3 : Understanding Financial Statements, explains the preparation of vertical format of corporate financial statements, concepts of reserves and provisions, concepts relating to profit, capital employed, shareholders funds, and debt funds. It further discusses the uses and limitations of financial statements.

BUDGETING AND BUDGETARY CONTROL

Unit 5: Budgeting: An Overview, It deals with the basic concepts of budgeting and budgetary control. It also discusses establishment of a sound system of budgeting and classification of various types of budgets.

Unit 6: Preparation of Budgets, It explains how various types of budgets are prepared. It also includes the process of revising the budget under certain circumstances such as budgeting errors and change in external factors.

Unit 7: Approaches to Budgeting, It discusses different approaches followed for the preparation of budgets. Besides highlighting the differences between different approaches their advantages and disadvantages are also described.

Unit 8: Budgetary Control, It explains essentials, objectives, advantages, and limitations of budgetary control. It also includes details of programme budgeting and performance budgeting.

STANDARD COSTING AND VARIANCE ANALYSIS

Unit 9: Standard Costing: An Overview, It describes basic concepts of standard costing and its importance. It also deals with the pre-requisites for the success of standard costing system in an organisation.
Unit 10: Material Variances, It explains the classification of variances and the reasons for their occurrance. It also explains how one material costs and their sub-variances calculated.

Unit 11: Labour Variances, It explains the concept of labour variances. Different types of direct labour cost variances are described.

Unit 12: Overhead Variances, It deals with overhead and sales variances. It also deals with the control ratios and how the variances are to be disposed off.

MARGINAL COSTING AND COST VOLUME PROFIT ANALYSIS

Unit 13: Marginal Costing, It deals with the basic concepts of marginal costing and its significance in managerial decisions making.

Unit 14: Cost Volume Profit Analysis, It discusses the concept of break even analysis, relationship between cost, volume and profit and its impact on planning and evaluation of business operations.

DECISION MAKING

Unit 15: Relevant Costs for Decision Making, It explains different types of relevant costs and the importance of relevant costs in decision making.

Unit 16: Pricing Decisions , It explains the objectives and need of pricing decisions. The various factors influencing the pricing decisions and methods thereof are highlighted.

Unit 17: Responsibility Accounting, It explains the concept of responsibility accounting. Different stages in the responsibility accounting and the essentials of its success are described.

Unit 18:Contemporary Issues in Management Accounting – I: it explains different challenges faced by the modern accountants. Scope and limitations of conventional financial accounting are also described. It explains some of the basic concepts of recent developments in financial and management accounting.

Unit 19: Contemporary Issues in Management Accounting – II: This is in continuation to the previous unit. It explains different types of costing systems and various steps involved therein.

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UNIT 1: MANAGEMENT ACCOUNTING: AN INTRODUCTION

Structure

1.0 Objectives
1.1 Introduction
1.2 Meaning of Management Accounting
1.3 Objectives of Management Accounting
1.4 Nature of Management Accounting
1.5 Scope of Management Accounting
1.6 Difference between Cost Accounting and Management Accounting
1.7 Techniques of Management Accounting
1.8 Role of Management Accounting in an Organisation
1.9 Advantages of Management Accounting
1.10 Functions of Management Accounting
1.11 Let Us Sum Up
1.12 Key Words
1.13 Answers to Check Your Progress
1.14 Terminal Questions

1.0 OBJECTIVES

After studying this unit, you should be able to:

- explain the meaning and definition of Management Accounting
- identify the objectives of Management Accounting
- explain the need for Management Accounting
- understand the scope of Management Accounting
- distinguish between Management Accounting and Cost accounting
- identify different techniques used under Management Accounting
- appraise the role and functions of Management Accounting
- examine and illustrate the advantages of Management accounting in an organization

1.1 INTRODUCTION

There are different objectives of a business enterprise, the most important one being still profit maximization. To undertake this process of making profit, a firm needs to use its available resources efficiently and perform certain activities. In order to achieve these objectives, a firm needs to undertake different transactions, such as purchases, sell in the market, make and receive payments and perform different operational activities. All these events affect the efficiency of an organization and can be measured in monetary terms.

These activities need to be quantified, recorded, analyzed and reported to evaluate its impact on the organization. This is Management Accounting is concerned about. In this unit we will cover concept of Management Accounting, its objectives and scope of Management Accounting. We shall also discuss its basic difference from Financial Accounting and cost accounting.

1.2 MEANING OF MANAGEMENT ACCOUNTING

Till the 18th century, most of the business organizations were smaller in size and mostly family run. As the family organizations started increasing in size, scope and product line became more extended and complex. With the further enhancement in technological changes and globalization, it has become necessary to keep a track of information apart from financial transactions. Management Accounting collects data from cost accounting and Financial Accounting and provides all the information needed by management to make decision.

Definition

Some important definitions of Management Accounting are as follows:

The Institute of Management Accountants USA has **defined** Management Accounting as "A value-adding continuous improvement process of planning, designing, measuring and operating both non-financialinformation systems and financial information systems that guides management action, motivates behavior, and supports and creates the cultural values necessary to achieve an organization's strategic, tactical and operating objectives"

As per American Accounting Association "The application of appropriate techniques and concepts in processing historical and projected economic data of an entity to assist management in establishing plans for reasonable economic objectives and in making of rational decisions with a view towards these objectives".

As per International Federation of Accountants (IFAC): Management Accounting may be defined as "The process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of information both financial and operating used by management to plan, evaluate and control within an organization and to assure use of and accountability for its resources".

As per CIMA, London: "Management Accounting is an integral part of management concerned with identifying, presenting and interpreting information used for: (a) creating strategy; (b) planning and controlling activities; (c) decision making; (d) optimizing the use of resources; (e) disclosure to shareholders and others external to the entity; (f) disclosure to employees; (g) safeguarding assets

The above involves participation in management to ensure that there is effective:

(i) Formulation of plans to meet objectives;

(ii) Formulation of short-term operation plans;

(iii) Acquisition and use of finance and recording of transaction;

(iv) Communicating financial and operating information;

(v) Corrective action to bring plans and results into line

(vi) Reviewing and reporting on systems and operations."

Management Accounting is made up of two terms managing and accounting. As all the above definitions explained, Management Accounting is the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of the information presented by Financial Accounting and Cost Accounting. It helps the managers for planning, executing and evaluating along with performance evaluation of management functions.

1.3 OBJECTIVES OF MANAGEMENT ACCOUNTING

The basic objective of Management Accounting is to enable Management to carry its duties efficiently that ultimately leads to maximization of profit in an organization. It helps the Management in planning, organizing, directing and controlling. With the help of creating budgets and formulating strategies for organization as a whole, it helps to reduce the deviation between budgeted and actual targets achieved. The main objectives of the Management Accounting are as follows:

1) Helps in planning and formulating management policies: Planning includes forecasting, setting objectives, creating strategies for achieving them. It helps in preparation of statements on the basis of past performance and data available for future forecast.

2) Interpretation of financial data available: Management Accounting presents financial data in a simplified format. It includes charts, graphs and diagrams to present it in an easy manner to be understandable by the top management.

3) Helps in decision making: Management Accounting makes the decision making scientific by using techniques. It uses the data from cost accounting and Financial Accounting, analyses it for making a sound decision. For Example, it helps in ascertaining the profitability of a product, exercise effective control on it and implement cost reduction programs.

4) Helps in controlling performance: Management Accounting helps in controlling by using different techniques like standard costing and budgetary control. It controls the cost of each department and individual by different techniques. It defines each unit as responsibility center and that unit is held responsible for deviation. It helps them to understand the weak areas and take corrective action to improve situation

5) Helps in organizing: It helps in creating effective and efficient organizational framework. Management accountant uses budgeting techniques and return on capital employed to control cost and responsibility. It leads to decentralization to rationalization of organizational structure

6) **Helps in reporting**: Management Accounting informs the management about the current position of the organization from time to time through timely reposting. It helps the managers to take the required actions timely and correctly. Performance of different departments is reported regularly.

7) **Helps in coordination of operations:** Management Accounting helps in evaluating the performance and coordinating the operations. It helps management in coordinating activities by preparing functional budgets and then coordinating by creating a master budget.

1.4 NATURE OF MANAGEMENT ACCOUNTING

It is a dynamic and forward-looking concept. Its nature can be explained as follows:

1) **Management Accounting is a basis for decision making:** Management Accounting helps the management to frame policies and make day-to-day decision making. Management Accounting provides the data to the top managers in a meaningful manner which helps them to take a decision.

2) **Management Accounting is futuristic concept:** Focus of Management Accounting is to deal with the future decisions. It uses the historical data presented by Financial Accounting and cost accounting and uses it for making future plans. It filters information and provides the selective information for specific decision making.

3) **Management Accounting is selective in nature:** Management accountant considers only the relevant data. It is analyzed and presented to top managers in an effective manner.

4) **Management Accounting is a systematic approach:** Management Accounting analyses different variables to identify the deviation between the budgeted and actual by using the historical data. It is systematic approach of planning and controlling.

5) **No specific reporting standards:** Management Accounting does not follow any prescribed reporting standards. It can be presented in any manner to make the relevant information available to the decision-making authorities. Data can be presented in most suitable form for the concerned person or issue.

Check Your Progress A

Identify whether the following statements are **True** or **False.**

1) Management Accounting follows the GAAP accounting standards.

2) Management Accounting is a forward-looking concept.

3) Management Accounting uses the data generated from Cost Accounting and

Financial Accounting.

4) Management Accounting helps in strategy formulation.

5) Every organization needs to prepare Management Accounting report every year.

1.5 SCOPE OF MANAGEMENT ACCOUNTING

Management Accounting emphasises upon internal control in an organization. It extends the analysis of Financial Accounting and cost accounting by using different budgetary techniques. Its scope can be explained as follows:

1) **Provides accounting information:** Management Accounting is based on data provided by financial and cost accountant. It provides required information to managers at different levels. It provides the information in a simplified manner to meet the dynamic needs of the management.

2) **Cost effect analysis:** Other branches of accounting like Financial Accounting and cost accounting provide only the final data but do not consider responsibility centers. Management Accounting is more focused on cause and effect relationship between variables.

3) **Compilation of data for management planning:** Management Accounting presents and compiles the relevant historical data in such a manner as it helps in identifying the trends in past period and to assist in problem solving.

4) **Assists in decision making:** It helps in decision making first by providing the relevant information to the management which can be used for decision making. Secondly, by analyzing the impact of all the possible decision is considered into account for taking a final decision.

5) **Achieving the objectives:** Management Accounting helps in creating the plans and setting the objectives. It compares the actual performance with the standard performance, finds the deviations and takes corrective actions.

6) **Increase in efficiency:** Management Accounting uses the accounting information to identify efficiency within the organization. It ultimately helps in improving the performance and making the organization efficient.

7) **Helps in forecasting and gaining feedback:** Management Accounting is a futuristic concept which helps in forecasting for future plan of action. It helps in receiving feedback by identifying deviations and setting responsibility accounting.

1.6 DIFFERENCE BETWEEN COST ACCOUNTING AND MANAGEMENT ACCOUNTING

Management Accounting uses the reports of financial and cost accounting. It interprets the data and formulates long term objectives and policies for the company, whereas cost accounting maintains cost books for cost reduction and ascertainment. Both the forms of accounting assist the management in policy making but Management Accounting is broader in scope. The major differences between Management Accounting and cost accounting are as follow:

BASIS	COST ACCOUNTING	MANAGEMENT ACCOUNTING
Focus	The focus of Cost Accounting is ascertainment, allocation and distribution of cost.	It considers the data from cost accounting to analyse the cost incurred and its impact.
Objectives	The primary objective of Cost Accounting is to control cost.	Objective is to assist in effective management process and resolve the management problems
Tools	Cost Accounting uses only quantitative data which have a unit of measurement. It uses only cost data	Management Accounting uses both quantitative as well as qualitative data which cannot be quantified in terms of money. It uses other financial data as well apart from cost data.
Emphasis	Cost Accounting has emphasis on collection of data and its interpretation for resolving the query and making decisions.	Management Accounting has emphasis on policy formulation by the top managers to make the organization efficient.
Users	Cost Accounting is used by middle or lower level management	Management Accounting is for top level management
Precedence	Cost Accounting precedes Management Accounting as Cost Accounting does not use data from Management Accounting	Management Accounting uses the data from cost accounting; so it is done after Cost Accounting is complete.
Vision	Cost Accounting has short term vision as it is concerned with short term goal of cost ascertainment or reduction	Management Accounting is farsighted as it sets the long-term objectives for the organization
Historic or futuristic	Cost Accounting is generally considered as historic in nature as it analyses the cost already incurred by the form	Management Accounting is generally considered as futuristic in nature; as it considers the past data to create policies for future.
Evaluation	Cost Accounting only assists the management by providing the current cost structure. It is not evaluative in nature.	Management Accounting is evaluative in nature it evaluates the performance and is used for performance judgement.
Statutory requirement	Cost Accounting and cost audit are mandatory in some selected industries.	Management Accounting is not a statutory requirement for company

Check Your Progress - B

1. Define the term Management Accounting.

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   …………………………………………………………………………
   …………………………………………………………………………

2. What are the main objectives of Management Accounting?

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   …………………………………………………………………………
   …………………………………………………………………………

3. How Management Accounting is different from Cost Accounting?

   …………………………………………………………………………
   …………………………………………………………………………
   …………………………………………………………………………

4. Explain the features of Management Accounting.

   …………………………………………………………………………
   …………………………………………………………………………
   …………………………………………………………………………

5. Fill in the blanks:

   a) Management Accounting helps management in ………………

   b) Management Accounting is generally used by ………………

   c) Management Accounting uses data from ……… and…………

   d) …………………………………………… Branch of accounting is compulsory for each kind of organization.

   e) Management Accounting uses both……………………………… and ………………………………………… data.

1.7 TECHNIQUES OF MANAGEMENT ACCOUNTING

Management Accounting uses various special tools and techniques to make data available in an understandable manner. **As we read so far it uses the data from** Financial Accounting to make managerial decision making. The techniques used under Management Accounting are Financial Planning, Fund Flow Analysis, Standard Costing, Budgetary Control, Marginal Costing, Ratio Analysis etc. Now we will read about these techniques in detail.

Financial Planning: As we all know, planning is creating a plan for future action; so financial planning is planning our financial activities of the organization. An organization has different objectives - some are short term others are long term. So it is the task of the top management to plan for them accordingly. Financial policies may include determination of amount of capital required, sources of funds distribution of the return of capital structure of the company.

Financial Statement Analysis: Financial Statements are the output of financial accounting. It provides us with the relevant data. It helps the management to know profitability and growth prospects of the organization. Managers use comparative statements, common size statement and ratio analysis.

Fund Flow Analysis: Fund Flow Analysis identifies the causes of change in the financial position of an organization between two time periods. It considers the change in working capital i.e. conversion of current assets to fixed assets or long-term liabilities. It helps the organization to do financial analysis and control its flow of funds.

Cash Flow Statement: Cash Flow Statement is different from fund flow statement. Cash flow statement gives a detailed analysis of cash inflows and outflows. As fund flow is more useful for long term planning, there may be a situation when fund flow shows favorable results but it may be due to accumulation of inventory and trade debtors.

Standard Costing: We will study the concept of standard costing in detail in further chapters. It works as a control mechanism. Under standard costing, we set a standard cost, measure the actual performance, compare it with the standards and find the variances. It helps the organization to identify the responsibility centers and take the remedial action to avoid the adverse decisions taken in past.

Budgetary Control: It is often misinterpreted as similar to standard costing as both are controlling techniques, but in budgetary control, we set a budget for each unit of the organization and their performance is compared to the budgeted values.

Marginal costing: Marginal Costing is another technique used by management accountants for cost control and decision making. It helps to decide selling price and proportion of units to be sold, to take, make or buy decision. It divides the concerned cost in fixed and variable.

Ratio Analysis: There are different ratios as we have also studied in financial accounting like liquidity, solvency profitability, etc. It helps the management for internal decision making. It adds to the efficiency of the management.

Cost Benefit Analysis: Management Accounting deals with cost benefit analysis. It uses various techniques for comparing the cost with anticipated results. Techniques like activity-based costing, differential costing are used for analyzing cost and benefit of different decisions taken by the organization.

Statistical Analysis: Accountants have access to data and they make systematic and logical conclusions from it. Statistical analysis like sampling theory helps to make reliable interpretation about population by using sample data.

1.8 ROLE OF MANAGEMENT ACCOUNTING IN AN ORGANISATION

Financial Accounting deals with documentation of company's financial transactions. It is a passive process while management accounting deals

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with future to make improvements that deal with better performance and higher profits. Management accounting helps in shaping an organizational reporting system role performed by management accounting as follows:

Allocation of Resources: Resource allocation is to divide the limited resources of the organization in most effective manner. Decision needs to be made which projects need to be taken over management accountant divide the resources and make a portfolio in best possible way. It considers factors like availability of funds, selling price, demand, etc.

Measuring Performance: Management Accounting measures performance within an organization on two fronts - first is to find responsibility center by ensuring the performance of employees. Second performance management is measure of efficiency. It analyses how efficiently resources have been utilized.

Assessing Risk: An objective of management accounting is to measure the risk involved with the decisions and to minimize risk while keeping the profits low. It uses different tools and techniques.

To Coordinate and Administer: It is task of the management accounting to provide control on operations. It uses cost standards, budgeting for expenses, sales forecast, profit planning, etc. to improve the overall performance of an organization.

Performance Comparison: To compare the performance of each level with the predefined standards, identify the deviation to interpret the results. It includes setting the financial policy as well.

Identify Different Forces and its Impact on Organisations: There are different forces which impact an organization in terms of economic social and governmental influence. It is the task of the management accounting to identify their impact and take required corrective actions.

Preparation of Reports for Government Agencies: Every organization has to fulfil the official requirements for submitting reports according to reporting standards. Management accounting supervises and coordinates to fulfill those mandatory requirements.

Check Your Progress C

Match the following:

A	B
1) Activity Based Costing, Differential Costing	a) Ratio Analysis
2) Solvency, Liquidity and Profitability Ratios	b) Cost Benefit Analysis
3) Differentiates Between Variable and Fixed Cost	c) Budgetary Control
4) Setting up a Budget to Compare with Actual Performance	d) Marginal Costing

5)	Comparative Statement, Common Size Statement, Ratio Analysis	e)	Cash Flow Analysis
6)	Detailed Analysis of Cash Inflow and Outflow	f)	Financial Statement Analysis
7)	Change Between Two Time Periods	g)	Fund Flow Analysis

1.9 ADVANTAGES OF MANAGEMENT ACCOUNTING

Basic advantage of Management Accounting is to take correct policy decisions and improved efficiency of management. The prime objective is to assist the management to increase the quality of the management decision. The major advantages of management accounting are as follows:

Effective Decision Making: This is the prime objective or the basic purpose of having management accounting. It uses different techniques from different disciplines like charts, table and different accounting techniques. It helps to justify the decisions taken by top management.

Future Planning: Management Accounting is a continuous process. It collects and report data on the basis of need of the managers. So, managers use the data for analysis and decision making on day-to-day basis.

Increase Efficiency of the Company: Management Accounting creates accountability and improves efficiency of the company. It helps to identify and remove deviations. It strives to increase the efficiency of the company.

Planning: Management Accounting provides the relevant information to management on continuous basis in the form of budgets, forecast and variance analysis. It helps management in decision making and business activity.

Effective Control and Regulations: Management Accounting helps to ensure effective control over the performance by providing efficient system of planning and budgeting. It makes the comparison of actual with the standards and makes the process easier and reliable.

Motivation to Employees: Management Accounting leads to overall improved performance of an organization and thus it improves the image of the company. It sets standards for the organization and employees as well which keeps them motivated and improves their performance.

Optimal Utilization of Resources: Management Accounting helps in the efficient utilization of resources. By creating different budgets and setting standards, it helps in reducing the wastage of resources and efforts.

Keeps the Management Informed: Management Accounting helps the management to remain informed about the progress from time to time. It helps them to take the remedial actions simultaneously to remove deviations and if necessary, to take corrective action.

1.10 FUNCTIONS OF MANAGEMENT ACCOUNTING

The basic objective of Management Accounting is to provide necessary information to the management in a meaningful manner. To achieve this objective, it has to undergo different activities. It helps in providing accounting information to the management which assists in performing management function. The major functions which add to the basic function are as follows:

Planning and Forecasting: Planning is the first step in management process which requires a strong system of decision making. Planning is done to set the objectives and to achieve those objectives. Under this function, it involves setting up the goals and formulating policies to reach those goals. Techniques like budgeting forecasting, standard costing, etc. are part of this step.

Analysis and Interpretation: Once the financial data is collected as per the needs of the management and then comes the analysis of this data. Data is collected from financial statements and cost accounting and then analyzed as per the needs of the management. Analysis helps the management to do future trend analysis as well.

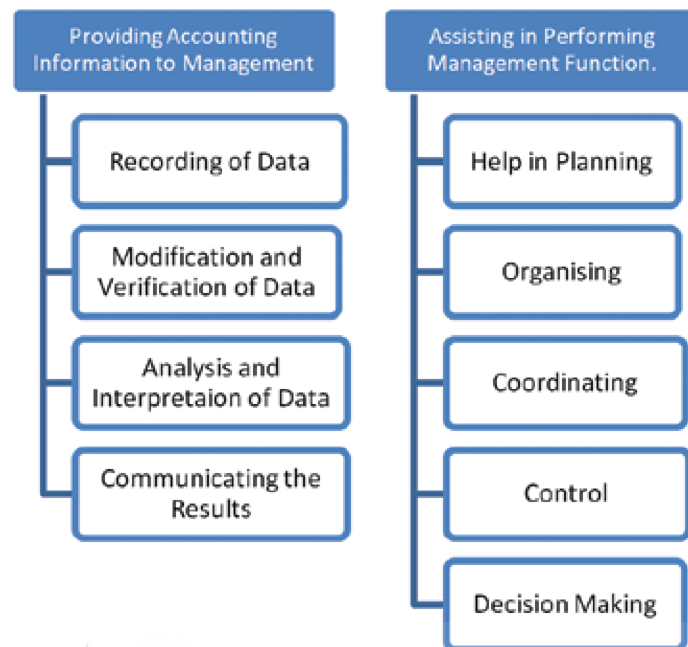
Coordinating: Activities like budgeting, financial reporting and interpretation are used to coordinate different activities of the organization. The efficient control adds to the efficiency of the organization.

Communicating: Once Management Accountant has prepared various budgets and reports, next task is to communicate these to the subordinates. Publishing annual report is also the job of the management accountant.

Tax Administration: With modernization, it has become the task of the management to submit necessary documents to the management and return to the tax authority and supervision of all the matters related to tax administration.

Decision Making: Management takes decision for day-to-day events. Management Accounting provides information in terms of analytical information, cost price and income etc. to make decisions and selecting the best possible alternative.

Management Accounting assists the management to perform effectively. It includes all the activities from collection of data processing analysis, presentation of data and interpretation of data. All these functions can be broadly categorized into two parts. One is related to only providing the information another is assisting in management functions. This can be explained through the diagram as follows:



Check Your Progress D

Identify whether the following statements are **True** or **False.**

1) Management Accounting helps in effective Decision Making.
2) Management Accounting does not add to efficiency of the company.
3) Management Accounting leads to wastage of resources.
4) Management Accounting helps in enhancing employee's motivation.
5) Management Accounting leads to coordination and communication between different levels within an organisation.

1.11 LET US SUM UP

- All the activities undertaken by an organization affects the performance and efficiency of a company. These activities need to be quantified, recorded, analyzed and reported to evaluate its impact on an organization. This is Management Accounting is concerned about.
- Management Accounting collects data from cost accounting and Financial Accounting and provides all the information needed by the management to make decision.
- Management Accounting is the recent development after financial and cost accounting.
- Objectives of Management Accounting are that it helps in planning and formulating management policies, interpretation of financial data available, helping in decision making, controlling performance, organizing, reporting and coordination of operations.
- Management Accounting is a futuristic concept and it is the basis of decision making, It is selective in nature but does not have specific reporting standards.
- It provides accounting information, gives cost effect analysis, assists in decision making, increases the efficiency and helps in achieving objectives.

- Management account is different from cost accounting and Financial Accounting. As its primary users are different and it does not follow any disclosure standards, it is not compulsory to be reported and does not follow specific periodicity.
- There are various techniques like Financial Planning, Financial Statement Analysis, Fund Flow Analysis, Cash Flow Statement, Standard Costing Budgetary Control, Marginal Costing, etc. which helps in management accounting to analyze and make decisions according to the need of business.
- As we have studied so far, financial accounting provides relevant data to managers but management accounting helps in using that data to make a better decision. Roles that management accounting performs in an organization are the Allocation of resources, measuring performance, assessing the risk component, etc. It identifies different forces and their impact on organization.
- Management Accounting has many benefits to the organization as it helps in future planning and effective decision making; it helps in all the functions from planning, coordinating to motivation of subordinates.
- Management Accounting performs various functions. It helps in planning and Forecasting, Analysis, Interpretation, Coordinating, Communicating and Decision Making.

1.12 KEY WORDS

Management Accounting: It is concerned with the supply of information which is useful to the management in planning, controlling and decision making within the organization.

Cost Accounting: A branch of accounting concerned with measurement and control of cost.

Financial Accounting: It is primarily concerned with record keeping directed towards preparation of financial statements and other accounting reports for external users.

Cost control: Controlling the cost to attain a predetermined standard.

Cost ascertainment: Collection analysis and measurement at different stages of production.

Cost reduction: Permanent reduction in cost without impairing the quality of goods and services.

Budgetary control: budgets are prepared for different future period then actual is compared with budgets prepared to find and rectify deviations.

Cash flow statement: it provides details of cash inflow and outflow during a given period of time.

Marginal costing: Costing technique where variable cost is charged to unit cost

1.13 ANSWERS TO CHECK YOUR PROGRESS

A. i) False ii) True iii) True iv) True v) False

B. 6. a) Formulating Management Policy

b) Upper Level Management

c) Financial Accounting and Cost Accounting

d) Financial Accounting

e) Quantitative and Qualitative

C. 1) B 2) A 3) D 4) C 5) F

6) E 7) G

D. i) True ii) False iii) False iv) True v) True

1.14 TERMINAL QUESTIONS

1. DefineManagement Accounting and briefly describe its objectives.
2. Discuss the nature and scope of Management Accounting.
3. Differentiate between Management Accounting and Cost Accounting.
4. Write a short note on the following:
   1. Financial Accounting
   2. Cost Accounting
5. Explain the functions performed by Management Accounting.
6. What are the roles performed by Management Accounting in an organization?
7. Explain various advantages of Management Accounting.

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UNIT 2: COST CONTROL, COST REDUCTION AND COST MANAGEMENT

Structure

2.0 Objectives

2.1 Introduction

2.2 Cost Control

- 2.2.1 Concept of Cost Control
- 2.2.2 Features of Cost Control
- 2.2.3 Advantages of Cost Control
- 2.2.4 Disadvantages of Cost Control
- 2.2.5 Techniques of Cost Control
- 2.2.6 Characteristics of a Good Cost Control System

2.3 Cost Reduction

- 2.2.1 Concept of Cost Reduction
- 2.2.2 Features of Cost Reduction
- 2.3.3 Advantages of Cost Reduction
- 2.3.4 Disadvantages of Cost Reduction
- 2.3.5 Techniques of Cost Reduction
- 2.3.6 Essential requisites for the successful implementation of Cost Reduction Programme

2.4 Difference between Cost Control and Cost Reduction

2.5 Cost Management

- 2.5.1 Concept of Cost Management
- 2.5.2 Objectives of Cost Management
- 2.5.3 Types of Cost Management
- 2.5.4 Techniques of Cost Management
- 2.5.5 Advantages of Cost Management

2.6 Let Us Sum Up

2.7 Key Words

2.8 Answers to Check Your Progress

2.9 Terminal Questions

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2.0 OBJECTIVES

After studying this unit, you should be able to:

- explain the concept of cost control and cost reduction
- identify the need of cost control and cost reduction
- enumerate the techniques of cost control and cost reduction
- differentiate between cost control and cost reduction
- explain the concept of cost management

2.1 INTRODUCTION

Most of the enterprises want to maximize the profit, which is possible by decreasing the production cost. For this purpose, management uses two efficient tools, i.e. cost control and cost reduction. Cost Control is a technique which makes available the necessary information to the management that actual costs are aligned with the budgeted costs or not. Cost Reduction is a technique which we use to save the unit cost of the product without compromising its quality. The main objective of the organization is to earn maximum profit and to achieve this objective, firm needs either to increase the revenue or reduce the cost of production. Different concepts are used in cost accounting which deals with minimizing the cost. Let us discuss these concepts in detail to have better understanding and how these concepts enable the management to achieve the main objective of earning maximum profit.

2.2 COST CONTOL

Cost Control is a process in which we focus on controlling the total cost through competitive analysis. It ensures that the cost incurred on production should not go beyond the pre-determined cost. Cost Control involves a chain of various activities, which starts with the preparation of the budget in relation to production. Thereafter we evaluate the actual performance. After that we compute the variances between the actual cost and the budgeted cost and further, we find out the reasons for the same. Finally, we implement the necessary actions for correcting discrepancies

2.2.1 Concept of Cost Control

Cost control is prime function of cost accounting. Under cost control, cost accountant measures actual costs, compare it with the standards and find the deviations. Then redial actions are taken to reduce the variances. It involves various actions taken to keep the cost within budgeted standards and not rising beyond the limit. Cost Control focuses on decreasing the total cost of production.

2.2.2 Features of Cost Control

Cost control has following features:

i) It is an attempt to keep the expenses within the control.

ii) It is a continuous process which includes formulating standards and preparing budgets to set a target and then continuously comparing the actual with these standards.

iii) It requires a continuous cost control report to identify the variances to be resolved.

iv) It works as motivational and encouragement to the employees to achieve the budgetary goals and keep the cost, controlled.

v) It is not only focused on reducing the cost, it also focusses on the effective utilization of the resources to get better results with the same available resources.

For example:

If current cost of producing a unit is Rs. 100 per unit, then under cost control attempt will be made to reduce the cots in such a manner that it does not go beyond Rs. 100. Organization will attempt to achieve this target. If it is found that actual cost comes at Rs. 120, it will find the deviation which is Rs. 20. Then attempt will be made to find the method to reduce the cost to Rs. 100 This is known as cost control.

2.2.3 Advantages of Cost Control

The advantages of cost control are mainly as follows:

i) Cost control helps to achieve expected return on the capital invested in a company, by resolving deviations between actual and expected standards.

ii) Cost control leads to improved standards of production with the limited resources of the company.

iii) Cost control reduces the prices or tries to maintain it by reducing the cost.

iv) Cost control leads to economic use of resources.

v) It increases profitability and competitive position of a company.

vi) It enhances credit worthiness of the company.

vii) It prospers and increases economic stability of the industry.

viii) It increases the sales of the company and maintains the level of employment.

2.2.4 Disadvantages of Cost Control

The disadvantages of cost control are mainly as follows:

i) It reduces the flexibility and process improvement in a company.

ii) It restricts innovation by emphasizing to reaching the preset standards

iii) It requires skilled personnel to set standards.

iv) It lacks creativity as it is concerned with following the current standards

v) It does not lead to improvement in standards

2.2.5 Techniques of Cost Control

1. **Budgetary control:** The budgetary control is process of continuous comparison. It works with creating budgets and continuous comparison of these budgets with the actual. It is finding the reasons for deviations and revising the budgets with needs. It helps in planning coordination and controlling.

2. **Standard costing:** Standard costing is setting a standard cost and using this standard cost with actual and analyze the variances. It helps in identifying the causes of variances and cost estimation.

3. **Inventory control:** Inventory control is regulating purchase, and usage of material to maintain the production without blocking the extra funds into it. It tries to reduce the wastage of the material and leads to effective utilization of it.

4. **Ratio analysis:** Ratio analysis identifies the relationship among different variables. It helps to identify the trends in an organization. Ratio analysis is also used for comparison of different organizations on different aspects. It is mainly used for comparing the performance with other organizations and external standards.

5. **Variance analysis:** Variance analysis is a method of cost control. It involves the identification of the amount of variance and to analyze the reasons of these variances. A variance is which varies from the standards set. It can be favourable or unfavourable.

2.2.6 Characteristics of a Good Cost Control System

According to Backer and Jacobson, effective cost control should have the following characteristics:

(a) Delineation of center's responsibility, i.e., deciding responsibility centers;

(b) The delegation of prescribed authority;

(c) Various cost standards;

(d) The relevance of controllable cost;

(e) Cost reporting; and

(f) Cost reduction

Check Your Progress - A

1. What do you mean by cost control?

   ……………………………………………………………………………

   ……………………………………………………………………………

2. What are the steps involved in cost control?

   ……………………………………………………………………………

   ……………………………………………………………………………

3. Name any two techniques of cost control.

   i) …………………

   ii) …………………

4. What is meant by budgetary control?

   ……………………………………………………………………………

   ……………………………………………………………………………

   ……………………………………………………………………………

2.3 COST REDUCTION

Cost reduction ensures savings in cost per unit and maximization of profits of the enterprise. Cost reduction aims at cutting off the unnecessary expenses which occur during the production process like storage, selling and distribution of the product. In order to identify cost reduction, we should mainly focus on the following major elements: savings in per unit production cost, the quality of the product should not be affected and savings should be non-volatile in nature.

2.3.1 Concept of Cost Reduction

Cost reduction is real and permanent reduction in unit cost of goods and services provided by the organization with effecting their quality and efficiency. There are different techniques used for cost reduction which can be budgetary control, standard costing, material control, labour control and overhead control. Cost reduction focuses on decreasing per unit cost of a product. Cost reduction is a continuous process. It has no visible end.

2.3.2 Features of Cost Reduction

Cost control has following features:

i) Cost reduction is genuine cost reduction which can be implemented by lowering the cost of production.

ii) Cost reduction includes permanent reduction in cost. It is more due to internal factors. For example, Reduction in government taxes is not considered as cost reduction as it is not permanent nature.

iii) Cost reduction doesn't decline the quality of production. It remains the same.

iv) Unit cost is reduced either by decreasing the expenditure at a given level of output.

v) Cost reduction can also be done by increasing the quantity produced. It means reducing the expenditure will remain the same but the output will increase

2.3.3 Advantages of Cost Reduction

i) Cost reduction increases the profitability of an organization.

ii) Cost reduction enhances the cash flow of the company.

iii) Cost reduction program helps in achieving the goals of the company.

iv) It is permanent in nature which affects the organizational performance in the long run.

v) Cost reduction does not impair the quality of the production while reducing the cost.

2.3.4 Disadvantages of Cost Reduction

There are problems with cost reduction which are generally do faced. These are as follows:

1. Workers and employees of an organization generally do not like to implement cost reduction program and they try to resist it. These are considered as difficult to be implemented.

2. Cost reduction programs are continuous in nature. It is a continuous attempt to lower the cost. But in most of the organizations, they are implemented on adhoc basis.

3. The cost reduction technique cannot be applied in all the cases.

4. Cost reduction technique requires a lot of research which adds on to the cost of the company

5. Cost reduction technique needs to be implemented in a planned manner.

There can be two ways to achieve the goal of the cost reduction

- By reducing the cost of that particular product and
- By increasing the efficiency so that we can increase the productivity of the production unit which lowers per unit cost.

2.3.5 Techniques of Cost Reduction

Cost reduction results from reduction of wastage, improvement in efficiency, identifying alternatives, and continuous reduction of the cost. There can be different methods for cost reduction which can be as follows:

1) Value analysis and value engineering.
2) Job evaluation and merit rating
3) Quality control
4) Economic order quantity
5) Standardization and simplification
6) Inventory management
7) Bench marking
8) Business process reengineering
9) Job Study, Works Study and Motion Study;
10) Job Evaluation and Merit Rating;
11) Value Analysis.

2.3.6 Essentials for success of cost reduction programme

Cost reduction programme aims at improvements of human efforts at all levels of the organization, which help in reducing costs. It may be a short-term or long-term program. A short-term programmer is undertaken for sorting out immediate problems, e.g. a problem involving controlling wastages and inefficiencies in certain departments, which are likely to push up the cost and may also require capital expenditure. It involves setting up the target return on capital employed and developing a scheme for its achievement through various cost reduction measures.

The following are the **essential requisites for successful implementation of a cost reduction** programme. Let us understand them in detail.

a. There should be a separate cost reduction cell responsible for proper planning and implementation of the cost reduction programme.

b. There should be an efficient system of management reporting at all levels of management.

c. The programme should have support from the top management. It is a continuous process and, therefore, should not be allowed to degenerate into a routine affair.

d. There should be an operation and research procedure.

e. There should be close co-operation amongst different executives concerned with the programme. Each departmental head should be given a list of the areas where he is expected to affect economies in cost. Moreover, he should also be encouraged to put forward his own suggestions for improvement.

f. There should be regular follow-up to the plan and continuous appraisal of the programme performed with the actual cost reduction performance.

g. The plan should not be confined only to reducing costs but should also examine whether expenditure is really required or not. In other words, there should be efforts to eliminate uneconomic and unnecessary activities.

Check Your Progress B

1. State whether each of the following statements is **True** or **False**:

a. Cost reduction includes permanent reduction in cost. It is more due to internal factors.

b. Cost reduction declines the quality of production. It should remain the same.

c. Cost reduction increases the profitability of an organization.

d. Inventory management is a method of cost reduction.

e. Cost reduction is substitute of cost control.

2.4 DIFFERENCE BETWEEN COST CONTROL AND COST REDUCTION

Cost control and cost reduction are two different concepts under cost accounting. In cost control, we try to reduce the cost to achieve the predefined target. In cost reduction we try to reduce the cost further to lower the budgeted cost. It is an attempt to improve the standards itself. Cost control ends once the standards are reached, on the other hand, there is no limit to cost reduction as there can be improvement in the standards. It is an ongoing process. We can say that cost reduction is much broader as compared to cost control, it starts where control, ends cost. The difference between the two concepts can be explained as follows:

BASIS	COST CONTROL	COST REDUCTION
Steps involved	Cost Control process involves defining the standards, measuring actual performance, comparing actuals with standards, estimating variances and taking corrective actions.	Cost Reduction is critical analysis of existing standards to improve the standards rather than creating the standards.
Techniques	Cost Control uses techniques like budgetary control and standard costing	Cost Reduction uses tools like simplification, standardization, value engineering, ABC analysis, etc.
Focus	Cost Control focuses on maintaining the standards and achieving the established standards	Cost Reduction is challenging all the predefined standards and brings cost down further.

Time period	Cost Control is not a dynamic function; it tries to reach to the minimum cost at a given point of time	Cost Reduction is a continuous process. It is not a period based concept but it analyses new ways to reduce cost.
Orientation	Cost Control is focused on the past and present cost data.	Cost Reduction is a future oriented concept.
Nature	Cost Control can be regarded as a preventive function as it attempts to maintain the cost at the required pre-set standards	Cost Reduction is a corrective measure. It tries to improve the efficiency of the existing control mechanism. It assumes that there is always scope of reduction.
Permanency	Cost Control is temporary in nature. It is just a measure to reduce variances between actual and budgeted.	Cost Reduction is permanent reduction in cost of a good or a service
Cost concerned	Cost Control focuses on reducing the overall cost.	Cost Reduction is an attempt to reduce the per unit cost
Quality concerns	Cost Control does not talk of quality of the product; it focusses on reduction only.	Cost Reduction is reducing the cost whole maintain the quality of the product.
Frequency	Cost Control is more of a routine activity. It requires close monitoring.	Cost Reduction is research oriented; it is a form of improvement so it demands creativity.

Both the cost reduction and cost control are different concepts; they do not overlap each other and cannot be substituted with each other. They both perform different functions in an organization having their own importance.

2.5 COST MANAGEMENT

Cost management involves different cost accounting methods that have the goal of improving business cost efficiency by reducing costs or at least having measures in place to restrict the growth of costs. Cost management system is helpful in identifying, collecting, classifying and collating information that can be used by managers in planning, controlling and taking right decisions to keep the costs in the desirable limits. Cost manangement can be defined as the process of planning and controlling the budget of the business. It helps in predicting the expenses of the business.

2.5.1 Concept of Cost Management

Cost management is method of collecting, analyzing and presentation of data to plan, monitor and control cost. Cost management techniques identify how an organizational resource needs to be allocated to different projects

while comparing its worth or outcome. Under cost management, we identify, collect and do reporting of the information required by managers and other users. Its main objective is to make the information available to the internal users of an organization. Efficient cost management helps the organization to improve its potential of the business. It provides information to managers for cost optimization and improving cost effectiveness.

2.5.2 Objectives of Cost Management

The main objective of cost management is to reduce the costs expended by an organization while strengthening the strategic position of the firm. There are many ways to apply the techniques of cost management. Some of them are as follows:

a) Establish systems to streamline the transactions between corporate support departments and the operating units.

b) Devise transfer pricing systems to coordinate the buyer-supplier interactions between decentralized organizational operating units.

c) Use pseudo profit centers to create profit maximizing behavior in what were formerly cost centers.

2.5.3 Types of Cost Management

There are three types of cost management which are as follow:

1. Those that strengthen the organization's competitive position. An example of a cost management technique that strengthens an organization's position is illustrated as follows. A hospital redesigns its patient admission procedure so it becomes more efficient and easier for patients. The hospital will become known for its easy admission procedure so more people will come to that hospital if the patient has a choice. The strategic position of the hospital has just been increased over its competitors.

2. Those that have no impact on the organization's position. An example of a cost management technique that has no impact on the organization's competitive position is illustrated as follows. An insurance company decides to reevaluate its accounts payable system to make it more efficient. The evaluation has no positive benefits to the insurance company in the external market. The objective of the change is to make the organization more profitable.

3. Those that weaken the organization's position. An example of a cost management technique that will weaken the organization's competitive position is illustrated as follows. A large airline company only has two desks for administering and selling tickets. This set-up induces long lines for the airline customers which can ultimately result in high dissatisfaction and a bad reputation for the airline. This may reduce the amount of ticket sales when compared with the airline's competitors. Even though having only two desks available for customers may initially be cost effective, in the long run, it harms the company.

As a general rule, an organization should never undertake any practices that are predicted to weaken the position of the organization.

2.5.4 Techniques of Cost management

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

Time management

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

Inventory management

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

Outsourcing

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

Updated market sense

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

Control of headcount

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

2.5.5 Advantages of Cost Management

a. It helps in controlling the project specific cost, in turn also the overall business cost.

b. One can predict the future expenses and costs and accordingly work towards the expected revenues.

c. Predefined costs can be maintained as records for the business.

d. It helps in taking those actions that are necessary to assure that the resources and business operations aim at attaining the chalked objectives and goals.

e. It helps in analysing the long term trends of the business.

f. The actual cost incurred can be compared to the budgeted ones to see if any component of the business is spending more than expected.

g. It helps in analysing the business positioning in terms of making an acquisition factoring the cost component involved.

Check Your Progress C

a) Simplification, Standardization, Value Engineering, ABC Analysis are tools used under………………………….

b) …………………………. is method of collecting, analyzing and presentation of data to plan, monitor and control cost.

c) …………………………… is research oriented so it demands creativity.

d) …………………………. is challenging all the predefined standards and bring cost down further.

e) ………………………….. focuses on reducing the overall cost while ……………………….... focuses on reducing per unit cost.

2.6 LET US SUM UP

Cost accounting involves two important functions: one is cost control another is cost reduction.

Cost control aims at keeping the cost within the predefined limits. Cost reduction is to rediscover the standards by lowering the cost further down.

Steps under cost control are setting standards for the organization, measuring the actual performance, comparing the actual performance with the pre-defined standard, finding the deviations and taking corrective actions.

Cost control helps in achieving expected returns, reducing cost, economies of scale, increases economic stability of the company. Cost control involves different techniques like inventory control, budgetary control, standard costing, ratio analysis and variance analysis.

Cost reduction is real and permanent reduction in nature without impairing the quality. It can be either by reducing cost or by increasing output. Cost reduction improves profitability and affects the organization in long run.

Techniques of cost reduction are value engineering, job evaluation, quality control, standardization, simplification and job evaluation.

Cost control is different from cost reduction on many aspects like techniques used, its focus, frequency, orientation, permanency and nature.

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Cost management is collecting, analyzing and presentation of data to plan, monitor and control cost. Its primary purpose is to make the information available to the internal users of an organization.

2.7 KEY WORDS

Cost Control: Comparing actual and standard performance to rectify deviations.

Cost Reduction: Reducing cost without affecting quality.

Cost Management: Collection analysis and presentation of data to manage the cost.

Budgetary Control: Controlling the cost by creating budgets.

Standard Costing: Setting standards to compare with actual performance.

Value Engineering: Finding and replacing less expensive methods of performing the job.

Quality Control: Retaining the standards by quality check.

Economic Order Quantity: Ideal size of order which should be made.

Inventory Management: Managing the flow of from point of purchase to sale.

2.8 ANSWERS TO CHECK YOUR PROGRESS

B. a) True b) False c) True d) True e) False

C. a) Cost Reduction b) Cost Control

c) Cost Reduction d) Cost Reduction

e) Cost Control, Cost Reduction

2.9 TERMINAL QUESTIONS

1. Define concept of cost control with its features and example.
2. What are different advantages and disadvantages of cost control?
3. Differentiate between cost control and cost reduction.
4. Explain different techniques used under cost control.
5. What do you mean by cost reduction? Discuss its advantages and disadvantages.
6. What are the essential requisites for the successful implementation of cost reduction programme? Explain.
6. Discuss in detail the advantages and limitations of cost reduction.
7. Explain the concept and objectives of cost management.
8. What are the different types of cost management? Explain with example.
9. What are the different techniques of cost management? Explain.
10. State the advantages of cost management in brief.

UNIT 3: UNDERSTANDING FINANCIAL STATEMENTS

Structure

3.0 Objectives

3.1 Introduction

3.2 Vertical Format of Corporate Financial Statements

- 3.2.1 Vertical Format of Balance Sheet
- 3.2.2 Vertical Format of Profit and Loss Account

3.3 Reserves and Provisions

- 3.3.1 Reserves
- 3.3.2 Provisions
- 3.3.3 Distinction between Provision and Reserve

3.4 Concepts of Profits

- 3.4.1 Gross Profit
- 3.4.2 Operating Profit
- 3.4.3 PBIT, PBT, PAT
- 3.4.4 Cash Profit
- 3.4.5 Profits Available to Equity Shareholders (Residual Profit)

3.5 Concept of Capital

- 3.5.1 Capital Employed
- 3.5.2 Shareholders Funds
- 3.5.3 Shareholders Equity
- 3.5.4 Debt Funds
- 3.5.5 Net Working Capital Employed

3.6 Uses of Financial Statements

3.7 Limitations of Financial Statements

3.8 Let Us Sum Up

3.9 Key Words

3.10 Answers to Check Your Progress

3.11 Terminal Questions

3.0 OBJECTIVES

After studying this unit you should be able to:

- prepare company financial statements in vertical form;
- acquaint with the concepts of revenues and provisions, profit and capital; and
- appreciate the uses and limitations of financial statements.

3.1 INTRODUCTION

According to Section 210 of the Companies Act, a company is required to prepare a Balance Sheet at the end of each trading period. Section 211 requires the Balance Sheet is to be prepared in the prescribed form. Schedule VI Part I permits presentation of Balance Sheet either in horizontal or vertical forms. The present trend of the whole corporate world is to present their annual accounts in vertical form which has now become a modern practice. The purpose of this unit is to provide knowledge of working model of annual financial statements prepared in accordance with Schedule VI of Companies Act 1956, Accounting Standards applicable to reporting enterprise, the basic concepts of reserves and provisions, and profit and capital. It also deals with the uses and limitations of financial statements.

3.2 VERTICAL FORMAT OF CORPORATE FINANCIAL STATEMENTS

The Profit and Loss Account and Balance Sheet may also be presented in vertical form. In the vertical form, a summarised profit and loss account is prepared and details of the items are shown separately in the form of annexures. In the case of Balance Sheet, the liabilities are shown under the heading 'Sources of Funds' and the assets are shown under the heading 'Application of Funds'. Both the prescribed forms of Profit and Loss account and Balance Sheet require that figures of the previous year should be shown in separate column along with the figures of the current year with respect to each of the items. The current trend of the whole corporate world is to present their annual accounts in vertical form. Part I of Schedule VI permits preparation of financial statements in vertical form which has now become a modern practice.

3.2.1 Vertical format of Balance Sheet

Under vertical form, a Balance Sheet is prepared under single column divided in two sections. First section shows the "Sources of Funds" which includes Share Capital, Reserves and Surplus, Secured and Unsecured Loans. The second section is represented by "Application of Funds" in the form of Fixed Assets, Investments, Net Current Assets (Current Assets-Current Liabilities) and Miscellaneous Expenditure.

A format is given below:

Balance Sheet of ………..

As on………………….

I Sources of Funds	Schedule No.	Figures for the current year	Figures for the previous year
1) **Shareholders Funds**			
a) Share Capital	1	………	………
b) Reserves and Surplus	2	………	………

2) **Loan Funds**	3		
a) Secured Loans		………	………
b) Unsecured Loans		………	………
Total		………	………
II Application of Funds:			
I) Fixed Assets	4		
a) Gross Block		………	………
Less: Depreciation		………	………
Net Block		………	………
b) Capital Work-in-progress		………	………
2) Investments	5	………	………
3) Current Assets, Loans and Advances	6	………	………
a) Inventories			
b) Sundry Debtors			
c) Cash and Bank Balances			
d) Other Current Assets			
e) Loans and Advances			
Less: Current Liabilities and Provisions	7		
a) Liabilities			
b) Loans and Advances			
Net Current Assets			
4) Miscellaneous Expenditure (Amount not written off)			
5) Profit and Loss Account As per contra			
Total of 1 to 5			
Significant Accounting Policies & notes on accounts	15		

Various schedules as mentioned above, will provide necessary details of items and information as required to be given as per schedule VI of Companies Act 1956. The figures in the amount column may be rounded off to the nearest thousand (000) as may be decided by the management. These schedules, significant accounting policies and explanatory notes form an integral part of the Balance Sheet as required by applicable Accounting regarding disclosure of accounting polices. Contingent liabilities are shown by means of footnote to the Balance Sheet.

3.2.2 Vertical Format of Profit and Loss Account

Almost all companies prepare and present their Income Statement (Profit and Loss Account) in vertical form. In fact the information relating to activities (operating, investing, financing) of the companies are arranged in vertical order rather than conventional (horizontal 'T' form). A format of Profit and Loss in vertical form is year given below:

Profit and Loss Account for the Year Ending……….

Particulars	Schedule No.	Figures at the end of current year	Figures at the end of previous year
I Income			
Sales			
Services			
Dividend			
Interest			
Other Income	8		
TOTAL			
II Expenditure			
Cost of goods sold/Raw material consumed	9		
Selling and other expenses	10		
Depreciation	11		
Financial Expenses	12		
TOTAL			
Profit before Taxation Extraordinary and Prior Period Items			
Provision of Taxation			
Net Profit before Extraordinary and Prior Period Items	12		
Extra Ordinary Items (Net of Tax)	13		
Prior Period Items (Net of Tax)	14		
Net Profit			
Balance brought forward from			
Previous year profits available for appropriation			
Appropriation			
Interim Dividend			
Dividend on Preference Shares			
Proposed Final dividend			
Corporate Dividend Tax			
Transfer to Debenture			
Redemption Reserve			
Transfer to Capital Redemption			
Reserve			
Transfer to General Reserve			
Balance taken to Balance Sheet			
Significant Accounting Policies and notes on accounts	15		

(For details of schedules learners are advised to refer to Horizontal (conventional) form of Balance Sheet)

A list of significant accounting policies and notes is as follows (Schedule No. 15):

1. Basis of Accounting
2. Revenue Recognition
3. Fixed Assets
4. Depreciation and Amortisation
5. Investments
6. Inventories
7. Foreign Currency Transactions
8. Retirement Benefits
9. Deferred Revenue Expenditure
10. Hire Purchase-Lease rental income
11. Product warranty expenses
12. Provision for Contingencies
13. Research and Development
14. Taxation
15. Investment in debt and equity shares
16. Long term contracts and property development activity
17. Government grants
18. Amortisation of License fees
19. Changes in accounting policies
20. Amortisation of License fees
21. Provision for re-inventing the company
22. Employees stock option scheme
23. Amalgamation
24. Changes in provisions of retirement benefit of employees
25. Investment in sick units
26. Contingencies
27. Approval of managerial remuneration
28. Extraordinary items.

Illustration 1

The following is the Trial Balance of ABC Ltd as on 31st March, 2021 (Rs. In '000')

Debit Balances	Rs.	Credit Balances	Rs.
Freehold Building	2750	Equity Share Capital (Shares of Rs. 10 each)	3750

Plant and Machinery at Cost	9500	10% Debenture	2500
Debtors	1200	General Reserve	1625
Stock (31.03.2005)	1075	Profit and Loss Account	900
Bank	250	Securities Premium	500
Adjusted Purchases	4000	Sales	8750
Factory Expenses	750	Creditors	650
Administration Expenses	375	Provision for Depreciation	2050
Selling Expenses	375	Other Income	25
Debenture Interest	250		
Interim Dividend	225		
	20,750		20,750

Additional Information:

i) The authorized share capital of the company is Rs. 75,00,000.

ii) Freehold premises have been valued at Rs. 45,00,000.

iii) Proposed final dividend is 10% and Corporate Dividend Tax 12.5%.

iv) Depreciation on Plant and Machinery is to be provided at 10% on cost.

v) Provide for income tax @ 40%.

You are required to prepare Profit and Loss Account for the year ended 31st March, 2021 and a Balance Sheet as on that date in vertical form as per the provisions of Schedule VI of the Companies Act. 1956.

Solution :

ABC Ltd.

Profit and Loss Account for the year ended 31st March, 2021

	Particulars	Schedule No.	Rs. ('000)
	Income:		
	Sales		8750
	Other Income		25
	Expenditure:		**8775**
	Purchases (Adjusted)		4000
	Factory Expenses		750
	Administration Expenses		375
	Selling Expenses		375
	Depreciation		950
	Interest on Debentures		250
			6700
	Profit before tax		**2075**
Less :	Provision for taxation @ 40% on Rs. 2075) 830		
	Net Profit after tax		**1245**

Less :	Interim Dividend	225		
	Final (Rs.3750 10%)	375		
	Dividend tax	75		675
	(225 + 375 = 700 × 12 $\frac{1}{2}$%			**570**

Balance Sheet as on 31st March, 2021

		Schedule No.	Rs. (in '000')	
I	Source of Funds			
	Shareholders Funds			
	(a) Share Capital	1	3750	
	(b) Reserves and Surplus	2	5345	
			9095	
	Loan Funds: a) Secured			
	10% Debentures		2500	
	Total		**11595**	
II	Application of Funds			
	Fixed Assets	3		
	a) Gross Block		14000	
	Depreciation		3000	
	Net Block		**11000**	
	b) Current Assets, Loans and Advances			
	Current Assets:			
	a) Stock 1075			
	b) Debtors 1200			
	c) Bank 250			
		2525		
	Less: Current Liabilities:	650		
	Creditors	830		
	Provision for Taxation	375		
	Proposed Dividend	75		
	Corporate Dividend Tax		595	
	Net Assets		**11595**	

Schedule 1:	**Share Capital:**	**Rs.**	
	Authorised:		
	75,000 shares of Rs. 10 each	**75,00,000**	
	Issued, Subscribed & paid up 37500 shares of Rs. 10 each fully paid	37,50,000	
Schedule 2:	**Reserves and Surplus**		**Rs.**
	Securities Premium		5,00,000
	Revaluation Reserve		17,50,000

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	General Reserve		16,25,000
	Profit and Loss Account* (Rs. 9,00,000 + Rs. 5,70,000)		14,70,000
			53,45,000

* (Opening Bal. + Bal. of Current year's P&L A/c)

Schedule 3 : Fixed Assets

	Opening Balance	Additions	Revaluation Reserve	Disposal	Provision for Dep.	Closing Balance
1 Freehold Premises	27,50,000	—	17,50,000 (45,00,000 + 27,50,000)	—	—	45,00,000
2 Plants & Machinery	95,00,000	—	—	—	30,00,000	65,00,000
	1,22,50,000		17,50,000		30,00,000	1,10,00,000

Illustration 2

From the following information, prepare a Balance Sheet in a vertical form as on 31st March, 2021 as per the provisions of Schedule VI of Companies Act 1956.

Debit Balances	Rs. (000)	Credit Balances	Rs. (000)
Fixed Assets	14, 300	Equity Share Capital	4,000
Finished Goods	1,500	10% Pref. Share Capital	1,600
Stores Preliminary Expenses	800 206	Profits for the year (Before interest & tax)	1,810
Advance Tax	400	12% Debenture	3,000
Capital Work-in-progress	640	P & L Account (1.04.2004)	100
Interest on debentures (net)	324	Security deposits from dealers	240
Interest on Loans (other)	160	Securities Premium	1,000
Cash at Bank	550	Investment Allowances Reserves	300
Loose Tools	100	Creditors	2,300
Short term investment at cost (Market value Rs. 440)	450	Provision for doubtful debts	50
Advance to staff	120	Provision for Depreciation	3,000
Debtors	2,450	Loan from Customers	400
		General Reserve	4,200
	22,000		22,000

Additional Information:

(i) Dividend is proposed on Equity Shares @ 10%

(ii) Provide TDS:

Interest on Debentures @ 10%

Corporate dividend tax @ 12.5%

Corporate Income tax @ 40%

Balance Sheet of …………..

As on 31st March, 2021

Solution:

	Schedule No.	Rs. (in '000')
I Source of Funds		
Shareholders Funds		
a. Share Capital	1	5,600
b. Reserves & Surplus	2	5,738
		11,338
2. Loan funds		
a. Secured Loans		3,000
b. Unsecured Loans	3	640
TOTAL		**14,978**
II Application of Funds		
1. Fixed Assets	4	
a. Gross Block		**14,300**
Less Depreciation		(3000)
Net Block		**11,300**
Capital wok-in-progress		640
		11,940
2. Short term Investments (at realisable value)		440
3. Current Assets Loans and Advances	5	
a. Inventories 2400		
b. Debtors less provision 2400		
c. Cash at Bank 550		
d. Loan & Advances 120		
(Advance to staff)		
5470		
Less : Liabilities and Provision		
a. Liabilities (2336)	6	2392
b. Provisions (742)	7	206
Net Current Assets (Working Capital)		
4. Miscellaneous Expenditure (Prelim. Exp.)		
TOTAL		**14,978**

Schedule I		Rs. (000)
	Share Capital:	
	Equity Share Capital	4000
	10% Pref. Share Capital	1600
		5600

Schedule 2		
	Reserve and Surplus:	1000
	Securities Premium	300
	Investment allowance Reserve	4200
	General Reserve	238
	Profit & Loss Account	**5738**

Schedule 3		
	Unsecured Loans:	
	Security deposits from Debtors	240
	Loans from Customers	400
		640

Schedule 4	Fixed Assets	14300
	Less Depreciation	3000
		11300
	Capital work-in-progress	640
		11940

Schedule 5		
	Current Assets, Loans and Advances	
	a. Inventories	
	Loose tools	100
	Stores	800
	Finished Goods	1500
		2400

Schedule 6		
	Current Liabilities	
	Creditors	2300
	TDS on interest on Debentures	36
		2336

Schedule 7		
	Provisions:	
	Provisions for Income Tax 512	
	Less Advance Tax 400	112
	Proposed Dividend:	
	Equity	400
	Preference	160
	Corporate Dividend Tax	70
		742

Working:

Profit and Loss Account

	Rs.		Rs.
To Interest on debentures	360	By Profit	1810
To Interest on Loan	160		
To Loss on Investment	10		
To Provision for Income Tax {1810-(360+160+10) 40/100}	512		
To Balance c/d	768		
	1810		1810
To Proposed Dividend:			
Equity	400	By Balance b/d	768
Preference	160	By Profit (1.4.04)	100
To Corporate Tax	70		
To Balance (carried to Balance Sheet)	238		
	868		868

Check Your Progress A

1) Under what headings will you classify the following items:

   a) Securities Premium
   b) Preliminary Expenses
   c) Live-Stock
   d) Unclaimed Dividend
   e) Interim dividend declared but not paid
   f) Arrears of fixed cumulative preference dividend
   g) Share forfeited account
   h) Loose tools
   i) Advance income tax paid
   j) Sinking fund

2. State briefly the items that are included under the following heads:

   a) Contingent Liabilities
   b) Unsecured Loans
   c) Secured Loans
   d) Reserve & Surplus
   e) Current Liabilities & Provisions
   f) Current Assets, Loans & Advances

- *Students are advised to see the annual reports of various companies to develop a better understanding of financial statements through notes attached thereto.*

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3.3 RESERVES AND PROVISIONS

The reliability, and accuracy of income statement (profit & loss account) and financial position statement (balance sheet) depends to a greater extent, upon the estimates, which govern the amount of various provisions to be made. And similarly transfers to various reserves including statutory transfer, determine the financial soundness creditworthiness and depict strong fundamentals which send clear signal to stock market and other interested parties. Hence, the concepts of 'reserves' and 'provisions' are of utmost importance while preparing, analysing and understanding the financial statements.

3.3.1 Reserves

The portion of earning, receipts or other surplus of an enterprise (whether capital or revenue) appropriated by management for a general or specific purpose is known as reserve. These reserves are primarily of two types: Revenue and Capital reserves which may be classified and treated as follows:

1) **Revenue Reserves:** These reserves are also called as free reserves. These are created to meet a **contingent** liability not specifically mentioned. These contingencies reserves indicate management's belief that funds may be required for an **usual purpose** or to meet a possible obligation that does not yet have the status of a liability such as settlement of a pending law suit or to meet any trading loss. These reserves are also created for any other **general** purposes like expansion or modernisation purposes. For accounting purposes the transfer of amount to such' General Reserve' or 'Contingency Reserve' is treated as appropriation and not a charge.

2) **Specific Reserve:** When a reserve is created for a specific purpose it is known as 'Specific Reserve'. It may be created to maintain a stable rate of dividend or to meet redemption of debentures after a stipulated period of time. Such reserves may take form of "Dividend Equalisation Reserve", "Debenture Redemption Reserve" etc. None of these reserves represent money or anything tangible. From accounting point of view it is simply a transfer of divisible profit to other head.

   However, when these Revenue Reserves (General/Specific) are not retained within the business but invested outside business are termed as "Reserve Funds".

3) **Capital Reserve:** A reserve which is created not out of divisible profits is called capital reserves. Such reserve is not available for distribution among shareholders as dividend. It is generally created out of capital profits such as profits prior to incorporation, securities premium, profit on re-issue of forfeited shares, profit on redemption of debentures, profit on sale of fixed assets, profit on revaluation of fixed assets and capital redemption reserve created as per the provisions of Companies Act on redemption of preference shares.

   As stated above, such profits are not available for distribution as dividend. However, some of the capital profits (profit on sale of fixed

assets can be distributed as dividend if the same are realised in cash, But the Companies Act expressly prohibits the following to be used for payment of dividend:

i) Premium on issue of shares,

ii) Profit on re-issue of Forfeited Shares,

iii) Capital Redemption Reserve, and

iv) Revaluation Reserve.

According to section 7 of The Companies Act 1956, Securities Premium can be utilized only for the following purposes:

i) Issue of fully paid bonus shares.

ii) Writing off the Preliminary Expenses, Discount on issue of Shares or

Debentures or other fictitious assets.

iii) Providing for the premium payable on redemption of debentures or preference shares.

U/s 80, Capital Redemption Reserve can be utilised only for the purpose of issuing fully paid bonus shares.

4) **Secret Reserve:** A reserve which is not disclosed in the Balance Sheet is known as Secret Reserve. The Companies Act 1956 prohibits creation of Secret Reserve because it conceals the actual financial position. However, the financial position of the company is definitely better what it appears from the Balance Sheet. Such reserve is created in any of the following manner by:

i) Writing of excessive depreciation.

ii) Understating the value of assets.

iii) Overstating liabilities.

iv) Treating capital expenditure as revenue.

v) Creating excessive provision for bad debts.

vi) Creating provisions which are not required.

vii) Treating contingent liability as an actual liability.

viii) Treating revenue receipt as capital.

Secret reserve may arise on account of a permanent appreciation in the value of assets or a permanent diminution in the value of a liability. Such changes usually are not accounted for in the books of accounts.

The policy of secret reserve is adopted by the management to achieve the following objectives:

- To meet the exceptional losses.
- To bring down the market value of shares within the trading range.
- To enhance the availability of working capital.
- To maintain dividend rate.
- To elude competition by concealing large profits.

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- To minimize tax liability.
- To keep strong financial position.
- To lessen the dependence on external finances.

All these reserves are shown on the liabilities side of the Balance Sheet.

3.3.2 Provisions

The Companies Act 1956 states that, "provision means amount written off or retained by way of providing depreciation, renewals of diminution in the value of assets or retained by way of providing for any known liability the amount of which can not be determined with substantial accuracy".

Thus the above definition clearly mentions that a provision may be created either for depreciation or for a known liability, the amount which cannot be ascertained with substantial accuracy such as:

- Provision for bad & doubtful debts
- Provision for Repairs and renewals
- Provision for discount on debtors
- Provision for fluctuation in investments

Therefore, it can be summed up that a provision is created either against the loss (fall) in the value of assets in the normal course of business operation or against a known liability the amount of which cannot be determined accurately but is estimated only.

3.3.3 Distinction between Provision and Reserve

1) A provision is a charge against the profits which reserve is simply an appropriation of profits.
2) A provision is created to meet a known liability whose amount is uncertain while reserve is created to strengthen the financial position and the meet contingency, if any.
3) A provision is shown as a deduction out of the assets concerned whereas reserve is shown separately on the liabilities side.
4) The sum so set aside as provision is never invested outside business whereas reserves may be invested outside business.
5) Provision is part of divisible profits but the same cannot be made available for the purpose of distributing dividend while reserves (revenue) are always available to be distributed as dividends.
6) Provisions have to be created whether there is profit or loss while reserve is created only when there is profit.

Check Your Progress B

I. a. ………………..is created to meet a known liability.

b . ………………..is built to meet a contingency.

c. ………………..is treated as a charge against profits.

d. Transfer to ………………..is an appropriation.

e. ………………..is not affected by profit or loss of the enterprise.

f. ………………..is made only when there are profits.

2. Write a short note on usage of "Securities Premium", U/s 78

………………..………………..…………………..………………..…

………………..………………..…………………..………………..…

3. Prepare a list of possible capital profits.

………………..………………..…………………..………………..…

………………..………………..…………………..………………..…

4. What are managerial objectives for creating Secret Reserves, and how is it created ?

………………..………………..…………………..………………..…

………………..………………..…………………..………………..…

5. Distinguish between :

   a. Reserve and Reserve Fund

   ………………..………………..…………………..…………

   ………………..………………..…………………..…………

   b. General Reserve Vs. Specific Reserve

   ………………..………………..…………………..…………

   ………………..………………..…………………..…………

3.4 CONCEPTS OF PROFIT

The main objective of this topic is to make students familiar with the various concepts of profits which are used by the management as the basis for taking appropriate decisions. A clear line of demakation between these terms will help to understand their application for decision-making purposes.

3.4.1 Gross Profit

It is also known as gross margin. As per the provisions of Companies Act 1956, Gross profit is 'the excess of the proceeds of goods sold and services rendered during a period over their cost, before taking into account administration, selling and distribution and financing expenses".

So the difference between the revenue (Sales) and cost of goods sold is the gross profit. Normally, the profit and loss account is prepared in two parts— (1) Trading Account and (2) Profit and Loss Account. Trading Account shows the "result" of trading operation under normal conditions which represents "Gross Profit" or "Gross Loss". Revenue means the inflow from main business activity in which the enterprise deals in whereas the cost of goods sold, in case of trading concerns, comprises purchases (of goods in which concern deals in) and direct expenses incurred (such as freight, octroi, duty etc) on or before purchases. However, in case of a manufacturing concern, the cost of goods sold will include cost of materials consumed, wages and other manufacturing expenses.

Modern practice of the whole corporate world is to present the information in a summarized statement (called abridged profit and loss account) giving the details in various schedules forming part of income statement.

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Illustration 3

From the following details of ABC manufacturing company find gross profit:

	Rs.
Raw Material Purchased	12,00,000
Stock of raw material in the beginning	2,50,000
Productive wages	3,50,000
Carriage Inward	20,000
Freight and Octroi	60,000
Other manufacturing expenses	1,20,000
Stock of raw material at the end	2,40,000
Sales	18,75,000

Solution:

ABC Company

Profit and Loss Account

For the year ended……………

Particulars	Schedule No.	Rs. (in '000')
Income:		1875
Sales	1	–
Other Income * (not related business)		1875
Expenditure		1760
Cost of goods sold	2	115
Gross Profit		

* Not to be considered for gross profit purposes.

Schedule 1: Provides the details of sales: product-wise, segment-wise (Business segment/Geographical segments) etc in India and outside India less Returns inwards and sales or Trade discount.

Schedule 2:

	Rs.
Cost of Goods Sold :	
Opening Stock of raw material	2,50,000
Add: Purchases	12,00,000
	14,50,000
Less: Closing Stock	2,40,000
Raw Material Consumed	12,10,000
Add : Direct expenses:	
Carriage Inward	20,000
Freight & Octroi	60,000
Productive wages	3,50,000
Other manufacturing expenses	1,20,000
Cost of goods produced (sold)	17,60,000

Illustration 4

In the above illustration, if the following balances also appear, find out the cost of goods sold:

	Rs.
Opening balance of work-in-progress	35,000
Opening balance of finished goods	1,25,000
Closing balance of work-in-progress	55,000
Closing balance of Finished goods	1,75,000

Solution: The following changes will be made in the Schedule 2:

Schedule 2 : Cost of goods sold will be as follows:

Inventory on 1st April…………….		
Raw Material	2,50,000	
Semi-finished goods	35,000	
Finished goods	1,25,000	4,10,000
Add : Purchases		12,00,000
Direct Expenses		5,50,000
Less : Inventory on 31st March		21,60,000
Raw Material	2,40,000	
Semi-finished goods	55,000	
Finished goods	1,75,000	4,70,000
Cost of Goods Sold		16,90,000

3.4.2 Operating Profit

It refers to net profit arising from the main revenue producing activities of an enterprise after accounting for operating expenses but before taking into account expenses of financial nature and non-operating income. Operating expenses include over and above the cost goods sold, such as:

- Factory overheads,
- Administration Overheads (Office Over heads), and
- Selling and Distribution over-heads.

In other words, when above mentioned operating expenses are subtracted from the gross profit, the resultant figure is "operating profit" and if total operating expenses exceed gross profit, the difference is treated as operating loss. Operating profit is the measure of operating efficiency of the enterprise and it is referred as OPBIT (Operating Profit Before Interest and Tax). When non-operating items are also considered, the resultant figure is Profit Before Tax (PBT). Let us consider the following illustration:

Illustration 5

From the following information, calculate gross profit and OPBIT

	Rs. (in '000')
Sales (Gross)	2,075
Return Inwards	15

Return Inwards	60
Rent Received	25
Interest & Dividend on investments	35
Direct Expenses (Manufacturing)	375
Selling and Distribution expenses	75
Office and Administration Expenses	150
Purchases Less returns	850
Inventories (1.4.2002)	145
Inventories (31.03.2003)	165

Solution

Profit and Loss Account

For the year ended 31st March, 2021

Particulars	Schedule No.	Rs. (in '000')
Sales	1	2,060
Less Cost of goods sold	2	1,205
Gross Profit		855
Operating Expenses:		
Office and Administration expenses	150	
Selling and Distribution expenses	75	225
Operating Profit (OPBIT)		630

Schedule 1:		Rs. (in '000')
Gross Sales Less Returns		2,075 15
Schedule 2:		2060
Inventories (1.4.2002)		145
Add: Purchases Less Returns		850
		995
Add : Direct Expenses		375
		1370
Less : Inventories (31.03.2003)		165
Cost of Goods Sold		1205

3.4.3 PBIT, PBT, PAT

PBIT (Profit Before Interest and Tax)

It refers to net profit before deducting any amount of financing expenses and income tax. In other words when interest expense and tax liability are not accounted for while calculating profit or loss of an enterprise, it is treated as PBIT. Interest expense includes:

- Interest on debentures.
- Interest paid on public deposits accepted by a trading or manufacturing organisation.
- Interest on Loan from public.
- Interest on Loan from Banks, financial institutions or from Government.

PBIT Operating Profit + Other Income

PBT (Profit Before Tax)

PBT = PBIT – Interest

When interest expense is subtracted from 'Profit Before Interest and Tax' (PBIT) (or total net earnings) before providing for any income tax thereon, it is called 'Profit before Tax'. This shows overall performance of an enterprise resulting from operating, investing and financing activities. This is also termed as EBT (Earnings before tax). Thus,

PBT = PBIT – Interest.

*** Pat(Profit After Tax)**

This refers to net profit after taxes, but before making any appropriation during the year. The net Profit Before Tax (PBT) is adjusted for tax liability calculated at the current rate of taxation. For various sources of incomes there are different rates. Such as income from business is taxed at a flat rate of 35%, income from long-term capital gains @20%. The tax so calculated will be enhanced by a surcharge of 5% for assessment year 2003-2004 and 2.5% for 2004-2005. However, for foreign companies tax rate is 40%.

PAT = PBT – Provision for Taxation

It should be noted that income tax purposes the profits are recomputed for determining tax liability by income tax authorities. The actual tax liability is determined only after the assessment is completed. That's why in the Profit and Loss Account, the amount of tax so determined on the basis of net profit as disclosed by Profit and Loss Account is transferred to 'Provision for Taxation'. This provision is adjusted against the actual liability. You might have already learnt about provision for taxation under Unit 3.

Illustration 6

From the above Illustration 5, calculate Gross Profit, Operation Profit, PBIT, PBT PAT

Solution:

Particulars	**Schedule No.**	**Rs. (in '000)**
Sales	1	2,060
Less: Cost of goods sold	2	1,205
Gross Profit		855
Less: Operating Expenses:		
Office and Administration expenses	150	
Selling Distribution expenses	75	225
Operating Profit (OPBIT)		**630**
Add: Non Operating Incomes	3	60
Net profit before interest and tax (PBIT)		**690**
Less: Financial expenses (Non-operating)		60
Net Profit before (PBT)		**630**
Less: Provision for Taxation (630000 × 35%)		220.5
Profit After Tax (PAT)		**409.5**

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Schedule 1 :		Rs. (000)
Gross Sales		2,075
Less : Returns		15
		2,060

Schedule 2 :		
Inventories (1.4.2002)		145
Add: Purchases Less Returns		850
		995
Add : Direct Expenses		375
		1,370
Less : Inventories (31.3.2003)		165
Cost of Goods Sold		1,205

Schedule 3 :		
Other Income (Non-Operating):		25
Rent Received		35
Interest and Dividend		60

3.4.4 Cash Profit

When all the non-cash charges which have been debited to Profit and Loss Account are added back to net profit, the amount so arrived at is termed as **cash profit**. Non- cash charges are those expenses in respect of which no payment is to be made to outside parties. It includes

Depreciation, Discount on issue of shares & debentures written off, Preliminary Expenses written off, etc.

It should be noted that 'outstanding expenses' are not treated as non-cash charges because in respect of such expenses, the payment has to be made in the next accounting year. Whereas cash does not flow-out in respect of depreciation and discount on issue of shares or debentures. Preliminary expenses are the formation expenses which have already been incurred in yester years, hence question of making payment of such expenses does not arise. That's why while calculating cash profit such non-cash charges are added back to net profit. Suppose net profit of an enterprise amounts to Rs. 15,30,000 after charging depreciation of Rs. 3,70,000 and writing off of Rs. 15,000 preliminary expenses, the cash profit will be taken at Rs. 19,15,000. (Rs. 15,30,000 + Rs. 3,70,000 + Rs. 15,000).

The concepts of Gross Profit, Operating Profit before interest and Tax, Operating Profit before Tax and Operating Profit after Tax can be found out with the help of the following format:

Opening Income Statement for the period……………….

Gross Sales	xxx	Rs. (000)
Less : Returns	xxx	
Net Sales		xxx
Less : Cost of Sales:		

Material Consumed	xxx	
Direct Wages	xxx	
Manufacturing Expenses	xxx	
Finished Goods, etc.	xxx	xxx
Less: Closing Stock		
Gross Profit		xxx
Less: Operating Expenses:		
Office and Administrative expenses	xxx	
Selling and Distribution expenses	xxx	xxx
Net Operating Profit (OPBIT)		
Add : Non- Operating Incomes	xxx	
Interest Received	xxx	xxx
Dividend Received	xxx	xxx
Rent Received, etc	xxx	
Less : Non-Operating expenses	xxx	
Discount Allowed	xxx	
Interest on Debentures	xxx	
Interest on Borrowings etc.	xxx	xxx
Net Profit Before Tax (PBT)		xxx
Less : Provision for Income Tax		xxx
Net Profit After Tax (PAT)		xxx

3.4.5 Profits Available to Equity Shareholders (Residual Profit)

Residual profit is that portion of profit which is available for equity share holders. It means the profit which the directors consider, should be distributed among equity shareholders after making necessary adjustments as per the provisions of Companies act. In normal course, profits are distributed as dividend only after meeting all expenses, losses, depreciation (current and unabsorbed), fall in the amount of current assets, taxation, past losses, preference dividend and transfer to Sinking Fund. Debenture Redemption Fund and to General Reserve U/s 205 (2A). However, profit arising out of revaluation of fixed assets and other profits of extra ordinary nature (capital profits) are not included in the profits available for equity shareholders as dividend. It should be noted that the depreciation must be calculated as per the provisions of the Section 205 of the Companies Act 1956. Look at the following illustration:

Illustration 7

You arc given the following information:

	Rs. (000)
PBIT	5,782
Depreciation charged as per books (Revaluation)	182
Depreciation as per Section 205	360
10% Preference Share Capital	1,500

Past Accumulated Losses	1,500
Transfer to Debenture Redemption Fund	1,200
Unabsorbed Depreciation as per section 205	560
Interest on Loans & Advances	252
Transfer to General Reserves	600

Calculate profit available for Equity shareholders, presuming tax rate of 40%.

Solution:

		Rs. (000)
PBIT (as given)		5782
Less interest		252
		5530
Less provision for transfer @ 40%		2212
		3318
Add Depreciation as per books (Revaluation)		182
		3500
Less Depreciation as per section 205		360
		3140
Less : Unabsorbed Depreciation		560
		2580
Less Accumulated Past Losses		1200
		1380
Less Transfers – Debentures Redemption Fund	150	
General Reserve	600	750
		630
Less Preference Dividend		150
Profit available to equity shareholders		**480**

Check Your Progress C

1. Gross Profit is the result of two variables

   (i) Turnover and (ii) ………………….

2. Turnover is the total of:

   (i) Gross Profit and (ii) ………………….

3. Operating profit is equal to

   (i) …………………. Operating Expenses

4. Operating expenses include:

   (i) …………………. (ii) ………………….

   (iii) ………………….

5. Financial expenses are treated as ………………….

6. When non-cash charges are added back to net profit the resultant is………………….

7. Non-cash charges include:

   (i) ………………….

   (ii) ………………….

   (iii) ………………….

3.5 CONCEPTS OF CAPITAL

There are certain key terms which are used in the process of analysis of financial statements and to draw certain conclusions about judging the company's networth, liquidity, solvency and credit worthiness etc.

3.5.1 Capital Employed

The term capital employed has been defined as the finances deployed by an enterprise in it's fixed assets, investments and working capital. However, if the investments are non-business or non-trading, the same may be excluded from the capital employed.

The capital employed can be worked out by two methods:

First Method: Capital Employed = Fixed assets (Less Depreciation) + Net working capital (Current Assets Current Liabilities)

Since spare funds are used to buy government, semi-govt, or commercial securities, the same are treated as non-trading assets. Hence, such funds are not used for business purposes.

Second Method: Capital employed can also be worked out and expressed as the total sum of Share capital (Preference & Equity both), reserves (accumulated till date) and long-term liabilities (loans & debentures) as reduced by fictitious assets such as Debit balance of Profit and Loss account, Preliminary expenses, Discount on issue of Shares and Debentures and non-business assets.

It should be noted that certain intangible assets which have been generated over the years and no payment has been made to acquire them, are not considered for the purpose of determining capital employed. These intangible assets include goodwill, patents, copyrights, trade marks etc.

Thus capital employed = Paid-up share capital (Preference & Equity) + Reserves + Accumulated profits + Profit on Revaluation – Revaluation Loss Fictitious assets–intangibles (generated.)

Average Capital Employed

It is calculated by adding the capital employed in the beginning and at the end divided by two. Alternatively, half of the current year's profits may be added to the capital employed in the beginning or subtracted from the capital employed at the end to arrive at the figure of average capital employed which fairly represents capital employed throughout the year.

It should be remembered that when capital employed is calculated for the purpose of determining the rate of net profit on capital employed then, debentures and loans are excluded for the purpose of computing the capital employed because net profit does not include interest on loans and debentures.

Illustration 8

From the following Balance Sheet, calculate capital employed under both the methods:

Liabilities	Rs.	Assets	Rs.
9% 2500 preference shares of Rs. 100 each	2,50,000	Goodwill	50,000
50,000 equity shares of Rs. 10 each	5,00,000	Fixed Assets	9,00,000
Reserve Fund	4,50,000	Investment in Govt.	1,00,000
10% Debentures	2,50,000	Securities	
Provision for Taxation	50,000	Current Assets	5,00,000
Creditors	1,25,000	Preliminary Expenses	50,000
		Discount on issue of Debentures	25,000
	16,25,000		16,25,000

Fixed assets are value at Rs. 9,25,000

Solution :

Computation of capital employed: (First Method)

		Rs.
Fixed Assets (after revaluation)		9,25,000
Current Assets		5,00,000
		14,25,000
Less : Creditors	50,000	
Provision for Taxation	1,25,000	1,75,000
		12,50,000

Alternatively: (Second Method)

		Rs.
9% Preference Share Capital		2,50,000
Equity Share Capital		5,00,000
Reserve Fund		4,50,000
10% Debentures		2,50,000
		14,50,000
Add: Revaluation Profit		25,000
		14,75,000
Less : Goodwill	50,000	
Investment	1,00,000	
Preliminary Expenses	50,000	
Discount on issue of Shares & debentures	25,000	2,25,000
Capital Employed		12,50,000

3.5.2 Shareholders Funds

Shareholders funds are also referred as net worth which is equal to the excess of total assets (excluding fictitious) over the liabilities. This represents the amount belonging to shareholders i.e. what amount the shareholders will be paid, had there been liquidation of the company.

Hence, Shareholders Funds = All Assets (excluding fictitious) less Liabilities (Short-term and Long-term both)

or

Shareholders Funds = Preference Share Capital + Equity Share Capital + Reserves + Accumulated Profits (Capital/Revenue) Fictitious Assets Assets which are worth less + Revaluation profit Revaluation Loss.

Illustration 9

From the following information compute shareholders' funds:

11% Preference Share Capital	3,00,000	Goodwill	2,50,000
Equity Share Capital	7,00,000	Fixed Assets	10,00,000
Reserves (Revenue)	1,50,000	Investments	2,50,000
Capital Reserves	75,000	Current Assets	3,75,000
Securities Premium	1,25,000	Preliminary Expenses	80,000
9% Debentures	5,00,000	Discount on Debentures	45,000
Current Liabilities	1,50,000		
	20,00,000		20,00,000

Fixed assets include Rs. 40000 for Patents which are considered useless and Freehold Premises which is valued Rs. 75000 more than its book value. Goodwill is to be valued at Rs. 2,20,000.

Solution:

Computation of Shareholders' Funds

First Method

		Rs.
Goodwill		2,50,000
Fixed Assets		10,00,000
Investments		2,50,000
Current Assets		3,75,000
Less: 9% Debentures	5,00,000	18,75,000
Current Liabilities	1,50,000	
Revaluation Loss:		
Patents	40,000	
Goodwill	30,000	7,20,000
		11,55,000
Add : Revaluation Profit (Freeholder premises)		75,000
Shareholders Funds		12,30,000

Second Method: Shareholders' Funds may also be computed as follows:

		Rs.
Pref. Share Capital		3,00,000
Equity Share Capital		7,00,000
Revenue Reserve		1,50,000
Capital Reserve		75,000
Securities Premium		1,25,000
		13,50,000
Less Preliminary Expenses	80,000	
Discount on debentures	45,000	
Revaluation Loss (Patent Rs. 40,000 + Goodwill Rs. 30,000)	70,000	1,95,000
Shareholders Funds		11,55,000
Add: Revaluation Profit (Freehold Premises)		75,000
Shareholders' Funds		12,30,000

3.5.3 Shareholders' Equity

It is the interest of equity shareholders in the net assets of the company. However, in case of liquidation it is represented by the residual assets meeting prior claims. If the claims of the preference shareholders are subtracted from the shareholders' funds the remaining balance is termed as equity shareholders' equity.

Shareholders' Equity = Shareholders' Funds Preference Shareholders claim

In the above illustration 9, Equity Shareholders' equity will be Rs. 9,30,000 Rs. 2,30,0003,00,000). That is Shareholders Funds less Preferences Share Capital, if the Preference Shares are participating.

It is to be noted that "Shareholders 'Equity" includes preference share capital also as against the "Equity Shareholders' equity" which expressly excludes preference share capital and other claim thereof.

3.5.4 Debt Funds

Debt Funds are represented by outside liabilities. It is also known as "external equities". It consists of short-term as well as long-term liabilities. Debt funds are in the form of debentures, loans and borrowings, and current liabilities such as creditors, bills payable, bank overdraft and short term bank credit. By and large these current liabilities are always available year after year on a permanent basis, thus become a part of debt funds.

However, there is no unanimity or consensus on this point. Some authors do not treat current liabilities as a part of debt funds, especially for the purpose of calculating debt-equity ratio because of the following reasons:

i) Current liabilities are of a short-term nature and the liquidity ratios are calculated to judge the ability of the firm to honour current obligations.

ii) Current liabilities vary from time to time within a year and interest thereon has no relationship with the book value of current liabilities.

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The reasons for taking both short-term and long-term debts are as follows:

i) When a firm has an obligation, no matter whether it is of short-term or long-term nature, it should be taken into account to evaluate the risk of the firm.

ii) Just as long-term loans have a cost, short-term loans do also have a cost.

iii) As a matter of fact, the pressure from the short-term creditors is often greater than that of longterm loans.

3.5.5 Net-working Capital Employed

Net working capital implies to the "funds available for conducting day-to-day operations of an enterprise". It can also be referred as excess of current assets over current liabilities. Hence working capital is the results of two variables viz current assets and current liabilities. A change in the amount of either of two variables brings about a change in the amount of working capital employed.

Net Working Capital Employed = Current Assets Current Liabilities.

Current assets refer to "cash and other assets which are expected to be converted into cash or consumed in the production of goods or rendering of services in the normal course of business. This includes Stock, Debtors, Bill Receivable, Short-term Trade Investment or Marketable Securities & Pre-paid Expenses etc.

Current Liabilities are those liabilities which have to be paid within a normal course of business (within a year). It includes Creditors, Bills payable, Bank-overdraft, Short-term Loans, Outstanding Expenses of other liabilities which fall due for payment in a relatively short period, not more than twelve months.

An enterprise should employ enough working capital so that it can meet its current obligations to keep the enterprise on the margin of safety. However, the margin of safety should not be big enough that the most of the funds remain idle. Otherwise the company cannot make optimum use of the funds employed. The ideal amount of net working capital to be employed, according to traditional belief, should be equal to current liabilities i.e. current assets should be double of the amount of current liabilities so that company enjoys better liquidity position and does not become technical insolvent.

3.6 USES OF FINANCIAL STATEMENTS

The financial statements are useful in many ways in the process of decision making. They are the basis of decision making for its users, namely management, investors, creditors, government authorities, etc. Let us now discuss the usefulness of financial statements.

1) Economic Decision-making

Sound economic decisions (of external users) require assessment of the impact of current business activities and development on the earning power of the company. Information about economic resources and obligations of a business enterprise is needed to form judgement about the ability of the

enterprise to survive, to adopt. to grow, to prosper amid changing economic conditions. In this process, the financial statements provide information in evaluating the strength and weaknesses of the enterprise and its ability to meet it's commitments.

2) Investors Decisions

Adequate disclosure in the financial statements is expected to have favourable effect on security process of the company. An informed investor is always in a position to take appropriate and timely decision on investment or disinvestment. Financial statements and annual reports provide necessary information regarding profitability, dividend policy, net worth, intrinsic value of shares. Earnings Per Share (EPS) to assess future prospects to substantiate their investment decisions. The group is not only interested in present health of the enterprise but the future fitness as well. Bankers and financial institutions and foreign institutional investors are always worried about the future solvency of the invested firms.

3) Employees' Decisions

Employees' decisions are usually based on perceptions of a company's economic status acquired through financial statements. Employees and their trade unions use the financial statements to assess risk and growth potential of a company, which helps to settle industrial disputes, avert lockout and strike or to negotiate with the management for wage hike, bonus, higher compensation, more fringe benefits, better working conditions and so on. Labour unions and individual employees use financial statements as the basis for collective bargaining and settlement. This develops sense of belongingness among the workers.

4) Creditors and Financiers

Short-term creditors make use of the financial statements mainly to ascertain the ability of the firm to pay its current liabilities on time and the value of stock and other asset which can be accepted as security against credits granted. Long-term creditors and financiers are more concerned about the firm's ability to repay the principal amount as and when due. From the financial data provided by the periodic statements, it is possible to make projections about the generation of funds and cash flows, which may assure the safety of investment in debentures and loans.

5) Customers' and Competitors' Decisions

Customers and the public in general may use financial statements to predict and forecast future prospect of the company. This information may be important in estimating the value of warranty or in predicting the availability of supporting services or continuing supplies of goods over an extended period of time. Likewise, competitors may analyse financial statements (from competition point of view) to judge the ability of competitor to withstand competition and it's absorbing capacity.

6) Managerial Decisions

Financial statements provide necessary information base for taking all managerial decisions. In the absence of accounting information neither the objectives of the enterprise can be laid down nor measurement and evaluation of performance is possible nor corrective measures can be taken.

Managerial tools such as production budget, sales budget, cash budget, capital budget, and master budget etc. are all the offspring of financial statements. Similarly, wage policy, price policy, credit policy, recruitment policy and other policy matters are decided after careful analysis of financial statements.

7) Government and its Agencies

Government Agencies include taxation authorities and regulatory bodies such as Ministry of Trade & Commerce, Company Law Board, Registrar of Joint Stock Companies, Securities Exchange Board of India (SEBI). These agencies require information for policy decisions purposes. It may be a fiscal policy of Central Board of Direct Taxes (CBDT) or a regulatory policy of Company Law Board and so on, all require financial statements for policy formulation purposes.

8) Others

The financial statements are also useful to stock exchange. brokers, underwriters, press and the public in general. Though their interest and goals being altogether different in nature, yet they require accounting information in the form of financial statements to serve their own ends. For example, researchers may provide some startling facts and findings which may be used by Government to set its economic policy, by regulatory agencies to take regulatory measures and by management to review its own policies and by the public (NGO's) for social reporting purposes.

3.7 LIMITATIONS OF FINANCIAL STATEMENTS

Despite the fact that financial statements are the back-bones of the decision-making process for different levels of executives in an organisation, financial analysts and advisors and other interested persons, these suffer from certain limitations because the facts and figures which are reported may not be precise, exact and final. Again some aspects which may be crucial for decision-making purposes may go unreported. The following are some of the limitations of financial statements:

1) **Periodic nature of statements:** The profit or loss arrived at in the Profit and Loss Account is for a specified period. It does not give any idea about the earning capacity over time. Similarly, the financial position as at the date of Balance sheet is true of that point of time. The likely change in position on a future date is not depicted. Liabilities which were dependent on future events (contingent liabilities) are estimated and shown in the Balance Sheet. They are not accurate figures. Similarly, revenue expenditure is sometimes partly charged to Profit and Loss Account and partly deferred or carried forward. The proportion which is deferred and shown on the asset side of Balance Sheet is based on convenience and depends on the level of earnings relatively to the expenditure. In all these respects the annual statements do not reveal the exact earning capacity or financial state of affairs.

2) **The statements are not realistic:** Financial statements are prepared on the basis of certain accounting concepts and conventions. As a result, the financial position depicted in the statements cannot be considered

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realistic. For example, fixed assets are required to be shown on the basis of their value to the business as represented by their acquisition price less depreciation, not as per the estimated resale price. Also, the Profit and Loss Account invariably includes probable losses but does not include probable income. This is according to the accounting convention of conservation.

3) **Lack of objectivity due to personal judgement:** Values assigned to many items are determined on the basis of the personal judgement of accountants. Hence, relevant amounts shown in the financial statements have no objectivity and they are not verifiable. For instance, estimates of the life of fixed assets and the method of depreciation to be used are based on the personal judgement of accountants. So is the case with valuation of inventories (stock) of materials, work in progress, stores and spare parts, etc. The method of valuation to be adopted depends on the policy at the discretion of management based on their judgement.

4) **Only financial matters are reported:** The financial statements present information in terms of monetary units. There is no information relating to the non- monetary aspects of business operations. Facts which cannot be depicted in money terms are excluded from the statements. Thus, information relating to the development of skill and efficiency of employees, the reputation of management, public image of the firm, and such matters do not find a place in the financial statements. Yet these are very relevant for investors to consider while forming any opinion about the future prospects of the firm.

5) **No Suggestive Approach:** Financial Statements disclose information about the past (historical) i.e. what has happened? But it does not disclose why and how it happened. If a company makes profits or incurs losses, the financial statements will show only the amount of profits or losses made but fails to divulge any details as to why there is an increase or decrease in profits or losses.

6) **Subjective Approach of the Management:** Financial performance (profitability) cannot be taken as the only indicator of managerial performance. The profit figures, to a greater extent, are affected by managerial policy of charging depreciation, writing off fictitious assets, amortisation of intangible assets, allocation of advertisement cost, valuation of stock etc. Likewise, objectivity factor is lost while preparing financial certain statements to depict the financial position of the concern. Further application of certain concepts and conventions does not allow to show the assets at the true current values (cost concept). The assets shown in the Balance Sheet reflect unexpired cost (W.D.V.) However, liabilities are shown at the same figures thereby distrorting the solvency position of the enterprise.

7) **The Conflicting Principles:** According to Principle of conservatism stock may be valued at cost or market price whichever is less. This implies that current assets are shown at cost in one year and at marker price the other year. It shows clear violation of principle of consistency. Similarly the change of method of charging depreciation from straight

line method to written down value method and vice versa highlights contradiction in application of accounting principles. Again, because of flexibility of accounting principles, certain liabilities are not provided for, such as no provision for gratuity payment is made. This is bound to give distorted picture of the financial statements.

8) **Figures are not-self explanatory:** How far the financial statements are useful depends upon the ability of the users to analyse and interpret accounting data for their decision making purposes. Truly accounting is the language of the business but financial statements do not speak themselves. We need certain expertise and tools to make them speak. Every user is not competent to draw conclusions from these statements. Even audited financial statements do not provide a complete and total guarantee of accuracy.

Check Your Progress D

1. Fill in the blanks:

   (a) Final accounts of a company are prepared according to ………. Companies Act………………

   (b) Excess of current assets over current liabilities is called……….

   (c) Shareholders' funds comprise of ……….and ……….

   (d) Liquidity is the ability of the company to meet ……….

   (e) Net worth of the company is equal to ……….

   (f) .... liabilities are shown by means of footnote under the Balance Sheet.

3.8 LET US SUM UP

The financial statements are presented either in horizontal or vertical form. The present practice of the corporate enterprises is to present their annual accounts in vertical form which has now become a modern practice. Under vertical form, in case of Balance Sheet, the liabilities are shown under the heading "Sources of Funds" and the assets are shown under the heading "Application of Funds". A summarized Profit and Loss Account is prepared to know the profit or loss and the details of the items are shown separately in the form of Annexures.

The concepts of "Reserves" and "Provisions" have its own significance in the preparation of financial statements. The portion of earning whether capital or revenue appropriated by management for a general or specific purpose is known as reserve. A reserve may be a revenue reserve or capital reserve. A revenue reserve may be either a general reserve or specific reserve. General reserve is created to meet a contingent liability. A specific reserve is created for a specific purpose. It may be created to maintain a stable rate of dividend or to meet redumption of debentures, etc. A reserve which is not created out of 'divisible profits' is called 'capital reserve' and is generally created out of capital profits. Capital profits are not available for distribution as dividends. A reserve which is not disclosed in the Balance Sheet is called as 'Secret Reserve'. Secret reserves may arise on account of permanent appreciation in the value of assets or permanent diminution in

the value of a liability which is not accounted for in the books of accounts. A provision may be created either against the loss (fall) in the value of assets in the normal course of business operation or against a known liability the amount of which cannot be determined accurately but is estimated only.

Gross profit is the difference between the revenue (sales) and cost of goods sold. If we deduct operating expenses from the gross profit, the resultant figure is 'operating profit'. When interest expense and tax liability are not accounted for while calculating profit or loss, of an enterprise, it is treated as 'Profit before Interest and Tax' (PBIT). When interest expense is subtracted from PBIT before providing any income tax, the resultant figure refers to PBT. PAT refers to net profit after taxes. When all non-cash charges which have been debited to Profit and Loss account are added back to net profit, the amount so arrived at is termed as 'cash profit. There are certain key concepts which are used in the process of analysing financial statements. These concepts are: Capital Employed, Shareholders' Funds, Equity Shareholders' Equity, Debt Fund and Net Working Capital.

The financial decisions are useful in many ways in the process of decision-making. These statements are the basis for decision making for its users, e.g. management, investors, creditors, government authorities, etc. They help us in evaluating the strength and weaknesses of the enterprise and investment decisions. Inpsite of its uses, these statements are subject to certain limitations because the facts and figures which are reported may not be precise, exact and final. Further, some aspects which are crucial for decision making may go unreported.

3.9 KEY WORDS

Vertical form of Balance Sheet: A statement prepared under single column divided in two sections, viz. 'Sources of Funds' and 'Application of Funds'.

Vertical form of Profit and Loss Account: A summarised Profit and Loss Account prepared in vertical form and details of the items are shown separately in the form of annexures.

Residual Profit: Net profit available for equity shareholders.

Secret Reserve: A reserve which is not disclosed in the Balance Sheet which may arise on account of a permanent appreciation in the value of assets or a permanent diminuation in the value of a liability.

Gross Profit: The difference between net sales and cost of goods sold.

Operating Profit: Gross profit minus operating expenses.

Cash Profit: The amount which is arrived at by adding back to net profits those non- cash charges which have been debited to the profit and loss account.

Capital Employed: Long-term funds including owners' capital and borrowed capital.

Net Working Capital: Excess of current assets over current liabilities.

3.10 ANSWERS TO CHECK YOUR PROGRESS

A 1 (a) Reserves and surplus, (b) Miscellaneous expenditure, (c) Fixed assets, (d) Current liabilities and provisions, (e) Current liabilities

and provisions, (f) Contingent liability (g) Reserves and surplus, (h) Current assets, (i) Loans and advances or a deduction from liability for tax, (j) Reserves and surplus.

B 1. Provision, 2. Revenue reserves, 3. Provision, 4. General reserve, 5. Secret reserve, 6. Reserve.

C. 1. Cost of goods sold, 2. Cost of goods sold. 3. Gross profit,

4. (i) Factory overheads, (ii) Office and administrative overheads, (iii) Selling and distribution overheads, 5. Non-operating expenses, 6. Cash profit, 7. (i) Depreciation. (ii) Discount on issue of shares and debentures written off, (iii) Preliminary expenses written off.

D. 1 (a) Schedule VI, 1956, (b) Net working capital, (c) Share capital, reserves and surplus, (d) Short-term Debts, (e) Excess of total assets over the liabilities, (f) Contingent liabilities.

3.11 TERMINAL QUESTIONS

1) Write notes on:

   a) Horizontal presentation of Balance Sheet, and

   b) Vertical presentation of Balance Sheet.

2) "Balance Sheet is a statement of assets and liabilities or sources and uses of capital or both". Comment.

3) What are the financial statements? How far are they useful for decision-making purposes?

4) Write a note on nature and limitations of financial statements.

5) Z Ltd. made a loss of Rs. 50,000 after providing depreciation of Rs. 1,00,000 in 2002. In 2003 the company earned a profit of Rs. 3,00.000 before charging depreciation of Rs. 75,000. Calculate

   a) the amount available to equity shareholders.

   b) Also find out cash profit for the year 2002 and 2003.

   (Ans: (a) Rs. 1,25,000 (b) Rs. 50,000 and Rs. 3,00,000)

6) From the following calculate Gross Profit, Operating Profit, Profit before Tax (PBT) and Profit after Tax (PAT). The balance of profit standing to the credit of Profit and Loss Account after making following adjustments Rs. 61,000.

	Rs.
Depreciation	85,000
Proposed Dividend	1.50,000
General Reserves	45,000
Dividend Received	10,000
Loss on sale of fixed assets	23,000
Indirect Business Expenses	3,05,000
However, Income tax @ 50% has not been provided for.	

(Ans: Gross Profit :Rs. 6,53,000
Net Profit : Rs. 2,50,000 (PBT) &Rs. 1,25,000 (PAT)
Operating Profit : Rs, 2,40,000)

7) Explain the purpose and procedure of calculating the following:

i) Gross Profit ii) Operating Profit

iii) PBIT iv) PAT

8) An inexperienced accountant has prepared the balance sheet of ABC Ltd. as follows:

Balance Sheet of ABC Limited

Liabilities	Rs.	Assets	Rs.
Trade Creditors	80,900	Stock:	
Advances from Customers	42,260	In hand	3,60,480
Share Capital	8,00,000	With Agents	24,300
Profit & Loss A/c	45,630	Cash in hand	23,540
Provision for taxes	95,000	Investments	20,000
Proposed Dividend	59,000	Fixed Assets:	
Loan to Managing Director	5,000	Land	1,80,000
General Reserve	75,000	Plant and Machinery (W.D.V.)	4,10,000
Development Rebate Reserve	30,000	Debtors 2,15,450	
Provision for Contingencies	23,000	Less: Provision for Bad Debts 9.300	2,06,150
Share Premium A/c	22,000	Bills Receivable	5,000
Forfeited Shares	3,000	Amount due from Agents	51,320
	12,80,790		12,80,790

Redraft the above Balance Sheet in the vertical form prescribed by Indian Companies Act, 1956 giving necessary details yourself.

9) From the following prepare a Balance Sheet in vertical form as on 31st March 2021

Sundry Debtors	612500
Profit and Loss A/c (Dr.) (Current year)	150000
Miscellaneous Expenses	29000
Investments	112600
Loose Tools	25000
Securities Premium	237500
Securities Premium	85000
Advances to staff	27500
Cash and Bank Balances	137500
Advances	186000
Sundry Creditors	572500

Term Loan	500000
Capital work-in-progress	100000
General Reserve	1025000
Finished Goods	375000
Gross Block	2575000
Stores	200000
Provision for doubtful debts	10100
Loans from Customers	100000
Share Capital: Equity Shares	150000
10% Preference Shares	500000

Additional Information:

(1) Terms Loans are secured (2) Depreciation on fixed Assets Rs. 2,50,000

(2) From the following particulars prepare profit and Loss account for the year ended 31st March, 2021 and a Balance Sheet as on that date in the vertical form. The company has an authorised capital of Rs. 50,00,000 divided in to 2,50,000 equity of Rs. 10 each and 2 50,000 10% Preference shares of Rs. 10 each.

Debit Balances	Rs. (000)	Credit Balances	Rs. (000)
Materials Purchased	1233	4% Debentures	500
Furniture & Fittings	150	Equity Share Capital	1500
Stock (1.4.2004)	665	10% Preference Share Capital	500
Discounts and Rebates	30	Bank Overdraft	757
Patents	375	Sundry Creditors	240
Carriage Inwards	57	Sales	3617
Rent, Rates & Insurance	55	Transfer Fees	7
Wages	1305	Rent Received	30
Coal & Coke	63	Profit and Loss A/c (1.4.04)	67
Bank Balance	20		
Cash in hand	8		
Debentures Interest (for 6 month)	10		
Bank Interest	91		
Preliminary expenses	10		
Calls-in Arrears	10		
Freehold Premises	1250		
Plant and Machinery	750		
Tools and Equipments	150		
Goodwill	375		
Sundry Debtors	266		
Bills Receivable	134		
Advertisement	15		

Commission and Brokerage	68		
Business Expenses	56		
Repairs	47		
Bad Debts	25		
	7218		7218

Additional Information:

The Closing Stock was valued at Rs. 712000. Outstanding liabilities for wages Rs. 25,000 and for business expenses Rs. 25,000 charge depreciation on :

Plant and Machinery	@	5%
Tools and Equipments	@	20%
Patents	@	10%
Furniture & Fixtures	@	10%

Provide a Reserve of 2% on Debtors for doubtful debts after writing of Rs. 16,000 as bad debts. Write off preliminary expenses Rs. 5000. Transfer Rs. 50,000 to Debenture Redemption Fund. A dividend of 10% was declared. Corporate Income tax 5-% is to be provided. Ignore dividend tax.

Hints

1. Dividend @ 10 % on paid up capital:

Preference	50,000
& on Equity Capital @ 10%	1,49,000
(Rs. 150000—1000)	1,99,000

2. Balance of Profit and Loss Account after appropriation: Rs. 38,000

   [Ans: Net Profit Rs. 2,20,000 (after tax)]

SUGGESTED READINGS

1. Report of the study group on the "Objectives of Financial Statements" AICPA, 1973
2. Accounting for Financial Statements Presentation' by Smith & Keith.
3. Financial Accounting "A Simplified Approach" by Dr. Naseem Ahmed— Atlantic Publishers & Distributors 2002, Darya Ganj, New Delhi.

Note: These questions will help you to understand better. Try to write answers to them. But do not submit your answers to the university. These are for your practice only

UNIT 4: TECHNIQUES OF FINANCIAL ANALYSIS

Structure

4.0 Objectives

4.1 Introduction

4.2 Techniques of Financial Analysis

4.3 Common Size Statements

4.4 Comparative Statements

4.5 Trend Analysis

4.6 Ratio Analysis

- 4.6.1 Liquidity Analysis Ratios
- 4.6.2 Profitability Analysis Ratios
- 4.6.3 Profitability in Relation to Capital Employed (Investment)
- 4.6.4 Activity Analysis Ratios
- 4.6.5 Long-Term Solvency Ratios
- 4.6.6 Coverage Ratios

4.7 Dupont Model of Financial Analysis

4.8 Uses of Ratio Analysis

4.9 Limitations of Ratio Analysis

4.10 Let Us Sum Up

4.11 Key Words

4.12 Terminal Questions

4.13 Further Readings

4.0 OBJECTIVES

The objectives of this unit are to:

- explain the need for analysing financial statements;
- know different methods of analysing the financial statements;
- understand how investors and others examine the performance of the company through ratio analysis;
- explain a few advanced financial analysis models with the help of ratio analysis; and
- caution the users of financial statements for some of the limitations of financial statement analysis.

4.1 INTRODUCTION

In the previous units you would have been familiarised by many terms like what is a firm, an entity, profit, loss, balance sheet, profit and loss account etc. You would have seen that any business unit contains three major activities — namely; operating, financing, and investing. All the three activities

transactions are contained in three major financial statements namely, the Balance Sheet, the Profit and Loss Account, and the Cash Flow Statement. While the Balance Sheet reveals the statement of wealth at any given point of time, Profit and Loss Account reveals the income earned and expenses incurred during the financial year. Cash Flow Statement reflects the cash inflow or outflow of the above three major activities mentioned.

Most small investors like you invest in shares of varied companies with minimum knowledge on the company itself. However, in most cases it so happens that the small investors who do not understand much about the financial reports take the help of the mutual funds. You would be reading more about mutual funds in some other course. To familiarise you with the term, mutual funds are trusts or entities managed by investment trusts and registered under the Trust Act. They pool the money of the small investor and do the investment in shares and debentures or bonds on behalf of them. Most often than not, the mutual funds give better returns to the individual and small investors in comparison to the returns they would have earned had they invested by themselves. This is because the mutual funds are specialists in investing and gain significant experience and expertise in investing as against the naive investors. The main reason being investors often do not find the time to analyse and evaluate the financial credence of the company. This requires a basic understanding of the financial statements disclosed by the company. Hence, a layman who wishes to invest in companies or prefer to have any sort of dealings with the company has to perform an analysis of the financial statements. This holds good for any stakeholder of the company, be it the employee, or the shareholder, or the supplier, the Government, the Tax authorities, the bankers and lenders etc. The lending institutions need to analyse the financial statements to make sure the company would be able to repay the loans. Similarly, the shareholder would like to analyse the financial statements to find out the prospects of the company and whether it would pay sufficient returns for the money invested. The Government would also be interested in analyzing the financial statements of the company to check whether the company is performing well like the other companies in the same industry or whether it is functioning as a sick company. Hence the details taken out of the financial statement analysis differs based on who analyse the financial statements. Given the various objective of financial statement analysis lets move on to find out how exactly financial statement analysis is performed.

Check Your Progress A

1) Who and why would any one perform financial statement analysis?

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2) Being an employee of your company, would you be interested in the analysis of the financial statements of your company? If yes, why and what would be analysing?

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4.2 TECHNIQUES OF FINANCIAL ANALYSIS

Investors buy shares based on all kinds of information about a company. For example, it may be that a particular firm has invented a new drug, or is a takeover candidate, or has started exports to a boom region of the world or has discovered new seams of gold. Any of these factors may be sufficient to give the shares a big short-term boost.

But, despite all this, it is important to realise that profits are the key to a company's long-term performance. Without profits a company cannot invest in growth, cannot repay loans and cannot pay dividends. Eventually, its very survival may be in doubt. And so most analysis is directed towards understanding the company's profits.

Financial analysis is done to try and predict the future performance of a company. This of course has some limits. This is because your analysis will essentially be of historical figures; yet you are trying to forecast the future. However, there are experts who use technical analysis to predict the future stock prices using historical data, where mostly the reality is not predicted. Also, you would have noticed that analysis by some of the world's top economists was unable to predict the recent Asian economic implosion. So you should be aware of the fact that there are some pretty important limitations to what you can expect from financial analysis.

Apart from this, its highly important to check whether the company is operating efficiently. In the sense that it does not suffice by investing in the growth. It is equally important that the company operates efficiently in comparison to its competitors.

It is also necessary to be analyse the debt levels and how these may affect the company's performance. When interest rates are low it can make good strategic sense for a company to borrow heavily in order to invest for growth. But once interest rates start heading up again it may be that the company's profits come under threat, and it is important to gauge its ability to repay its loans.

So mostly financial analysis would be directed towards three major areas— Profitability, Productivity and Risk (determined by leverage or debt equity mix).

In order to perform the analysis, we need to do some sort of comparison. Generally the comparison done could be of the following types: 1) Comparing the performance of the interested company with the competitors, 2) Comparison with the benchmark (either the competitor or some other benchmark company, 3) Comparison with the industry averages, and 4) Comparing the performance of the company over the years. Second and third type of comparison is called **cross section analysis** and fourth type of comparison is called **time series analysis.**

Hence this sort of analysis requires some organized techniques such as:

1) Common size statement analysis
2) Ratio analysis
3) Comparative Statement Analysis (Cross Section analysis)

4) Trend Analysis (Time Series analysis)

5) Du Pont Analysis (Structured Ratio Analysis).

All the above are widely used techniques by experts across the world. You will be learning the above techniques in detail in the coming sections.

Check Your Progress B

1) List out the different techniques of performing financial analysis?

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2) List out the major components that you would concentrate while analysing the financial statements.

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3) Suppose if you are interested in investing in any of the software company. How would you decide which company to invest in the software industry. List some of the factors that you would analyse and the procedure of analysis.

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4.3 COMMON SIZE STATEMENTS

When comparing your company with industry figures, make sure that the financial data for each company reflect comparable price levels, and that it was developed using comparable accounting methods, classification procedures, and valuation bases.

Such comparisons should be limited to companies engaged in similar business activities. When the financial policies of two companies differ, these differences should be recognized in the evaluation of comparative reports. For example, one company leases its properties while the other purchases such items; one company finances its operations using long-term borrowing while the other relies primarily on funds supplied by shareholders and by ploughing back the earnings. Financial statements for two companies under these circumstances are not wholly comparable.

Hence, you require some comparable basis to overcome this problem. Hence we use common size statement. Common Size Statement represents a financial statement that displays all items as a percentage of a common base figure. Such a statement may be useful for noting changes in the relative size of the various elements.

In other words, it is a statement in which all items are expressed as a percentage of a Base figure, which is used for analyzing trends and changing relationship among Financial statement items. For example, all items in each year's income statement could be presented as a percentage of Net sales. This technique is quite useful when you are comparing your business to other businesses or to averages from an entire industry, because differences in size are neutralized by reducing all figures to of common-size ratios. Industry statistics are frequently published in common-size form.

When performing a ratio analysis (you would be learning in detail about this in the next section) of financial statements, it is often helpful to adjust the figures to common-size numbers. To do this, one has to change each line item on a statement to a percentage of the total. For example, on a balance sheet, each figure is shown as a percentage of total assets, and on an income statement, each item is expressed as a percentage of sales.

Hypothetical Common-Size Income Statement

	2003	2002	2001
Sales	100%	100%	100%
Cost of Sales	65%	68%	70%
Gross Profit	35%	32%	30%
Expenses	27%	27%	26%
Taxes	2%	1%	1%
Profit	6%	4%	3%

The following gives the common size financial statements of ABC Industries Ltd.

Common Size Balance sheet Ratios of ABC Industries Ltd.

YEAR	2003-04	2002-03	2001-02	2001-02	1999-2000
SOURCES OF FUNDS:					
Share Capital	2.78	2.27	4.23	5.28	5.15
Reserves and Surplus	57.80	56.99	55.07	49.55	48.51
Total Shareholders Funds	**60.59**	**59.26**	**59.30**	**54.83**	**53.65**
Secured Loans	23.49	30.54	16.34	23.48	23.76
Unsecured Loans	15.92	10.20	24.37	21.69	22.59
Total Debt	**39.41**	**40.74**	**40.70**	**45.17**	**46.35**
Total Liabilities	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
APPLICATION OF FUNDS:					
Gross Block	100.84	100.57	101.83	95.40	80.90
Less: Accum. Depreciation	36.82	32.45	47.55	36.13	29.03
Net Block	64.01	68.12	54.27	59.27	51.87
Capital Work in Progress	3.98	3.30	2.06	1.30	14.91
Investments	13.41	8.29	27.01	23.79	18.63
CURRENT ASSETS, LOAN AND ADVANCES:					
Inventories	14.98	10.71	9.24	7.15	6.11
Sundry Debtors	5.94	5.86	4.55	3.30	1.98
Cash and Bank Balance	0.29	3.79	0.40	4.24	21.24
Loans and Advances	25.07	22.00	22.44	16.10	7.38

Less : Current Liab. And Prov.					
Current Liabilities	24.83	19.60	16.51	12.61	19.77
Provisions	2.94	2.61	3.47	2.55	2.36
Net Current Assets	18.50	20.16	16.66	15.64	14.59
Miscellaneous Expenses not w/o	0.09	0.14	0.00	0.00	0.00
Total Assets	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Note : All items under the 'Use of Funds' side have been presented as a percentage of Total Assets and all items under the "Sources of Funds" are presented as a percentage of Total Liabilities.

Common Size Ratios of Income Statement of ABC Industries Ltd.

Year	2003-04	2002-03	2001-02	2000-01	1999-2000
Income					
Sales Turnover	100.00	100.00	100.00	100.00	100.00
Other Income	2.37	2.64	4.27	6.16	5.92
Stock Adjustments	4.86	2.00	1.38	2.17	1.43
Total Income	**107.23**	**100.64**	**105.65**	**108.33**	**104.49**
Expenditure:					
Raw Materials	68.42	62.08	53.71	44.98	32.01
Excise Duty	8.77	7.23	11.21	15.47	18.16
Power and Fuel Cost	1.44	1.63	4.29	2.77	2.54
Other Manufacturing Expenses	2.97	3.22	4.54	6.85	9.73
Employee Cost	1.23	1.18	1.80	2.26	3.32
Selling and Administration Expenses	4.99	4.19	5.10	4.72	5.90
Miscellaneous Expenses	0.72	1.15	0.86	1.34	1.70
Less: Preoperative Expenditure Capitalised	0.01	0.00	0.01	0.02	0.11
Profit before Interest, Depreciation and Tax	18.70	19.98	24.16	29.95	31.23
Interest and Financial Charges	3.10	4.02	5.28	6.36	6.86
Profit before Depreciation and Tax	15.59	15.96	18.87	23.59	24.37
Depreciation	5.66	6.20	6.80	8.07	8.05
Profit Before Tax	9.93	9.75	12.08	15.52	16.32
Tax	1.74	2.61	0.59	0.36	0.28
Profit After Tax	8.19	7.14	11.49	15.17	16.04
Adjustment below Net Profit	0.00	0.01	0.00	0.00	0.00
P & L Balance brought forward	5.44	4.76	7.56	7.15	9.86
Appropriations	6.96	5.91	9.66	11.34	15.24
P & L Bal. carried down	6.67	6.00	9.38	10.98	10.66
Equity Dividend	1.39	1.46	1.95	2.43	3.30
Preference Dividend	0.04	0.00	0.02	0.22	0.22
Corporate Dividend Tax	0.18	0.00	0.20	0.29	0.38
Equity Dividend (%)	0.10	0.10	0.18	0.25	0.35
Earning Per Share (Rs.)	0.06	0.07	0.11	0.14	0.17
Book Value	0.40	0.52	0.49	0.65	0.94
Extraordinary Items	0.01	0.70	0.05	0.32	0.06

Notes : All figures are expressed as a percentage of sales.

Vertical and Horizontal Analysis

Vertical analysis is the computation of percentages, ratios, turnovers, and other measures of financial position and operating results for one fiscal period. When these figures are compared with those from other periods, it becomes horizontal analysis. For instance if you would have done the above conversion into percentages for ABC industries for only year 2003 then it would have been Vertical analysis, But what has been presented to you is the Horizontal Analysis of the common size financial statements.

Activity 3

1) Visit any company's website and download the annual report. Prepare common size statement for two year period and write down your understanding.

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2) What do you think is the purpose for the Common Size Financial Statement?

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3) Take any software firm and a manufacturing firm and perform common size financial statement. Examine the difference and explain why they are different.

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4.4 COMPARATIVE STATEMENTS

When you first look at a company's current financial figures it can be quite overwhelming and, more often than not, a little confusing. But, if you were to compare that data to that of the business's historical performance, it becomes significantly more meaningful. Hence it would make more sense to compare the company's current financial numbers with monthly, quarterly, or annual data from previous fiscal years. In this process you should notice some trends that will help you map out the future of your business.

This is done the same way common size financial statement is done but a little differently. A hypothetical example would help you understand the importance of the same. The following example gives the comparative financial statements of a hypothetical XYZ company. Despite calculating the percentage for each of the year that is the vertical analysis, the horizontal analysis has also been performed in the sense that the conversion is done over the years. This facilitates in comparing the performance over the year but also with the industry average. The industry average has also been given for the XYZ Company.

XYZ Company
Comparative Income Statement for Fiscal Years Ended December
(Rs. in Thousands)

	Audited 1999		Audited 2000		Audited 2001		Audited 2002		Audited 2003		Industry Average
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%	%
Sales	33,013.0	100.0	33,395.0	100.0	37,021.0	100.0	40,733.0	100.0	43,412.0	100.0	100.0
Cost of Sales	19,305.0	58.5	19,891.0	59.6	21,836.0	59.0	23,779.0	58.4	27,142.0	62.5	65.7
Gross Profit	13,708.0	41.5	13,504.0	40.4	15,185.0	41.0	16,954.0	41.6	16,270.0	37.5	34.3
Operating Expenses	12,875.0	39.0	12,516.0	37.5	13,728.0	37.1	15,657.0	38.4	15,862.0	36.5	
Operating Profit	833.0	2.5		2.9	1,457.0	3.9	1,297.0	3.2	408.0	1.0	
Interest Expense	726.0	2,2	647.0	1.9	522.0	1.4	526.0	1.3	566.0	1.3	
Other Income	83.0	0.3	373.0	1.1	33.0	0.1	30.0	0.1	189.0	0.4	
Pre-Tax Profit	190.0	0.6	714.0	2.1	968.0	2.6	801.0	2.0	31.0	0.1	
Taxes	151.0	0.5	226.0	0.7	27.0	0.1	21.0	0.1	2.0	0.0	
Net Profit	39.0	0.1		1.4	941.0	2.5	780.0	1.9	29.0	0.1	1.8
Depreciation	769.0	2.3		2.1	612.0	1.7	540.0	1.3	520.0	1.2	
Sales to Assets	2.4		3.0		3.2		3.3		3.2		
% Return on Assets (Before Tax)	1.4		6.5		8.3		6.5		0.2		3.4
% Return on Equity (Before Tax)	12.1		38.5		39.8		24.7		1.2		13.7
Pre-Tax interest Cover	1.3		2.1		2.9		2.5		1.1		,

XYZ Company
Comparative Balance Sheet for Fiscal Years Ended December
(Rs. in Thousands)

	Audited 1999		Audited 2000		Audited 2001		Audited 2002		Audited 2003		Industry Average
Assets	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%	%
Cash	733.0	6.4	600.0	6.6	494.0	5.1	**180.0**	**1.7**	232.0	2.0	6.8
Other Current	727.0	6.3	499.0	5.5	712.0	7.3	724.0	7.0	888.0	7.8	2.5
Accounts Receivable	2,789.0	24.2	2,186.0	24.1	2,137.0	22.0	2,155.0	20.9	2,220.0	19.4	17.2
Inventories	4,949.0	42.9	4,027.0	**44.4**	4,778.0	49.1	5,795.0	56.2	5,909.0	51.7	40.3
Total Current Assets	9,198.0	79.8	7,312.0	80.6	8,121.0	83.5	8,854.0	85.8	9,249.0	80.9	66.8
Net Fixed Assets	1,875.0	16.3	1,401.0	15.4	1,319.0	13.6	1,280.0	12.4	2,070.0	18.1	25.9
Other Assets	0.0	0.0	0.0	0.0	97.0	1.0	74.0	0.7	0.0	0.0	7.0
Notes Receivable	90.0	0.8	82.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Intangibles	363.0	3.1	278.0	3.1	193.0	2.0	107.0	1.0	116.0	1.0	
Total Assets	11,526.0	100.0	9,073.0	100.1	9,730.0	100.1	10,315.0	99.8	11,435.0	99.9	100.0
Total Liability and Equity											
Other Current Liability	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Notes payable	2,500.0	21.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4
Current Maturities	999.0	8.7	294.0	3.2	304.0	3.1	265.0	2.6	99.0	0.9	2.0
Accounts Payable	1,313.0	11.4	992.0	10.9	1,182,0	12.1	1,751.0	17.0	922.0	8.1	15.8
Accrued Expenses	1,300.0	11.3	1,179.0	13.0	1,221.0	12,5	1,158.0	11.2	1,646.0	14.4	
Taxes payable	410.0	3.6	594.0	6.5	377.0	3.9	507.0	4.9	0.0	0.0	
Notes payale officer	0.0	0.0	0.0	- 0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total current Liabilities	6,522.0	56.7	3,059.0	- 33.6	3,084,0	31.6	3,681.0	35.7	2,667.0	23.4	35.5
Long-term Debt	3,174.0	27.5	3,902.0	43.0	4,082.0	42,0	3,392.0	32.9	6,261.0	54.8	20.2
Subord .Long-Term Debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Deferred Taxes	257.0	2.2	257.0	2.8	129.0	1.3	0.0	0.0	0.0	0.0	
Total Liabilities	9,953.0	86.4	7.218,0	79.4	7,295.0	74.9	7,073.0	68.6	8,928.0	78.2	55.7
Equity	1,573.0	13.6	1,855.0	20.4	2,435.0	25.0	3,242.0	31.4	2,507.0	21.9	39.5
Total liab. & Equity	11,526.0	100.0	9,073.0	99.8	9,730.0	99.9	10,315.0	99.9	11,435.0	100.0	100.0
Working Capital	2,676.0	23.2	4,253.0	46.9	5,037,0	51.8	5,173.0	50.2	6,5820	57.6	
Retained Earnings	39.0	0.3	488.0	39.0	941.0	9.7	780.0	7.6	(764.0)	(6.7)	
Current Ratio	1.4		2.4		2.6		2.4		3.5		2.0
Quick Ratio	0.7		1.1		1.1		0.8		1.3		0.7
Debt to Worth	6.3		3.9		3.0		2.2		3.6		1.6

Activity 1

1) Carefully read the comparative income statement of XYZ and write down how the company has performed over the 5 year period and also its performance in comparison to the industry.

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2) Visit any company's website and download their income statement for 5 year period. Perform horizontal analysis. Collect the industry average for the company and list down the performance of the company with respect to the industry average.

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3) List down the usefulness of the comparative financial statements.

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4.5 TREND ANALYSIS

The earlier sections had exposed you to analyzing statements using horizontal and vertical form as well as using the common size financial statements in the comparative form. The horizontal analysis performed there comparing the performance of the XYZ company over the five year period indicates the time series analysis or rather trend analysis. This is called as trend analysis because we are trying to see if there is a pattern in the performance of the company over the year which could help us forecast the performance of the company for the future. Why this is useful? Its utmost useful because we are not only interested in the past performance whereas our utmost interest lies in finding whether the company will continue to perform the same way or in a better way in the coming years. Similar analysis is done for investing in stocks. There are experts in Technical Analysis who perform similar analysis of analyzing the trend of the prince movement of the stock and predicting the future stock price. Similar analysis is done here as well. But how and where can we use the trend analysis of the financial statements?

Trend analysis is a key to recognizing potential problems of a borrower. This is important during the initial review of a loan application, as well as part of on-going monitoring of a loan that has already been disbursed. Sound companies and weak ones may have displayed some of the same trends, however, it is a pattern of many negative trends that indicates a potential problem that needs to evaluated further.

Trend analysis involves spreading the financial statements and comparing similar operating periods (i.e. year to year). This comparative analysis allows the reviewer to identify both positive and negative trends. Once a pattern of negative trends are identified further action should be taken. For a potential

loan, additional information or a detailed explanation should be obtained. The trends should be weighed carefully in making or rejecting the loan. For loans that have already been made, a pattern of negative trends requires fast action. Current financial information may indicate a problem that will enable the reviewer time to react. The following is a general discussion of some trends to look for in the review of financial statements:

1) **Decreasing cash position:** This could be a lower level of cash or cash as a percentage of total assets. Look for changes in deposit activity, draws on uncollected funds, declining average monthly balances, etc.

2) **Slowdown in receivables collection:** Could be an indication of distractions in the business, neglect, changes in collection policies, etc.

3) **Significant increases in accounts receivable:** This could be in the dollar amount, percentage of assets or in accounts receivable to a single customer (need aging of accounts receivable to determine).

4) **Rising inventories:** Either in the dollar amount or as a percentage of total assets. This may be an indication of a need to liquidate excessive or obsolete inventory, lack of attention to purchasing, slowing of sales, etc.

5) **Slowdown in inventory turnover:** This could indicate a slowdown in sales, overbuying, production problems, and/or problems in the purchasing policies of the business.

6) **Changes in sales term/sales policies:** Look for changes from cash sales to instalment sales, leasing instead of selling, and other similar changes.

7) **A decline in liquid assets:** This could be a dollar decline or a decline in current assets (cash, accounts receivable, etc.) to total assets. As current assets decline or become less liquid, a business may experience difficulties meeting current liabilities.

8) **Changes in the concentration of fixed assets:** Both declining and rising concentrations of fixed assets should be reviewed. A decline could indicate that funds needed to purchase fixed assets are being used for other purposes. This can be a significant problem if a business is not replacing, renovating or rehabilitating fixed assets as needed. A rise in fixed assets could be a problem when done at the expense of other assets/operational need. Levels of fixed assets should be compared to both historical financial statements and industry averages.

9) **Revaluation of assets:** A revaluation of assets on the financial statements needs to be justified. If not justified, it impacts the financial picture of the company.

10) **Changes in liens of assets:** Evidence of new subordinated debt should be a concern. It could indicate a deteriorating financial situation.

11) **A high or increasing concentration of assets in intangibles:** The value of intangible assets is difficult to establish. Typically, intangible assets are eliminated from the financial review.

12) **Increases in current debt:** A rise that is tied to a concentration in trade debt or no corresponding increase in assets should be viewed as a risk factor. Increases in long-term debt: Increases in long term debt must be reviewed carefully. If repayment is dependent on higher than historical or reasonable projected sales, a concern should be raised.

13) **An increase or major gap between gross and net sales:** result or lower quality, production problems, out-of-date product lines and other related production and/or market factors.

14) **An increase in debt to capital:** This is of particular concern when the current ratio is low. Undercapitalized firms will typically exhibit poor capital conditions**.**

15) **Increase in cost of goods sold: An** increase may indicated problems in the operation or other expense areas.

16) **Decline in profits compared to sales: The decline** may be a result of poor cost controls, management problems, failure to pass on increases in costs, etc.

17) **Increases in bad debt:** An increase as a percentage of sales usually indicates poor collection procedures, management problems and/or deterioration of the quality of the customer.

18) **Assets rising faster than sales:** This is an indication that increased assets are not creating increases in sales.

19) **Assets rising faster than profits:** Assets are investments designed to create profits. Concerns should be raised when increased assets are not resulting in higher profits.

20) **Significant variations in other areas of the financial statements:** Marked changes should always be examined.

21) **An increase or major gap between gross and net sales:** Result or lower quality, production problems, out-of-date product lines and other related production and/or market factors.

22) **An increase in debt to capital:** This is of particular concern when the current ratio is low. Undercapitalized firms will typically exhibit poor working capital conditions.

23) **Increase in cost of goods sold:** An increase may indicate problems in the operation or other expense areas.

24) **Decline in profits compared to sales:** The decline may be a result of poor cost controls, management problems, failure to pass on increase in costs, etc.

25) **Increases in bad debt:** An increase as a percentage of sales usually indicates poor collection procedures, management problems and/or deterioration of the quality of the customer.

26) **Assets rising faster than sales:** This is an indication that increased assets are not creating increases in sales.

27) **Assets rising faster than profits:** Assets are investments designed to create profits. Concerns should be raised when increased assets are not resulting in higher profits.

28) **Significant variations in other areas of the financial statements:** Marked changes should always be examined.

Apart from the above analysis one could adopt a simpler form of performing trend analysis. This is done by performing what is called as the Index Number Trend analysis.

Index-Number Trend Series

If you are trying to analyze financial data that span a long period of time, mechanically trying to compare financial statements can turn into quite a cumbersome task. If you find yourself in this boat, try to create an index-number trend series to alleviate some of your confusion.

First, choose a base year to which all other financial data will be compared. Usually, the base year is the earliest year in the group being analyzed, or it can be another year you consider particularly appropriate.

Next, express all base year amounts as 100 percent. Then state corresponding figures from following years as a percentage of the base year amounts. Keep in mind that index-numbers can be computed only when amounts are positive.

Hypothetical Example

	2001	2002	2003
Sales	100,000	150,000	175,000
Index-Number Trend	100%	150%	175%

The index-number trend series technique is a type of horizontal analysis that can provide you with a long range view of your firm's financial position, earnings, and cash flow. It is important to remember, however, that long-range trend series are particularly sensitive to changing price levels. For instance, the price level could increase to greater extent for some years. A horizontal analysis that ignored such a significant change might suggest that your sales or net income increased dramatically during the period when, in fact, little or no real growth occurred.

Data expressed in terms of a base year can be very useful when comparing your company's figures to those from government agencies and sources within your industry or the business world in general, because they will often use an index-number trend series as well. When making comparisons, be sure the samples you use are in the same base period. If they aren't, simply change one so they match.

4.6 RATIO ANALYSIS

We have seen that most of us are interested in the bottom line of the company. Or in other words analysing the profitability of a company. While the profit figure is important, it however, does not give the complete picture of the performance of the company. So one should not use the bottom line figure alone as a barometer for some sort of an indicator. That would have severe repercussions. Take for instance two companies A and B of the same industry. A has earned a profit of Rs. 100 Crs. And B has earned Rs. 1000 Crs. for the financial year 2003. Now one would on the face of it say that Company B is better than company A. However, if it should be wise enough

to compare the profit earned with the level of investment made to earn the profit. For instance, company A had spent about 500 Crs to earn Rs 100 Cr. Profit and Company B had spent about Rs. 1000 Cr. to earn Rs. 1000 Cr. profit. So its clear that profitability of company A is higher than company B. In that the profit earned to the investment ratio is higher for company A (100/500 = 20%) compared to company B (1000/10000 = 10%). Hence one should look at profitability and not just profit figures. So the key point is that one has to look into appropriate ratios not just absolute figures for comparison. Hence ratio analysis would help understand the financial results better.

This often means working out a range of ratios. By doing so, a large amount of complex information can be condensed into easily digestible and standardized form, and numerous comparisons between different years for a single company, between companies of varying sizes or between industries can be made. (Note that a ratio in isolation generally has little meaning).

And it is important to note that ratios are just signals, or clues, rather than the answers to complex questions about a company. Some might direct you to a specific problem within the company, but many tell you no more than that something needs further investigation.

A ratio can be expressed in various ways, including as a percentage, a fraction, "a times" figure, a number of days, a rate or as a simple number.

The various ratios that are generally used have been summarized below.

4.6.1 Liquidity Analysis Ratios

A firm needs liquid assets to meet day to day payments. Therefore, liquidity ratios highlight the ability of the firms to convert its assets into cash. If the ratios are low then it means that money is tied up in stocks and debtors. Thus, money is not available to make payments. This may cause considerable problems for firms in the short run. It is often viewed that a value less than 1.5 implies that the company may run out of money as its cash is tied up in unproductive assets.

Liquidity ratio helps in assessing the firm's ability to meet its current obligations. The following ratios come under this category:

i) Current ratio;

ii) Quick ratio; and

iii) Net Working Capital Ratio.

i) Current Ratio

The current ratio shows the relationship between the current assets and the current liabilities. Current assets include cash in hand, cash at bank and all other assets which can be converted into cash in the ordinary course of business, for instance, bills receivable, sundry debtors (good debts only), short-term investments, stock etc. Current liabilities consists of all the obligations of payments that have to be met within a year. They comprise sundry creditors, bills payable, income received in advance, outstanding expenses, bank overdraft, short-term borrowings, provision for taxation, dividends payable, long term liabilities to be discharged within a year. The following formula is used to compute this ratio:

$$\text{Quick Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

ii) Quick Ratio

The acid test ratio is similar to the current ratio as it highlights the liquidity of the company. A ratio of 1:1 (i.e., a value of approximately I) is satisfactory. However, if the value is significantly less than 1 it implies that the company has a large amount of its cash tied up in unproductive assets, so the company may struggle to raise money in the short term.

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$\text{Quick Assets} = \text{Current Assets} - \text{Inventories}$$

iii) Net working Capital Ratio

This working capital ration can give an indication of the ability of your business to pay its bills

Generally a working capital ratio of 2:1 is regarded as desirable. However, the circumstances of every business vary and you should consider how your business operates and set an appropriate benchmark ratio. A stronger ratio indicates a better ability to meet ongoing and unexpected bills therefore taking the pressure off your cash flow. Being in a liquid position can also have advantages such as being able to negotiate cash discounts with your suppliers. A weaker ratio may indicate that your business is having greater difficulties meeting its short-term commitments and that additional working capital support is required. Having to pay bills before payments are received may be the issue in which case an overdraft could assist. Alternatively building up a reserve of cash investments may create a sound working capital buffer. Ratios should be considered over a period of time (say three years), in order to identify trends in the performance of the business.

The calculation used to obtain the ratio is:

$$\text{Net Working Capital} = \frac{\text{Net Working Capital}}{\text{Total Assets}}$$

$$\text{Net Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Illustration 1

The Balance Sheet of X Company Ltd. as on March 31, 2021 is given below. You are required to calculate the following ratios:

i) Current ratio,

ii) Quick ratio,

iii) Net Working capital ratio.

Balance Sheet of X Company Ltd., as on 31.3.2021

Liabilities	Amount Rs.	Assets	Amount Rs.
Share Capital	20,000	Buildings	20,000
Reserves and Surplus	16,000	Plant and Machinery	10,000
Debentures	10,000	Stock	8,000
Sundry Creditors	11,000	Sundry Debtors	7,000

Bank Overdraft	1,000	Prepaid expenses	2,000
Bills Payable	2,000	Securities	12,000
Provision for Taxation	1,000	Bank	2,000
Outstanding Expenses	1,000	Cash	1,000
	62,000		**62,000**

Solution:

i) Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

Current Assets = Cash Rs. 1000 + bank Rs. 2000 + Securities Rs. 12000 + Prepaid expenses Rs. 2000 + Sundry Debtors Rs. 7000 + Stock Rs. 8000

= Rs. 32,000

Current Liabilities = Outstanding expenses Rs. 1000 + Provision for taxation Rs. 1000 + Bills payable Rs. 2000 + Bank overdraft Rs. 1000 + Sundry creditors Rs. 11,000

= Rs. 16,000m.

Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{32,000}{16,000} = 2:1$

ii) Quick ratio = $\frac{\text{Quick Assets}}{\text{Quick Liabilities}}$

Quick Assets = Cash Rs. 1000 + Bank Rs. 2000 + Securities Rs. 12,000 + Sundry Debtors Rs. 7,000

= Rs. 22,000.

Current Liabilities = Sundry creditors Rs. 11,000 + Bills payable Rs. 2000 + Outstanding expenses Rs. 1000 + Provision for Taxation Rs. 1000 + Bank overdraft Rs. 1000

= Rs. 16,000

Quick Ratio = $\frac{\text{Quick Assets}}{\text{Quick Liabilities}}$

$= \frac{22,000}{16,000}$

= 1.37:1

iii) Net Working Capital Ratio = $\frac{\text{Net Working Capital}}{\text{Total Assets}}$

= Current Assets – Current Liabilities

= Rs. 32,000 Rs. 16,000

= Rs. 16,000

Net Working Capital ratio = $\frac{16000}{32000}$

= 1:2

4.6.2 Profitability Analysis Ratios

Profitability ratios are the most significant - and telling - of financial ratios. Similar to income ratios, profitability ratios provide a definitive evaluation

of the overall effectiveness of management based on the returns generated on sales and investment.

Profitability in relation to Sales

Profits earned in relation to sales give the indication that the firm is able to meet all operating expenses and also produce a surplus. In order to judge the efficiency of management with respect to production and sales, profitability ratios are calculated in relation to sales.

There are

i) Gross Profit Margin

ii) Net Profit Margin

iii) Operating Profit Margin

iv) Operating Ratio

i) **Gross Profit Margin**

This is also known as gross profit ratio or gross profit to sales ratio. This ratio may indicate to what extent the selling prices of goods per unit may be reduced without incurring losses on operations. This ratio is useful particularly in the case of wholesale and retail trading firms. It establishes the relationship between gross profit and net sales. Its purpose is to show the amount of gross profit generated for each rupees of sales. Gross profit margin is computed as follows:

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

The amount of gross profit is the difference between net sales income and the cost of goods sold which includes direct expenses. A high margin enables all operating expenses to be covered and provides a reasonable return to the shareholders. If gross profit rate is continuously lower than the average margin, something is wrong. To keep the ratio high, management has to minimise cost of goods sold and improve sales performance. Higher the ratio, the greater would be the margin to cover operating expenses and *vice versa.*

Note : This percentage rate can and will vary greatly from business to business, even those within the same industry. Sales location, size of operations and intensity of competition etc., are the factors that can affect the gross profit rate.

Illustration 2

From the following particulars, calculate gross profit margin.

Trading Account of ABC Company for the year ended March 31, 2021

	Rs.		Rs.
To Opening stock	6,000	By Net sales	96,000
To Net purchases	63,000	By Closing stock	6,000
To Direct expenses	9,000		
To Gross profit	24,000		
	1,02,000		1,02,000

Solution

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

$$= \frac{24{,}000}{96{,}000} \times 100$$

$$= 25\%$$

ii) Net Profit Margin

This ratio is called net profit to sales ratio and explains the relationship between net profit after taxes and net sales. The purpose of this ratio is to reveal the amount of sales income left for shareholders after meeting all costs and expenses of the business. It measures the overall profitability of the firm. The higher the ratio, the greater would be the return to the shareholders and vice versa. A net profit margin of 10% is considered normal. This ratio is very useful to control costs and to increase the sales. It is calculated as follows:

$$\text{Net Profit Margin} = \frac{\text{Net Profit after taxes}}{\text{Net Sales}} \times 100$$

Illustration 3

The Gross Profit Margin of a company is Rs. 12,00,000 and the operating expenses are Rs. 4,50,000. The taxes to be paid are Rs. 4,80,000. The sales for the year are Rs. 27,00,000. Calculate Net Profit Margin.

Solution

$$\text{Net Profit Margin} = \frac{\text{Net Profit after taxes}}{\text{Net Sales}} \times 100$$

Net Profit after taxes = Gross Profit – Expenses – Taxes

= Rs. 12,00,000 – Rs. 4,50,000 – Rs. 4,80,000

= Rs. 2,70,000

$$\text{Net Profit Margin} = \frac{2{,}70{,}000}{27{,}00{,}000} \times 100$$

0.10. or 10%

ii) Operating Profit Margin

This ratio is a modified version of Net Profit Margin. It studies the relationship between operating profit (also known as PBJT — Before Interest and Taxes) and sales. The purpose of computing this ratio is to find out the amount of operating profit for each rupee of sale. While calculating operating profit, non operating expenses such as interest, (loss on sale of assets etc.) and non-operating income (such as profit on sale of assets, income on investment etc.) have to be ignored.

The formula for this ratio is as follows:

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

Illustration 4 From the following particulars of Nanda and Co., calculate Operating Profit Margin.

Profit and Loss Account of Nanda and Co. Ltd. as on March 31, 2021

	Rs.		Rs.
To Opening Stock	3,000	By Sales	36,000
To Purchases	22,000	By Closing Stock	10,000
To Manufacturing Expenses	9,000		
To Gross Profit c/d	12,000		
	46,000		46,000
To Operating Expenses	4,000	By Gross Profit b/d	12,000
To Administrative Expenses	2,000		
To Interest on Debentures	1,000		
To Net Profit	5,000		
	12,000		12,000

Solution

$$\text{Operating Profit Margin} = \frac{\text{Operating Profits}}{\text{Sales}} \times 100$$

Operating Profits = Net Profit + Interest on Debenture (non-operating expenses)

= Rs. 5000 + Rs. 1000 Rs. 6,000

$$\text{Operating Profit Margin} = \frac{\text{Rs.6,000}}{\text{Rs.36,000}} \times 100 = 0.167 \text{ or } 16.7\%$$

A high ratio is an indicator of the operational efficiency and a low ratio stands for operational inefficiency of the firm.

iv) Operating Ratio

This ratio established the relationship between total costs incurred and sales. It may be calculated as follows:

Illustration 5: From the following particulars. Calculate the Operating Ratio:

	Rs.
Sales	5,00,000
Opening Stock	1,00,000
Purchases	2,00,000
Manufacturing Expenses	25,000
Closing Stock	30,000
Selling Expenses	5,000
Office Expenses	20,000

Solution

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

Cost of goods sold = Opening Stock + Purchases + Manufacturing expenses – Closing Stock

= Rs. 1,00,000 + Rs. 2,00,000 + Rs. 25,000 – Rs. 30,000

= Rs. 2,95,000.

Operating Expenses = Selling Expenses + Offices Expenses

= Rs. 5000 + Rs. 20,000 = Rs. 25,000

$$\text{Operating Ratio} = \frac{\text{Rs. 2,95,000 + Rs.25,000}}{\text{Rs. 5,00,000}}$$

= 0.64 or 64 %

High operating ratio is undesirable as it leaves a small portion of income to meet other non-operating expenses like interest on loans. A low ratio is better and reflects the efficiency of management. Lower the ratio, higher would be the profitability. If operating ratio is 64%, it indicates that 64% of sales income has gone to meet cost of goods sold and operating expenses and 36% is left for other expenses and dividend.

The operating ratio shows the overall operating efficiency of the business. In order to know how individual items of operating expenses are related to sales, individual expenses ratios can also be calculated. These are calculated by taking operational expenses like cost of goods sold, administrative expenses, selling and distribution, individually in relation to sales (net).

4.6.3 Profitability in Relation to Capital Employed (Investment)

Profitability ratio, as stated earlier, can also be computed by relating profits to capital or investment. This ratio is popularly known as Rate of Return on Investment (ROI). The term investment may be used in the sense of capital employed or owners' equity. Two ratios are generally calculated:

i) Return on Capital Employed (ROCE), and

ii) Return on Shareholders' Equity.

i) Return on Capital Employed (ROCE)

The ratio establishes the relationship between total capital and net operating profit of the business. The purpose of this ratio is to find out whether capital employed is effectively utilised or not. The formula for calculating Return on Capital Employed is:

The term 'Net Operating Profit' means 'Profit before Interest and Tax'. The term 'Interest' means 'interest on Long-term borrowings'. Interest on short-term borrowings will be deducted for computing operating profit. Similarly, non-trading incomes such as income from investments made outside the business etc. or non- trading losses or expenses will also be excluded while calculating profit. The term 'capital employed' has been given different meanings by different accountants.

Three widely accepted terms are as follows:

1) Gross Capital Employed = Fixed Assets + Investments + Current Assets

2) Net Capital Employed = Fixed Assets + Investments + Net Working Capital (Current Assets – Current Liabilities).

3) Sum total of long term funds = Share capital + Reserves and Surpluses + Long Term Loans – Fictitious Assets – Non business Assets.

In managerial decisions the term capital employed is generally used in the meaning given in the third point above.

Return on capital employed ratio is very significant as it reflects the overall efficiency of the firm. The higher the ratio, the greater is the return on long-term funds invested in the firm. It is also an indication of the effective utilisation of capital employed. However, it is very difficult to set a standard ratio of return on capital employed as a number of factors such as business risk, the nature of the industry, economic conditions etc., may influence such rate. This ratio could be supplemented with a number of ratios depending upon the purpose for which it is computed.

Illustration 5 From the following financial statements, calculate return on capital employed.

Profit and Loss Account for the year ended 31.3.2021

	Rs.		Rs.
To Cost of goods sold	3,00,000	By Sales	5,00,000
To Interest on Debentures	10,000	By Income from Investment	10, 000
To Provision for Taxation	1,00,000		
To Net Profit	1,00,000		
	5,10,000		5,10,000

Balance Sheet as on 31.3.2021

Liabilities	Rs.	Assets	Rs.
Share Capital	3,00,000	Fixed Assets	4,50,000
Reserves	1,00,000	Investments in Govt. Bonds	1,00,000
10% Debentures	1,00,000	Current Assets	1,50,000
Profit and Loss a/c	1,00,000		
Provision for Taxation	1,00,000		
	7,00,000		7,00,000

Solution

$$\text{Return on Capital Employed} = \frac{\text{Net Operating Profit}}{\text{Capital Employed}} \times 100$$

Net Operating Profit = Net Profit before Tax and Interest – Income from Investment

= Rs. 1,00,000 + 100,000 + 10,000 – 10,000

= Rs. 2,00,000

Capital Employed = Fixed Assets + Current Assets – Current Liability = Rs. 4,50,000 + Rs. 1,50,000 – Rs. 1,00,000

= Rs. 5,00,000

= Share Capital + Reserves + Debentures + Profit and Loss account – Investments in Govt. Bonds

$= \text{Rs. } 3,00,000 + \text{Rs. } 1,00,000 + \text{Rs. } 1,00,000 + \text{Rs. } 1,00,000 - \text{Rs. } 1,00,000$

$= \text{Rs. } 5,00,000$

$$\text{Return on Capital Employed} = \frac{2,00,000}{5,00,000} \times 100$$

$= 40\%$

Return on Investment (ROI)

When you are asked to find out the profitability of the Company from the share holders' point of view, Return on Investment should be Computed as follows:

$$\text{Return on Investment} = \frac{\text{Net Profit after Interest and Tax}}{\text{Shareholders Equity}}$$

The term 'Net Profit' means 'Net Income after Interest and Tax'. This is because the shareholders are interested in Total Income after Tax including – Net non – operating income.

From illustration 5, Net profit after interest and tax will be Rs. 1,00,000 and Return on Investment will be 20% i.e., $(\frac{1,00,000}{5,00,000} \times 100)$

ii) Return on Shareholders' Equity

This ratio shows the relationship between net profit after taxes and Shareholders' equity. It reveals the rate of return on owners'/shareholders' funds. The term shareholders' equity is also known as 'net worth' and includes Equity Capital, Share Premium and Reserves and Surplus. The formula of this ratio is as follows:

$$\text{Return on Shareholder's Equity} = \frac{\text{Net Profit after Tax and Preference Dividend}}{\text{Shareholders Equity}}$$

Illustration 6

From the following Balance Sheet find Return on Shareholders' Equity.
Balance Sheet of ABC Company Ltd. as on 31.3.2021

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	1,00,000	Fixed Assets	2,25,000
Fixed Assets	2,25,000	Current Assets	1,25,000
10°/a Preference Capital	50,000		
Reserves	50,000		
10% Debentures	50,000		
Profit and Loss a/c	50,000		
Provision for Taxation	50,000		
	3,50,000		3,50,000

Solution

Return on Shareholder's Equity

$$= \frac{\text{Net Profit after Tax and Preference Dividend}}{\text{Shareholders Equity}} \times 100$$

Net Profit After Tax and Preference Dividend

= Rs. 50,000 – Preference dividend 5000

(Pref. capital 50,000 × $\frac{45}{100}$)

= Rs. 45,000

Shareholders' equity = Equity capital + Reserves + Profit and Loss account

= Rs. 1,00,000 + 50,000 + 45,000

= Rs. 1,95,000

$$\text{Return on Shareholder's Equity} = \frac{45,000}{1,95,000} \times 100$$

= 23%

The higher the ratio, the greater is the efficiency of the firm in generating profits on shareholders' equity and vice versa. The ratio is very important for the investors to judge whether their investment in the firm generates a reasonable return or not. This ratio is important to the management as it proves their efficiency in employing the funds profitably.

Earnings Per Share

Earnings per Share (EPS) is an important ratio from equity shareholders' point of view as this ratio affects the market price of share and the amount of dividend to be given to the equity shareholders. The earnings per share is calculated as follows:

$$\text{Earning Per Share (EPS)} = \frac{\text{Net Profit after tax-Preference Dividend}}{\text{No. of Equity Shares}}$$

Illustration 7

From the following information calculate Earnings per Share of X Company Ltd.:

Balance Sheet of x Company Ltd. as on 31.3.2021

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	2,50,000	Plant and Machinery	8,00,000
(25,000 Share)		Current Assets	2,50,000
9% Preference Share Capital	1,00,000		
Reserves and Surpluses	3,00,000		
8% Long term Loans	3,00,000		
Current Liabilities	1,00,000		
	10,50,000		10,50,000

The net profit before interest and after Tax was Rs. 78,000.

Solution

$$\text{Earnings Per Share (EPS)} = \frac{\text{Net Profit after tax – Preference Dividend}}{\text{No.of Equity Shares}}$$

$$= \frac{\text{Rs.78,000} - 9{,}000\ (9\%\text{of Rs.1,00,000})}{25{,}000}$$

$$= \frac{69{,}000}{25{,}000} = \text{Rs. } 27.6$$

The Earnings Per Share is useful in determining the market price of equity share and capacity of the company to pay dividend. A comparison of earning per share with another company helps to know whether the equity capital is effectively used in the business or not.

4.6.4 Activity Analysis Ratios

Activity Analysis Ratio may be studied under the following three heads:

i) Assets Turnover Ratio,

ii) Accounts Receivable Turnover Ratio, and

iii) Inventory Turnover Ratio.

Assets Turnover Ratio The asset turnover ratio simply compares the turnover with the assets that the business has used to generate that turnover. In its simplest terms, we are just saying that for every Re.1 of assets, the turnover is Rs. x. The formula for total asset turnover is :

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

$$\text{Assets Turnover Ratio} = \frac{\text{Beginning Total Assets+Ending Total Assets}}{2}$$

Asset turnover is meant to measure a company's efficiency in using its assets. The higher a company's asset turnover, the lower its profit margin tends to be C and visa versa.

Accounts Receivable Turnover Ratio

The debtor turnover ratio indicates the average time it takes your business to collect its debts. It's worth looking at this ratio over a number of financial years to monitor performance trends.

Use information from your annual Profit and Loss Statement along with the trade debtors figure from your Balance Sheet for that financial year to calculate this ratio. A ratio that is lengthening can be the result of some debtors slowing down in their payments. Economic factors, such as a recession, can also influence the ratio. Tightening your business' credit control procedures may be required in these circumstances.

The debtor ageing ratio has a strong impact on business operations particularly working capital. Maintaining a running total of your debtors by ageing(e.g. current, 30 days, 60 days, 90 days) is a good idea, not just in terms of making sure you are getting paid for the work or goods you are supplying but also in managing your working capital.

The calculation used to obtain the ratio is:

$$\text{Assets Turnover Ratio} = \frac{\text{No. of days (365) or months (12) in a year}}{\text{Accounts receivables turnover ratio}}$$

$$\text{Accounts Receivable Turnover Ratio} = \frac{\text{Sales}}{\text{Average Accounts Receivable}}$$

Average Accounts Receivable = (Beginning Accounts Receivable + Ending Accounts Receivable) ÷ 2

Inventory Turnover Ratio

The inventory turnover ratio indicates how quickly your business is turning over stock.

A high ratio may indicate positive factors such as good stock demand and management. A low ratio may indicate that either stock is naturally slow moving or problems such as the presence of obsolete stock or good presentation. A low ratio can also be indicative of potential stock valuation issues. It is a good idea to monitor the ratio over consecutive financial years to determine if a trend is developing.

It can be useful to compare this financial ratio with the working capital ratio. For example, business operations with low stock turnover tend to require higher working capital. The calculation used to obtain the ratio is:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventories}}$$

Average Inventories = (Beginning Inventories + Ending Inventories) ÷ 2

4.6.5 Long-term Solvency Ratios

The long-term solvency ratios are calculated to assess the long-term financial position of the business. These ratios are also called **leverage, or capital structure ratios, or capital gearing ratios.** The following ratios generally come under this category: i) Debt-Equity Ratio/Total Debt Equity Ratio, ii) Proprietory ratio, and iii) Capital Gearing ratio.

i) Debt-Equity Ratio/Total Debt Equity Ratio

It shows the relationship between borrowed funds and owner's funds, or external funds (debt) and internal funds (equity). **The purpose of** this ratio is to show **the extent of the firm's dependence on external liabilities or external sources of funds.**

In order to calculate this ratio, the required components are external liabilities and owner's equity or networth. 'External liabilities, include both long-term as well as short-term borrowings. The term 'owners equity' includes past accumulated losses and deferred expenditure. Since **there are** two **approaches to work out this ratio,** there are two formulas as shown below:

i) $\text{Debt – Equity Ratio} = \frac{\text{Long-Term Debt}}{\text{Owner's Equity}}$

ii) $\text{Total Debt – Equity Ratio} = \frac{\text{Total Debt}}{\text{Owner's Equity}}$

In the first formula, the numerator consists of only long-term debts, it does not include short-term obligations or current liabilities for the following reasons:

1) Current liabilities are of a short-term nature and the liquidity ratios are calculated to judge the ability of the firm to honour current obligations.
2) Current liabilities vary from time to time within a year and interest thereon has no relationship with the book value of current liabilities.

In the second formula, both short-term and long-term debts are counted in the numerator. The reasons are as follows:

1) When a firm has an obligation, no matter whether it is of short-term or long-term nature, it should be taken into account to evaluate the risk of the firm.
2) Just as long-term loans have a cost, short-term loans do also have a cost.
3) As a matter of fact, the pressure from the short-term creditors is often greater than that of long-term basis.

Illustration 8

From the following Balance Sheet of Kavitha Ltd., Calculate Debt Equity Ratio:

Balance Sheet of Kavitha Ltd. as on March 31, 2020

Liabilities	Amount Rs.	Assets	Amount Rs.
Equity Capital	1,50,000	Land and Buildings	**2,00,000**
9% Preference Capital	60,000	Plant and Machinery	2,00,000
Reserves and Surpluses	40,000	Sundry Debtors	1,10,000
8% Debentures	80,000	Cash at Bank	35,000
Long-term loans	1,20,000		
Creditors	30,000		
Bills payable	65,000		
	5,45,000		5,45,000

Solution :

i) Debt – Equity Ratio = $\frac{\text{Long-term Liabilities/Debt}}{\text{Owner's Equity}}$

Long-term liabilities = Long-term Loan + 8% Debentures

= Rs. 1,20,000 + Rs. 80,000

= Rs. 2,00,000

Onwer's equity (Networth)= Equity Capital + Preference Capital + Reserves and Surplus

= Rs. 1,50,000 + Rs. 60,000 + Rs. 40,000

= Rs. 2,50,000

Debt – Equity Ratio = $\frac{\text{Rs. 2,00,000}}{\text{Rs. 2,50,000}}$ = 0.8 : 1

ii) Total Debt-Equity Ratio = $\frac{\text{Total Debt}}{\text{Owner's Equity}}$

Total Debt = Long-term Loan + 8% Debentures + Bills Payable + Creditors

= Rs. 1,20,000 + Rs. 80,000 + Rs. 30,000 + Rs. 45,000

= Rs. 2,75,000

Total Debt to Equity ratio = $\frac{\text{Rs.}2{,}75{,}000}{\text{Rs.}2{,}50{,}000}$ =1.1:1

For analysing the capital structure, debt-equity ratio gives an idea about the relative share of funds of outsiders and owners invested in the business. **The ratio of long- term debt** to equity is generally regarded as safe if it is 2:1. A higher ratio may put the firm in difficulty in meeting the obligation to outsiders. The higher the ratio, the greater would be the risk as the firm has to pay interest irrespective of profits. On the other hand, a smaller, ratio is less risky and creditors will have greater margin or safety.

What ratio is ideal will depend on the nature of the enterprise and the economic conditions prevailing at that time. During business prosperity a high ratio may be favourable and in a reverse situation a low ratio is preferred. The Controller of Capital Issues in India suggests 2:1 as the norm for this ratio.

ii) Proprietory Ratio

This ratio is also known as Equity Ratio or Networth to Total Assets Ratio. It is a variant of Debt-Equity Ratio, and shows the relationship between owners' equity and total assets of the firm. The purpose of this ratio is to indicate the extent of owners' contribution towards the total value of assets. In other words, it gives an idea about the extent to which the owners own the firm. The components required to compute this ratio are proprietors' funds and total assets. Proprietors' funds include equity capital, preference capital, reserves and undistributed profits. If there are accumulated losses they are deducted from the owners' funds. 'Total assets' include both fixed and current assets but exclude fictitious assets, such as preliminary expenses; debit balance of profit and loss account etc. Intangible assets, if any, like goodwill, patents and copy rights are taken at the amount at which they can be realised. The formula of this ratio is as follows:

Proprietory Ratio = $\frac{\text{Proprietors' Fund}}{\text{Total Assets}}$

Taking the information from Illustration 3, the Proprietory Ratio can be calculated as follows:

Proprietory Funds	**Rs.**	**Total Assets**	**Rs.**
Equity Capital	1,50,000	Land and Building	1,20,000
8% Preference Capital	60,000	Plant and Machinery	2,00,000
Reserves and Surpluses	40,000	Debtors Cash and Bank	1,10,000 35,000
	2,50,000		4,65,000

$$\text{Proprietory Ratio} = \frac{\text{Proprietors' Fund}}{\text{Total Assets}}$$

$$= \frac{2,50,000}{4,65,000} = 53.76\%$$

There is no definite norm for this ratio. Some financial experts hold the view that proprietors' funds should be from 67% to 75% and outsiders' funds should be from 25% to 33% of the total assets. **The higher the ratio, the lesser would be the reliance on outsiders' funds.** A high ratio implies that the firm is not using outsiders' funds as much as would maximise the rate of return on the proprietors' funds. For instance, if a firm earns 20% return on borrowed funds and the rate of interest on such fund is 10% the proprietors would be able to gain to the extent of 10% on the outsiders' funds. This increases the earning of the shareholders.

iii) Capital Gearing Ratio

This ratio establishes the relationship between equity share capital on one hand and fixed interest and fixed dividend bearing funds on the other. It does not take current liabilities into account. **The purpose of this ratio is to arrive at a proper mix of equity capital and the source of funds bearing fixed interest and fixed dividend.**

For the calculation of this ratio, we require the value of (i) equity share capital including reserve and surpluses, and (ii) preference share capital and the sources bearing fixed rate of interest like debentures, public deposits, long-term loans, etc. The following formula is used to compute this ratio:

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Capital including Reserves and Surlus}}{\text{Fixed Dividend and Interest bearing seurities}}$$

Illustration 9

The following are the particulars extracted from the Balance Sheet of XYZ Ltd. 31.03.2021. Calculate Capital Gearing Ratio.

	Rs.
Equity Share Capital	1,00,000
9% Preference Share Capital	60,000
Reserves and Surpluses	20,000
Long-term Loans	1,20,000

Solution

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Capital}}{\text{Fixed Dividend and Interest bearing securities}}$$

$$= \frac{\text{Equity Share Capital+ Reserves and Surpluses}}{\text{9\% Preference Share Capital+Long-term loans}}$$

$$= \frac{\text{Rs.1,00,000+Rs.20,000}}{\text{Rs.60,000+Rs.1,20,000}} = \frac{\text{Rs.1,20,000}}{\text{Rs.1,80,000}}$$

$$= 0.67:1$$

A firm is said to be highly geared when the sum of preference capital and all fixed interest bearing securities is proportionately more than the equity

capital. On the other hand, a firm is said to be lowly geared when the equity capital is relatively more than the sum of preference capital and all other fixed interest bearing securities.

The norm suggested for this ratio is 2:1. However, the significance of this ratio lard depends on the nature of business, return on investment and interest payable to outsiders.

Illustration 10

From the following particulars compute leverage ratios:

Balance Sheet of Raja Ltd.

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	40,000	Land	22,000
8% Preference Share Capital	20,000	Building	24,000
Reserves	10,000	Plant and Machinery	38,000
Profit and Loss Account	5,000	Furniture	5,000
10% Debentures	45,000	Sundry Debtors	22,000
Trade Creditors	9,000	Stock	13,000
Outstanding Expenses	2,000	Prepaid expenses	2,000
Cash	14,000		
Provision for Taxation	3,000		
Proposed Dividend	6,000		
	1,40,000		1,40,000

Solution

Leverage Ratios

1) Debt Equity Ratio = $\frac{\text{Long-term Debt}}{\text{Owners' Equity}}$

Long-term Debt = 10% Debentures

= Rs. 45,000

Owners' Equity = Equity Share Capital + 8% Preference Share Capital + Reserves + Profit and Loss Account

= 40,000 + 20,000 + 10,000+ 5,000

= Rs.75,000

2) **Total Debt Equity Ratio**

Total Debt = 10% Debentures + Trade Creditors + Proposed Dividend

= 45,000 + 9,000 + 2,000 + 3,000 + 6,000

= Rs.65,000

Equity is Rs. 75,000 as calculated in Debt Equity Ratio. Total Debt to Equity

Ratio = $\frac{65,000}{75,000}$ = 0.87:1

3) **Proprietory Ratio =** $\frac{\text{Proprietor's Funds}}{\text{Total Assets}}$

Proprietor's Funds is same as Owner's equity i.e., Rs. 75,000 as calculated in Debt Equity Ratio.

Total Assets = Land + Building + Plant and Machinery + Furniture + Current Assets

= 22,000 + 24,000 + 38,000+5,000 + 51,000

= Rs. 1,40,000

Proprietory Ratio = $\frac{75,000}{1,40,000}$ = 1:1.87

4) Capital Gearing Ratio = $\frac{\text{Equity Capital}}{\text{Fixed Interest Bearing Securities}}$

Equity Capital = Equity Share Capital + Reserves + Profit and Loss Account

= 40,000 + 10,000 + 5,000

= Rs.55,000

Fixed Interest bearing Securities

= 10% Debentures + 8% Preference Share Capital

= 45,000 + 20,000

= Rs.65,000

Capital Gearing Ratio = $\frac{55,000}{65,000}$ = 0.85:1

4.6.6 Coverage Ratios

As mentioned earlier, leverage ratios are computed both from Balance Sheet and Income Statement (Profit and Loss Account). Under Section 5.6.5 of this Unit Long term Solvency Ratio you have studied the ratios computed from Balance Sheet . Let us now discuss second category of leverage ratios to be calculated from Income Statement. These ratios are called 'Coverage Ratios.

In order to judge the solvency of the firm, creditors assess the firms ability to Statements service their claims. **In the same manner, preference shareholders evaluate the firm's ability to pay the dividend. Theses aspects are revealed by the coverage ratios. Hence, these ratios may be defined as the ratios which measure the ability of the firm to service fixed interest bearing loans and other fixed charge securities. These ratios are:**

i) Interest Coverage Ratio,

ii) Dividend Coverage Ratio, and

iii) Total Coverage Ratio.

i) Interest Coverage Ratio

This ratio is also known as 'times interest earned ratios. It is used to assess the firm's debt servicing capacity. It establishes the relationship between Net Profit **or** Earnings before interest and Taxes (EBIT). The purpose **of this** ratio is to reveal the number of times that the Interest charges are covered by the Net Profit before Interest and Taxes. The formula for this

ratio is as follows:

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest and Taxes}}{\text{Interest Charges}}$$

Illustration 11

The Net Profit after Interest and Taxes of a firm is Rs. 98,000. The interest and taxes paid during the year were Rs. 16,000 and Rs. 30,000 respectively. Calculate Interest Coverage Ratio.

Solution

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest and Taxes}}{\text{Interest Charges}}$$

EBIT = Net Profit after Interest and Taxes + Taxes +Interest

= Rs. 98,000 + Rs. 30,000 + Rs. 16,000

= Rs. 1,44,000

$$\text{Interest Coverage Ratio} = \frac{\text{Rs. 1,44,000}}{16{,}000} = 9 \text{ times or } 9$$

In the above illustration, the interest coverage ratio is 9. It implies that even if the firm's profit falls to 1/9th, the firm will be able to meet its interest charges. Hence, a high ratio is an index of assurance to creditors by the firm. But too high a ratio reflects the conservation attitude of the firm in using debt. On the other hand, a low ratio reflects excessive use of debt. Therefore, a firm should have comfortable coverage ratio to have credit worthiness in the market.

ii) Dividend Coverage Ratio

This ratio indicates the relationship between Net Profit and Preference dividend. Net profit means Net Profit, after Interest and Taxes but before dividend on preference capital is paid. The purpose of this ratio is to show the number of times preference dividend is covered by Net Profit after Interest and Taxes. To compute this ratio. The following formula is used:

$$\text{Dividend Coverage Ratio} = \frac{\text{Net Profit before Interest and Taxes}}{\text{Preference Dividend}}$$

Illustration 12

The Net Profit before Interest and Taxes of a Company was Rs. 2,30,000. The interest and taxes to be paid are Rs. 15,000 and Rs. 35,000 respectively. The preference dividend declared was 20 per cent on the preference capital of Rs. 2,25,000. Calculate Dividend Coverage Ratio.

Solution

$$\text{Dividend Coverage Ratio} = \frac{\text{Net Profit before Interest and Taxes}}{\text{Preference Dividend}}$$

Net Profit after Interest and Taxes = EBIT — Interest — Taxes

= Rs.2,30,000—Rs. 1 5.000—Rs.35,000

= Rs. 1,80,000

Preference Dividend = 20% on Rs. 2,25,000

$$= \text{Rs. } 2,25,000 \times \frac{20}{100} = \text{Rs.}45,000$$

$$\text{Dividend Coverage Ratio} = \frac{\text{Rs.}1,80,000}{\text{Rs.}45,000} = 4.5 \text{ times}$$

This ratio reveals the safety margin available to the preference shareholders. The higher the ratio, the greater would be the financial strength of the firm and vice versa.

iii) Total Coverage Ratio

Also known as **'Fixed Charge Coverage Ratio'**. This ratio examines the relationship between Net Profit Before Interest and Taxes (EBIT) and Total Fixed Charges. The purpose of this ratio is to show the number of times the total fixed charges are covered by Net Profit before Interest and Taxes.

The components of this ratio are Net Profit Before interest and Taxes (EBIT) and Total Fixed Charges. The Fixed Charges include interest on loans and debentures, repayment of principle, and preference dividend. It is calculated as follows:

$$\text{Total Coverage Ratio} = \frac{\text{Net Profit after Interest and Taxes}}{\text{Total Fixed Charges}}$$

Illustration 13

The Net Profit Before Interest and Taxes of a firm is Rs. 84,000. The interest to be paid on loans is Rs. 14,000 and preference dividend to be paid is Rs. 7,000. Calculate Total Coverage Ratio.

Solution

$$\text{Total Coverage Ratio} = \frac{\text{Net Profit after Interest and Taxes}}{\text{Total Fixed Charges}}$$

$$\text{Total Fixed Charges} = \text{Interest} + \text{Preference dividend}$$

$$= \text{Rs. } 14,000 + \text{Rs. } 7,000 = \text{Rs. } 21,000$$

$$\text{Total Coverage Ratio} = \frac{\text{Rs. } 84,000}{\text{Rs. } 21,000} = 4 \text{ times or 4 to 1}$$

Check Your Progress C

1) What is leverage ratio? Are leverage ratios and gearing ratios different?

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4.7 DUPONT MODEL OF FINANCIAL ANALYSIS

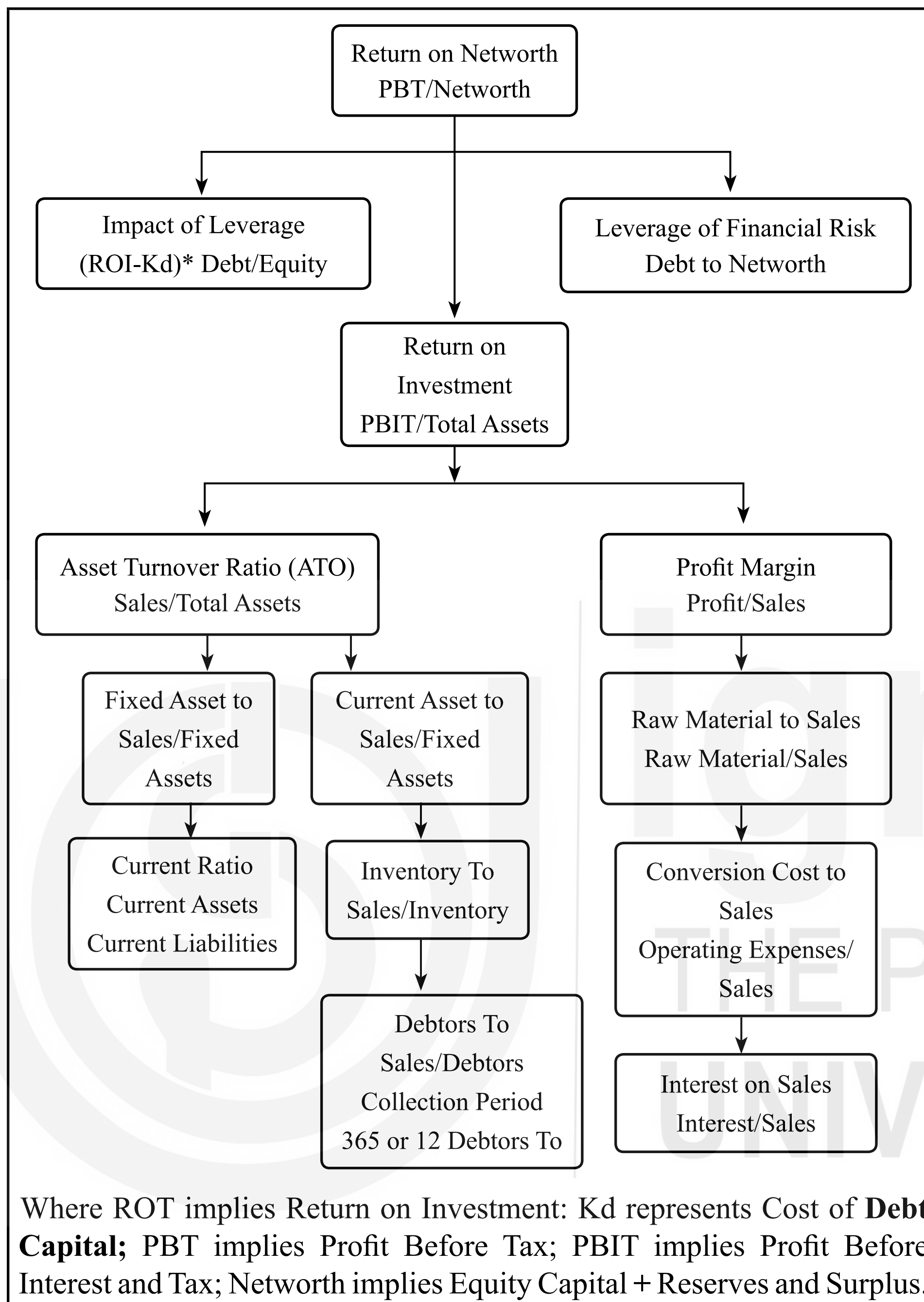
While ratio analysis helps to a great extent in performing the financial statement analysis, most of the time, one would be left in confusion with umpteen ratio calculation inhand. Hence one has to have a guided and structured form of ratio analysis to get a complete picture of the overall performance and risk of the company in a nut shell. This was made possible by the company DuPont. This company had given a structured form of doing financial statement analysis for the first time and from here on most analysts started using the technique.

The DuPont System of Analysis merges the income statement and balance sheet into two summary measures of profitability: Return on Assets (ROA) and Return on Equity (ROE). The system uses three financial ratios to express the ROA and ROE: Operating Profit Margin Ratio (OPM), Asset Turnover Ratio (ATR), and Equity Multiplier (EM). The DuPont chart analysis has been explained with an example below.

To understand the Dupont analysis better, it's better to condense the income statement and balance sheet data in a required format as given below. The following table gives the balance sheet and income statement of Asian Paints for the year ending March 2001 and March 2002.

Asian Paints		
Income Statement	**2001**	**2002**
Sales	1215	1331
Raw Material	696	749
Operating Expenses	320	331
Profit **Before Interest and Tax (PBIT)**	**199**	**251**
Interest	22	14
Profit Before Tax (PBT)	**177**	**237**
Tax	50	66
Profit After Tax (PAT)	**127**	**171**
Balance sheet	**2001**	**2002**
Net Worth	411	410
Debt	227	111
Total Liabilities	**638**	**521**
Net Fixed Assets	376	384
Inventory	199	156
Receivables	122	119
Investments	44	63
Other current assets	129	87
Cash	12	22
Less: Current Liabilities and Provision	244	310
Miscellaneous expenditure	4	6
Total Assets	**638**	**521**
Current assets	462	384
Cost of debt	9.69	12.61

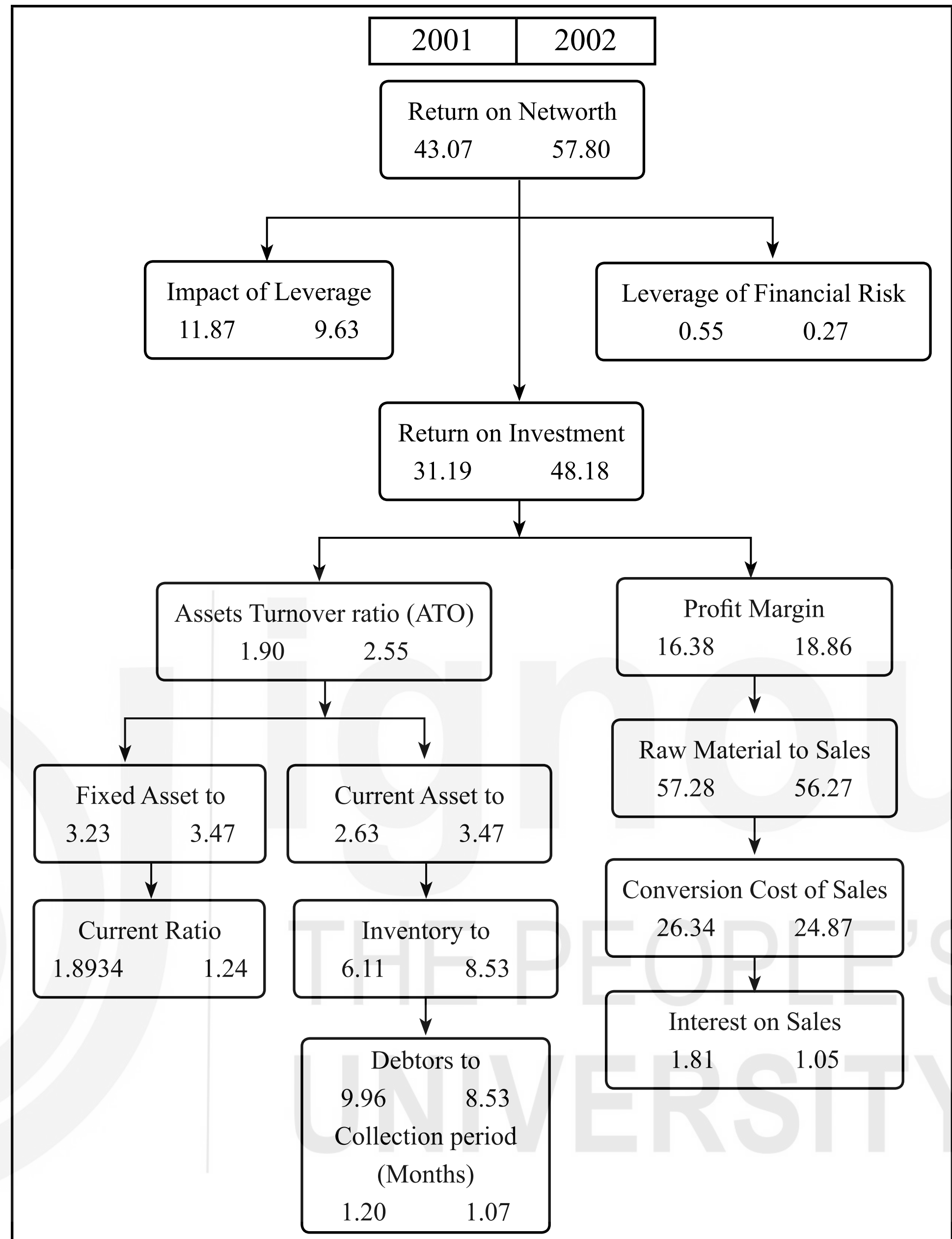
DuPont Chart Financial Statement Analysis (Template)



Where ROT implies Return on Investment: Kd represents Cost of **Debt Capital;** PBT implies Profit Before Tax; PBIT implies Profit Before Interest and Tax; Networth implies Equity Capital + Reserves and Surplus.

The above analysis is a good example of time series analysis. It implies comparing the financial statements of the same company over the years. The results indicate that Asian paints had done well during the year 2002. We need to find out the reasons that had contributed to the good performance of the company. The ROA or ROT has increased from 3 1% to 48%. This has been made possible due to the combined positive effect of profit margin and the asset turnover ratios. The company was able to increase its profit margin from 16% to 18% in 2002. This was made possible by cutting down on raw material costs, conversion costs and interest expenses. Further to this, the company was also able to maintain better efficiency in terms of productivity of assets. This included improvement in overall asset turnover ratio, increase in current and fixed asset turnover ratio and also inventory turnover ratio.

DuPont Chart Financial Statement Analysis of Asian Paints



The debtors turnover ratio has also improved indicating that the company is **turning** on its receivables more frequently. This is also indicated in the low credit period that is given to its customers. The credit period has reduced from 1.2 to 1.07 during 2002. Besides this, the company also had a positive impact of the leverage impact. The debt equity mix has come down for the period 2002, but still gave a positive impact and hence boosted the returns to the shareholders by 9%. Hence the ROE moved to 57% as against 43% in the year 2001. When one would compare the performance of Asian paints with the industry average, the results would seem more interesting. It's very difficult to see such alarming increasing returns and highly good performance. This company should be performing well above the industry average.

Inter-Firm Comparison (Cross Section Analysis)

While the above analysis enabled you to compare the performance of the firm over the years, most often this may not be alone helpful. You would be

also interested in seeing how the firm has performed over its counterparts. In the sense that, you might want to see if Asian paints has performed well over the industry average or whether 38 Asian paints has performed well in comparison with the firms in the same industry.

This sort of analysis becomes most useful when you are doing the industry analysis and when the company you are analysing is not the monopoly in the industry. This would make sense to see why the company has either underperformed or over performed in comparison to the other firms. This sort of analysis helps the analysts forecasts the future market share, profitability and the sustainable growth rate of the company in the presence of competition.

Check Your Progress D

1) What is the basic benefit of using the DuPont form of financial statement analysis?

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Take any other manufacturing company's annual report and perform similar analysis to get a practice of DuPont analysis.

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3) What are the different ways in which this chart analysis can be used?

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4.8 USES OF RATIO ANALYSIS

Ratio analysis is used as a device to analyse and interpret the financial strength of the enterprise. With the help of these ratios Financial statements can be analysed and interpreted more clearly and conclusions can be drawn about the performance of the business. The importance of a ratio analysis is widely recognised on account of its usefulness as outlined below:

1) **It conveys inter-relationship between different items of the financial statements:** Since the ratios convey the inter-relationship between different items of the Balance Sheet and Profit and Loss account, they reflect the debt financial state of affairs and efficiency of operations more clearly than the absolute accounting figures. For example, the net profit earned by a firm may 57% appear to be quite satisfactory if the amount of profit is large, say Rs. 5 Lakh. But, the profit earned can not be regarded good unless it is related to the total investment. If the capital invested is say Rs. 2 crore, the amount of profit expressed as a percentage of investment comes to be only 2.5%. This cannot be said to be satisfactory performance. However, if the

capital invested was Rs. 50 Lakh, profit earned would be 10% of the capital investment which may be considered reasonably good.

2) **Helps to judge the performance of the business:** Efficiency of in performance of management and the overall financial position are revealed by might means of financial ratios which may not be otherwise apparent from a set of ether accounting figures. The index of efficiency reflected in the ratios can be used as the basis of management control. The trend of ratios over a period of time can also be used for planning and forecasting purposes.

3) **Facilitates inter-firm and intra-firm comparison:** Ratio analysis provides data for inter and intra firm comparison. With the help of these data comparison of the performance of different firms within the industry as well as the performance of different divisions within the firm can be made and meaningful conclusion can be drawn out of it as to whether the performance of the firm is improving or deteriorating so as to make appropriate investment decisions.

4) **To determine credit worthiness of the** business: The credit worthiness of the firm, its earning power, ability to pay interest and debt, prospects of growth, and similar information are revealed by ratio analysis. These are required by creditors, financiers, investors as well as shareholders. They make use of ratio analysis to measure the financial condition and performance of the firm.

5) **Helpful to Government:** The financial statement published by the industrial units are used by the government to calculate ratios for determining short-term long-term and overall financial position of the firms. These financial ratios of industrial units may be used by the Government as indicators of overall financial strength of industrial sector.

4.9 LIMITATIONS OF RATIO ANALYSIS

By now you should have mastered the techniques of ratio analysis and its application at the various situations. However, before you start apply jug the ratios you should be careful enough to be aware of some of its limitations while being used.

1) You should be aware that many companies operate in more than one industry take for instance companies like LandT, HLL, PandG etc. which does not operate in only one business segment but in diversified businesses. So care should be taken to ensure that segment level ratios are compared.

2) Inflation has distorted balance sheets, in the sense that, the financial statements do not account for inflation which implies that they do not represent - the real picture of the scenario. However, given not so high inflation it would not affect the analysis much.

3) Seasonal factors can greatly influence ratios. Hence, you should make sure that you control for the seasonal differences. Better would be to perform the ratio analysis on a quarterly basis to get the complete picture for the whole year.

4) With the kind of accounting scams breaking every other day, its not unusual to find that Window-dressing could have been done. Though small investors have no control on this and very little chance to get to know about the creative accounting that is taking place one should not however loose sight into any sort of discrepancies in the accounting.

5) Its quite possible that different companies within an industry may use different accounting practices which would make it difficult to compare the two companies. In that situation it should be made sure that the changes are accounted for and made sure that it would not affect the analysis.

6) It could also be possible that different companies may use different fiscal years. Say for instance one company may use the calendar year as its account closing year while some others may use the fiscal year. In that process care should be taken to compare the respective months or years adjusting for the differences in the accounting year.

7) The age of the company may distort ratios. So it should be take into account companies you are comparing have some basic similarities. The longer the company had stayed in business the ratios would be quite different from the new entrants in the same industry. Such factors have to be accounted for.

8) However, there is also possibility that innovation and aggressiveness may lead to “bad” ratios. So one should not blindly depend on the numeric ratio figures but try and understand why the company has bad ratios in any particular year before jumping into wrong conclusions.

9) There could also be possibility that the benchmark used for analyzing the ratios mess may not be appropriate. The industry average may not be an appropriate or desirable target ratio. One has to carefully pick the industry averages or the benchmark ratios. As industry averages can be very rough approximations.

10) The other downside of the ratio analysis is that ratios should not be interpreted “one-way,” e.g. a higher ratio may only be better up to a point. So one should not assume that this will hold good in future. A company having a Profit margin of 10% in 2003 does not necessarily indicate that it would have atleast 10% profit margin in the year 2004.

4.10 LET US SUM UP

Financial statements represent a summary of the financial information prepared in the required manner for the purpose of use by managers and external stakeholders. Financial reports are prepared basically to communicate to the external shareholders about the financial position of the company that they own.

Different groups of users of financial statements are interested in different aspects of a company’s financial activities. Short-term creditors are interested primarily in are the company’s ability to make cash payments in the short term; they focus their attention on operating cash flows and current assets and liabilities. Long-term creditors, on the other hand, are more interested in the company’s long-term ability to pay interest and principal and would not

limit their analysis to the company's represent ability to make cash payments in the immediate future. The focus of common would stockholders can vary from one investor to another, but generally stockholders are interested in the company's ability to pay dividends and increase the market value of the stock of the company. Each group may focus on different information in the financial statements to meet its unique objectives

An important aspect of financial statement analysis is determining relevant relationships among specific items of information. Companies typically present financial information for more than one time period, which permits users of the to information to make comparisons that help them understand changes over time. Financial statements based on absolute value and percentage changes and trend percentages are tools for comparing information from successive time periods. Component percentages and ratios, on the other hand, are tools for establishing relationships and making comparisons within an accounting period. Both types of comparisons are important in understanding an enterprise's financial position, results of operations, and cash flows.

Assessing the quality of information is an important aspect of financial statement analysis. Enterprises have significant latitude in the selection of financial reporting methods within generally accepted accounting principles. Assessing the quality of a account company's earnings, assets, and working capital is done by evaluating the accounting methods selected for use in preparing financial statements. Management's choice of accounting principles and methods that are in the best long-term interests of the company, even though they may currently result in lower net income or lower total assets or working capital, leads to a conclusion of high quality in reported accounting information.

Financial accounting information is most useful if viewed in comparison with other relevant information. Net income is an important measure of the financial success of an enterprise. To make the amount of net income even more useful than if it were viewed simply in isolation, it is often compared with the sales from which net income results, the assets used to generate the income, and the amount of stockholders' equity invested by owners to earn the net income. Hence Ratio analysis is used as a major tool.

Ratios are mathematical calculations that compare one financial statement item with another financial statement item. The two items may come from the same financial statement, such as the current ratio, which compares the amount of current assets with the amount of current liabilities, both of which appear in the statement of financial position (balance sheet). On the other hand, the items may come from two different financial statements, such as the return on stockholders' equity, which compares net income from the income statement with the amount of stockholders' equity from the statement of financial position (balance sheet). Accountants and financial analysts have developed many ratios that place information from a company's financial statements in a context to permit better understanding to support decision making.

Often ratio analysis is performed in a more structured form called the Dupont model of analysis. This helps the investors a better picture of the analysis

and also more meaningful and holistic picture of the financial position of the companies.

4.11 KEY WORDS

Accounting Ratio: Ratio of accounting figures presented in financial statements.

Common Size Balance Sheet: Statement of assets and liabilities showing each item as a ratio (percentage) of the aggregate value of assets/liabilities.

Common Size Income Statement : Statement of income and expenditure showing each item as a ratio (percentage) of net sales.

Comparative Balance Sheet: Statement presenting changes in the value of assets, liabilities and capital investment between two Balance Sheet dates.

Comparative Income Statement: Statement presenting changes in income and expenditure over successive years.

Capital Employed: Long-term funds including owners' capital and borrowed capital.

Capital Structure: Financial mix plan of debt and equity.

Financial Analysis: Process of examining the financial position and operating performance with the help of information provided by the financial statement.

Financial Reporting: Communicating information based on financial data in the form of reports.

Financial Ratios: Ratios indicating financial soundness of the firm. It is also called leverage ratio.

Financial Statements: Annual statements of assets and liabilities (Balance sheet) of income and expenditure (Profit and Loss account).

Intra-firm Comparison: Comparing financial data of one firm with the corresponding data of comparable firm(s).

Intra-firm Comparison : Comparison of the financial data relating to one period with those of previous periods in respect of the same firm.

Owners' Equity: Shareholders funds including share capital (both preference and equity) P &L A/c balance, reserves minus fictitious assets. It is also called net worth.

Ratio: Measure of one value or number in relation to another.

Ratio Analysis: Computing, determining and explaining the relationship between the component items of financial statements in terms of ratios.

Leverage Ratios: Ratios that evaluate the long-term solvency of a firm. These are also called solvency ratios.

Liquidity Ratios: Ratios that assess the capacity of a firm to meet its short-term liabilities.

4.12 TERMINAL QUESTIONS

1) From the following balance sheet of XYZ Co. Ltd. calculate Return on Capital employed.

Balance sheet as on 31.03.2021

Liabilities	Rs.	Assets	Rs.
Share Capital	6,00,000	Reserves	2,00,000
Reserves	2,00,000	Current Assets	3,00,000
10% Debentures	2,00,000	Investment in Govt. Securities	2,00,000
Profit and Loss A/c	2,00,000		
	14,00,000		14,00,000

Profit and Loss for the period ended 31.03.2021

	Rs.		Rs.
To Cost of goods sold	6,00,000	By Sales	10,00,000
To Interest on Debentures	20,000	By Income from investment	20,000
To Provision for Taxation	2,00,000		
To Net profit after Tax	2,00,000		
	10,20,000		10,20,000

(Ans.: Operating profit: Rs. 4,00,000 Capital employed : Rs. 10,00,000 ROC 40%).

2) Following is the Profit and Loss Account of Shriram Company Ltd., for the year ending March 31, 2005 and the Balance Sheet as on that date. You are required to compute liquidity, long-term solvency, turnover ratios, and profitability ratios both in relation to capital and sales.

Profit and Loss Account of Shriram Company Ltd. for the year ending March 31, 2021

	Rs.		Rs.
To Opening Stock	90,000	By Sales	12,60,000
To Purchases	9,00,000	By Closing Stock	1,50,000
To Direct Expenses	20,000		
To Gross Profit c/d	4,,00,000		
	14,10,000		14,10,000

To Operating Expenses:			By Gross Profit b/d	4,00,000
Administrative Expenses	40,000			
Selling & Distribution Expenses	60,000	1,00,000		
To Non-operating Expenses:				
Loss on the sale of shares	10,000			
Interest	30,000	40,000		
To Provision for Taxation		40,000		
To Net Profit		2,20,000		
		4,00,000		4,00,000

Balance Sheet of Shriram Company Ltd. as on March 31, 2021

Liabilities	Rs.	Assets	Rs.
Equity Share Capital		Land & Buildings	4,00,000
(60,000 shares of Rs. 10 each)	6,00,000		
Reserves & Surplus	50,000	Plant & Machinery	3,20,000
Profit & Loss Account	1,60,000	Stock	1,50,000
10% Debentures	3,00,000	Cash at bank	1,20,000
Creditors	1,80,000	Debtors	3,00,000
	12,90,000		12,90,000

(Ans.: Current ratio = 3.17: 1, Quick ratio = 2.33:1

Gross profit ratio = 31.75%, Net profit ratio = 17.46% Operating profit ratio 23.89% Operating ratio =76.19%

Return on capital employed =27%

Return on Investment = 19.82%

Return on shareholder's equity 27.16%

Earning per share =3.67)

3) The following is the Balance Sheet of X Co. Ltd. as on March31, 2021.

Calculate the liquidity ratios.

Liabilities	Rs.	Assets	Rs.
Share Capital	50,000	Plant and Machinery	60,000
Profit and Loss A/c	10,000	Stock	20,000
10% Debentures	30,000	Debtors	14,000
Sundry Creditors	14,000	Bills Receivables	5,000
Outstanding Expenses	6,000	Short-term Securities	8,000
Provision for Taxation	3,000	Cash	6,000
	1,13,000		1,13.000

(Answer : Current Ratio =2.304, Quick Ratio = 1.43)

4. From the following details, calculate leverage ratios.

Balance Sheet of ABC Ltd. as on March 31, 2021

Liabilities	Rs.	Assets		Rs.
Share Capital	1,00,000	Land		60,000
Preference Share Capital	40,000	Plant and Machinery	1,50,000	
Reserves & Surpluses	30,000	Less: Accumulated depreciation	30,000	1,20,000
10% Long-term loan	50,000	Stock		40,000
10% Debentures	60,000	Debtors		70,000
Bills Payable	15,000	Prepaid Expenses		5,000

Secured Expenses	5,000	Marketable Securities		20,000
		Cash		5,000
	3,20,000			3,20,000

Answer : Debt Equity ratio = 0.647:1

Proprietary Ratio = 0.531:1

Total Debt Ratio = 0.469:1

From the following details you are required to compute:

i) Current Ratio

ii) Operating Ratio

iii) Stock Turnover Ratio

iv) Total Assets Turnover Ratio

v) Return on Shareholders Equity, and

vi) Net Profit Ratio

Profit and Loss Account for the year ended March 31, 2021

	Rs.		Rs.
To Opening Stock	50,000	By Sales	5,00,000
To Purchases	3,40,000	By Closing Stock	30,000
To Incidental Expenses	20,000		
To Gross Profit c/d	1,20,000		
	5,30,000		5,30,000
To Operating Expenses:		By Gross Profit b/d	1,20,000
Selling and Distribution 20,000		By Non-operating Income:	
		Interest 2,000	
Administrative 30,000	50,000	Profit on sale of a shares 3,000	5,000
To Non-operating Expenses:			
Loss on Sale of assets	2,500		
To Net Profit	72,500		
	1,25,000		1,25,000

Liabilities	Rs.	Assets	Rs.
Share Capital :		Land and Building	50,000
10,000 ordinary shares of	1,00,000	Plant and Machinery 1,00,000	
Rs. 10 each Debtors 35,000			
Reserves	22,500	Debtors	35,000
Current Liabilities	45,000	Stock	30,000
Profit and Loss A/c	50,000	Bank	2,500
	2,17,500		2,17,500

Answer:

i) Current Ratio = 15:1,

ii) Operating Ratio = 086:1

iii) Stock Turnover Ratio = 95 times,

iv) Net Assets Turnover Ratio 2.9 times,

v) Return on Shareholders Equity = 42%,

vi) Net Profit Ratio 14.5%

6) The following is the Balance Sheet of Dev Ltd. for the year ended March 31, 2021.

Liabilities	Rs.	Assets		Rs.
Equity Capital (2,500 share of Rs. 100 each)	2,50,000	Fixed Assets Less: Depreciation	9,00,000 2,50,000	
7% Preference Capital	50,000			6,50,000
Reserve & Surpluses	2,00,000	Current Assets		
6% Debentures	3,50,000	Cash	25,000	
Current Liabilities		10% Investments	75,000	
Creditors	30,000	Debtors	1,00,000	
Bills Payable	50,000	Stock	1,50,000	3,50,000
Accrued Expenses	5,000			
Provision for Taxation	65,000			
	10,00,000			10,00,000

Additional information:	Rs.
Net Sales	15,00,000
Purchases	13,00,000
Cost of Goods Sold	12,90,000
Profit before Tax	1,46,500
Profit after Tax	50,000
Operating Expenses	50,000
Market Value per Share	150

Calculate activity ratios and profitability ratios.

[Answer **Activity Ratios: Total** Assets Turnover = 1.5 times,

Stock Turnover8.89 times.

Debtors Turnover = 15 times

Creditors Turnover = 10 times. Net Assets Turnover 1.765 :

Profitability Ratio : Gross Operating Margin = 14%, Net Profit Margin = 3.33% Gross Operating Margin = 10.67%,

Operating Ratio = 89.33%

ROCE 18.82%, Return on Shareholders' Equity = 10% EPS = Rs. 18-60

7) During the year 2005, Satyam Co. made sales of Rs. 4,00,000. Its gross profit ratio is 25% and net profit ratio is 10% . The stock turnover ratio was 10 times. Calculate (1) Gross Profit, (ii) Net Profit,(iii) Cost of Goods Sold, (iv) Operating Expenses.

Answer : i) Gross Profit: Rs. 1,00,000

ii) Net Profit: Rs. 40,000

iii) Cost of goods sold : Rs. 3,00,000

iv) Operating Expenses: Rs. 60,000)

8) Following is the Profit and Loss Account and Balance Sheet of a company:

Profit &Loss Account for the year ended 31st March, 2021

Particulars	Rs.	Particulars	Rs.
To Opening Stock	3,00,000	By Sales	20,00,000
To Purchases	6,00,000	By Closing Stock	5,00,000
To Direct wages	4,00,000	By Profit on Sale of Shares	1,00,000
To Manufacturing Expenses	2,00,000		
To Administrative Expenses	1,00,000		
To Selling and Distribution Expenses	1,00,000		
To Loss on Sale of Plant	1,10,000		
To Interest on Debentures	20,000		
To Net Profit	7,70,000		
	26,00,000		26,00,000

Balance Sheet as on 31st March, 2021

Liabilities	Rs.	Assets	Rs.
Equity share Capital	2,00,000	Fixed Assets	5,00,000
Preference Share Capital	2,00,000	Stock	5,00,000
Reserves	2,00,000	Sundry Debtors	2,00,000
Debentures	4,00,000	Bank	1,00,000
Sundry Creditors	2,00,000		
Bills Payable	1,00,000		
	13,00,000		13,00,000

Examine the Profit & Loss A/c and Balance Sheet given above and calculate the following ratios:

i) Gross Profit Ratio
ii) Current Ratio
iii) Debt Equity Ratio
iv) Liquidity Ratio
v) Operating Ratio
vi) Propreitory Ratio
vii) Total Assets to Debt Ratio 50%

(**Answer:** i) Gross profit Ratio 50%
ii) Current Ratio : 2.67:1
iii) Debt Equity Ratio: 0.67:1
iv) Liquidity Ratio: 1:1
v) Operating Ratio: 60%
vi) Proprietory Ratio : 0.46:1
vii) Total assets to Debt Ratio: 3.25:1)

9) With the help of the given information calculate following ratios:

i) Operating Ratio, ii) Current Ratio,
iii) Stock Turnover Ratio, iv) Debt Equity Ratio

	Rs.
Equity Share Capital	2,50,000
9% Preference Share Capital	2,00,000
12% Debentures	1,20,000
General Reserve	20,000
Sales	4,00,000
Opening Stock	24,000
Purchases	2,50,000
Wages	15,000
Closing Stock	26,000
Selling and Distribution Expenses	3,000
Other Current Assets	1,00,000
Current Liabilities	75,000

(**Answer :** i) Operating Ratio : 66.5
ii) Current Ratio: 1.68:1
iii) Stock turnover ratio: 10.52 times
iv) Debt equity ratio : 33.05%)

10) Prepare a horizontal analysis of the balance sheet for Grant, Inc., by computing the percentage change from 2020 to 2021 for each of the amounts listed below. Comment on the results. (Figures in Rs.)

Balance Sheet of CC Ltd.	2021	2020
Cash	50,000	40,000
Accounts receivable	100,000	60,000
Inventory	150,000	100,000
Equipment, net	12,00,000	8,00,000
Total assets	15,00,000	10,00,000
Accounts payable	1,50,000	1,00,000
Bonds payable (long-term debt)	4,00,000	4,00,000
Common stock	6,00,000	3,00,000
Retained earnings	3,50,000	2,00,000
Total Liabilities & Shareholder Equity	15,00,000	10,00,000

11) Given below are the financial statements of Aventis Pharma for the year ending March 2020 and 2021. Analyse and answer the questions following the data.

	Aventis Pharma	
Company Name	**2021**	**2020**
Sales	609.92	675.81
Raw material consumed	185.93	207.84
Operating expenses	327.49	376.88
PBIT	**96.5**	**91.09**
Interest	1.48	0.41
PBT	95.02	90.68
TAX	47.09	32.7
PAT (NNRT)	47.93 **2003**	57.98 **2002**
Net worth	212.24	239
Borrowings	33.88	20.01
TL	246.12	259.01
Net fixed assets	158.44	149.95
Inventories	66.92	78.36
Sundry debtors	48.24	34.28
Cash and marketable securities	57.32	120.64
Less Current liabilities & provision	118.08	129.81
Other CA	33.28	5.59
TA	246.12	259.01
Current Assets	205.76	238.87
Cost of debt	4.37	2.05

i) Discuss the quality of a company's earnings, assets, and working capital

ii) Put the company's net income into perspective by relating it to sales, assets, and stockholders' equity.

iii) Compute the ratios widely used in financial statement analysis and explain the significance of each. Foster (2002).

iv) Analyze financial statements from the viewpoints of common stockholders creditors, and other stakeholders if any.

v) Perform a Dupont analysis for the two years and list down your observations and conclusions.

12) Given below is the Balance sheet of CC Company Ltd.

a) Compute the following ratios for December 2004 and December 2003: 2000). Current Ratio, Acid-test Ratio, and the Debt Ratio. Comment the results.

b) The income statement for 2002 reported: Net sales Rs. 1.600,000:

Cost of goods sold Rs. 600,000; and Net income Rs. 150,000. Compute the Accounting following ratios for 2002: Inventory Turnover, Return on Sales and Return on Equity. Comment the results.

c) Identify the ratios of most concern to Creditors. Explain why Creditors are most interested in these ratios.

d) Identify the ratios of most concern to Shareholders. Explain why Wild, Bernstein a Shareholder are most interested in these ratios.

Balance Sheets	**31.12.2020**	**31.12.2019**
	Rs.	**Rs.**
Cash	50,000	40,000
Accounts receivable	1,00,000	60,000
Inventory	1,50,000	1,00,000
Equipment, net	12,00,000	8,00,000
Total assets	15,00,000	10,00,000
Accounts payable	150,000	1,00,000
Bonds payable (long-term debt)	4,00,000	4,00,000
Common stock	6,00,000	3,00,000
Retained earnings	3,50,000	2,00,000
Total Liabilities	15,00,000	10,00,000

4.13 FURTHER READINGS

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Note : These questions will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the University. These are for your practice only.

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