# SHIVAJI UNIVERSITY, KOLHAPUR

## CENTRE FOR DISTANCE AND ONLINE EDUCATION

# Advanced Accountancy Paper-II

## (Management Accounting)

For

## M. Com. Part-I

**Semester - I**

(In accordance with National Education Policy 2020)
(Implemented from the Academic Year 2023-24)

First Edition 2023

Prescribed for **M. Com. Part-I**



Copies : 2,000

*Published by:*
**Dr. V. N. Shinde**
Registrar,
Shivaji University,
Kolhapur-416 004

*Printed by :*

**Shri. B. P. Patil**
Superintendent,
Shivaji University Press,
Kolhapur-416 004

ISBN- 978-93-89345-27-8

★ Further information about the Centre for Distance and Online Education & Shivaji University may be obtained from the University Office at Vidyanagar, Kolhapur-416 004, India.

## Centre for Distance and Online Education
## Shivaji University, Kolhapur

## Centre for Distance and Online Education
## Shivaji University, Kolhapur

**■ MEMBERS OF B.O.S. IN ACCOUNTANCY ■**

**Prof. (Dr.) Nandkumar Laxman Kadam**
Jaysingpur College, Jaysingpur,
Jaysingpur, Dist. Kolhapur

- **Dr. Mrs. Sherya Vinay Patil**
  Balwant College, Vita, Dist. Sangli
- **Dr. Anil S. Patil**
  Arts, Commerce and Science College,
  Palus, Dist. Sangli
- **Dr. Smt. Vandana S. Tandale**
  Hon. Shri. Annasaheb Dange Arts,
  Commerce and Science College,
  Hatkanangale, Dist. Kolhapur
- **Dr. J. G. Mulani**
  Shri. Sampatrao Mane Mahavidyalaya,
  Khanapur, Dist. Sangli
- **Dr. Sarjerao S. Chile**
  Prof. (Dr.) N. D. Patil Mahavidyalaya
  Malkapur, Tal. Shahuwadi, Dist. Kolhapur
- **Dr. Sagar R. Powar**
  Karmaveer Hire Arts, Commerce, Science
  and Education College, Gargoti,
  Tal. Bhudargad, Dist. Kolhapur
- **Dr. Ram Ningappa Naik**
  Smt. Kusumtai Rajarambapu Patil Kanya
  Mahavidyalaya (Arts, Commerce &
  Science) Islampur, Tal. Walwa, Dist. Sangli
- **Dr. Ashok Ramchandra Shinde**
  Yashwantrao Chavan Mahavidyalaya,
  Urun-Islampur, Tal. Walwa, Dist. Sangli
- **Prof. (Dr.) B. B. Shitole**
  Karmaveer Bhaurao Patil Mahavidyalaya
  Pandharpur, Tal. Pandharpur, Dist. Solapur
- **Prof. (Dr.) V. K. Sawant**
  Dhananjayrao Gadgil College of
  Commerce, Satara
- **Dr. M. N. Haladkar**
  Rajarshi Shahu Arts and Commerce
  College, Rukadi, Dist. Kolhapur
- **CA - A. A. Gawade**
  Matoshri Plaze, Shop No. 210 2nd Floor
  Station Road, Venus Corner, Shahupuri,
  Kolhapur
- **CA - Mrs. C. K. Patil**
  Morya Residence, 4th Floor,
  Rajarampuri 2nd lane, Nigade Hospital lane,
  Kolhapur

# Preface

Modern approach of the business propounds the concept of management with new horizon, according to which management is art and science of utilizing resources effectively and efficiently to achieve the organizational goal. Such effectiveness and efficiency can be attained by specific and scientific tools and techniques which can support managerial decision making. Management Accounting is such a branch of knowledge, which assists the management for planning, controlling and decision-making for each and every facets of management. It is expected that the students from M. Com. should be familiar with and skilled in various tools and techniques of management accounting. Hence, this self instructional material has been developed to the students on distance mode to learn this subject smoothly and it covers both theoretical and practical aspects.

In the first part of this book there are four units. The first unit puts the light on introductary part of management accounting including meaning, need, importance and scope of management accounting, difference between management accounting and financial accounting, and tools and techniques of management accounting etc. The second and third units cover financial statement analysis. The fourth unit is about working capital which consists of meaning, types of working capital the estimation of working capital requirement.

The students should read the theoretical part first and then they can solve the problems which are given wherever necessary. Practical approach to learning has been adopted in every unit especially to develop analytical skills and decision-making skills.

We express our deep sense of gratitude to Hon. Vice-Chancellor and Director, the Centre for Distance Education for giving us opportunity to contribute this book. We would welcome suggestions for improvement in the book, from stakeholders of all corners.

■ **Editors** ■

**Prof. (Dr.) Shrikrishna S. Mahajan**
Dean, Faculty of Commerce &
Management,
Shivaji University, Kolhapur

**Prof. (Dr.) N. L. Kadam**
Chairman, Accountancy BOS,
Jaysingpur College, Jaysingpur,
Shirolwadi, Dist. Kolhapur

Centre for Distance and Online Education
Shivaji University, Kolhapur.

**Advanced Accountancy Paper-II**
**(Management Accounting)**
**M. Com. Part-I**

**Writing Team**


| Writers Name | Sem. I Units |
|---|---|
| **Dr. V. K. Sawant**<br>Dhananjayrao Gadgil College of Commerce, Satara<br>Shivaji University, Kolhapur | **1** |
| **Dr. P. N. Devali**<br>M.B.A. Unit, Shivaji University, Kolhapur<br>**Dr. D. R. Bhutiyani**<br>L.B.S. College (Rtd.) Satara | **2, 3** |
| **Dr. P. V. Mohite**<br>Arts & Commerce College, Ashta<br>**Dr. N. S. Pandit**<br>S. G. M. College, Karad | **4** |

■ **Editors** ■

**Prof. (Dr.) Shrikrishna S. Mahajan**
Dean, Faculty of Commerce &
Management,
Shivaji University, Kolhapur

**Prof. (Dr.) N. L. Kadam**
Chairman, Accountancy BOS,
Jaysingpur College, Jaysingpur,
Shirolwadi, Dist. Kolhapur

**M. Com. Part-I**

**SIM IN ADVANCED ACCOUNTANCY PAPER II**
**(Management Accounting Paper-I)**

# INDEX

Each Unit begins with the section objectives -

Objectives are directive and indicative of :

1. what has been presented in the unit and
2. what is expected from you
3. what you are expected to know pertaining to the specific unit, once you have completed working on the unit.

The self check exercises with possible answers will help you understand the unit in the right perspective. Go through the possible answers only after you write your answers. These exercises are not to be submitted to us for evaluation. They have been provided to you as study tools to keep you in the right track as you study the unit.

Dear Students

The SIM is simply a supporting material for the study of this paper. It is also advised to see the new syllabus 2023-24 and study the reference books & other related material for the detailed study of the paper.

**Unit-1**

# Introduction to Management Accounting

**Index**



## 1.0 Objectives:

After studying this unit you will able to:

- Understand the meaning of management accounting.
- Explain the scope and functions of management accounting.
- Understand the role of management accountant in decision making.
- Find difference between management accounting and financial accounting.
- Identify the tools and techniques of management accounting.

## 1.1 Introduction:

Management plays crucial role in every organization. It may be business organization or non-business organization. Management of every business concern aims at ensuring maximum profitability with financial stability. That's why management needs various kinds of information for use in operational needs of the business like costs, funds, profits etc. Management accounting provides accounting information to management with the internal reporting. Management accounting is essential to help the management in formulating policies and plans. Management accounting has emerged as a special branch of accounting which provides adequate information to the management in order to perform its various tasks Management accounting is purely voluntary and its use depends on its utility to the management.

## 1.2 Presentation of Subject Matter:

### 1.2.1 Meaning of Management Accounting:

Management accounting deals with presenting and providing accounting information to the management in such a systematic way so that it can perform its managerial functions of planning, controlling and decision making in an effective and efficient manner. The term 'management accounting' is the modern concept of accounts as a tool of management. It is a broad term and is concerned with all such accounting information that is useful to the management. The term 'management accounting' refers to accounting for management, i.e., accounting which provides necessary information to the management for discharging its functions. Management accounting is a system of accounting concerned with the internal reporting. **In the words of P F Drucker "the most exciting and innovative work in management today is found in accounting".**

Some of the important definitions of management accounting are as under:

1. According to **Robert N. Anthony**, "Management accounting is concerned with accounting information which is useful to management".
2. In the words of **J. Batty**, "Management accounting is the term used to describe the accounting methods, system and techniques which, coupled with special knowledge and ability, assist management in its task of maximizing profits or minimizing losses".

3. **The Institute of Chartered Accountants of England and Wales** defines "any form of accounting, which enables a business to be conducted more efficiently, can be regarded management accounting".

4. **The Institute of Cost and Management Accountants, London** has defined Management accounting as, "the application of professional knowledge and skill in the preparation of accounting information in such a way as to assist management in the formulation of policies and in the planning and control of the operation of the undertaking."

5. The most acceptable definition of Management accounting has been furnished by the **Management Accounting Team of the Anglo-American Council of Productivity**, "Management accounting is the presentation of accounting information in such a way as to assist management in the creation of policy and in the day-to-day operations of an undertaking."

6. In the words of **R. H. Garrison** "Management accounting is concerned with providing information to managers, that is, to those who are inside an organization and who are charged with directing and controlling its operations".

In views of these definitions, it is clear that management accounting refers to accounting for the management. Efficiency of the various phases of management is, as a manner of fact, the common thread which underlies all these definitions. It therefore, lies between the following two activities:

- Completing the accounting results on the one hand, and
- Controlling the business by the management on the other.

Management accounting, therefore, covers all rearrangement, combination or adjustment of orthodox accounting figures which may require providing Chief Executive with the information from which he can control the business.

### 1.2.2 Scope of Management Accounting:

Management accounting has a very wide scope. Management accounting includes not only financial accounting and cost accounting but also all types of internal financial controls, internal audit, tax accounting, office services, cost control and other methods and control procedures. Hence, the scope of management accounting is beyond the boundaries of accounting and costing. Thus scope of management accounting includes the following:

1. **Financial accounting:** Financial accounting provides basic historical data which helps management to forecast and plan its financial activities for the future period. In short, for an effective and successful management accounting, there should be a proper and well designed financial accounting system. Management accounting applies the principles and practices of financial accounting. Thus, without efficient financial accounting system, management accounting cannot be operative.

2. **Cost accounting:** Cost accounting provides cost-related basic data to the management accounting, which analyses and interprets those costing data and provides necessary information to the management for the purpose of its controlling and decision making. Management accounting uses the principles and practices of cost accounting. The techniques of cost control, like standard costing, budgetary control, and the techniques of profit planning and decision making, like marginal costing, Cost-Volume-Profit (CVP) analysis and differential cost analysis, are used by the management accounting. Hence, cost accounting is considered as the backbone of management accounting.

3. **Forecasting and budgeting:** Management accounting exercises the tool of forecasting and budgeting in the process of planning, controlling and decision making. Budgeting lies at the heart of management accounting. Forecasting helps in the preparation of budgets and budgeting helps management accountant in exercising budgetary control.

4. **Statistical tools:** Various statistical tools like graphs, charts, diagrams, time series, sampling, index numbers and regression analysis are used in management accounting in the process of planning, controlling and decision making.

5. **Operational research techniques:** Various operational research techniques like Linear Programming, Transportation Theory, Games Theory and Simulation Method are used in management accounting to resolve various problems prevailing under the existing situation in the process of decision-making.

6. **Financial analysis and interpretation:** Various financial analysis techniques such as Ratio Analysis, Funds Flow Analysis, Cash Flow Analysis, Comparative Financial Statements, Common-Size Statements and Trend Analysis are widely

used in management accounting to analyze and interpret financial data to make them easily understandable and useable to the management. Successful application of management accounting depends a lot on these financial analysis and interpretation works.

7. **Tax accounting and tax planning:** Determination of taxable income and tax liability of the enterprise fall within the purview of the management accounting. In the process of decision-making, the analysis of implication of tax provisions on future projects also falls within the purview of management accounting. The management accountant must have a vast knowledge of tax laws and their accounting procedures, and also tax planning, to minimize the tax burden of the enterprise.

8. **Reporting to management:** For effective and timely decisions, there should be a system of prompt and intelligent reporting to management. Both routine and special reports are prepared for submission to top management, middle order management and operating level management depending on their requirements. Clear, informative, timely reports are essential management tools in reaching decisions that make the best use of a company's resources.

9. **Cost control procedures:** Any system of management accounting is incomplete without effective cost control procedures, like inventory control, labour control, overhead control and budgetary control.

10. **Internal control and internal audit:** Management accounting highly depend upon internal control system existing in the organization, like internal check and internal audit, to appraise the targeted performance and to identify the weaker area of organization.

11. **Legal Provisions:** Management accounting system should also be well informed about relevant and necessary legal provisions like Companies Act, Foreign Exchange Act, Securities Act, and Direct and Indirect Tax Laws. In decision-making process, management accountants should restrict their plan and action within the periphery of such legal provisions.

12. **Office Services:** Management accountant is expected to maintain and control office routines and procedures, like filing, copying, communicating, electronic data processing, information network system, email, tax system and relevant allied services.

13. **Other areas:** Apart from the aforementioned areas, management accounting also includes various newly developed areas of accounting like Human Resource Accounting, Social Accounting, Environmental Accounting and Inflation Accounting within preview of its scope.

### 1.2.3 Functions of Management Accounting:

Main functions or objectives of management accounting are described as below-

1. **Planning:** Planning is an essential aspect of every field of activity. Information and data provided by management accounting helps to management for forecasting and preparation of short-term and long-term plans for the future activities of the business and formulate corporate strategy. For this purpose management accounting techniques like budgeting, standard costing, marginal costing etc., are used.

2. **Coordinating:** Due to proper financial reporting, management accounting helps in achieving coordination in various business activities and accomplishing the set goals. While preparing budgets for various departments like production, sales, purchase etc, there should be full coordination so that there is no contradiction.

3. **Controlling:** Controlling is one of the important functions of management. It is a continuous process. Management accounting helps in controlling performance by control techniques such as standard costing, budgetary control, internal audit etc.

4. **Communication:** Management accounting system prepares report for presentation to various level of management which shows the performance of various sections of the business. Such communication in the form of reports to various level of management helps to exercise effective control on various business activities and successfully running the business.

5. **Financial analysis and interpretation:** Ratio analysis, cash flow statement, funds flow statement trend analysis etc; are some of the management accounting techniques which may be used for financial analysis and interpretation.

6. **Qualitative information:** Apart from monetary and quantitative data, management accounting provides qualitative information which helps in taking better decisions. Quality of goods, customers, employees, legal judgements,

opinion polls, logic, etc are some of the examples of qualitative information supplied and used by the management accounting system for better management.

7. **Tax administration:** In modern business organizations, the responsibilities of a management accountant also include the tax administration. This task involves submission of necessary documents and return to the tax authorities and supervision of all matter relating to tax administration.

8. **Decision making:** Management accounting provides necessary and relevant information to the management in the process of its decision making. Correct decision making is the crucial task. The success of the management highly depends on a perfect decision making. Techniques like marginal costing, differential costing, discounted cash flow etc. help in decisions such as pricing of products, make or buy, discontinuance of a product line, capital expenditure etc.

9. **Special studies:** Management is always interested to know the areas of business which can contribute to the stability and profitability of the concern. To meet this objective, management accountant undertakes various special studies such as sales analysis, economic forecasts, price spread analysis etc.

10. **Advisory service:** Management accounting renders valuable advice to the management for resolving any financial or other problems of the enterprise. To overcome any financial and other problems, various management accounting techniques are applied according to the nature of the problem. Management accounting also plays a very important role as an advisor to the management.

### 1.2.4 Role of Management Accountant in Decision Making:

Decision making is an integral part of all managerial functions viz.: planning, organizing, directing and controlling.

**The decision making process includes the following steps:**

1. Indentifying a problem requiring managerial action.
2. Specifying the objective or goal to be achieved.
3. Listing the possible alternative courses of action.
4. Gathering the information about the consequences of each alternative.

5. Making a decision, by selecting one of the alternatives.

Management accounting plays a critical role for gathering the information about the consequences of each alternative in the decision making process. Management accountant does the formal structuring of decision making problems and places the information showing the outcome of each of the alternative courses of action making it easy for management to evaluate different alternatives and make rational decision.

Marginal costing, particularly Differential Cost Analysis, Break-Even Analysis etc. helps the management accountant to take decisions about cost control, maximization of profit etc. Therefore, the management accountant is sometimes called the 'Controller'. Management accountant plays a very important role in an organization He analyses and interprets accounting information and meets the informational needs of management at different levels. In an organization, a management accountant generally performs advisory role.

Sometimes management accountant has to collect, analyze and present the information for some special decisions which are not regular such as:

- Whether to establish a new plant.
- Whether to develo1p own distribution system.
- Whether to introduce a new market line or whether to enter a new market.

The data for such decisions should be obtained from internal as well as external sources and presented in comparable form. This is a critical and skillful task. The management accountant in such a situation determines what information is necessary, obtains it from proper source and present it in an understandable form to the concerned managerial personnel who are to make such decision.

Management accounting thus plays a crucial role in making managerial decision in every field of activity like production, marketing and in every function of management such as planning, organizing, directing and controlling.

### 1.2.5 Management Accounting Versus Financial Accounting:

The following are main factors of distinction between management accounting and financial accounting.

| Factor | Management Accounting | Financial Accounting |
|---|---|---|
| **1. Meaning** | Management accounting is a system of accounting concerned with the internal reporting or information to the management for planning and controlling operations, decision making on special matters and formulating long range plans. | Financial accounting is meant to serve parties external to the operating responsibility of the undertakings. |
| **2. Object** | The object of management accounting is to provide financial, cost as well as other information to managerial personnel at all levels in the hierarchy to facilitate decision making. | The object of financial accounting is to record various transactions with the purpose of maintaining accounts and to know the financial position and to find out profit or loss at the end of financial year. |
| **3. Entity** | Under management accounting system each unit/department/ division/ cost centre of the business is treated as a separate entity in order to ensure effective planning and control. Therefore, profitability and performance reports are prepared for each unit or division of business separately. | Financial accounting considers the business as one entity and accordingly financial accounting reports have been confined to the business operation as a whole. Such statements present the position and the performance of the entire business. |

| | | |
|---|---|---|
| **4. Accounting Method** | Management accounting is not based on double entry system. | Financial accounting is based on double entry system for recording business transactions. |
| **5. Nature of Data Used** | Management accounting has a futuristic orientation. It supplies projected or estimated data on basis of past analysis. Thus, management accounting has prospective character. | Financial accounting has a historical orientation. It uses actual data. It is a post mortem analysis of financial statements. |
| **6. Description** | Management accounting uses both monetary and non-monetary events. The competition in the market, impact of political changes, a situation of trade cycles and such other factors are considered in management accounting though these cannot be measured in monetary terms. Hence, management accounting makes use of data which is descriptive, subjective and relates to future. | Only those things which can be measured in monetary terms are recorded in financial accounting. Anything which cannot be recorded in figures is outside the scope of financial accounting. Hence, financial accounting makes use of data which is historical in nature, quantitative, monetary and objective. |
| **7. Precision** | In Management accounting no emphasis is given to actual figures. The approximate figures are considered more useful than the exact figures. Hence, the information may be less precise only indicating the | In financial accounting only actual figures are recorded and there is no room for using approximate figures. Hence, there is great emphasis on precision and accuracy. |

| | | |
|---|---|---|
| | trends to guide the management. | |
| **8. Methodology** | In management accounting information is collected and analyzed according to responsibility centre or cost centre. | In financial accounting transactions relating to Nominal Accounts, Real Accounts and Personal Accounts are to be recorded. |
| **9. Importance** | Management accounting gives more importance on qualities such as flexibility, consistency, comparability etc. | Financial accounting gives more importance on obligation such as objectivity, precision, correctness etc. |
| **10. Accounting Principles** | No Generally Accepted Accounting Principles (GAAP) and standard rules are followed in management accounting. While preparing reports, there is a lot of flexibility in method and style of presentation of information. | Financial accounts are strictly prepared on the basis of Generally Accepted Accounting Principles (GAAP) and standard rules. The principles and standard rules are rigidly followed in financial accounting. |
| **11. Reporting** | Management accounting reports are meant for internal use only. These are prepared for the benefit of different levels of management. | Financial accounts are prepared to find out the profitability and financial position of the concern. Financial accounting reports are useful for outsiders like bankers, investors, creditors, Government agencies, etc. |
| **12. Quickness** | Reporting of management | Reporting of financial |

| | | |
|---|---|---|
| | accounting is very quick. Management is fed with reports at regular intervals. | accounting is slow and time consuming. Profit and Loss Account and Balance Sheet are prepared at the end of financial year. The management is able to know profitability and financial position only after the preparation of the final accounts. |
| **13. Compulsion** | The management is free to use or not to use management accounting. | The preparation of financial accounts is mandatory/compulsory in certain undertakings while these are a necessity of others. |
| **14. Use of Other Subjects** | Management accounting uses certain aspect of other subjects such as Economics, Statistics, Law, Management, Finance, Costing, Taxation, Marketing and Computers etc. to prepare its reports. | Financial accounting does not use any other subjects to record and prepare its statements. |
| **15. Period** | The management accountant supplies information from time to time during the whole year by considering the need of management. There are no specific periods for furnishing accounting information to management. | Financial statements are prepared for a particular period. Financial statements like Profit and Loss Account, Balance Sheet are prepared at a longer time interval such as half yearly or yearly. |
| **16. Publication** | Publication of records and reports prepared by | Financial statements like Profit and Loss Account |

| | | |
|---|---|---|
| | management accountant is not compulsory under any law. Management accounting statements are prepared for the benefit of the management only and hence, these are not published. | and Balance Sheet are published in the form of annual report for the benefit of the public. Under the Companies Act, every registered company is supposed to supply a copy of Profit and Loss Account and Balance Sheet to the Registrar of Companies at the end of the financial year. |
| **17. Audit** | Management accounting statements cannot be audited. They are not based on the actual figures and projected data are also used in management accounting. So it is not possible to get management accounting statements audited. | Financial accounting records can get audited. Under the Company Act, auditing of financial accounts is compulsory. |

### 1.2.6 Tools and Techniques of Management Accounting:

Management accounting uses various tools and techniques for providing necessary and effective information to the management for performing its managerial functions. Some of the important tools and techniques are as follows:

1. Financial Statement Analysis
2. Historical Cost Accounting
3. Marginal Costing
4. Standard Costing
5. Budgetary Control

6. Funds Flow Analysis
7. Cash Flow Statement
8. Statistical Analysis
9. Inflation Accounting
10. Reporting / Communicating

These tools and techniques have been elaborated as under:

1. **Financial Statement Analysis:** Financial planning helps to determine in advance the financial activities which are necessary in order to achieve primary objectives of a business enterprise. Financial statements are the indicators of profitability and financial position of business. Financial statement analysis is the process of identifying the financial strength or weakness by properly establishing relationships between the items of the financial statements. Tools of financial statement analysis are:

   a) **Comparative Financial Statements:** A business concern does not exist in isolation. It coexists with other competing concerns in the same industry. It has to constantly compare its performance with such competing concerns. Such comparison is called inter-firm comparison. It also needs to compare its own past performance with its current performance to ascertain it progress or decline over the years. This is known as inter-period comparison. Comparative financial statement is a tool of arranging the Balance Sheets and Profit and Loss Accounts of business enterprises in comparable form so as to enable enterprises to facilitate inter-firm comparison and inter-period comparison.

   b) **Common-Size Financial Statements:** Common-size financial statement is a tool of rearranging the financial statements (i.e. Profit and Loss Account and Balance Sheet) by converting the figures therein into percentages to some common base so as to facilitate inter-firm comparison or inter-period comparison of the same business. In common-size Profit and Loss Account the *sale figure* is assumed as common base and treated to be 100 and all other figures therein are expressed as a percentage of sale. Similarly, in common-size Balance Sheet the *total of assets or liabilities* is taken as 100 and rests of the figures are expressed as a percentage of this figure.

c) **Trend Analysis:** The comparative statements and common-size statements compare the figures of year 2 with those of year 1, the figures of year 3 with those of year 2, and the figures of year 4 with those of year 3 and so on. But, a trend analysis is a technique which treats year 1 as the base year and compares the figures of all the years (year 2, year 3, year 4 and so on) with those to the base year to ascertain trend in the figures. For example, trend analysis of sales will reveal whether compared to base year i.e. year 1, the sales show a trend of increase or decrease in the subsequent years i.e. year 2, year 3, and year 4 and so on. Thus, trend of sales, debtors and inventory may studied together to arrive at meaningful conclusion.

d) **Ratio Analysis:** A ratio shows the relationship between two numbers. Accounting ratios show relationship between the two accounting figures. Ratio analysis is a tool of studying the financial status and performance of a concern on the basis of accounting ratios. It helps to evaluate the performance of business concern over a period of time as well as in comparison with other competing concerns. We know ratios are the best tool for measuring liquidity, solvency, profitability and activity of a concern and it is also equally useful to the internal management, prospective investors, creditors and outsiders etc. The role of accounting ratios is very significant to increase the efficiency of the management. As such, it is a very important tool of management accounting also.

2. **Historical Cost Accounting:** Historical cost accounting provides financial past data relating to cost of each job, process and department etc, so that proper comparison may be made with the standard cost which ultimately helps to control cost and makes future planning properly.

3. **Marginal Costing:** Marginal cost is an economic concept. Marginal costing, particularly Differential Cost Analysis, Break-Even Analysis etc. helps the management accountant to take decisions about cost control, maximization of profit etc. Hence, marginal costing is a technique of guiding the management in decision making, in assessment of pricing and profitability.

4. **Standard Costing:** Standard costs are pre-determined or forecast estimates of cost to manufacture a single unit or a number of units of a product, during a specific immediate future period and are used as a measure with which the

actual cost, as ascertained, may be compared. As such, this technique, i.e. the analysis of variance is considered while controlling costs and helps to take correct decision for future. Standard costing is a specialized technique of costing. It is also treated as a powerful tool in the hands of management accountant which enables him to guide the managerial person in their task of cost control and improve the economy, efficiency and productivity of the manufacturing operations.

5. **Budgetary Control:** Budgetary control system is a system of controlling and planning costs. So this technique is widely used in management accounting for planning and controlling different activities of a business unit. In other words, it helps the management to achieve a desired return on investment. Hence, budgetary control has become an essential technique of management for controlling costs and maximizing profits.

6. **Funds Flow Statement:** This statement discloses the analytical information about the different sources of a fund and the application of the same in an accounting cycle. It deals with the transactions which changes either the amount of current assets and current liabilities (with their respective reasons) or fixed assets, long-term loans including ownership fund between two different dates. It also explains how the funds are coming and from which sources and application of the same. Funds Flow Statement helps in making better estimate about company's financial position and policies. It has become an important tool in the hands of management accountant.

7. **Cash Flow Statement:** It indicates the inflows and outflows of cash during a period. It shows the receipts of cash from various sources and the payment of cash for various purposes during a particular period. It is a tool in the hands of financial analyst, and this is also useful in management accounting. Cash Flow Statement overcomes the limitation of Balance Sheet that it shows only the cash balance as on a particular day and fails to depict the movements of cash over a period.

8. **Statistical Analysis:** At present statistical data are widely used in financial and management accounting for the purpose of financial data to be made more meaningful for future guidance, comparative studies etc. Some of the statistical techniques are Correlation and Regression, Time Series Data, Index Number,

Measures of Dispersion, Graphical Presentation etc. which are really very useful to management accountant.

9. **Inflation Accounting:** This technique is very useful and widely accepted for ensuring the maintenance of original capital under conditions of changing prices i.e., inflation. It also incorporates its effect on the financial statements as well.

10. **Reporting and Communicating:** It helps to communicate desired financial information through reports to the users of financial statements by which the management can take right decision at right time and determine the future courses of action which proves useful to the business enterprise as well.

**Check Your Progress**

**(A) State whether the following statements are True or False:**

1. Management accounting provides decisions to management.
2. In management accounting only those figures which can be measured in monetary terms are used.
3. Management accounting is a traditional concept.
4. Specific rules are followed in management accounting.
5. Management accounting presents reports covering shorter or longer periods.
6. Reporting of management accounting is slow and time consuming.
7. Management accounting deals only with the information which is useful to the management.
8. Management accounting deals with both quantitative and qualitative information.
9. Management accounting reports are based on current year's figures as in financial accounting.
10. Publication of management accounting statements is not compulsory.
11. Management accounting is a branch of financial accounting.
12. Management accounting is a backward looking tool to the management.
13. Management accountant is sometimes called the 'Controller'.

14. Management accountant must be a qualified MBA or CA.
15. Small organizations find it difficult to afford a system of management accounting.

**(B) Fill in the blanks:**

1. ------------------------ accounting is more subjective
2. Management accounting is an ------------------- reporting.
3. Accounting designed to serve parties external to the operating responsibility of the business is termed as -----------------------.
4. Accounting designed for use in the operational needs of the business is termed as --------------------.
5. Management accounting is helpful in increasing------------------- of an organization.
6. Management accounting is helpful in ----------------------- of data.
7. No generally accepted accounting principles and standard rules are followed in -------------------------- accounting.
8. Success of the management accounting highly depends on ---------------.

**(C) Select the most appropriate answer:**

1. The basic function of management accounting is to:
   a) record all business transactions
   b) interpret the financial data
   c) record some transactions
   d) assist the management in performing its functions effectively
2. Management accounting rearranges for management control, data provided by:
   a) financial accounting
   b) cost accounting
   c) revaluation accounting
   d) taxation

3. Management accounting involves:
   a) preparation of financial statements
   b) analysis and interpretation of data
   c) recording of transactions
   d) following standard rules
4. Management accounting relates to:
   a) recording of accounting data
   b) recording of costing data
   c) recording of general data
   d) presentation of accounting data
5. The use of management accounting is:
   a) compulsory b) optional c) common d) none of these

### 1.2.7 Group Discussion Practical:

**1) Introduction:** Group discussion is a group activity. It involves exchange of ideas on a specific topic/ issue. Participation in a discussion is the role of every group member. It is the tool of screening. It is the means of thought exposure. The basic aim of a group discussion is to evaluate the effectiveness of a student/ candidate/participant in a group activity by means of team spirit and communication skills displayed by him/her during the discussion. Initiating, agreeing, disagreeing, interrupting, adding and summarizing are the elements of group discussion.

**2) Some Do's and Don'ts for Group Discussion (GD):**

| **Do's** | **Don'ts** |
|---|---|
| It is advisable to take a stand – in favour (agree) or against (disagree) topic. | Sit with arms and legs crossed. |
| Express opinion based on facts, figures and statistics. | Maintain a sardonic smile on your face throughout the GD. |
| Ability to read between the lines. | Never agree to anyone else's point of |

| | |
|---|---|
| | view. |
| Be creative and innovative, thought provoking. | Disagreement with everyone will guarantee you more enemies. |
| Candidate should be audible. | Stare at your GD members and point fingers at others. |
| Voice Modulation. | Interrupt if someone is making a good point. |
| Sit attentively in GD. | Use abbreviations and acronyms without explaining them. Use Slang – words like 'yar' etc. |
| Analyze somebody's viewpoints and reason own viewpoint. | Maintain a blank look on your face. |
| Contribute to the GD through content and ideas. | Only listen and never speak. |
| Try to put GD into proper perspective to have focuses discussion towards topic. | Aggression, shouting in GD. |
| Encourage other candidates to speak. | Enforce views on others and questioning. |

**3) How to carry out Group Discussion?**

- Forming Groups- Group size may range from 6 to 10 students for classroom discussion.
- Topics from syllabi or related happenings.
- Groups should be mixed- Heterogeneous (involvement of male and female students.)
- Sitting Arrangement- Considerable distance.
- Choosing a leader
- Time to think and jot down points before discussion.
- Consensus at the end of discussion is desired.
- Mentor's / Teacher's Role.

**4) Evaluation/ Assessment Criteria:**

Suppose, if Group Discussion is held for 10 Marks. Evaluation/ Assessment criteria for that shall be as under-

| **Evaluation Criteria** | **Marks** |
|---|---|
| Communication skills | 3 |
| Subject knowledge | 3 |
| Analytical ability | 2 |
| Consistency of Participation | 1 |
| Leadership and Group Behaviour | 1 |
| **Total** | **10** |

**5) Example: Group Discussion on 'Functions of Management Accounting'.**

**BACKGROUND INFORMATION**

It is a group of eight students/participants/ candidates who are sitting in a closed circle. The teacher/ mentor extend them a welcome, announce the topic of group discussion and wish them success. A time limit of 30 minutes is fixed. After this silence breaks and students start whispering. Gradually the noise in the group increases and a chaotic scene takes shape. At this stage student No.2 raises his voice and addresses the group.

**Student No. 2:** Friends, I appeal to all of you to take assignment seriously. As the teacher has given us only 30 minutes time, we have to plan accordingly. Keeping in view that all students get equal chance to express their view on topic, we are free to exchange our arguments but we have to be decent and differential to one another's ideas. Let us begin with No.1 and move on to the last speaker.

**Student No. 6**: Hey, what is all this about? Why does Mr.2 think of himself? Is he self styled commander? Group discussion is a free-for-all fair, doesn't he know this? Everybody is at his liberty to make his/ her point. This is the way of the world.

**Student No. 5:** Please go ahead. Be quiet everyone.

**Student No. 3:** Thank you, may I draw kind attention of all of you towards topic of our group discussion that is functions of management.

**Student No. 8:** Friends. I think management is the need of every organization. Without management, an organization cannot run properly, therefore, role of management is very significant to the organization.

**Student No. 1:** As per my knowledge, I would like to highlight here the term 'Management' and 'Accounting' separately for further discussion. Management is a task of planning, controlling and co-ordinating efforts of others towards a specific objective. It mainly involves planning and controlling functions. Management is a continuous process. Whereas, accounting is the process of identifying, measuring and communicating economic information to users of information. Hence, accounting is mainly concerned with monetary information.

**Student No. 4:** Our friend (i.e. No.1) has given meaning of 'Management' and 'Accounting' separately, but I am focusing here, 'Management Accounting' only. Management accounting is a separate branch of accounting which provides accounting information to the management for decision making. The term 'management accounting' refers to accounting for management. Management accounting is fundamentally based on judgement rather than on measurement. It is a modern concept.

**Student No. 7:** Well, friends, the topic for our discussion is quite interesting. Our friends especially No. 1 and No.4 have given information pertaining to management, accounting and management accounting. I would like to express the functions of management accounting viz.: planning, co-ordinating, communicating and controlling. Planning helps to do things as per pre-determined way. Management accounting provides data to the management for short and long term planning. Co-ordination is essential in every activity for smooth functioning. Due to proper financial reporting, management accounting helps in achieving coordination in various business activities and accomplishing the set goals. Communication is the need of hours for success in every line of activity. Management accounting does communication by preparing reports of performance of various sections of the enterprise. Management accounting applies various useful techniques such as Standard Costing, Budgetary Control and Responsibility Accounting, to ensure an effective managerial control over the use of resources of the enterprise. Hence, planning cannot success without suitable controlling.

**Student No. 6:** Our friend No.7 has clearly pointed out the functions of management accounting in right way. I would also like to add certain functions of management accounting namely decision making, financial analysis and interpretation, qualitative information, and tax policies.

**Student No. 3:** Right, I would like to elaborate some functions of management accounting as mentioned by No.6 such as decision making and financial analysis. Decision making is a complex task. It requires accurate information, knowledge and experience. Management accounting has certain special techniques such as marginal costing. differential costing, discounted cash flow etc which help management in short and long term decisions. There are certain techniques of management accounting like ratio analysis, cash flow statement and funds flow statement which may used for financial analysis and interpretation.

**Student No. 1:** Well friends, the topic of our discussion is quite interesting. I wanted to say that, to provide qualitative information is one of the important functions of management accounting. . Quality of employees, opinion polls, legal judgements, logic etc; are some examples of qualitative information supplied and used by the management accounting system for better management.

**Student No.7:** Friends, I have listened about functions of management accounting. I find that more speakers have pointed out the functions of management accounting properly. But, no one speaks about limitations of management accounting in regards to performing its functions. Management accounting uses data that are available from financial and costing statements. Thus, the validity of the decisions largely depends on the reliability of the historical data as obtained from financial statements. Any drawback in such statements is bound to affect the effectiveness of the decisions. The principle of objectivity is not followed in its real spirit in management accounting. The interpretation of information as provided by management accounting in the form of reports may be influenced by a personal bias of the interpreter, which may reduce the utility of management accounting.

**Student No. 2:** I feel that tax administration and performance evaluation are two important functions of management accounting. In modern business organizations, the responsibilities of a management accountant also include the tax administration. This task involves submission of necessary documents and return to the tax authorities and supervision of all matter relating to the tax administration.

Management accounting evaluates the performance of activities of different departments/ divisions as well as the business as a whole of an enterprise by using various tools and techniques.

**Student No. 4:** Friends, thank you all for making my task easier. As the topic of discussion has been properly covered by all of you. I do not believe in criticizing or contradicting others. I agree with everyone.

**Student No. 8:** Dear Friends, I am summarizing our discussion by saying that, the role of management accounting is to assist the management to perform its functions of planning, organizing, directing, controlling and decision-making.

**Student No. 5:** Friends, I am glad that I am the last speaker. Since all of you have covered functions of management accounting thoroughly and ably. I do not disagree with anyone. Thank you.

## 1.3 Summary:

The aim of management accounting is to assist management in decision making and control. Management accounting is a segment of accounting that deals specifically with the accounting and reporting of information to management regarding the detailed operations of the enterprise in order for decisions to be taken in various areas of business. It is oriented primarily towards managerial control and other decision-making groups inside the organization. Management accounting has emerged as a special branch of accounting which provides adequate information to the management in order to perform its various tasks. It is a system of accounting concerned with the internal reporting. It refers to accounting for the management. It is more subjective.

Management accounting is fundamentally based on judgement rather than on measurement. It is a modern concept. The management accounting serves the management by providing information which is necessary to run the business smoothly and efficiently. It is helpful in increasing efficiency of an organization. It involves analysis and interpretation of data. Management accounting has a very wide spread scope. It includes not only financial accounting and cost accounting but also all types of internal financial controls, internal audit, tax accounting, office services, cost control and other methods and control procedures. Monetary and non-monetary events like technical changes, competition etc., are to be recorded in management accounting. The use of management accounting is optional. No specific rules are followed in management accounting as in the case of financial accounting. In management accounting there are no prescribed formats for presentation of information to the management.

Management accounting plays a crucial role in making managerial decision in every field of activity like production, marketing and in every function of management such as planning, organizing, directing and controlling. Management accounting makes use of data which is descriptive, subjective and relates to future. On the other hand, financial accounting makes use of data which is historical in nature, quantitative, monetary and objective. Management accounting statements cannot be audited. They are not based on the actual figures and projected data are also used in management accounting. So it is not possible to get management accounting statements audited. On the contrary, financial accounting records can get audited. Under the Company Act, auditing of financial accounts is compulsory. In management accounting various tools and techniques are being used such as ratio analysis, funds flow analysis, marginal costing, standard costing, budgetary control, statistical analysis, reporting/communicating etc. It is the duty of management accountant to supply necessary information to management by using different tools and techniques.

## 1.4 Terms to Remember:

- **Accounting:** The process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of information.
- **Financial Accounting:** The art of recording, classifying and summarizing in a significant manner and in terms of money transactions and events which are at least in part of a financial character and interpreting the results thereof.
- **Financial Management:** The efficient raising and optimum utilization of funds.
- **Cost Accounting:** The accounting mechanism through which the costs of the products and services ascertained and controlled.
- **Management Accounting:** The presentation of accounting information in order to formulate the policies to be adopted by the management and assist its day-to-day activities.

- **Management Accountant:** The official who uses the accounting information for management planning and control.
- **Management Accounting Tools:** The techniques used by the management accountant in performance of his job.

## 1.5 Answers to Check Your Progress:

**(A)** 1. False 2. False 3. False 4. False 5. True

6. False 7. True 8. True 9. True 10. True

11. False 12. False 13. True 14. False 15. True.

**(B)** 1. Management 2. internal 3. financial accounting

4. management accounting 5. efficiency 6. interpretation

7. management 8. decision-making.

**(C)** 1. d 2. a 3. b 4. d 5. b.

## 1.6 Exercise:

1. Describe the scope of management accounting.
2. What are the functions of management accounting?
3. Explain the role of management accountant in decision making.
4. Define management accounting. How does it different from financial accounting.
5. Explain in brief tools and techniques of management accounting.
6. Conduct Group discussion (Practical) on:
   a) Scope of management accounting
   b) Tools and techniques used in management accounting
   c) Importance of management accounting in relation to management

## 1.7 Reference for Further Study:


1. Arora, M.N. (2018). Cost and Management Accounting. (10th Edition). Noida: Vikas Publishing House Pvt Ltd.
2. Bhattacharyya, Debarshi. (2011). Management Accounting. New Delhi: Dorling Kindersley (India) Pvt Ltd., licensees of Pearson Education in South Asia.
3. Gordon, E., Jeyaram, N., Sundram, N. & Jayachandran, R. (2010). Management Accounting. Mumbai: Himalaya Publishing House.
4. Jain, S.P. & Narang, K.L. (2000). Advanced Accountancy. New Delhi: Kalyani Publishers.
5. Jefferson, Richard. (2005). Learn the Art of Group Discussions. Chandigarh: Abhishek Publications.
6. Maheshwari, S.N. & Maheshwari, S.K. (2008). An Introduction to Accountancy. New Delhi: Vikas® Publishing House Pvt Ltd.
7. Paul, S. Kr., (1994). Management Accounting. Calcutta (Kolkata): New Central Book Agency (P) Ltd.
8. Patnaik, Priyadarshi. (2014). Group Discussion and Interview Skills. New Delhi: CAMBRIDGE HOUSE.
9. Prasad, Hari Mohan. & Mohan, Rajnish. (2005). New Delhi: Tata McGraw-Hill Publishing Company Limited.
10. Sahaf, M.A. (2000). Management Accounting Principles and Practice. New Delhi: Vikas Publishing House Pvt Ltd.


❑❑❑

## Unit-2

# Analysis of Financial Statements Part - I

**Structure**



## 2.0 Objectives:

After studying this unit you will be able to;

- Understand the concept of financial statements.
- Explain the types of financial statements.
- Understand the different tools of financial statement analysis.
- Study the analysis and interpretation of financial statements.

## 2.1 Introduction

Financial statement analysis evaluates a company's performance or value through a company's balance sheet, income statement, or statement of cash flows. By using a number of techniques, such as horizontal, vertical, or ratio analysis, investors may develop a more nuanced picture of a company's financial profile. Business is mainly concerned with the financial activities. In order to ascertain the financial status of the business every enterprise prepares certain statements, known as financial statements. Financial statements are mainly prepared for decision making purposes. But the information as is provided in the financial statements is not adequately helpful in drawing a meaningful conclusion. Thus, an effective analysis and interpretation of financial statements is required.

## 2.2 Presentation of Subject Matters:

Financial statement analysis is the process of analyzing a company's financial statements for decision-making purposes. External stakeholders use it to understand the overall health of an organization and to evaluate financial performance and business value.

### 2.2.1 Meaning and Types of Financial Statements

The term financial statements refer to two basic statements which an accountant prepares at the end of an accounting period for a business enterprise. These are:

1. Balance Sheet (or Statement of Financial Position) which reflects the assets, liabilities and capital as on a certain date, and
2. Profit and Loss Account (or Income Statement) which shows the results of operations *i.e.* profit or loss during a certain period.
3. Other Statements - Apart from the Balance Sheet and Profit-and Loss Account, the following financial statements are also prepared.
4. Profit and Loss Appropriation Account - This shows how profit of a business is utilised for declaring dividends, transfer to general reserve or other reserves etc.
5. Funds Flow Statement' - This shows increase or decrease in working capital during the accounting period.
6. Cash Flow Statement - This shows changes in cash position between the beginning and end of the accounting period.

All these statements taken together are called package of financial statements.

### 2.2.2 Financial Statement Analysis:

Analysis of financial statements means to critically examine the composition of an item or amount appearing in the financial statements. In other words, analysis means breaking up of an amount into its elements so that a particular element may be correlated to another and significant relationship may be established between them and conclusions may be drawn on the data presented in financial statements. Such an analysis makes use of various analytical tools and techniques to data of financial statements so as to derive from them certain relationships that are significant and useful for decision making.

In the words of John N. Myers, "Financial statement analysis is largely a study of the relationships among the various financial factors in a business as disclosed by a single set of statements and a study of the trends of these factors as shown in a series of statements." Interpretation is determining the meaning and drawing inferences or conclusions with regard to the results of significant relationship between the items correlated.

Thus, financial statement analysis converts the mass of data into useful information which is always in scarce supply. It pinpoints the strengths and weaknesses of a business undertaking by use of various techniques such as ratio analysis, comparative statements etc. Such analysed information is used by management, bankers, creditors, investors and others to form judgement about the operating performance and financial position of the business. Thus financial statement analysis helps in evaluating a business performance according to some

Analysis means establishing a meaningful relationship between various items of the two financial statements with each other in such a way that a conclusion is drawn. By financial statements we mean two statements:

(i) Profit and loss Account or Income Statement

(ii) Balance Sheet or Position Statement

These are prepared at the end of a given period of time. They are the indicators of profitability and financial soundness of the business concern. The term financial analysis is also known as analysis and interpretation of financial statements. It refers to the establishing meaningful relationship between various items of the two financial statements i.e. Income statement and position statement. It determines financial strength and weaknesses of the firm.

Analysis of financial statements is an attempt to assess the efficiency and performance of an enterprise. Thus, the analysis and interpretation of financial statements is very essential to measure the efficiency, profitability, financial soundness and future prospects of the business units.

The following are the principal tools of analysis of financial statements.

i) Comparative Financial & Operating Statements.

ii) Common-size Financial Statements.

iii) Trend Percentages/Trend Ratios.

iv) Ratio Analysis.

**2.2.3 Comparative Statement Analysis:**

**i) Comparative Balance Sheet**

Comparison of financial statements is one of the very important tools of analysis of financial statements. It has been seen that balance sheet and profit and loss account are the two most important financial statements. Information contained in these financial statements for a particular year is extremely important and useful. However such information becomes still more useful if it is compared with the data shown in the financial statements of the previous few years. Such comparison of financial statements is accomplished by setting up balance sheet and profit and loss account of two or more years side by side and studying the changes that have occurred in the individual figures therein from year to year and over the years. Thus comparison of financial statements means financial statements of a company for any year are compared with financial statements of the same company for earlier years. Comparative financial statements take the form of comparative balance sheets and comparative profit and loss accounts.

**Illustration: 1**

From the following information prepare a Comparative Balance Sheet.

| | 31$^{st}$ March 2003 Rs. | 31$^{st}$ March 2004 Rs. |
|---|---|---|
| Equity Share Capital | 4,00,000 | 6,00,000 |
| Debentures | 2,00,000 | 3,25,000 |
| Sundry Creditors | 2,55,000 | 1,17,000 |
| Bank Overdraft | 7,000 | 10,000 |
| **Total Liabilities and Capital** | **8,62,000** | **10,52,000** |
| Plant and Machinery | 1,00,000 | 2,00,000 |

| | | |
|---|---|---|
| Land and Building | 3,60,000 | 5,40,000 |
| Investments | 2,70,000 | 1,70,000 |
| Sundry Debtors | 1,00,000 | 88,000 |
| Cash in hand | 32,000 | 54,000 |
| **Total Assets** | **8,62,000** | **10,52,000** |

**Solution:**

**Comparative Balance Sheet**

| Items | 31st March | | Increase or Decrease | |
|---|---|---|---|---|
| | 2003 Rs. | 2004 Rs. | Absolute Rs. | Percentage % |
| Equity share Capital | 4,00,000 | 6,00,000 | 2,00,000 | 50 |
| Debentures | 2,00,000 | 3,25,000 | 1,25,000 | 62.25 |
| Sundry Creditors | 2,55,000 | 1,17,000 | (-)1,38,000 | (-)54.12 |
| Bank Overdraft | 7,000 | 10,000 | 3,000 | 42.86 |
| **Total Liabilities and Capital** | **8,62,000** | **10,52,000** | **1,90,000** | **22.04** |
| Plant and Machinery | 1,00,000 | 2,00,000 | 1,00,000 | 100 |
| Land and Building | 3,60,000 | 5,40,000 | 1,80,000 | 50 |
| Investments | 2,70,000 | 1,70,000 | (-)1,00,000 | (-)37.04 |
| Sundry Debtors | 1,00,000 | 88,000 | (-)12000 | (-)12 |
| Cash in hand | 32,000 | 54,000 | 22,000 | 40.74 |
| **Total Assets** | **8,62,000** | **10,52,000** | **1,90,000** | **22.04** |

**ii) Comparative Income Statement (or Profit and Loss Account):**

An income statement shows the net profit or net loss resulting from the operation of a business for a definite period of time. A comparative income statement is prepared to show the net profit or loss for a number of years in comparative form. By comparing income statement for two or more years, it is possible to observe the progress of a business.

A comparative income statement contains the same columns as the comparative balance sheet and provides the same type of information. The first two columns are provided to show the balances of various accounts for two years for which comparison is to be made. Third column is provided to show the change i.e. increase or decrease in various items in absolute amounts in rupees, the fourth column shows the increase or decrease for each item in percentage.

**Illustration: 2**

From the following information, prepare a comparative Income Statement.

| | 31st March 2003 Rs. | 31st March 2004 Rs. |
|---|---|---|
| Sales | 10,00,000 | 8,00,000 |
| Cost of Goods Sold | 6,00,000 | 4,00,000 |
| Adm. Selling and Distribution Expenses | 2,00,000 | 1,40,000 |
| Other Incomes | 40,000 | 20,000 |
| Income Tax | 1,20,000 | 1,40,000 |

**Solution :**

**Comparative Income Statement**

*For two years 2003 and 2004*

| Particulars | Year | | Change | |
|---|---|---|---|---|
| | 2003 Rs. | 2004 Rs. | Absolute Rs. | % |
| Sale | 10,00,000 | 8,00,000 | (-)2,00,000 | (-)20.00 |
| *Less:* Cost of Goods Sold | 6,00,000 | 4,00,000 | (-)2,00,000 | (-)33.33 |
| Gross Profit | 4,00,000 | 4,00,000 | Nil | Nil |
| *Less:* Operating Expenses: | 2,00,000 | 1,40,000 | (-)60,000 | (-)30.00 |

| Particulars | Year | | Change | |
|---|---|---|---|---|
| | 2003 Rs. | 2004 Rs. | Absolute Rs. | % |
| Adm., Selling and Dist. Exp. | | | | |
| Net Operating Profit | 2,00,000 | 2,60,000 | 60,000 | 30.00 |
| Other Incomes | 40,000 | 20,000 | (-) 20,000 | 50.00 |
| Net Profit before tax | 2,40,000 | 2,80,000 | 40,000 | 16.67 |
| *Less:* Income Tax (50% of Net Profit) | 1,20,000 | 1,40,000 | 20,000 | 16.67 |
| **Net Profit after Income Tax** | **1,20,000** | **1,40,000** | **20,000** | **16.67** |

### 2.2.4 Common Size Statements Analysis:

Common size statement is a type of comparative financial statement in which each item of the financial statement is expressed as percentage of the appropriate total. The appropriate total is taken as 100 per cent and each item is shown as a proportion of this 100 per cent. Such a statement is also known as 100 per cent Statement or 'Vertical analysis'. It should be noted that when a comparative statement is prepared for a number of years to show the trend, it is known as 'Horizontal analysis', a common size statement may be prepared for balance sheet as well as income statement.

**Common Size Balance Sheet**

In common size balance sheet, each item of asset is shown as a percentage of total assets and each, item of liability and capital is shown as a percentage of total liabilities and capital (which is the same as total assets). In other words, the total of the assets and also that of liabilities and capital is taken as 100 per cent and each item appearing on the assets side as well as liabilities side is shown as a proportion of the total of 100.

**Illustration: 3**

Please refer Illustration No: 1. A common Size Balance Sheet should be prepared as follows;

**Common Size Balance Sheet**

| Particulars | 31st March 2003 | | 31st March 2004 | |
|---|---|---|---|---|
| | Rs. | % of Total | Rs. | % of Total |
| *Liabilities and Capital* | | | | |
| Equity share Capital | 4,00,000 | 46.40 | 6,00,000 | 57.03 |
| Debentures | 2,00,000 | 23.20 | 3,25,000 | 30.89 |
| Sundry Creditors | 2,55,000 | 29.58 | 1,17,000 | 11.13 |
| Bank Overdraft | 7,000 | 0.82 | 10,000 | 0.95 |
| **Total Liabilities and Capital** | **8,62,000** | **100** | **10,52,000** | **100** |
| *Assets:* | | | | |
| Plant and Machinery | 1,00,000 | 11.60 | 2,00,000 | 19.01 |
| Land and Building | 3,60,000 | 41.76 | 5,40,000 | 51.33 |
| Investments | 2,70,000 | 31.32 | 1,70,000 | 16.16 |

| | | | | |
|---|---|---|---|---|
| Sundry Debtors | 1,00,000 | 11.60 | 88,000 | 8.37 |
| Cash in hand | 32,000 | 3.72 | 54,000 | 5.13 |
| **Total Assets** | **8,62,000** | **100** | **10,52,000** | **100** |

**Procedure of preparing common size balance sheet**

Assume total of the balance sheet as 100 %. Then express each item in the balance sheet ·as a percentage of total of 100. For example, in the above Illustration, equity capital on 31st March 2003 is Rs. 4,00,000. Total of the balance sheet on this date is Rs. 8,62,000. We can now calculate percentage of equity capital in the total of 100% as follows:

Equity Capital = $\frac{4,00,000}{8,62,000} \times 100 = 46.40\%$

Similarly calculation of other items in the balance sheet is made. For example:

Debentures = $\frac{2,00,000}{8,62,000} \times 100 = 23.20\%$

Plant and Machinery = $\frac{1,00,000}{8,62,000} \times 100 = 11.60\%$

As on 31st March 2004, each item is calculated as a percentage of Rs. 10,52,000.

For example :

Equity Capital = $\frac{6,00,000}{10,52,000} \times 100 = 57.03\%$

Land and Building = $\frac{5,40,000}{10,52,000}$ 100 = 51.33%

In this way each and every items is calculated.

**Common Size Income Statement**

This statement is similar to common size balance sheet. In the common size income statement, total sales figure is taken as 100 per cent and each item is then calculated as a percentage of sales.

**Illustration: 4**

Please refer Illustration No: 2. A common Size Income Statement should be prepared as follows.

**Solution:**

**Common Size Income Statement**

| Particulars | 2003 | | 2004 | |
|---|---|---|---|---|
| | Rs. | % of Sales | Rs. | % of Sales |
| Sale | 10,00,000 | 100.00 | 8,00,000 | 100.00 |
| *Less:* Cost of Goods Sold | 6,00,000 | 60.00 | 4,00,000 | 50.00 |
| Gross Profit | 4,00,000 | 40.00 | 4,00,000 | 50.00 |
| *Less:* Operating Expenses | 2,00,000 | 20.00 | 1,40,000 | 17.50 |
| Net Operating Profit | 2,00,000 | 20.00 | 2,60,000 | 32.50 |
| Other Incomes | 40,000 | 4.00 | 20,000 | 2.50 |
| Net Profit before tax | 2,40,000 | 24.00 | 2,80,000 | 35.00 |
| *Less:* Income Tax (50% of Net Profit) | 1,20,000 | 12.00 | 1,40,000 | 17.50 |
| **Net Profit after Income Tax** | **1,20,000** | **12.00** | **1,40,000** | **17.50** |

**Procedure of preparing common size income statement**

Total net sales figure is taken as 100% and then each item appearing in the income statement is taken as a percentage of sales. For example, in the above illustration, sales of Rs. 10,00,000 in the year 2003 are taken as 100 per cent. Then cost of sales is calculated as a percentage of sales as follows:

$$\frac{Cost\ of\ goods\ sold}{Sales} \times 100 = \frac{6,00,000}{10,00,000} \times 100 = 60\%$$

Gross Profit as a % of sales = $\frac{4,00,000}{10,00,000} \times 100 = 40\%$

## 2.2.5 Trend Analysis

A trend percentage is a technique of studying financial statements of a company over a number of years. Under this method, a representative year is selected as the base year and the values of items in the base year are assumed to be 100. Then the relationship of each item in the subsequent years is expressed as a percentage of the same item in the base year. This means, when an item is expressed as 100, all other values expressed in term of the base year will reflect in trend, upward or downward, in relation to 100. Any year may be taken as the base but generally the starting or initial year is taken as the base year.

Trend percentages may be used for both Balance Sheet and Profit and Loss

Account.

**Advantages**

1) Trend percentages analysis is of immense use in making a comparative analysis over a series of years.

2) It is easy to identify changes and interpret the same because percentage figures disclose more than the absolute figures.

**Illustration: 5**

Calculate the trend percentages from the following figures taking 1995 as the base and interpret them:

Rs. in lakhs

| | Sales | Stocks | PBT |
|---|---|---|---|
| Year 1995 | 1,881 | 709 | 321 |
| Year 1996 | 2,340 | 781 | 435 |
| Year 1997 | 2,655 | 816 | 458 |
| Year 1998 | 3,021 | 944 | 527 |
| Year 1999 | 3,768 | 1,154 | 672 |

**Solution**

The formula for calculating the trend percentages = $\frac{current\ Year}{Base\ Year} \times 100$

1995 has been taken as the base year

| Year | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|
| Sales | 100 | 124.40 | 141.15 | 160.61 | 200.32 |
| Stock | 100 | 110.16 | 115.10 | 133.15 | 162.76 |
| PBT | 100 | 135.51 | 142.68 | 164.18 | 209.35 |

PBT = Profit Before Tax

**Interpretation:** Sales and profit are showing a rising trend thereby indicating a smooth rate of growth of company over the years. It is important to note that while both sales and profit are rising, rate of increase of PBT is more than the rate of growth in sales. This means that quite a good part of the total cost is fixed in nature because total cost is not increasing in proportion to sales. The stock is also showing a rising trend. The company should review its production policy in coordination with sales department so that unnecessary stocks are not built up.

**Illustration: 6**

From the following information, interpret the results of operations of a manufacturing concern using Trend Ratios. Use 1995 as the base. (Amount in Rs. lakhs for the year ended.)

| Year | 1995 | 1996 | 1997 | 1998 |
|---|---|---|---|---|
| Net sales | 100.00 | 95.00 | 120.00 | 130.00 |
| Cost of goods sold | 60.00 | 58.00 | 69.60 | 72.80 |
| Gross profit | 40.00 | 36.10 | 50.40 | 57.20 |
| Operating expenses | 10.00 | 9.70 | 11.00 | 12.00 |
| Net Operating profit | 30.00 | -26.40 | 39.40 | 45.20 |

**Solution**

| Year | 1995 | 1996 | 1997 | 1998 |
|---|---|---|---|---|
| Net sales | 100.00 | 95.00 | 120.00 | 130.00 |
| Cost of goods sold | 100.00 | 96.67 | 116.00 | 121.33 |
| Gross profit | 100.00 | 90.25 | 126.40 | 143.20 |
| Operating expenses | 100.00 | 97.00 | 110.00 | 120.00 |
| Net Operating profit | 100.00 | 88.00 | 131.33 | 150.67 |

**Interpretation:** The performance in the year 1996 was quite poor as compared to the base year 1995 because of lower sales and profit. Sales have declined by 5% but the net operating profit has come down by 12% i.e. from 100% to 88%. Significant recovery was made in the year 1997 in respect of sales and profit. This trend of recovery was continued in 1998. One important point to be noted is that rate of change in net operating profit is more than rate of change in sales. For example when sales decline by 5% in 1996, profit declines by 12%. Similarly when sales increase in 1997 and 1998 by 20% and 30% respectively, net profit increase by 31% and 50% respectively. This means that a substantial portion of the cost of goods sold and operating expenses are of fixed nature which do not change when there is a change in sales.

**Illustration: 7**

From the following Profit & Account of Philips Co. Ltd. for the year ending 31$^{st}$ Dec. 2003 and 2004 you are required to prepare a comparative Profit & Loss Account and given your comments:

**Profit & Loss Account**

| Particulars | 2003 Rs. | 2004 Rs. | Particulars | 2003 Rs. | 2004 Rs. |
|---|---|---|---|---|---|
| To Cost of goods sold | 420 | 560 | By Sales | 600 | 720 |
| To Administration Expenses | 50 | 66 | By Dividend received | 30 | 90 |
| To Selling and distribution Expenses | 25 | 23 | | | |
| To Interest on debentures | 12 | 12 | | | |
| To Loss on Sale of Plant | 6 | 4 | | | |
| To Provision for income Tax | 40 | 48 | | | |
| To Net Profit | 77 | 97 | | | |
| | **630** | **810** | | **630** | **810** |

**Solution:**

(Figures in Rs. Lakhs)

| Particulars | 2003 | 2004 | Increase or Decrease | |
|---|---|---|---|---|
| | Rs. | Rs. | Rs. | % |
| Sales | 600 | 720 | 120 | 20.00 |
| *Less*: Cost of goods Sold | 420 | 560 | 140 | 33.33 |
| **Gross Profit (A)** | **180** | **160** | **(-)20** | **(-)11.11** |
| *Less:* **Operating expenses:** | | | | |
| Administration expenses | 50 | 66 | 16 | 32.00 |
| Selling & distribution expenses | 25 | 23 | (-)2 | (-)8.00 |
| **Total operating expenses (B)** | **75** | **89** | **+14** | **+18.67** |
| Operating Profit (A- B) | 105 | 71 | (-)34 | (-)32.38 |
| Add: Dividend received | 30 | 90 | +60 | 200.00 |
| **Total income (C)** | **135** | **161** | **+26** | **19.26** |
| *Less:* Other expenses: | | | | |

| | | | | |
|---|---|---|---|---|
| Interest on debentures | 12 | 12 | - | - |
| Loss on sale of plant | 6 | 4 | (-)2 | (-)33.33 |
| **Total other expenses (D)** | **18** | **16** | **(-)2** | **(-)11.11** |
| Income before tax (C-D) | 117 | 145 | 28 | 23.93 |
| *Less:* Provision for tax | 40 | 48 | 8 | 12.00 |
| **Income after Tax** | **77** | **97** | **20** | **25.97** |

**Comments**

1. Increase in sales is 20% in 2004 while the cost of goods sold has increased by 33.33% resulting in a fall in gross profit by 11.11 %. As the increase in cost is more than the increase in sales, it is a matter of concern for the management of the company

2. Administration expenses have gone up by 32%-which is not justified because of falling profitability. The management should look into this matter.

3. There is a 32.38% fall in operating profit whereas the fall in net profit before tax is lower at 23.93%. This is because non-operating income (dividend) has increased substantially by 200%

**Illustration: 8**

Prepare comparative balance sheets from the Balance sheet given.

| Liabilities | 2002 Rs. | 2003 Rs. | Assets | 2002 Rs. | 2003 Rs. |
|---|---|---|---|---|---|
| Equity Share Capital | 3,00,000 | 4,00,000 | Goodwill | 1,15,000 | 90,000 |
| Redeemable Pref. Capital | 1,50,000 | 1,00,000 | Land and Building | 2,00,000 | 1,70,000 |
| General Reserve | 40,000 | 70,000 | Plant | 80,000 | 2,00,000 |
| Profit and Loss Account | 30,000 | 48,000 | Debtors | 1,60,000 | 2,00,000 |
| Proposed Dividend | 42,000 | 50,000 | Stock | 77,000 | 1,09,000 |
| Creditors | 55,000 | 83,000 | Bills Receivable | 20,000 | 30,000 |
| Bills Payable | 20,000 | 16,000 | Cash in Hand | 15,000 | 10,000 |
| Provision for Taxation | 40,000 | 50,000 | Cash at Bank | 10,000 | 8,000 |
| | 6,77,000 | 8,17,000 | | 6,77,000 | 8,17,000 |

**Comparative Balance Sheets**

| | 2002 Rs. | 2003 Rs. | Increase or Decrease Rs. | Increase or Decrease % |
|---|---|---|---|---|
| **Assets** | | | | |
| Goodwill | 1,15,000 | 90,000 | (-)25,000 | (-)21.74 |
| Land and building | 2,00,000 | 1,70,000 | (-)30,000 | (-)15.00 |
| Plant | 80,000 | 2,00,000 | 1,20,000 | 150.00 |
| Debtors | 1,60,000 | 2,00,000 | 40,000 | 25.00 |
| Stock | 77,000 | 9,000 | 32,000 | 41.56 |
| Bills Receivable | 20,000 | 30,000 | 10,000 | 50.00 |
| Cash in hand | 15,000 | 10,000 | (-)5,000 | (-)33.33 |
| Cash at bank | 10,000 | 8,000 | (-)2,000 | (-)20.00 |
| **Total** | **6,77,000** | **8,17,000** | **1,40,000** | **20,68** |
| **Liabilities** | | | | |
| Equity share capital | 3,00,000 | 4,00,000 | 1,00,000 | 33.33 |
| Redeemable pref. capital | 1,50,000 | 1,00,000 | (-)50,000 | (-)33.33 |
| Grand reserve | 40,000 | 70,000 | 30,000 | 75.00 |
| Profit and loss account | 30,000 | 48,000 | 18,000 | 60.00 |
| Proposed dividend | 42,000 | 50,000 | 8,000 | 19.05 |
| Creditors | 55,000 | 83,000 | 28,000 | 50.91 |
| Bill payable | 20,000 | 16,000 | (-)4,000 | (-)20.00 |
| Provision for taxation | 40,000 | 50,000 | 10,000 | 25.00 |
| **Total** | **6,77,000** | **8,17,000** | **1,40,000** | **20.68** |

**Illustration: 9**

With the help of Balance-sheet given in the above problem prepare Common Size Balance Sheet.

**Solution:**

| Particular | 2002 | | 2003 | |
|---|---|---|---|---|
| | Rs. | % of Total | Rs. | % of Total |
| ***Assets:*** | | | | |
| Goodwill | 1,15,000 | 16.99 | 90,000 | 11.02 |

| | | | | |
|---|---|---|---|---|
| Land and Building | 2,00,000 | 29.54 | 1,70,000 | 20.81 |
| Plant | 80,000 | 11.82 | 2,00,000 | 24.48 |
| Debtors | 1,60,000 | 23.63 | 2,00,000 | 24.48 |
| Stocks | 77,000 | 11.38 | 1,09,000 | 13.34 |
| Bills Receivables | 20,000 | 2.95 | 30,000 | 3.67 |
| Cash in hand | 15,000 | 2.21 | 10,000 | 1.22 |
| Cash at bank | 10,000 | 1.48 | 8,000 | 0.98 |
| | **6,77,000** | **100** | **8,17,000** | **100** |
| ***Liabilities*** | | | | |
| Equity share capital | 3,00,000 | 44.32 | 4,00,000 | 48.96 |
| Redeveable Prof. Capital | 1,50,000 | 22.16 | 1,00,000 | 12.24 |
| Grand resorce | 40,000 | 5.91 | 70,000 | 8.57 |
| Profit and loss account | 30,000 | 4.43 | 48,000 | 5.87 |
| Proposed dividend | 42,000 | 6.20 | 50,000 | 6.12 |
| Creditors | 55,000 | 8.12 | 83,000 | 10.16 |
| Bills payable | 20,000 | 2.95 | 16,000 | 1.96 |
| Provision for taxation | 40,000 | 5.91 | 50,000 | 6.12 |
| | **6,77,000** | **100** | **8,17,000** | **100** |

**Illustration: 10**

Prepare Common Size Balance Sheets of A Ltd. and B Ltd. as on 31st March 2004 from the following balance sheets of the two companies

| *Liabilities* | *A Ltd.* Rs. | *BLtd.* Rs | *Assets* | *ALtd.* Rs. | *BLtd.* Rs. |
|---|---|---|---|---|---|
| Equity Share Capital | 4,80,000 | 7,20,000 | Investments | 43,200 | - |
| Preference Share Capital | 2,60,000 | 1,20,000 | Discount on issue of shares | 1,20,000 | 96,000 |
| General Reserve | 48,000 | 72,000 | Factory Building | 2,00,000 | 1,20,000 |
| Profit and Loss A/c | - | 64,800 | Machinery | 2,16,000 | 4,58,400 |
| *Current liabilities:* | | | Fixed Deposits | 24,000 | 84,000 |
| Proposed Dividend | 67,200 | 93,600 | Preliminary expenses | 24,000 | 16,800 |

| | | | | | |
|---|---|---|---|---|---|
| Sundry creditors | 70,000 | 1,00,000 | *Current assets:* | | |
| Bills payable | 17,200 | 27,200 | Sundry debtors | 1,80,000 | 2,59,200 |
| Outstanding Salary | 39,200 | 14,400 | Stock | 2,04,000 | 1,87,200 |
| Provision for Taxation | 67,200 | 76,800 | Bank | 30,600 | 50,000 |
| | | | Cash | 7,000 | 17,200 |
| | **10,48,800** | **12,88,800** | | **10,48,800** | **12,88,800** |

**Solution :**

**Common Size Balance Sheets**

*for the year ending 31-3-2004*

| Particular | *A Ltd.* | | *B Ltd* | |
|---|---|---|---|---|
| | *Rs.* | *% of total* | *Rs.* | *% of total* |
| *Fixed Assets:* | | | | |
| Investments | 43,200 | 4.12 | - | - |
| Discount on issue of shares | 1,20,000 | 11.44 | 96,000 | 7.45 |
| Building | 2,00,000 | 19.07 | 1,20,000 | 9.31 |
| -Machinery | 2,16,000 | 20.59 | 4,58,400 | 35.57 |
| Fixed deposits | 24,000 | 2.29 | 84,000 | 6.52 |
| Prel. Expenses | 24,000 | 2.29 | 16,800 | 1.30 |
| **Total Fixed Assets** | **6,27,200** | **59.80** | **7,75,200** | **60.15** |
| *Current Assets:* | | | | |
| Sundry debtors | 1,80,000 | 17.16 | 2,59,200 | 20.11 |
| Stocks | 2,04,000 | 19.45 | 1,87,200 | 14.53 |
| Bank | 30,600 | 2.92 | 50,000 | 3.88 |
| Cash | 7,000 | 0.67 | 17,200 | 1.33 |
| Total current Assets | 4,21,600 | 40.20 | 5,13,600 | 39.85· |
| **Total Assets (Fixed + Current)** | **10,48,800** | **100.00** | **12,88,800** | **100.00** |
| *Capital and Reserves:* | | | | |
| Equity capital | 4,80,000 | 45.77 | 7,20,000 | 55.86 |
| Pref. share capital | 2,60,000 | 24.79 | 1,20,000 | 9.31 |
| General reserves | 48,000 | ·4.57 | 72,000 | 5.59 |
| Profit and loss account | - | - | 64,800 | 5.03· |
| **Total capital and reserves** | **7,88,000** | **75.13-** | **9,76,800** | **75.79** |
| *Current Liabilities:* | | | | |
| Proposed dividend | 67,200 | 6.41 | 93,600 | 7.26 |
| Sundry creditors | 70,000 | 6.67 | 1,00,000 | 7.76 |

| | | | | |
|---|---|---|---|---|
| Bills payable | 17,200 | 1.64 | 27,200 | 2.11 |
| Outstanding salaries | 39,200 | 3.74 | 14,400 | 1.12 |
| Provision for taxation | 67,200 | 6.41 | 76,800 | 5.96 |
| **Total current Liabilities** | **2,60,800** | **24.87** | **3,12,000** | **24.21** |
| **Total Capital and Liabilities** | **10,48,800** | **100** | **12,88,800** | **100** |

➢ **Check Your Progress – 1**

A) Multiple Choice Question:

1. The financial statements of a business enterprise include:
   (a) Balance sheet (b) Statement of Profit and loss account
   (c) Cash flow statement (d) All the above
2. The most commonly used tools for financial analysis are:
   (a) Horizontal analysis (b) Vertical analysis
   (c) Ratio analysis (d) All the above
3. An Annual Report is issued by a company to its:
   (a) Directors (b) Auditors (c) Shareholders (d) Management
4. Balance Sheet provides information about financial position of the enterprise:
   (a) At a point in time (b) Over a period of time
   (c) For a period of time (d) None of the above
5. Comparative statements are also known as:
   (a) Dynamic analysis (b) Horizontal analysis
   (c) Vertical analysis (d) External analysis

B) State whether each of the following is true or false:

1. The financial statements of a business enterprise include cash flow statement.
2. Comparative statements are the form of horizontal analysis.
3. Common size statements and financial ratios are the two tools employed in vertical analysis.
4. Financial analysis helps an analyst to arrive at a decision.
5. Cash Flow Statement is a tool of financial statement analysis.

## 3.3 Summary

Analysis of financial statement analysis means to critically examine the composition of items or amount appearing in the financial statements. The term financial statements refer to two basic statements which an accountant prepares at the end of an accounting period for a business enterprise. These are Balance Sheet and Profit and Loss Account. The purposes of financial analysis are measuring the profitability, indicating the trend of achievements, assessing the growth potential of the business, compare with other firms, assess overall financial strength, assess solvency of the firm etc. It is understand that the balance sheet, statement of profit and loss, and cash flow statement are all included in the financial statements. Additionally, it contains management's analysis of the business's performance for the year under review in light of potential future outcomes. Thus, it seems that the financial analysis tool and techniques for analyzing financial performance and related decision-making, often utilised methods including comparative statements, common size statements, trend analysis, ratio analysis, and cash flow analysis are very useful in managerial decision making at management level.

## 3.4 Terms to Remember

- **Financial Statements:** The term financial statements refer to two basic statements which an accountant prepares at the end of an accounting period for a business enterprise. These are Balance Sheet (or Statement of Financial Position) which reflects the assets, liabilities and capital as on a certain date, and Profit and Loss Account (or Income Statement) which shows the results of operations *i.e.* profit or loss during a certain period.

- **Financial Statement Analysis:** Financial statement analysis is largely a study of the relationships among the various financial factors in a business as disclosed by a single set of statements and a study of the trends of these factors as shown in a series of statements.

- **Financial Analysis:** Financial analysis is the process of evaluating businesses, projects, budgets, and other finance-related transactions to determine their performance and suitability.

- **Common Size Statements:** It is a technique used to identify where a company has applied its resources and in what proportions those resources are distributed among the various balance sheet and income statement accounts.

- **Comparative Statements:** A comparative statement is a techniques that helps compare components of a business's income statement and balance sheet over duration of at least two periods, in percentage and absolute form.
- **Trend Analysis:** It is a technique of studying the operational results and financial position over a series of years.
- **Cash Flow Statement:** It is a financial statement that shows how cash entered and exited a company during an accounting period.

## 3.5 Answer to Check Yours Progress:

➢ **Check Your Progress – I:**

A) Multiple Choice Question: 1 (d) 2 (d) 3 (c) 4 (a) 5 (b)

B) True and False: 1. True, 2. True, 3. True 4. True, 5. True

## 3.6 Exercise

**A) Short answer Questions:**

1. What do you mean by analysis of financial statements?
2. What are the limitations of financial statements?
3. Enumerate the purposes of financial statement analysis.
4. What is meant by internal analysis and external analysis?
5. What is a comparative financial statement?
6. What is the difference between comparative statement and common size financial statement?
7. What do you mean by trend percentage analysis?

**B) Long Answer Questions:**

1. Discuss the nature of financial statements.
2. Financial statements reflect a combination of recorded facts, accounting conventions and personal judgements. Explain.
3. Explain the limitations of financial statements.
4. What do you mean by Comparative Balance Sheet and Comparative Profit and Loss Account? Explain and Illustrate.

5. What are the various tools of analysis of financial statements? Critically examine these.

6. Explain the utility of financial statement analysis to various parties interested in business.

7. The following balances appear in the books of M/s Bhushan Ltd. for the year end 31st March, 2018. you are required to prepare a Revenue statement in vertical form.

Dr. Cr.

| Particulars | ₹ | Particulars | ₹ |
|---|---|---|---|
| Opening Stock | 50,000 | Sales Return | 20,000 |
| Net Profit b/f from P.Y. | 60,000 | Profit on Sale of Investment | 5,000 |
| Office Rent | 5,000 | Loss by Fire | 5,000 |
| Carriage Inward | 20,000 | Closing Stock | 40,000 |
| General Reserve | 40,000 | Purchases | 2,00,000 |
| Wages | 72,000 | Postage and Telegram | 5,000 |
| Octroi | 5,000 | Provision for Tax | 30,000 |
| Office Staff Salaries | 40,000 | Sales | 6,20,000 |
| Audit Fees | 20,000 | Dividend on Shares Held | 25,000 |
| Finance Expenses | 25,000 | Warehouse Expenses | 5,000 |
| Loss on Sale of Asset | 30,000 | Import Duty | 3,000 |
| Depreciation : | | Proposed Dividend | 35,000 |
| Plant and Machinery | 15,000 | | |
| Furniture | 16,000 | | |
| Delivery Van | 14,000 | | |

8. From the following data prepare a statement showing increases, decreases and percentages taking 2016 as a base:

| | 2016 ₹ | 2017 ₹ | 2018 ₹ |
|---|---|---|---|
| Sales | 10,00,000 | 12,00,000 | 14,00,000 |
| Less : Cost of Goods Sold : | | | |
| Opening Stock | 41,200 | 1,01,000 | 81,000 |
| Add : Purchases | 6,42,800 | 8,00,000 | 9,20,000 |
| Wages | 36,000 | 58,000 | 56,000 |

| | | | |
|---|---|---|---|
| Carriage | 6,400 | 8,000 | 9,000 |
| Custom | 8,000 | 7,000 | 8,000 |
| | 7,34,400 | 9,74,000 | 10,74,000 |
| Less : Closing Stock | 1,01,000 | 81,000 | 1,20,000 |
| | 6,33,400 | 8,93,000 | 9,54,000 |
| Gross Profit | 3,66,600 | 3,07,000 | 4,46,000 |

Comment on the profitability of the concern and also how each item has contributed to the increase decrease in the gross profit.

9. From the following Trial Balance of M/s. Kedar Corporation, prepare Trading the Profit & Loss Account for the year ended 31st March, 2018 and the Balance Sheet as on that date in vertical format.

| Debit Balances | ₹ | Credit Balances | ₹ |
|---|---|---|---|
| Opening Stock | 16,000 | Sales | 1,32,000 |
| Purchases | 1,12,000 | Creditors | 24,200 |
| Trade Charges | 4,320 | Discount | 2,400 |
| Salaries | 6,200 | Sundry Receipts | 4,840 |
| Rent | 3,600 | Kedar's Capital | 1,00,000 |
| Stationery | 1,250 | | |
| Carriage Outward | 450 | | |
| Discount Allowed | 2,400 | | |
| Debtors | 84,000 | | |
| Furniture | 8,000 | | |
| Cash at Bank | 24,200 | | |
| Cash in Hand | 1,020 | | |
| | 2,63,440 | | 2,63,440 |

10. Coast Ltd. submits following summary statements for the year 2017 :

**Profit and Loss Account for the year ended 31st December, 2017**

| Particulars | Account (₹ in thousand) | Particulars | Account (₹ in thousand) |
|---|---|---|---|
| To Opening Stock | 200 | By Sales | 5,000 |
| To Purchases | 4,000 | By Closing Stock | 200 |
| To Office Expenses | 80 | By Income from Assets Letout | 640 |

| | | | |
|---|---|---|---|
| To Selling Expenses | 160 | | |
| To Depreciation on Assets Letout | 400 | | |
| To Provision for Tax | 320 | | |
| To Net Profit | 680 | | |
| | 5,840 | | 5,840 |

Balance Sheet as on 31st December, 2017

| Liabilities | Account (₹ in thousand) | | Assets | Account (₹ in thousand) | |
|---|---|---|---|---|---|
| Share Capital | | 800 | Cash | | 40 |
| Reserve and Surplus | | 1,392 | Debtors | | 800 |
| Creditors | | 640 | Stock | | 200 |
| Bank Overdraft | | 200 | Letout Assets (Cost) | 3,200 | |
| Provision for Tax | 320 | | Less : Depreciation | 1,200 | 2,000 |
| Less : Tax paid | 312 | 8 | | | |
| | | 3,040 | | | 3,040 |

11. From the following prepare trend revenue statement of Moon Limited after arranging in Vertical from (Ignore decimals) :

| Particulars | 31-3-2016 | 31-3-2017 | 31-3-2018 |
|---|---|---|---|
| Sales | 2,00,000 | 2,50,000 | 2,60,000 |
| Materials Consumed | 30,000 | 50,000 | 50,000 |
| Direct Wages | 15,000 | 15,000 | 18,000 |
| Gross Profit | ? | ? | ? |
| Office Salaries | 12,000 | 14,000 | 15,000 |
| Office Rent | 3,000 | 4,000 | 5,000 |
| Other Admin. Expenses | 4,000 | 5,000 | 5,000 |
| Selling & Distribution Expenses | 10,000 | 15,000 | 18,000 |
| Bad Debts | 1,000 | 1,500 | 500 |
| Debentures Interest | 3,000 | 3,000 | 3,000 |
| Dividend Received | 4,000 | 4,000 | 4,000 |
| Provision for Tax | 40% | 40% | 40% |

12. Analyse and comment on the trend

**Balance Sheet of Efficient Ltd.**
**as on 31st March**

(₹ in thousand)

| | 2016 ₹ | 2017 ₹ | 2018 ₹ |
|---|---|---|---|
| **Assets :** | | | |
| Fixed Assets (at Cost less Depreciation) | 15.00 | 12.50 | 12.00 |
| Investments | 1.00 | 0.50 | 1.00 |
| Stock in Trade | 6.00 | 5.00 | 4.00 |
| Accounts Receivable | 9.00 | 7.50 | 6.00 |
| Loans and Advances | 4.00 | 4.00 | 3.00 |
| Cash and Bank Balances | 0.50 | 0.50 | 0.50 |
| | 35.50 | 30.00 | 26.50 |
| **Liabilities :** | | | |
| Share Capital | 20.50 | 17.00 | 14.50 |
| Bank Loans | 4.00 | 3.00 | 3.00 |
| Sundary Creditors | 11.00 | 10.00 | 9.00 |
| | 35.50 | 30.00 | 26.50 |

**8. Practical:** Download financial statements of any company and analyze with any one or more techniques of financial analysis and state your interpretation.

**Synergy Green Industries Limited**
**Balance Sheet As At March 31, 2020**

Amount in IN

| Particulars | Note No. | As at March 31, 2020 | | As at March 31, 2019 | |
|---|---|---|---|---|---|
| **I. EQUITY AND LIABILITIES** | | | | | |
| **(1) Shareholder's Funds** | | | | | |
| (a) Share capital | 4 | 24,84,00,000 | | 24,84,00,000 | |
| (b) Reserves and Surplus | 5 | 16,58,89,428 | | 13,26,11,812 | |
| | | | 41,42,89,428 | | 38,10,11,81 |
| **(2)Non-Current Liabilities** | | | | | |
| (a) Long-Term Borrowings | 6 | 24,94,00,390 | | 22,17,48,842 | |
| (b) Other Long-Term Liabilities | 7 | 12,000 | | 12,000 | |
| (c) Long-Term Provisions | 8 | 37,43,509 | | 33,70,457 | |
| | | | 25,31,55,899 | | 22,51,31,29 |
| **(3) Current Liabilities** | | | | | |
| (a) Short Term Borrowings | 9 | 17,91,21,311 | | 21,65,39,263 | |
| (b) Trade Payables | | | | | |
| -Total outstanding dues of Creditors other than Micro & Small Enterprises | 10 | 47,21,52,100 | | 50,94,21,750 | |
| -Total outstanding dues of Micro & Small Enterprises | 10 | 1,65,08,318 | | 67,11,744 | |
| (c) Other Current Liabilities | 11 | 12,72,26,149 | | 10,58,29,652 | |
| (d) Short-Term provisions | 12 | 7,79,607 | | 4,12,428 | |
| | | | 79,57,87,485 | | 83,89,14,83 |
| **Total Liabilities** | | | **1,46,32,32,812** | | **1,44,50,57,94** |
| **II. ASSETS** | | | | | |
| **(1) Non-current Assets** | | | | | |
| (a) Property Plant & Equipments | | | | | |
| (i) Tangible Assets | 13 | 56,62,92,848 | | 32,69,90,896 | |
| (ii) Intangible Assets | 13 | 1,16,67,914 | | 11,57,438 | |
| (iii) Capital work-in-progress | | 87,19,898 | | 3,63,28,619 | |
| (iv) Intangible assets under development | | | | 67,14,059 | |
| | | 58,66,80,660 | | 37,11,91,012 | |
| (b) Deferred Tax Asset (net) | 14 | 2,35,16,034 | | 5,24,89,723 | |
| (c) Long -term loans and advances | 15 | 4,25,36,394 | | 2,34,56,608 | |
| (d) Other non-current assets | 16 | 15,27,349 | | 20,93,445 | |
| | | | 65,42,60,437 | | 44,92,30,78 |
| **(2) Current Assets** | | | | | |
| (a) Inventories | 17 | 46,43,33,123 | | 48,09,05,308 | |
| (b) Trade Receivables | 18 | 16,71,42,578 | | 29,27,32,744 | |
| (c) Cash And Bank Balances | 19 | 3,56,15,858 | | 13,25,95,040 | |
| (d) Short-Term loans and advances | 20 | 1,32,55,262 | | 12,37,515 | |
| (e) Other current assets | 21 | 12,86,25,554 | | 8,83,56,553 | |
| | | | 80,89,72,375 | | 99,58,27,16 |
| **Total Assets** | | | **1,46,32,32,812** | | **1,44,50,57,94** |
| Other Information & Disclosure | 30-45 | | | | |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**Akshay B. Kotkar**
**Partner**
Membership No.140581
UDIN: 20140581AAAACB7014

Place : Kolhapur
Date : June 26, 2020

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Sachin R. Shirgaokar**
**Managing Director**
DIN:00254442

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN:00217631

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**

Page 76 of 101

*(Sources:https://www.synergygreenind.com/investors/annual-report 2019-20)*

**Synergy Green Industries Limited**

**Statement of Profit And Loss For The Year Ended March 31, 2020**

Amount in INR

| Particulars | Note No. | For the period Ended March 31, 2020 | | For the period Ended March 31, 2019 | |
|---|---|---|---|---|---|
| **I. Revenue From Operations** | **22** | 2,07,87,46,489 | | 1,65,02,46,928 | |
| Less: Excise Duty | | - | 2,07,87,46,489 | - | 1,65,02,46,928 |
| **II. Other Income** | **23** | | 65,83,545 | | 53,10,637 |
| **III. Total Revenue ( I + II )** | | | **2,08,53,30,034** | | **1,65,55,57,565** |
| **IV. Expenses** | | | | | |
| a. Cost of Materials Consumed | **24** | | 73,63,57,737 | | 63,75,93,474 |
| b. Changes in inventories of finished goods and work-in-progress | **25** | | 5,40,15,791 | | (6,17,03,112) |
| c. Employee Benefit Expenses | **26** | | 19,28,86,001 | | 14,39,45,249 |
| d. Finance Costs | **27** | | 9,58,88,333 | | 8,62,69,849 |
| e. Depreciation and Amortisation Expenses | **28** | | 7,37,18,629 | | 6,85,48,772 |
| f. Other Expenses | **29** | | 87,00,89,568 | | 72,94,04,614 |
| **Total Expenses (IV)** | | | **2,02,29,56,059** | | **1,60,40,58,846** |
| **V. Profit before Tax** | | | **6,23,73,975** | | **5,14,98,719** |
| **VI. Tax Expenses** | | | | | |
| (1) MAT | | 1,04,20,000 | | 48,00,000 | |
| (2) Deferred Tax Liability / (Asset) | | 2,89,73,690 | | 60,34,397 | |
| (3) Mat Credit | | (1,04,20,000) | | (48,00,000) | |
| (4) Tax Expense/ (reversal) earlier years | | 1,22,669 | | - | |
| | | | **2,90,96,359** | | **60,34,397** |
| **VII. Profit for the year** | | | **3,32,77,616** | | **4,54,64,322** |
| **VIII. Basic & Diluted Earnings per Equity Share** | | | **2.36** | | **3.68** |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Akshay B. Kotkar**
**Partner**
Membership No.140581
UDIN: 20140581AAAACB7014
Place : Kolhapur
Date : June 26, 2020

**Sachin R. Shirgaokar**
**Managing Director**
**DIN:00254442**

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN:00217631

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**

Page 77 of 101

*(Sources:https://www.synergygreenind.com/investors/annual-report 2019-20)*

SYNERGY GREEN INDUSTRIES LIMITED

(Formerly known as Synergy Green Industries Pvt. Ltd.)

## Balance Sheet As At March 31, 2019

Amount in INR

| Particulars | Note No. | As at March 31, 2019 | | As at March 31, 2018 | |
|---|---|---|---|---|---|
| **I. EQUITY AND LIABILITIES** | | | | | |
| **(1) Shareholder's Funds** | | | | | |
| (a) Share capital | 4 | 24,84,00,000 | | 21,06,00,000 | |
| (b) Reserves and Surplus | 5 | 13,26,11,812 | | (12,09,24,857) | |
| | | | 38,10,11,812 | | 8,96,75,143 |
| **(2) Non-Current Liabilities** | | | | | |
| (a) Long-Term Borrowings | 6 | 22,67,48,842 | | 27,37,60,918 | |
| (b) Other Long-Term Liabilities | 7 | 12,000 | | 12,000 | |
| (c) Long-Term Provisions | 8 | 33,70,457 | | 28,02,433 | |
| | | | 23,01,31,299 | | 27,65,75,351 |
| **(3) Current Liabilities** | | | | | |
| (a) Short Term Borrowings | 9 | 21,65,39,263 | | 8,93,71,815 | |
| (b) Trade Payables : | | | | | |
| -Total outstanding dues of Creditors other than Micro & Small Enterprises | 10 | 49,69,26,024 | | 45,26,64,181 | |
| -Total outstanding dues of Micro & Small Enterprises | 10 | 67,11,744 | | 4,50,50,626 | |
| (c) Other Current Liabilities | 11 | 11,33,25,378 | | 12,98,52,563 | |
| (d) Short-Term provisions | 12 | 4,12,428 | | 3,60,757 | |
| | | | 83,39,14,837 | | 71,72,99,942 |
| **Total Liabilities** | | | **1,44,50,57,948** | | **1,08,35,50,436** |
| **II. ASSETS** | | | | | |
| **(1) Non-current Assets** | | | | | |
| (a) Property, Plant & Equipments | | | | | |
| (i) Tangible Assets | 13 | 32,69,90,896 | | 33,14,74,051 | |
| (ii) Intangible Assets | 13 | 11,57,438 | | 7,70,033 | |
| (iii) Capital work-in-progress | | 3,63,28,619 | | 45,09,001 | |
| (iv) Intangible assets under development | | 67,14,059 | | - | |
| | | 37,11,91,012 | | 33,67,53,085 | |
| (b) Deferred Tax Asset (net) | 14 | 5,24,89,723 | | 5,85,24,120 | |
| (c) Long -term loans and advances | 15 | 2,34,56,608 | | 43,49,694 | |
| (d) Other non-current assets | 16 | 20,93,445 | | 11,26,645 | |
| | | | 44,92,30,788 | | 40,07,53,544 |
| **(2) Current Assets** | | | | | |
| (a) Inventories | 17 | 48,09,05,308 | | 37,65,11,427 | |
| (b) Trade Receivables | 18 | 29,27,32,744 | | 17,97,70,027 | |
| (c) Cash And Bank Balances | 19 | 13,25,95,040 | | 2,50,88,123 | |
| (d) Short-Term loans and advances | 20 | 12,37,515 | | 5,19,931 | |
| (e) Other current assets | 21 | 8,83,56,553 | | 10,09,07,384 | |
| | | | 99,58,27,160 | | 68,27,96,892 |
| **Total Assets** | | | **1,44,50,57,948** | | **1,08,35,50,436** |
| Corporate Information, Basis of Preparation | 1-2 | | | | |
| Significant Accounting Policies | 3 | | | | |
| Other Information & Disclosure | 30-44 | | | | |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**Akshay B. Kotkar**
**Partner**
Membership No.140581

Place : Kolhapur
Date : May 20, 2019

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Sachin R. Shirgaokar**
**Managing Director**
DIN : 00254442

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN : 00217631

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**

(57)

*(Sources:https://www.synergygreenind.com/investors/annual-report 2018-19)*

SYNERGY GREEN INDUSTRIES LIMITED

(Formerly known as Synergy Green Industries Pvt. Ltd.)

## Statement of Profit and Loss for the Year Ended March 31, 2019

Amount in INR

| Particulars | Note No. | For the Period Ended March 31, 2019 | | For the year ended March 31, 2018 | |
|---|---|---|---|---|---|
| **I. Revenue From Operations** | 22 | 1,65,02,46,928 | | 1,03,34,32,161 | |
| Less: Excise Duty | | - | 1,65,02,46,928 | 48,13,754 | 1,02,86,18,407 |
| **II. Other Income** | 23 | | 53,10,637 | | 26,80,672 |
| **III. Total Revenue ( I + II )** | | | **1,65,55,57,565** | | **1,03,12,99,079** |
| **IV. Expenses** | | | | | |
| a. Cost of Materials Consumed | 24 | | 63,75,93,474 | | 37,74,62,245 |
| b Changes in inventories of finished goods and work-in-progress | 25 | | (6,17,03,112) | | (12,43,32,565) |
| c. Employee Benefit Expenses | 26 | | 14,39,10,249 | | 11,54,31,451 |
| d. Finance Costs | 27 | | 8,62,69,849 | | 7,47,61,023 |
| e. Depreciation and Amortisation Expenses | 28 | | 6,85,48,772 | | 6,36,69,780 |
| f. Other Expenses | 29 | | 72,94,39,615 | | 49,52,00,929 |
| **Total Expenses (IV)** | | | **1,60,40,58,846** | | **1,00,21,92,863** |
| **V. Profit before Tax** | | | **5,14,98,719** | | **2,91,06,216** |
| **VI. Tax Expenses** | | | | | |
| (1) MAT | | 48,00,000 | | - | |
| (2) Deferred Tax Liability / (Asset) | | 60,34,397 | | (1,75,36,118) | |
| (3) Mat Credit | | (48,00,000) | **60,34,397** | - | **(1,75,36,118)** |
| **VII. Profit for the year** | | | **4,54,64,322** | | **4,66,42,334** |
| **VIII. Basic & Diluted Earnings per Equity Share** | | | **3.68** | | **6.96** |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**Akshay B. Kotkar**
**Partner**
Membership No.140581

Place : Kolhapur
Date : May 20, 2019

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Sachin R. Shirgaokar**
**Managing Director**
DIN : 00254442

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN : 00217631

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**

(58)

*(Sources:https://www.synergygreenind.com/investors/annual-report 2018-19)*

## Solution:

### Vertical Balance Sheet of Synergy Pvt., Ltd as at

| Sr. | Particular | | As at March 31, 2018 | | As at March 31, 2019 | | As at March 31, 2020 |
|---|---|---|---|---|---|---|---|
| I | **Sources of Fund** | | | | | | |
| 1 | **Own Fund** | | | | | | |
| A | **Capital** | | 2,106.00 | | 2,484.00 | | 2,484.00 |
| | Equity Shares | 1,035.00 | | 1,413.00 | | 1,413.00 | |
| | Preference Shares | 1,071.00 | | 1,071.00 | | 1,071.00 | |
| B | **Reserve and Surplus (Other equity)** | | (1,209.25) | | 1,326.12 | | 1,658.89 |
| C | **Less: Losses and Fictitious Assets** | | | | | | |
| | **Own Fund/ Net Worth (1)** [Capital + Reserves & Surplus - Losses & Fictitious Assets] | | **896.75** | | **3,810.12** | | **4,142.89** |
| 2 | **Loan Fund** | | | | | | |
| A | **Secured Loans/ Long Term Borrowings** | | 2,737.61 | | 2,217.49 | | 2,494.00 |
| B | **Unsecured Loan** | | | | | | |
| C | **Other Long term Liabilities** | | 0.12 | | 0.12 | | 0.12 |
| D | **Long-Term Provisions** | | 28 | | 34 | | 37 |
| | **Owe Fund (a + b + c)**[Secured Loan + Unsecured Loans + Other Liabilities] | | **2,765.75** | | **2,251.31** | | **2,531.56** |
| | **Total Fund Available /Capital Employed** [Own Fund+ Owed Funds] (1+2) | | **3,662.50** | | **6,061.43** | | **6,674.45** |
| II | **Application of the Fund** | | | | | | |
| 1 | **Net Fixed/ Non-Current Assets** | | | | | | |
| A | **Tangible Assets** | | 3,314.74 | | 3,269.91 | | 5,662.93 |
| | Capital work-in-progress | | 45.09 | | 363.29 | | 87.20 |
| | Intangible assets under development | | 0.00 | | 67.14 | | 0.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Net Tangible Assets (a-b)** | | 3,359.83 | | 3,700.34 | | 5,750.13 |
| **B** | **Intangible Assets** | | 7.70 | | 11.57 | | 116.68 |
| | **Total Fixed Assets (A+B)** | | **3,367.53** | | **3,711.91** | | **5,866.81** |
| | [Net Tangible Assets + Intangible Assets] | | | | | | |
| **2** | **Long Term. Non-Current Investment** | | | | | | |
| | Long term Loans Givens | | 43.50 | | 234.57 | | 425.36 |
| | Deferred Receivables | | 585.24 | | 524.90 | | 235.16 |
| | Others | | 11.27 | | 20.93 | | 15.27 |
| | **Total Long Term. Non-Current Investment** | | **640.00** | | **780.40** | | **675.80** |
| | | | | | | | |
| | **Total Fixed Assets (A+B)** | | **4,007.54** | | **4,492.31** | | **6,542.60** |
| **3** | **Working Capital** | | | | | | |
| | **Quick Assets** | | | | | | |
| a | Cash in Hand | | 250.88 | | 1,325.95 | | 356.16 |
| b | Debtors (Net) /Trade Receivables | | 1,797.70 | | 2,927.33 | | 1,671.43 |
| c | Bills Receivables | | | | | | |
| d | Short Term Loan and Advances | | 5.20 | | 12.38 | | 132.55 |
| e | Other Current Assets | | 1,009.07 | | 883.57 | | 1,286.26 |
| | **Total Quick Assets** | | **3,062.85** | | **5,149.22** | | **3,446.39** |
| f | Inventory | | 3,765.11 | | 4,809.05 | | 4,643.33 |
| **A** | **Current Assets** [Quick Assets + Inventory] | | **6,827.97** | | **9,958.27** | | **8,089.72** |
| | **Less: Quick Liabilities** | | | | | | |
| a | Creditors/Trade Payables | | 4,977.15 | | 5,161.33 | | 4,886.60 |
| b | Short Term Loans | | 893.72 | | 1,778.80 | | 1,791.21 |
| c | Other Current liabilities | | 1,298.53 | | 1,058.30 | | 1,272.26 |
| d | Short-Term provisions | | 3.61 | | 4.12 | | 7.80 |
| | **Total Quick Liabilities (a to d)** | | 7,173.00 | | 8,002.56 | | 7,957.87 |
| e | Bank Overdraft | | | | 386.59 | | |
| B | **Current Liabilities** [Quick Liability + Bank Overdraft] | | **7,173.00** | | **8,389.15** | | **7,957.87** |
| | **Net Current Assets / Working Capital (A-B)** | | **(345.03)** | | **1,569.12** | | **131.85** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Total Assets or Total Funds Employed (1+2+3)** | | **3,662.50** | | **6,061.43** | | **6,674.45** |

*(Note: In bracket figures indicate the minus figures)*

## Vertical Profit and Loss Statement As on 31st March

| Sr. | Particular | | Year Ended March 31, 2018 | | Year Ended March 31, 2019 | | Year Ended March 31, 2020 |
|---|---|---|---|---|---|---|---|
| 1 | **Gross Sale and Services** | | | | | | |
| | (Revenue from Operation) | | 10,286.18 | | 16,502.47 | | 20,787.46 |
| | Other Income | | 26.81 | | 53.11 | | 65.84 |
| 2 | **Less: returns & Allowance** | | | | | | |
| 3 | **Net Sale** | | **10,312.99** | | **16,555.58** | | **20,853.30** |
| 4 | **Less: Cost of Goods Sold** | | | | | | |
| | Raw Material Consumed | | 3,774.62 | | 6,375.93 | | 7,363.58 |
| | Direct Expenses | | 1,154.31 | | 1,439.45 | | 1,928.86 |
| | Manufacturing Exp. | | 4,259.48 | | 6,405.01 | | 7,528.24 |
| | Depreciation | | | | | | |
| | Operating Stock (WIP) | | (1,243.33) | | (617.03) | | 540.16 |
| | **Less: Cost of Goods Sold** | | **7,945.10** | | **13,603.36** | | **17,360.84** |
| 5 | **Gross Profit** | | **2,367.89** | | **2,952.21** | | **3,492.46** |
| 6 | **Less: Operating Expenses** | | | | | | |
| A | Administrative Expenses | 271.81 | | 305.40 | | 369.91 | |
| B | Selling and Distribution Expenses | 420.71 | | 583.64 | | 802.75 | |
| C | Finance Expenses | 684.00 | | 732.91 | | 828.88 | |
| | **Total operating Expenses** | | **1,376.52** | | **1,621.95** | | **2,001.53** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7 | Operating Profit Before Interest | | **991.37** | | **1,330.27** | | **1,490.93** |
| 8 | Less: Interest Paid | | 700.31 | | 815.28 | | 867.19 |
| **9** | **Net Profit after Interest** | | **291.06** | | **514.99** | | **623.74** |
| **10** | **Net Non-Operating Income** | | | | | | |
| **11** | **Net Profit before Tax (NPBT)** | | **291.06** | | **514.99** | | **623.74** |
| 12 | **Less: Income Tax** | | | | | | |
| | **Less : Tax Exp/Deferred Tax Liability/(Asset)** | | (175.36) | | 60.34 | | 290.96 |
| **13** | **Net Profit After Tax** | | **466.42** | | **454.64** | | **332.78** |

*(Note: In bracket figures indicate the minus figures)*

### Comparative Balance Sheet:

| Sr. | Particular | As at March 31, 2019 | As at March 31, 2020 | Absolute Increase or Decrease | Percentage Increase or Decrease |
|---|---|---|---|---|---|
| **I** | **Sources of Fund** | | | | |
| **1** | **Own Fund** | | | | |
| **A** | **Capital** | | | | |
| | Equity Shares | 1413.00 | 1413.00 | 0.00 | 0.00 |
| | Preference Shares | 1071.00 | 1071.00 | 0.00 | 0.00 |
| | **Total Capital** | **2,484.00** | **2,484.00** | **0.00** | **0.00** |
| **B** | **Reserve and Surplus (Other equity)** | 1,326.12 | 1,658.89 | 332.78 | 25.09 |
| **C** | **Less: Losses and Fictitious Assets** | 0.00 | 0.00 | 0.00 | 0.00 |
| | **Net Reserves and Fictitious Reserves (B-C)** | **1,326.12** | **1,658.89** | **332.78** | **25.09** |
| | **Own Fund/ Net Worth (1)** [Capital + Reserves & Surplus - Losses & Fictitious Assets] | **3,810.12** | **4,142.89** | **332.78** | **8.73** |

| | | | | | |
|---|---|---|---|---|---|
| **2** | **Loan Fund** | | | | |
| **A** | **Secured Loans/ Long Term Borrowings** | **2,217.49** | **2,494.00** | **276.52** | **12.47** |
| **B** | **Unsecured Loan** | | | | |
| **C** | **Other Long term Liabilities** | 0.12 | 0.12 | 0.00 | 0.00 |
| **D** | **Long-Term Provisions** | 34 | 37 | 3.73 | 11.07 |
| | **Owe Fund (a + b + C)** [Secured Loan + Unsecured Loans + Other Liabilities] | **2,251.31** | **2,531.56** | **280.25** | **12.45** |
| | **Total Fund Available /Capital Employed** [Own Fund+ Owed Funds] (1+2)] | **6,061.43** | **6,674.45** | **613.02** | **10.11** |
| **II** | **Application of the Fund** | | | | |
| 1 | **Net Fixed/ Non-Current Assets** | | | | |
| A | **Tangible Assets** | **3,269.91** | **5,662.93** | 2393.02 | 73.18 |
| | Capital work-in-progress | **363.29** | **87.20** | (276.09) | (76.00) |
| | Intangible assets under development | 67.14 | 0.00 | 0.00 | 0.00 |
| | **Net Tangible Assets (a-b)** | **3,700.34** | **5,750.13** | **2049.79** | **55.39** |
| **B** | **Intangible Assets** | **11.57** | **116.68** | **105.10** | **908.08** |
| | **Total Fixed Assets (A+B)** [Net Tangible Assets + Intangible Assets] | **3,711.91** | **5,866.81** | 2154.90 | 58.05 |
| **2** | **Long Term. Non- Current Investment** | | | | |
| | Long term Loans Givens | 234.57 | 425.36 | 190.80 | 81.34 |
| | Deferred Receivables | 524.90 | 235.16 | (289.74) | (55.20) |
| | Others | 20.93 | 15.27 | (5.66) | (27.04) |
| | **Total Long Term. Non-Current Investment** | **780.40** | **675.80** | (104.60) | (13.40) |
| | **Total Fixed Assets (A+B)** | **4,492.31** | **6,542.60** | 2050.30 | 45.64 |
| **3** | **Working Capital** | | | | |
| | **Quick Assets** | | | | |
| a | Cash in Hand | 1,325.95 | 356.16 | (969.79) | (73.14) |

| | | | | | |
|---|---|---|---|---|---|
| b | Debtors (Net) /Trade Receivables | 2,927.33 | 1,671.43 | (1255.90) | (42.90) |
| c | Bills Receivables | | | | |
| d | Short Term Loan and Advances | 12.38 | 132.55 | 120.18 | 971.12 |
| e | Other Current Assets | 883.57 | 1,286.26 | 402.69 | 45.58 |
| | **Total Quick Assets** | **5,149.22** | **3,446.39** | **(1702.83)** | **(33.07)** |
| h | Inventory | 4,809.05 | 4,643.33 | (165.72) | (3.45) |
| **A** | **Current Assets** [Quick Assets + Inventory] | **9,958.27** | **8,089.72** | **(1868.55)** | **(18.76)** |
| | **Less: Quick Liabilities** | | | | |
| a | Creditors/Trade Payables | 5,161.33 | 4,886.60 | (274.73) | (5.32) |
| b | Short Term Loans | 1,778.80 | 1,791.21 | 12.41 | 0.70 |
| c | Other Current liabilities | 1,058.30 | 1,272.26 | 213.96 | 20.22 |
| d | Short-Term provisions | 4.12 | 7.80 | 3.67 | 89.03 |
| | **Total Quick Liabilities** | **8,002.56** | **7,957.87** | **(44.68)** | **(0.56)** |
| e | Bank Overdraft | 386.59 | 0.00 | (386.59) | (100) |
| **B** | **Current Liabilities** [Quick Liabilities + Bank Overdraft] | **8,389.15** | **7,957.87** | **(431.27)** | **(5.14)** |
| | **Net Current Assets / Working Capital (A-B)** | **1,569.12** | **131.85** | **(1437.27)** | **(91.60)** |
| | **Total Assets or Total Funds Employed (1+2+3)** | **6,061.43** | **6,674.45** | **613.02** | **10.11** |

*(Note: In bracket figures indicate the minus figures)*

It is stated that the comparative balance sheet compares balance sheet figures of last two years. The comparative balance sheet shows the composition of sources and application of the fund and it is noted that net worth of company increase 8.73% over the period 2020, followed by owe fund increased 12.45 over the period 2020 and its result increased the source of fund 10.11 by the year 2020. Similarly in term of application of fund the total noncurrent assets increased 58.05% by the year 2020. Moreover, long term investment decreased by 13.40% and its effect on total fixed assets which was slightly increased i.e. 45.64%, followed by it is noted that decreased working capital 91.60%, which shows the shortage of fund and increased obligation during the year 2020, its reason behind that increased quick assets and other hand decreased inventory 3.45 by the year 2020. Beside the slightly decreased quick and current liability, and its result reveals the decrease working capital requirement over the year 2020. Thus, it is stated that the comparative financial statement helps to explains about the changes in different items of the financial statements of balance sheet.

**Comparative Profit and Loss Statement:**

| Sr. | Particular | Year Ended March 31, 2019 | Year Ended March 31, 2020 | Absolute Increase or Decrease | Percentage Increase or Decrease |
|---|---|---|---|---|---|
| 1 | **Gross Sale and Services** | | | | |
| | (Revenue from | 16,502.47 | 20,787.46 | 4,285.00 | 25.966 |
| | Operation) | | | | |
| | Other Income | 53.11 | 65.84 | 12.73 | 23.969 |
| 2 | **Less: returns & Allowance** | | | | |
| 3 | **Net Sale** | **16,555.58** | **20,853.30** | **4,297.72** | **25.959** |
| 4 | **Less: Cost of GoodsSold** | | | | |
| | **Raw Material Consumed** | **6,375.93** | **7,363.58** | **987.64** | **15.490** |
| | Direct Expenses | 1,439.45 | 1,928.86 | 489.41 | 34.000 |
| | Manufacturing Exp. | 6,405.01 | 7,528.24 | 1,123.24 | 17.537 |
| | Depreciation | | | | |
| | Operating Stock (WIP) | (617.03) | 540.16 | 1,157.19 | (187.541) |
| | **Less: Total Cost ofGoods Sold** | **13,603.36** | **17,360.84** | **3,757.48** | **27.622** |
| 5 | **Gross Profit** | **2,952.21** | **3,492.46** | **540.25** | **18.300** |
| 6 | Less: Operating Expenses | 0.00 | 0.00 | 0.00 | 0.00 |
| a | Administrative Expenses | 305.40 | 369.91 | 64.51 | 21.122 |
| b | Selling and Distribution | 583.64 | 802.75 | 219.11 | 37.541 |

| | | | | | |
|---|---|---|---|---|---|
| | Expenses | | | | |
| c | Finance Expenses | 732.91 | 828.88 | 95.97 | 13.095 |
| | **Total operating Expenses** | **1,621.95** | **2,001.53** | **379.59** | **23.403** |
| 7 | Operating Profit BeforeInterest | **1,330.27** | **1,490.93** | **160.66** | **12.077** |
| 8 | Less: Interest Paid | 815.28 | 867.19 | 51.91 | 6.367 |
| **9** | **Net Profit after Interest** | **514.99** | **623.74** | **108.75** | **21.118** |
| **10** | **Net Non-Operating Income** | | | | |
| **11** | **Net Profit before Tax(NPBT)** | **514.99** | **623.74** | **108.75** | **21.118** |
| 12 | **Less: Income Tax** | | | | |
| | **Less : Tax Exp./Deferred Tax Liability/(Asset)** | 60.34 | 290.96 | 230.62 | 382.175 |
| **13** | **Net Profit After Tax** | **454.64** | **332.78** | **(121.87)** | **(26.805)** |

*(Note: In bracket figures indicate the minus figures)*

On the basis of comparative income statement it can be said that Gross Profit for the year 2020 has increased by 18.30% over the profit for the year 2019. The Net Sales during the same period has increased by 25.96%, which was coupled with increase in the cost of goods sold which also increased by same 27.62%. This means that Input/Output ratio or the production efficiency level has been maintained during 2020. The same increase of 25.96% in Net Sales and the Cost of goods sold has resulted in increase in Gross Profit by 18.30%. The increase in Net Profit is more pronounced i.e. by 21.11%. The reason for a slightly increase in Net Profit is the comparatively high total expenses i.e. 23.40. The General Expenses during 2019 and 2020 were same but the increase in Selling Expenses by 37.54% has resulted due to increase of total expenses by 23.40%. It's affected on the net profit of the company.

## Common-Size Balance Sheet:

| Sr. | Particular | As at March 31, 2020 | Percentage (%) |
|---|---|---|---|
| **I** | **Sources of Fund** | | |
| **1** | **Own Fund** | | |
| **A** | **Capital** | | |
| | Equity Shares | 1,413.00 | 21.17 |
| | Preference Shares | 1,071.00 | 16.05 |
| | **Total Capital** | **2,484.00** | **37.22** |
| **B** | **Reserve and Surplus (Other equity)** | **1,658.89** | **24.85** |
| **C** | **Less: Losses and Fictitious Assets** | | |
| | **Net Reserves and Fictitious Reserves (B-C)** | **1,658.89** | **24.85** |
| | **Own Fund/ Net Worth (1)** [Capital + Reserves &Surplus - Losses & Fictitious Assets] | **4,142.89** | **62.07** |
| **2** | **Loan Fund** | | |
| **A** | **Secured Loans/ Long Term Borrowings** | **2,494.00** | **37.37** |
| **B** | **Unsecured Loan** | | |
| **C** | **Other Long term Liabilities** | 0.12 | 0.00 |
| **D** | **Long-Term Provisions** | 37 | 0.56 |
| | **Owe Fund (a + b + C)** [Secured Loan + UnsecuredLoans + Other Liabilities] | **2,531.56** | **37.93** |
| | **Total Fund Available /Capital Employed [Own Fund+Owed Funds] (1+2)** | **6,674.45** | **100.00** |
| **II** | **Application of the Fund** | | |
| 1 | **Net Fixed/ Non-Current Assets** | | |
| a | **Tangible Assets** | 5,662.93 | 84.84 |
| | Land and Building | | |
| | Capital work-in-progress | 87.20 | 1.31 |
| | Intangible assets under development | | 0.00 |
| b | Less: Depreciation | | |
| | **Net Tangible Assets** | **5,750.13** | **86.15** |
| **B** | **Intangible Assets** | 116.68 | 1.75 |
| | **Total Fixed Assets (A+B)**[Net Tangible Assets +Intangible Assets] | **5,866.81** | **87.90** |
| **2** | **Long Term. Non-Current Investment** | | |
| | Long term Loans Givens | 425.36 | 6.37 |
| | Deferred Receivables | 235.16 | 3.52 |

| | | | |
|---|---|---|---|
| | Others | 15.27 | 0.23 |
| | **Total Long Term. Non-Current Investment** | 675.80 | 10.13 |
| | | | |
| | **Total Fixed Assets (1+2)** | **6,542.60** | 98.02 |
| | | | |
| **3** | **Working Capital** | | |
| | **Quick Assets** | | |
| a | Cash in Hand | 356.16 | 5.34 |
| b | Debtors (Net) /Trade Receivables | 1,671.43 | 25.04 |
| c | Bills Receivables | | |
| d | Short Term Loan and Advances | 132.55 | 1.99 |
| e | Accrued Income | | |
| f | Short Term or Marketable Investment | | |
| g | Other Current Assets | 1,286.26 | 19.27 |
| | **Total Quick Assets** | **3,446.39** | **51.64** |
| h | Inventory | 4,643.33 | 69.57 |
| i | Pre-Payment (Prepaid Expenses, Advanced for Goods.,Advanced Tax) | | |
| **A** | **Current Assets** [Quick Assets + Inventory] | **8,089.72** | **121.20** |
| | **Current Liabilities** | | |
| a | Creditors/Trade Payables | 4,886.60 | 73.21 |
| b | Short Term Loans | 1,791.21 | 26.84 |
| c | Other Current liabilities | 1,272.26 | 19.06 |
| d | Short-Term provisions | 7.80 | 0.12 |
| | **Total Quick Liabilities (a to d)** | **7,957.87** | **119.23** |
| e | Bank Overdraft | | |
| B | **Total Current Liabilities** [Quick Liabilities + Bank Overdraft] | **7,957.87** | 119.23 |
| | **Net Current Assets / Working Capital (A-B)** | **131.85** | **1.98** |
| | | | |
| | **Total Assets or Total Funds Employed (1+2+3)** | **6,674.45** | **100.00** |

*(Note: In bracket figures indicate the minus figures)*

The above common size balance sheet is divided in two part as sources of fund and application of fund, followed by total fund available or capital employed amount as well as total assets or total funds employed is equal to 100 and individual items of sources of fund and application of fund are expressed as percentage. It is noted that percentage of own fund was 62.07%, followed by loan or woe fund 37.93% as compared to total of total fund available or capital employed amount. Furthermore,it seems that the total assets or total fund employed Rs 6,674.45 i.e. 100% and it percentage divided with total non-current fixed assets 87.90%, followed by total long term non-current investment is 10.13% and its total fixed assets total is 98.02%. Beside this working capital is 1.98% and were excess of current assets i.e. 121.20% and on the other hand current liability were 119.23% as percentage compare to total assets or total funds employed.

**Common-Size Profit and Loss Account for the year 31st March 2020**

| Sr. | Particular | Year Ended March 31, 2020 | Percentage (%) |
|---|---|---|---|
| **1** | **Gross Sale and Services** | | |
| A | (Revenue from Operation) | 20,787.46 | 99.68 |
| B | Other Income | 65.84 | 0.32 |
| **2** | **Less: returns & Allowance** | | |
| **3** | **Net Sale** | **20,853.30** | **100.00** |
| **4** | **Less: Cost of Goods Sold** | | |
| A | Raw Material Consumed | 7,363.58 | 35.31 |
| B | Direct Expenses | 1,928.86 | 9.25 |
| c | Manufacturing Exp. | 7,528.24 | 36.10 |
| d | Operating Stock (WIP) | 540.16 | 2.59 |
| | **Less: Total Cost of Goods Sold** | **17,360.84** | 83.25 |
| **5** | **Gross Profit** | **3,492.46** | 16.75 |
| **6** | **Less: Operating Expenses** | | |
| A | Administrative Expenses | 369.91 | 1.77 |
| B | Selling and Distribution Expenses | 802.75 | 3.85 |
| C | Finance Expenses | 828.88 | 3.97 |
| | **Total operating Expenses** | **2,001.53** | 9.60 |
| **7** | **Operating Profit Before Interest** | **1,490.93** | 7.15 |
| 8 | Less: Interest Paid | 867.19 | 4.16 |
| **9** | **Net Profit after Interest** | **623.74** | 2.99 |
| **10** | **Net Non-Operating Income** | | |
| **11** | **Net Profit before Tax (NPBT)** | **623.74** | 2.99 |
| 12 | **Less: Income Tax** | | |

| | | | |
|---|---|---|---|
| | **Less : Tax Expenses /Deferred TaxLiability/(Asset)** | 290.96 | 1.40 |
| **13** | **Net Profit After Tax** | **332.78** | 1.60 |

It shows that the vertical analysis of common size income statement, which helps to comparisons of items within the same financial statement. It is understood that the common-size income statement is an income statement where each line item is expressed as a percentage of a base figure. And present common size income statement divided in each line items by Net Sale i.e. Rs. 20,853.30 is 100%, followed by is as compare to net revenue percentage cost of goods sold is 83.25% and after deduction of Cost of Goods sold from net revenue company got 16.75% gross profit with compare to net revenue, followed by total operating expenses 9.60%, net profit after interest 7.15% , net profit before tax is 2.99% and finally net profit after tax was 1.60% which shows the percentage relationship with net sale.

### Trend Analysis of Balance Sheet

| Sr. | Particular | As at March 31, 2018 | As at March 31, 2019 | As at March 31, 2020 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **I** | **Sources of Fund** | | | | | | |
| **1** | **Own Fund** | | | | | | |
| **A** | **Capital** | | | | | | |
| | Equity Shares | 1,035.00 | 1413.00 | 1413.00 | 100 | 136.52 | 136.52 |
| | Preference Shares | 1,071.00 | 1071.00 | 1071.00 | 100 | 100.00 | 100.00 |
| | **Total Capital** | **2,106.00** | **2,484.00** | **2,484.00** | **100** | **117.95** | **117.95** |
| **B** | **Reserve and Surplus (Other equity)** | (1,209.25) | (1,326.12) | (1,658.89) | 100 | (109.66) | (137.18) |
| **C** | **Less: Losses and Fictitious Assets** | | | | | | |
| | **Net Reserves and Fictitious Reserves (B-C)** | **(1,209.25)** | **1,326.12** | **1,658.89** | **100** | **(109.66)** | **(137.18)** |
| | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Own Fund/ Net Worth (1)** [Capital + Reserves& Surplus - Losses & Fictitious Assets] | **896.75** | **3,810.12** | **4,142.89** | **100** | **424.88** | **461.99** |
| **2** | **Loan Fund** | | | | | | |
| **A** | **Secured Loans/ Long Term Borrowings** | 2,737.61 | 2,217.49 | 2,494.00 | 100 | 81.00 | 91.10 |
| **B** | **Unsecured Loan** | | | | | | |
| **C** | **Other Long term Liabilities** | 0.12 | 0.12 | 0.12 | 100 | 100.00 | 100.00 |
| **D** | **Long-Term Provisions** | 28 | 34 | 37 | 100 | 120.27 | 133.58 |
| | **Owe Fund (a +b + C)** [Secured Loan + Unsecured Loans + Other Liabilities] | **2,765.75** | **2,251.31** | **2,531.56** | **100** | **81.40** | **91.53** |
| | **Total Fund Available / Capital Employed [Own Fund+ Owed Funds] (1+2)** | **3,662.50** | **6,061.43** | **6,674.45** | **100.00** | **165.50** | **182.24** |
| **II** | **Application of theFund** | | | | | | |
| 1 | **Net Fixed/ Non-Current Assets** | | | | | | |
| A | **Tangible Assets** | 3,314.74 | 3,269.91 | 5,662.93 | 100 | 98.65 | 170.84 |
| | Capital work-in-progress | 45.09 | 363.29 | 87.20 | 100 | 805.69 | 193.39 |
| | Intangible assets under development | 0.00 | 67.14 | 0.00 | 0.00 | 100 | 0.00 |
| | Less: Depreciation | | | | | | |
| | **Net Tangible Assets** | 3,359.83 | 3,700.34 | 5,750.13 | 100 | 110.13 | 171.14 |
| **B** | **Intangible Assets** | 7.70 | 11.57 | 116.68 | 100 | 150.31 | 1515.25 |
| | **Total Fixed Assets (A+B)** [Net Tangible Assets + Intangible Assets] | **3,367.53** | **3,711.91** | **5,866.81** | **100** | **110.23** | **174.22** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **2** | **Long Term. Non-** | | | | | | |
| | **Current Investment** | | | | | | |
| | Long term Loans Givens | 43.50 | 234.57 | 425.36 | 100 | 539.27 | 977.92 |
| | Deferred Receivables | 585.24 | 524.90 | 235.16 | 100 | 89.69 | 40.18 |
| | Others | 11.27 | 20.93 | 15.27 | 100 | 185.81 | 135.57 |
| | **Total Long Term. Non-Current Investment** | **640.00** | **780.40** | **675.80** | **100** | **121.94** | **105.59** |
| | | | | | | | |
| | **Total Fixed Assets (A+B)** | **4,007.54** | **4,492.31** | **6,542.60** | **100** | **112.10** | **163.26** |
| **3** | **Working Capital** | | | | | | |
| | **Quick Assets** | | | | | | |
| a | Cash in Hand | 250.88 | 1,325.95 | 356.16 | 100 | 528.52 | 141.96 |
| b | Debtors (Net) /Trade Receivables | 1,797.70 | 2,927.33 | 1,671.43 | 100 | 162.84 | 92.98 |
| c | Bills Receivables | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d | Short Term Loan and Advances | 5.20 | 12.38 | 132.55 | 100 | 238.02 | 2549.43 |
| g | Other Current Assets | **1,009.07** | **883.57** | **1,286.26** | **100** | **87.56** | **127.47** |
| | **Total Quick Assets** | **3,062.85** | **5,149.22** | **3,446.39** | **100** | **168.12** | **112.52** |
| h | Inventory | 3,765.11 | 4,809.05 | 4,643.33 | 100 | 127.73 | 123.33 |
| i | Pre-Payment (Prepaid Expenses, Advanced for Goods., Advanced Tax) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **A** | **Current Assets** | **6,827.97** | **9,958.27** | **8,089.72** | **100** | **145.85** | **118.48** |
| | **Less: Quick Liabilities** | | | | | | |
| a | Creditors/TradePayables | 4,977.15 | 5,161.33 | 4,886.60 | 100 | 103.70 | 98.18 |
| b | Short Term Loans | 893.72 | 1,778.80 | 1,791.21 | 100 | 199.03 | 200.42 |
| c | Other Current liabilities | 1,298.53 | 1,058.30 | 1,272.26 | 100 | 81.50 | 97.98 |
| d | Short-Term provisions | 3.61 | 4.12 | 7.80 | 100 | 114.32 | 216.10 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Total Quick Liabilities (a to d)** | **7,173.00** | **8,002.56** | **7,957.87** | **100** | **111.57** | **110.94** |
| e | Bank Overdraft | 0.00 | 386.59 | 0.00 | 0 | 100.00 | 0.00 |
| B | **Current Liabilities** [Quick Liability + Bank Overdraft] | **7,173.00** | **8,389.15** | **7,957.87** | **100** | **116.95** | **110.94** |
| | **Net Current Assets / Working Capital (A-B)** | **(345.03)** | **1,569.12** | **131.85** | 100 | (454.78) | (38.21) |
| | **Total Assets or Total Funds Employed (1+2+3)** | **3,662.50** | **6,061.43** | **6,674.45** | **100.00** | **165.50** | **182.24** |

*(Note: In bracket figures indicate the minus figures)*

From the trend analysis of the Balance Sheet reveals that the total of total fund available or capital employed and total assets or total funds employed correspondingly increased last two years i.e. 165.50% and 182.24% as compare to the base year 2018. It seems that the correspondingly increased net worth i.e. 424.88% and 461.99% by the year 2019 and 2020 respectively with compare to base year 2018, followed by increased owe fund i.e. 81.40% and 91.53% by the year 2019 and 2020. Moreover, in term of application of fund total fixed assets increased i.e. 87.56% and 127.47% by the year 2019 and 2020 respectively. Furthermore it seem that working capital was found negative trend, which reveals the change in the current operating assets has increased higher than the current operating liabilities.

### Trend Analysis of Income Statement

| Sr. | Particular | Year Ended March 31, 2018 | Year Ended March 31, 2019 | Year Ended March 31, 2020 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| 1 | **Gross Sale and Services** | | | | | | |
| | (Revenue from Operation) | 10,286.18 | 16,502.47 | 20,787.46 | 100 | 160.43 | 202.09 |
| | Other Income | 26.81 | 53.11 | 65.84 | 100 | 198.11 | 245.59 |
| 2 | **Less: returns & Allowance** | | | | | | |
| 3 | **Net Sale** | **10,312.99** | **16,555.58** | **20,853.30** | **100** | **160.53** | **202.20** |
| 4 | **Less: Cost of Goods Sold** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Raw Material Consumed | 3,774.62 | 6,375.93 | 7,363.58 | 100 | 168.92 | 195.08 |
| e | Direct Expenses | 1,154.31 | 1,439.45 | 1,928.86 | 100 | 124.70 | 167.10 |
| | Manufacturing Exp. | 4,259.48 | 6,405.01 | 7,528.24 | 100 | 150.37 | 176.74 |
| g | Operating Stock (WIP) | (1,243.33) | (617.03) | 540.16 | 100 | 49.63 | (43.44) |
| | **Less: Cost of Goods Sold** | **7,945.10** | **13,603.36** | **17,360.84** | **100** | **171.22** | **218.51** |
| **5** | **Gross Profit** | **2,367.89** | **2,952.21** | **3,492.46** | **100** | **124.68** | **147.49** |
| **6** | **Less: Operating Expenses** | | | | | | |
| A | Administrative Expenses | 271.81 | 305.40 | 369.91 | 100 | 112.36 | 136.09 |
| B | Selling and Distribution Expenses | 420.71 | 583.64 | 802.75 | 100 | 138.73 | 190.81 |
| C | Finance Expenses | 747.61 | 732.91 | 828.88 | 100 | 98.03 | 110.87 |
| | **Total operating Expenses** | **1,376.52** | **1,621.95** | **2,001.53** | **100** | **117.83** | **145.41** |
| 7 | Operating Profit Before Interest | **991.37** | **1,330.27** | **1,490.93** | **100** | **134.18** | **150.39** |
| 8 | Less: Interest Paid | 700.31 | 815.28 | 867.19 | 100 | 116.42 | 123.83 |
| **9** | **Net Profit after Interest** | **291.06** | **514.99** | **623.74** | **100** | **176.93** | **214.30** |
| **10** | **Net Non-Operating Income** | | | | | | |
| **11** | **Net Profit before Tax (NPBT)** | **291.06** | **514.99** | **623.74** | **100** | **176.93** | **214.30** |
| 12 | **Less: Income Tax** | | | | | | |
| | **Less : Tax Expenses /Deferred Tax Liability/(Asset)** | (175.36) | 60.34 | 290.96 | 100 | (34.41) | (165.92) |
| **13** | **Net Profit After Tax** | **466.42** | **454.64** | **332.78** | **100** | **97.47** | **71.35** |

*(Note: In bracket figures indicate the minus figures)*

From the trend analysis of Income statement it is shown that the net sale last subsequently two years i.e. 160.53% and 202.20% by the year 2020 and 2019 respectively. Similarly cost of goods sold increased by the year 2019 and 2020 i.e. 171.22 % and 218.51% respectively, furthermore, it is seems that correspondingly increased other items like gross profit, total operating items, net profit after interest, net profit after tax respectively. Hence, the income statement the figures of 2020 when compared with 2019 reveal that the Sales have increased by 41.67% respectively. Similarly, the cost of goods sold and the expenses have increased by 47.29% and 27.58% respectively. Its resulted Net Profit were slightly decreased by 26.12% by the year 2020 as compare to preceding year 2019.

## 3.7 Reference for Further Study


1. Khan M.Y. and Jain P.K., Management accounting, Tata McGrow Hill, New Delhi.
2. Pandey I. M. : Management Accounting, Vani Publication, Delhi
3. Manmohan & Goyal : Principles of Management Accounting.
4. Maheshwari : Principles of Management Accounting.
5. Management Accounting : M.N.Arora, Himalaya Publishing House.


❑❑❑

**Unit-3**

# Analysis of Financial Statements Part-II

**Structure**



## 3.0 Objectives :

After studying this unit you will be able to:

- Understand the financial information presented in the financial statement.
- Know the analysis of the profitability, liquidity, solvency and efficiency levels in the business.
- Study the intra-firm or inter firm comparisons with use of ratio analysis.

## 3.1 Introduction

In previous unit analysis of financial statement part I, were we learn that the analysis of financial statements plays an important role in determining the financial strengths and weaknesses of a company relative to that of other companies in the same industry. The analysis also reveals whether the company's financial position has been improving or deteriorating over time. In this unit we are going to learn the ratio analysis. The financial ratio analysis involves the calculation and comparison of ratios which are derived from the information given in the company's financial statement. The historical trend of the financial ratios can be used to make inferences about a company financial condition, its operation as well as its investment attractiveness. Hence, it is essential to learn financial ratios analysis under entitled unit analysis of financial statement part II.

## 3.2 Presentation of Subject Matter

The analysis of the financial statements and interpretations of financial results of a particular period of operations with the help of 'ratio' is termed as "ratio analysis." Ratio analysis used to determine the financial soundness of a business concern. Alexander Wall designed a system of ratio analysis and presented it in useful form in the year 1909. Ratio analysis is a process of determining and interpreting relationships between items of financial statements to provide a meaningful understanding of the financial performance and position of an enterprise.

### 3.2.1 Meaning and Definition:

The term 'ratio' refers to the mathematical relationship between any two inter-related variables. In other words, it establishes relationship between two items expressed in quantitative form.

According **J. Batty**, Ratio can be defined as "the term accounting ratio is used to describe significant relationships which exist between figures shown in a balance sheet and profit and loss account in a budgetary control system or any other part of the accounting management."

Ratio can be used in the form of (1) percentage (20%) (2) Quotient (say 10) and (3) Rates. In other words, it can be expressed as a to b; a: b (a is to b) or as a simple fraction, integer and decimal. A ratio is calculated by dividing one item or figure by another item or figure.

### 3.2.2 Interpretation of Ratios:

Ratios may be interpreted in the following four different ways :

Interpretation or Analysis of an Individual (or) Single ratio.

(a) Interpretation or Analysis by referring to a group of ratios.

(b) Interpretation or Analysis of ratios by trend.

(c) Interpretations or Analysis by inter-firm comparison.

**3.2.3 Principles of Ratio Selection**

The following principles should be considered before selecting the ratio:

(1) Ratio should be logically inter-related.

(2) Pseudo ratios should be avoided.

(3) Ratio must measure a material factor of business.

(4) Cost of obtaining information should be borne in mind.

(5) Ratio should be in minimum numbers.

(6) Ratio should be facilities comparable.

**3.2.4 Advantages of Ratio Analysis**

Ratio analysis is necessary to establish the relationship between two accounting figures to highlight the significant information to the management or users who can analyse the business situation and to monitor their performance in a meaningful way. The following are the advantages of ratio analysis:

(1) It facilitates the accounting information to be summarized and simplified in a required form.

(2) It highlights the inter-relationship between the facts and figures of various segments of business.

(3) Ratio analysis helps to remove all type of wastages and inefficiencies.

(4) It provides necessary information to the management to take prompt decision relating to business.

(5) It helps to the management for effectively discharge its functions such as planning, organizing, controlling, directing and forecasting.

(6) Ratio analysis reveals profitable and unprofitable activities. Thus, the management is able to concentrate on unprofitable activities and consider

improving the efficiency.

(7) Ratio analysis is used as a measuring rod for effective control of performance of business activities.

(8) Ratios are an effective means of communication and informing about financial soundness made by the business concern to the proprietors, investors, creditors and other parties.

(9) Ratio analysis is an effective tool which is used for measuring the operating results of the enterprises.

(10) It facilitates control over the operation as well as resources of the business.

(11) Effective co-operation can be achieved through ratio analysis.

(12) Ratio analysis provides all assistance to the management to fix responsibilities.

(13) Ratio analysis helps to determine the performance of liquidity, profitability and solvency position of the business concern.

**3.2.5 Limitations of Ratio Analysis:**

Ratio analysis is one of the important techniques of determining the performance of financial strength and weakness of a firm. Though ratio analysis is relevant and useful technique for the business concern, the analysis is based on the information available in the financial statements. There are some situations, where ratios are misused; it may lead the management to wrong direction. The ratio analysis suffers from the following limitations:

1) Ratio analysis is used on the basis of financial statements. Number of limitations of financial statements may affect the accuracy or quality of ratio analysis.

2) Ratio analysis heavily depends on quantitative facts and figures and it ignores qualitative data. Therefore this may limit accuracy.

3) Ratio analysis is a poor measure of a firm's performance due to lack of adequate standards laid for ideal ratios.

4) It is not a substitute for analysis of financial statements. It is merely used as a tool for measuring the performance of business activities.

5) Ratio analysis clearly has some latitude for window dressing.

6) It makes comparison of ratios between companies which is questionable due to differences in methods of accounting operation and financing.
7) Ratio analysis does not consider the change in price level, as such; these ratios will not help in drawing meaningful inferences.

**3.2.6 Classification of Ratios:**

Accounting Ratios are classified on the basis of the different parties interested in making use of the ratios. A very large number of accounting ratios are used for the purpose of determining the financial position of a concern for different purposes. Ratios may be broadly classified:

(1) On the basis of Balance Sheet.

(2) On the basis of Profit and Loss Account.

(3) On the basis of Mixed Statement (or) Balance Sheet and Profit and Loss Account.

This classification further grouped in to:

I. Liquidity Ratios

II. Profitability Ratios

III. Turnover Ratios

IV. Solvency Ratios

V. Overall Profitability Ratios

➢ **Classifications of Ratios can be explained as under**:

1. **On the basis of Balance Sheet**: Balance sheet ratios which establish the relationship between two balance sheet items. For example Current Ratio, Fixed Asset Ratio, Capital Gearing Ratio and Liquidity Ratio etc.
2. **On the basis of Income Statements**: These ratios deal with the relationship between two items or two group of items of the income statement or profit and loss account. For example Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, and Net Profit Ratio etc.
3. **On the basis of Mixed Statements**: These ratios also known as Composite or Mixed Ratios or Inter Statement Ratios. The inter statement ratios which deal

with relationship between the item of profit and loss account and item of balance sheet. For example, Return on Investment Ratio, Net Profit to Total Asset Ratio, Creditor's Turnover Ratio, Earning per Share Ratio and Price Earnings Ratio etc. Classification of ratios by statement is given below showing clearly the types of ratios may be broadly classified on the basis of Income Statement and Balance Sheet.

**Classification of Ratios by Statement**

| On the Basis of B/S | On the Basis of P & L | On the Basis of P&L and B/S |
|---|---|---|
| 1. Current Ratio<br>2. Liquid Ratio<br>3. Absolute Liquid Ratio<br>4. Debt Equity Ratio<br>5. Proprietary Ratio<br>6. Capital Gearing Ratio<br>7. Assets-Proprietorship Ratio<br>8. Capital Inventory to – Working Capital Ratio<br>9. Ratio of Current Assets to Fixed Assets | 1. Gross Profit Ratio<br>2. Operating Ratio<br>3. Operating Profit Ratio<br>4. Net Profit Ratio<br>5. Expense Ratio<br>6. Interest Coverage Ratio | 1. Stock Turnover Ratio<br>2. Debtors Turnover Ratio<br>3. Payable Turnover Ratio<br>4. Fixed Asset Turnover Ratio<br>5. Return on Equity<br>6. Return on Shareholder's Fund<br>7. Return on Capital Employed<br>8. Capital Turnover Ratio<br>9. Working Capital Turnover Ratio<br>10. Return on Total Resources<br>11. Total Assets Turnover |

**A) LIQUIDITY RATIOS**
**(Short Term Solvency)**

'Liquidity' means ability of a firm to meet its current obligations. The liquidity ratios, therefore, try to establish a relationship between current liabilities, which are the obligations soon becoming due and current assets, which presumably provide the source from which these obligations will be met. In other words, the liquidity ratios answer the question: "Will the company probably be able to meet its obligations when they become due?" The failure of a company to meet its obligations when they become due to lack of adequate liquidity will result in bad credit ratings, loss of creditor's confidence or even in law suits against the company. The following ratios are commonly used to indicate the liquidity of business.

### A.1 Current Ratio (Working Capital Ratio)

This ratio is most commonly used to perform the short-term financial analysis. Also known as the working capital ratio, this ratio matches the current assets of the firm to its current liabilities. In order to compute this ratio, the following formula is used:

$$\textbf{Current Ratio} = \frac{\textbf{Current Assets}}{\textbf{Current Liabilities}}$$

**Meaning of Current Assets:** Current assets include: *(a)* Cash in hand and at bank; *(b)* Readily marketable securities, *(c)* Bill Receivable, *(d)* Debtors less provision for bad and doubtful debts, *(e)* Stock in trade, (f) Prepaid expenses, *(g)* Any other asset which, in the normal course of business, will be converted in cash in a year's time.

**Meaning of Current Liabilities:** These include all obligations maturing within a year, such as :

*(a)* Sundry Creditors *(b)* Bills Payable *(c)* Bank Overdraft *(d)* Income Tax Payable *(e)* Dividends Payable (f) Outstanding expenses (g) Provision for taxation *(h)* Unclaimed dividends.

**Significance:** Current ratio throws good light on the short-term financial position and policy. It is an indicator of a firm's ability to promptly meet its short-term liabilities. A relatively high current ratio indicates that the firm is liquid and has the ability to meet its current liabilities. On the other hand, a relatively low current ratio indicates that the firm will find it difficult to pay its bills.

Normally a current ratio of 2: 1 is considered satisfactory. In other words, current assets should be twice the amount of current liabilities. If the current ratio is 1: 1, it means that funds yielded by current assets are just sufficient to pay the amounts due to various creditors and there will be nothing left to meet the expenses which are being currently incurred. Thus the ratio should always be more than 1: 1. A very high current ratio is also not desirable because it indicates idleness of funds which is not a sign of efficient financial management.

**Illustration**

The following is the Balance Sheet of India Manufacturing Co. Ltd, as on 31st Dec. 2012:

| *Liabilities* | Rs. | *Assets* | Rs. |
|---|---|---|---|
| Equity Capital | 48,000 | Plant and Machinery | 90,000 |
| Profit and Loss Ne | 12,000 | Sundry Creditors | 18,000 |
| Debentures | 30,000 | Stock | 24,000 |
| Sundry Creditors | 46,800 | Cash at Bank | 4,560 |
| Taxation Provision | 1,200 | Prepaid Insurance | 1,440 |
| | **1,38,000** | | **1,38,000** |

From the above data, current ratio is calcuated as under:

Current Assets $= \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{48{,}000}{48{,}000} = 1:1$

Current Assets = Sundry Debtors + Stock + Cash + Prepaid insurance

= 18,000 + 24,000 + 4,560 + 1,440 = Rs. 48,000

Current Laibilities = Sundry Creditors + Taxation Provision

= 46,800 + 1,200 = Rs. 48,000

**A.2 Quick Ratio / Liquid Ratio**

This ratio is also known as *acid test ratio or liquid ratio.* It is a more severe test of liquidity of a company. It shows the ability of a business to meet its immediate financial commitments. It is used to supplement the information given by the current ratio.

$$= \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

$$\text{Liquid Ratio} = \frac{\begin{array}{c}\text{Liquid Assets}\\ \text{(Current Assets} - \text{Stcok and Prepaid Expenses)}\end{array}}{\begin{array}{c}\text{Liquid Liabilities}\\ \text{(Current Liabilities} - \text{B} \quad \text{Overdraft)}\end{array}}$$

Quick Ratio can be calculated by two basic components of quick assets and current liabilities.

Quick Assets = Current Assets – (Inventories + Prepaid expenses)

Current liabilities represent those liabilities which are payable within a year.

The ideal Quick Ratio of 1:1 is considered to be satisfactory. High Acid Test Ratio is an indication that the firm has relatively better position to meet its current obligation in time. On the other hand, a low value of quick ratio exhibiting that the firm's liquidity position is not good.

***Advantages***

(1) Quick Ratio helps to measure the liquidity position of a firm.

(2) It is used as a supplementary to the current ratio.

(3) It is used to remove inherent defects of current ratio.

**Illustration**

**Calculate Quick Ratio from the information given below:**

| | |
|---|---:|
| Current Assets | 4,00,000 |
| Current Liabilities | 2,00,000 |
| Inventories (Stock) | 25,000 |
| Prepaid Expenses | 25,000 |
| Land and Building | 4,00,000 |
| Share Capital | 3,00,000 |
| Good will | 2,00,000 |

**Solution:**

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

$$= \frac{\text{Current Assets} - (\text{Inventories} + \text{Prepaid Expenses})}{\text{Current Liabilities}}$$

$$= \frac{\text{Rs.}4{,}00{,}000 - (25{,}000 + 2\quad{,}000)}{\text{Rs.}2{,}00{,}000}$$

$$= \frac{\text{Rs.}4{,}00{,}000 - 50{,}000}{\text{Rs.}2{,}00{,}000}$$

$$= \frac{\text{Rs. } 3{,}50{,}000}{\text{Rs.}2{,}00{,}000}$$

$= 1.75$ (or) $1.75 : 1$

**Illustration**

The following is the Balance Sheet of Bharat Electronics Co. as on 30th June 2013.

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Equity Capital | 3,00,000 | Land and Building | 1,50,000 |
| Sundry Creditors | 48,000 | Plant and Machinery | 85,000 |
| Bills Payable | 10,000 | Short term Investments | 16,000 |
| Bank Overdraft | 5,000 | Stock in trade | 50,000 |
| Outstanding expenses | 2,000 | Debtors | 59,000 |
| | | Prepaid expenses | 1,000 |
| | | Cash in hand | 4,000 |
| | **3,65,000** | | **3,65,000** |

Calculate the following ratios:

(i) Current ratio,

*(ii)* Quick ratio.

What conclusions do you draw about the company on the basis of these ratios?

**Solution:**

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liability}} = \frac{\text{Investment +Stock+Debtors+Prepa} \quad \text{Exp.+Ca}}{\text{S.Cr.+Outstandin} \quad \text{exp.+Bi} \quad \text{Payable+Bank Overdraft}}$$

$$= \frac{16{,}000+50{,}000 \quad 59{,}000+1{,}000+4{,}000}{48{,}000+2{,}000+10{,}000+5{,}000}$$

$$\text{Current Ratio} = \frac{1{,}30{,}000}{65{,}000} = 2:1$$

**Comments.** The current ratio of 2:1 as calculated above shows that short term liquidity position of the company is quite satisfactory.

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{\text{Investments+Debtos+Cas}}{\text{S.Crs.+Outstandin} \quad \text{Exp.+Bi} \quad \text{Payable}}$$

$$= \frac{16{,}000+59{,}000+4{,}000}{48{,}000+2{,}000+10{,}000} = \frac{79{,}000}{60{,}000} = 1.32 : 1$$

Comments. The liquid or quick ratio of 1.32 : 1 is more than satisfactory. It may therefore be said that short term liquidity of the company is very sound.

**Illustration**

The following ascertain Liquid Assets & Current Liabilities.

Current Ratio 3 : 1, Quick Ratio 1: 1, Current Assets are Rs. 180000/-.

**Solution:**

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$3 = \frac{1,80,000}{\text{Current Liabilities}}$$

$$\text{Current Liabilities} = \frac{1,80,000}{3} = \text{Rs. } 60,000$$

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

$$1 = \frac{\text{Current Assets}}{60,000}$$

Quick Assets = Rs. 60,000.

**Illustration**

Suyog Ltd. has a current ratio of 4.5: 1 and a quick ratio of 3: 1. If its inventory is Rs, 60,000, find out its total current assets and total current liabilities.

**Solution:**

Current Ratio: 4.5:1

Quick ratio: 3:1

Difference between current assets and Quick assets is stock (or inventory)

Thus 60,000 = Current Assets – Quick Assets

60,000 = 4.5 – 3

60,000 = 1.5

$$\text{Current Assets} = \frac{60,000 \times 4.5}{1.5} = \text{Rs. } 1,80,000$$

$$\text{Current Liabilities} = \frac{60,000 \times 1}{1.5} = \text{Rs. } 40,000$$

Quick Assets = $\frac{60{,}000 \times 3}{1.5}$ = Rs. 1,20,000

**Illustration**

Yogesh Ltd has a current ratio of 3: 1 and quick ratio of 1:1. It's current liabilities are Rs. 1,50,000. Find out the value of stock in trade.

Stock in trade = Current Assets – Quick Assets.

Current ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$ = 3

Thus current assets = current liabilities x 3

Current assets = 1,50,000 x 3 = Rs. 4,50,000

Quick ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$ = 1

Quick Assets = Rs. 1,50,000

Stock in trade = Current Assets – Quick Assets

= 4,50,000 – 1,50,000 = Rs. 3,00,000

**Illustration**

A firm has a current ratio of 3: 1. Its net working capital is Rs. 2, 00,000. You are required to determine (i) current assets, (ii) current liabilities, and (iii) liquid assets assuming inventory of Rs. 2, 20,000.

**Solution:**

Working Capital = Current Assets – Current Liabilities

Current ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$ = 3 : 1

Suppose Current Liabilities = $x$, then current assets = $3x$

Thus 2,00,000 = $3x - x$

2,00,000 = $2x$

$x$ = Rs. 1,00,000 i.e. Current Liabilities

$3x$ = Rs. 3,00,000 i.e. Current Assets

Liquid Assets = Current Assets – Stock

$= 3,00,000 – 2,20,000 =$ **Rs. 80,000**.

**Illustration**

Sony Ltd. has a quick ratio of 3: 1 and current liabilities of Rs. 1,00,000. Stock in trade is Rs. 50,000. Find out its current assets and current ratio.

**Solution :**

$$\text{Quick ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{3}{1}$$

Thus Quick Assets = Current liabilities x 3

= Rs. 1,00,000 x 3 = Rs. 3,00,000

Current Assets = Quick Assets + Stock

= 3,00,000 + 50,000 = Rs. 3,50,00

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{3,50,000}{1,00,000} = 3.5:1$$

**Absolute Liquid Ratio**

Absolute Liquid Ratio is also called as Cash Position Ratio (or) Over Due Liability Ratio. This ratio established the relationship between the absolute liquid assets and current liabilities. Absolute Liquid Assets include cash in hand, cash at bank, and marketable securities or temporary investments. The optimum value for this ratio should be one, i.e., 1: 2. It indicates that 50% worth absolute liquid assets are considered adequate to pay the 100% worth current liabilities in time. If the ratio is relatively lower than one, it represents that the company's day-to-day cash management is poor. If the ratio is considerably more than one, the absolute liquid ratio represents enough funds in the form of cash to meet its short-term obligations in time. The Absolute Liquid ratios can be calculated by dividing the total of the Absolute Liquid Assets by Total Current Liabilities. Thus,

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

**Illustration**

| **Liabilities** | **Rs.** | **Assets** | **Rs.** |
|---|---|---|---|
| Bills Payable | 30,000 | Goodwill | 2,00,000 |

| | | | |
|---|---|---|---|
| Sundry Creditors | 20,000 | Land and Building | 2,00,000 |
| Share Capital | 1,0,000 | Inventories | 50,000 |
| Debenture | 2,00,000 | Cash in Hand | 30,000 |
| Bank Overdraft | 25,000 | Cash at Bank | 20,000 |
| | | Sundry Debtors | 50,000 |
| | | Bills Payable | 75,000 |
| | | Marketable Securities | 10,000 |

**Solution :**

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

Absolute Liquid Assets = Cash in Hand + Cash at Bank + Marketable Securities

= Rs. 30,000 + 20,000 + 10,000

= Rs. 60,000

Current Liabilities = Rs. 30,000 + 20,000 + 25,000

= Rs. 75,000

$$\text{Absolute Liquid Ratio} = \frac{60,000}{75,000}$$

= 0.8

The ratio of 0.8 is quite satisfactory because, it is much higher than the optimum value of 50%.

**Illustration**

You are given the following information:

Cash in Hand Rs. 10,000

Cash at Bank Rs. 15,000

Sundry Debtors Rs.75,000

Stock Rs. 60,000

Bills Payable Rs. 25,000

Bills Receivable Rs.30,000

Sundry Creditors Rs.40,000

Outstanding Expenses Rs.20,000

Prepaid Expenses Rs.10,000

Dividend Payable Rs.15,000

Land & Building Rs. 2,00,000

Goodwill Rs. 1,00,000

Calculate: (a) Current Ratio (b) Liquid Ratio (c) Absolute Liquidity Ratio

**Solution :**

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

| **Current Assets** | **Rs.** |
|---|---|
| Cash in Hand | 10,000 |
| Cash in Bank | 15,000 |
| Sundry Debtors | 75,000 |
| Stock | 60,000 |
| Bills Receivable | 30,000 |
| Prepaid Expenses | 10,000 |
| Total Current Assets | Rs. 2,00,000 |
| Current Liabilities: | Rs. |
| Bills Payable | 25,000 |
| Sundry Creditors | 40,000 |
| Outstanding Expenses | 20,000 |
| Dividend Payable | 15,000 |
| Total Current Liabilities | 1,00,000 |

Current Ratio $= \frac{\text{Rs.2,00,000}}{\text{Rs.1,00,000}}$

= 2 times (or) 2:1

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

Liquid Assets = Current Assets – (Stock and Prepaid Expenses)

$$= \text{Rs. } 2,00,000 - (60,000 + 10,000)$$

$$= \text{Rs. } 2,00,000 - 70,000$$

$$= \text{Rs. } 1,30,000$$

$$\text{Liquid Ratio} = \frac{1,30,000}{1,00,000} = 1.3 \text{ times (or) } 1:3:1$$

c) $$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

Absolute Liquid Assets = Cash in hand + Cash at Bank + Marketable Securities

= Rs. 10,000 + 15,000 + Nil

= Rs. 25,000

$$\text{Absolute Liquid Ratio} = \frac{25,000}{1,00,000}$$

= 0.25

**B) CAPITAL STRUCTURE RATIOS/SOLVENCY RATIOS**

Capital structure Ratios are also known as gearing ratios or solvency ratios or leverage ratios. The term 'Solvency' generally refers to the capacity of the business to meet its short-term and long term obligations. Short-term obligations include creditors, bank loans and bills payable etc. Long-term obligations consist of debenture, long-term loans and long-term creditors etc. Solvency Ratio indicates the sound financial position of a concern to carry on its business smoothly and meet its all obligations. Liquidity Ratios and Turnover Ratios concentrate on evaluating the short-term solvency of the concern have already been explained. Now under this part of the chapter only the long-term solvency ratios are dealt with. Some of the important ratios which are given below in order to determine the solvency of the concern:

(1) Debt - Equity Ratio

(2) Proprietary Ratio

(3) Capital Gearing Ratio

(4) Debt Service Ratio or Interest Coverage Ratio

**B.1) Debt Equity Ratio**

This ratio also termed as External - Internal Equity Ratio. This ratio is calculated to ascertain the firm's obligations to creditors in relation to funds invested by the owners. The ideal Debt Equity Ratio is 1: 1. This ratio also indicates all external liabilities to owner recorded claims. It may be calculated as

a) Debt – Equity Ratio $= \dfrac{\text{External Equities}}{\text{Interanl Equities}}$

(or)

b) Debt – Equity Ratio $= \dfrac{\text{Outdiders Funds}}{\text{Shareholders Funds}}$

The term External Equities refers to total outside liabilities and the term Internal Equities refers to all claims of preference shareholders and equity shareholders' and reserve and surpluses.

c) Debt – Equity Ratio $= \dfrac{\text{Total Long-Term Debt}}{\text{Total Long-Ter Funds}}$

(or)

d) Debt-Equity Ratio $= \dfrac{\text{Total Long-Term Debt}}{\text{Shareholders Funds}}$

The term Total Long-Term Debt refers to outside debt including debenture and long-term loans raised from banks.

**Illustration**

From the following figures calculate Debt Equity Ratio:

| | |
|---|---|
| Preference Share Capital | 1,50,000 |
| Equity Share Capital | 5,50,000 |
| Capital Reserve | 2,00,000 |
| Profit and Loss Account | 1,00,000 |
| 6% Debenture | 2,50,000 |
| Sundry Creditors | 1,20,000 |
| Bills Payable | 60,000 |
| Provision for taxation | 90,000 |
| Outstanding Creditors | 80,000 |

**Solution:**

a) Debt Equity Ratio $= \frac{\text{Exteranal Equities}}{\text{Interanl Equities}}$

External Equities = Debenture + Sundry Creditors + Bills Payable

+ Provision for taxation + Outstanding Creditors

= Rs. 2,50,000 + 1,20,000 + 60,000 + 90,000 + 80,000

= Rs. 6,00,000

Internal Equities = Preference Share Capital + Equity Share Capital

+ Capital Reserve + Profit and Loss A/c

= Rs. 1,50,000 + 5,50,000 + 2,00,000 + 1,00,000

= Rs. 10,00,000

Debt Equity Ratio $= \frac{6,00,000}{10,00,000}$ = 0.6 (or 3:5)

b) Dept Equity Ratio $= \frac{\text{Total Long–Term Debt}}{\text{Shareholders Funds}}$

Total Long-Term Debt = Rs. 2,50,000

Shareholders Fund = Rs. 10,00,000

Debt- Equity Ratio $= \frac{\text{Rs.}2,50,000}{\text{Rs.}10,00,000}$

= 0.25

d) Debt Equity Ratio $= \frac{\text{Outsiders Fund}}{\text{Shareholders Fund}}$

Outsiders Fund = Total Outside Liabilities

= Rs. 6,00,000

Debt Equity Ratio $= \frac{6,00,000}{10,00,000}$

= 0.6 (or) 3:5

**Significance:** This ratio indicates the proportion of owner's stake in the business. Excessive liabilities tend to cause insolvency. This ratio also tell the extent to which the firm depends upon outsiders for its existence.

**Proprietary Ratio**

Proprietary Ratio is also known as Capital Ratio or Net Worth to Total Asset Ratio. This is one of the variant of Debt-Equity Ratio. The term proprietary fund is called Net Worth. This ratio shows the relationship between shareholders' fund and total assets. It may be calculated as :

$$\text{Proprietary Ratio} = \frac{\text{Shareholders Fund}}{\text{Total Assets}}$$

Shareholders Fund = Preference Share Capital + Equity Share Capita

+ All Reserves and Surplus

Total Assets = Tangible Assets + Non-Tangible Assets

+ Current Assets (or) All Assets including Goodwill

**Significance:** This ratio used to determine the financial stability of the concern in general. Proprietary Ratio indicates the share of owners in the total assets of the company. It serves as an indicator to the creditors who can find out the proportion of shareholders' funds in the total assets employed in the business. A higher proprietary ratio indicates relatively little secure position in the event of solvency of a concern. A lower ratio indicates greater risk to the creditors. A ratio below 0.5 is alarming for the creditors.

**Illustration**

From the following information's calculate the Proprietary Ratio:

| | Rs. |
|---|---|
| Preference Share Capital | 2,00,000 |
| Equity Share Capital | 4,00,000 |
| Capital Reserve | 50,000 |
| Profit and Loss Account | 50,000 |
| 9% Debenture | 2,00,000 |
| Sundry Creditors | 50,000 |
| Bills Payable | 50,000 |

| | |
|---|---|
| Land and Building | 2,00,000 |
| Plant and Machinery | 2,00,000 |
| Goodwill | 1,00,000 |
| Investments | 3,00,000 |

**Solution:**

Proprietary Ratio $= \dfrac{\text{Shareholders Fund}}{\text{Total Assets}}$

Shareholders Funds = Preference Share Capital + Equity Share Capital + Capital Reserve + Profit And Loss Account

= Rs. 2,00,000 + 4,00,000 + 50,000 + 50,000

= Rs. 7,00,000

Total Assets = Land and Building + Plant and Machinery + Good will + Investment

= Rs. 2,00,000 + 2,00,000 + 1,00,000 + 3,00,000

= Rs. 8,00,000

Proprietary Ratio $= \dfrac{7{,}00{,}000}{8{,}00{,}000}$

= 87.5% (or) 0.87

**Capital Gearing Ratio**

This ratio also called as Capitalization or Leverage Ratio. This is one of the Solvency Ratios. The term capital gearing refers to describe the relationship between fixed interest and/or fixed dividend bearing securities and the equity shareholders' fund. It can be calculated as shown below:

Capital Gearing Ratio $= \dfrac{\text{Equity Share Capital}}{\text{Fixed Interest Bearing Funds}}$

Equity Share Capital = Equity Share Capital + Reserves and Surplus

Fixed Interest Bearing Funds = Debentures + Preference Share Capital + Other Long-Term Laons

A high capital gearing ratio indicates a company is having large funds bearing fixed interest and/or fixed dividend as compared to equity share capital. A low capital gearing ratio represents preference share capital and other fixed interest bearing loans are less than equity share capital.

**Illustration**

From the following information, you are required to find out Capital Gearing Ratio

| | *Rs.* |
|---|---:|
| Preference Share Capital | 5,00,000 |
| Equity Share Capital | 6,00,000 |
| Capital Reserve | 3,00,000 |
| Profit and Loss Account | 1,00,000 |
| 12% Debenture | 3,00,000 |
| Secured loan | 1,00,000 |

**Solution:**

Capital Gearing Ratio $= \dfrac{\text{Euqity Share Capital}}{\text{Fixed Interest Bearing Funds}}$

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

= Rs. 6,00,000 + 3,00,000 +1,00,000

= Rs. 10,00,000

Fixed Interest Bearing Funds = Debenture + Preference Share Capital + Secured Loan

= Rs. 3,00,000 + 5,00,000 + 1,00,000

= Rs. 9,00,000

Capital Gearing Ratio $= \dfrac{10,00,000}{9,00,000}$

= 10:9 (Low Gear)

**Debt Service Ratio**

Debt Service Ratio is also termed as Interest Coverage Ratio or Fixed Charges Cover Ratio. This ratio establishes the relationship between the amount of net profit before deduction of interest and tax and the fixed interest charges. It is used as a yardstick for the lenders to know the business concern will be able to pay its interest periodically. Debt Service Ratio is calculated with the help of the following formula:

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest and Inome Tax}}{\text{Fixed Interest Charges}} \times 100$$

**Significance**: Higher the ratio the more secure the debenture holders and other lenders would be with respect to their periodical interest income. In other words, better is the position of long-term creditors and the company's risk is lesser. A lower ratio indicates that the company is not in a position to pay the interest but also to repay the principal loan on time.

**Illustration**

| Calculate Interest Coverage Ratio | |
|---|---|
| Profit before Interest | Rs. 7,00,000 |
| Income Tax Paid | Rs. 50,000 |
| Interest On Debenture | Rs. 3,00,000 |
| Interest on Long-Term Loan | Rs. 1,00,000 |

**Solution:**

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest and Income Tax}}{\text{Fixed Interest Charges}} \times 100$$

Net Profit before Interest and Taxes = Rs. 7,00,000 + 50,000

= Rs. 7,50,000

Fixed Interest Charges = Rs. 3,00,000 + 1,00,000

= Rs. 4,00,000

Interest Coverage Ratio $= \frac{7,50,000}{4,00,000} \times 100$

= 187.5% (or) 1.87 :1

## A) TURNOVER RATIOS

Turnover Ratios may be also termed as Efficiency Ratios or Performance Ratios or Activity Ratios. Turnover Ratios highlight the different aspect of financial statement to satisfy the requirements of different parties interested in the business. It also indicates the effectiveness with which different assets are vitalized in a business. Turnover means the number of times assets are converted or turned over into sales. The activity ratios indicate the rate at which different assets are turned over.

Depending upon the purpose, the following activities or turnover ratios can be calculated:

1. Inventory Ratio or Stock Turnover Ratio (Stock Velocity)
2. Debtor's Turnover Ratio or Receivable Turnover Ratio (Debtor's Velocity)

   Debtor's Collection Period Ratio
3. Creditor's Turnover Ratio or Payable Turnover Ratio (Creditor's Velocity)

   Debt Payment Period Ratio
4. Working Capital Turnover Ratio
5. Fixed Assets Turnover Ratio
6. Capital Turnover Ratio.

**Stock Turnover Ratio**

This ratio is also called as Inventory Ratio or Stock Velocity Ratio. Inventory means stock of raw materials, working in progress and finished goods. This ratio is used to measure whether the investment in stock in trade is effectively utilized or not. It reveals the relationship between sales and cost of goods sold or average inventory at cost price or average inventory at selling price. Stock Turnover Ratio indicates the number of times the stock has been turned over in business during a particular period. While using this ratio, care must be taken regarding season and condition. Price trend, supply condition etc. In order to compute this ratio, the following formulae are used:

1) Stock Turnover Ratio $= \frac{\text{Cost of Goods Sold}}{\text{Average Investory at Cost}}$

Cost of Goods Sold = Opening Stock + Purchase + Direct Expenses

– Closing Stock

(or)

= Total Cost of Production + Opening Stock of Finished Goods – Closing Stock of Finished Goods

Total Cost of Production = Cost of Raw Material Consumed + Wages + Factory Cost

= (or)

= Sales – Gross Profit

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

2) Stock Turnover Ratio $= \frac{\text{Net Sale}}{\text{Average Investory at Cost}}$

3) Stock Turnover Ratio $= \frac{\text{Net Sales}}{\text{Average Investory at Selling Price}}$

4) Stock Turnover Ratio $= \frac{\text{Net Sale}}{\text{Inventory}}$

The formulas given above can be used on the basis of the information given in the illustration

**Significance:**

(1) This ratio indicates whether investment in stock in trade is efficiently used or not.

(2) This ratio is widely used as a measure of investment in stock is within proper limit or not.

(3) This ratio highlights the operational efficiency of the business concern.

(4) This ratio is helpful in evaluating the stock utilization.

(5) It measures the relationship between the sales and the stock in trade.

(6) This ratio indicates the number of times the inventories have been turned over in business during a particular period.

**Illustration**

| | |
|---|---|
| Opening Stock | Rs. 29,000 |
| Purchase | Rs. 2,42,000 |
| Sales | Rs. 3,20,000 |
| Gross Profit | 25% of Sales |

Calculate stock turnover ratio.

**Solution:**

In order to calculate this ratio, figure of closing stock is required which is not given in the question. It is thus computed as follows by preparing Trading Account**:**

| | Rs. | | Rs. |
|---|---|---|---|
| To Opening Stock | 29,000 | By Sales | 3,20,000 |
| To Purchase | 2,42,000 | By Closing Stock (Balancing Figure) | 31,000 |
| To Gross Profit (25% of 3,20,000) | 80,000 | | |
| | **3,51,000** | | **3,51,000** |

Cost of goods sold = 3,20,000 – 80,000 = Rs. 2,40,000

OR = 29,000 + 2,42,000 – 31,000 =Rs. 2,40,000

Average Stock $= \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{2,40,000}{30,000}$ = 8 times

**Debtors Turnover Ratio (Receivables Turnover Ratio)**

This ratio indicates the relationship between net credit sales and trade debtors. It shows the rate at which cash is generated by the turnover of debtors. It is computed as follows :

The term debtors include trade debtors and bills receivables. Doubtful debts are not deducted from debtors. Moreover, debtors that do not arise from regular sales should be excluded, *e.g.* a bill receivable from buyer of an old plant and machinery should be excluded.

1) Debtor's Tunnover Ratio $= \dfrac{\text{Net Credit Sales}}{\text{Average Receivables}}$

or

Average Account Receivable

Net Credit Sales = Total Sales – (Cash Sales + Sales Return)

Accounts Receivable = Sundry Debtors or Trade Debtros + Bills Receivable

Average Accounts Receivable $= \dfrac{\text{Opening Receivable+Closing Receivable}}{2}$

It is to be noted that opeing and closing receivable and credit sales are not available, the ratio may be calculated as

Debtor's Turnover Ratio $= \dfrac{\text{Total Sales}}{\text{Account Receivable}}$

**Significance:** The significance of this ratio lies in the fact that debtors constitute one of the important items of current assets and this ratio indicates as to how many days' average sales are tied up in the amount of debtors. The efficiency of debt collection is also indicated by this ratio. A higher debtor's turnover ratio indicates that debts are being collected more quickly. Changes in this ratio show the changes in the company's credit policy or changes in its ability to collect from its debtors. This ratio is an excellent supplement to the information provided by current ratio.

**Illustration**

From the following information calculate debtors Turnover Ratio:

| | |
|---|---|
| Total Sales for 2002 | Rs. 5,00,000 |
| Cash Sales for 2002 | Rs. 1,00,000 |
| Debtors on 1$^{st}$ Jan, 2002 | Rs. 1,90,000 |
| Debtors on 31$^{st}$ Dec, 2002 | Rs. 2,10,000 |

**Solution:**

Credit sales are total sales minus cash sales.

Debtors Turnover Ratio = $\frac{\text{Credit Sales}}{\text{Average Debtors}}$ = $\frac{4,00,000}{2,00,000}$ = 2 times

Average Debtors = $^1/_2$(1,90,000 + 2,10,000) = Rs. 2,00,000

Average Collection Period. The debtors turnover ratio is usually supplemented by average collection period. the debtors turnover ratio together with average collection period involves the following steps:

**a) Calculation of daily sales – This is computed as follows:**

Sales per day = $\frac{\text{Net Sales (Credit)}}{\text{No.of working days in a year}}$

**b) Calculation of average collection period – This is calculated as follows:**

Average Collection Period = $\frac{\text{Days in the year}}{\text{Debtors turnover ratio}}$

Or, Alternatively = $\frac{\text{Debtors}}{\text{Sales (Credit)}} \times 365$ days

| | |
|---|---|
| Suppose – Credit sales for the year | Rs. 5,40,000 |
| Debtors at the end | Rs. 90,000 |

Average collection Period = $\frac{\text{Debtors}}{\text{Credit Sales}} \times 365$ days = $\frac{90,000}{5,40,000} \times 3656$ = 61 days.

Thus debtors represent uncollected accounts in respect of 61 days of sales. In this case, debtors turnover ratio is as follows:

Debtors Turnover Ratio = $\frac{5,40,000}{90,000}$ = 6 times

Average collection period may also be calculated as follows:

Average collection period = $\frac{\text{Days in the year}}{\text{Debtors turnover ratio}}$ = $\frac{365}{6}$ = 61 days.

**Fixed Assets Turnover Ratio**

This ratio indicates the efficiency with which the firm is utilising its investments in fixed assets such as plant and machinery, land and building etc. It is computed as under:

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Total Fixed Assets}}$$

(or)

$$= \frac{\text{Sales}}{\text{Net Fixed Assets}}$$

The term net fixed assets means depreciated value of fixed assets.

**Significance:** Generally speaking, a high ratio indicates efficient utilisation of fixed assets in generating sales and a low ratio may signify that the firm has an excessive investment in fixed assets.

**Significant Components of Fixed Assets (or) Non-Current Assets are as followes**

1) Goodwill
2) Land and Building
3) Plant and Machinery
4) Furniture and Fittings
5) Trade Mark
6) Patent Rights and Livestock
7) Long-Term Investment
8) Debt Balance of Profit and Loss Account
9) Discount on Issue of Shares
10) Discount on Issue of Debenture
11) Preliminary Expenses
12) Other Deferred Expenses
14) Government or Trust Securities
15) Any other immovable Prosperity

**Illustration**

From the following figures calculate Fixed Assets Turnover Ratio.

| | |
|---|---|
| Sales | Rs. 10,00,000 |
| Gross Profit | 20% on sales |
| Fixed Assets (Gross) | Rs. 2,50,000 |
| Less Depreciation | 50,000 |
| **Fixed Assets (Net)** | **2,00,000** |

**Solution:**

Cost of Sales = Sales less Gross Profit = 10,00,000 less 20% = Rs. 8,00,000

Fixed Assets Turnover Ration = $\frac{\text{Cost of Sales}}{\text{Net Fixed Assets}} = \frac{8,00,000}{2,00,000} = 4:1$

**Working Capital Turnover Ratio**

This ratio indicates the efficiency or inefficiency in the utilisation of working capital in making sales. It is computed as follows:

Working Capital Turnover Ratio = $\frac{\text{Net Sales}}{\text{Working Capital}}$

Net Sales = Gross Sales – Sales Return

Work Capital = Current Assets – Current Liabilities

The term net working capital *means* current assets minus current liabilities.

**Significance:** A high working capital turnover ratio shows the efficient utilisation of working capital in generating sales. A low ratio, on the other hand, may indicate excess of net working capital. This ratio thus shows whether working capital is efficiently utilised or not. This ratio is considered better than Stock Turnover Ratio because it shows the utilisation of the entire working capital whereas stock turnover ratio indicates only the turnover of inventories which is only a part of the working capital.

**Illustration**

**Calculate Working Capital Turnover Ratio:**

| | |
|---|---|
| Current Assets | Rs. 3,20,000 |
| Current Liabilities | Rs. 1,10,000 |
| Gross Sales | Rs. 4,00,000 |
| Sales Return | Rs. 20,000 |

**Solution:**

$$\text{Working Capital Turnover Ratio} = \frac{\text{Net Sales}}{\text{Working Capital}}$$

Net Sales = Gross Sales – Sales Return

Working Capital = Rs. 4,00,000-20,000

Rs. 3,80,000

Working Capital = Current Assets – Current Liabilities

= Rs. 3,20,000 – 1,10,000

= Rs. 2,10,000

$$\text{Working Capital Turnover Ratio} = \frac{3,80,000}{2,10,000}$$

= 1.80 times

**Capital Turnover Ratio**

This ratio shows the relationship between cost of sales (or sales) and the total capital employed.

**Formula:**

1) $$\text{Capital Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Capital Employed}} \text{ or } \frac{\text{Sales}}{\text{Capital Emplyed}}$$

Capital Employed = Shareholders Funds + Long- Term Loans

(or)

= Total Assets – Current Liabilities

2) $$\text{Capital Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Shareholders Fund}} \text{ (or) } \frac{\text{Sales}}{\text{Shareholders Fund}}$$

The term capital employed includes the long term liabilities and total of shareholders funds. From this are deducted non-operating assets *(e.g.,* investments) and fictitious assets like preliminary expenses, discount on the issue of shares, debits balance of Profit and Loss Account, etc. Thus, Total Capital Employed = Equity Capital + Pref. Capital + Reserves + Debentures + Long-term Loans - Fictitious Assets - Non operating Investments.

It should be noted that capital employed as used in this ratio is computed in the same way as used in Return on Investment (ROI) discussed in Profitability Ratios later in this Chapter.

**Illustration**

From the following information find out (a) Cost of Sales (b) Capital Employed and (c) Capital Turnover Ratio.

| | **Rs.** |
|---|---|
| Total Assets | 10,00,000 |
| Bills Payable | 1,50,000 |
| Sundry Creditors | 75,000 |
| Opening Stock | 50,000 |
| Purchases | 3,00,000 |
| Closing Stock | 60,000 |

**Solution:**

a) Cost of Sales = Opening Stock + Purchases – Closing Stock

= Rs. 5,00,000 + 4,00,000 - 60,000

= Rs. 3,90,000

b) Capital Employed = Total Assets – Current Liabilities

= Rs. 10,00,000 – 2,25,000 = Rs. 7,75,000

c) Capital Turnover Ratio= $\frac{\text{Cost of Sales}}{\text{Capital Employed}}$

$= \frac{3,90,000}{7,75,000}$

= 0.50 times

**Illustration**

| | |
|---|---|
| Equity Share Capital | Rs. 3,00,000 |
| General Reserve | Rs. 50,000 |
| Preference Share Capital | Rs. 2,00,000 |
| Long-Term Loans | Rs. 1,50,000 |
| Profit and Loss Account (Credit Balance) | Rs. 70,000 |
| Total Sales | Rs. 10,00,000 |
| Gross Profit | Rs. 80,000 |

Form the above information find out Capital Turnover Ratio

**Solution:**

Capital Turnover Ratio $= \frac{\text{Sales}}{\text{Capital Employed}}$

Capital Employed = Shareholder Fund + Long-Term Loans

= Equity Share Capital + General Reserve

+ Preference Share Capital + Long-Term Loans

+ Credit Balance of P & L A/c

= Rs. 3,00,000 + 50,000 + 2,00,000

+ 1,50,000 + 70,000

= Rs. 7,70,000

Capital Turnover Ratio $= \frac{10,00,000}{7,70,000}$

= 1.29 times

Alternatively

Capital Turnover Ratio $= \frac{\text{Cost of Sales}}{\text{Capital Employed}}$

Cost of Sales = Sales – Gross Profit

= Rs. 10,00,000 – Rs. 80,000

= Rs. 9,20,000

$$\text{Capital Turnover Ratio} = \frac{9,20,000}{7,70,000}$$

$$= 1.19 \text{ times}$$

**Creditor's Turnover Ratio:**

Creditor's Turnover Ratio is also called as Payable Turnover Ratio or Creditor's Velocity. The credit purchases are recorded in the accounts of the buying companies as Creditors to Accounts Payable. The Term Accounts Payable or Trade Creditors include sundry creditors and bills payable. This ratio establishes the relationship between the net credit purchases and the average trade creditors. Creditor's velocity ratio indicates the number of times with which the payment is made to the supplier in respect of credit purchases. Two kinds of ratios can be used for measuring the efficiency of payable of a business concern relating to credit purchases. They are: (1) Creditor's Turnover Ratio (2) Creditor's Payment Period or Average Payment Period. The ratios can be calculated by the following formulas:

1) $$\text{Creditors Turnover Ratio} = \frac{\text{Net Credit Purchases}}{\text{Average Accounts Payable}}$$

$$\text{Net Credit Purchases} = \text{Total Purchases} - \text{Cash Purchases}$$

$$\text{Average Accounts Payable} = \frac{\text{Opening Payable} + \text{Closing Payable}}{2}$$

2) $$\text{Average Payment Period} = \frac{\text{Month (or) Days in a year}}{\text{Creditors Turnover Ratio}}$$

(or)

$$= \frac{\text{Average Trade Creditors}}{\text{Net Credit Purchases}} \times 365$$

**Significance:** A high Creditor's Turnover Ratio signifies that the creditors are being paid promptly. A lower ratio indicates that the payments to creditors are not paid in time. Also, high average payment period highlight the unusual delay in payment and it affect the creditworthiness of the firm. A low average payment period indicates enhancing the creditworthiness of the company.

**Illustration**

From the following information calculate (1) Creditors Turnover Ratio and (2) Average Payment Period

| | Rs. |
|---|---|
| Total Purchases | 3,00,000 |
| Cash Purchases | 1,75,000 |
| Purchases Return | 25,000 |
| Sundry Creditors 1.1.2003 | 30,000 |
| Sundry Creditors 31.12.2003 | 15,000 |
| Bills Payable 1.1.2003 | 7,000 |
| Bills Payable 31.12.2003 | 8,000 |

**Solution:**

1) Creditor's Turnover Ratio $= \dfrac{\text{Net Credit Purchase}}{\text{Average Accounts Payables}}$

= Total Purchase–(Cash Purchases +Purchase Return)

= Rs. 3,00,000 –(1,75,000+25,000)

= Rs. 1,00,000

Average Accounts Payable $= \dfrac{\text{Opeing payable+Closing payable}}{2}$

$= \dfrac{(30{,}000+7{,}000)+ 15{,}000+8000)}{2}$

$= \dfrac{60{,}000}{2}$ = Rs. 30,000

Creditors Turnover Ratio $= \dfrac{1{,}00{,}000}{30{,}000}$ = 3.33 times

2) Average Payment Period $= \dfrac{\text{Month or Days in a year}}{\text{Creditors Turnover Ratio}}$

$= \dfrac{12 \text{ months}}{3.33}$ = 3.60 months

(or)

$= \dfrac{365 \text{ days}}{3.33}$ = 109.61 days

## B) PROFITABLITY RATIOS

The term profitability means the profit earning capacity of any business activity. Thus, profit earning may be judged on the volume of profit margin of any activity and is calculated by subtracting costs from the total revenue accruing to a firm during a particular period. Profitability Ratio is used to measure the overall efficiency or performance of a business. Generally, a large number of ratios can also be used for determining the profitability as the same is related to sales or investments.

The following important profitability ratios are discussed below:

1. Gross Profit Ratio.
2. Operating Ratio.
3. Operating Profit Ratio.
4. Net Profit Ratio.
5. Return on Investment Ratio.
6. Return on Capital Employed Ratio.
7. Earnings Per Share Ratio.
8. Dividend Payout Ratio.
9. Dividend Yield Ratio.
10. Price Earnings Ratio.
11. Net Profit to Net Worth Ratio.

### D.1) Gross Profit Ratio.

Gross Profit Ratio established the relationship between gross profit and net sales. This ratio is calculated by dividing the Gross Profit by Sales. It is usually indicated as percentage.

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

Gross Profit = Sales – Cost of Goods Sold

Net Sales = Gross Sales – Sales Return (or) Return Inwards

Higher Gross Profit Ratio is an indication that the firm has higher profitability. It also reflects the effective standard of performance of firm's business.

**Higher Gross Profit Ratio will be result of the following factors.**

(1) Increase in selling price, i.e., sales higher than cost of goods sold.

(2) Decrease in cost of goods sold with selling price remaining constant.

(3) Increase in selling price without any corresponding proportionate increase in cost.

(4) Increase in the sales mix.

**A low gross profit ratio generally indicates the result of the following factors:**

(1) Increase in cost of goods sold.

(2) Decrease in selling price.

(3) Decrease in sales volume.

(4) High competition.

(5) Decrease in sales mix.

**Illustration:**

Calculate Gross Profit Ratio from the following figures :

| | Rs. |
|---|---|
| Sales | 5,00,000 |
| Sales Return | 50,000 |
| Closing Stock | 35,000 |
| Opening Stock | 70,000 |
| Purchases | 3,50,000 |

**Solution :**

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

Net Sales = Sales – Sales Return

= Rs. 5,00,000 – 50,000

= Rs. 4,50,000

Gross Profit = Sales – Cost of Goods Sold

Cost of goods sold = Opening Stock + Purchase – Closing Stock

= Rs. 70,000 + 3,50,000 – 35,000

= Rs. 4,20,000 – 35,000 = Rs. 3,85,000

Gross Profit = Rs. 4,50,000 – 3,85,000 = Rs. 65,000

Gross Profit Ratio $= \frac{65,000}{4,50,000} \times 100$

= 14.44%

**Operating Ratio**

Operating Ratio is calculated to measure the relationship between total operating expenses and sales. The total operating expenses is the sum total of cost of goods sold, office and administrative expenses and selling and distribution expenses. In other words, this ratio indicates a firm's ability to cover total operating expenses. In order to compute this ratio, the following formula is used:

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

Operating Cost = Cost of goods sold + Administrative Expenses + Selling and Distribution Expenses

Net Sales = Sales – Sales Return (or) Return Inwards.

**Illustration:**

Find out Operating Ratio :

| | | |
|---|---|---|
| Cost of goods sold | Rs. | 4,00,000 |
| Office and Administrative Expenses | Rs. | 30,000 |
| Selling and Distribution Expenses | Rs. | 20,000 |
| Sales | Rs. | 6,00,000 |
| Sales Return | Rs. | 20,000 |

**Solution :**

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

Operating Cost = Cost of goods sold + Administrative Expenses + Selling and Distribution Expenses

= Rs. 4,00,000 + 30,000 + 20,000

= Rs. 4,50,000

= Rs. 6,00,000 – 20,000

= 5,80,000

$$\text{Operating Ratio} = \frac{4,50,000}{5,80,000} \times 100$$

= 77.58%

This ratio indicated that 77.58% of the net sales have been consumed by cost of goods sold, administrative expenses and selling and distribution expenses. The remaining. 23.42% indicates a firm's ability to cover the interest charges, income tax payable and dividend payable.

**Operating Profit Ratio**

Operating Profit Ratio indicates the operational efficiency of the firm and is a measure of the firm's ability to cover the total operating expenses. Operating Profit Ratio can be calculated as :

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

Operating Profit = Net Sales – Operating Cost

(or)

= Net Sales – (Cost of Goods Sold + Office and Administrative Expenses + Selling and Distribution Expenses)

(or)

= Gross Profit – Operating Expenses

(or)

= Net Profit + Non-Operating Expenses – Non-Operating Income

Net Sales = Sales – Sales Return (or) Return Inwards

**Illustration:**

From the following information given below, you are required to calculate Operating Profit Ratio :

| | Rs. |
|---|---|
| Gross Sales | 6,50,000 |
| Sales Return | 50,000 |
| Opening Stock | 25,000 |
| Closing Stock | 30,000 |
| Purchases | 4,10,000 |
| Office and Administrative Expenses | 50,000 |
| Selling and Distribution Expenses | 40,000 |

**Solution :**

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

Operating Profit = Net Sales – Total Operating Cost

Net Sales = Gross Sales – Sales Return

= Rs. 6,50,000 – 50,000

= Rs. 6,00,000

Total Operating Cost = Cost of Goods Sold + Office and Administrative Expenses + Selling and Distribution Expenses

Cost of goods sold = Opening Stock + Purchase – Closing Stock

= Rs. 25,000 + 4,10,000 – 30,000

= Rs. 4,05,000

Total Operating Expenses= Rs. 4,05,000 + 50,000 + 40,000

= Rs. 4,95,000

Operating Profit = Net Sales – Total Operating Expenses

= Rs. 6,00,000 – 4,95,000

| | | |
|---|---|---|
| | = | Rs. 1,05,000 |
| Operating Profit Ratio | = | $\frac{1,05,000}{6,00,000}$ x 100 |
| | = | 17.5 |

**Illustration:**

Calculate Operating Profit Ratio from the following figures :

| | | |
|---|---|---|
| Net Sales | Rs. | 4,00,000 |
| Cost of goods sold | Rs. | 3,00,000 |
| Office and Administrative Expenses | Rs. | 20,000 |
| Selling and Distribution Expenses | Rs. | 15,000 |

**Solution :**

| | | |
|---|---|---|
| Operating Profit Ratio | = | $\frac{\text{Operating Profit}}{\text{Net Sales}}$ x 100 |
| Operating Profit | = | Sales – Total Operating Cost |
| Total Operating Cost | = | Cost of Goods Sold + Office and Administrative Expenses + Selling and Distribution Expenses |
| | = | Rs. 3,00,000 + 20,000 + 15,000 |
| | = | Rs. 3,35,000 |
| Operating Profit | = | Rs. 4,00,000 – 3,35,000 |
| | = | Rs. 65,000 |
| Operating Profit Ratio | = | $\frac{65,000}{4,00,000}$ x 100 |
| | = | 16.25% |

**Net Profit Ratio**.

Net Profit Ratio is also termed as Sales Margin Ratio (or) Profit Margin Ratio (or) Net Profit to Sales Ratio. This ratio reveals the firm's overall efficiency in operating the business. Net profit Ratio is used to measure the relationship between net profit (either before or after taxes) and sales. This ratio can be calculated by the following formula:

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

Net profit includes non-operating incomes and profits. Non-Operating Incomes such as dividend received, interest on investment, profit on sales of fixed assets, commission received, discount received etc. Profit or Sales Margin indicates margin available after deduction cost of production, other operating expenses, and income tax from the sales revenue. Higher Net Profit Ratio indicates the standard performance of the business concern.

**Illustration:**

From the following Trading and Profit and Loss Account of Heena & Co. for the year 31st Dec 2012:

| | Rs. | | Rs. |
|---|---|---|---|
| To Opening Stock | 60,000 | By Sales | 4,00,000 |
| To Purchase | 2,75,000 | By Closing Stock | 75,000 |
| To Wages | 25,000 | | |
| To Gross Profit c/d | 1,15,000 | | |
| | **4,75,000** | | **4,75,000** |
| To Administrative Expenses | 45,000 | By Gross Profit b/d | 1,15,000 |
| To Selling and Distribution Expenses | 10,000 | By Interest on Investment | 10,000 |
| To Office Expenses | 5,000 | | |
| To Non Operating Expenses | 15,000 | | |
| To Net Profit | 50,000 | | |
| | **1,25,000** | | **1,25,000** |

You are required to calculate:

(1) Gross Profit Ratio.

(2) Operating Ratio.

(3) Operating Profit Ratio.

(4) Net Profit Ratio.

**Solution:**

1) Gross Profit Ratio $= \dfrac{\text{Gross Profit}}{\text{Net Sales}} \times 100$

$= \dfrac{1,15,000}{4,00,000} \times 100$

= 28.75%

2) Operating Ratio $= \dfrac{\text{Total Operating Cost}}{\text{Net Sales}} \times 100$

Total Operating Cost = Cost of Goods Sold + Operating Expenses

= Opening Stock + Purchases – Closing Stock

= Rs. 60,000 + 2,75,000 -75,000

= Rs. 2,60,000

Operating Expenses = Office Expenses + Administrative Expenses + Selling and Distribution Expenses

= Rs. 5,000 + 45,000 + 10,000

= Rs. 60,000

Total Operating Cost = Rs. 2,60,000 + 60,000

= Rs. 3,20,000

Operating Ratio $= \dfrac{3,20,000}{4,00,000} \times 100$

= 80 %

3) Operating Profit Ratio $= \dfrac{\text{Net Operating Profit}}{\text{Net Sales}} \times 100$

Net Operating Profit = Net Sales – Total Operating Cost

= Rs. 4,00,000 – 3,20,000

= Rs. 80,000

Operating Profit Ratio $= \dfrac{80,000}{4,00,000} \times 100$

= 20%

4) Net Profit Ratio $= \dfrac{\text{Net Profit (After Tax)}}{\text{Net Sales}} \times 100$

$= \dfrac{50,000}{4,00,000} \times 100$

$= 12.5\ \%$

| | | |
|---|---|---|
| 1) | Gross Profit Ratio | = 28.75% |
| 2) | Operating Ratio | = 80% |
| 3) | Operating Profit Ratio | = 20% |
| 4) | Net Profit Ratio | = 12.5% |

**Illustration:**

The following are the summarized profit and loss account of Darshan India Ltd. for the year ending 31 Dec. 2014 and the Balance sheet as on that date:

You are required to calculate:

(a) Current Ratio

(b) Liquid Ratio

(c) Gross Profit Ratio

(d) Operating Ratio

(e) Operating Profit Ratio

(f) Net Profit Ratio

Dr. **Profit and Loss Account** Cr.

| Particulars | Rs. | Particulars | Rs. | Rs. |
|---|---|---|---|---|
| To Opening Stock | 10,000 | By Sales<br>*Less:* Sales Return | 1,20,000<br>10,000 | 1,10,000 |
| To Purchases | 60,000 | By Closing Stock | | 15,000 |
| To Freight Expenses | 5,000 | | | |
| To Gross Profit c/d | 50,000 | | | |
| | **1,25,000** | | | **1,25,000** |
| To Operating Expenses: | | By Gross Profit b/d | | 50,000 |
| Office Expenses | 5,000 | By Non-Trading Income: | | |
| Administrative Expenses | 15,000 | Interest on Investment | | 5,000 |
| Selling and Distribution Expenses | 5,000 | Profit on sales of fixed Assets | | 1,000 |
| To Non-Operating Expenses: | | Dividend Received | | 4,000 |
| Loss on sale of Fixed Assets | 1,000 | | | |
| To Net Profit | 34,000 | | | |
| | **60,000** | | | **60,000** |

**Solution:**

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

Current Assets = Rs. 2,000 + 3,000 + 5,000 +15,000 + 6,000 + 4,000

= Rs. 35,000

Current Ratio $= \frac{35,000}{20,000}$

= 1.75 (or) 1.75 :1

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

Liquid Assets = Current Assets – (Stock and Prepaid Expenses)

= Rs. 35,000 – (15,000 + 4,000)

= Rs. 16,000

Liquid Ratio $= \frac{16{,}000}{20{,}000}$

= 0.8 (or) 0.8:1

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

$\frac{50{,}000}{1{,}10{,}000} \times = 100$

= 45.45%

d) Operating Ratio $= \frac{\text{Total Operating Cost}}{\text{Net Sales}} \times 100$

Total Operating Cost = Cost of Goods Sold + Operating Expenses

Cost of Goods Sold = Opening Stock + Purchases – Closing Stock

= Rs. 10,000 + 60,000 – 15,000

= Rs. 55,000

Operating Expenses = Office Expenses + Administrative Expenses

+ Selling and Distribution Expenses

= Rs. 5,000 + 15,000 + 5,000

= Rs. 25,000

Total operating Cost = Rs. 55,000 + 25,000

= Rs. 80,000

Operating Ratio $= \frac{80{,}000}{1{,}10{,}000} \times 100$

= 72.72%

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

Net Operating Profit = Net Sales – Total Operating Cost

= Rs. 1,10,000 – 80,000

= Rs. 30,000

Operating Profit Ratio = $\frac{30,000}{1,10,000} \times 100$

= 27.27%

Alternatively

Net Operating Profit = Net Profit + Non-Operating Expenses – Non- Operating Income

Net Operating Profit = Rs. 34,000 + 1,000-(5,000 + 1,000 + 4,000)

= Rs. 35,000 – 10,000

= Rs. 25,000

Operating Profit Ratio= $\frac{25,000}{1,10,000} \times 100$

= 22.72%

f) Net Profit Ratio = $\frac{\text{Net Profit (after tax)}}{\text{Net Sales}} \times 100$

= $\frac{34,000}{1,10,000} \times 100$

= 30.90%

| | | |
|---|---|---|
| a) | Current Ratio | = 1.75 (or) 1.75 : 1 |
| b) | Liquid Ratio | = 0.8 (or) 0.8:1 |
| c) | Gross Profit Ratio | = 45.45% |
| d) | Operating Ratio | = 72..75% |
| e) | Operating Profit Ratio | = 27.27% or 22.72% |
| f) | Net Profit Ratio | = 30.90% |

**Return on Investment Ratio:**

This ratio is also called as ROL This ratio measures a return on the owner's or shareholders' investment. This ratio establishes the relationship between net profit after interest and taxes and the owner's investment. Usually this is calculated in percentage. This ratio thus can be calculated as:

$$\text{Return on Investment Ratio} = \frac{\text{Net Profit (after interest and tax)}}{\text{Shareholders Fund (or)Investments}} \times 100$$

Shareholder's Investment = Equity Share Capital + Preference Share Capital + Reserves and Surplus – Accumulated Losses

Net Profit = Net Profit – Interest and Taxes

**Significance**

(1) This ratio highlights the success of the business from the owner's point of view.

(2) It helps to measure an income on the shareholders' or proprietor's investments.

(3) This ratio helps to the management for important decisions making.

(4) It facilitates in determining efficiently handling of owner's investment.

**Illustration:**

Calculate Return on Investment Ratio from the following information:

| | Rs. |
|---|---:|
| 1000 Equity shares @ of Rs. 10 each | 10,000 |
| 2000, 5% preference share @ of Rs. 10 each | 20,000 |
| Reverses | 5,000 |
| Net Profit before interest and Tax | 10,000 |
| Interest | 2,000 |
| Taxes | 3,000 |

**Solution:**

$$\text{Return on Investment Ratio} = \frac{\text{Net Profit after interest and tax}}{\text{Shareholders Investments}} \times 100$$

Shareholder's Investment = Equity Share Capital + Preference Share Capital + Reserves and Surplus – Accumulated Losses

Shareholder's Investment = Rs. 10,000 + 20,000 + 5,000 – Nil

= Rs. 35,000

Net Profit after Interest and Taxes = Rs. 10,000 – (2,000 + 3,000)

= Rs. 10,000 – 5,000

= 5,000

Return on Investment Ratio $= \frac{5,000}{35,000} \times 100$

= 14.28%

**Return on Capital Employed Method:**

With the help of Return on Capital Employed Ratio it would be easy to measure a relationship between profit and capital employed. This ratio is also called as Return on Investment Ratio. The term return means Profits or Net Profits. The term Capital Employed refers to total investments made in the business. The concept of capital employed can be considered further into the following ways:

(a) Gross Capital Employed

(b) Net Capital Employed

(c) Average Capital Employed

(d) Proprietor's Net Capital Employed

a) Gross Capital Employed = Fixed Assets + Current Assets

b) Net Capital Employed = Total Assets – Current Liabilities

c) Average Capital Employed $= \frac{\text{Opening Capital Employed + Closing Capital Employed}}{2}$

(or)

Average Capital Employed = Net Capital Employed + ½ of Profit After Tax

d) Properietor's Net Capital Employed = Fixed Assets + Current Assets – Outside Liabilities (both long-term and short-term)

In order to compute this ratio, the below presented formulas are used:

1) Return on Capital Employed $= \dfrac{\text{Net Profit After Taxes}}{\text{Gross Capital Employed}} \times 100$

(or)

2) Return on Capital Employed $= \dfrac{\text{Net Profit After Taxes Before Interest}}{\text{Gross Capital Employed}} \times 100$

(or)

3) Return on Capital Employed $= \dfrac{\text{Net Profit After Taxes Before Interest}}{\text{Average Capital Employed or Net Capital Employed}} \times 100$

**Illustration:**

The following is the Balance sheet of Gargi Ltd. for the year ending Dec. 31st 2013.

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Equity Share Capital | 4,00,000 | Good will | 1,50,000 |
| Reserves | 40,000 | Building | 2,00,000 |
| Profit and Loss A/c | 80,000 | Machinery | 2,50,000 |
| Debenture | 1,00,000 | Stock | 80,000 |
| Secured Loans | 1,00,000 | Sundry Debtors | 60,000 |
| Creditors | 80,000 | Bills Receivable | 40,000 |
| Provision for Tax | 50,000 | Cash at Bank | 50,000 |
| Bills Payable | 40,000 | Preliminary Expenses | 60,000 |
| | **8,90,000** | | **8,90,000** |

You are required to calculate:

a) Current Ratio

b) Liquid Ratio

c) Gross Capital Employed

d) Net Capital Employed

e) Average Capital Employed

f) Return on Capital Employed Ratio

**Solution:**

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

Current Assets = Stock + Sundry Debtors + Bills Receivable + Cash at Bank + Preliminary Expenses

= Rs. 80,000 + 60,000 + 50,000 + 60,000

= Rs. 2,50,000

Current Liabilities = Creditors + Provision for Tax + Bills Payable

= Rs. 80,000 + 50,000 + 40,000

= Rs. 1,70,000

Current Ratio $= \frac{2,50,000}{1,70,000}$

= 1.47 (or) 1.47 : 1

b) Liquid Assets = Liquid Assets – (Stock and Preliminary Expenses)

= Rs. 2,50,000 –(80,000 + 60,000)

= Rs. 1,10,000

Liquid Assets $= \frac{1,10,000}{1,70,000}$

= 0.64 (or) 0.64 : 1

c) Gross Capital Employed = Fixed Assets + Current Assets

Fixed Assets = Goods will + Building + Machinery

= 1,50,000 + 2,00,000 + 2,50,000

= Rs. 6,00,000

Current Assets = Rs. 2,50,000

Gross Capital Employed = Rs. 6,00,000 + 2,50,000

= Rs. 8,50,000

d) Net Capital Employed = Total Assets – Current Liabilities

Total Assets = Rs. 8,50,000

Current Liabilities = Rs. 1,70,000

Net Capital Employed = Rs. 8,50,000

= Rs. 6,80,000

(e) Average Capital Employed = Net Capital Employed + ½ of Profit After Tax

½ of profit afgter tax = ½ (80,000 – 50,000)

= Rs. 15,000

Average Capital Employed = Rs. 7,20,000 + 15,000

= Rs. 7,35,000

(f) Return on Capital Employed = $\frac{\text{Net Profit After Tax}}{\text{Gross Capital Employed}} \times 100$

$= \frac{80,000-5\ ,000}{8,50,000} \times 100$

$= \frac{30,000}{8,50,000} \times 100$

= 3.52%

Alternatively

Return on Capital Employed = $\frac{\text{Net Profit After Tax}}{\text{Gross Capital Employed}} \times 100$

$= \frac{30,000}{7,20,000} \times 100$

= 4.16%

(a) Current Ratio = 1,47 (or) 1.47 : 1

(b) Liquid Ratio = 0.64 (or) 0.64 : 1

(c) Gross Capital Employed = Rs. 8,50,000

(d) Net Capital Employed = Rs. 7,35,000

(e) Average Capital Employed = Rs. 7,35,000

(f) Return on Capital Employed = 3.52% (or) 4.16 %

**Earning Per Share Ratio:**

Earnings Per Share Ratio (EPS) measures the earning capacity of the concern from the owner's point of view and it is helpful in determining the price of the equity share in the market place. This ratio helps to measure the price of stock in the market place, also highlights the capacity of the concern to pay dividend to its shareholders. This ratio used as a yardstick to measure the overall performance of the concern.

Earnings Per Share Ratio can be calculated as:

$$\text{Earning Per Share Ratio} = \frac{\text{Net Profit After Tax and Preference Dividend}}{\text{No.of Equity Share}}$$

**Illustration:**

Calculate the Earning Per Share from the following data:

Net Profit before tax Rs. 2,00,000.

Taxation at 50% of Net Profit.

10% Preference share capital (Rs. 10 each) Rs. 2,00,000. Equity share capital (Rs. 10 each) Rs. 2,00,000.

**Solution:**

$$\text{Earning Per Equity Share} = \frac{\text{Net Profit After Tax and Preference Dividend}}{\text{No.of Equity Shares}}$$

Net Profit before Tax = Rs. 2,00,000

Taxation at 50% of Net Profit $= 2{,}00{,}000 \times \frac{50}{100}$

= Rs. 1,00,000

= Rs. 2,00,000 – 1,00,000

= Rs. 1,00,000

10 % of Preference Dividend $= 2{,}00{,}000 \times \frac{50}{100}$

= Rs. 20,000

Net Profit after Tax and = Rs. 1,00,000 – 20,000

Preference Dividend = Rs. 80,000

No. of Equity Share $= \frac{2,00,000}{10}$

$= 20,000$ Share

Earning Per Equity Share $= \frac{80,000}{20,000}$

= Rs. 4 Per Share

**Dividend Payout Ratio**

This ratio highlights particularly the relationship between payment of dividend on equity share capital and the profits available after meeting tax and preference dividend. This ratio indicates the dividend policy adopted by the top management about utilization of divisible profit to pay dividend or to retain or both. The ratio, thus, can be calculated as:

$$\text{Dividend Payout Ratio} = \frac{\text{Equity Dividend}}{\text{Net Profit After Tax and Preference Dividend}} \times 100$$

$$= \frac{\text{Dividend Per Equity Share}}{\text{Earning Per Equity Share}} \times 100$$

**Illustration:**

Compute Dividend Payout Ratio from the following data:

| | |
|---|---|
| Net Profit | Rs. 60,000 |
| Provision for tax | Rs. 15,000 |
| Preference dividend | Rs. 15,000 |
| No. of Equity Share Dividend Per Equity Share = 0.30 | Rs. 6,000 |

**Solution:**

$$\text{Dividend Payout Ratio} = \frac{\text{Equity Dividend}}{\text{Net Profit After Tax and Preference Dividend}} \times 100$$

Equity Dividend = No. of Equity Shares × Dividend Per Equity Share

= 6,000 × 0.30

= Rs. 1,800

Net Profit After Tax = Rs. 60,000 –(15,00+15,000)

Preference Dividend = Rs. 60,000 – 30,000

= Rs. 30,000

**Alternatively**

$$\text{Dividend Payout Ratio} = \frac{\text{Dividend Per Equity Share}}{\text{Earning Per Equity Share}} \times 100$$

Dividend Per Equity Share = 0.30

$$\text{Earning Per Equity Share} = \frac{\text{Net Profit After tax and Preference Dividend}}{\text{No.of Equity Shares}}$$

$$= \frac{30{,}000}{6{,}000}$$

= Rs. 5 Per Share

$$\text{Dividend Payout Ratio} = \frac{0.30}{5} \times 100$$

= 6%

**Dividend Yield Ratio:**

Dividend Yield Ratio indicates the relationship is established between dividend per share and market value per share. This ratio is a major factor that determines the dividend income from the investors' point of view. It can be calculated by the following formula:-

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend Per Share}}{\text{Market Value Per Share}} \times 100$$

**Illustration:**

The following details have been given to you for M/s HR Ltd, Pune you are required to find out (1) Dividend Yield Ratio (2) Dividend Payout Ratio and (3) Earnings Per Share Ratio.

| | |
|---|---|
| 10% Preference Share of Rs. 10 each | Rs. 5,00,000 |
| 60,000 Equity Shares of Rs. 10 each | Rs. 6,00,000 |
| | Rs. 11,00,000 |

Additional Information

Profit after tax at 50%

Equity Dividend Paid 20%

Market Price of Equity Share Rs. 30

**Solution:**

| | | Rs. |
|---|---|---|
| Profit after Tax | = | 1,50,000 |
| Less: Preference dividend (10% of 5,00,000) | = | 50,000 |
| Equity Earnings | = | 1,00,000 |

Profit after tax and preference dividend = Rs. 1,00,000

No. of Equity Share = 60,000 Share

1) Dividend Yield Ratio $= \frac{\text{Dividend Per Share}}{\text{Market Value Per Share}} \times 100$

$= \frac{20\ \%\ \text{of Rs.}10}{\text{Rs.}30} \times 100$

$= \frac{2}{30} \times 100$

$= 6.66\%$

2) Earning Per Equity Share $= \frac{\text{Net Profit after tax preferene dividend}}{\text{No.of Equity Share}} \times 100$

$= \frac{1,00,000}{60,000}$

= Rs. 1.67 Per Share

3) Dividend Payout Ratio $= \frac{\text{Dividend Per Equity Share}}{\text{Earning Per Equity Share}} \times 100$

$= \frac{2}{1.67} \times 100$

$= 119.76\ \%$

**Price Earnings Ratio:**

This ratio particularly focuses on the earning per share reflected by market share. Price Earnings Ratio establishes the relationship between the market price of an equity share and the earning per equity share. This ratio helps to find out whether the equity shares of a company are undervalued or not. This ratio is also useful in financial forecasting. This ratio is calculated by using the following formula:

$$\text{Price Earning Ratio} = \frac{\text{Market Price Per Equity Share}}{\text{Earning Per Share}}$$

**Illustration:**

Calculate 1) Earning Per Share 2) Dividend Yield Ratio and 3) Price Earning Ratio from the following figurs:

| | Rs. |
|---|---|
| Net Profit | 6,00,000 |
| Market price Per Equity Shares | 60 |
| No. of Equity Shares | 40,000 |
| Provision for Tax | 1,60,000 |
| Preference Dividend | 50,000 |
| Depreciation | 70,000 |
| Bank Overdraft | 50,000 |

**Solution:**

1) Earning Per Share $= \frac{\text{Net Profit after tax preferene dividend}}{\text{No.of Equity Share}}$

Net Profit After Tax and Preference Dividend = Rs. 6,00,000 – (1,60,000 + 50,000)

= Rs. 6,00,000 - 2,10,000

= 3,90,000

Earning Per Share $= \frac{3,90,000}{40,000}$

= Rs. 9.75

2) Dividend Yield Ratio $= \frac{\text{Earning Per Share}}{\text{Market Value Per Share}} \times 100$

$= \frac{9.75}{60} \times 100$

$= 16.25\%$

3) Price Earning Ratio $= \frac{\text{Market Price Per Equity Share}}{\text{Earning Per Share}}$

$= \frac{60}{9.75}$

$= 6.15$

**Explanation:** The market price of a share is Rs. 60 and earning per share is Rs. 9.75, the price earning ratio would be 6.15. It shows that the market value of every one rupee of earning is 6.15 times or Rs. 6.15.

**Net Profit to Net Worth Ratio**

This ratio measures the profit return on investment. This ratio indicates the established relationship between net profit and shareholders' net worth. It is a reward for the assumption of ownership risk. This ratio determines the incentive to owners, measure the profit as well as net worth, ratio indicates the overall performance and effectiveness of the firm & measures the efficiency with which the resources of a firm have been employed. This ratio is calculated as :

Net Profit to Net Worth $= \frac{\text{Net Profit After Taxes}}{\text{Shareholders Net Worth}} \times 100$

Shareholder Net Worth = Total Tangible Net Worth

Total Tangible Net Worth = Company's Net Assets – Long-Term Liabilities

(or)

= Shareholders Funds + Profit Retained in business

**Illustration:**

Compute Net Profit to Net Worth Ratio from the following data:

| | Rs. |
|---|---|
| Net Profit | 80,000 |
| Provision for Tax | 15,000 |
| Shareholders Fund | 8,00,000 |
| Dividend to Equity Shares | 20,000 |
| Dividend to Preference Share @ 10% | 10,000 |

**Solution:**

Net Profit to Net Worth $= \frac{\text{Net Profit After Taxes}}{\text{Total Tangible Net Worth}} \times 100$

Net Profit after Taxes = Rs. 80,000 – 15,000

= Rs. 65,000

Total Tangible Net Worth = Shareholders Fund + Profit retained in business

Profit Retained in Business = Profit – (Taxes + Preference dividend + Equity dividend)

= Rs.80,000–(15,000 + 20,000 + 10,000)

= Rs. 80,000 – 45,000

= 35,000

Total Tangible Net Worth = Rs. 8,00,000 + 35,000

= Rs. 9,15,000

Net Profit Net Worth $= \frac{65,000}{9,15,000} \times 100$

= 7.10%

Net Profit to Net Worth Ratio = 7.10%

**SUMMARY OF FORMULAE**

**Liquidity Ratios**

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

2) Liquid (or Quick) Ratio $= \frac{\text{Liquid or Quick Assets}}{\text{Quick Liabilities}}$

**Capital Structure Ratios (or Solvency Ratios or Leverage Ratios)**

1) Debt Equity Ratio $= \frac{\text{Long term debts}}{\text{Shareholders Equity}}$

Or $= \frac{\text{External Equity}}{\text{Internal Equity}}$

2) Proprietary Ratio $= \frac{\text{Shareholdes Funds}}{\text{Total Assets}}$

3) Interest Coverage Ratio $= \frac{\text{Earning before interest and Taxes (EBIT)}}{\text{Fixed interest charges}}$

4) Debts to Total Funds Ratio $= \frac{\text{Debts}}{\text{Total funds}}$

**Turnover (or Activity) Ratios**

1) Inventory (or Stock) Turnover Ratio $= \frac{\text{Cost of goods sold}}{\text{Average inventory at cost}}$

Alternatively $= \frac{\text{Sales}}{\text{Average inventory at selling prices}}$

Alternatively $= \frac{\text{Sales}}{\text{Average inventory at cost}}$

2) Debtors Turnover Ratio $= \frac{\text{Net credit sales}}{\text{Average debtors}}$

Average collection period (in term of days) $= \frac{\text{Debtors}}{\text{Credit sales}} \times 365$ days

3) Creditors Turnover Ratio $= \frac{\text{Net credit purchases}}{\text{Average creditors}}$

4) Working Capital Turnover Ratio $= \dfrac{\text{Cost of Sales}}{\text{Net working capital}}$

5) Fixed assets turnover ratio $= \dfrac{\text{Cost of Sales}}{\text{Fixed assets at cost less accumulated depreciation}}$

6) Capital turnover ratio $= \dfrac{\text{Cost of Sales}}{\text{Capital employed}}$

**Profitability Ratios**

1) Gross Profit ratio $= \dfrac{\text{Gross Profit}}{\text{Net Sales}} \times 100 = \dfrac{\text{Net sales} - \text{Cos of goods sold}}{\text{Net sales}} \times 100$

2) Net Profit ratio $= \dfrac{\text{Net Profit}}{\text{Net sales}} \times 100$

3) Operating ratio $= \dfrac{\text{Cost of goods sold} + \text{Operati expenses}}{\text{Net sales}}$

4) Operating profit ratio $= \dfrac{\text{Operating net profit}}{\text{Net sales}} \times 100$

5) Expense ratio :

a) For cost of materials $= \dfrac{\text{Material consumed}}{\text{Net sales}} \times 100$

b) For selling expenses $= \dfrac{\text{Selling expense}}{\text{Net sales}} \times 100$

Such ratios may be separately computed for each category of expense.

6) Return on Investment (ROI) $= \dfrac{\text{Net Profit before interest and taxes}}{\text{Total capital employed}} \times 100$

7) Returns of Shareholders Funds or Return on Proprietors Equity

$$= \frac{\text{Net Profit after interest and taxes}}{\text{Shareholders fund}} \times 100$$

8) Return on Equity Capital $= \dfrac{\text{Net Profit after interest,tax and preference dividend}}{\text{Equity shareholders funds}} \times 100$

9) Earning Per Share (EPS) $= \dfrac{\text{Net Profit after taxes} - \text{Prefere dividend}}{\text{No.of equity share}}$

10) Dividend Payout Ratio $= \dfrac{\text{Dividend per share}}{\text{Earning per share}}$

11) Price Earning Ratio (P/E ratio) $= \dfrac{\text{Market price per equity share}}{\text{Earning per share}}$

### 3.1.3 PROBLEMS FOR PRACTICE

**Illustration: 1**

From the following information determine opening and closing stocks:

| | |
|---|---|
| Stock Turnover | 5 times |
| Total Sales | Rs. 2,00,000 |
| Gross Profit | 25% of sales |

The closing stock value was more by Rs. 4,000 than the opening stock.

**Solution:**

Gross Profit = 2,00,000 $\times$ 25%

= Rs.50,000

Cost of Goods Sold = Sales – Gross Profit

= Rs. 2,00,000 – Rs. 50,000

= Rs. 1,50,000

Let the Opening Stock = X

Closing Stock = X + Rs. 4,000

Stock Turnover = 5 times

Stock Turnover Ratio $= \dfrac{\text{Cost of Goods Sold}}{\text{Average Stock}}$

$$5 = \frac{\text{Rs.}1,50,000}{{}^{1}\!/_{2}(X+X+R\ .4,000)}$$

5X + Rs. 10,000 = Rs. 1,50,000

5X = Rs. 1,50,000 – Rs. 10,000

X = Rs. 28,000 (Opening Stock)

Closing Stock = Rs. 28,000 + Rs. 4,000

= Rs. 32,000

Thus opening stock is Rs. 28,000 and closing stock is Rs. 32,000

**Illustration:2**

Rate of gross profit is 25% on cost. Total sales Rs. 5,00,000. Average stock Rs. 80,000.

Calculate stock turner ratio.

**Solution:**

Suppose Cost = Rs. 100, Sales = Rs. 100 + 25% = Rs. 125

Profit as a percentage of sales $= \frac{25}{125} = 20\%$

Gross Profit = Sales× 25% = 5,00,000× 25% = Rs. 1,00,000

Cost of goods sold = 5,00,000 – 1,00,000 = Rs. 4,00,000

Stock turnover ratio $= \frac{\text{Average Stock}}{\text{Cost of goods sold}} = \frac{80{,}000}{4{,}00{,}000} = 5$ times

**Illustration:3**

Calculate Creditors Turnover Ratio from the information given below:

Opening creditors Rs. 25,000

Purchases returns Rs. 5,000

Cash paid to creditors Rs.1,30,000

Closing creditors Rs.15,000

**Solution:**

Average Creditors $= \frac{\text{Opening Creditors+ Closing Creditors}}{2} = \frac{25{,}000+15{,}000}{2}$

= Rs. 20,000

Net Credit Purchase = Purchases (Credit) – Purchase Returns

* Net Credit Purchases = Rs. 1,25,000 – Rs. 5,000

= Rs. 1,20,000

Creditors Turnover Ratio $= \frac{\text{Net Credit Purchases}}{\text{Average Creditors}} = \frac{\text{Rs.}1{,}20{,}000}{\text{Rs.}20{,}000} = 6$ times

* Calculation of Credit Purchase

**Total Creditors Account**

| Particulars | Rs. | Particulars | Rs. |
|---|---|---|---|
| To Purchase Returns | 5,000 | By Balance b/d | 25,000 |
| To Cash A/c | 1,30,000 | By Purchases A/c (Credit) | 1,25,000 |
| To Balance C/d | 15,000 | | |
| | 1,50,000 | | 1,50,000 |

**Illustration:4**

From the information given below, calculate the following ratios:

(i) Quick Ratio (ii) Stock Turnover Ratio

(iii) Debt-Equity Ratio (iv) Return on Investment

**Information:** Current Assets Rs. 5,00,000; Opening Stock Rs. 50,000; Closing Stock Rs. 1,50,000; Cost of Goods Sold Rs. 12,00,000; Gross Profit Rs. 2,00,000; Indirect expenses Rs 20,000; Equity Share Capital Rs. 7,00,000; 10% Preference Share Capital Rs. 3,00,000; 12% Debentures Rs. 2,00,000; Current Liabilities Rs. 2,00,000; General Reserve Rs. 1,00,000.

**Solution:**

i) Quick ratio $= \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{5{,}00{,}000-1{,}50{,}000}{2{,}00{,}000} = \frac{\text{Rs.}3{,}50{,}000}{\text{Rs.}2{,}00{,}000}$

$= 1.75 : 1$

ii) Stock turnover ratio $= \frac{\text{Cost of goods sold}}{\text{Average stock}}$

$= \frac{12{,}00{,}000}{\frac{1}{2}(50{,}000+1{,}50{,}000)} = \frac{\text{Rs.}12{,}00{,}000}{\text{Rs.}1{,}00{,}000} = 12 \text{ times}$

iii) Debt equity ratio $= \frac{\text{Long term debts}}{\text{Shareholders funds}}$

$= \frac{2{,}00{,}000}{7{,}00{,}000+3{,}00{,}000+1{,}00{,}000} = \frac{\text{Rs.}2{,}00{,}000}{\text{Rs.}11{,}00{,}000} = 2{:}11$

iv) Return on investment = $\dfrac{\text{Profit before interest and tax (PBIT)}}{\text{Capital employed}}$

$$= \frac{\text{Gross Profit} - \text{Indir} \quad .+ \text{Interest on debentures}}{\text{Eq.share capital} + \text{Pref.capital} + \text{Debentures} + \text{General Reserve}}$$

$$= \frac{2{,}00{,}000 - 20{,}000 + 2 \quad ,000}{7{,}00{,}000 + \quad ,00{,}000 + 2{,}00{,}000 + 1{,}00{,}000}$$

$$= \frac{\text{Rs.}2{,}04{,}000}{\text{Rs.}13{,}00{,}000} \times 100 = 15.69\%$$

**Illustration:5**

Current ratio 2.50; Acid test ratio 1.75; Stock Rs. 1,50,000. Calculate net working capital.

**Solution:**

Current ratio = 2.5; Acid test ratio = 1.75.

Difference between current ratio and acid test ratio is stock

| | | |
|---|---|---|
| Thus | Stock | = Current ratio – Acid test ratio] |
| | 1,50,000 | = 2.50 – 1.75 |
| | 1,50,000 | = 0.75 |

Current assets $= \dfrac{1{,}50{,}000 \times 2.50}{0.75}$ = Rs. 5,00,000

Current Liabilities $= \dfrac{1{,}50{,}000 \times 1}{0.75}$ = Rs. 2,00,000

Net working capital = Current assets – Current liabilities

= 5,00,000 – 2,00,000 = Rs. 3,00,000

**Illustration:6**

(i) Calculate Stock Turnover Ratio from the following information:

| | |
|---|---|
| Opening Stock | Rs. 30,000 |
| Purchases | Rs. 1,15,000 |
| Closing Stock | Rs, 20,000 |

(ii) Calculate Quick Ratio from the following Balance Sheet figures:

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Capital | 2,20,000 | Fixed Assets | 2,00,000 |
| Loan (long-term) | 50,000 | Stock | 50,000 |
| Creditors | 40,000 | Debtors | 50,000 |
| BIP | 10,000 | BIR | 15,000 |
| Provision for Tax | 7,500 | Cash and Bank Balance | 15,000 |
| Provision for Doubtful Debts | 2,500 | | |
| | **3,30,000** | | **3,30,000** |

**Solution:**

i) Stock Turnover Ratio$= \dfrac{\text{Cost of Goods Sold}}{\text{Average Stock}}$

Cost of Goods Sold = Opening Stock + Purchases – Closing Stock

= Rs. 30,000 + Rs. 1,15,000 – Rs. 20,000 = Rs. 1,25,000

Average Stock $= \dfrac{\text{Opening Stock+Closing Stock}}{2} = \dfrac{\text{Rs.30,000 \quad .20,000}}{2}$

= Rs. 25,000

ii) Quick Ratio $= \dfrac{\text{Quick Assets}}{\text{Current Liabilities}} = \dfrac{\text{Rs.80,000}}{\text{Rs.60,000}} = 4{:}3$

Quick Assets = Debtors + Bills Receivable + Cash and Bank Balance

= Rs. 50,000 + Rs. 15,000 + Rs. 15,000 = Rs. 80,000

Current Liabilities = Creditors + B/P + Provision for Tax + Provision for Doubtful Debts

= Rs. 40,000 + Rs. 10,000 + Rs. 7,500 + Rs. 2,500

= Rs. 60,000

**Illustration:7**

Calculate the following ratios from the given Balance Sheet:

(i) Current Ratio;

(ii) Fixed Assets to Net worth Ratio;

(iii) Debt Equity Ratio;

(iv) Return on Capital Employed

**Balance Sheet**

| *Liabilities* | | Rs. | *Assets* | Rs. |
|---|---|---|---|---|
| 600 Shares of Rs. 100 | | 60,000 | Land | 40,000 |
| General Reserve | | 35,000 | Plant | 20,000 |
| Dividend Equalisation | | 5,000 | Machines | 27,500 |
| Long-term Loans | | 20,000 | Investments | 25,000 |
| Bills Payable | | 30,000 | Inventories | 30,000 |
| Provision for tax | | 5,000 | Bill Receivable | 13,500 |
| Profit & Loss Ne | | | Cash and Bank | 12,000 |
| Balance | 1,000 | | Preliminary expenses | 8,000 |
| Current year | 20,000 | 21,000 | | |
| | | **1,76,00** | | **1,76,000** |

**Solution:**

i) Current Ratio $= \frac{\text{Current Assets}}{\text{Current Liabilities}} \frac{\text{Rs. } 55{,}500}{\text{Rs.}35{,}000} = 1.56{:}1$

Current Assets = Inventories + Bills Receivable + Cash and Bank

= 30,000 + 13,500 + 12,000 = Rs. 55,500

Current Liabilities = Bills Payable + Provision for Tax

= Rs. 30,000 + Rs. 5,000 = Rs. 35,000

ii) Fixed Assets to Net Worth Ratio $= \frac{\text{Fixed Assets}}{\text{Net Worth}} = \frac{\text{Rs. } 1{,}12{,}500}{\text{Rs.}1{,}13{,}000} = 0.99{:}1$

Fixed Assets = Land + Plant + Machines + Investments

= 40,000 + 20,000 + 27,500 + 25,000 = Rs. 1,12,500

Net Worth = Share Capital +General Reserve +Dividend Equalization Reserve+ Profit & Loss Account – Preliminary expenses

=60,000+ 35,000 + 5,000 + 21,000 – 8,000 = Rs. 1,13,000

iii) Debt Equity Ratio $= \frac{\text{Long term debts}}{\text{Shareholder funds}} = \frac{20{,}000}{1{,}13{,}000} = 0.17 : 1$

Long term debts = Long term loans = Rs. 20,000

Shareholders funds = Net Worth = Rs. 1,13,000

iv) Return on Capital Employed = $\frac{\text{Net Profit before interest and tax}}{\text{Capital employed}} \times 100$

$$= \frac{\text{Rs.25,000}}{\text{R.1,33,000}} = 18.79\%$$

Net Profit before interest and tax = Net Profit + Tax

= 20,000 + 5,000 = Rs. 25,000

Capital employed = Share capital + General Reserve + Dividend Equilisation Reserve + Long term loans + Profit – Prel. Expenses

= 60,000 + 35,000 + 5,000 + 20,000 + 21,000 – 8,000

= Rs. 1,33,000

**Illustration:8**

A DR Pharmaceuticals having a net working capital of Rs. 2.8 lakhs as on 30-6-2003 indicates the following financial ratios and performance figures:

| | |
|---|---|
| Current ratio | 2.4 |
| Liquidity ratio | 1.6 |
| Inventory turnover (on cost of sales) | 8 |
| Gross profit on sales | 20% |
| Credit allowed (months) | 1.5 |

The company's fixed assets is equivalent to 90% of its net-worth (share capital plus reserves) while reserves amounted to 40% of share capital.

Prepare the Balance Sheet of the company as on 30-6-2003 showing step by step calculations.

**Solution:**

Current ratio $= \frac{\text{Current Assets (CA)}}{\text{Current Liabilities (CL)}}$

2.4 $= \frac{\text{CA}}{\text{CL}}$

CA = 2.4 CL

Net Working Capital = CA – CL = Rs. 2,80,000

$2.4\ CL - CL = 2,80,000$

$1.4\ CL = 2,80,000$

$CL = \frac{2,80,000}{1.4} = \text{Rs. } 2,00,000$

Thus Current Liabilities = Rs. 2,00,000

Current assets = 2.4 CL = $2.4 \times 2,00,000$ = Rs. 4,80,000

**2) Calculation of Stock**

Liquidity ratio $= \frac{\text{CA} - \text{Stock}}{\text{CL}}$

$1.6 = \frac{4,80,000 - \text{Stock}}{2,00,000}$

$2,00,000 \times 1.6$ = 4,80,000- Stock

Stock = 4,80,000-3,20,000 =Rs. 1,60,000

**3) Calculation of Cost of Sales**

Inventory turnover ratio = 8

$8 = \frac{\text{Cost of Sales}}{\text{Stock}} = \frac{\text{Cost of Sales}}{1,60,000}$

Cost of Sales = $1,60,000 \times 8$ = Rs. 12,80,000

**4) Calculation of Gross Profit**

Gross Profit on sales = 20%

❖ Gross Profit on cost of sales = 25%

Gross profit = Rs. 12,80,000 $\times$ 25% = Rs. 3,20,000

**5) Calculate of Sales**

| | |
|---|---|
| Cost of sales | Rs. 12,80,000 |
| Add. Gross Profit | 3,20,000 |
| Sales | Rs. 16,00,000 |

**6) Calculation of Debtors**

Average collection period $= \frac{\text{Debtors}}{\text{Credit Sales}} \times 12$ months

1.5 months $= \frac{\text{Debtors}}{16,00,000} \times 12$

$12 \times$ Debtors $= 16,00,000 \times 1.5$

Debtors $= \frac{24,00,000}{12}$ = Rs. 2,00,000

**7) Calculation of Cash**

Current assets = Stock + Debtors + Cash

4,80,000 = 1,60,000 + 2,00,000 + Cash

Cash = 1,20,000

**8) Calculation of Fixed Assets**

Fixed assets = 90% of net worth

Net worth = Capital + Reserve

Also Net worth = Fixed assets + Net working capital

= 0.9 Net worth + 2,80,000

0.1 Net worth = 2,80,000

Net worth $= \frac{2,80,000}{0.1}$ = Rs. 28,00,000

Fixed assets = 28,00,000 $\times$ 90% = 25,20,000

**9) Calculation of Capital and Reserves**

Net worth (i.e. Capital + Reserves) = Rs. 28,00,000

Reserve = 40% of Capital

❖ Capital + 0.4 Capital = 28,00,000

1.4 Capital = 28,00,000

Capital $= \frac{28,00,000}{1.4}$ = Rs. 20,00,000

Reserves $= 20,00,000 \times 40\% = $ Rs. 8,00,000

**Balance Sheet as on 30th June 2003**

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Share Capital | 20,00,000 | Fixed Assets | 25,20,000 |
| Reserves | 8,00,000 | Stock | 1,60,000 |
| Current liabilities | 2,00,000 | Debtors | 2,00,000 |
| | | Cash | 1,20,000 |
| | **30,00,000** | | **30,00,000** |

**Illustration: 9**

From the following information given below Prepare a Balance Sheet

| | |
|---|---|
| Stock Velocity | 6 |
| Gross Profit Margin | 20% |
| Capital Turnover Ratio | 2 |
| Fixed Assets Turnover Ratio | 4 |
| Debt Collection Period | 2 months |
| Creditors Payment Period | 73 days |

Gross Profit was Rs. 60,000

Excess of closing stock over opening stock was Rs. 5,000.
Difference in Balance Sheet represents Bank Balance.

The entire sales and purchases are made on credit basis.

**Solution:**

Computation of various items for balance sheet

**1) Calculation of cost of goods sold**

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

Or

Sales $= \dfrac{\text{Gross Profit}}{\text{Gross Profit Ratio}}$

Sales $= \dfrac{60{,}000}{20\%}$ = Rs. 3,00,000

Gross Profit = 3,00,000 × 20% = Rs. 60,000

Cost of Goods Sold = Sales - Gross Profit

= Rs. 3,00,000 – Rs. 60,000 = Rs. 2,40,000

**2) Calculation of Opening and Closing Stocks**

Taking stock velocity as stock turnover

Stock Velocity $= \dfrac{\text{Cost of Goods Sold}}{\text{Average Stock}}$

6 $= \dfrac{\text{Rs.}2{,}40{,}000}{\text{Average Stock}}$

Average Stock $= \dfrac{2{,}40{,}000}{6}$ = Rs. 40,000

Opening Stock $= 40{,}000 - \dfrac{5000}{2}$ = Rs. 37,500

Closing Stock $= 40{,}000 + \dfrac{5{,}000}{2}$ = Rs. 42,500

3) Calculation of Capital

Capital Turnover Ratio $= \dfrac{\text{Cost of Sales}}{\text{Capital}}$

or Capital $= \dfrac{\text{Cost of Sales}}{\text{Capital turnover ratio}}$

Capital $= \dfrac{2{,}40{,}000}{2}$ = Rs. 1,20,000

4) Calculation of Fixed Assets

Fixed Assets Turnover Ratio $= \dfrac{\text{Cost of Sales}}{\text{Fixed Assets}}$

4 $= \dfrac{\text{Rs.}2{,}40{,}000}{\text{Fixed Assets}}$

Fixed Assets $= \frac{2,40,000}{4}$ = Rs. 60,000

5) Calculation of Debtors

Debt collection period = 2 month

Debtors Turnover Ratio $= \frac{\text{12 months}}{\text{Debt Collection period}} = \frac{12}{2}$ = 6 times

Also Debtors Turnover Ratio $= \frac{\text{Credit Sales}}{\text{Debtors}}$

Debtors $= \frac{\text{Rs.}3,00,000}{6}$ = Rs. 50,000

6) Calculation of Creditors

Creditors payment period = 73 days

Creditors Turnover Ratio $= \frac{\text{3656 days}}{\text{73 days}}$ = 5 times

The amount of credit purchases is determined as follows:

Cost of Goods Sold = Opening Stock + Purchases – Closing Stock

2,40,000 = Rs. 37,500 + Purchases – Rs. 42,500

Purchases = Rs. 2,45,000

Creditors Turnover Ratio $= \frac{\text{Credit Purchase}}{\text{Creditors}}$

Or Creditors $= \frac{\text{Credit Purchase}}{\text{Capital Turnover ratio}}$

Creditors $= \frac{2,45,000}{5}$ = Rs. 49,000

**Balance Sheets as on**

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Capital | 1,20,000 | Fixed Assets | 60,000 |
| Creditors | 49,000 | Closing Stock | 42,500 |
| | | Debtors | 50,000 |
| | | Cash (Balancing Figure) | 16,500 |
| | **1,69,000** | | **1,69,000** |

**Illustration:10**

Following is the Profit and Loss Account of DRB Ltd. for the year ended 31st March, 2013

| | Rs. | | Rs. |
|---|---|---|---|
| To Opening stock | 90,000 | By Sales | 9,00,000 |
| To Purchases | 5,60,000 | By Closing stock | 90,000 |
| To Wages | 2,14,000 | | |
| To Gross Profit | 1,26,000 | | |
| | **9,90,000** | | **9,90,000** |
| To Salaries | 16,000 | By Gross profit | 1,26,000 |
| To Electricity | 10,000 | | |
| To Misc. expenses | 10,000 | | |
| To Depreciation | 30,000 | | |
| To Net profit | 60,000 | | |
| | **1,26,000** | | **1,26,000** |

**Balance-sheet of DRB Ltd.**

**As on 31/03/2013**

| liabilities | Rs. | Assets | | Rs. |
|---|---|---|---|---|
| Equity Share Capital | 1,80,000 | Fixed assets | 5,40,000 | |
| Reserves and Surplus | 1,20,000 | *Less:* Depreciation | 1,50,000 | 3,90,000 |
| Secured loans | 2,10,000 | Stock | | 90,000 |
| Creditors | 90,000 | Debtors | | 1,05,000 |
| | | Cash | | 15,000 |
| | **6,00,000** | | | **6,00,000** |

Discuss under the following important functional grouping the usual ratios and comment on the financial strength and weakness:

(i) Liquidity and solvency ratios; and *(ii)* Profitability test ratios.

**Solution**:

**A) Liquidity Ratios**

1) Current ratio $= \dfrac{\text{Current Assets}}{\text{Current Liabilites}} = \dfrac{90{,}000+1{,}05{,}000+\quad ,000}{90{,}000}$

$= \dfrac{2{,}10{,}000}{90{,}000} = 2.33{:}1$

2) Liquid ratio $= \dfrac{\text{Lidquid assets}}{\text{Current liabilites}} = \dfrac{1{,}05{,}000\qquad ,000}{90{,}000} = \dfrac{1{,}20{,}000}{90{,}000} = 1.33{:}1$

**Comments :** Current ratio of 2:1 and liquid ratio of 1:1 are considered satisfactory. Since company current ratio and liquid ratios are 2.33:1 and 1.33:1 respectively, company liquidity position is quite satisfactory.

**B) Solvency Ratios**

1) Debt Equity ratio $= \dfrac{\text{Long term debts}}{\text{Shareholders funds}} = \dfrac{2{,}10{,}000}{1{,}80{,}000+\ \ ,20{,}000} = \dfrac{2{,}10{,}000}{3{,}00{,}000}$

$= 0.7$

2) Proprietary ratio $= \dfrac{\text{Sharehoders funds}}{\text{Total assets}} = \dfrac{3{,}00{,}000}{6{,}00{,}000} = 0.5$

**C) Profitability Ratios**

1) Gross Profit ratio $= \dfrac{\text{Gross Profit}}{\text{Sales}} \times 100 = \dfrac{1{,}26{,}000}{9{,}00{,}000} \times 100 = 14\%$

2) Net Profit ratio $= \dfrac{\text{Net Profit}}{\text{Sales}} \times 100 = \dfrac{60{,}000}{9{,}00{,}000} \times 100 = 6.7\%$

3) Return on capital employed $= \dfrac{\text{Net Profit}}{\text{Capital employed}} \times \quad \times 100$

$= \dfrac{60{,}000}{1{,}80{,}000+1{,}20{,}000+\ \ ,10{,}000} = \dfrac{60{,}000}{5{,}10{,}000} \times 100 = 11.76\%$

**Comments :** All the profitability ratio indicate that rate of profitability is not impressive and needs to be improved.

**Illustration:11**

Hindustan Co. Ltd supplies the following information.

Balance Sheet

| Capital and Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Share capital | 2,00,000 | Good will | 1,20,000 |
| Reserves and surplus | 58,000 | Plant and machinery | 1,50,000 |
| Debentures | 1,00,000 | Stock | 80,000 |
| Creditors | 40,000 | Debtors | 45,000 |
| Bills payable | 20,000 | Cash | 17,000 |
| Other current liabilities | 2,000 | Misc. current assets | 8,000 |
| | **4,20,000** | | **4,20,000** |

**Calculate:**

1) Current ratio
2) Inventory turnover
3) Proprietor's funds to liabilities
4) Quick or liquid ratio
5) Average collection period

**<u>Solution:</u>**

i) Current Ratio= $\frac{\text{Current assets}}{\text{Current liabilities}} = \frac{\text{Stock+Debtors+Cash+Mis .Current assets}}{\text{Crs.}+{}^{B}/_{P}+\text{ Other curret liabilities}}$

$$= \frac{80{,}000+45{,}000+1\ ,000+8{,}000}{40{,}000 + 20{,}000 + 2{,}000} = \frac{1{,}50{,}000}{62{,}000} = 2.42:1$$

ii) Liquid Ratio $= \frac{\text{Liquid assets}}{\text{Curret liabilities}} = \frac{\text{Current assets}-\text{Stock}}{\text{Currets liabilities}}$

$$= \frac{1{,}50{,}000-8\ ,00}{62{,}000} = \frac{70{,}000}{62{,}000} = 1.13:1$$

iii) Inventory Turnover $= \frac{\text{Cost of sales}}{\text{Average Stock}} = \frac{4{,}00{,}000-1{,}60{,}000}{80{,}000} = \frac{2{,}40{,}000}{80{,}000} = 3 \text{ times}$

iv) Average Collection Period $= \frac{\text{Debtors}}{\text{Credit Sales}} \times 365 \text{ days}$

$$= \frac{45{,}000}{4{,}00{,}000} \times 365 \text{ days} = 41 \text{ days}$$

v) Propritors funds to liabilities ratio $= \frac{\text{Owners equity}}{\text{Total liabilites}}$

$$= \frac{2{,}00{,}000+5\ \ {,}000}{1{,}00{,}000+40{,}000+20{,}000\quad {,}000}$$

$$= \frac{2{,}58{,}000}{1{,}62{,}000} = 1.59{:}1$$

**Illustration:12**

The summarised Balance Sheet of YDB Traders Ltd. for the year ended 31-3-2014 is given below:

The following further particulars are also given for the year: *(in lakhs of rupees)*

| | |
|---|---|
| Sales: | 120 |
| Earnings before interest and tax (EBIT): | 30 |
| Net profit after tax (PAT): | 20 |

Calculate the following for the company and sentences. Explain the significance of each in one or two.

(Rs.in lakhs)

| Capital and Liabilities | Rs. | Assets | | Rs. |
|---|---|---|---|---|
| Equity share capital (fully paid-up) | 140 | Fixed assets (at cost) | 210 | |
| Reserves and surplus | 45 | Less: Depreciation | 25 | 185 |
| Profit and loss account | 20 | Current Assets: | | |
| Provision for taxation | 10 | Stock | 25 | |
| Sundry creditors | 40 | Debtors | 30 | |
| | | Cash | 15 | 70 |
| | **255** | | | **255** |

1) Current ratio;

2) Liquidity ratio;

3) Profitability ratio;

4) Profitability on funds employed;

5) Debtors' turnover;

6) Stock turnover;

7) Average collection period;

8) Return on equity

**Solution:**

i) Current Ratio $= \frac{\text{Current asstes}}{\text{Current liabilities}} = \frac{\text{Stock+Debtor}}{\text{S.Creditors+Provision for taxation}}$

$= \frac{25+30+15}{40+10} = \frac{70}{50} = 1.4:1$

ii) Liquidity Ratio $= \frac{\text{Liquid assets}}{\text{Current liabilities}} = \frac{\text{Current assets}-\text{Stoc}}{\text{Current liabilites}}$

$= \frac{70-2}{50} = \frac{45}{50} = 0.90:1$

iii) Profitability Ratio $= \frac{\text{EBIT}}{\text{Sales}} = \frac{30}{120} \times 100 = 25\%$

iv) Profitability on Funds Employed $= \frac{\text{EBIT}}{\text{Funds employed}} \times 100$

$= \frac{\text{EBIT}}{\text{Equity Capital+Rese} \qquad \&L\ A/c} \times 100$

$= \frac{30}{140+45+20} \times 100 = \frac{30}{205} \times 100 = 14.63\%$

v) Debtors Turnover $= \frac{\text{Sales}}{\text{Average debtors}} = \frac{120}{30} = 4$ Times

vi) Stock Turnover $= \frac{\text{Sales}}{\text{Average Stock}} = \frac{120}{25} = 4.8$ Times

vii) Average Collection Period $= \frac{\text{Average Debtors}}{\text{Credit sales}} \times 12$ months

$= \frac{30}{120} \times 12 = 3$ months

viii) Return on Equity $= \frac{\text{Profit after tax}}{\text{Shareholders funds}} \times 100$

$= \frac{20}{140+45+20} \times 100 = \frac{20}{205} \times 100 = 9.76\%$

**Illustration:13**

The HDB Company's financial statements give you the following information as on 31/03/2014.

| | Rs. |
|---|---:|
| Cash | 160000 |
| Sundry debtors | 400000 |
| Temporary investments | 320000 |
| Stock | 2160000 |
| Prepaid expenses | 12000 |
| Total current assets | 3052000 |
| Total-assets | 6400000 |
| Current liabilities | 800000 |
| 10% Debentures | 1600000 |
| Equity share capital | 2000000 |
| Retained earnings | 812000 |

**Statement of Profit for the year ended 31st March, 2014**

| | | Rs. |
|---|---:|---:|
| Sales | | 40,00,000 |
| Less : Cost of goods sold | 28,00,000 | |
| Interest | 1,60,000 | **29,60,000** |
| Net Profit | | **10,40,000** |
| Less: Taxes @ 50% | | 5,20,000 |
| | | **5,20,000** |

Dividend declared on equity shares Rs. 220000

From the above figures, appraise the financial position of the company from the points of view (i) liquidity (ii) solvency; (iii) profitability and (iv) activity.

**Solution:**

**I) Liquidity Ratios**

1) Current ratio $= \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{30,52,000}{8,00,000} = 3.82:1$

2) Acid Test ratio $= \dfrac{\text{Liquid Assets}}{\text{Current Liabilities}} = \dfrac{8,80,000}{8,00,000} = 1.1:1$

**II) Solvency Ratios**

1) Debt Equity ratio $= \dfrac{\text{Long term Debt}}{\text{Shareholders funds}} = \dfrac{16,00,000}{28,12,000} = 0.57:1$

2) Interest Coverage ratio $= \dfrac{\text{PBIT}}{\text{Interest Charges}} = \dfrac{12,00,000}{1,60,000} = 7.5$ times

**III) Profitability Ratios**

1) Net Profit ratio $= \dfrac{\text{Net Profit after tax}}{\text{Sales}} \times 100 = \dfrac{5,20,000}{40,00,000} \times 100 = 13\%$

2) Return on Capital employed $= \dfrac{\text{PBIT}}{\text{Capital employed}} \times 100 = \dfrac{12,00,000}{44,12,000} \times 100$

$= 27.2\%$

**IV) Activity Ratios**

1) Stock Turnover ratio $= \dfrac{\text{Cost of goods sold}}{\text{Average Stock}} = \dfrac{28,00,000}{20,00,000} = 1.4$ times

2) Assets Turnover ratio $= \dfrac{\text{Sales}}{\text{Total Assets}} = \dfrac{40,00,000}{64,00,000} = 0.625$ times

**Check Your Progress**

**A) Multiple Choice Questions**

1. Debt equity ratio is an indicator of...............

   a) Liquidity b) Profitability c) Solvency d) Activity

2. A high debtors turnover ratio is an indicator of.............

   a) Inefficiency in debt collection b) Efficiency in debt collection

   c) Profitability d) solvency

3. Inventory turnover ratio is ___________

   a) Liquidity ratiob) Solvency ratio c) Profitability ratio d) Activity ratio

4. An ideal debt equity ratio is _____________

   a) 1:1 b) 2:01 c) 3:1 d) 1:2

5. Four times stock turnover ratio implies inventory holding period of ........

   a) 4 months   b) 3 months   c) 2 month   d) 1 month

## 3.3 Summary

In this unit we learn analysis of financial statement especially financial ratios analysis is a one of the important methods of analysis of financial statements. The term ratio refers to the mathematical relationship between any two interrelated variables. Ratio analysis is necessary to establish the relationship between two accounting figures to highlight the significant information to the management or users who can analyse the business situation and to monitor their performance in a meaningful way. Accounting ratios are classified on the basis of different criterias. The functional classification of ratios include Liquidity Ratios, Profitability Ratios, Turnover Ratios and Solvency Ratios.

## 3.4 Terms to Remember:

- **Ratio :** Ratio can be defined as the term accounting ratio is used to describe significant relationships which exist between figures shown in a balance sheet and profit and loss account in a budgetary control system or any other part of the accounting management.
- **Pure Ratio:** A pure ratio is a simple division of one number by another.
- **Ratio Analysis :** Ratio analysis is the relationship between two accounting figures to highlight the significant information to the management or users who can analyse the business situation and to monitor their performance in a meaningful way.
- **Profitability Ratios:** Profitability ratios give some yardstick to measure the profit in relative terms with reference to sales, assets or capital employed. These ratios highlight the end result of business activities. The main objective is to judge the efficiency of the business.
- **Balance sheet ratios:** Balance sheet ratios compare the various line items on a balance sheet in order to infer the liquidity, efficiency, and financial structure of a business.

## 3.5 Answers to Check Your Progress

1. - c, 2. - b 3. - d, 4. - c, 5. - b

## 3.6 Exercise

**A) Short answer Questions:**

1) What are the advantages of Ratio Analysis?
2) What are the limitations of ratio analysis?
3) What are the different categories of ratios? How are they classified?
4) Write short notes on :
   a) Liquidity Ratios.
   b) Profitability Ratios.
   c) Turnover Ratios.
   d) Solvency Ratios.
   e) Overall Profitability Ratios.
5) What do you understand by current ratio? What are it uses? What are its limitations?
6) How can solvency of a firm be measured?
7) What you understand by Liquidity ratios? Discuss their significance.
8) Explain the importance of profitability Ratio. How they are worked out?
9) Discuss the usefulness of the following ratios:
   a) Inventory Ratio.
   b) Operating Ratio.
   c) Price Earning Ratio.
   d) Creditor's Turnover Ratio.
   e) Debtor's Turnover Ratio

**A) Long Answer Questions:**

a. Explain any *two* of the following ratios with example:
   I) Return on Investment Ratio (ROI);
   II) Creditors Turnover Ratio;
   III) Operating Profit Ratio.
b. Briefly explain the meaning and significance of any two of the following ratios:
   i) Operating ratio ii) Liquidity ratio iii) Stock turnover ratio.

c. Write short notes on:

   i) Price earning ratio

   ii) Debt-equity ratio.

d. What do you mean by ratio analysis? Discuss its advantages and limitations.

e. Briefly explain the various profitability ratios.

**B) Practical problems:**

1. The following Trading and Profit and Loss Account of Sudarshan Ltd is given, Calculate:

   a) Gross Profit ratio  b) Net Profit ratio  c) Operating ratio

   d) Operating Profit ratio  e) Stock turnover ratio.

**Trading and Profit and Loss A/c**

**for the Year ending 31st Dec. 2002**

| | Rs. | | Rs. |
|---|---|---|---|
| To Opening Stock | 76,250 | By Sales | 5,00,000 |
| To Purchases | 3,15,250 | By Closing Stock | 98,500 |
| To Carriage | 2,000 | | |
| To Wages | 5,000 | | |
| To Gross Profit | 2,00,000 | | |
| | **5,98,500** | | **5,98,500** |
| To Administrative Exp. | 1,00,000 | By Gross Profit | 2,00,000 |
| To Selling and Dist. Exp. | 13,000 | By Non-operating Incomes | 6,000 |
| To Finance Exp. | 7,000 | | |
| To Other Non-operating exp. | 2,000 | | |
| To Net Profit | 84,000 | | |
| | **2,06,000** | | **2,06,000** |

**(Hint. :**

a) Gross Profit ratio (2,00,000/ 5,00,000) = 40%)

b) Net Profit ratio = (84,000/ 5,00,000) = 16.8%

c) Operating ratio = 4,,13,000/ 5,00,000 = 82.6%

d) Operating Profit ratio = 100 – 82.6 = 17.4%

e) Stock turnover = 3,00,000/87,375 = 3.43 times)

2) From the information given below of MCS ltd, find out:

a) Current Assets b) Current Liabilities c) Liquid Assets

d) Proprietor's funds e) Share Capital f) Fixed Assets g) Stock-in-trade;

**Information:** (i) Current ratio 2.5; (ii) Liquid ratio 1.5 ; (ii) Proprietary ratio (fixed assets/proprietary funds) 0.75; (iv) Working Capital Rs. 60,000; (v) Reserves and Surplus Rs. 40,000; and (vi) Bank Overdraft Rs. 10,000. There is no long-term loan or fictitious asset.

**(Hint. :**

a) Current assets Rs. 1,00,000

b) Current liabilities Rs. 40,000

c) Liquid assets Rs. 60,000

d) Proprietor's funds Rs. 2,40,000

e) Share Capital Rs. 2,00,000

f) Fixed assets Rs. 1,80,000

g) Stock in trade Rs. 40,000.)

3) The following is the Profit and Loss Account of Priya & Co. for the year ended on December 31, 2002 :

| | | Rs. |
|---|---|---|
| Net Sales | | 30,00,000 |
| *Less:* Cost of Goods Sold | | |
| Opening Stock | 5,00,000 | |
| *Add:* Purchase | 20,00,000 | |
| | 25,00,000 | |
| *Less:* Closing Stock | 7,00,000 | |
| | | **18,00,000** |
| Gross Profit | | 12,00,000 |
| *Less:* Operating Expenses | | 4,80,000 |

| | | Rs. |
|---|---|---|
| Operating Profit | | 7,20,000 |
| *Less:* Interest Charge | | 1,80,000 |
| Profit before taxation | | **5,40,000** |
| Additional information as on 31-12-2002 | | |
| Current Assets | | 9,75,000 |
| Current Liabilities | | 6,00,000 |
| Fixed Assets | | 5,25,000 |

From the above particulars, calculate any four ratios out of the following:

i) Cost of Goods Sold Ratio    ii) Operating Ratio

iii) Operating Profit Ratio    iv) Stock Turnover Ratio

v) Assets Turnover Ratio    vi) Return on Capital Employed.

4) From the final accounts of Sona Alies Ltd. given below, calculate the following:

i) Gross profit ratio    ii) Current ratio

iii) Liquid ratio; and    iv)Return on investment (ROT).

**Trading and Profit and loss account for the year ended 31st March, 2003**

| | | Rs. | | Rs. |
|---|---|---|---|---|
| To Material Consumed | | | By Sales | 85,000 |
| Opening Stock | 9,050 | | By Profit | 600 |
| Purchases | 54,525 | | By Interest on Investment | 300 |
| | 63,575 | | | |
| *Less:* Closing Stock | 14,000 | **49,575** | | |
| To Carriage inwards | | 1,425 | | |
| To Office expenses | | 15,000 | | |
| To Sales expenses | | 3,000 | | |
| To Financial expenses | | 1,500 | | |
| To Loss on sales of tired assets | | 400 | | |
| To Net Profit | | 15,000 | | |
| | | **85,900** | | **85,900** |

**Balance Sheet as on 31st March, 2003**

| Liabilities | | Rs. | Assets | | Rs. |
|---|---|---|---|---|---|
| Share capital 2000 equity shares of Rs. 10 each, fully paid | | 20,000 | Fixed assets: | | |
| General Reserve | | 9,000 | Building | 15,000 | |
| Profit and loss Account | | 6,000 | Plant | 8,000 | 23,000 |
| Bank Overdraf | | 3,000 | Current asstes: | | |
| Sundry Creditors: | | | Stock-in-trade | 14,000 | |
| for expenses | 2,000 | | Bills receivable | 1,000 | |
| for others | 8,000 | 10,000 | Bank balance | 3,000 | 25,000 |
| | | **48,000** | | | **48,000** |

**(Hint. :** i) Gross profit ratio $= \frac{34,000}{85,000} \times 100 = 40\%$

ii) Current ratio $= \frac{25,000}{13,000} = 1.92:1$

iii) Liquid ratio $= \frac{11,000}{13,000} = 0.85:1$

iv) ROI $= \frac{16,000}{35,000} \times 100 = 45.71\%$)

5. From the following particulars, you are required to calculate (a) Current Ratio (b) Gross Profit Ratio (c) Stock Turnover Ratio (d) Debt Equity Ratio (e) Proprietary Ratio (t) Debtor's Turnover Ratio

| | Rs. | | Rs. |
|---|---|---|---|
| Annual Sales | 74,40,000 | Paid up Capital | 15,00,000 |
| Gross Profit | 7,44,000 | Reserve & Surplus | 6,00,000 |
| Fixed Assets | 16,50,000 | 7% Debentures | 5,00,000 |
| Inventories | 9,10,000 | Bank Overdraft | 2,00,000 |
| Sundry Debtors | 12,40,000 | Sundry Creditors | 12,00,000 |
| Short-Term Investments | 1,60,000 | | |
| Cash Balance | 40,000 | | |

6) From the following Profit and Loss Account and Balance sheet, compute: (1) Current Ratio (2) Liquid Ratio (3) Fixed Asset to Net Worth Ratio (4) Proprietary Ratio (5) Debt Equity Ratio (6) Operating Ratio (7) Stock Turnover Ratio (8) Fixed Assets Turnover Ratio (9) Creditors Turnover Ratio (10) Gross Profit Turnover Ratio (II) Net Profit to Sales Ratio (12) Return on Investment Ratio.

Dr. **Profit and Loss Account for the year ended 31-12-2002** Cr.

| Particulars | | Rs. | Particulars | | Rs. |
|---|---|---|---|---|---|
| To Opening Stock of Raw materials | | 5,000 | By Sales | 50,000 | |
| To Purchases | 32,000 | | *Less:* Return | 1,000 | 49,000 |
| Less: Return | 2,000 | 30,000 | By Closing Stock of Raw materials | | 8,750 |
| To Factory Expenses | | 1,000 | | | |
| To Gross profit c/d | | 21,750 | | | |
| | | **57,750** | | | **57,750** |
| To Operating expenses | | 8,750 | By Gross Profit b/d | | 21,750 |
| To Interest on Debenture | | 400 | | | |
| To Provision for income tax | | 6,300 | | | |
| To Net Profit | | 6,300 | | | |
| | | **21,750** | | | **21,750** |

**Balance Sheet as on $31^{st}$ Dec. 2003**

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Equity Share Capital | 12,500 | Land & Building | 10,000 |
| Capital Reserves | 5,000 | Plant & Machinery | 6,000 |
| Profit and Loss Account | 2,500 | Stock | 8,750 |
| 8 % Debenture | 5,000 | Debtors | 4,500 |
| Sundry Creditors | 5,000 | Cash | 2,000 |
| Bank Overdraft | 1,250 | | |
| | **31,250** | | **31,250** |

**(Hint. :**

1) Current Ratio = 2.44:1
2) Liquid Ratio = 1.04:1
3) Fixed Assets Net Worth Ratio = 80%
4) Debt Equity Ratio = 25:1
5) Operating Ratio = 0.74:1
6) Stock Turnover Ratio = 7.1 3 times
7) Fixed Assets Turnover Ratio = 3.06 times (or) 3.1 times
8) Creditors Turnover Ratio = 6 times
9) Gross Profit Turnover Ratio = 44.39%
10) Net Profit to Sales = 25.71%
11) Return on Investment Ratio = 52%
12) Proprietary Ratio = 064)

7. The following are the summarised Profit and Loss Account Apex Ltd. for the year ended 31 st December, 2002 and a Balance Sheet of the company as on that date: Calculate the following ratios:

i) Gross Profit Ratio ii) Operating Profit Ratio

iii) Current Ratio iv) Fixed Assets Turnover.

Dr. **Profit and Loss Account** Cr.

| | Rs. | | Rs. |
|---|---|---|---|
| To Opening Stock | 9,950 | By Sales | 85,000 |
| To Purchases | 54,525 | By Closing Stock | 14,900 |
| To Carriage Inwards | 1,425 | | |
| To Gross Profit | 34,000 | | |
| | **99,900** | | **99,900** |
| To Office Expenses | 15,000 | By Gross Profit | 34,000 |
| To Selling Expenses | 3,000 | By Profit on Sales of Shares | 600 |
| To Financial Expenses | 1,500 | By Interest on Investment | 300 |
| To Loss on Sale of an Asset | 400 | | |
| To Net Profit | 15,000 | | |
| | **34,900** | | **34,900** |

**Balance Sheet**

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Share Capital: | | Land and Building | 15,000 |
| 2,000 Equity Shares of Rs. 10 each | 20,000 | Plant | 8,000 |
| Reserves | 9,000 | Stock | 14,000 |
| Profit and Loss Account | 6,000 | Debtors | 7,000 |
| Bank Overdraft | 3,000 | Bills Receivable | 1,000 |
| Sundry Creditors | 8,000 | Cash and Bank Balance | 3,000 |
| Outstanding Expenses | 2,000 | | |
| | **48,000** | | **48,000** |

**(Hint. :**

i) $\frac{34,000}{85,000} \times 100 = 40\%$

ii) $\frac{16,000}{85,000} \times 100 = 18.82\%$

iii) $\frac{25,000}{13,000} = 1.92:1$

iv) $\frac{85,000}{23,000} = 3.7$)

8. The Assets of Stock Limited consists of fixed assets and current assets while its current liabilities comprise bank credit and trade credit. From the following figures pertaining to the Pratiksha Ltd for the year 2012-13, prepare its balance sheet showing the details of working:

| | |
|---|---|
| Share Capital | Rs. 1,99,500 |
| Working Capital (CA - CL) | Rs. 45,000 |
| Gross Margin | 20% |
| Inventory turnover | 6 |
| Average collection period | 2 months |
| Current ratio | 1.5 |
| Quick ratio | 0.9 |
| Reserves and surplus to cash | 3 |

**Ans.**

**Balance Sheet**

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Share capital | 1,99,500 | Fixed assets | 1,95,000 |
| Reserves & Surplus | 40,500 | Current assets | |
| Current liabilities | 90,000 | Stock | 54,000 |
| | | Debtors | 67,500 |
| | | Cash | 13,500 |
| | **3,30,000** | | **3,30,00** |

**9. The Capital of Patil & Co. Ltd. is as follows:**

Additional Information

9% Preference Shares of 10 each Rs. 3,00,000

Equity Shares of Rs. 10 each Rs. 8,00,000

Profit (after tax at 60%) Rs. 2,70,000; Depreciation Rs. 60,000;

Equity dividend paid 20%; Market Price of Equity Shares Rs. 40. You are required to calculate the following:

a) Dividend yield on the Equity Shares

b) Cover for the Preference and Equity Dividends

c) Earnings for Equity Shares

d) Price-Earnings Ratio

**(Hint. :**

a) 5%

b) Preference IO times, Equity 1,52 times

c) Rs. 3.04 per Share

d) 13.2 times)

**10.** Prepare Trading Account and Balance Sheet from the following particulars:

Stock velocity 6,

Gross Profit Margin 20%,

Capital Turnover Ratio 4,

Debt collection period 3 months,

Creditor's payment period 2 months

**11.** The following is the Balance Sheet of Reliance India Ltd., as on 31st December, 2014:

Other information supplied is as follows:

a) Net Sales Rs. 30,00,000

b) Cost of goods sold Rs. 25,80,000

c) Net Income before Tax Rs. 2,00,000

d) Net Income after Tax Rs. 1,00,000

You are required to calculate (i) Liquid Ratio; (ii) Proprietary Ratio; (iii) Current Ratio; (iv) Gross profit Ratio and (v) Net Profit Ratio.

**(Hint. :**

i) $\frac{4,00,000}{3,00,000} = 1.33:1$

ii) $\frac{10,00,000}{20,00,000} = 1:2$

iii) $\frac{7,00,000}{3,00\ 000} = 2.33:1$

iv) $\frac{4,20,000}{30,00,000} = 14\%$

v) $\frac{1,00,000}{30,00,000} = 3.33\%$)

**12.** From the following information, prepare a summarised balance sheet as on 31st March, 2013:

i) Working Capital Rs. 1,20,000 ii) Reserves and surplus Rs.80,000

iii) Bank Overdraft Rs. 20,000 iv*)* Assets (fixed) - Proprietary ratio 0.75

v*)* Current Ratio 2.5 *(vi)* Liquidity Ratio 1.5

**13.** Using the following ratios, complete the Balance Sheet below:

Total assets/Net worth: 3.5 Sales/Inventory:15

Sales/Fixed assets: 6 Sales/Debtors:18

Sales/current assets: 8 Current ratio:2.5

Annual sales Rs. 25: lakhs.

**Balance Sheet**

**............**

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Net worth | ........ | Fixed Assets | ....... |
| Long term debts | ........ | Inventory | ........ |
| Current liabilities | ........ | Debtors | ........ |
| | | Liquid assets | ........ |
| | | Total current assets | ......... |
| | **.........** | | **.........** |

14. The following are the summarised Profit and Loss Account for the year ending 31st December 2003, and the Balance sheet as on that date :

**Trading and Profit and Loss Account**

| | Rs. | | Rs. |
|---|---|---|---|
| To Opening Stock | 1,00,000 | By Sales | 10,00,000 |
| To Purchases | 5,50,000 | By Closing stock | 1,50,000 |
| To Gross profit c/d | 5,00,000 | | |
| | **11,50,000** | | **11,50,000** |
| To Administrative expenses | 1,50,000 | By Gross profit b/d | 5,00,000 |
| To Interest | 30,000 | | |
| To Selling expenses | 1,20,000 | | |
| To Net Profit | 2,00,000 | | |
| | **5,00,000** | | **5,00,000** |

**Balance Sheet**

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Capital | 10,00,000 | Land and Building | 5,00,000 |
| Profit and loss A/c | 2,00,000 | Plant and Machinery | 3,00,000 |
| Creditors | 2,50,000 | Stock | 1,50,000 |
| Bills payable | 1,50,000 | Sundry debtors | 1,50,000 |
| | | Bills receivable | 1,25,000 |
| | | Cash in hand and at bank | 1,75,000 |
| | | Furniture | 2,00,000 |
| | **16,00,000** | | **16,00,000** |

**Additional information**:

a) Average debts Rs. 1,25,000 b) Average credit purchases Rs. 8,00,000

You are required to calculate: (i) Stock turnover ratio (ii) Current ratio (iii) Quick ratio (iv) Operating ratioand (v)Return on equity.

**Ans.**

i) 4 ii) 1.5 ii) 1.12 iv) 77% v) 16.67%

long term non-current investment is 10.13% and its total fixed assets total is 98.02%. Beside this working capital is 1.98% and were excess of current assets i.e. 121.20% and on the other hand current liability were 119.23% as percentage compare to total assets or total funds employed.

**Common-Size Profit and Loss Account for the year 31st March 2020**

| **Sr.** | **Particular** | **Year Ended March 31, 2020** | **Percentage (%)** |
|---|---|---|---|
| **1** | **Gross Sale and Services** | | |
| A | (Revenue from Operation) | 20,787.46 | 99.68 |
| B | Other Income | 65.84 | 0.32 |
| **2** | **Less: returns & Allowance** | | |
| **3** | **Net Sale** | **20,853.30** | **100.00** |
| **4** | **Less: Cost of Goods Sold** | | |
| a | Raw Material Consumed | 7,363.58 | 35.31 |

| | | | |
|---|---|---|---|
| b | Direct Expenses | 1,928.86 | 9.25 |
| c | Manufacturing Exp. | 7,528.24 | 36.10 |
| d | Operating Stock (WIP) | 540.16 | 2.59 |
| | **Less: Total Cost of Goods Sold** | **17,360.84** | 83.25 |
| **5** | **Gross Profit** | **3,492.46** | 16.75 |
| **6** | **Less: Operating Expenses** | | |
| A | Administrative Expenses | 369.91 | 1.77 |
| B | Selling and Distribution Expenses | 802.75 | 3.85 |
| C | Finance Expenses | 828.88 | 3.97 |
| | | | |
| | **Total operating Expenses** | **2,001.53** | 9.60 |
| | | | |
| **7** | **Operating Profit Before Interest** | **1,490.93** | 7.15 |
| 8 | Less: Interest Paid | 867.19 | 4.16 |
| **9** | **Net Profit after Interest** | **623.74** | 2.99 |
| **10** | **Net Non-Operating Income** | | |
| **11** | **Net Profit before Tax (NPBT)** | **623.74** | 2.99 |
| 12 | **Less: Income Tax** | | |
| | **Less : Tax Expenses /Deferred Tax Liability/(Asset)** | 290.96 | 1.40 |
| **13** | **Net Profit After Tax** | **332.78** | 1.60 |

It shows that the vertical analysis of common size income statement, which helps to comparisons of items within the same financial statement. It is understood that the common-size income statement is an income statement where each line item is expressed as a percentage of a base figure. And present common size income statement divided in each line items by Net Sale i.e. Rs. 20,853.30 is 100%, followed by is as compare to net revenue percentage cost of goods sold is 83.25% and after deduction of Cost of Goods sold from net revenue company got 16.75% gross profit with compare to net revenue, followed by total operating expenses 9.60%, net profit after interest 7.15% , net profit before tax is 2.99% and finally net profit after tax was 1.60% which shows the percentage relationship with net sale.

### Trend Analysis of Balance Sheet

| Sr. | Particular | As at March 31, 2018 | As at March 31, 2019 | As at March 31, 2020 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| I | **Sources of Fund** | | | | | | |
| 1 | **Own Fund** | | | | | | |
| A | **Capital** | | | | | | |
| | Equity Shares | 1,035.00 | 1413.00 | 1413.00 | 100 | 136.52 | 136.52 |
| | Preference Shares | 1,071.00 | 1071.00 | 1071.00 | 100 | 100.00 | 100.00 |
| | **Total Capital** | **2,106.00** | **2,484.00** | **2,484.00** | **100** | **117.95** | **117.95** |
| | | | | | | | |
| B | **Reserve and Surplus (Other equity)** | (1,209.25) | (1,326.12) | (1,658.89) | 100 | (109.66) | (137.18) |
| C | **Less: Losses and Fictitious Assets** | | | | | | |
| | **Net Reserves and Fictitious Reserves (B-C)** | **(1,209.25)** | **1,326.12** | **1,658.89** | **100** | **(109.66)** | **(137.18)** |
| | | | | | | | |
| | **Own Fund/ Net Worth (1)** [Capital + Reserves & Surplus - Losses & Fictitious Assets] | **896.75** | **3,810.12** | **4,142.89** | **100** | **424.88** | **461.99** |
| | | | | | | | |
| 2 | **Loan Fund** | | | | | | |
| A | **Secured Loans/ Long Term Borrowings** | 2,737.61 | 2,217.49 | 2,494.00 | 100 | 81.00 | 91.10 |
| B | **Unsecured Loan** | | | | | | |
| C | **Other Long term Liabilities** | 0.12 | 0.12 | 0.12 | 100 | 100.00 | 100.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D** | **Long-Term Provisions** | 28 | 34 | 37 | 100 | 120.27 | 133.58 |
| | **Owe Fund (a +b + C)** [Secured Loan + Unsecured Loans + Other Liabilities] | **2,765.75** | **2,251.31** | **2,531.56** | **100** | **81.40** | **91.53** |
| | | | | | | | |
| | **Total Fund Available /Capital Employed** **[Own Fund+ Owed Funds] (1+2)** | **3,662.50** | **6,061.43** | **6,674.45** | **100.00** | **165.50** | **182.24** |
| **II** | **Application of the Fund** | | | | | | |
| 1 | **Net Fixed/ Non-Current Assets** | | | | | | |
| A | **Tangible Assets** | 3,314.74 | 3,269.91 | 5,662.93 | 100 | 98.65 | 170.84 |
| | Capital work-in-progress | 45.09 | 363.29 | 87.20 | 100 | 805.69 | 193.39 |
| | Intangible assets under development | 0.00 | 67.14 | 0.00 | 0.00 | 100 | 0.00 |
| | Less: Depreciation | | | | | | |
| | **Net Tangible Assets** | 3,359.83 | 3,700.34 | 5,750.13 | 100 | 110.13 | 171.14 |
| | | | | | | | |
| **B** | **Intangible Assets** | 7.70 | 11.57 | 116.68 | 100 | 150.31 | 1515.25 |
| | | | | | | | |
| | **Total Fixed Assets (A+B)** [Net Tangible Assets + Intangible Assets] | **3,367.53** | **3,711.91** | **5,866.81** | **100** | **110.23** | **174.22** |
| | | | | | | | |
| **2** | **Long Term. Non-** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Current Investment** | | | | | | |
| | Long term Loans Givens | 43.50 | 234.57 | 425.36 | 100 | 539.27 | 977.92 |
| | Deferred Receivables | 585.24 | 524.90 | 235.16 | 100 | 89.69 | 40.18 |
| | Others | 11.27 | 20.93 | 15.27 | 100 | 185.81 | 135.57 |
| | | | | | | | |
| | **Total Long Term. Non-Current Investment** | **640.00** | **780.40** | **675.80** | **100** | **121.94** | **105.59** |
| | | | | | | | |
| | **Total Fixed Assets (A+B)** | **4,007.54** | **4,492.31** | **6,542.60** | **100** | **112.10** | **163.26** |
| | | | | | | | |
| **3** | **Working Capital** | | | | | | |
| | **Quick Assets** | | | | | | |
| a | Cash in Hand | 250.88 | 1,325.95 | 356.16 | 100 | 528.52 | 141.96 |
| b | Debtors (Net) /Trade Receivables | 1,797.70 | 2,927.33 | 1,671.43 | 100 | 162.84 | 92.98 |
| c | Bills Receivables | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d | Short Term Loan and Advances | 5.20 | 12.38 | 132.55 | 100 | 238.02 | 2549.43 |
| g | Other Current Assets | **1,009.07** | **883.57** | **1,286.26** | **100** | **87.56** | **127.47** |
| | **Total Quick Assets** | **3,062.85** | **5,149.22** | **3,446.39** | **100** | **168.12** | **112.52** |
| h | Inventory | 3,765.11 | 4,809.05 | 4,643.33 | 100 | 127.73 | 123.33 |
| i | Pre-Payment (Prepaid Expenses, Advanced for Goods., Advanced Tax) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **A** | **Current Assets** | **6,827.97** | **9,958.27** | **8,089.72** | **100** | **145.85** | **118.48** |
| | | | | | | | |
| | **Less: Quick Liabilities** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a | Creditors/Trade Payables | 4,977.15 | 5,161.33 | 4,886.60 | 100 | 103.70 | 98.18 |
| b | Short Term Loans | 893.72 | 1,778.80 | 1,791.21 | 100 | 199.03 | 200.42 |
| c | Other Current liabilities | 1,298.53 | 1,058.30 | 1,272.26 | 100 | 81.50 | 97.98 |
| d | Short-Term provisions | 3.61 | 4.12 | 7.80 | 100 | 114.32 | 216.10 |
| | **Total Quick Liabilities (a to d)** | **7,173.00** | **8,002.56** | **7,957.87** | **100** | **111.57** | **110.94** |
| e | Bank Overdraft | 0.00 | 386.59 | 0.00 | 0 | 100.00 | 0.00 |
| B | **Current Liabilities** [Quick Liability + Bank Overdraft] | **7,173.00** | **8,389.15** | **7,957.87** | **100** | **116.95** | **110.94** |
| | **Net Current Assets / Working Capital (A-B)** | **(345.03)** | **1,569.12** | **131.85** | 100 | (454.78) | (38.21) |
| | | | | | | | |
| | **Total Assets or Total Funds Employed (1+2+3)** | **3,662.50** | **6,061.43** | **6,674.45** | **100.00** | **165.50** | **182.24** |

*(Note: In bracket figures indicate the minus figures)*

From the trend analysis of the Balance Sheet reveals that the total of total fund available or capital employed and total assets or total funds employed correspondingly increased last two years i.e. 165.50% and 182.24% as compare to the base year 2018. It seems that the correspondingly increased net worth i.e. 424.88% and 461.99% by the year 2019 and 2020 respectively with compare to base year 2018, followed by increased owe fund i.e. 81.40% and 91.53% by the year 2019 and 2020. Moreover, in term of application of fund total fixed assets increased i.e. 87.56% and 127.47% by the year 2019 and 2020 respectively. Furthermore it seem that working capital was found negative trend, which reveals the change in the current operating assets has increased higher than the current operating liabilities.

## Trend Analysis of Income Statement

| Sr. | Particular | Year Ended March 31, 2018 | Year Ended March 31, 2019 | Year Ended March 31, 2020 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **1** | **Gross Sale and Services** | | | | | | |
| | (Revenue from Operation) | 10,286.18 | 16,502.47 | 20,787.46 | 100 | 160.43 | 202.09 |
| | Other Income | 26.81 | 53.11 | 65.84 | 100 | 198.11 | 245.59 |
| **2** | **Less: returns & Allowance** | | | | | | |
| **3** | **Net Sale** | **10,312.99** | **16,555.58** | **20,853.30** | **100** | **160.53** | **202.20** |
| **4** | **Less: Cost of Goods Sold** | | | | | | |
| | Raw Material Consumed | 3,774.62 | 6,375.93 | 7,363.58 | 100 | 168.92 | 195.08 |
| e | Direct Expenses | 1,154.31 | 1,439.45 | 1,928.86 | 100 | 124.70 | 167.10 |
| | Manufacturing Exp. | 4,259.48 | 6,405.01 | 7,528.24 | 100 | 150.37 | 176.74 |
| g | Operating Stock (WIP) | (1,243.33) | (617.03) | 540.16 | 100 | 49.63 | (43.44) |
| | **Less: Cost of Goods Sold** | **7,945.10** | **13,603.36** | **17,360.84** | **100** | **171.22** | **218.51** |
| **5** | **Gross Profit** | **2,367.89** | **2,952.21** | **3,492.46** | **100** | **124.68** | **147.49** |
| **6** | **Less: Operating Expenses** | | | | | | |
| A | Administrative Expenses | 271.81 | 305.40 | 369.91 | 100 | 112.36 | 136.09 |
| B | Selling and Distribution Expenses | 420.71 | 583.64 | 802.75 | 100 | 138.73 | 190.81 |
| C | Finance Expenses | 747.61 | 732.91 | 828.88 | 100 | 98.03 | 110.87 |
| | | | | | | | |
| | **Total operating Expenses** | **1,376.52** | **1,621.95** | **2,001.53** | **100** | **117.83** | **145.41** |
| | | | | | | | |
| 7 | Operating Profit Before Interest | **991.37** | **1,330.27** | **1,490.93** | **100** | **134.18** | **150.39** |
| 8 | Less: Interest Paid | 700.31 | 815.28 | 867.19 | 100 | 116.42 | 123.83 |
| **9** | **Net Profit after Interest** | **291.06** | **514.99** | **623.74** | **100** | **176.93** | **214.30** |
| **10** | **Net Non-Operating Income** | | | | | | |
| **11** | **Net Profit before Tax (NPBT)** | **291.06** | **514.99** | **623.74** | **100** | **176.93** | **214.30** |
| 12 | **Less: Income Tax** | | | | | | |
| | **Less : Tax Expenses /Deferred Tax Liability/(Asset)** | (175.36) | 60.34 | 290.96 | 100 | (34.41) | (165.92) |
| **13** | **Net Profit After Tax** | **466.42** | **454.64** | **332.78** | **100** | **97.47** | **71.35** |

*(Note: In bracket figures indicate the minus figures)*

From the trend analysis of Income statement it is shown that the net sale last subsequently two years i.e. 160.53% and 202.20% by the year 2020 and 2019 respectively. Similarly cost of goods sold increased by the year 2019 and 2020 i.e. 171.22 % and 218.51% respectively, furthermore, it is seems that correspondingly increased other items like gross profit, total operating items, net profit after interest, net profit after tax respectively. Hence, the income statement the figures of 2020 when compared with 2019 reveal that the Sales have increased by 41.67% respectively. Similarly, the cost of goods sold and the expenses have increased by 47.29% and 27.58% respectively. Its resulted Net Profit were slightly decreased by 26.12% by the year 2020 as compare to preceding year 2019.

**Ratio Analysis:**

It is observed that ratio analysis helps to make appropriate decisions in keeping with the objectives of the respective company. The financial ratio analysis which is a tool of financial analysis, which helps to take financial decision.

**Balance Sheet Ratio:**

| Sr. | Types of Ratio | Formulas | Calculations | Result |
|---|---|---|---|---|
| 1 | Current | $= \frac{\text{Current Assets}}{\text{Current Liabilities}}$ | $= \frac{8,089.72}{7,957.87}$ | 1.02 |
| 2 | Quick/Liquid | $= \frac{Quick\ Assets}{Quick\ \ Liabilities}$ | $= \frac{3,446.39}{7,957.87}$ | 0.4 |
| 3 | Stock to Working Capital | $= \frac{Stock}{Working\ Capital}$ | $= \frac{4,643.33}{131.85}$ | 35.22 |
| 4 | Proprietors | $= \frac{Proprietors\ Fund}{Tota\ Assets}$ | $= \frac{4,142.89}{5,866.81}$ | 28.31 |

| | | | | |
|---|---|---|---|---|
| 5 | Debt Equity | $=\frac{Borrowed\ Fund}{Proprietors\ Fund}$ | $=\frac{2,531.56}{4,142.89}$ | 0.61 |

From the above table calculate financial ratio including current ratio, quick ratio, and stock to working capital ratio, proprietary ratio and debt to equity ratio. Therefore, it is interpreted that the current ratio of the company is not satisfactory because the ratio (1.02), was below the generally accepted standard of 2:1. It means company face some hurdles to the pay short term debts. On the other hand quick or liquid Ratio was 0.4 which is slightly less than the accepted standard of 1:1. Moreover, stock to Working Capital Ratio i.e. 35.22% reveals that efficiency of company to use working capital, which was company to turnover its inventories to make short term payments to its creditors and accounts payable. It is also revealed that the proprietor's ratio is expressed in the form of a percentage, and that was 28.31%. It means 28.31% funds of the company are financed by the proprietors. It is understood that the high proprietary ratio indicates that a company uses more proprietors' funds for purchasing total assets and it is financed by shareholders. It is noted that the considering present ratio, it should need to improve proprietary ratio to judge the long term solvency and stability of company. It is also indicated the composition of capital structure in term of debt and equity. Current ratio of the company is satisfactory because the ratio (0.61), it was below the generally accepted standard of 2:1, and it is noted that the low ratio suitable for company and its helps to judge the long-term solvency and stability of company.

**Profit and Loss Ratio:**

| Sr. | Types of Ratio | Formulas | Calculations | Result |
|---|---|---|---|---|
| 6 | Gross Profit | $= \frac{\text{Gross Profit}}{\text{Sale}} \times 100$ | $= \frac{3{,}492.46}{20{,}853.30} \times 100$ | 16.75 |
| 7 | Net Profit Ratio | $= \frac{\text{Net Profit}}{\text{Sale}} \times 100$ | $= \frac{332.78}{20{,}853.30} \times 100$ | 2.99 |
| 8 | Operating Expenses | $= \frac{\text{OPerating Expenses Ratio}}{\text{Sale}} \times 100$ | $= \frac{2{,}001.53}{20{,}853.30} \times 100$ | 9.60 |
| 9 | Stock Turnover | $= \frac{\text{Cost of Goods Sold (COGS)}}{\frac{\text{Opening Stock + Closing Stock}}{2}} \times 100$ | $= \frac{17{,}360.84}{\frac{4809.05 + 4643.33}{2}} \times 100$ | 3.67 times |

It is understood that Gross profit ratio showcases the relationship between Gross Profit and Net Revenue of your business. It seems that gross profit ratio was 16.75% it means 83.25 % cost of goods sold, in mother worlds company got 16.75% revenue from sales. It indicates that the company has adopted the unfavourable purchase and sales policy. Considering gross profit company should concentrate on the improving gross profit ratio. It's Standard i.e. Std> 100% and high ratio suitable for company and Its helps to judge profitability and operating efficiency of company. Moreover, it is stated Net profit (NP) ratio is a useful tool to measure the overall profitability of the Company. It's Standard i.e. Std> 100% and high ratio suitable for company and Its helps to judge profitability. It is noted that the net profit ratio of Synergy Pvt., Ltd was 2.99%, which was slightly decrease as compare to previous year. Furthermore, it is stated that operating expenses ratio measures portion of a particular expenses in comparison to sale. It's Standard i.e. Std< 100% and low ratio suitable for company and It helps to know operating cost and profit. The operating expense ratio is 9.60%, which reveals the proportion of expenses to revenues for income generating activities, and low operating expenses ratio positively lead to profit generating activities. It is also noted that the stock Turn over measures the efficiency of the firm to manage its inventory. It's Standard ratio based on it past ratio and low ratio suitable for company and its helps to know operating cost and profit. It is found that during the year 2020 Stock Turnover ratio was 3.67 times, which means stock was converted into sale 3.67 times.

**14. Practical: Download financial statement of any company and analyse it with any technique of financial analysis also write interpretation**

Financial Statements Analysis refers to the evaluation financial statements to take financial or business decision. It helps to assess the present profitability and operating efficiency of company and find out the relative importance of different components of the financial position of the firm. Thus, it is possible, to identify the reasons for change in the profitability/financial position of the firm, and assess the short term as well as the long term liquidity position of the company. Hence, herewith download financial statement of Synergy Pvt. Ltd consecutive last three years and convert it vertical form and calculate comparative, common size, trend and ratio analysis of particular financial statement of Synergy Pvt Ltd. as follow.

**Synergy Green Industries Limited**
**Balance Sheet As At March 31, 2020**

Amount in IN

| Particulars | Note No. | As at March 31, 2020 | | As at March 31, 2019 | |
|---|---|---|---|---|---|
| **I. EQUITY AND LIABILITIES** | | | | | |
| **(1) Shareholder's Funds** | | | | | |
| (a) Share capital | 4 | 24,84,00,000 | | 24,84,00,000 | |
| (b) Reserves and Surplus | 5 | 16,58,89,428 | | 13,26,11,812 | |
| | | | 41,42,89,428 | | 38,10,11,81 |
| **(2)Non-Current Liabilities** | | | | | |
| (a) Long-Term Borrowings | 6 | 24,94,00,390 | | 22,17,48,842 | |
| (b) Other Long-Term Liabilities | 7 | 12,000 | | 12,000 | |
| (c) Long-Term Provisions | 8 | 37,43,509 | | 33,70,457 | |
| | | | 25,31,55,899 | | 22,51,31,29 |
| **(3) Current Liabilities** | | | | | |
| (a) Short Term Borrowings | 9 | 17,91,21,311 | | 21,65,39,263 | |
| (b) Trade Payables | | | | | |
| -Total outstanding dues of Creditors other than Micro & Small Enterprises | 10 | 47,21,52,100 | | 50,94,21,750 | |
| -Total outstanding dues of Micro & Small Enterprises | 10 | 1,65,08,318 | | 67,11,744 | |
| (c) Other Current Liabilities | 11 | 12,72,26,149 | | 10,58,29,652 | |
| (d) Short-Term provisions | 12 | 7,79,607 | | 4,12,428 | |
| | | | 79,57,87,485 | | 83,89,14,83 |
| **Total Liabilities** | | | **1,46,32,32,812** | | **1,44,50,57,94** |
| **II. ASSETS** | | | | | |
| **(1) Non-current Assets** | | | | | |
| (a) Property Plant & Equipments | | | | | |
| (i) Tangible Assets | 13 | 56,62,92,848 | | 32,69,90,896 | |
| (ii) Intangible Assets | 13 | 1,16,67,914 | | 11,57,438 | |
| (iii) Capital work-in-progress | | 87,19,898 | | 3,63,28,619 | |
| (iv) Intangible assets under development | | | | 67,14,059 | |
| | | 58,66,80,660 | | 37,11,91,012 | |
| (b) Deferred Tax Asset (net) | 14 | 2,35,16,034 | | 5,24,89,723 | |
| (c) Long -term loans and advances | 15 | 4,25,36,394 | | 2,34,56,608 | |
| (d) Other non-current assets | 16 | 15,27,349 | | 20,93,445 | |
| | | | 65,42,60,437 | | 44,92,30,78 |
| **(2) Current Assets** | | | | | |
| (a) Inventories | 17 | 46,43,33,123 | | 48,09,05,308 | |
| (b) Trade Receivables | 18 | 16,71,42,578 | | 29,27,32,744 | |
| (c) Cash And Bank Balances | 19 | 3,56,15,858 | | 13,25,95,040 | |
| (d) Short-Term loans and advances | 20 | 1,32,55,262 | | 12,37,515 | |
| (e) Other current assets | 21 | 12,86,25,554 | | 8,83,56,553 | |
| | | | 80,89,72,375 | | 99,58,27,16 |
| **Total Assets** | | | **1,46,32,32,812** | | **1,44,50,57,94** |
| Other Information & Disclosure | 30-45 | | | | |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Akshay B. Kotkar**
**Partner**
Membership No.140581
UDIN: 20140581AAAACB7014

**Sachin R. Shirgaokar**
**Managing Director**
DIN:00254442

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN:00217631

Place : Kolhapur
Date : June 26, 2020

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**

Page 76 of 101

*(Sources:https://www.synergygreenind.com/investors/annual-report 2019-20)*

## Synergy Green Industries Limited

### Statement of Profit And Loss For The Year Ended March 31, 2020

Amount in INR

| Particulars | Note No. | For the period Ended March 31, 2020 | | For the period Ended March 31, 2019 | |
|---|---|---|---|---|---|
| **I. Revenue From Operations** | **22** | 2,07,87,46,489 | | 1,65,02,46,928 | |
| Less: Excise Duty | | - | 2,07,87,46,489 | - | 1,65,02,46,928 |
| **II. Other Income** | **23** | | 65,83,545 | | 53,10,637 |
| **III. Total Revenue ( I + II )** | | | **2,08,53,30,034** | | **1,65,55,57,565** |
| **IV. Expenses** | | | | | |
| a. Cost of Materials Consumed | **24** | | 73,63,57,737 | | 63,75,93,474 |
| b. Changes in inventories of finished goods and work-in-progress | **25** | | 5,40,15,791 | | (6,17,03,112) |
| c. Employee Benefit Expenses | **26** | | 19,28,86,001 | | 14,39,45,249 |
| d. Finance Costs | **27** | | 9,58,88,333 | | 8,62,69,849 |
| e. Depreciation and Amortisation Expenses | **28** | | 7,37,18,629 | | 6,85,48,772 |
| f. Other Expenses | **29** | | 87,00,89,568 | | 72,94,04,614 |
| **Total Expenses (IV)** | | | **2,02,29,56,059** | | **1,60,40,58,846** |
| **V. Profit before Tax** | | | **6,23,73,975** | | **5,14,98,719** |
| **VI. Tax Expenses** | | | | | |
| (1) MAT | | 1,04,20,000 | | 48,00,000 | |
| (2) Deferred Tax Liability / (Asset) | | 2,89,73,690 | | 60,34,397 | |
| (3) Mat Credit | | (1,04,20,000) | | (48,00,000) | |
| (4) Tax Expense/ (reversal) earlier years | | 1,22,669 | | - | |
| | | | **2,90,96,359** | | **60,34,397** |
| **VII. Profit for the year** | | | **3,32,77,616** | | **4,54,64,322** |
| **VIII. Basic & Diluted Earnings per Equity Share** | | | **2.36** | | **3.68** |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Sachin R. Shirgaokar**
**Managing Director**
**DIN:00254442**

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN:00217631

**Akshay B. Kotkar**
**Partner**
Membership No.140581
UDIN: 20140581AAAACB7014
Place : Kolhapur
Date : June 26, 2020

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**



*(Sources:https://www.synergygreenind.com/investors/annual-report 2019-20)*

SYNERGY GREEN

## SYNERGY GREEN INDUSTRIES LIMITED

**(Formerly known as Synergy Green Industries Pvt. Ltd.)**

# Balance Sheet As At March 31, 2019

Amount in INR

| Particulars | Note No. | As at March 31, 2019 | | As at March 31, 2018 | |
|---|---|---|---|---|---|
| **I. EQUITY AND LIABILITIES** | | | | | |
| **(1) Shareholder's Funds** | | | | | |
| (a) Share capital | 4 | 24,84,00,000 | | 21,06,00,000 | |
| (b) Reserves and Surplus | 5 | 13,26,11,812 | | (12,09,24,857) | |
| | | | 38,10,11,812 | | 8,96,75,143 |
| **(2) Non-Current Liabilities** | | | | | |
| (a) Long-Term Borrowings | 6 | 22,67,48,842 | | 27,37,60,918 | |
| (b) Other Long-Term Liabilities | 7 | 12,000 | | 12,000 | |
| (c) Long-Term Provisions | 8 | 33,70,457 | | 28,02,433 | |
| | | | 23,01,31,299 | | 27,65,75,351 |
| **(3) Current Liabilities** | | | | | |
| (a) Short Term Borrowings | 9 | 21,65,39,263 | | 8,93,71,815 | |
| (b) Trade Payables : | | | | | |
| -Total outstanding dues of Creditors other than Micro & Small Enterprises | 10 | 49,69,26,024 | | 45,26,64,181 | |
| -Total outstanding dues of Micro & Small Enterprises | 10 | 67,11,744 | | 4,50,50,626 | |
| (c) Other Current Liabilities | 11 | 11,33,25,378 | | 12,98,52,563 | |
| (d) Short-Term provisions | 12 | 4,12,428 | | 3,60,757 | |
| | | | 83,39,14,837 | | 71,72,99,942 |
| **Total Liabilities** | | | **1,44,50,57,948** | | **1,08,35,50,436** |
| **II. ASSETS** | | | | | |
| **(1) Non-current Assets** | | | | | |
| (a) Property, Plant & Equipments | | | | | |
| (i) Tangible Assets | 13 | 32,69,90,896 | | 33,14,74,051 | |
| (ii) Intangible Assets | 13 | 11,57,438 | | 7,70,033 | |
| (iii) Capital work-in-progress | | 3,63,28,619 | | 45,09,001 | |
| (iv) Intangible assets under development | | 67,14,059 | | - | |
| | | 37,11,91,012 | | 33,67,53,085 | |
| (b) Deferred Tax Asset (net) | 14 | 5,24,89,723 | | 5,85,24,120 | |
| (c) Long -term loans and advances | 15 | 2,34,56,608 | | 43,49,694 | |
| (d) Other non-current assets | 16 | 20,93,445 | | 11,26,645 | |
| | | | 44,92,30,788 | | 40,07,53,544 |
| **(2) Current Assets** | | | | | |
| (a) Inventories | 17 | 48,09,05,308 | | 37,65,11,427 | |
| (b) Trade Receivables | 18 | 29,27,32,744 | | 17,97,70,027 | |
| (c) Cash And Bank Balances | 19 | 13,25,95,040 | | 2,50,88,123 | |
| (d) Short-Term loans and advances | 20 | 12,37,515 | | 5,19,931 | |
| (e) Other current assets | 21 | 8,83,56,553 | | 10,09,07,384 | |
| | | | 99,58,27,160 | | 68,27,96,892 |
| **Total Assets** | | | **1,44,50,57,948** | | **1,08,35,50,436** |
| Corporate Information, Basis of Preparation | 1-2 | | | | |
| Significant Accounting Policies | 3 | | | | |
| Other Information & Disclosure | 30-44 | | | | |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**Akshay B. Kotkar**
**Partner**
Membership No.140581

Place : Kolhapur
Date : May 20, 2019

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Sachin R. Shirgaokar**
**Managing Director**
DIN : 00254442

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN : 00217631

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**

(57)

*(Sources:https://www.synergygreenind.com/investors/annual-report 2018-19)*

**SYNERGY GREEN INDUSTRIES LIMITED**

**(Formerly known as Synergy Green Industries Pvt. Ltd.)**

## Statement of Profit and Loss for the Year Ended March 31, 2019

Amount in INR

| Particulars | Note No. | For the Period Ended March 31, 2019 | | For the year ended March 31, 2018 | |
|---|---|---|---|---|---|
| **I. Revenue From Operations** | 22 | 1,65,02,46,928 | | 1,03,34,32,161 | |
| Less: Excise Duty | | - | 1,65,02,46,928 | 48,13,754 | 1,02,86,18,407 |
| **II. Other Income** | 23 | | 53,10,637 | | 26,80,672 |
| **III. Total Revenue ( I + II )** | | | **1,65,55,57,565** | | **1,03,12,99,079** |
| **IV. Expenses** | | | | | |
| a. Cost of Materials Consumed | 24 | | 63,75,93,474 | | 37,74,62,245 |
| b Changes in inventories of finished goods and work-in-progress | 25 | | (6,17,03,112) | | (12,43,32,565) |
| c. Employee Benefit Expenses | 26 | | 14,39,10,249 | | 11,54,31,451 |
| d. Finance Costs | 27 | | 8,62,69,849 | | 7,47,61,023 |
| e. Depreciation and Amortisation Expenses | 28 | | 6,85,48,772 | | 6,36,69,780 |
| f. Other Expenses | 29 | | 72,94,39,615 | | 49,52,00,929 |
| **Total Expenses (IV)** | | | **1,60,40,58,846** | | **1,00,21,92,863** |
| **V. Profit before Tax** | | | **5,14,98,719** | | **2,91,06,216** |
| **VI. Tax Expenses** | | | | | |
| (1) MAT | | 48,00,000 | | - | |
| (2) Deferred Tax Liability / (Asset) | | 60,34,397 | | (1,75,36,118) | |
| (3) Mat Credit | | (48,00,000) | **60,34,397** | - | **(1,75,36,118)** |
| **VII. Profit for the year** | | | **4,54,64,322** | | **4,66,42,334** |
| **VIII. Basic & Diluted Earnings per Equity Share** | | | **3.68** | | **6.96** |

Signed pursuant to the provisions of section 134 of the Companies Act 2013, in authentication of this Balance Sheet and Notes referred to therein.

As per our report of even date
**FOR M/S. P.G.BHAGWAT**
**Chartered Accountants**
Firm Registration No.101118W

**Akshay B. Kotkar**
**Partner**
Membership No.140581

Place : Kolhapur
Date : May 20, 2019

**FOR SYNERGY GREEN INDUSTRIES LTD**

**Sachin R. Shirgaokar**
**Managing Director**
DIN : 00254442

**Sohan S. Shirgaokar**
**Jt. Managing Director**
DIN : 00217631

**Suhas B. Kulkarni**
**Chief Financial Officer**

**Nilesh M. Mankar**
**Company Secretary**



*(Sources:https://www.synergygreenind.com/investors/annual-report 2018-19)*

## Vertical Balance Sheet of Synergy Pvt., Ltd as at

| Sr. | Particular | | As at March 31, 2018 | | As at March 31, 2019 | | As at March 31, 2020 |
|---|---|---|---|---|---|---|---|
| I | **Sources of Fund** | | | | | | |
| 1 | **Own Fund** | | | | | | |
| A | **Capital** | | 2,106.00 | | 2,484.00 | | 2,484.00 |
| | Equity Shares | 1,035.00 | | 1,413.00 | | 1,413.00 | |
| | Preference Shares | 1,071.00 | | 1,071.00 | | 1,071.00 | |
| | | | | | | | |
| B | **Reserve and Surplus (Other equity)** | | (1,209.25) | | 1,326.12 | | 1,658.89 |
| | | | | | | | |
| C | **Less: Losses and Fictitious Assets** | | | | | | |
| | **Own Fund/ Net Worth (1)** [Capital + Reserves & Surplus - Losses & Fictitious Assets] | | **896.75** | | **3,810.12** | | **4,142.89** |
| | | | | | | | |
| 2 | **Loan Fund** | | | | | | |
| A | **Secured Loans/ Long Term Borrowings** | | 2,737.61 | | 2,217.49 | | 2,494.00 |
| B | **Unsecured Loan** | | | | | | |
| C | **Other Long term Liabilities** | | 0.12 | | 0.12 | | 0.12 |
| D | **Long-Term Provisions** | | 28 | | 34 | | 37 |
| | **Owe Fund (a + b + c)**[Secured Loan + Unsecured Loans + Other Liabilities] | | **2,765.75** | | **2,251.31** | | **2,531.56** |
| | | | | | | | |
| | **Total Fund Available /Capital Employed** [Own Fund+ Owed Funds] (1+2) | | **3,662.50** | | **6,061.43** | | **6,674.45** |
| | | | | | | | |
| II | **Application of the Fund** | | | | | | |
| 1 | **Net Fixed/ Non-Current Assets** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | **Tangible Assets** | | 3,314.74 | | 3,269.91 | | 5,662.93 |
| | Capital work-in-progress | | 45.09 | | 363.29 | | 87.20 |
| | Intangible assets under development | | 0.00 | | 67.14 | | 0.00 |
| | **Net Tangible Assets (a-b)** | | 3,359.83 | | 3,700.34 | | 5,750.13 |
| | | | | | | | |
| **B** | **Intangible Assets** | | 7.70 | | 11.57 | | 116.68 |
| | **Total Fixed Assets (A+B)** | | **3,367.53** | | **3,711.91** | | **5,866.81** |
| | [Net Tangible Assets + Intangible Assets] | | | | | | |
| **2** | **Long Term. Non-Current Investment** | | | | | | |
| | Long term Loans Givens | | 43.50 | | 234.57 | | 425.36 |
| | Deferred Receivables | | 585.24 | | 524.90 | | 235.16 |
| | Others | | 11.27 | | 20.93 | | 15.27 |
| | | | | | | | |
| | **Total Long Term. Non-Current Investment** | | **640.00** | | **780.40** | | **675.80** |
| | | | | | | | |
| | **Total Fixed Assets (A+B)** | | **4,007.54** | | **4,492.31** | | **6,542.60** |
| | | | | | | | |
| **3** | **Working Capital** | | | | | | |
| | **Quick Assets** | | | | | | |
| a | Cash in Hand | | 250.88 | | 1,325.95 | | 356.16 |
| b | Debtors (Net) /Trade Receivables | | 1,797.70 | | 2,927.33 | | 1,671.43 |
| c | Bills Receivables | | | | | | |
| d | Short Term Loan and Advances | | 5.20 | | 12.38 | | 132.55 |
| e | Other Current Assets | | 1,009.07 | | 883.57 | | 1,286.26 |
| | **Total Quick Assets** | | **3,062.85** | | **5,149.22** | | **3,446.39** |
| f | Inventory | | 3,765.11 | | 4,809.05 | | 4,643.33 |
| **A** | **Current Assets** [Quick Assets + Inventory] | | **6,827.97** | | **9,958.27** | | **8,089.72** |
| | | | | | | | |
| | **Less: Quick Liabilities** | | | | | | |
| a | Creditors/Trade Payables | | 4,977.15 | | 5,161.33 | | 4,886.60 |
| b | Short Term Loans | | 893.72 | | 1,778.80 | | 1,791.21 |
| c | Other Current liabilities | | 1,298.53 | | 1,058.30 | | 1,272.26 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| d | Short-Term provisions | | 3.61 | | 4.12 | | 7.80 |
| | **Total Quick Liabilities (a to d)** | | 7,173.00 | | 8,002.56 | | 7,957.87 |
| e | Bank Overdraft | | | | 386.59 | | |
| B | **Current Liabilities** [Quick Liability + Bank Overdraft] | | **7,173.00** | | **8,389.15** | | **7,957.87** |
| | | | | | | | |
| | **Net Current Assets / Working Capital (A-B)** | | **(345.03)** | | **1,569.12** | | **131.85** |
| | | | | | | | |
| | **Total Assets or Total Funds Employed (1+2+3)** | | **3,662.50** | | **6,061.43** | | **6,674.45** |

*(Note: In bracket figures indicate the minus figures)*

## Vertical Profit and Loss Statement As on 31st March

| Sr. | Particular | | Year Ended March 31, 2018 | | Year Ended March 31, 2019 | | Year Ended March 31, 2020 |
|---|---|---|---|---|---|---|---|
| **1** | **Gross Sale and Services** | | | | | | |
| | (Revenue from Operation) | | 10,286.18 | | 16,502.47 | | 20,787.46 |
| | Other Income | | 26.81 | | 53.11 | | 65.84 |
| **2** | **Less: returns & Allowance** | | | | | | |
| **3** | **Net Sale** | | **10,312.99** | | **16,555.58** | | **20,853.30** |
| **4** | **Less: Cost of Goods Sold** | | | | | | |
| | Raw Material Consumed | | 3,774.62 | | 6,375.93 | | 7,363.58 |
| | Direct Expenses | | 1,154.31 | | 1,439.45 | | 1,928.86 |
| | Manufacturing Exp. | | 4,259.48 | | 6,405.01 | | 7,528.24 |
| | Depreciation | | | | | | |
| | Operating Stock (WIP) | | (1,243.33) | | (617.03) | | 540.16 |
| | **Less: Cost of Goods Sold** | | **7,945.10** | | **13,603.36** | | **17,360.84** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **5** | **Gross Profit** | | **2,367.89** | | **2,952.21** | | **3,492.46** |
| **6** | **Less: Operating Expenses** | | | | | | |
| A | Administrative Expenses | 271.81 | | 305.40 | | 369.91 | |
| B | Selling and Distribution Expenses | 420.71 | | 583.64 | | 802.75 | |
| C | Finance Expenses | 684.00 | | 732.91 | | 828.88 | |
| | **Total operating Expenses** | | **1,376.52** | | **1,621.95** | | **2,001.53** |
| 7 | Operating Profit Before Interest | | **991.37** | | **1,330.27** | | **1,490.93** |
| 8 | Less: Interest Paid | | 700.31 | | 815.28 | | 867.19 |
| **9** | **Net Profit after Interest** | | **291.06** | | **514.99** | | **623.74** |
| **10** | **Net Non-Operating Income** | | | | | | |
| **11** | **Net Profit before Tax (NPBT)** | | **291.06** | | **514.99** | | **623.74** |
| 12 | **Less: Income Tax** | | | | | | |
| | **Less : Tax Exp/Deferred Tax Liability/(Asset)** | | (175.36) | | 60.34 | | 290.96 |
| **13** | **Net Profit After Tax** | | **466.42** | | **454.64** | | **332.78** |

*(Note: In bracket figures indicate the minus figures)*

**Ratio Analysis:**

It is observed that ratio analysis helps to make appropriate decisions in keeping with the objectives of the respective company. The financial ratio analysis which is a tool of financial analysis, which helps to take financial decision.

**Balance Sheet Ratio:**

| Sr. | Types of Ratio | Formulas | Calculations | Result |
|---|---|---|---|---|
| 1 | Current | $= \frac{\text{Current Assets}}{\text{Current Liabilities}}$ | $= \frac{8,089.72}{7,957.87}$ | 1.02 |
| 2 | Quick/Liquid | $= \frac{Quick\ Assets}{Quick\ \ Liabilities}$ | $= \frac{3,446.39}{7,957.87}$ | 0.4 |
| 3 | Stock to Working Capital | $= \frac{Stock}{Working\ Capital}$ | $= \frac{4,643.33}{131.85}$ | 35.22 |
| 4 | Proprietors | $= \frac{Proprietors\ Fund}{Tota\ Assets}$ | $= \frac{4,142.89}{5,866.81}$ | 28.31 |
| 5 | Debt Equity | $= \frac{Borrowed\ Fund}{Proprietors\ Fund}$ | $= \frac{2,531.56}{4,142.89}$ | 0.61 |

From the above table calculate financial ratio including current ratio, quick ratio, and stock to working capital ratio, proprietary ratio and debt to equity ratio. Therefore, it is interpreted that the current ratio of the company is not satisfactory because the ratio (1.02), was below the generally accepted standard of 2:1. It means company face some hurdles to the pay short term debts. On the other hand quick or liquid Ratio was 0.4 which is slightly less than the accepted standard of 1:1. Moreover, stock to Working Capital Ratio i.e. 35.22% reveals that efficiency of company to use working capital, which was company to turnover its inventories to make short term payments to its creditors and accounts payable. It is also revealed that the proprietor's ratio is expressed in the form of a percentage, and that was

28.31%. It means 28.31% funds of the company are financed by the proprietors. It is understood that the high proprietary ratio indicates that a company uses more proprietors' funds for purchasing total assets and it is financed by shareholders. It is noted that the considering present ratio, it should need to improve proprietary ratio to judge the long term solvency and stability of company. It is also indicated the composition of capital structure in term of debt and equity. Current ratio of the company is satisfactory because the ratio (0.61), it was below the generally accepted standard of 2:1, and it is noted that the low ratio suitable for company and its helps to judge the long-term solvency and stability of company.

**Profit and Loss Ratio:**

| Sr. | Types of Ratio | Formulas | Calculations | Result |
|---|---|---|---|---|
| 6 | Gross Profit | $= \frac{\text{Gross Profit}}{\text{Sale}} \times 100$ | $= \frac{3{,}492.46}{20{,}853.30} \times 100$ | 16.75 |
| 7 | Net Profit Ratio | $= \frac{\text{Net Profit}}{\text{Sale}} \times 100$ | $= \frac{332.78}{20{,}853.30} \times 100$ | 2.99 |
| 8 | Operating Expenses | $= \frac{\text{OPerating Expenses Ratio}}{\text{Sale}} \times 100$ | $= \frac{2{,}001.53}{20{,}853.30} \times 100$ | 9.60 |
| 9 | Stock Turnover | $= \frac{\text{Cost of Goods Sold (COGS)}}{\frac{\text{Opening Stock} + \text{Closing Stock}}{2}} \times 100$ | $= \frac{17{,}360.84}{\frac{4809.05 + 4643.33}{2}} \times 100$ | 3.67 times |

It is understood that Gross profit ratio showcases the relationship between Gross Profit and Net Revenue of your business. It seems that gross profit ratio was 16.75% it means 83.25 % cost of goods sold, in mother worlds company got 16.75% revenue from sales. It indicates that the company has adopted the unfavourable purchase and sales policy. Considering gross profit company should concentrate on the improving gross profit ratio. It's Standard i.e. Std> 100% and high ratio suitable for company and Its helps to judge profitability and operating efficiency of company. Moreover, it is stated Net profit (NP) ratio is a useful tool to measure the overall profitability of the Company. It’s Standard i.e. Std> 100% and high ratio suitable for company and Its helps to judge profitability. It is noted that the net profit ratio of Synergy Pvt., Ltd was 2.99%, which was slightly decrease as compare to previous year. Furthermore, it is stated that operating expenses ratio measures portion of a particular expenses in comparison to sale. It’s Standard i.e. Std< 100% and low ratio suitable for company and It helps to know operating cost and profit. The operating expense ratio is 9.60%, which reveals the proportion of expenses to revenues for income generating activities, and low operating expenses ratio positively lead to profit generating activities. It is also noted that the stock Turn over measures the efficiency of the firm to manage its inventory. It’s Standard ratio based on it past ratio and low ratio suitable for company and its helps to know operating cost and profit. It is found that during the year 2020 Stock Turnover ratio was 3.67 times, which means stock was converted into sale 3.67 times.

## 3.7 Reference for Further Study


1. Khan M.Y. and Jain P.K., Management accounting, Tata McGrow Hill, New Delhi.
2. Pandey I. M. : Management Accounting, Vani Publication, Delhi
3. Manmohan & Goyal : Principles of Management Accounting.
4. Maheshwari : Principles of Management Accounting.
5. Management Accounting : M.N.Arora, Himalaya Publishing House.


❑❑❑

# Unit-4

## Working Capital

**Index :**

## 4.0 Objectives:

After studying this unit you should be able to —

- Understand the concept of working capital
- Know the significance of working capital
- Explain the determinants of working capital
- Understand the planning for working capital requirement
- Explain the sources and applications of working capital
- Compute/Estimate the working capital required

## 4.1 Introduction:

Management of each business firm is interested in knowing the financial position of the business. Financial statements show the financial position of the firm. But these statements only show the financial status and not give the details. Management is interested in understanding the changes in the financial position. There are different tools and techniques available to analysis the financial statements and to know the changes. A statement showing changes in working capital, funds flow statements are the important tools. Capital is important for every business. It is essential to start the business as well as to run the business. There are mainly two types of capital i.e. Fixed Capital and Working Capital. Management must have the knowledge of these concepts in detail. In this unit we are going to study the concept of working capital.

## 4.2 Presentation of Subject Matter

### 4.2.1 Meaning of Working Capital:

In general sense, the working capital means, the capital which is needed to carry on the day to day working of the business.

Shubin defined the working capital as, "the funds necessary to cover the cost of operating the business enterprise." The cost of operating the enterprise includes purchases of raw materials or finished goods, wages and salaries of staff, payment of other expenses like rent, insurance, printing, lighting, advertisement etc. The funds need to cover this cost is called as working capital. Such capital is in the form of different current assets and they change their form in the ordinary course of business e.g. from cash to inventories, inventories to receivables and receivables into cash.

Hoagland defines it as, “the difference between the book value of the current assets and the current liabilities.

In this view, Gestenberg called it as a circulating capital. The most widely used concept of working capital is defined as, "the difference between current assets and current liabilities." This concept is useful to know the liquidity of the firm.

### 4.2.2 Significance / Importance of Working Capital:

The definition of working capital itself explains the significance of it in the business that it is the amount which is used to carry on day to day working of the business. That means without working capital the working of the business cannot be possible. Working capital is called as the life blood or heart of the business. The significance or importance of working capital can be explained as under —

i) It is important to maintain the smooth flow of the working of the business.

ii) With the help of working capital, the required raw materials and other materials can be purchased in time which leads to full utilization of the capacity of the business.

iii) It is possible to avail the benefits of large scale purchases.

iv) If the working capital is sufficient, the firm can pay its short term claims in time which will useful to maintain good relations with claimants.

v) Working capital is the indicator of liquidity position and if it is good short term loans can easily be made available from banks and financial institutions.

vi) It is possible to take the advantage of favorable and profitable market conditions.

vii) A firm can pay the government dues and other claims in time and avoid penalties.

viii) If a firm ensures a good flow of working capital, there is no need to borrow funds at high rate of interest.

ix) The sufficient working capital ensures the payment of wages and salaries to the staff in time which develops good working environment.

x) A firm having sufficient working capital can increase the sales by allowing credit facility to customers.

### 4.2.3 Determinants/Factors affecting on working capital:

Each business firm needs the working capital but the requirement of the working capital of each firm is different because it depends upon various factors. These factors are as follows:

**i) Size of the firm:** The amount of working capital required depends upon the size of the firm. Big firm require more working capital as compare to the small firms.

**ii) Nature of business:** The requirement of working capital also depends on the nature of the business carried out by the firm. If the firm is a trading firm it requires more working capital and if the firm is an industrial or public utilities concern it requires less working capital.

**iii) Volume of business:** If the volume of business is large it requires more working capital and if the volume of business is small there is a less need of working capital.

**iv) Length of processing or selling period:** If the processing or selling period is large it requires more working capital and vice versa.

**v) Policy of purchase and sale:** The requirement of working capital depends upon the firm's policy of purchase and sale. If a firm has a policy of cash purchases and credit sales it requires more working capital and if a firm has a policy of credit purchases and cash sales it requires less working capital.

**vi) Large stock of raw materials:** Some firms require large stock of raw materials for some reasons such as seasonal nature, long distance etc. Such firms need more working capital than others.

**vii) Expansion:** If a firm wants to make rapid expansion or expansion on large scale it require more working capital.

**viii) Cash requirements:** If a firm requires more cash for payment of different expenses, taxes, charges etc. the requirement of working capital is more and if cash requirement is less, the need of working capital is also less.

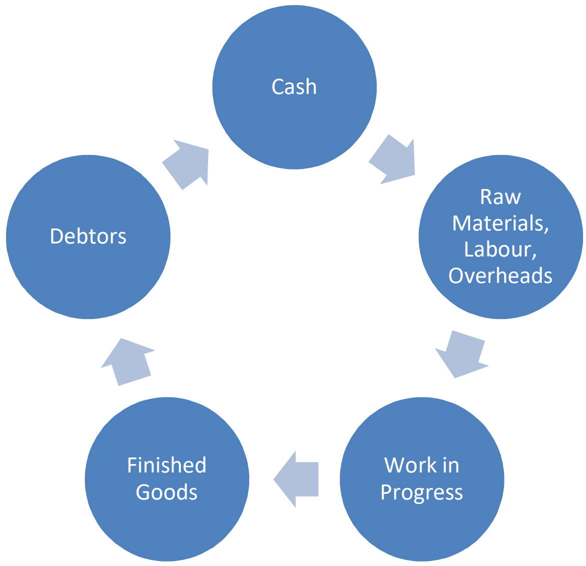
ix) **Use of Labour:** The firm, who use labour on large scale for business activities, needs more working capital and if the firm is highly mechanized it needs less working capital.

x) **Management attitude and efficiency :** The attitude or policy of management in respect of payments of dividend, discount, price, expenses etc. is of cash saving and efficiency of management is more that time requirement of working capital is less and vice-versa.

**4.2.4 Operating Cycle:**

The working capital is important for each business. The estimation of working capital depends on operating cycle. If the operating cycle is lengthy the working capital requirement is more and if the operating cycle is short the working capital requirement is less. Operating Cycle is also termed as Working Capital Cycle or Cash Cycle. The Operating Cycle refers to the cycle of operations for which working capital required. The Operating Cycle refers to the length of time between the firms paying cash for materials, etc., entering into the production process / stock and the inflow of cash from debtors (sales). That means this cycle shows the journey of changing the form of cash into cash. Suppose a company has a certain amount of cash it will need raw materials. Some raw materials will be available on credit but, cash will be paid out for the other part immediately. Then it has to pay labour costs and incurs other factory overheads. These three combined together will constitute work-in-progress. After the production cycle is complete, work-in-progress will get converted into finished products. The finished products when sold on credit get converted into sundry debtors. Sundry debtors will be realized in cash after the expiry of credit period. This cash can again be used for financing of raw materials, work-in-progress, etc. Thus there is a complete cycle from cash to cash wherein cash gets converted into raw materials, work-in-progress, finished goods, debtors and finally into cash again. Short term funds are required to meet the requirements of funds during this time period. This time period is dependent upon the length of time within which the original cash gets converted into cash again. The Operating Cycle is depicted below:

## OPERATING CYCLE




Operating Cycle indicates the length of time between a company's paying for materials, entering into stock and receiving the cash from sales of finished goods. It can be determined by adding the number of days required for each stage in the cycle. For example, a company holds raw-materials on an average for 60 days, it gets credit from the supplier for 15 days, production process needs 15 days, finished goods are held for 30 days and 30 days credit is extended to debtors. The total of all these, 120 days, i.e., 60 — 15 + 15 + 30 + 30 days is the total working capital cycle.

The operating cycle or working capital cycle consists of the following events which continue throughout the life of business.

- Conversion of cash into raw-materials;
- Conversion of raw-materials into work-in-progress;
- Conversion of work-in-progress into finished stock;
- Conversion of finished stock into accounts receivables through sales; and
- Conversion of account receivables into cash.

The duration of the operating cycle for the purpose of estimating working capital is equal to the sum of the durations of each of the above said events, less the credit period allowed by the suppliers.

In the form of an equation, the operating cycle process can be expressed as follows :

Operating Cycle = R + W + F + D — C

R = Raw material storage period

W = Work-in-progress holding period

F = Finished goods storage period

D = Debtors collection period

C = Credit period availed.

The various components of operating cycle may be calculated as shown below:

(1) Raw material storage period $= \frac{\text{Average stock of raw material}}{\text{Average cost of raw material consumption per day}}$

(2) Work-in-progress holding period $= \frac{\text{Average work–in–progr} \quad \text{inventory}}{\text{Average cost of production per day}}$

(3) Finished goods storage period $= \frac{\text{Average stock of finished goods}}{\text{Average cost of goods sold per day}}$

(4) Debtors collection period $= \frac{\text{Average book debts}}{\text{Average credit sales per day}}$

(5) Credit period availed = $= \frac{\text{Average trade creditors}}{\text{Average credit purchases per day}}$

The determination of working capital cycle helps in the forecast, control and management of working capital. It indicates the total time lag and the relative significance of its constituent parts. The duration of working capital cycle may vary depending on the nature of the business.

**4.2.5 Types/Concepts of Working Capital:**

There are different concepts/types of working capital having different meanings which are explained as follows –

1. **Gross working capital –** It is a broad concept of working capital. According to this concept working capital means the total of all current assets of the firm. This concept is important from view point of management because the management can plan for the working capital well in advance and use

effectively all the current assets. As per this concept working capital and current assets are the two inter-changeable terms.

2. **Net working capital –** According to this concept the working capital means the net current assets that mean current assets minus current liabilities. This concept is widely used. It is used to find out the soundness of short term financial position of the firm by the concerned parties.
3. **Negative working capital –** It means the excess of current liabilities over the current assets. It is opposite to net working capital. Negative working capital is also called as working capital deficit. It shows that the working capital position of the firm is not good.
4. **Permanent working capital –** It is the minimum amount of investment in current assets required at all time to carry out minimum level of business activities. In other words it is the amount of working capital which remains in the business permanently in one form or another. Every business firm is required to maintain a minimum balance of cash, inventory and receivables irrespective of the short term ups and downs in the level of activity. It is referred to as the care current assets by the Deheja committee and Tondon committee. It is also called as fixed working capital or minimum working capital. It represents the long term capital.
5. **Variable working capital –** It means the working capital invested in the business over and above the fixed/permanent working capital. The amount of variable working capital keeps on fluctuating from time to time depending upon the scale of operations and stage of business cycle. It increases during the peak period and decreases during the period of recession. It represents the short term capital.
6. **Cash working capital –** The cash working capital refers to the working capital which is available in cash. It is determined with the help of cash-flow statement.

### 4.2.6 Computation/Estimation of Working Capital:

Working capital is called as the lifeblood or heart of the business without adequate working capital no business firm can survive. Therefore proper estimation of working capital is necessary. As working capital is defined the difference between current assets and current liabilities, the computation of working capital depends upon the estimation of current assets and current liabilities. While computing the working capital estimation regarding various current assets and current liabilities is to be made as under —

**A) Estimation of Current Assets :**

**1) Stock/Inventories :** A business firm needs various types of stock like Raw materials, Work-in-progress, Finished Goods. The working capital required for maintaining the stock is based on the period for which stock of goods is remained in the business. It is estimated as follows —

   **i) Raw Materials :** The period for which the raw materials remain in stores.

   **ii) Work in Progress :** The period in which the work in progress remain in manufacturing process.

   **iii) Finished Goods :** The period for which the finished goods remain in stock unsold.

**2) Sunday Debtors :** The period of credit allowed to debtors / customers.

**3) Cash and Bank Balance :** As per estimation of cash requirements.

**4) Prepaid Expenses :** Any expenses paid in advance.

**B) Estimation of Current Liabilities :**

**1) Sundry Creditors :** The period of credit allowed by suppliers or creditors.

**2) Outstanding Expenses :** On the basis of time lag in payment of wages and other expenses.

By deducting the total of current liabilities from the total of current assets (A-B), the working capital is calculated. While computing working capital stock is valued at cash costs as well as debtors are also to be taken at cash cost basis and not on sales value basis. If cash costs are not available, the sales value may be taken.

### 4.2.7 Check Your Progress:

**A. Choose the correct alternative:**

1. The current assets minus the current liabilities is termed as ---------

   a) Working Capital  b) Circulating Capital

   c) Net Current Assets  d) All of above

2. Which of the following is not a source of working capital?

   a) Purchase of machinery b) Profit earned during the year

   c) Issue of share capital d) Issue of debentures

3. Which one of the following items represents a potential use of working capital?

   a) Goodwill amortization b) Sale of fixed assets at loss

   c) Net loss from operations d) Declaration of share dividend

4. Which of the following is not normally paid from the working capital?

   a) Payment to creditors b) Redemption of debentures

   c) Payment of wages d) Purchases of raw materials

5. Permanent working capital is also known as -----------

   a.) Minimum working capital b) Fixed working capital

   c) Care current assets d) All of above

**B. Fill in the Blanks**

i) Difference between current assets and current liabilities is known as.......

ii) -------- working capital remains in the business in one form or another.

iii) Negative working capital means the excess of current ----- over the current ------

iv) Firm which follow liberal credit policy will require ----------working capital.

v) Purchase of raw materials is ---------- working capital.

**C. State 'True' or 'False'.**

i. Working capital is necessary to purchase the fixed assets.

ii. Payment of dividend is a use working capital.

iii. Variable working capital is financed out of short term funds.

iv. Permanent working capital is different from fixed capital.

v. Bank credit is a long term source of working capital.

### 4.2.8 Illustrations:

1. From the following information prepare a statement showing the working capital requirement.

   Budgeted sales Rs. 2,08,000 p.a. Analysis of one rupee of sales is as under —

| Particulars | Rs. |
|---|---|
| Raw Materials | 0.40 |
| Direct Labour | 0.30 |
| Overheads | 0.20 |
| | 0.90 |
| Profit | 0.10 |
| Sales | 1.00 |

It is assumed that —

a) Raw materials are carried in stock for 3 weeks and finished goods for 2 weeks.

b) Factory processing will take 3 weeks.

c) Suppliers will give 5 weeks credit.

d) Customers will allowed 8 weeks credit.

It may be assumed that production and overheads accrue evenly throughout the year.

**Solution:**

**Statement showing Working Capital Requirement**

| **Particular** | **Rs.** |
|---|---|
| **Current Assets** | |
| 1) Stock : | |
| i) Raw Materials (3 weeks) | 4800 |
| (Rs. 2,08,000 x 3/52 x 0.40) | |
| ii) Work in Progress | 10800 |
| (Rs. 2,08,000 x 3/52 x 0.90) | |

| | |
|---|---|
| iii) Finished Goods | 7200 |
| (Rs. 2,08,000 x 2/52 x 0.90) | |
| 2) Sundry Debtors at cost | 28,800 |
| (Rs. 2,08,000 x 8/52 x 0.90 | |
| | 51600 |
| **Less : Current Liabilities** | |
| 1) Sundry Creditors | 8000 |
| (Rs. 2,08,00 x 5/52 x 0.40) | |
| Working Capital Required | 43600 |

2. A Hindustan industry sells its product on a Gross Profit of 20% on sales. The following information is extracted from its annual accounts for the year ended 31st March,2009.

| **Particulars** | **Rs.** |
|---|---|
| Sales of 3 month's credit | 20.00,000 |
| Raw Materials | 6,00,000 |
| Wages paid (15 days in arrears) | 4,80,000 |
| Manufacturing Expenses paid (one month in arrears) | 6,00,000 |
| Administration Expenses paid (one month in arrears) | 2,40,000 |
| Sales promotion expenses payable | 1,00,000 |
| (1/2 yearly in advance) | |
| Income Tax payable quarterly | 2,00,000 |
| (Last installment falls due in June 2009) | |

The company enjoys one month's credit from the suppliers of raw materials and maintains 2 months stock of raw materials and one and half months of finished goods. Cash balance is maintained at Rs. 50,000. Assume a 10% margin for contingencies. Compute working capital required by the company.

**Solution :**

**Statement showing Working Capital Requirement**

| **Particulars** | | **Rs.** |
|---|---|---|
| **Current Assets:** | | |
| 1) Stock | | |
| i. Raw Materials (Rs. 6,00,000 x 2/12 months) | 1,00,000 | |
| ii. Finished Goods (Rs. 19,20,000 x 1.5/12 months) | 2,40,000 | |
| 2) Sundry Debtors (Rs. 19,20,000 x 3/12 months) | 4,80,000 | |
| 3) Cash in hand | 50,000 | |
| 4) Prepaid Sales Promotion Expenses (Rs. 1,00,000 x 6/12) | 50,000 | |
| | **9, 20,000** | |
| **Less: Current Liabilities:** | | |
| 1) Sundry Creditors (Rs. 6,00,000 x 1/12 months) | | 50,000 |
| 2) Outstanding Expenses | | |
| i) Wages (Rs. 4,80,000 x 0.5 / 12 months) | | 20,000 |
| ii) Manufacturing Expenses (Rs. 6,00,000 x 1/12months) | | 50,000 |
| iii) Administration Expenses (Rs. 2,40,000 x 1/12months) | | 20,000 |
| iv) Income Tax (Rs. 2,00,000 x 3/12months) | | 50,000 |
| | | **1, 90,000** |
| Net Working Capital | | **7, 30,000** |
| Add : 10% margin for contingencies | | 73,000 |
| Total working Capital | | **8,03,000** |

3. You are required to prepare a forecast of working capital requirement from the following data.

Output 15600 units per annum.

| Elements of Cost | Per unit Rs |
|---|---|
| Raw Materials | 6 |

| | |
|---|---|
| Direct Labour | 4 |
| Overheads | 5 |
| Total Cost | 15 |
| Profit | 3 |
| Selling Price | 18 |

Raw materials are kept in stock on an average of one month and work in process is on an average of 2 weeks. Finished goods are in stock on an average 1.5 months. Credit allowed to debtors is 2 months. Credit allowed by creditors is one month. Lag in payment of wages is one week. Allow 15% for contingency.

**Solution:**

**Statement showing Estimate of Working Capital**

| Particulars | Rs | Rs |
|---|---|---|
| Current Assets: | | |
| 1. Stock: | | |
| i. Raw Materials (15600x1/12= 1300xRs 6) | | 7800 |
| ii. Work in Process | | 6300 |
| Raw Materials (15600x2/52= 600xRs 6) | 3600 | |
| Labour (15600x2/52=600xRs 4=2400x50%) | 1200 | |
| Overheads (15600x2/52=600xRs 5=3000x50%) | 1500 | |
| iii. Finished Goods (15600x1.5/12=1950xRs 15) | | 29250 |
| 2. Debtors (15600x2/12=2600xRs 15) | | 39000 |
| Total | | 82350 |
| *Less:* Current Liabilities: | | |
| 1. Creditors (15600x1/12=1300xRs 6) | 7800 | |
| 2. Outstanding Wages (15600x1/52=300xRs 4) | 1200 | 9000 |
| Net Working Capital | | 73350 |
| *Add:* 15% for contingencies (15% of Rs 73350) | | 11003 |
| Working Capital Required | | **84353** |

4. A factory produces 84000 units during the year and sells them at Rs 50 per unit. Cost structure of a product is as follows:

| | |
|---|---|
| Raw Materials | 55% |
| Direct Labour | 18% |
| Overheads | 17% |
| Total Cost | 90% |
| Profit | 10% |
| Selling Price | 100% |

The following additional information is available:

1. The activities of purchasing, producing and selling occur evenly throughout the year.
2. Raw materials in godown are equal to 1½ months' supply.
3. The production process takes 15 days.
4. Finished goods equal to one month production are in stock.
5. Debtors get one month credit.
6. Creditors allow 2 months credit.
7. Time lag in payment of wages and overheads is one month.
8. Cash and Bank balance is maintained at 15% of the working capital.
9. 25% purchases are for cash.

Prepare a Statement showing Working Capital Requirement.

**Solution:**

**Statement showing Estimate of Working Capital**

| Particulars | Rs | Rs |
|---|---|---|
| Current Assets:<br>1. Stock:<br>i. Raw Materials (84000x1.5/12= 24500xRs 27.50) | | 288750<br>126875 |

| | | |
|---|---|---|
| ii. Work in Process | 96250 | |
| Raw Materials (84000x0.5/12= 3500xRs 27.50) | 15750 | |
| Labour (84000x0.5/12=3500xRs 9=31500x50%) | 14875 | |
| Overheads (84000x0.5/12=3500xRs 8.5=29750x50%) | | 315000 |
| iii. Finished Goods (84000x1/12=7000xRs 45) | | 315000 |
| 2. Debtors (84000x1/12=7000xRs 455) | | 1045625 |
| Total | | |
| *Less:* Current Liabilities: | 288750 | |
| 1. Creditors (84000x2/12=14000 x Rs 27.50=385000x75%) | 63000 | |
| 2. Outstanding Wages (84000x1/12=7000xRs 9) | 59500 | 411250 |
| 3. Outstanding Overheads (84000x1/12=7000xRs 8.50) | | 634375 |
| Net Working Capital | | 95156 |
| *Add:* 15% as Cash and Bank Balance (15% of Rs 634375) | | **729531** |
| Working Capital Required | | |

5. XYZ Ltd. has the under mentioned projected Profit and Loss Account:

| Particulars | Rs | Rs |
|---|---|---|
| Sales | | 210000 |
| Less: Cost of Goods Sold | | 153000 |
| Gross Profit | | 57000 |
| Less: Administrative Expenses | 14000 | |
| Selling Expenses | 13000 | 27000 |
| Profit before tax | | 30000 |
| Less: Provision for tax | | 10000 |
| Profit after tax | | 20000 |

The Cost of Goods Sold has been arrived at as under:

| Particulars | Rs |
|---|---|
| Materials used | 84000 |
| Wages and Manufacturing Expenses | 62500 |
| Depreciation | 23500 |

| | |
|---|---|
| | 170000 |
| Less: Stock of Finished Goods (10% of goods produced not yet sold) | 17000 |
| Cost of Goods Sold | |
| | 153000 |

Goods equal to 15% of the year's production will be in process on the average, requiring full materials but only 40% of the other expenses. The company believes in keeping materials equal to two months consumption in stock.

All expenses will be paid one month in advance. Suppliers of materials will extend 1 ½ months credit. Sales will be 20% for cash and the rest at two month's credit. 70% of the income tax will be paid in advance in quarterly installments. The company wishes to keep Rs. 8000 in cash.

Prepare an Estimate of Working Capital.

**Solution**:

**Statement showing Estimate of Working Capital**

| Particulars | Rs | Rs |
|---|---|---|
| **Current Assets:** | | |
| 1. **Stock** | | |
| Raw Materials (84000 x 2/12 months) | | 14000 |
| Work in Progress (15%) | | 17760 |
| i) Materials (15% of Rs 84000) | 12600 | |
| ii) Other Expenses (40% of Rs 12900) (15% of Rs 86000) | 5160 | |
| Finished Goods (Actual) | | 17000 |
| 2. **Debtors** (168000 x 2/12) | | 28000 |
| Credit Sales (80% of Rs 210000 = Rs 168000) | | |
| 3. **Prepaid/Advance Expenses** | | |
| i. Wages (Rs 62500 x 1/12 months) | 5208 | |
| ii. Administrative and Selling Expenses (Rs 27000x1/12) | 2250 | 7458 |
| 4. **Cash in hand** | | 8000 |

| | | |
|---|---|---|
| Total Current Assets | | 92218 |
| Less: Current Liabilities | | |
| 1. **Creditors** (84000 x 1 ½ /12 months) | 10500 | |
| 2. **Provision for Taxation** (10000 Less Advance Tax 7000) | 3000 | |
| **Total Current Liabilities** | | 13500 |
| **Net Working Capital Required** | | 78718 |

6. Calculate the average amount of working capital required of Swastik Products Ltd. from the following:

| Particulars | Rs |
|---|---|
| a) Average amount locked up in stocks | |
| Finished Goods | 10000 |
| Stock of Stores | 16000 |
| b) Lag in payments | |
| Wages 1.5 weeks | 520000 |
| Stores and materials 1.5 months | 96000 |
| Office staff salary ½ month | 124800 |
| Rent 6 months | 20000 |
| Other expenses 1.5 months | 96000 |
| Managers salary ½ months | 9600 |
| c) Pre-payments | |
| Expenses paid (quarterly in advance) | 16000 |
| d) Period of average credit given | |
| Domestic sales 6 weeks | 624000 |
| Foreign sales 1.5 weeks | 156000 |
| e) Add 10% for contingencies | |

**Solution:**

**Statement showing Estimate of Working Capital**

| Particulars | Rs | Rs |
|---|---|---|
| **Current Assets:** | | |
| **1. Stock** | | 26000 |
| Stock of stores | 16000 | |
| Finished Goods | 10000 | |
| 2. **Debtors** | | 76500 |
| Domestic (624000 x 6/52 weeks) | 72000 | |
| Foreign (156000 x 1.5/52 weeks) | 4500 | |
| **3. Prepaid/Advance Expenses** (16000 x 3/12 months) | | 4000 |
| **Total Current Assets** | | 106500 |
| **Less: Current Liabilities** | | |
| **1. Creditors** (96000 x 1 ½ /12 months) | 12000 | |
| **2. Outstanding Expenses** | | |
| Wages (520000 x 1.5/52 weeks) | 15000 | |
| Office staff salary (124800 x ½ /12 months) | 5200 | |
| Rent (20000 x 6/12 months) | 10000 | |
| Other expenses (96000 x 1.5/12 months) | 12000 | |
| Managers salary (9600 x ½ /12 months) | 400 | |
| **Total Current Liabilities** | | 54600 |
| **Net Working Capital** | | 51900 |
| **Add: 10% for Contingencies** | | 5190 |
| **Total Working Capital** | | 57090 |

## 4.3 Summary:

Working capital is called the lifeblood or heart of the business. It is defined as the excess of current assets over current liabilities. It is also defined as the capital which is needed to carry on day to day working of the business. Each business firm needs more or less working capital. The requirement of working capital depends upon various factors such as size of the firm, nature of business, volume of business, policy of purchase and sale etc. It is necessary to compute essential working capital because with inadequate working capital no business firm can survive. Computation of working capital depends upon the proper estimation of current assets and current liabilities.

## 4.4 Terms to Remember:

1. **Working Capital:** The capital which is needed to carry on the day to day working of the business and it is expressed as the excess of current assets over current Liabilities.
2. **Gross working capital** – It is a broad concept of working capital. According to this concept working capital means the total of all current assets of the firm.
3. **Net working capital** – According to this concept the working capital means the net current assets that mean current assets minus current liabilities.
4. **Permanent working capital** – It is the minimum amount of investment in current assets required at all time to carry out minimum level of business activities. In other words it is the amount of working capital which remains in the business permanently in one form or another. It represents the long term capital.
5. **Variable working capital –** It means the working capital invested in the business over and above the fixed/permanent working capital. It represents the short term capital.

## 4.5 Answers to Check Your Progress:

A – 1 – d

2 – a

3 – c

4 – b

5 – d

B: - i) working capital

ii) Permanent

iii) liabilities, assets

iv) more

v) use / application

C - : i) - F

ii) - T

iii) - T

iv) - T

v) - F

## 4.6 Exercise

i) What is meant by working capital? Explain the factors which determine the working capital requirement.

ii) Define working capital. State the significance of working capital.

iii) What do you mean by working capital? How it is determined?

iv) What are the factors considered in planning for working capital requirement?

v) Explain the sources and applications of working capital.

**Practical Problems:**

1) From the following information prepare a statement showing working capital requirement. Budgeted sales Rs. 2,60,000 p.a.

**Analysis of one rupee of sales**

| | **Rs.** |
|---|---|
| Raw Materials | 0.30 |
| Direct labour | 0.40 |
| Overheads | 0.20 |
| | 0.90 |
| Profit | 0.10 |
| Sales | 1.00 |

It is assumed that —

a) Raw materials are carried in stock for 3 weeks and finished goods for 2 weeks.

b) Factory Processing will take 3 weeks.

c) Suppliers will give 5 weeks credit.

d) Debtors will require 8 weeks credit.

It may be assumed that production and overheads accrue evenly throughout the year. (Answer — W.C. Rs. 55500)

2) From the following particulars of National Co-Ltd., calculate the amount of working capital required.

| Particulars | Amounts for the year |
|---|---|
| a) Lag in Payment | |
| Wages — 2 weeks | 39000 |
| Purchases of Materials – 4 weeks | 78000 |
| Overheads – 1 week | 26000 |
| b) Average amount locked up in stock. | |
| Finished Goods | 6000 |
| Raw Materials | 12000 |
| Work in Progress | 3000 |
| c) Period of average credit given | |
| Inland Sales — 6 weeks | 208000 |
| Export sales — 2 weeks | 52000 |
| d) Safety Margin – 10% | |

(Ans. W.C. Rs. 42900)

**3.** Reliance Ltd. present you the budgeted Profit and Loss Account as under and request you to prepare a Statement showing Working Capital Requirement.

| Particulars | Rs | Rs |
|---|---|---|
| Sales<br>Less: Expenses | | 4500000 |

| | | |
|---|---|---|
| Materials | 1800000 | |
| Labour | 1350000 | |
| Expenses | 450000 | 3600000 |
| Profit | | 900000 |

**Additional Information:**

1. The production and sales take place evenly throughout the year.
2. Raw materials are carried in stock for one month and finished goods for half month.
3. The production cycle take one month.
4. There is a custom in market both for purchase of raw materials and sales of finished goods to give two months' credit.
5. Time lag in payment of wages is one month.
6. 25% of sales are for cash and balance on credit.
7. Cash in hand is estimated at Rs 62500.

(Answer: W. C. Rs 737500)

**4.** The following annual figures relate to Bharat Industries Ltd.

| Particulars | Rs |
|---|---|
| Sales (Two months credit) | 3600000 |
| Materials consumed (Suppliers extend 2 months credit) | 900000 |
| Wages paid (Monthly in arrear) | 720000 |
| Manufacturing expenses outstanding at the end of the year (Cash expenses are paid one month in arrear) | 80000 |
| Total administrative expenses, paid as above | 240000 |
| Sales promotion expenses, paid quarterly in advance | 120000 |

Company sales its product on gross profit of 25% computing depreciation as of the cost of production. It keeps one month's stock, each of raw materials and finished goods and a cash balance of Rs 100000.

Work out the working capital requirements of the company on cash cost basis, assuming a 20% safety margin. Ignore work in progress.

**Answer:** Working Capital Rs 720000, Cost of Production Rs 2580000 ( Materials 900000 + Wages 720000 + Manufacturing Expenses 960000), Cost of Sales Rs 2940000 ( Cost of Production 2580000 + Adm. Exp. 240000 + Sales Promotion Exp. 120000)

**Practical:**

**Exercise for Simulation of estimation of working capital can be arranged in the classroom**

**Illustration:** A company producing steel furniture provides you the following information. You are required to estimate the working capital requirement for the year 2021.

| Particulars | Cost per unit Rs. |
|---|---|
| Raw Materials | 40 |
| Direct Labour | 15 |
| Overheads | 30 |
| Total Cost | 85 |

Additional Information:

| | |
|---|---|
| Selling price | Rs. 100 per unit |
| Output | 52000 units per annum |
| Raw materials in stock | average 4 weeks |
| Work in progress | average 2 weeks |
| (assume 50% completion stage with full materials consumption) | |
| Finished goods in stock | average 4 weeks |
| Credit allowed by suppliers | average 4 weeks |
| Credit allowed to debtors | average 8 weeks |
| Cash at bank is expected to be | Rs. 50000 |

Assume that production is made at even pace during the year. 20% sales are on cash basis.

**Simulation of estimation of working capital:**

1. Working Capital is calculated on the basis of difference between Current Assets and Current Liabilities. The formula is:

   Working Capital = Current Assets - Current Liabilities

2. Current Assets include Inventory/Closing Stock, Sundry Debtors, Cash and Bank Balance and Prepaid Expenses/ Advance Payments. In the given illustration the current assets are Inventory/Closing Stock, Sundry Debtors, Cash and Bank Balance.

3. Current Liabilities include Sundry Creditors and Outstanding Expenses/Delay in Payments. In the given illustration the current liabilities include Sundry Creditors.

4. Inventory/Closing Stock is of three types namely Raw Materials, Work in Process and Finished Goods. It is estimated on the basis the period of inventory/stock with company.

5. Sundry Debtors are calculated on the basis of period of credit allowed to customers and only on credit sales. These are calculated generally on the basis of cost of sales.

6. Sundry Creditors are calculated on the basis of period of credit allowed by suppliers.

7. If period is given in weeks 52 weeks in a year, in months 12 months in a year and in days 360 days in a year are considered.

   On the basis of above simulation the actual estimation is made as follows:

**Solution:**

**Statement showing Working Capital Requirement**

| **Particulars** | **Amount Rs.** | **Amount Rs.** |
|---|---|---|
| **Current Assets:** | | |
| 1. Inventory/Stock: | | |
| a) Raw Materials (4 weeks) | | 1,60,000 |
| (52000 units × Rs. 40 per unit × 4/52 weeks) | | |
| b) Work in progress (2 weeks) | | |
| Raw Material | 80,000 | |
| (52000 units × Rs. 40 per unit × 2/52 weeks) | 15,000 | |
| Direct Labour (50% completion) | | |
| (52000 units × Rs. 15 per unit × 2/52 weeks × 50/100) | 30,000 | 1,25,000 |
| Overheads (50% completion) | | |
| (52000 units × Rs. 30 per unit × 2/52 weeks × 50/100) | | 3,40,000 |
| c) Finished Goods (4 weeks) | | |
| (52000 units × Rs. 85 per unit × 4/52 weeks) | | 5,44,000 |
| 2. Sundry Debtors (8 weeks)(80% sales on credit) | | |
| (52000 units × Rs. 85 per unit × 8/52 weeks × 80/100) | | 50,000 |
| 3. Cash at Bank | | |
| **Total Current Assets** | | **12,19,000** |
| **Less : Current Liabilities :** | | **1,60,000** |
| 1. Sundry Creditors (4 weeks) | | |
| (52000 units x Rs. 40 per unit x 4/52 weeks | | |
| **Working Capital** | | **1,59,000** |

## 4.7 Reference for Further Study:

1) Dr.Maheshwari S. N: Principles of Management Accounting, Sultan Chand & Sons, New Delhi.
2) Man Mohan, S. N. Goyal: Principles of Management Accounting, SahityaBhavan, Agra.
3) Pandey I. M.: Management Accounting, Vikas Publishing House Pvt. Ltd., New Delhi.
4) Paul S. Kr.: Financial Statement Analysis, New Central Book Agency (P) Ltd. Kolkata.
5) Raman B. S.: Management Accounting, United Publishers Mangalore.

❑❑❑