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FIRST EDITION

ACCOUNTING FOR MANAGERS (STARTING FROM BASICS)

An Exclusive & Comprehensive Book Covering Revised UGC Syllabus

FOCUS:

Non-Commerce Students

Non-English Medium Students

For

MBA, MCA, MFA, BBA and other Professional Courses

Interview Questions on Finance
Text cum Suggested Answers



NEW AGE INTERNATIONAL PUBLISHERS

CA C. Rama Gopal

**ACCOUNTING
FOR
MANAGERS**

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ACCOUNTING FOR MANAGERS (STARTING FROM BASICS)

An Exclusive & Comprehensive Book Covering Revised UGC Syllabus

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**DEDICATED
TO
LORD VENKATESWARA**

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Preface – Sharing My Thoughts

Aim of this book is to prepare ‘Managers of Tomorrow’ from the scratch in ‘Accounts’, in fact, from the fundamentals of Accounting — ‘Double Entry Principles’, with the perspective from the view point of Management, not from Accounting Professional.

Why so many students fail in “Accounting for Managers” (different Universities give various names for this subject) in the first semester of MBA or MCA? Failure rate in this subject is more, compared to other subjects. This subject, often noticed, is the cause of anxiety for many, while preparing for exams.

Trend of admission into MBA has undergone a sea change, of late. Students who do not have any background in commerce related subject have been joining MBA. This is the primary reason. They experience difficulty in understanding the subject, with no accounting background, earlier. The second reason is with the curriculum of all most all the universities. Present syllabus presupposes that the students already know the fundamentals of accounting and starts with the preparation of financial statements. Even students of MCA do not have any prior knowledge of this subject and read it for the first time. Good institutes provide some guidance on fundamentals, allocating two or three sessions. However, this much of teaching is not adequate. Above all, most of the books do not cover the fundamentals of accounting. Students feel shy to go through primary books to learn the rudiments of Double Entry Principles. Students often say their fundamental concepts are not clear, even after passing this subject. They find difficulty for the second semester, again, when they are to read the advanced subject ‘Financial Management’. How to resolve the problem and provide the required level of knowledge?

I have attempted to follow the philosophy of Mahatma Gandhi ‘Simple Language, Noble Thinking’ in his autobiography “My Experiments with Truth”. My conscious effort has been to make the language easily understandable and standard of content in book enjoyable.

My basic objective to write this book is to meet the wishes of non-commerce students, who are always my target, while teaching. This book starts with fundamentals. I have adopted the approach ‘Self-learning should be easy learning’. I always think how a book should be, if I were in their shoes. This book is the product of my thinking-process in that direction. I call Hindi medium students as “Hindimithra” as they often experience difficulty with English language. Deliberately, I have kept the language simple to understand to meet their expectations.

After my lecture in accounts, I often enjoy the standing ovation of my students, expressing their joy, as I well understand their problems and tailor my teaching to suit the needs of non-commerce students. My dream is to have their joy seen in their eyes, after reading this book, with no fear for this subject. Many of my non-commerce students share their confidence to take finance specialization; once they get my assurance that I would not overstay in U.S.A., which I visit every year, during their specialization session. I owe something to repay their love and affection.

My colleagues say my books are often with a specific ‘Focus’. Yes, again this book — fourth in a row of success story—is to meet the customized demands of UGC syllabus of MBA and MCA, totally, in one book, covering fundamentals too. All they need, they can find in one book, without being bulky. Many universities have adopted more or less the same syllabus, changing the name of the subject and so this book meets the requirements of the first semester, wherever they are.

My aim is to meet the aspirations of non-commerce students as well those who could not study in English medium, earlier. When I fulfill the wish of this group, I know, students who enjoy background in accounts would find this book quite refreshing to read.

The best thing that has happened in my life is to marry Sandhya as my partner. What I can give, in return, except expressing my mute love to her for her affection, care, balancing the whole family, and above all meticulous planning, behind me, for reaching the heights in my life with which I am happy. I wish to tell her, many fail to express their gratitude for what they receive and at times could not give, in return, what they all receive in family relationship.

I have my family members Radhi, Kalyan, Dheera and Kish, and my lovely little American grandsons — Theer and Tarkh — who have extended their support in one way or other, not preventing me to write this book too, to steer the book to a happy ending.

CA C. Rama Gopal

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CHAPTER
1

Scope and Meaning of Accounting

- Introduction**
- Need and Role of Accounting**
- Meaning of Book-keeping and Accountancy**
- Accounting — Science or Art**
- Definition and Explanation of Accounting**
- Users of Accounting**
- Scope/Branches of Accounting**
 - **Financial Accounting**
 - **Cost Accounting**
 - **Management Accounting**
- Systems of Accounting**
- Objectives/Advantages of Accounting**
- Limitations**
- Terminology often used — Some Basic Terms**
- Check Your Understanding**
- Pick up the Most Appropriate**
- Recall your Memory**
- Objective Questions**
- Interview Questions**

1.1 INTRODUCTION

Accounting is an ancient art, as old as money itself. In the beginning, accounting has been elementary. The modern system of accounting owes its origin to Pacioli who lived in Italy in 15th Century. Pacioli codified rather than invented the system of accounting and he is widely regarded as the “Father of Accounting”. Even in our country, Chanakya has clearly indicated the need of Accounting and Auditing in his book “Arthashastra”. The Indian system of accounting is as scientific and systematic as the one developed in the West. We do not lag behind the West in the origin and development of accounting.

1.2 NEED AND ROLE OF ACCOUNTING

Many consider accounting has a role to play only in business and not in domestic life. This is not, factually, correct. In fact, we see the beginning of accounting in every wise housewife. In case, a housewife records her domestic transactions, connected with money, regularly, she can collect a lot of valuable information. Many intelligent housewives, though not literate, maintain a small dairy to record receipts on one page and all payments on the other page. Receipts are not always many, either in the form of income of the husband, her supplementary earnings, gifts from relations etc. List of payments is relatively more on different items say milk, education, entertainment, food, and clothing and, finally, planned commitments on savings etc. She can conveniently find out how much she has spent on the different items of expenditure, at the end of the month. This exercise helps her in planning her expenditure as income is, often, beyond her control. The family, not she alone, can learn useful lessons, when they review, where they have gone wrong in estimating or not controlling their spending. It would, equally, facilitate the family to plan and achieve their dreams, together, be it owning a home, car to drive, long term goals of children’s education, retirement life and many more things, they wish to achieve.

Yes, the need of Accounting is more for business.

Accounting is the language of business.

The main purpose of language is communication of ideas. Similar is the purpose and role of accounts for a business is. A businessman has to keep a systematic record of the financial activities of his firm so that he can know the financial position. What it owns are assets and what it owes are the liabilities. It is necessary for every businessman to know where he stands in many respects:

- (i) What he owns?
- (ii) What he owes?
- (iii) Whether he has earned profit or suffered loss over a period?
- (iv) What is his financial position? Is he better off or moving towards bankruptcy?

Only accounts give answers to these questions.

Currently, the form of business has been joint stock company, in many growing areas, these days. By law, these firms have to keep the books of accounts to meet the requirements of Companies Act.

The purpose of accounting is narrow to many. Many consider the role of accounting is limited to maintain books of accounts for a limited purpose of filing income-tax return to satisfy the curiosity income-tax department. This is only a part of the full story.

The chief objective of maintaining books of accounts is to ascertain the operational results and find the financial position of the organisation.

But, the above is not the end; rather it is only a beginning, in the modern era.

The role and importance of accounting in a firm depends more on the person who heads the role. Many think the role of accounting is to record transactions in books of accounts. With the pace of computerisation, the role of accounting for recording the transactions has diminished.

Importance of analysis of accounts along with control, coordination and achievement of the objectives of the firm has occupied more importance.

Need of accounting is not limited to business organisations. Even the non-profitable firms like clubs, charitable institutions, hospitals, and education institutions maintain books of accounts to know their state of affairs.

Now a days, the combined role of accounting and finance has assumed more importance than the individual role of accounting. It is no surprise the finance manager can change the fortunes of the organisation, if he is, really, competent. For this reason, he is associated with every decision-making process, from recruitment of staff to the final stage, liquidation. No wonder, the organisation may sink, if he fails to deliver that is expected of him. A good finance manager, normally, is an asset to the firm he works in, while he becomes a liability, if he is not practical in making the objectives of accounting and finance to tailor the needs of business!

1.3 MEANING OF BOOK-KEEPING AND ACCOUNTANCY

Some people take both the terms ‘Book-keeping’ and ‘Accountancy’ as synonymous terms. Both the terms are different from each other. However, there is no universally accepted line of demarcation or division between the two.

Book-keeping is the art of recording business transactions in a set of books of accounts.

Transaction means any dealing, expressed in terms of money. The books in which the transactions are recorded are called ‘**Books of Accounts**’. Book-keeping is concerned with preparation of vouchers, recording transactions in a journal and posting in the ledger. Book-keeper arrives at the final balances of different accounts, after totaling the accounts. The job of a book-keeper is to the extent of preparing trial balance, duly tallied. Book-keeping is mainly of clerical nature.

Any one who has basic knowledge of the principles of book-keeping can maintain the books of accounts. On the other hand, accountancy requires deep knowledge of the principles and their application. Though, book-keeping and accountancy are different in several aspect, they are supplementary to each other.

Book-keeping and accounting are not synonymous (inter-changeable) terms.

The job of an accountant commences where the work of a book-keeper ends.

Accountant guides a book-keeper and reviews the job, done by him. Normally, a book-keeper works under the supervision of an accountant. The functions of an Accountant can be summarised as under:

- (i) Examination of entries made in the books of accounts
- (ii) Verification of trial balance
- (iii) Rectification of errors, if any, in accounts
- (iv) Recording the adjustments
- (v) Preparation of trading account
- (vi) Preparation of profit and loss account
- (vii) Preparation of balance sheet
- (viii) Analysis of results and
- (ix) Deriving conclusions and communication of the results.

An accountant is required to have much higher skill and knowledge, compared to a Book-keeper. The larger the firm, higher is the responsibility of an accountant.

1.4 ACCOUNTING — SCIENCE OR ART

Accounting is a science as well as an art.

It is a science as accounts are prepared in accordance of with certain basic principles and laws, which are universally accepted. However, accounting is not a perfect science like Physics or Chemistry, where experiments can be conducted in a laboratory and specific conclusions are drawn. Some people have reservations to treat accountancy as science.

Accounting is, definitely, an art. Art is a technique, which helps in achieving the desired objectives. Accounting has some definite objectives to be fulfilled. Accounting is an art because it prescribes the process through which the objectives are fulfilled. The American Institute of Certified Public Accountants also defines accounting as an art.

Accountancy involves recording the transactions and maintaining books of accounts in the prescribed manner, regularly, according to certain rules and regulations for achievement of the objectives of the firm.

1.5 DEFINITION AND EXPLANATION OF ACCOUNTING

The American Institute of Certified Public Accountants, which has played a noble part in the development of Accounting, defines the concept “Accounting” as follows:

“Accounting is the art of recording, classifying and summarising in a significant manner and in terms of money, transactions and events which are, in part, at least, of a financial character, and interpreting the results thereof”.

Once, we break the definition for better understanding, we find the term ‘Accounting’ contains the following components:

(A) Recording: Recording is the basic function of Accounting. Events and transactions, which are of financial character, either fully or partly, are recorded in an orderly manner in books of accounts. The transactions are recorded in a journal, as and when they happen or occur. Journal is further sub-divided into cash journal or cash-book (for recording cash transactions), Purchases Journal (for recording credit purchases) and Sales Journal (for recording credit sales). All these books are called subsidiary books. If subsidiary books are maintained, the transactions are not recorded in the journal and are recorded in these books, directly. Only those transactions that do not find a place in subsidiary books are recorded in the journal.

After recording all transactions in the journal, if they are, later, posted into different accounts of the ledger, work-load would be heavy. In fact, work is duplicated too. To reduce the avoidable work-load, each firm maintains subsidiary books, depending upon its individual requirements.

Subsidiary books would serve the function of a journal as well as a ledger. They are a journal as each transaction is recorded, individually, and a ledger as the total of the account is shown.

It is not necessary to record all financial transactions, first, in the journal, if the concerned subsidiary book is maintained, before posting is made into the concerned accounts. Say, cash transactions are posted into the cash-book, directly, without posting them in the journal.

(B) Classifying: All similar transactions are grouped and posted in one book, which is called a ‘Ledger’.

The objective of classification is to find a summary of the entries of same nature at one place.

This book ‘Ledger’ contains different nature of accounts. For example, there may be separate heads of accounts such as Salaries, Traveling Expenses, Repairs, Printing and Stationery etc. We are interested to know the total amount under each head of account for our understanding and control. All accounts find a place in the ledger. Transactions belonging to

one account are posted in that account in the ledger. Each head of account gives the individual details of the entries and its total.

- (C) Summarising:** When posting is complete in the ledger, totals are made for debit and credit side in each head of account and final balance (heavier balance), be it debit or credit, is arrived.

The individual accounts find a place in a summarised manner, which is called 'Trial Balance'.

Income statement (Trading and Profit and Loss account) and Balance Sheet are prepared from the Trial Balance.

- (D) Deals with Financial Transactions:** Accounting transactions, which are of financial character only, are recorded in books of accounts. In other words, if a transaction cannot be expressed in terms of money, they are not recorded in accounting books.

It is well accepted trusted and devoted employees are the real assets of any firm as its success or failure depends on their efforts and, finally, results. However dedicated the employees are, the employees do not appear in books of accounts. But, their presence/absence appear in the operational results of the firm.

However, payments made to employees (Salaries), their contribution (Sales) and, ultimately, profits appear in accounting books as they are expressed in terms of money. Again, expenses incurred on their welfare, in recognition of their efforts, be it Bonus or Medical Aid, also appear in books of accounts.

- (E) Analysis and Interprets:** This is the final and important function of accounting. A distinction is to be made between the two terms — Analysis and Interpretation. Analysis refers to methodical classification of data. If unconnected data are grouped together, understanding is not possible. All assets belonging to current assets are to be grouped together, similarly all current liabilities. If current assets and current liabilities are mixed together, data would be confusing.

Interpretation means drawing conclusions from the data and explaining the conclusions in a simple language, easy to understand and plan further course of action. **Analysis and interpretation are complementary to each other.**

Interpretation is not possible without analysis. Analysis is of no use unless followed by interpretation.

- (F) Communicates:** Communication is the final product of accounting. Financial statements i.e. Profit and Loss account and Balance Sheet are the means of communication.

Financial Statements are vital as they are public documents, available for every one to read, if the firm is a joint stock company.

Accounting reports, normally in the form of accounting ratios, graphs, diagrams, funds flow statement are the additional information, which are made available to management for decision-making. Modern management wants the data in a simple form, easy to understand and ready to act, immediately. Even the modern management wants cooked food, just like our students!

1.6 USERS OF ACCOUNTING

There are several end users of accounting. Apart from the people who are at the helm of the affairs of the institution, there are many interested parties in the financial statements.

The advantages depend on the users as their purposes are different.

- (A) **Creditors:** A number of suppliers make supplies on credit. Creditors are interested to know whether they would get their dues, as assured by the firm. Firm may promise for early payment. Analysis of the financial accounts of the previous year may reveal the abnormal delay in the payments schedule. Once the past picture is known from the analysis of accounts, no creditor would place reliance just on words for making supplies.
- (B) **Shareholders:** In case of joint stock company, shareholders know the financial results of the company only through the annual statements, sent by the company to them. From the newspaper reports too, they know the results as periodical publication of the results has been made mandatory, now. If the firm is a proprietary business, the proprietor alone is interested to know its profitability and financial health. In case of a joint stock company, the shareholders are providers of capital, who assume the role of a proprietor. Instead of one proprietor, there are several proprietors, who are interested about the return for their money invested.
- (C) **Government:** Government is interested to know the amount of tax it can collect, based on the financial statements of the organisations. Required financial data can be collected for compiling statistics.
- (D) **Investors:** Those who are interested to invest their money can make their decisions based on the study of the financial statements. Potential shareholders take lot of interest in the financial statements for their decisions in investing. Even the financial magazines as well as brokers read and analyse the financial statements to forecast and provide required guidance to their readers and clients, respectively, suitably.
- (E) **Lenders:** Those who want to lend money, financial institutions or banks, are interested to read to make their decisions, before lending. After lending, they would be able to assure themselves about the safety of the funds, after a careful analysis of the statements.
- (F) **Management:** Management is the basic user of accounts. They understand the financial results and position of the firm from the accounts. They are interested in every aspect of accounting as their uses are diverse for different purposes.

The financial data serves the interests of different persons concerned in different manner, as their objectives are different.

In order to serve the interests of the different parties, interested in the accounting information, different branches of accounting have developed.

1.7 SCOPE/BRANCHES OF ACCOUNTING

The different branches of accounting are:

- (i) **Financial Accounting:** Financial accounting is the original form of accounting. It is mainly limited to the preparation of financial statements i.e. Profit and Loss Account and Balance Sheet. Here, the preparation is made on historical basis i.e. after the happening of the event.

All the persons who deal with the joint stock company want to know information about the financial health of the company.

Profit and Loss account provides information how the business has been conducted and final position about the profit or loss of the firm for a specified period. Balance sheet shows the financial position of the firm on a particular date.

- (ii) **Cost Accounting:** Cost Accounting has developed on account of the limitations of the Financial Accounting.

Cost Accounting is, basically, concerned with the estimation of costs, in advance, and their subsequent detailed analysis for the purpose of control.

Management is interested to know the costs of the different products they make for the purpose of determining the price. Secondly, management has to take suitable decision, when they receive a special order at a lower price than the current market price, for acceptance or rejection. When resources are scarce, every one is interested to use the resources and manufacture that product, in priority, which gives them more profits than other products.

Cost accounting helps the management in achieving the profits they plan to achieve.

- (iii) **Management Accounting:** Management Accounting is accounting for the Management. Management wants information to discharge its functions in forecasting, budgeting, control over costs and strategy formation.

Persons engaged in management are not always familiar with accounts. Management Accounting helps them in the creation of the policy. Further, Management Accounting assists them with the supply of relevant information, at appropriate time, for decision-making and exercise effective control on the operations of the undertaking.

Management accounting is a branch of accounting, which furnishes useful data to the management in carrying out the various functions such as planning, decision-making and controlling the activities of the business enterprise. Accounting information is presented in an easy and ready to understand manner to the management. Here, the emphasis is on application of accounting techniques in planning and controlling the activities of the business enterprise and assisting the management in decision-making.

1.8 SYSTEMS OF ACCOUNTING

There are two systems of accounting for recording transactions—Single Entry System and Double Entry System. This is one type of classification.

(A) **Single Entry System:** Single entry system sounds economical, but it is, really, costly. In fact, it is rather a lack of system. This system is adopted where the business is run on cash basis only. It is not a scientific system and final accounts cannot be easily prepared on the basis of this system. Small businesses and organisations that do not require ascertainment of profit, follow this system.

(B) **Double Entry System:** The only real system is the double entry system.

Double Entry System recognises the fundamental factor that every transaction is double-sided affair.

According to this system, for every debit, there is a corresponding credit. This system is universally followed in accounting. On the basis of this system, accuracy of accounting can be maintained and arithmetical correctness can easily be established. Financial statements i.e. Profit and Loss Account and Balance Sheet are easily prepared, once the concern follows the double entry system of accounting.

Another type of classification is as under:

(A) **Cash System:** It is used where only cash transactions take place and the object of the concern is not to make profit.

In this system of accounting, entries are made only when cash is received.

No entry is made when receipt or payment is due.

In case of club, library, educational institute, religious trust etc., the objective of the concern is not to make profits. Only Cash Book is kept under this system.

Some professionals like doctors, lawyers and chartered accountants follow this system of accounting. It is interesting to know why these professionals follow it? With these professionals, there is no certainty of receipt. Once treatment is received and fee is not collected immediately, how many patients would remember the doctor (till the next ailment) to pay the fee, later? Even before the actual receipt, if books of accounts show the fee amount as income, tax has to be paid on the income not received. If the fee is not received

at all, tax would be paid on the income, not earned! One more point. Bad debts would be more, if the fee is not collected, immediately, after rendering the services. In these professions, it is better to recognise income only on actual cash receipt.

(B) Mercantile System of Accounting: In this system of accounting, accounting entries are made when payment or receipt is merely due. It is not necessary that the actual receipt or payment has to take place. For instance, when service is received and actual payment is not made, and books of accounts are to be closed for the year - end, payment due is recognised and recorded for the services received. To illustrate, repairs have been made for machinery. Bill is received, but not paid. Books of accounts are to be closed as the year has come to an end. Payment due for the services received is recorded, before the books are closed. In other words, repairs though not paid, are recognised as expense and liability is created. Even if the bill is not received, repairs are estimated and the relative amount is provided as expense. Similarly, when sale is made and sale proceeds are not received, amount due on sale is recorded as an asset and income is recognised. The idea is to record all the transactions as if they are completed in all aspects. The objective is to ascertain the correct profit position of the firm.

1.9 OBJECTIVES/ADVANTAGES OF ACCOUNTING

The following are the objectives of financial accounting:

1. To keep systematic records

Accounting is done to keep a systematic record of all the financial transactions. If they are not recorded, the transactions have to be remembered. It is not practically possible to remember and it is unnecessary strain to the human brain.

2. To ascertain the results of operations, that is, profit or loss

Business is conducted for making profits. Every business is interested to know the operational results of the efforts made.

Accounting helps in ascertaining the net profit earned or loss suffered on account of carrying on the business.

For the purpose, a statement called the Income Statement or the Profit and Loss Account is prepared. In this account, the revenues resulting from the transactions of the period and the consequent expenses incurred are recorded. A comparison of the two shows whether there has been a profit or loss. If revenue exceeds expenses, there is profit. On the other hand, if expenses exceed income, there is loss. It is necessary to know, periodically, to take corrective steps, in time. Accounting helps to provide the information about the operational results of the firm. In the absence of information, how action can be initiated at all?

Profit and loss statement is useful for the management, lenders, investors, the proprietor or the partners or the shareholders, tax authorities and workers, etc. For example, from its study, one can decide upon the possible courses of action, such as increasing the scale of production, introducing a new product, a revision in the selling price or the advertising policy, etc. Lenders can know, from a study of it, how their amounts have been utilised. Investors may decide on its basis whether or not they should keep their money invested in the firm. Shareholders can evaluate the efficiency, success, etc. of the management.

3. To ascertain the financial position of the business

For a businessman, it is not sufficient to ascertain profit or loss only. It is also necessary to know the financial health of the firm. For this purpose, a statement listing assets, liabilities and the owner's capital is prepared. Such a statement is called the Balance Sheet. Some people call it 'Position Statement'.

A doctor feels the pulse of a person and knows, *prima facie*, whether he is enjoying good health or not. In the same manner, by looking at the balance sheet, one can know whether the firm is solvent or not. If the assets exceed liabilities, it is solvent; in the reverse situation, it would be insolvent.

Balance Sheet serves as a barometer for ascertaining the financial health of a business.

4. To provide control and protect business assets

Accounting helps in knowing information and exercising control over the properties of the business and their proper utilisation. Accounting provides information to the manager or the proprietor regarding the following:

- (i) How much capital stands invested in the business on a particular date?
- (ii) What are the different forms of capital that has been raised?
- (iii) What is the cash balance in hand?
- (iv) How much balance is there in the bank?
- (v) What is the stock of goods (Raw materials, Work-in-progress and Finished goods) on hand?
- (vi) How much money is receivable from the customers?
- (vii) How much money is owing to the creditors?
- (viii) How much money stands invested in fixed assets?

The answers to the questions enable the firm to see that no moneys are kept idle or under utilized.

It is necessary for the business to protect and use the assets in an efficient manner to achieve the planned objectives.

It should be noted that the objectives stated above are those of financial accounting alone. The other branches of accounting—Cost Accounting and Management Accounting—have their own

objectives, which are of assistance to management in the functions of planning, control and making decisions.

5. To provide information to the tax authorities

Almost everyone who has income, above the prescribed limit, is liable to pay tax, be it Income Tax or Sales Tax. Tax authorities require regular, accurate and prompt returns, otherwise there may be penalties. Financial Accounting enables the firm to send the required returns, in time. In case, tax authorities levy more tax, business firm would be in a position to reduce the unnecessary tax liability, by showing the supporting accounting records.

6. To facilitate rational decision-making

Management can delegate any function, but not decision-making. Production, sales, purchase, finance, even research and development can be delegated.

Decision-making is the basic function of the management that cannot be delegated.

In the absence of accounts, there is no information about the past. In the absence of information, there is no basis for taking any decision and planning for future.

The following are the advantages of book-keeping and accounting:

Advantages of Book-keeping:

1. Trial balance can be prepared.
2. Errors can be revealed by the preparation of trial balance.

Advantages of Accounting:

1. A firm can know the exact profit or loss made by it in a particular period.
2. The reasons leading to profit or loss can also be ascertained.
3. The financial position of the business concern can be assessed.
4. The firm can know the amount due by debtors and amount due to creditors.
5. The efficiency/performance of the department/section can be ascertained.
6. The approximate cost of production of goods manufactured can be known.
7. Based on the financial results, it can decide which products are to be manufactured, which activities should be continued and which should be dropped.
8. Accounting is useful in submitting the statutory returns like Income Tax, Sales Tax, Commercial Tax etc., to the government in time.

1.10 LIMITATIONS

Accounting has many advantages, as stated above. Significant information is available from financial accounting such as profit earned or loss suffered during a particular period and the financial position at the end of a specified period. But, it has some limitations too. These limitations must be kept in mind when information provided by financial accounting is used. Some of the limitations arise from the fundamental principles, concepts and assumptions.

The limitations are as follows:

(i) Profit shown in Financial Accounting is not fully exact

Most of the transactions are recorded on actual basis such as sale or purchase or receipt and payment of cash. Some estimates have also to be made for ascertaining profit or loss. The estimates may relate to useful life of an asset, likely bad debts and the probable market price of the stock of goods.

In the absence of actual information, certain estimates have to be necessarily made in respect of expenditure incurred for which bills have not, yet, been received, before the closure of books of accounts etc.

People are bound to have different opinions in respect of such things and the estimates, naturally, differ from person to person. This may also lead to a different figure of profit or loss being shown by different persons. Thus, the profit figure cannot be treated as exact.

(ii) Financial Accounting does not indicate what the business will realise, if sold

It is not to be presumed that the balance sheet shows the amount of cash, which the firm may realise, by the sale of all the assets. This is because fixed assets are not meant for sale. They are purchased for the purpose of carrying on the business. They are meant for use to earn profit and are shown at cost less depreciation that has been written off. Once the fixed assets are sold, they may or may not realise the values shown in the balance sheet.

(iii) Financial Accounting does not tell the whole story

It is known that in the books of accounts only such transactions and events are recorded that can be expressed in terms of money. There are, however, many other important factors, which, though not recorded in the books of account, may make or mar the firm such as relations with workers, popularity of the goods produced, quality and caliber of the management, integrity, farsightedness etc. They are invisible, in value, and play a significant role in the success or failure of the company. Unless such factors are kept in mind, it would be very difficult to assess the future of the firm.

(iv) Accounting statements may be drawn up differently

Due to different methods being employed say for valuing closing stock; it is possible to arrive at different figures of profits and give different financial picture. There are different methods for providing depreciation, which is treated as expenditure in arriving at the profits of the company.

Different methods of treatment give different amounts of profit, even if the other factors are the same between two firms.

If one firm adopts straight-line method while the other adopts written down method for providing depreciation, the operational results of both the firms would be different, even though other factors are same. Also, in spite of the various principles, there have been attempts in the past to show a false financial position. This is chiefly done by deliberately entering wrong figures so as to either inflate profits or to deflate them. One should therefore, always apply some checks to establish whether or not the financial statements can be taken to be reasonably correct. It is better to get them audited. Audited accounts present a reliable picture.

(v) All assets are not shown in financial statements

Human resources are an important factor for the success of the concern. Devotion, sincerity and integrity of the employees are very valuable for any firm.

The most important asset, human resources, is not accounted in the balance sheet.

(vi) Manipulation

Accounting results are based upon the information supplied to it. If the management is biased, it may feed manipulated information to prove its point of view. Accountants can show the result of business, as desired by the owners of the business. This may be done by omitting certain amounts, under-estimating or over-estimating the value of the assets. For example, if machinery is debited to purchases accounts, profits of the business will be reduced. Accountants, at the instance of management, may manipulate accounts.

(vii) Impact of Inflation

Due to inflation, many of the figures appearing in the financial statements are out of date.

1.11 TERMINOLOGY OFTEN USED — SOME BASIC TERMS

The following terms are often used. For proper understanding, they are explained in an easy language.

- 1. Capital:** Capital is the amount, initially, invested while commencing the business. Capital need not be in the form of cash, alone. Capital can be introduced in the form of goods or any type of assets. Even after commencement of business, additional capital can be introduced. Additional capital is, normally, introduced for the purpose of expansion.

Profit in the business is added to capital. Loss made in business is reduced from capital. So, if the business is profitable, capital would be on increase, year after year. However, drawings may be made in the course of business. If the concern is sustaining continuous losses, capital would be on decrease, year after year.

The term 'Capital' is defined as the excess of assets over liabilities. Suppose, assets are Rs.1,00,000 and liabilities are Rs.40,000, capital is Rs.60,000 (Rs.1,00,000 – Rs.40,000).

Capital = Assets – Liabilities

Assuming, the firm has made a profit of Rs.20,000. After profits, the balance in the capital account is Rs.80,000 (Rs.60,000 + Rs.20,000).

2. **Drawings:** Drawings is the amount withdrawn from the business by the proprietor or partner in a partnership firm. Drawings can be, again, cash or goods.

Drawings are reduced from the capital amount. 'Drawings' reduces the balance in the capital account.

Comparison of capital between two periods is an indication whether the business is profitable or not, if there is no introduction of capital or withdrawal in the form of drawings, during the period of comparison.

3. **Turnover:** The total amount of sales during a particular period is called 'Turnover'. The turnover can be cash sales or credit sales or both.

4. **Discount:** The allowance or concession granted to a retailer by the wholesaler/dealer is called 'discount'. It is of two types:

(A) Trade discount (B) Cash discount

(A) **Trade discount:** Trade discount is allowed by a dealer to the retailer or buyer to induce him to buy more from him. Normally, the retailer is in the habit of buying say 50 or 100 pieces at the most, at one time. If the normal price of goods is Rs.100, the dealer may offer the retailer or buyer 10% if he buys say 200 pieces, at one time. Here, the trade discount is offered to him to lure him to buy more, at one time. The buyer may be tempted to buy more to take advantage of the trade discount, though such huge quantity may not be required to him, at one time, generally. **Trade discount is offered both on cash and credit sales.**

Invoice shows the list price or retail price. Where trade discount is allowed, the same is also shown in the invoice. Trade discount is allowed as a fixed % on the list price.

Net Price = List Price – Trade Discount

It is important to note that the net price is entered as sale value by the seller in the accounts. Equally, the net price is entered as purchase amount by the buyer in the accounts. **In other words, no entry is made for trade discount, separately, in books of accounts of the seller and buyer.** It has to be mentioned in the narration about the trade discount given on the list price.

(B) **Cash discount:** Cash discount is allowed by the seller to encourage the customer to make early payment, before the credit period expires. Suppose, a dealer has made a credit sale, offering one month period of credit. The buyer is within his total right to

make the payment on the last date of credit period allowed. So, the buyer can make the payment on 30th day from the date of purchase. To induce the buyer to pay before the expiry of credit period, seller may offer him 1% cash discount, if the payment is made within 15 days from the date of sale. So, here, the buyer can enjoy the cash discount by paying the seller on 15th day from the date of sale. If goods sold are Rs.500, buyer can pay only Rs.495, after enjoying the cash discount of Rs.5.

Entry for cash discount is, invariably, made in the accounts of the seller as well as buyer.

To the seller, it is ‘Discount allowed’, while the same is ‘Discount received’ for the buyer. Cash discount comes into picture as and when credit sales are made. There is no cash discount on cash purchases. Many students, it is observed during teaching, wrongly think that cash discount is allowed on cash sales. This is not the case. **Cash discount comes into picture as and when sales are made on credit.**

Cash discount and Trade discount may be allowed, simultaneously, in one transaction. Their purposes are different.

5. **Debtor or Book Debt:** The person to whom goods or services are sold on credit is called ‘Debtor’. The amount due from the debtor is called Book Debt. Another name is ‘Accounts Receivable’.
6. **Creditor:** The person from whom goods or services are purchased on credit, is called creditor till the payment due to him is made.
7. **Bad Debts:** Amount that cannot be recovered from a debtor is called ‘Bad Debt’. Bad debts result in reduction of profits of the firm. Bad debts are charged to the Profit and Loss account. In other words, bad debts are treated as an expenditure, as the amount due to be received would no longer be received.
8. **Transaction:** Transaction refers to exchange of goods and services, big or small, like purchase of machinery or pencil. The exchange of the dealing has to be expressed in terms of money. Transaction can be either for cash or on credit. If the payment is made immediate to the transaction, it is a cash transaction. If the payment is postponed or deferred for a future date, it is called a credit transaction.
9. **Voucher:** Voucher is a written document or paper containing the details of the transaction. The person who prepares the voucher, normally accountant, signs it. Person who verifies or checks the transaction also signs it, in token of its verification. Vouchers are important instruments for future reference. Voucher can be a debit voucher or credit voucher. Voucher is, normally, accompanied by the supporting documents as proof. For example, a voucher may be supported by the bill. Here, bill is the evidence of payment.
10. **Equity:** All claims against the assets of the firm are called as ‘Equity’. The claim of the outsiders is called ‘creditor’s equity’ or liabilities. The claim of the proprietor is called ‘owner’s equity’ or capital.

11. Assets: Assets are the properties owned by the firm. Examples of Assets are Building, Plant and Machinery, Debtors, Bills Receivable, Goodwill, Preliminary expenses etc.

Assets can be divided into two categories—fixed assets and current assets. Fixed assets are the assets owned by the firm for the purpose of conducting business, using the fixed assets. Examples are Building, Plant and Machinery etc. In the normal course, the firm does not sell them. Current assets are those assets, which are held by the firm for the purpose of carrying on business. Current assets, normally, change their form. Examples are Cash, Bank, Finished Goods, Debtors, Bills Receivable, Accrued income etc.

Whether an asset is a fixed asset or current asset depends on the nature of the business that is carried on. Normally, car is a fixed asset, say, to a wholesale cloth merchant. For a second hand car dealer, cars are meant for sale. So, they are current assets to him. It is necessary to know whether the asset is meant for sale or used for conducting the business. If the asset is meant for sale, it is a current asset. If the same asset is used in business to earn profits to that business, the same asset is a fixed asset.

12. Liabilities: Liabilities are the amounts that are payable. Advances or loans received have to be repaid. Till date of repayment, they are liabilities. Goods or services when bought on credit are shown as creditors, which are also liabilities.

Capital invested by proprietor or partner is also a liability as the business firm is independent from them, so far as accounting is concerned.

This is the reason why capital is shown on the liability side in the balance sheet. Capital, loan, outstanding expenses and bills payable are some of the examples of liabilities.

13. Debit: The entry made on the debit side of the account is called ‘Debit’. The abridged form is ‘Dr’.

14. Credit: The entry made on the credit side of the account is called ‘Credit’. The abridged form is ‘Cr’.

15. Entry: The record made in the books of accounts in respect of a transaction or an event is called an entry.

16. Books of Account: The registers or books maintained by any business firm or institution for recording the business transactions are called “Books of Account”.

Check Your Understanding

State whether the following statements are True or False

- (i) Joint stock companies, by law, have to keep the books of accounts to meet the requirements of Companies Act.
- (ii) Capital is decreased by profits and increased by losses.
- (iii) The chief objective of maintaining books of accounts is to ascertain the operational results and find the financial position of the organisation.

- (iv) The term 'Book-keeping' means recording the transactions and maintaining books of accounts in the prescribed manner, regularly, according to certain rules and regulations.
- (v) Accounting is a science as well as an art.
- (vi) Book-keeping and accounting are synonymous (inter-changeable) terms.
- (vii) Accounting records transactions, which are of financial character.
- (viii) Accounting is useful to record business transactions only.
- (ix) Income statement (Trading and Profit and Loss account) and Balance Sheet are prepared from the Trial Balance.
- (x) Transactions that cannot be expressed in terms of money are also recorded in accounting books.
- (xi) Balance Sheet serves as a barometer for ascertaining the financial health of a business.
- (xii) Financial statements of a joint stock company are not accessible to the public.
- (xiii) Analysis and interpretation of financial statements are complementary to each other.

Answers

(i) True (ii) False (iii) True (iv) True (v) True (vi) False (vii) True (viii) False (ix) True (x) False (xi) True (xii) False (xiii) True

Q: Point out the correct equation

- | | |
|------------------------------------|------------------------------------|
| (a) Assets = Liabilities – Capital | (b) Assets = Liabilities + Capital |
| (c) Liabilities = Assets + Capital | (d) Capital = Assets + Liabilities |

Ans. (b)

Pick up the Most Appropriate

1. The prime function of book-keeping is to:
 - (a) Record economic transactions.
 - (b) Provide information for action.
 - (c) Classifying and recording business transactions.
 - (d) Attain non-economic goals.
2. The following is the original form of accounting:

(a) Financial Accounting	(b) Cost Accounting
(c) Management Accounting	(d) Inflation Accounting
3. This system is universally followed in accounting:

(a) Single Entry System	(b) Double Entry System
(c) Cash Accounting	(d) Cost Accounting

Answers

1. (c) 2. (a) 3. (b) 4. (a) 5. (a) 6. (d) 7. (b) 8. (c)

Recall your Memory

1. Book-keeping is a part of accounting.
 2. Accounting is an exact science.
 3. Approach for subjects “Accounting” and “Accounting for Managers” is one and the same.
 4. There has been mention of Accounting in ‘Arthashastra’ written by Chanakya.
 5. Amount owed to outsiders (excluding the proprietor) is called ‘Capital’.
 6. Comparison of capital between two periods is an indication whether the business is profitable or not, if there is no introduction of capital or withdrawal in the form of drawings during the period of comparison.
 7. Trade discount is allowed only on cash sales and not on credit sales.

8. Cash discount and trade discount are not allowed, simultaneously, in one transaction.
9. Total assets minus capital is equal to liabilities.
10. An increase in assets is necessarily due to profits.
11. 'Drawings' reduces capital.
12. Liabilities are decreased by losses and increased by profit.

Answers

1. True
2. False
3. False
4. True
5. False
6. True
7. False
8. False
9. True
10. False
11. True
12. False

Objective Questions

1. Detail the origin of 'Accounting'. Do you consider that accounting is needed only for business? Is there any change in the approach towards accounting in the modern era? **(1.1 and 1.2)**
2. Why accounting is said to be the language of business? **(1.2)**
3. Define Accounting? How the functions Accounting differ from Book-keeping? **(1.5 and 1.3)**
4. "Accountancy starts where Book-keeping ends" - Explain? **(1.3)**
5. Define and explain 'Accounting'? **(1.5)**
6. Describe the different branches of Accounting? **(1.7)**
7. Accountancy is Science or Art? Explain with reasons? **(1.4)**
8. Explain the various systems of Accounting? **(1.8)**
9. Distinguish between Book-keeping and Accounting? **(1.3)**
10. Write a brief note about 'Accounting' and on different users of accounting? **(1.3 and 1.6)**
11. What are the objectives/advantages of accounting? **(1.9)**
12. Are there any limitations to accounting? **(1.10)**
13. "A doctor feels the pulse of a person and knows whether he is enjoying good health or not. In the same manner, by looking at the balance sheet, one can know whether the firm is solvent or not" – In the light of this statement, detail the objectives of Accounting? **(1.2 and 1.9)**
14. Write briefly on the following:
 - (D) Difference between Trade Discount and Cash Discount
 - (E) Capital
 - (F) Drawings
 - (G) Bad debts
 - (H) Debtors and Assets
 - (I) Creditors and Liabilities **(1.11)**

Interview Questions

Q.1. How Mercantile system of accounting is different from cash accounting?

Ans. In mercantile system of accounting, all expenses and incomes are provided and recorded in books of accounts, irrespective of their actual payment and receipt. If the expenditure is due, it is provided. Similarly, if the right to receive has arisen for the amount, the amount is recognised as revenue. In cash accounting, only actual cash payments and receipts are recorded.

Q.2. What is the purpose of Accounting?

Ans. The basic objectives of accounting are to find out the operational results (Profit or Loss) and financial position of the organisation. Through accounting, the required records are maintained to achieve the above objectives.

Accounting is done to keep a systematic record of all the financial transactions. It is not virtually possible to remember all financial transactions.

Many think the role of accounting is limited to record transactions in books of accounts. With the pace of computerisation, the role of accounting for recording the transactions has diminished. Importance of analysis of accounts, along with control and achievement of the objectives of the firm has occupied more importance.

Now a days, the combined role of accounting and finance has assumed more importance than the individual role of accounting.



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CHAPTER
2

Generally Accepted Accounting Principles

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2.1 INTRODUCTION

Accounting is the language of business. When we speak in any language, our intention is our ideas are to be understood by others. Language can be understood only when words used by us convey the same meaning to the listener. Both the speaker and listener should mean the same for the words used. Equally, every language has grammar of its own. When we write or speak, we follow the principles of grammar. Similar is the case with accounting.

Most of the activities, be it official, social or personal, are guided by a set of certain rules or conventions. Some of the conventions are as follows:

- ◆ In India, we always drive on the left hand side of the road.
- ◆ Overtaking the vehicle, either two-wheeler or four-wheeler, is to be made on the right side, alone.
- ◆ As a citizen of India, we are guided by certain rules and regulations.
- ◆ Also as a citizen, we are supposed to obey the law of this country and so on.

While preparing the accounts, the accountant is often faced with the problem as to how exactly a transaction or event is to be recorded in the books of accounts and shown in the Profit and Loss account and Balance Sheet. There are differences of views on many matters. However, accountants have come to an agreement about some fundamental principles, concepts and conventions. These are always kept in mind when an accounting transaction is recorded.

2.2 NEED OF ACCOUNTING PRINCIPLES

In the olden days, the common form of business has been sole proprietor or partnership firm. It has been sufficient, if they have understood the accounting records. Their financial statements are personal and confidential character, which are not shared as public documents. In the case of joint stock companies, the financial statements are public documents. In modern days, joint stock companies, be it private limited or public limited, has become the normal form of business. There are several parties interested in their financial statements ranging from shareholders, creditors, employees and Government to potential investors. If every business follows its own accounting practices, the final accounts may not be understandable to all such parties in a similar and uniform manner. Unless the accounting transactions are recorded according to certain definite principles, it becomes difficult to maintain uniformity of understanding. Hence, a definite need has been felt to follow uniform accounting principles from the stage of recording the transactions to the stage of preparing financial statements.

Accounting principles are the rules based on assumptions, customs, usages and traditions for recording transactions.

2.3 GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

Transactions are recorded in accounts, following certain fundamentals, concepts and conventions, which are called as Generally Accepted Accounting Principles.

Accounting principles may be defined as those rules of action or conduct, which are adopted by the accountants, universally, while recording the transactions.

The chief objective behind the accounting principles is that the accounting statements should be both reliable and informative. This objective can be achieved when there is certain common agreement and compliance about the accounting principles.

Every profession has developed its own jargon and vocabulary. Like all other professions, accounting has also developed its own concepts and conventions. These concepts and conventions have been evolved after centuries of experimentation and their use have, now, become accepted principles.

“Accounting” is based on a number of rules or conventions, which have evolved over time.

These principles are known as generally accepted accounting principles.

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

They are, however, not rigid. They are subject to change. They have evolved in order to deal with practical problems experienced by a preparer and a user rather than to reflect some theoretical ideal.

Generally Accepted Accounting Principles (GAAP) is a term used to describe, broadly, the body of principles that governs the accounting for financial transactions underlying the preparation of a set of financial statements.

However, it should be mentioned, at the outset, that an application of many concepts does involve subjective judgment about the selection of methods available for choice, on the part of a person who is preparing the accounts. Depreciation can be provided on fixed assets, either on the basis of straight-line method or written down method. Both the methods are recognised. Same financial data, if different methods are applied, shows different financial results. This means that two different persons using the same source data could produce two entirely different sets of financial statements, with different operational results and financial position. There is no difference of opinion whether depreciation on fixed assets is to be provided or not. Here, the subjective judgment relates to selection of method of depreciation and not providing for depreciation on the fixed assets.

According to the American Institute of Certified Public Accountants (AICPA), the principles, which have substantial authoritative support, become a part of the generally accepted accounting principles.

Accounting principles are divided into two categories:

- (i) Accounting Concepts
- (ii) Accounting Conventions

2.4 CHARACTERISTICS OF ACCOUNTING PRINCIPLES

Accounting principles are accepted if they possess the following characteristics. The general acceptance of the accounting principles or practices depends upon how well they meet the following criteria:

1. Objectivity

Objectivity connotes reliability and trustworthiness. A principle is objective to the extent when the accounting information is not influenced by personal bias or judgment of those who provide it. This implies that accounting information is prepared and reported in a “neutral” way. In other words, it is not biased towards a particular user group or vested interest. It also implies verifiability, which means that there is some way of ascertaining the correctness of the information reported.

2. Application

Application of the principle must be possible. In case, the principle is only theoretical and has no practical utility or application, then the principle has no value.

3. Reliability

This implies that the accounting information that is presented is truthful, accurate, complete (nothing significant missed out) and capable of being verified (e.g. by a potential investor).

4. Feasibility

A principle is feasible to the extent it can be implemented without much complexity or cost.

5. Understandability

The accounting principle should be simple and easily understandable by all. This implies that the accounting information should be in such a way that it is easily understandable to users — who are generally assumed to have a reasonable knowledge of business and economic activities.

2.5 ACCOUNTING CONCEPTS

The term ‘Accounting Concept’ refers to assumptions and conditions on which the accounting is based. Basic assumptions of accounting can never be ignored.

Accounting concepts are necessary assumptions or conditions, which form a basis of accounting.

The different accounting concepts are discussed under the following heads:

1. Separate Entity Concept

According to this concept, business is considered as a separate entity, distinct from the persons who own it. This concept is also known as 'Business Entity Concept'. In other words, business is treated as a unit or entity apart from its owner, creditors and others. It may appear strange that a person can sell goods for himself. However, it would make sense once it is understood that the private affairs of the proprietor are to be made separate from the business. Let us take a practical example in our daily life. If the daughters of the proprietor take away the garments they like from their father's boutique shop and these transactions are not recorded with the reasoning that the business and proprietor are not different, what is the consequence? The year-end accounts show shortage of stock as they are not recorded, at all. Manager of the shop may be made accountable for the shortages shown. Business may show reduced profits or even loss due to the fancy habits of the daughters of the proprietor. Remember, the proprietor has more than one daughter and their habits are fancier too! For this reason, capital invested by proprietor/partner of a business is shown as capital, under the liability side. Consumption of garments is treated as personal withdrawal and those transactions may be recorded, at best, at their cost price. In the absence of such treatment, profit would be low and financial position is distorted.

Separate entity concept already exists, legally, in a joint stock company. Even in the sole proprietor and partnership firms, this concept of 'separate entity', though does not legally exist, is presumed to exist for accounting treatment.

This concept has now been extended for various divisions of a firm in order to ascertain the results of each division, separately.

Separate Entity Concept has given birth to the concept of 'Responsibility Accounting' for determining the operational results of each responsibility centre.

2. Money Measurement Concept

Accounting records only those transactions that can be expressed, in terms of money, though quantitative records are kept, additionally. If the events or transactions cannot be expressed in monetary value, however important they are, they are not recorded in accounts. Services of the finance manager and chief executive officer are very valuable and due to their significant contribution, the firm might have turned from its earlier loss making position into a profit-making firm. Their presence in the firm is valuable and their exit may be a serious bolt to its continued success. Though they are assets to the firm, in the real sense, but monetary measurement is not

possible so accounting books do not exhibit them. Qualities like workforce skill, morale, market-leadership, brand recognition, quality of management etc cannot be quantified in monetary terms and so not accounted for in books of accounts.

The money measurement concept increases the true understanding of the state of affairs of the business.

For example, if a business has a cash balance of Rs.20,000, plot of land 5,000 square metres, two air-conditioners, 1,000 kg of raw materials, 20 machines and 50 chairs and tables and so on, there is absence of money measurement concept. These different types of assets cannot be added to give useful information. One cannot assess the worth of the firm. But, if the same are expressed in terms of money in accounts – Rs.20,000 cash balance, Rs.2 lakhs of plot, Rs.40,000 of air-conditioners, Rs.2,52,000 of raw materials, Rs.4,60,000 of machines and Rs.2,35,000 of furniture (chairs and tables) – it is possible to add them and use them for any comparison and understanding the financial position of the firm. When the value of the assets is expressed in terms of money, precise information is available with intelligible financial picture and is more useful for any other purpose.

3. Dual Aspect Concept

This is the basic concept of accounting. As per this concept, for every debit, there is a corresponding credit. In other words, when a transaction is recorded, debit amount has to be equal to the credit amount. This is also known as ‘Double Entry Principle’. No transaction is complete without double aspect.

When a new business is started with a capital of Rs. one lakh, the position is expressed as under:

$$\begin{array}{rcl} \text{Capital (Equities)} & = & \text{Cash (Assets)} \\ 1,00,000 & & = 1,00,000 \end{array}$$

The term ‘Assets’ denotes the resources owned by the business, while the term ‘Equities’ denotes the various claims of the parties against those assets.

Equities are of two types. They are owner’s equity and outsider’s equity. Owner’s equity (or capital) is the claim of owners against the assets of the business. Outsider’s equity (or liabilities) is the claim of the outsiders such as creditors, loan providers and debenture-holders against the assets of the company.

Someone, either owner or outsider, has a claim against the assets of the business. So, the total value of the assets is equal to the total value of capital and liabilities.

$$\text{Equities} = \text{Assets}$$

$$\text{Capital} + \text{Liabilities} = \text{Assets}$$

In the above situation, if an outsider (creditor) has supplied machinery for Rs.50,000 on credit, the situation would appear as follows:

Capital Rs.1,00,000 + Creditors Rs.50,000 = Cash Rs.1,00,000 + Machinery Rs.50,000

If the business has acquired an asset, the source could be any one of the following:

- (a) New asset is in place of an asset given up; or
- (b) Liability has been created for its acquisition; or
- (c) There has been profit to purchase; or
- (d) The proprietor has contributed more capital to finance.

Similarly, if there is an increase in liability, there must have been an increase in assets. Alternatively, loss would have reduced the capital, to that extent, with a similar reduction in assets.

Thus, at any time

$$\text{Assets} = \text{Capital} + \text{Liabilities}$$

$$\text{Capital} = \text{Assets} - \text{Liabilities}$$

The above is known as ‘Accounting Equation’. This would indicate that the owner’s share is always equal to the left out assets, after paying off the outsiders.

The term ‘Accounting Equation’ is used to denote the relationship of equities to assets.

The above concept establishes the arithmetical accuracy of the accounts and enables detection of the errors in accounting and provides a strict watch on the activities of the employees.

4. Going Concern Concept

The underlying idea of this concept is that the business would continue for a fairly long period to come. Accounting transactions are recorded from this point of view. On account of this concept, accountant does not take into account the market value of the fixed asset (forced value of asset, as if business would be liquidated) for preparing balance sheet. Depreciation is charged on the original cost of the fixed assets on the basis of the expected lives, considering that the business would continue, in future, at least for a reasonable period, at least sufficient to the life of the assets. At the time of preparing the final accounts, we take into consideration the outstanding expenses and prepaid expenses on the presumption that the business will continue in future too.

It is to be noted that the ‘Going Concern Concept’ does not imply permanent continuation of the enterprise, indefinitely.

It rather presumes that the enterprise will continue in operation long enough that the cost of the fixed assets would be charged over the usual lives of the assets. Moreover, the concept applies to the business, as a whole. Even if a branch or division of the business were closed, ability of the business to continue would not be affected.

5. Cost Concept

Cost concept is closely related to the ‘Going Concern Concept’. Cost is the basis for all accounting in respect of fixed assets. If a plot of land is purchased at Rs.1,00,000, it has to be shown at

that amount, even though the subsequent market price becomes Rs. 1,50,000. In other words, the subsequent changes in the market price are ignored. Even if the price falls to Rs. 80,000, the fall is equally ignored in respect of fixed assets.

Cost concept brings the advantage of objectivity in the preparation and presentation of financial statements. In the absence of this concept, accounting records would have depended on the subjective views of the persons.

It does not mean that the fixed assets are valued at the historic cost, original price at which they are acquired, for all the years. At the time of purchase, they are recorded at the original cost and later depreciation is charged, based on the original cost. For presentation in the Balance Sheet, depreciation is deducted from the original cost and net value is shown on the assets side. Thus, the fixed asset depreciates during the economic life of the asset and, finally, is sold as scrap.

Cost concept is applied to fixed assets only. Current assets are not affected by this concept.

However, cost concept is largely becoming irrelevant due to continued inflationary tendencies. This is the growing reason for inflation accounting.

6. Accounting Period Concept

According to the ‘Going Concern Concept’, every business would exist for a longer duration. That longer duration is divided into appropriate segments or periods for studying the results shown by the business for each period.

After each period, it is necessary to ‘stop’ and ‘see back’ how things have been going. So, it is necessary to maintain accounts with reference to a specific period.

The specific period is normally one year. This time interval is called ‘accounting period’.

At the end of each accounting year, Profit and Loss Account and Balance Sheet are prepared. Profit and Loss Accounts shows the financial results, while Balance Sheet shows the financial position. When making comparison, the accounting period should be similar. In other words, results of one year cannot be compared with the results of another period where the period has been only six months. Suitable adjustments are to be made before comparison of results of different periods for proper evaluation and conclusion.

7. Matching Concept—Periodic Matching of Costs and Revenues Concept

This concept is also known as ‘Matching Concept’. The main motto of every business is to make maximum profits, at the earliest. Hence, every one tries to find out the cost and revenue during a particular accounting period and compare the financial results with preceding year to find out whether the business is progressing or going down. Unless the costs are associated

properly with the revenues of the corresponding period, misleading results would appear. It is necessary to match the revenues with the costs of that particular period to know the profit or loss during that period. For example, if a salesman is to be paid commission for the sales made, for comparison of sales, it is immaterial whether the commission is paid or not. If sales are made in the month of March (year 2006-07) and commission, in cash, is paid in the subsequent month, April (year 2007-08), it is necessary to make provision for the commission in the year 2006-07 for proper comparison of the net profits.

Efforts and accomplishments are to be matched for proper presentation of operational results.

Excess of accomplishments over efforts is called profits. On account of this concept, adjustments for prepaid expenses, outstanding expenses, accrued income and unearned income have to be made, while preparing the accounts, at the end of the year, for proper comparison of profits of different years.

Matching concept requires suitable adjustment for deferred expenditure. What is meant by deferred expenditure? Deferred expenditure is that amount of expenditure that has been incurred but not charged to profit and loss account and postponed for charging against a future period. The argument is the benefit of the expenditure would last over the future period. Deferred expenditure is amortized on the basis of this matching concept. Relying on this concept, the deferred expenditure would be charged against the future incomes of the business. The classical example is Research & Development expenditure. Benefit of R & D expenditure would last for a considerable period. So, it is appropriate to charge the expenditure over the future period, spread in installments. The underlying idea is that the benefit of income should bear the share of expenditure as future income is the consequence of the expenditure incurred, in the past. So, the expenditure is matched to the income period.

8. Realisation Concept

According to this concept, profit is recognised as and when realised. Now, the important issue is, what the actual point of sale is and when profit is deemed to have been accrued?

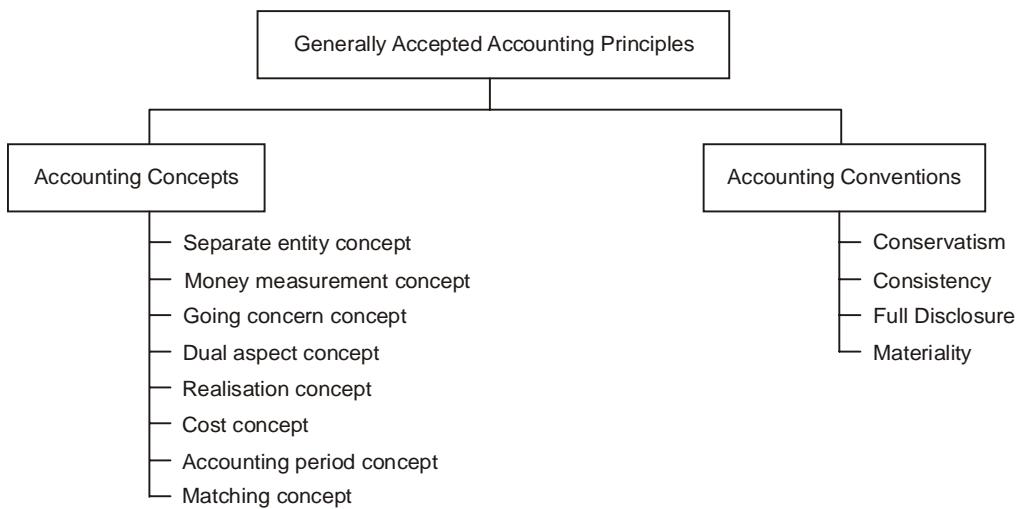
Sale is deemed to have taken place, when the title to the property or goods passes from the seller to the buyer.

To make the point clear, let us take a small example. Radhi & Co, a boutique shop owner has placed an order with Dheera & Co for supply of ready-made garments. On receiving the order, Dheera & Co has purchased the required cloth, engaged labour and started manufacturing too. As per the terms of the agreement, Dheera & Co has received advance too from Radhi & Co, before execution of the order. Now, the issue is what is the actual time of sale? Is it at the time of receiving the order, time of receiving the advance, placing the order for supply of cloth and engaging the labour? The actual time of sale is when the goods are delivered by Dheera & Co to Radhi & Co. Till such time, no profit can be recognised.

Time of transfer of property is material as that point determines the time of recognition of Profit.

However, there are two exceptions to the above rule:

- (A) In case of hire purchase sale, ownership of goods passes from the seller to the buyer only when the last installment is paid. This is from the legal view point. However, sales are presumed to have been made to the extent of the installment received and installment outstanding (i.e. installment is due, but not received). In other words, profit is recognised by the seller on installments received and due, without waiting for the receipt of last installment. The later is accounting view-point for recognition of profits. Reason is simple. Otherwise, there would be no profit, till the last installment period.
- (B) In case of contract accounts, the contractor may be liable to pay only when the whole work is completed as per the terms of the contract. However, profit is recognised on the completed work, certified by the proper agency, year after year, for the purpose of accounting.



2.6 ACCOUNTING CONVENTIONS

By Accounting Conventions, we mean usages and customs of accounting. Customs or usage is a practice, which is in vogue, since long. We mostly use these conventions in preparing the final accounts, as they are useful for better understanding.

Accounting conventions are the customs and traditions, which guide us in preparing accounting statements.

Types of Accounting Conventions

1. Conservatism

'Playing safe' is the main idea underlying this convention. In the initial stages of accounting, not actual profits, but, even anticipated profits have been recorded. But, the anticipated profits have not materialised. This has shaken the confidence in accounting.

In consequence, Accounting has started to follow the rule "anticipate no profit and provide for all possible losses". For example, closing stock is valued at cost price or market price, whichever is lower. The effect of the above is that in case, market price comes down, then the 'anticipated loss' is to be provided for. But, if the market price goes up, then the 'anticipated profits' is to be ignored. When lower of the two is taken into account for valuation of closing stock, no anticipated profit is booked, but all possible loss is taken care of.

This concept emphasises that profit should never be overstated or anticipated.

Concept of conservatism is otherwise known as 'Prudence'. Conservative concept, more than any other, has given rise to the idea that accountants are pessimistic and boring people!!

Basically, the concept says that whenever there are two equally acceptable methods, the one, which is more conservative, will be accepted. When a judgment is based on general estimates, if there is a dilemma as to which is correct, the most conservative estimate will be accepted. When there is a probability of getting profit or loss, profit will be ignored, but loss will be taken into account.

If an optimistic view of profits is taken, then dividends may be paid out of profits that have not been earned.

Critics point out that conservation to an excess degree results in the creation of secret reserve. Even, prudence does not justify the creation of secret reserves. Creation of secret reserves is not allowed. If allowed, it provides an opportunity to the management to cover their inefficiencies from the secret reserves so created. So, Creation of secret reserves is also quite contrary to the doctrine of disclosure. 'Conservatism Concept' needs to be applied with more caution so that operational results are not distorted. This concept, principally, applies to the current assets.

2. Consistency

Consistency is a fundamental assumption of accounting. It is presumed, unless otherwise stated, Accounting Practices are unchanged, year after year. If the accounting practices are changed, the fact is to be mentioned and its impact is to be quantified.

If closing stock is valued at cost or market price, whichever is lower, the same principle is to be applied, every year. Similarly, if the fixed assets are depreciated according to the diminishing balance method, the same method is to be consistently followed. Following diminishing balance method for one year and straight-line method for the next year would distort the results. It does not mean ignoring change for betterment. The important point is departure for better techniques are allowed, but the effect of change has to be arrived at and specified. Otherwise, comparison

would give misleading results. So, if the valuation of closing stock is changed from the earlier stated one (cost or market price, whichever is lower) to the valuation based on the market price alone, then in the year of change, the change has to be stated and, equally, the impact of change, in terms of profits, is to be quantified in ‘Notes to Accounts’.

Once a firm has chosen a particular method of accounting, it should adhere to that method in the future, so as to allow for the most meaningful comparisons on a year-by-year basis.

However, consistency does not mean inflexibility. However, when there are compelling reasons for a change, that change should be reported. If adoption of a change results in inflating or deflating the profit figures and financial position, compared to the previous year, a suitable note about the impact of change on operational results and financial position has to be given in the ‘Notes to the Accounts’ of the financial statements.

Where accounting policies are changed, companies are required to disclose this fact and explain the impact of any change.

3. Materiality

‘Materiality’ refers to the relative importance of an item or event. This convention emphasises that all material facts should be recorded in accounting. Accountant should attach importance to material details and ignore insignificant details. While sending a statement of account to the debtor, the exact amount receivable from the concerned debtor is to be shown. However, when the summary of debtors is presented to the top management, the individual debtors are rounded to the nearest thousand. Here, management is not interested to know the minute details to the last rupee. The Companies Act permits preparation of financial statements to the nearest rupee. Similarly, even the income-tax payable is rounded to the nearest rupee.

The question what constitutes a ‘material detail’ is left to the discretion of the accountants. An accountant should make an objective distinction between material and immaterial information.

Materiality is defined in the International Accounting Standards Board’s “Framework for the Preparation and Presentation of Financial Statements” in the following terms:

“Information is material, if its omission or misstatement could influence the economic decision taken on the basis of the financial statements. Materiality depends on the size of the item or error judged in the particular circumstances of its omission or misstatement. Thus, materiality provides a threshold or cut-off point rather than being a primary qualitative characteristic which information must have, if it is to be useful”.

Those who make accounting decisions continually confront the need to make judgments regarding materiality. Is this item large enough for users of the information to be influenced by it?

The accountant should regard an item material, if he has reason to believe that the knowledge of it would influence the decision. In other words, if the knowledge of information would have a bearing on the decision, then that information is material and is to be provided.

4. Full Disclosure

The Convention of ‘Disclosure’ means that all material facts must be disclosed in the financial statements. For example, in case of sundry debtors not only the total amount of sundry debtors should be disclosed, but also the amount of good and secured debtors, the amount of good, but unsecured debtors and amount of doubtful debts should be stated. Full disclosure does not mean disclosure of each and every piece of information.

Whether the information is required to be disclosed or not depends on the materiality of information. Materiality depends on the amount involved in relation to the group involved or profits.

The financial statements should be honestly prepared and sufficiently disclose information, which is of material interest to the present and potential creditors and investors.

According to section 211 of the Companies Act, not only the financial statements must disclose a true and fair view of the affairs of the company, but also should be prepared in the prescribed form as per the requirements of the Act.

Appending notes to accounts and providing information in the notes is a sufficient disclosure of information. ‘Notes to Accounts’ is provided below the balance sheet. Generally, information relating to contingent liabilities, market value of investments and other information required to be disclosed is mentioned in notes and providing information in this manner is considered sufficient compliance of law.

Check your Understanding

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

1. The chief objective behind the accounting principles is that the accounting statements should be both reliable and informative.
2. The term ‘Accounting Concept’ refers to assumptions and conditions on which accounting is based.
3. Financial statements of a Sole Proprietor or Partnership firm are open documents, available for inspection to the public.
4. Accounting principles may be defined as those rules of action or conduct, which are adopted by the accountants, universally, while recording the transactions in books of accounts.
5. Disclosure of contingent liabilities in the notes to accounts, not showing in the main accounts, does not comply disclosure convention.
6. Accounting concepts and accounting conventions convey the same.
7. Dual aspect is the basic concept of accounting.
8. The term ‘accounting equation’ is used to denote the relationship of equities to assets.
9. Equities are of two types—owner’s equity and outsider’s equity.
10. According to the ‘Going Concern Concept’, business would continue to run, indefinitely, beyond foreseeable future.
11. Cost concept is applicable to fixed assets as well as current assets.
12. Accounting conventions are the customs and traditions, which guide us in preparing accounting statements.

13. Conservatism concept emphasises that profit should never be overstated or anticipated.
14. Accountants follow the rule "anticipate no profit and provide for all possible losses".
15. The concept of 'Conservatism' is otherwise known as 'Prudence'.
16. If closing stock is valued, for a number of years, at cost or market price, whichever is lower, the same principle cannot be changed at all in later years.
17. The question what constitutes a material detail is left to the subjective judgment of the accountants.

Answers

1. True
2. True
3. False
4. True
5. False
6. False
7. True
8. True
9. True
10. False
11. False
12. True
13. True
14. True
15. True
16. False
17. True

(B) Pick up the most appropriate

1. Conservatism convention is applied for the valuation of

(i) Current assets	(ii) Fixed assets
(iii) Current assets and fixed assets	(iv) none
2. Cost concept is applied for the valuation of

(i) Current assets	(ii) Fixed assets
(iii) Current assets and fixed assets	(iv) none
3. The convention of conservatism, when applied to balance sheet, results in

(i) understatement of liabilities	(ii) overstatement of liabilities
(iii) understatement of assets	(iv) overstatement of assets
4. A manager asks the accountant to record the bitter relationship between the production manager and marketing manager, which has resulted in reduced profits. Accountant answers that this aspect cannot be recorded in accounts due to the following:

(i) consistency convention	(ii) money measurement concept
(iii) separate entity concept	(iv) disclosure convention
5. Proprietor inquires whether air-conditioner purchased for his residence can be accounted for in the accounts books of the business and he receives the reply from the accountant that such recording is a violation of

(i) cost concept	(ii) separate entity concept
(iii) materiality	(iv) realisation concept

Answers

1. (i)
2. (ii)
3. (iii)
4. (ii)
5. (ii)

(C) Match the following

1. Accounting period consists of	Capital
2. The qualitative aspect of the business is not recorded in the books of accounts according to the basic assumption of	Separate entity concept

3.	Treatment of capital in the books of the firm as liability observes the accounting assumption of	12 months
4.	A sale is recorded as soon as agreement is made, which is a violation	Money measurement
5. of accounting can never be ignored	Materiality
6.	Disclosing important information in accounting observes the principles of	Realisation concept
7.	Assets – Liabilities =	Basic assumptions

Answers

1. 12 months 2. Money measurement 3. Separate entity concept 4. Realisation concept
 5. Basic assumptions 6. Materiality 8. Capital

(D) Point out the incorrect equation

- | | |
|------------------------------------|------------------------------------|
| (a) Assets = Liabilities + Capital | (b) Assets = Capital + Liabilities |
| (c) Liabilities = Assets + Capital | (d) Capital = Assets – Liabilities |

Ans. (c)

Descriptive Questions

- What is meant by "Generally Accepted Accounting Principles"? Describe the characteristics the Accounting Principles should have for uniform acceptance. **(2.3)**
- Explain the need of 'Accounting Principles'. Discuss briefly the Accounting Concepts and Conventions. Name any three each in both the categories and detail. **(2.2, 2.5 and 2.6)**
- What do you understand by the term "Accounting Concepts"? Detail the Accounting Concepts. **(2.5)**
- Explain the meaning of the term "Accounting Convention" and give a detailed presentation about the accounting conventions. **(2.6)**
- Write about accounting principles and explain their importance in recording the financial transactions. **(2.2 and 2.3)**
- What is meant by 'Generally Accepted Accounting Principles'? Describe characteristics of the accounting principles. **(2.2 and 2.4)**

Interview Questions

Q.1. Complete the following sentences:

business entity - dual aspect - business entity - realisation - going concern - prudence - consistency - cost - accruals - money measurement - materiality - prudence

If a firm believes that some of its debtors may "default", it should act on this by making sure that all possible losses are recorded in the books. This is an example of the (1) convention in operation.

The fact that a business is separate and distinguishable from its owner is best exemplified by the (2) concept.

Everything a firm owns, it also owes out to somebody. This co-incidence is explained by the (3) concept.

If a cashier buys a cash book to record accounts of the firm, he would not try to account for every single sheet of paper in the book because of the (4) convention.

The (5) convention states that if (say) the straight-line method of depreciation is used in one year, then it should also be used next year.

A firm may hold stock, which is heavily in demand. Consequently the market value of this stock may be increasing. Normal accounting procedure is to ignore this because of the (6) concept.

If we receive an order for goods, we would not include the value of it in our sales figures (yet) owing to the (7) concept.

A business makes a loss for the second year running, but the (8) concept tells us that it will carry on trading unless we are notified to the contrary.

Profit calculation is based on expenses incurred during the period rather than those paid. This statement effectively describes the (9) concept.

The management of "Sharma & Co" are remarkably incompetent, but the firm's accountants cannot take this into account when preparing the books because of the (10) concept.

The research and development section of "Kishore Ltd" however is doing so well that they anticipate a huge jump in sales next year. The accountants cannot increase the book value of the patents held though, because of the (11) convention.

The book-keeper for "Dheera Tiles" would only be concerned with the total value of her drawings, not with how she had spent it because of the concept.

Ans. 1. prudence 2. business entity 3. dual aspect 4. materiality 5. consistency 6. cost 7. realisation
8. going concern 9. accruals 10. money measurement 11. prudence 12. business entity

Q.2. The first years' profit of Cherry Bicycles was reported as Rs. 25,600. After this figure was reported, it became known that shop equipment with a cost price of Rs. 6,000 had been entered in full as an expense. The equipment was estimated to last for five years, after which it would be worthless. Fill the gaps in the following:

The amount that should have been charged as an expense to this year is (i) Rs. , giving a corrected profit figure of (ii) Rs. The relevant concept that should be applied here is the (iii) concept.

Ans. (i) 1,200 (ii) 30,400 (iii) going concern

Q.3. The chairman of Sandhya Components Ltd reports a profit of Rs. 78,000 for the year. This includes an amount of Rs. 5,000 relating to an order just received. Fill the gaps:

The real profit is (i) Rs. because we should apply the (ii) concept.

Ans. (i) Rs. 73,000 (ii) Realisation

Q.4. During the year, Radhi has taken home some garments from her boutique, in order to wear it herself. She has included the cost of this stock (Rs. 1,200) as a business expense when calculating the profits as Rs. 28,800. Fill the gaps:

The (i) concept applies here and the profit figure should be (ii) Rs.

Ans. (i) Business/separate entity (ii) Rs. 30,000

Q.5. Link the following:

1.	Based on assumptions and conditions	Money measurement concept
2.	Expressed in terms of money	Accounting concept
3.	Based on customs and traditions	Double entry principle
4.	Playing safe	Accounting convention
5.	Dual aspect concept	Accounting equation
6.	Equities = Assets	Materiality
7.	Reduction of capital	Cost concept
8.	Fixed assets	Conservatism
9.	Small and ignorable amount	Loss incurred by the firm

Ans. 1. Accounting concept 2. Money measurement concept 3. Accounting convention 4. Conservatism 5. Double entry principle 6. Accounting equation 7. Loss incurred by the firm 8. Cost Concept 9. Materiality

Q.6. A public limited company has been providing depreciation on its fixed assets by written down value method, since long. Now, the company wants to change the method of providing depreciation from WDV method to Straight line method. Is the change of method allowed and if so, how?

Ans. The company can change the method of providing depreciation from WDV method to straight line method. If it decides to change the method of providing depreciation, it has to quantify the effect of change on its operational results. In other words, it has to specify by what amount its profit has been increased or reduced by the changed method. This information has to be, specifically, quantified and stated in 'Notes to Accounts'.

Q.7. What is meant by 'Notes to Accounts'?

Ans. 'Notes to Accounts' are additional information provided below the financial statements. The notes give further details on the numbers given in the accounts. Matters, which have bearing on the financial results, are stated with their impact, quantified, wherever possible in 'Notes to Accounts'. This would enable the reader to understand the financial results and position in a proper perspective.

Q.8. What is the significance of 'Notes to Accounts'?

Ans. One has to read the financial statements along with the notes to accounts. In other words, notes to accounts are an integral part of financial statements. Investors who rely on the main body of the accounts and ignore the notes are likely to find themselves misled. The accounts are not complete without the Notes to Accounts.

Q.9. A private limited company has been valuing its closing stock, adopting the principle of 'cost or market price, whichever is lower', all the years. All the years, the cost has been lower. In the current year, the market price is lower than the cost. If the company values the stock on the basis of market price, changing from the earlier cost to market price, what accounting principle is violated? Do you feel any need to state in 'Notes to Accounts', if so, in what way?

Ans. There is no violation of any accounting principle. The company has been adopting the principle of 'cost or market price, whichever is lower' for valuation of closing stock. The principle of consistency is followed. There is no inconsistency here as the shift from cost price to market price is merely the application of the principle. Only the circumstances have changed. The application is followed, consistently.

Nothing is to be stated in 'Notes to Accounts'.

Q.10. Often we hear, 'Playing Safe' is the practice of accountants. What does it mean?

Ans. The accounting convention – convention of conservatism is also called 'Playing Safe'. According to this accounting policy, accounts should take into consideration all possible losses but not prospective profits. For this reason, providing for all losses and not accounting for profits is termed as 'Playing safe'.

The principle of conservatism is, generally, applied when there are two acceptable methods. The method that is more conservative is adopted. Similarly, when a judgment is based on estimates and there is a dilemma as to which one is correct, the most conservative one is accepted. For this reason, accountants are termed, at times, as pessimists.

Q.11. In one of the annual general meetings, a shareholder has raised the issue that some of the expenses are clubbed with other expenses. A reply has been given that some small amounts of expenditure, whose heads are not significant and important are clubbed. The management has stated that the financial statements disclose all the items which are '.....'. To which accounting principle, the reply is referred to? Explain the significance of the concept, discussed.

Ans. The reference is related to the convention of "Materiality". Materiality is a relative phenomenon. An item material for one concern may not be material to another concern or for another year. So, clubbing of insignificant items of expenditure is not a material.

An accountant should be able to make an objective distinction between material and immaterial information.

If there is sufficient disclosure and materiality is followed, there is no violation of any accounting principle.



CHAPTER
3

Double Entry Principles and Journal

- Introduction
- Double Entry System
 - Accounting Equation
- Rules of Debit and Credit
 - Personal Accounts
 - Real Accounts
 - Nominal Accounts
- Accounting Cycle
- Rules of Journalising or Process of Journalising
- Tips for Journalising
- Descriptive Questions
- Check Your Understanding
- Pick up the Most Appropriate Answer
- Interview Questions

3.1 INTRODUCTION

Dual aspect is the basic concept of accounting. According to this concept, for every debit, there has to be a corresponding credit. In other words, when a transaction is recorded, debit amount has to be equal to the credit amount. This is also known as ‘Double Entry Principle’. The basic

principle of double entry system is that each business transaction affects two accounts in the books of a businessman. No transaction is complete without double aspect. The same amount is entered on the debit side as well as credit side of different accounts.

This system recognises the fundamental fact that a business transaction is a double-sided affair.

In the words of J.R. Batliboy “Every business transaction has two fold effect and it affects two accounts. In order to keep a complete record of transactions, one account is bound to be debited and the other account is bound to be credited. Recording this two fold account of each transaction is called Double Entry System”.

3.2 DOUBLE ENTRY SYSTEM

There are two aspects in every business transaction. They are receiving aspect and the other giving aspect. Under this system, every transaction is recorded twice, one on the debit side i.e. the receiving aspect and the other – credit side i.e. giving aspect. Let us illustrate. When a business man buys goods, he receives goods on one side and on the other side, money is given towards the value of goods. When he hires the services of employees, services are received on one side, while payment is made for the services rendered.

The features of double entry can be summarised as under:

- It records two aspects of every transaction.
- One aspect is debited and the other aspect is credited.
- Total of debits are equal to total of credits.

The double entry system can be well explained by the Accounting equation.

Accounting Equation

An accounting equation is a statement of equality. Here, the resources are equal to the sources. The owner or proprietor and outsiders provide the sources for acquiring resources. The resources are known as ‘Assets’. As owners and outsiders have provided the funds to the business and business is independent from these persons, due to business entity concept, these persons have a claim against the assets of the business. These claims are known as ‘Equities’. Equities are of two types. They are owner’s equity and outsider’s equity. Owner’s equity (or capital) is the claim of owners against the assets of the business. Outsider’s equity (or liabilities) is the claim of the outsiders such as creditors, loan providers and debenture-holders against the assets of the company.

Resources (Assets) = Sources of Finance (Capital + Liabilities)

Someone, either owner or outsider, has claim against the assets of the business. So, the total value of the assets is equal to the total value of capital and liabilities. The owner’s share is what is left out of the assets, after paying off all the liabilities of the outsiders.

We can say

$$\text{Assets} = \text{Equity} (\text{Total claims})$$

$$\text{Assets} = \text{Owner's claim} + \text{Outsiders' claim}$$

$$\text{Assets} = \text{Capital} + \text{Liabilities}$$

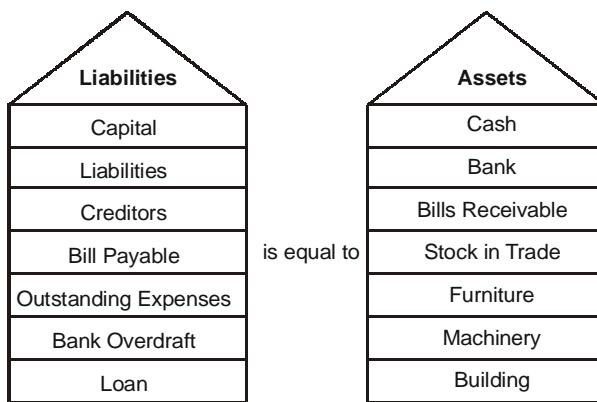
The above is known as the accounting equation or balance sheet equation.

The term 'Assets' denotes the resources owned by the business, while the term 'Equities' denotes the various claims of the parties against those Assets.

At any point of time, the assets are equal to the sum of owner's claim and outsiders' claims. Therefore

$$\text{Capital} = \text{Total Assets} - \text{Outside Liabilities}$$

Accounting equation can be presented as under:



Accounting Equation

When any one of them (owner or outsiders) provides funds, the assets increase. Similarly, the assets decrease when payment is made to them. In other words, when the assets are sold, new assets can be bought in their place, alternatively the amount can be utilised for payment of liabilities. In other words, a change in an asset results in change of other asset/liability.

The double entry principle is explained with the following example:

- Suppose, Cherry & Co starts a business with Rs. 1,00,000 as capital. The accounting equation would be as follows:

$$\text{Assets} = \text{Capital} + \text{Liabilities}$$

$$\text{Cash (1,00,000)} = \text{Capital (1,00,000)} + \text{Liabilities (0)}$$

$$1,00,000 = 1,00,000$$

2. The business purchases furniture for Rs. 10,000. In place of cash, furniture has come into the business. The accounting equation would appear as follows:

Cash (90,000) + Furniture (10,000)	= Capital (1,00,000) + Liabilities (0)
1,00,000	= 1,00,000

3. At this stage, firm makes a cash purchase of stock Rs. 20,000 for carrying on the business. The equation will be as follows:

4. To add stock to the business, a credit purchase of goods is made for Rs. 30,000 from Dimpy & Co, who would be a creditor as he has supplied goods on credit. The equation, now, would be:

$$\text{Cash (70,000)} + \text{Furniture (10,000)} + \text{Goods (50,000)} = \text{Capital (1,00,000)} + \text{Creditors (30,000)}$$

$$1,30,000 \qquad \qquad \qquad \equiv 1,30,000$$

As and when a change is taking place, for the same amount, change is taking place somewhere else. It would be observed that a change has taken place on both the sides. However, the total on both the sides remains the same.

5. Goods are sold on credit for Rs. 5,000. The cost of the goods is Rs. 4,000. So, stock of goods decreases by Rs. 4,000 and debtors increase by Rs. 5,000. Here, the transaction has resulted in a profit of Rs. 1,000. This profit increases capital as the profit belongs to the proprietor as he has assumed the risk of commencing the business. So, the capital increases by Rs. 1,000. In other words, profit or loss is transferred to capital account. Profit increases capital account while loss or drawings reduce the balance in capital account.

$$\begin{array}{l}
 \text{Cash (70,000)} + \text{Furniture (10,000)} + \\
 \text{Goods (46,000)} + \text{Debtors (5,000)} = \text{Capital (1,01,000)} + \text{Creditors (30,000)} \\
 1,31,000 \qquad \qquad \qquad = 1,31,000
 \end{array}$$

6. The business pays Rs. 200 for rent and Rs. 600 for salaries. Cash balance would be reduced by Rs. 800. So, these expenses reduce the profit and in consequence, balance in capital account. Hence, the position would be as under:

There is a two-way effect for every transaction.

From the above, two things are clear. At any stage, the total of assets will be equal to total of liabilities and capital. An increase in an asset can result in a corresponding decrease in another asset or corresponding increase of liability. Similarly, a decrease in an asset can result in increase of another asset or decrease of liability. Every transaction has a corresponding effect.

The last equation stated above can also be presented in the form of a statement called the Balance sheet. It is given below:

Balance Sheet of Cherry & Co as on

		Rs.	
Liabilities		Assets	
Creditors	30,000	Cash	69,200
Capital	1,00,200	Furniture	10,000
		Goods	46,000
		Debtors	5,000
	1,30,200		1,30,200

Any change in an Asset/Liability and impact of Profit/Loss can be summed up as under:

Change	Results in
1. Increase in an asset	Increase in liability Decrease in another asset
2. Decrease in an asset	Decrease in liability Increase in another asset
3. Increase in liability	Increase in asset Decrease in another liability
4. Decrease in liability	Increase in liability Decrease in asset
5. Profit	Increase in asset/s Decrease in liability/liabilities
6. Loss	Decrease in asset/s Increase in liability/liabilities

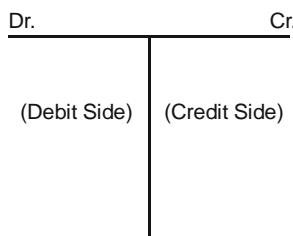
When the business incurs loss, the impact is on the reduction of assets. In the event of closing or winding up business, first we pay the outsiders' claims and balance is left to the owner.

3.3 RULES OF DEBIT AND CREDIT

Under the double entry system of accounting, each account has two sides—debit side and credit side. The left hand of an account is called debit side and the right hand side is called credit side. If an amount is to be debited, it is to be entered on the left hand side of the account, while the credit amount is to be entered on the right side of the account.

The term ‘Account’ denotes the date-wise record of all dealings or transactions relating to a person, body of persons, corporate, property, liability, expense and income according to certain principles.

The form of an account is in “T” form, which is as under:

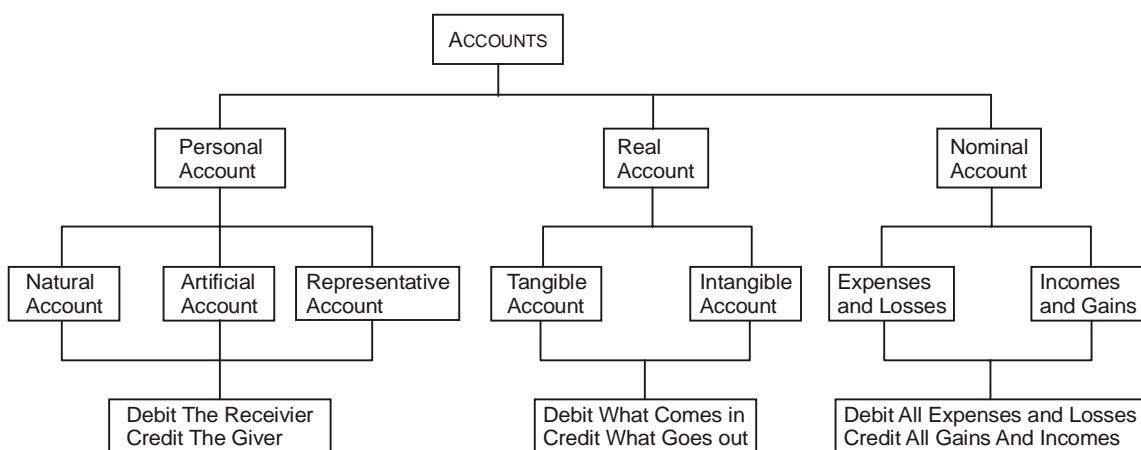


Form of Account – “T” Form

Wherever possible, prepare Account in “T” form to avoid mistakes and ensure arithmetical accuracy.

For the purpose of recording business transactions, accounts are classified into three categories:

Classification & Rules of Accounts



(A) Personal Accounts

They are the accounts of persons with whom the business deals. They can be divided into three categories.

The rule is:

**DEBIT THE RECEIVER
CREDIT THE GIVER**

- (i) **Natural Personal Accounts:** They are persons who are created by God. For example, Suresh's account, Apeksha's Account and Kuhu's Account etc.
- (ii) **Artificial Personal Accounts:** These are artificial persons i.e. any limited company, bank, insurance company, partnership firm, government body, co-operative society or a club.
- (iii) **Representative Personal Accounts:** These accounts represent a certain person or group of persons. For example, if rent is due to the landlord, the amount is credited to an outstanding rent account, not to the landlord account. Similarly, if salary is due (amount not paid) to the employees and, in the meanwhile, books of accounts are closed, the amount due would be credited to outstanding salaries account. Only one account is opened for all the employees, 'outstanding salaries account'. If individual employees accounts are to be opened, there would be many, resulting in unnecessary workload, as the purpose of the account is temporary to show a liability till the amount is paid. It is immaterial to whom the amount is payable as the nature of the account shows the total amount due to the employees for services rendered. The amount represents salary payable. All such accounts are termed as 'Representative Personal Accounts'

(B) Real Accounts

The Rule is:

**DEBIT WHAT COMES IN
CREDIT WHAT GOES OUT**

Real accounts relate to the business property and such things, which can be touched. Real accounts are further divided into two categories:

- (i) **Tangible Real Accounts:** Examples of such accounts are cash account, furniture account, building, stock account etc. It is important to note that bank account is a personal account, not real account. Many think cash and bank represent property and purpose of holding is same so they think bank account is also a real account. Balance lying in Bank of India is to be distinguished from the balance in Andhra Bank. Bank balance is related to the institution where it is kept.

Cash is real account, while a bank account is a personal account.

- (ii) **Intangible Real Accounts:** These accounts represent such things, which cannot be touched, though they can be measured in terms of money. Examples are Goodwill, Patents and Trademarks etc.

(iii) **Fictitious Assets:** Fictitious assets are expenditure on some activity, considered as capital expenditure as the benefits of the expenditure lasts over a long period. Total amount is not charged to profit and loss account, in one year, as the benefit is expected to spread over a period.

The expenditure is debited to profit and loss account, in installments, over a period during which the benefit is expected to last. Till the expenditure is written off, the amount appears on the assets side of the balance sheet.

Example: Share issue expenses, Discount on issue of shares, Preliminary expenses, under writing commission etc.

Fictitious assets are not assets like machinery, building, computer etc. Goodwill, patents cannot be called as fictitious assets as these are Intangible assets.

(C) Nominal Accounts

Nominal accounts include all expenses, losses, incomes and gains. Examples of such accounts are rent, rates, lighting, insurance, salaries and dividends etc.

The rule is

DEBIT ALL EXPENSES AND LOSSES CREDIT ALL GAINS AND INCOMES

Note: When prefix or suffix is added to a nominal account, it becomes personal account. The following explains how a nominal account becomes a personal account.

Nominal Account	Personal Account
1. Interest account (expense)	Outstanding interest account, pre-paid interest account.
2. Rent account	Outstanding rent account, rent pre-paid account.
3. Salary account	Outstanding salaries account, pre-paid salaries account
4. Interest account (income)	Accrued income account, interest received in advance account.
5. Insurance account	Outstanding insurance account, pre-paid insurance account.

3.4 ADVANTAGES OF DOUBLE ENTRY BOOK-KEEPING

The primary advantage of Double Entry Book-keeping is to establish arithmetical accuracy of accounts. Once, trial balance is tallied, it means that the transactions are recorded on the debit and credit sides, with the same amount. Double Entry Book-keeping does not indicate or guarantee the correctness of the entry. Instead of debiting one account, a wrong account may be debited and similar is the case with the credit aspect. As for every debit, there is a corresponding credit,

so books of accounts balance. Arithmetical accuracy is there, but financial correctness may not be there.

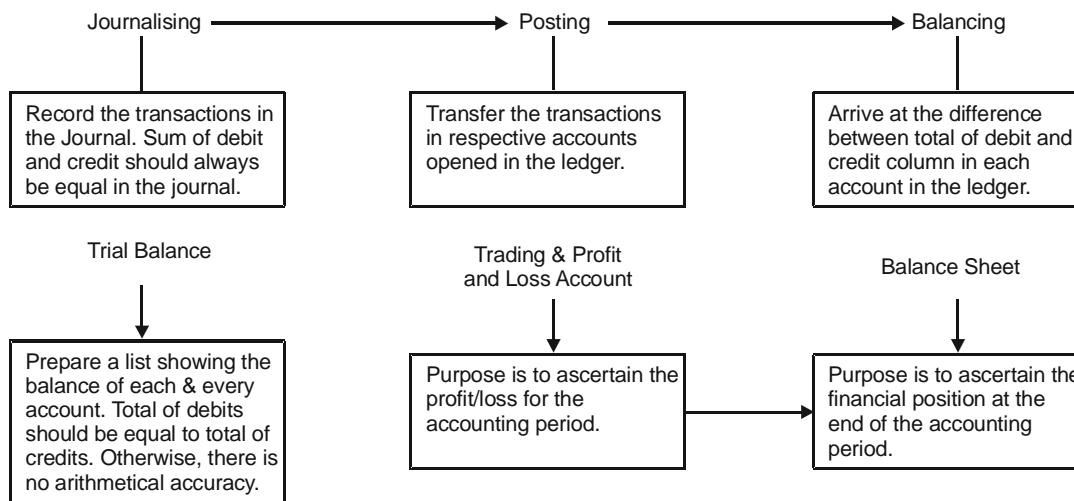
Example: Cash paid towards repairs Rs.100. Instead of debiting repairs account, Radha's account may be debited. Yet, the trial balance tallies.

Accounts are arithmetically correct, but they are not financially correct as repairs account does not show the total amount of repairs incurred.

Double Entry Book-keeping ensures arithmetical accuracy alone, does not guarantee financial correctness.

3.5 ACCOUNTING CYCLE

An accounting cycle is a complete sequence of transactions, beginning with the journal, later recording in a ledger, arriving at the balance in the ledger, moving to prepare trial balance and finally preparation of financial statements — Trading and Profit and Loss Account (Income Statement) and Balance Sheet (Position Statement).



Sequential Steps in an Accounting Cycle

3.6 RULES OF JOURNALISING OR PROCESS OF JOURNALISING

A journal is a book in which transactions are recorded in the order in which they occur. Journal is a book of daily record.

A journal is called a book of original entry (prime entry) because all business transactions are first recorded in the journal.

An entry made in the journal is called a ‘Journal Entry’. In every business, accountant enters the business transactions date-wise in a chronological order on the debit and credit side, along with the narration according to the principles of double entry. The process of recording transactions in the journal is called ‘Journalising’.

To record transactions, the first step is to record in a journal. The proforma of journal is as under:

Date	Particulars	Ledger Folio	Dr. Amount		Cr. Amount	
			Rs.	P.	Rs.	P.

Proforma of Journal

Thus, Journal contains five columns—

- 1. Date:** In the column, the date on which the transaction takes place or occurs is entered.
- 2. Particulars:** The names of the two accounts affected by the transaction are recorded. In the first line, the name of the account which is debited is written, added with the word ‘Dr.’ In the second line, the name of the account, which is credited is written after leaving some space, commencing with the words ‘To’. ‘Dr’ indicates that the relevant account is to be debited and the word ‘To’ shows that the concerned account, written against, is to be credited.
- 3. Ledger Folio or L.F.:** L.F. stands for ledger folio. Every entry in the journal is to be posted in the ledger. After posting in the ledger, the folio number of the ledger is mentioned in the journal. Similarly, in the ledger, the folio of the journal is mentioned for cross-referencing to facilitate easy identification and verification.
- 4. Amount (Dr.):** This column shows the amount, which is to be debited to the account shown against.
- 5. Amount (Cr.):** This column shows the amount, which is to be credited to the account shown against.

The totals of debit and credit columns are to be made on every page to confirm the correctness of the arithmetical accuracy as the principle is ‘for every debit, there has to be a corresponding credit’. If the total of debit and credit do not agree, it is an indication that the amounts have not been entered, correctly, in the journal. Adequate care is needed as the subsequent accounting work is dependent upon the correctness of the entries made in the journal.

3.7 TIPS FOR JOURNALISING

(A) Clarity of Fundamentals

To pass the correct journal entries, we must ascertain answers to the following questions:

1. Which accounts would be affected by the transaction?
2. What is the nature (Real, Personal or Nominal) of those affected accounts?
3. Which account will be debited or credited and why?

(B) Open Purchase/Sales Account, Instead of Goods Account

Goods are purchased as well as sold. If we debit and credit goods account, how do we know the amount of purchases and sales, separately? A consolidated goods account does not give totals of purchases and sales, separately. For this reason, goods account is not opened, but purchases and sales accounts (of goods) are to be opened, separately, to know the amount of purchases and sales. Similar is the case with purchase returns and sales returns. Accounts are to be, separately, maintained to get the totals and details, separately.

(C) Which Account is Relevant for Passing the Journal Entry?

Often, students stand in a dilemma which account is to be debited or credited. Some of the situations are explained, here:

Treatment of cash/credit transactions

- (i) Sold goods for Rs.5,000 cash.
- (ii) Sold goods to Dheera for Rs.5,000 cash.
- (iii) Sold goods for Rs.5,000.
- (iv) Sold goods for Rs.5,000 on credit to Dheera.

In transactions, (i) and (ii), goods are sold for cash. It is immaterial to whom the goods are sold, when it is for cash. The reason is it is a cash transaction. The transactions are cash sales and sale proceeds have been received, already, in cash. Students do not have a problem in debiting cash account but they often face the problem in identifying the account for crediting. Which account is to be credited, whether sales or Dheera's account? If Dheera's account is credited, we have to pay the amount to her as she stands as our creditor in our accounting books. Dheera is not to be paid any amount. So, there is no need, at all, to credit her account. So, sales account is to be credited.

In the transaction (iii), it is silent whether goods have been sold for cash or credit. Needless to say, it is a cash sale. Reason is if it is a credit sale, party's name would have been given for recording recovery, to debit her account. In transaction (iv), no such confusion exists as it is a credit sale. So, in this case, Dheera's account is to be debited and sales account is to be credited. Only when a credit sale is made, question of recovering the amount comes up.

Similar is the case with purchases. When cash purchase is made, it is immaterial for us to know the person from whom the purchase has been made. But, when credit purchase is made, the name of the party is required to credit the party's account. If the transaction does not mention, whether it is for cash or credit purchase and party's name is not given, treat the transaction as cash purchase.

(D) Treatment of Payment/Expenses

When payment is made to a person, check whether the payment is made to him for any services, already, rendered. In such a case, the amount is to be debited to the concerned expense account. If the amount has been paid, in advance, the amount would be recovered, later, in case, the assured service is not received. So, the person to whom the payment is made is to be debited. Let us explain.

- (i) Salary paid to Rakesh Rs.1,000
- (ii) Payment made to Kalyan Rs.2,000 as advance for repairs

In the first case, we debit salary account, not Rakesh account. For the services rendered by Rakesh, payment is made and so Rakesh does not repay the amount, later. So, Rakesh account is not to be debited, but only salary account.

In the second case, Kalyan has not rendered any service at the time payment. So, repairs account is not to be debited, but Kalyan's account is to be debited. If Kalyan does not undertake repairs, as agreed, we have to recover the amount from him. Till such time, he stands as a debtor in our accounting books. Once Kalyan repairs and submits the bill for Rs.2,200 then the following entry is passed:

Repairs account	Dr	2,200
To Kalyan		2,200

(Being repairs incurred as per bill No. dated submitted by Kalyan)

So, the advance is adjusted and balance of Rs.200 would be the credit balance lying in his account. This shows that an amount of Rs.200 is payable to him, towards the balance for services rendered.

(E) Treatment of Income/Receipt

When any amount is received, check whether the amount received is for the services rendered. If the amount is for the services rendered to that extent, credit the amount to the service account say commission account. If amount is received, without providing any service, the amount is to be credited to the party who has paid the amount as the amount is refundable/adjustable, depending on the extent of service rendered. Let us explain:

- (i) Commission received from Suresh Ltd Rs.1,000
- (ii) Advance for Commission received from Rao Rs.5,000

In the first case, Commission has been received and the situation indicates that services have been, already, provided. So, credit commission account.

In the second case, services have not, yet, been provided, but advance has been received. If we do not provide services, we have to refund the advance amount. If services provided are not to the extent of advance, even then balance is to be refunded. So, here, we credit Rao's account with Rs.5,000 for the advance received. If we render commission services for Rs. 4,000 and submit the bill, then we debit Rao account and credit commission account with Rs. 4,000. Then Rao's account shows a credit balance of Rs.1,000, indicating the balance amount payable to him.

(F) Treatment of Trade Discount

When seller gives a deduction on the list price, it is known as trade discount. Normally, trade discount is given to encourage higher quantum of purchases. Suppose, the list price is Rs.1,000 and a trade discount of 10% is offered, then the Net amount = List price –Trade discount, Rs.900 would be paid.

Suppose, goods are sold on credit to Kishore for Rs.10, 000 with a trade discount of 10%, sale is recorded with the net price, in the books of the seller:

Kishore Account	Dr	9,000
To Sales Account		9,000

(Being goods sold to Kishore, on credit, after allowing a trade discount of 10% as per the invoice no. ... dated ...)

(G) Treatment of Cash Discount (Full Settlement)

To make prompt payment, cash discount is normally allowed. At times, some reduction in the form of discount is allowed to receive the full and final settlement. To the person who allows the discount, it is expenditure. Discount is an income to the person getting it.

Radhi has to pay Rs.10,000 to Dheera. The amount is pending for a long period. To encourage Radhi to make the full payment in one go, Dheera offers her Rs.500 as cash discount and Radhi makes the payment by cheque to take advantage of the discount. In the books of Radhi, the journal entry will be shown as under:

Dheera Account	Dr. 10,000
To Discount received account	500
Bank	9,500

(Being cheque issued to Dheera, after deducting cash discount)

(H) Treatment of Personal Expenses of the Owner

Sometimes, proprietor/partner withdraws cash from the business for his personal use, which is known as drawings. Some of the articles dealt in the business may also be consumed, which is to be recorded as drawings, in kind. If the transaction is not recorded, there would be shortage in stock and at the same time, profits would not be correct to the extent of the drawings made. When daughters of a garment owner take the clothes they like, they are to be recorded. They would be treated as sales, but at cost price as goods are sold to the owner.

Example: Sandhya & Co runs a garment shop and her daughters Radhi and Dheera takes clothes for their use worth Rs. 20,000. Normal profit is 20% on sales. The transaction is to be recorded as under:

Drawings accountDr. 16,000

To Sales	16,000
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(Being the withdrawal of goods at cost price)

Note to Students: For every transaction, there are two persons. For example, when a sale occurs, there is a purchaser and seller. While recording transactions, it is important to understand in whose books, the transactions are recorded. In the books of the buyer, the same transaction is a purchase, while it is a sale in the books of the seller.

Illustration No. 1

State under what heading (Personal, Real or Nominal) would you classify each of the following accounts, with suitable explanation:

- (i) Rent a/c. (ii) Bank a/c.
- (iii) Furniture a/c. (iv) Goodwill a/c.
- (v) Proprietor's a/c.

Solution:

- (i) Rent is a nominal account. Nominal accounts are expenditure and income. Rent is expenditure, hence it is a nominal account.
- (ii) Bank is a personal account. Bank account may be with Bank of India or Bank of America. In personal account, the rule is debit the receiver and credit the giver.
- (iii) Furniture is a real account. Furniture is an asset. In the real account, the rule is debit what comes in and credit what goes out.
- (iv) Goodwill is a real account. Goodwill is an intangible asset. The rule is debit what comes in and credit what goes out.
- (v) Proprietor's account is a personal account. In personal account, the rule is debit the receiver and credit the giver.

Illustration No. 2

Enter the following transactions in the journal of Kalyan & Co.

2008 Jan		Rs.
1	Commenced business investing in cash	70,000
2	Purchased land for cash	20,000
3	Purchased goods for cash	30,000
4	Purchase goods from Suresh on credit	10,000

5	Sold goods for cash	20,000
6	Sold goods to Arun on credit	6,000
7	Paid freight	300
8	Donated to charities	1,000
9	Paid salaries to Ramesh	1,200
10	Deposited cash into bank	16,000
11	Withdrawn from bank for office use	4,000
12	Withdrawn from bank for private use	6,000
13	Charged interest on capital	1,000
14	Rent received	2,000
15	Loan from bank	20,000

Solution: We shall prepare a chart to understand why a particular account is to be debited/credited. This chart is only for the purpose of explaining only. The chart is not required to be prepared, while recording the transactions in the journal.

Date of Transaction	Account to be debited	Account to be credited	Nature of Account	Reasons for debit/credit
2008 Jan 1	Cash	Capital	Real account Personal account	Cash has come in. Capital has been given by the proprietor.
2	Land	Cash	Real account Real account	Land, an asset has come into our books/business. Cash has gone out.
3	Purchases (Goods) account	Cash	Real account Real account	Goods have come in. Cash has gone out.
4	Purchases (Goods) account	Suresh account	Real account Personal account	Goods have come in. Goods have been purchased from Suresh and amount is due to him.
5	Cash	Sales (Goods) account	Real account Real account	Cash has come in. Goods have gone out.
6	Arun	Sales (Goods) account	Personal account Real account	Arun is receiver. Goods have gone out.
7	Freight	Cash	Nominal account Real account	Expenditure incurred. Cash has gone out.

8	Charity	Cash	Nominal account Real account	Expenditure incurred. Cash has gone out.
9	Salaries	Cash	Nominal account Real account	Expenditure incurred. Cash has gone out. (Ramesh account is not to be debited as he has rendered services and would not repay amount received)
10	Bank	Cash	Personal account Real account	Bank is receiver. Cash has gone out.
11	Cash	Bank	Real account Personal account	Cash has come in. Bank is giver.
12	Drawings		Personal account	Debit receiver (in a partnership firm, there are more than one partners, it is necessary to identify the person) Bank is giver.
		Bank	Personal account	
13	Interest	Capital	Nominal account Personal account	Expenditure incurred. Amount payable to him.
14	Cash	Rent	Real account Nominal account	Cash has come in. Income received.
15	Cash	Bank loan	Real account Personal account	Cash has come in. Bank is giver.

Date	Particulars	L.F.	Amount [Dr.] Rs.	Amount [Cr.] Rs.
2008 Jan1	Cash a/c To Capital a/c [Being cash brought in as capital]	Dr.	70,000	70,000
2	Land a/c To Cash a/c [Being land bought for cash]	Dr.	20,000	20,000
3	Purchases (Goods) a/c To Cash a/c [Being cash purchases]	Dr.	30,000	30,000
4	Purchases (Goods) a/c To Suresh a/c [Being credit purchases]	Dr.	10,000	10,000

5	Cash a/c To Sales (Goods) a/c [Being cash sales]	Dr.		20,000	20,000
6	Arun a/c To Sales (Goods) a/c [Being credit sales]	Dr.		6,000	6,000
7	Freight a/c To Cash a/c [Being freight paid]	Dr.		300	300
8	Donation a/c To Cash a/c [Being donation paid]	Dr.		1,000	1,000
9	Salary a/c To Cash a/c [Being salaries paid]	Dr.		1,200	1,200
10	Bank a/c To Cash a/c [Being cash deposit into bank]	Dr.		16,000	16,000
11	Cash a/c To Bank a/c [Being withdrawal from bank for office use]	Dr.		4,000	4,000
12	Drawings a/c To Bank a/c [Being withdrawal from bank for private use]	Dr.		6,000	6,000
13	Interest a/c To Capital a/c [Being interest charged (paid) on capital]	Dr.		1,000	1,000
14	Cash a/c To Rent a/c [Being rent received]	Dr.		2,000	2,000
15	Cash a/c To Bank Loan a/c [Being loan taken from bank]	Dr.		20,000	20,000

Illustration No. 3

Journalise the following transactions:

2008

April 2 Started business with Rs.60,000 paid into Bank Rs.30,000

- 3 Bought furniture for cash Rs.10,000
 5 Bought goods for Rs.30,000
 6 Sold goods for cash Rs.6,000
 10 Bought typewriters for Rs.18,000 from the Remington Rand Inc. on credit
 13 Sold goods to M/s. Radhi & Co. for Rs.10,000 on credit
 15 Bought goods from M/s. Mohindra & Co. for Rs.20,000 on credit
 18 Paid telephone rent Rs.2,400 for one year
 22 Paid Rs.1,000 for advertisement
 26 Sold goods to Dheera & Co. for Rs.8,000 for cash
 30 Paid salaries Rs.2,000
 30 Paid rent Rs. 1,000
 30 Withdrawal of cash for personal use Rs.3,000 from Bank
 30 Bought one delivery van for Rs.3,00,000 from the Maruti Motors Ltd. Payment to be made by monthly installments of Rs.20,000 each. First installment paid by cheque.

Solution:**JOURNAL**

Date 2008 April	Particulars	L.F.	Dr. Amount		Cr. Amount	
			Rs.	P.	Rs.	P.
2	Cash Account Dr. To Capital Account (Cash brought in to start business)		60,000	—	60,000	—
2	Bank Account Dr. To Cash Account (Cash deposited with bank)		30,000	—	30,000	—
3	Furniture Account Dr. To Cash Account (Furniture bought for cash)		10,000	—	10,000	—
5	Purchases (Goods) Account..... Dr. To Cash Account (Goods bought for cash)		30,000	—	30,000	—
6	Cash Account Dr. To Sales (Goods) Account (Goods sold for cash)		6,000	—	6,000	—
10	Typewriters Account Dr. To Reminton Rand Inc. (Typewriters bought on credit)		18,000	—	18,000	—
13	M/s. Radhi & Co. Dr. To Sales (Goods) Account (Sale of goods on credit to Radhi & Co.)		10,000	—	10,000	—

15	Purchases (Goods) Account To M/s. Mohindra & Co. (Goods bought on credit as per bill no.....date)	Dr.		20,000	—	20,000	—
18	Telephone Charges Account Dr. To Cash Account (Telephone rent paid for one year)			2,400	—	2,400	—
22	Advertisement Account Dr. To Cash Account (Amount paid for advertisement)			1,000	—	1,000	—
26	Cash Account Dr. To Sales (Goods) Account (Goods sold for cash)			8,000	—	8,000	—
30	Salaries Account Dr Rent Account Dr. To Cash Account (Salaries and rent for the month of April paid in cash)			2,000 1,000	—	3,000	—
30	Capital Account (or DrawingsDr. Account) To Bank Account (Amount withdrawn from bank for private use)			3,000	—	3,000	—
30	Motor Van Account Dr. To Maruti Motors Ltd. (Motor van no..... bought on the installment system as per agreement no..... dated.....)			3,00,000	—	3,00,000	—
30	Maruti Motors Ltd. Dr. To Bank Account (Amount paid to Maruti Motors & Co., through cheque no..... datedin pursuance of agreement)			20,000	—	20,000	—
			Rs.	5,21400	—	5,21,400	—

Illustration No. 4

One of the accounts involved in the following transactions is given; state the rest.

		Debit	Credit
(a)	Commenced business with cash (e.g.)	Cash	Capital
(b)	Paid into bank	Bank	—
(c)	Purchased goods for cash	—	Cash

(d)	Paid cash for furniture	—	Cash
(e)	Sold to Vasu goods on credit	—	Sales (Goods)
(f)	Received from Vasu on account	—	Vasu
(g)	Sold to Varshney & Co. goods for cash	Cash	—
(h)	Received cash from Vasu	—	Vasu
	Allowed discount		Vasu
(i)	Bought goods for cash from Kalyan	Purchases (Goods)	—
(j)	Paid Mohan by cheque	Mohan	—
(k)	Received rent from a sub-tenant	Cash	—
(l)	Rent due to landlord	Rent	—
(m)	Paid wages by cheque	Wages	—

Solution:

[(b) Cash (c) Purchases (Goods) (d) Furniture (e) Vasu (f) Cash (g) Sales (Goods) (h) Cash, Discount (i) Cash (j) Bank (k) Rent Received (l) Landlord (m) Bank].

Illustration No. 5

The following journal entries have been made by a student. You are required to pass correct entries, wherever you think them to be wrong.

- (a) Brought capital into business:
Capital A/c Dr.
To Cash A/c
- (b) Purchased furniture for cash:
Purchase A/c Dr.
To Furniture
- (c) Cash purchases from Ravi & Co:
Ravi & Co A/c Dr.
To Cash A/c
- (d) Paid carriage for cash purchases:
Purchase A/c Dr.
To Cash
- (e) Paid carriage:
Carriage A/c Dr.
To Cash A/c
- (f) Salaries due to clerk:
Salaries A/c Dr.
To Cash A/c

Solution:

[(a) should be reverse; (b) Debit Furniture, Cr. Cash; (c) Purchases (Goods) account should be debited, not Ravi & Co; (d) Carriage account is to be debited, not Purchase account (e) correct; (f) Credit Unpaid Salary A/c)]

Illustration No. 6

What do the following journal entries mean:

- (a) Salary A/c Dr.
 To Bank A/c
- (b) Furniture A/c Dr.
 To Ram Mart
- (c) Ram Dr.
 To Cash A/c
 To Discount A/c
- (d) Drawings A/c Dr.
 To Bank A/c

Solution:

[(a) Salary paid by cheque; (b) Furniture purchased on credit; (c) Paid to Ram and Discount received; Two transactions - receipt of cash as well as discount are combined, and one entry is passed; (d) Drew cash for private use from bank.]

Illustration No. 7

What do the following journal entries mean:

- (a) Depreciation A/c Dr.
 To Car A/c
- (b) Rent A/c Dr.
 To Landlord
- (c) Gopal Rao Dr.
 To Discount A/c
- (d) Bank A/c Dr.
 To Cash A/c

Solution:

[(a) Depreciation charged on car; (b) Rent due to Landlord; (c) discount has been allowed by Gopal Rao; (d) Cash deposited into bank.]

Illustration No. 8

On 1st April, 2007, Vasant & Co commenced business with a capital of Rs.60,000 and his transactions for the month are given below:

2007		Rs.
April 1	Purchased goods for cash	15,000
April 2	Purchased furniture for cash	1,000
	Purchased a typewriter for cash	2,000
April 5	Cash sales	5,000
April 6	Sold goods to Vikas on credit	8,000
April 10	Purchased goods from Prafulla	10,000
April 12	Returned goods to Prafulla	2,000
April 15	Goods returned by Vikas	1,000
April 20	Sold goods to Mukesh for cash	5,000
April 25	Withdrew goods for personal use	500

Solution:

Journal Entries in the Books of Vasant & Co

Date	Particulars	L.F.	Dr. Amt. Rs.	Cr. Amt. Rs.
2007 April 1	Purchases A/c Dr. To Cash A/c (goods purchased for cash)		15,000	15,000
2007 April 2	Furniture A/c Dr. Typewriter A/c Dr. To Cash A/c (furniture and typewriter bought for cash)		1,000 2,000	3,000
2007 April 5	Cash A/c Dr. To Sales A/c (goods sold for cash)		5,000	5,000
2007 April 6	Vikas A/c Dr. To Sales A/c (goods sold on credit)		8,000	8,000
2007 April 10	Purchases A/c Dr. To Prafulla A/c (goods purchased from Prafulla)		10,000	10,000
2007 April 12	Prafulla A/c Dr. To Purchases Returns A/c (goods returned by Prafulla)		2,000	2,000

2007 April 15	Sales Returns A/c..... Dr. To Vikas A/c (goods returned by Vikas)		1,000	1,000
2007 April 20	Cash A/c Dr. To Sales A/c (goods sold for cash)		5,000	5,000
2007 April 25	Drawings A/c Dr. To Sales A/c (goods withdrawn for personal use)		500	500
Grand Total Rs.			49,500	49,500

Illustration No. 9

Point out what is wrong in the following journal entries and give correct entries on the basis of your explanation.

Date	Particulars	L.F.	Dr. Amt. Rs.	Cr. Amt. Rs.
(a)	BhimaDr. To Purchases A/c (for goods purchased from Bhima on credit)		600	600
(b)	Purchase A/cDr. To Vikas Varshney & Co. (for furniture purchased from Vikas Varshney & Co.)		250	250
(c)	KishoreDr. To Cash A/c (for Salary paid to Kishore, a computer executive)		2550	2550
(d)	Examination Fees A/cDr. To Cash A/c (for examination fees of proprietor's son paid)		50	50
(e)	Sales A/cDr. To Cash A/c (for goods sold for cash)		300	300
(f)	Cash A/cDr. To Sales A/c (for old machinery sold)		800	800
(g)	Purchase Returns A/cDr. To Sandhya (for goods purchased from Sandhya on credit)		400	400

Solution:

Date	Particulars	L.F.	Dr. Amt. Rs.	Cr. Amt. Rs.
(a)	Purchase A/c To Bhima A/c (for goods purchased from Bhima on credit)Dr.	600	600
(b)	Furniture A/c To Vikas Varshney & Co. (for furniture purchased from Vikas Varshney & Co.)Dr.	250	250
(c)	Salary A/c To Cash A/c (for Salary paid to Kishore, a computer executive)Dr.	2,550	2,550
(d)	Drawings A/c To Cash A/c (for examination fees of proprietor's son paid)Dr.	50	50
(e)	Cash A/c To Sales A/c (for goods sold for cash)Dr.	300	300
(f)	Cash A/c To Machinery A/c (for old machinery sold)Dr.	800	800
(g)	Purchase A/c To Sandhya (for goods purchased from Sandhya on credit)Dr.	400	400

Illustration No. 10

Journalise the following transactions:

Date	Transactions
02.04.2008	Purchased goods from Srikant at the list price of Rs.2,000. He allowed 10% Trade Discount.
03.04.2008	Sold goods to Govind at the list price of Rs.1,000 and allowed him 5% Trade Discount.
08.04.2008	Received a cheque from Govind for Rs.930 in full settlement.
11.04.2008	Sent to Srikant in full settlement a cheque for Rs.1,750.
13.04.2008	Raghav is declared insolvent. Received from his Official Receiver, a first and final dividend of 60 Paise in the rupee on a debt of Rs.2,500 .
14.04.2008	Recovered from Sudha an old amount written off as bad debt Rs.100.
15.04.2008	Received a V.P.P. for Rs.680, sent a peon to take delivery of it and he paid Rs.5 for cartage.

20.04.2008	Goods distributed as free samples (Sales Price Rs.1,200 Cost Price Rs.1000).
22.04.2008	Goods destroyed by fire (Sale Price Rs.1,000, Cost Price Rs.800).

Solution:

Journal

Date	Particulars	L.F.	Dr. Amt. Rs.	Cr. Amt. Rs.
02.04.08	Purchases A/c To Srikant (Being the goods purchased from Srikant for Rs.2,000 at a discount of 10%)	Dr.	1,800	1,800
03.04.08	Govind To Sales A/c (Being the goods sold to Govind for Rs.1,000 at discount of 5%)	Dr.	950	950
08.04.08	Bank A/c Discount Allowed A/c To Govind (Being a cheque received from Govind in full settlement)	Dr. Dr.	930 20	950
11.04.08	Srikant To Bank A/c To Discount Received A/c (Being a cheque for Rs.1,750 sent to Srikant in full settlement)	Dr.	1,800	1,750 50
13.04.08	Cash A/c Bad Debts A/c To Raghav (Being 60 Paise in the rupee received from Raghav in full and final settlement)	Dr. Dr.	1,500 1,000	2,500
14.04.08	Cash A/c To Bad Debt Recovered A/c (Being an old amount written off as bad debt, recovered)	Dr.	100	100
15.04.08	Purchases A/c Cartage Inward A/c To Cash A/c (Being a V.P.P. received for Rs. 680 and paid Rs. 5 for cartage)	Dr. Dr.	680 5	685

20.04.08*	Sales Promotion A/c To Purchases A/c (Being the goods distributed as free samples)	Dr.		1,000	
22.04.08*	Loss by Fire A/c To Purchases A/c (Being the goods destroyed by fire)	Dr.		800	800

* These transactions are recorded at cost price as they are not real sales, so profit cannot be expected.

Descriptive Questions

- “ Each transaction has a double aspect.” Explain this statement giving suitable examples. (3.1 and 3.2)
- What do you mean by ‘Double Entry System’? Explain with a suitable illustration. (3.1 and 3.2)
- Explain the different types of accounts and the rules for recording in books of accounts. (3.3)

Check Your Understanding

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

- Both cash and bank accounts are real accounts.
- Assets are equal to equities.
- Equities are equal to the total value of capital and liabilities.
- There is no difference between trade discount and cash discount.
- Drawings in cash are recorded in books of accounts while drawings in kind are not recorded.
- Cash purchase and credit purchase are treated in a similar manner so far as debit entry is concerned.
- For every debit, there is a corresponding credit for the same amount.
- Journal is a book of prime entry.
- Loss results in increase of asset or reduction of liability.
- Profit or loss is finally transferred to capital account.
- In an accounting equation, assets are equal to capital and liabilities.
- When sales returns are made, sales returns account is credited.
- When entertainment expenditure is incurred and payment is not made, entertainment expenditure account is credited.
- Dividend received is a personal account.
- Double Entry Book-keeping ensures arithmetical accuracy alone, would not guarantee financial correctness.
- Cash book is a journal as well as a ledger.
- It is necessary to record all non-cash transactions, first, in the journal before posting is made into the concerned accounts in the ledger.

Answers

1. False 2. True 3. True 4. False 5. False 6. True 7. True 8. True 9. False 10. True 11. True 12. False 13. False 14. False 15. True 16. True 17. True

(B) Pick up the most appropriate answer

1. The term "double entry" in accounting refers to which of the following:
 - (a) Keeping second set of books of accounts.
 - (b) Accounting records reflect both cash and accrued income.
 - (c) The fact that all transactions affect at least two accounts.
 - (d) A type of embezzlement scheme.
2. At which of the following stages, income is typically be recognized under Generally Accepted Accounting Principles?
 - (a) Product is manufactured and stored
 - (b) Customer places the order
 - (c) Product is delivered to the customer
 - (d) Customer pays for the product, finally, after enjoying credit period allowed.
3. Which set of terms are synonymous in accounts?

(a) Revenue, expense, income	(b) Asset, resource, liability
(c) Revenue, sales, loss	(d) Earnings, profit, income
4. Purchase of land for cash will have what effect on total liabilities?

(a) Increase	(b) Decrease
(c) No effect	(d) Uncertain.
5. Liabilities appear on which of the following statements?

(a) Statement of Cash Flows	(b) Statement of Owner's Equity
(c) Balance Sheet	(d) Income Statement
6. Purchase of furniture on credit will have what effect on total assets?

(a) Increase	(b) Decrease.
(c) No effect	(d) Indeterminate.
7. The amount brought in by the proprietor is called

(a) Drawings	(b) Capital
(c) Cash account	(d) Credit account.
8. Return of goods purchased from a manufacturer should be credited to

(a) Purchase returns	(b) Sales returns
(c) Purchases	(d) Sales.
9. Amount of salary paid to Kishore should be debited to

(a) Kishore account	(b) Salary account
(c) Salary outstanding account	(d) Cash account.

10. Trade discount allowed by the supplier is to be debited to
 - (a) Purchase account
 - (b) No entry for trade discount, net purchase is debited
 - (c) Supplier account
 - (d) Discount is added to purchase amount.
 11. Cash discount received from a customer should be credited to
 - (a) Discount account
 - (b) Customer account
 - (c) Cash account
 - (d) No entry.
 12. In case of a debt becoming bad, amount of bad debts is credited to
 - (a) Sales account
 - (b) Debtor's account
 - (c) Purchase account
 - (d) Cash account.
 13. In Double Entry system of Book-keeping, every business transaction affects
 - (a) one account
 - (b) two accounts
 - (c) the same account on both debit and credit sides
 - (d) the two sides of the same account on different dates.
 14. What type of account is Prepaid Insurance?
 - (a) Asset
 - (b) Liability
 - (c) Revenue
 - (d) Expense.
 15. The cost of earning the revenue of the current period is referred to as:
 - (a) Liability
 - (b) Expense
 - (c) Net loss
 - (d) Cash outflow.
 16. Which financial statement provides information about a company's capital structure?
 - (a) Profit and Loss Account
 - (b) Balance Sheet
 - (c) Funds flow statement
 - (d) Cash flow statement.

Answers

1. (c) 2. (c) 3. (d) 4. (c) Land and cash are both assets. One asset is exchanged for another. So, total liabilities are unaffected. 5. (c), 6. (a) Purchase of Furniture on credit has created an asset as well as a liability, so total assets have increased. 7. (b) 8. (a) 9. (b) 10. (b) 11. (a) 12. (b) 13. (b) 14. (a) The prepayment creates an asset in the form of future insurance coverage. 15. (b) 16. (b) Capital structure deals with the way in which an entity has financed its assets. This information is provided by the liabilities side of the balance sheet.

Interview Questions

Q.1. What is “Accounting Equation”?

Ans. In every business, resources (assets) are provided by the owner as well as outsiders. These persons have a claim against those assets. Due to dual aspect of accounting, the assets are equal to the claims of the owners and outsiders. In simple words, the assets are equal to capital and liabilities, which is known as 'Accounting Equation'.

Q.2. What is meant by 'Dual aspect'?

Ans. Dual aspect means double entry system of book-keeping. Here, for every debit, there should be a corresponding credit for each transaction. Total debit should be equal to total credit.

Q.3. What is a fictitious asset? Quote three examples.

Ans. Fictitious assets are not real assets. Yet, they appear on the assets side of the balance sheet. Fictitious assets are expenditures/expenses whose benefit is not limited to one particular year. Therefore, the whole of these expenses cannot be charged to the profit and loss account of the year, in which the amount is incurred. Hence, they are deferred. These items are transferred in installments to P&L Account for some reasonable years. The expenditure is charged over the period the benefit is expected to be derived. Till they are fully written off, they appear on the assets side of the balance sheet.

Example: Share issue expenses, Discount on issue of shares, Preliminary expenses, Underwriting commission etc.

Q.4. What is the difference between trade discount and cash discount?

Ans. Trade discount is allowed to encourage the customer to buy, in bulk. Normally, retailers buy their requirements as per demand of their customers. The wholesaler would offer a further reduction from the price list, if the retailers purchase a specific higher quantity. Suppose, the listed price on the item is Rs.100 and seller offers a trade discount of 5%, then the invoice shows the listed price as well as trade discount. However, the net price (Rs.95) is debited as purchase amount in the books of the buyer. In the books of the seller, the net price (Rs.95) is shown as sales. Trade discount does not appear in the books of the buyer and seller, separately.

Cash discount is allowed to encourage the customer to clear the dues, before the agreed due date. In other words, it is a reduction or inducement offered for early payment. Cash discount appears in the books of accounts, as expenditure to the person who allows it and income to the receiving person.

Q.5. What is the purpose of a 'Journal'?

Ans. Journal is a book of original entry. The purpose of a 'Journal' is to record the transactions in the same order as they happen. Once, an entry is made for the transaction, it would be known which account is to be debited and credited. As the journal contains narration, its reading would explain the nature of the transaction. It is also, immediately, known from the narration whether the entry made is correct or not.

Q.6. It is said that Double Entry Book-keeping does not guarantee financial correctness. Is it right and then what is its purpose?

Ans. It is correct that Double Entry Book-keeping does not guarantee financial correctness. The main purpose of double entry book-keeping is to establish arithmetical accuracy of recording business transactions. Double entry system ensures for every debit entry, there is a corresponding credit. It is an indication that all the entries recorded are, arithmetically, correct.



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CHAPTER
4

Ledger Posting and Trial Balance

- Introduction
- Ledger
- Posting
- Difference between Journal and Ledger
- Advantages of Ledger
- Rules regarding Posting
- Posting of Compound Journal Entries
- Illustrations
- Balancing an Account
- Opening of Accounts in Ledger, without Journalizing
- Trial Balance
- Pick up the Most Appropriate Answer
- Interview Questions

4.1 INTRODUCTION

Meaning of Accounting has been already discussed. Accounting involves recording, classifying and summarizing financial transactions. Recording is done in the journal. Classification of the recorded transactions is done in the ledger.

4.2 LEDGER

Ledger is a book, which contains various accounts. It is necessary to gather all transactions of a period in one place relating to a particular subject – a person, an asset, a liability, a class of expense, an income etc. It enables to know the exact position of different account, individually.

Ledger is a book with various accounts (Real, Personal and Nominal Accounts), each account on a separate page, that gives the details of the different transactions and its summary.

The first few pages are devoted to make an alphabetical index of the accounts. Each account is opened in a separate page. All the transactions in a particular period are recorded in a separate account. So, each account gives the details of transactions in a particular period, total debits, credits and finally net balance in the concerned account, which can be debit or credit balance.

Final information related to the financial position emerges only from the accounts. As the ledger contains all accounts, the ledger is also called as Principal Book.

Journal is a book of original entry. Postings are made from the journal to the ledger. Purchase Book and Sales Book facilitate the preparation of accounts in the ledger. Hence, these books are known as subsidiary books.

Cash Book is unique: The Cash Book has a unique position. Entries related to cash and bank transactions are directly posted into the Cash Book. Cash Book is treated as part of the journal. So, Cash Book is called both as a book of original entry and a principal book. Cash Book serves the purpose of a ledger too as the final cash balance position, daily, is known from the Cash Book.

Cash Book is a journal as well as a Ledger

Dr.		Specimen of 'Account' in Ledger						Cr.	
Date	Particulars	Folio	Amount		Date	Particulars	Folio	Amount	
			Rs.	P.				Rs.	P.

4.3 POSTING

Posting is the process of transferring the transactions recorded in the journal. Debit and credit items recorded in the journal are transferred to the respective accounts in the ledger.

4.4 DIFFERENCE BETWEEN JOURNAL AND LEDGER

Journal and ledger are the most important books of double entry system of accounting. Following are the important differences:

Basis of difference	Journal	Ledger
1. Nature of Book	Book of original entry.	Book of second entry.
2. Record	Recorded in the chronological order, date wise.	Recorded account-wise, irrespective of the date. Importance is on analysis.
3. Importance for legal evidence /reliability	Journal is the book of source entry, hence has a greater weight for legal evidence.	Ledger is based on the journal, hence has a lesser weight.
4. Classification of data	Transaction is the basis for recording.	Account is the basis for recording.
5. Process of recording	The process of recording in the journal is called 'Journalizing'.	The process of recording in the ledger is called 'Posting'.
6. Place	Transactions are recorded date-wise, so transactions of one account are recorded at different places.	Transactions are recorded account-wise, so transactions of different dates are recorded at one place.
7. Narration	Narration is needed for every transaction.	Narration is not needed for every posting.
8. Folio	Folio of ledger is written.	Folio of journal is written.
9. Final accounts	Final accounts cannot be prepared from journal.	Final accounts can be prepared as ledger is the basis for preparing the trial balance.
10. Accuracy	Accuracy of journal cannot be tested.	Accuracy of ledger can be tested from trial balance.

4.5 ADVANTAGES OF LEDGER

The importance of ledger is evident from the following advantages:

- (A) **Knowledge of accounts:** Information about each account is known immediately, which is not possible from the journal.
- (B) **Details of income and expenditure:** Separate accounts are opened for each head of income and expenditure. So, information is available about the expense and income, account-wise.
- (C) **Test of accuracy:** A trial balance is prepared, taking the summary of all accounts opened in the ledger and arithmetical accuracy is tested.
- (D) **Knowledge of assets and liabilities:** As separate account is opened for each asset as well as liability, position of each asset and liability is immediately known.
- (E) **Evidence in business disputes:** The ledger proves sufficient evidence in a court for business disputes.

4.6 RULES REGARDING POSTING

Following steps should be taken, while making posting:

- (A) **Opening of separate accounts:** Each transaction affects minimum two accounts. Separate account is to be opened in the ledger. Such account may be real, nominal and personal account. No account is to be opened, twice. All transactions relating to that account, debit as well as credit, are to be posted in the concerned account, so that net position of the account is known.
- (B) **Posting journal entry to concerned side:** If an account is debited in the journal, posting will be made on the debit side of the account in the ledger. Similarly, if an account is credited in the journal, that account would be credited in the ledger. To illustrate, if provision for salary has been made, salary account is debited in the journal while outstanding salary account is credited. So, we have to open ‘Salary’ account in the ledger and debit the account with the amount, appearing against the debit column in the journal. To the outstanding salary account, amount appearing on the credit side in the journal would be credited.
- (C) **Use of word “To” and “By”:** While writing the debit side, commence with words “To” and write the name of the account, which is credited in the journal. Write the words “By” on the credit side before writing the name of the account that is debited in the journal. In other words, the name of the other account is to be written.
- (D) **Balance in account:** Side (Debit or credit) that is heavy is to be totaled, first. The same total is to be put on the total column of the other side in the account. Net position is arrived. If debit total is higher than the credit side, net position would be debit and vice versa.

4.7 POSTING OF COMPOUND JOURNAL ENTRIES

In the case of a compound journal entry, more than one account is debited and only one account is credited or vice versa in a journal. In such a case, each account is to be opened, separately. The name of account should be the same as is shown in the journal. While posting on the debit side, the name of the account that has been credited is to be shown. If one account is debited and two accounts are credited, open the account that has been debited. In that account, post on the debit side and write the name of the two accounts that have been credited and enter the corresponding amounts. The same procedure is to be adopted when two accounts are credited and one account is debited. In other words, the name of the account on the other side is to be written.

The following illustrations would explain.

Illustration No.1

Pass the necessary journal entries for the following different transactions, open necessary accounts in the ledger and show how the entries are transferred into the ledger:

Date	Particulars	Amount (Rs.)
2 nd Jan. 2008	Sale of goods for cash	1,000
8 th Jan. 2008	Cash paid to Theer towards credit purchase Rs. 815 made earlier, after discount Discount allowed by Theer	800 15
10 th Jan. 2008	Goods purchased from Tarkh on credit	600

Solution:

Date	Journal Entry	L.F.	Dr.	Cr.
2008			Rs.	Rs.
Jan 2	Cash Account To Sales Account (Sale of goods for cash vide cash Memo No.....)	...Dr.	1,000	1,000
Jan 8	Theer & Co. To Cash Account To Discount Account (Cash paid to and discount allowed by Theer)	...Dr.	815	800 15
Jan 10	Purchases Account To Tarkh (Goods purchased from Tarkh on credit)	...Dr.	600	600

LEDGER

Cash Account							
Date	Particulars	Folio	Amount Rs. P.	Date	Particulars	Folio	Amount Rs. P.
2008 Jan. 2	To Sales A/c		1,000 -	2008 Jan. 8	By Theer		800 -

Sales Account

Dr.	Sales Account								Cr.
					2008 Jan. 2	By Cash Account		1,000 -	

Purchases Account

Dr.	Purchases Account								Cr.
2008 Jan. 10	To Tarkh		600 -						

Discount Account

Dr.	Discount Account								Cr.
					2008 May 8	By Theer		15 -	

Theer A/c

Dr.	Theer A/c								Cr.
2008 Jan. 8	To Sundries Cash 800 Discount 15		815 -						

Tarkh A/c

Dr.	Tarkh A/c								Cr.
					2008 Jan. 10	By Purchases Account		600 -	

Illustration No. 2

Give journal entries in the books of Radhi & Co.:

2008

- Jan. 1 Started business with cash Rs. 3,000 and stock Rs. 2,000.
- Jan. 5 Purchased goods from Sandhya Rs. 2,000 under 10% trade discount.
- Jan. 10 Cheque Rs. 1,500 received from Dheera for the earlier credit sales Rs. 1,520, after allowing a discount in full statement of her a/c.
- Jan. 20 Drawn for personal use – Goods Rs. 100, Cash Rs. 200, and by cheque from Bank Rs. 200.

Solution:**JOURNAL OF RADHI & CO.**

Date	Particulars	L.F.	Amount Dr.	Amount Cr.
2008			Rs.	Rs.
Jan. 1	Cash a/c Stock a/c To Capital a/c (Business started with cash & stock)	Dr. Dr.	3,000 2,000	5,000
Jan. 5	Purchase a/c * To Bank a/c (Purchased goods for cash)	Dr.	1,800	1,800
Jan. 10	Bank a/c Discount a/c To Sales a/c (Cash received in full settlement of earlier credit sale)	Dr. Dr.	1,500 20	1,520
Jan. 20	Drawing a/c To Purchases a/c To Cash a/c To Bank a/c (Goods & cash withdrawn)	Dr.	500 100 200 200	

* Trade discount does not appear in Books of Accounts.

4.8 BALANCING AN ACCOUNT

When posting is complete in each account, balancing is to be done. To do balancing, first total the heavier side of the account and put the same total on the other side and arrive at the balance. Such balance is called balance c/d.

The difference of the total of two sides of an account is called Balance, which can be debit or credit balance.

Balance in the account has to be brought down. Such balance is called balance b/d. The balance that is brought down appears in the trial balance. If the brought down balance is debit, the amount appears under the debit column in the trial balance. Similarly, if the balance brought down is credit, the balance appears under the credit column in the trial balance. Both debits and credits should be equal in the trial balance. If both debit and credit are equal, it is an indication that there is arithmetical accuracy. In other words, for every debit, a corresponding credit has been made, while recording the transactions in books of accounts. However, it does not give the guarantee that the accounts are debited and credited, correctly. There is a possibility that one account may be debited/credited, wrongly, instead of the correct account. In such a situation, the trial balance may agree but the accounts appearing in the trial balance may not be showing the correct picture. In such an event, rectification of entries has to be made, as and when the errors are found out.

Balance b/d is the closing balance of the account for the year concerned. The same amount would become the opening balance for the next year.

Cash Account: Cash Account and Bank Account are not opened, separately, in the ledger. Cash Book shows Cash Account as well as Bank Account. Cash transactions like cash receipts and payments are, directly, entered in the cash column in Cash Book. Similarly, transactions relating to bank, receipts and payments by cheques/demand drafts etc, are, directly, entered in the bank column of Cash Book.

Cash Account and Bank Account, directly, appear in Cash Book. Hence, they do not appear, again, in ledger.

Cash Book is a journal and ledger too. It is a journal as cash/bank transactions are recorded, originally, directly in that book. Cash Book is also a ledger as it shows cash and bank balances, at the end of any date.

4.9 OPENING OF ACCOUNTS IN LEDGER, WITHOUT JOURNALIZING

In examinations, it is not necessary to write the journal entry, unless specifically asked. From the transactions, the student has to develop the ability of posting in the concerned accounts, to arrive at the balance of each account for preparation of trial balance.

The following illustration would illustrate preparation of accounts, without journal entries, for preparation of trial balance.

Illustration No. 3

Post the following transactions into ledger and extract the balances of ledger Accounts and prepare the Trial Balance of Tarkh & Co. as on 1.3.2008.

2008	Rs.
Feb. 5	Started Business with Capital
Feb. 7	20,000
Feb. 7	Purchased Plant & Machinery
Feb. 10	2,000
Feb. 10	Paid sundry expenses
Feb. 15	100
Feb. 15	Purchased goods for cash and received 5% trade discount
	5,000

Feb. 18	Bought goods from Theer & Co. on credit	5,000
Feb. 20	Returned goods to Theer & Co.	500
Feb. 25	Sold goods to Kishore & Co. on credit	4,000
Feb. 27	Received from Kishore & Co. and balance being allowed as discount	3,750
Feb. 28	Paid Rent	40
	Salary	100
	Electricity charges	200

Solution:**Journal**

Date	Journal Entry	L.F.	Dr.	Cr.
Feb. 18	Purchases AccountDr. To Theer & Co. (Being goods purchased on credit from Theer & Co.)		5,000	5,000
Feb. 20	Theer & Co.Dr. To Purchase Returns Account (Being goods returned to Theer & Co., purchased on credit)		500	500
Feb. 25	Kishore & Co.Dr. To Sales Account (Being goods sold on credit to Kishore & Co.)		4,000	4,000
Feb. 27	Discount AccountDr. To Kishore Account (Being discount allowed to Kishore)		250	250
	Grand Total		9,750	9,750

Note: Journal has been prepared for understanding to the students. As per the requirements of the problem, journal is not required. Postings can be made direct into the respective accounts.

Dr.	Cash Account			Cr.	
Date	Particulars	Amount	Date	Particulars	Amount
2008			2008		
Feb. 5	To Capital A/c	20,000	Feb. 7	By Plant & Mach.	2,000
Feb. 27	To Kishore & Co.	3,750	Feb. 10	By Sundry Expenses	100
			Feb. 15	By Purchases A/c	4,750
			Feb. 28	By Rent A/c	40
			Feb. 28	By Salary A/c	100
			Feb. 28	By Elec. Charges	200
			Feb. 28	By Balance c/d	16,560
Mar. 1	To Balance b/d	16,560			23,750

Dr.			Capital Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 28	To Balance c/d	Rs. <u>20,000</u>	2008 Feb. 5	By Cash A/c	Rs. <u>20,000</u>			
			Mar 1	By Balance b/d	20,000			

Dr.			Sundry Expenses Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 10	To Cash A/c	Rs. <u>100</u>	2008 Feb. 28	By Balance c/d	Rs. <u>100</u>			
Mar. 1	To Balance b/d	100						

Dr.			Purchases Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 15	To Cash A/c	Rs. 4,750	2008		Rs.			
Feb. 18	To Theer & Co.	5,000	Feb. 28	By Balance c/d	9,750			
		<u>9,750</u>			<u>9,750</u>			
Mar. 1	To Balance b/d	9,750						

Dr.			Plant & Machinery Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 7	To Cash A/c	Rs. <u>2,000</u>	2008 Feb. 28	By Balance c/d	Rs. <u>2,000</u>			
Mar. 1	To Balance b/d	2,000						

Dr.			Theer & Co. Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 20 ,, 28	To Purchase Return A/c To Balance c/d	Rs. 500 4,500	2008 Feb. 18	By Purchases A/c	Rs. 5,000			
		<u>5,000</u>			<u>5,000</u>			
			Mar. 1	By Balance b/d	4,500			

Dr.			Purchase Returns Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 28	To Balance c/d	Rs. <u>500</u>	2008 Feb. 20	By Theer & Co.	Rs. <u>500</u>			
			Mar. 1	By Balance b/d	500			

Dr.			Kishore & Co. Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 25	To Sales A/c	Rs. 4,000	2008 Feb. 27 Feb. 27	By Cash A/c By Discount A/c	Rs. 3,750 250			
		<u>4,000</u>						<u>4,000</u>

Dr.			Discount Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 27	To Kishore A/c	Rs. <u>250</u>	2008 Feb. 28	By Balance c/d	Rs. <u>250</u>			
Mar. 1	To Balance b/d	250						

Dr.			Rent Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 28	To Cash A/c	Rs. <u>40</u>	2008 Feb. 28	By Balance c/d	Rs. <u>40</u>			
Mar. 1	To Balance b/d	40						

Dr.			Salary Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 28	To Cash A/c	Rs. <u>100</u>	2008 Feb. 28	By Balance c/d	Rs. <u>100</u>			
Mar. 1	To Balance b/d	100						

Dr.			Electricity Charges Account			Cr.		
Date	Particulars	Amount	Date	Particulars	Amount			
2008 Feb. 28	To Cash A/c	Rs. <u>200</u>	2008 Feb. 28	By Balance c/d	Rs. <u>200</u>			
Mar. 1	To Balance b/d	200						

Dr.			Sales Account			Cr.		
Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount	
2008 Feb., 28	To Balance c/d		Rs. <u>4,000</u>	2008 Feb. 25	By Kishore A/c		Rs. <u>4,000</u>	
				Mar. 1	To Balance b/d		4,000	

Trial Balance on 1st March, 2008

Name of Account	Dr.	Cr.
Cash Account	16,560	
Capital Account		20,000
Sundry Expenses Account	100	
Purchases Account	9,750	
Plant & Machinery Account	2,000	
Theer & Co. Account		4,500
Purchase Returns Account		500
Discount Account	250	
Rent Account	40	
Salary Account	100	
Electricity Charges Account	200	
Sales Account		4,000
Total	29,000	29,000

4.10 TRIAL BALANCE

Final balances (balance b/d) appearing in different accounts in the ledger should appear in the trial balance. The total debits of different accounts should be equal to the total credits.

When total debits are equal to total credits, it is said that the trial balance is balanced. Balanced trial balance is only an indication that there is arithmetical accuracy of accounts. There is no guarantee that there are no errors, once trial balance is tallied. Even if a wrong account is debited or credited, instead of the correct account, still trial balance would tally.

A tallied trial balance does not mean that the accounts are totally free from errors.

Objective: It is a must for every business to prepare ‘final accounts’ with the specific objective to find out the profitability of the transactions made and ascertain the true and fair financial position of the firm.

The trial balance is a list of accounts prepared from the Ledger, which contains different accounts. It contains the Debit and Credit balances of all Ledger accounts. Trial balance is essential for preparation of final accounts.

Trial Balance may be simply defined as a statement prepared by putting all accounts, debits on one side and with credits on the other side to check the arithmetical accuracy of the Ledger accounts. It is a link between the Ledger accounts and final accounts.

Characteristics of Trial Balance:

- It is a statement or a list.
- It is a summary of all accounts, with debit and credit balances.
- The total of debit balances and credit balances must be equal.
- It is the only base for preparation of final accounts.
- It can be prepared at any time.

Advantages:

- Preparation of final accounts becomes easy.
- One can rely on the results derived out of trial balance, when the total of debits is equal to the total of credits.
- Some accounting flaws in respect of postings can, easily, be detected by preparing trial balance.
- The work of an accountant becomes easy for ascertaining the profitability and financial position with the preparation of trial balance.

Accounts in Trial Balance

The following accounts always appear with debit balance in Trial Balance:

Asset accounts: Land account, building account, machinery account, and furniture account, debtors account, stock account, bills receivable etc.

Accounts relating to expenses and losses: Salaries account, wages account, rent account, carriage account, discount account, bad debts account, depreciation account, purchases account, return inward account (sales return account) etc.

The following accounts always appear with credit balances in Trial Balance:

Liabilities accounts: Creditors account, loan account, mortgage account, bills payable account, bank overdraft account, all types of reserves and funds accounts.

Income and gain accounts: Interest realized account, rent collected account, discount received account, sales account, return outward account (purchase return account) etc.

Illustration No. 4

Post the following transactions in the books of Theer & Co. during the year 2008.

- (a) Mr. Kalyan has to pay Rs. 15,000 but could pay 45 paisa in a rupee.
- (b) Outstanding wages (wages not paid during the last year) were Rs. 200. They are paid now.
- (c) Books of accounts show the typewriter at Rs. 3,000, which has been taken by the owner of the business for personal use at home.
- (d) Old furniture Rs. 800 has been sold for Rs. 600 in cash.
- (e) A debt previously written off as bad, recovered this year Rs. 350.
- (f) Goods of Rs. 200 sold to Kishore returned by him.

Solution:

LEDGER

Dr.	Cash Account					Cr.	
Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008			Rs.	2008			Rs.
(a)	To Mr. Kalyan		6,750	(d)	By Typewriter A/c		160
(d)	To Furniture A/c		600	(b)	By Outstanding wages		200
(e)	To Bad Debts Recovered A/c		350		By Balance c/d		7,340
			<u>7,700</u>				<u>7,700</u>
	To Balance b/d		7,340				

Bad Debts Account

Dr.	Bad Debts Account					Cr.	
Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008			Rs.	2008			Rs.
(a)	To Mr. Kalyan		8,250		By Balance c/d		8,250
	To Balance b/d		8,250				

Mr. Kalyan Account

Dr.	Mr. Kalyan Account					Cr.	
Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008			Rs.	2008			Rs.
(a)	To Balance b/d		15,000	(a) (a)	By Cash A/c By Bad Debts A/c		6,750 8,250
			<u>15,000</u>				<u>15,000</u>

Outstanding wages Account

Dr.	Outstanding wages Account					Cr.	
Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008			Rs.	2008			Rs.
(b)	To Cash A/c		200		By Opening Balance		200
			<u>200</u>				<u>200</u>

Dr.	Drawing Accounts	Cr.
-----	------------------	-----

Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008 (c)	To Typewriter A/c		Rs. 3,000	2008	By Balance c/d		Rs. 3,000
	To Balance b/d		3,000				

Dr.	Typewriter Account	Cr.
-----	--------------------	-----

Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008	To Opening Balance		Rs. 3,000	2008 (c)	By Drawings A/c		Rs. 3,000
			3,000				3,000

Dr.	Furniture Account	Cr.
-----	-------------------	-----

Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008	To Opening Balance		Rs. 800	2008 (d)	By Cash A/c		Rs. 600
			800	(d)	By Loss on sale of furniture A/c		200
							800

Dr.	Loss on Sale of Furniture Account	Cr.
-----	-----------------------------------	-----

Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008 (d)	To Furniture A/c		Rs. 200	2008	By balance c/d		Rs. 200
	To Balance b/d		200				

Dr.	Bad Debts Recovered Account	Cr.
-----	-----------------------------	-----

Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008	To Balance c/d		Rs. 350	2008 (e)	By Cash A/c		Rs. 350
					By Balance b/d		350

Sales Returns (Returns Inward) Account							
Dr.							Cr.
Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008			Rs.	2008			Rs.
(f)	To Kishore		<u>200</u>		By Balance c/d		<u>200</u>
	To Balance b/d		200				

Kishore Account							
Dr.							Cr.
Date	Particulars	J.F.	Amount	Date	Particulars	J.F.	Amount
2008			Rs.	2008			Rs.
	To Balance c/d		<u>200</u>	(f)	By Sales Returns A/c		<u>200</u>
					By Balance b/d		<u>200</u>

Illustration No. 5

Prepare the Trial Balance of M/s. Radhi & Co. for the year ended on 30th June, 2007 from the following figures:

Capital Rs. 46,000, Cash Rs. 2,400, Commission (Dr.) Rs. 500, Purchases Rs. 23,800, Bank Rs. 5,100, Drawings Rs. 1,240, Discount (Dr.) Rs. 250, Salaries Rs. 3,710, Furniture Rs. 2,200, Wages Rs. 9,270, Sales Rs. 40,960, Rent Rs. 2,520, Debtors Rs. 27,040, Sundry expenses Rs. 4,120, Creditors Rs. 8,840, Machinery Rs. 6,600, Advertisements Rs. 600, Opening stock Rs. 6,000.

Solution:**Trial Balance as on 30-6-2007**

Ledger Accounts	L. F.	Dr. Amt. Rs.	Cr. Amt. Rs.
Capital			46,000
Cash		2,400	
Commission		500	
Purchases		23,800	
Bank		5,100	
Drawings		1,240	
Discount		250	
Salary		3,710	
Furniture		2,200	
Wages		9,720	
Sales			40,960
Rent		2,520	

Debtors		27,040	
Sundry expenses		4,120	
Creditors			8,840
Machinery		6,600	
Advertisement		600	
Opening Stock		6,000	
Grand Total		95,800	95,800

Illustration No. 6

The following Trial Balance is prepared from the books of M/s. Kalyan & Kishore Co. for the year ended 31-12-2007.

Rs.

Ledger Accounts	L. F.	Dr. Amt.	Cr. Amt.
Capital		25,000	
Sales		40,000	
Cash in hand			3,600
Purchases			30,330
Machinery			20,600
Drawings			1,200
Debtors			9,600
Purchases Returns			500
Sales Returns		600	
Opening Stock		8,000	
Discount Allowed		800	
Creditors			11,330
Trade Expenses		2,100	
Grand Total		76,830	76,830

The total of this Trial Balance is correct, but the Trial Balance is not correct. Prepare correct Trial Balance.

Solution:**Correct Trial Balance as on 31st Dec. 2007**

Ledger Accounts	L. F.	Dr. Amt. Rs.	Cr. Amt. Rs.
Capital			25,000
Sales			40,000
Cash in hand		3,600	
Purchases		30,330	

Machinery		20,600	
Drawings		1,200	
Debtors		9,600	
Purchases Returns			500
Sales Returns		600	
Opening Stock		8,000	
Discount Allowed		800	
Creditors			11,330
Trade Expenses		2,100	
Grand Total		76,830	76,830

Pick up the most Appropriate Answer

1. The process of recording in the ledger is called:

(a) Journalizing	(b) Posting
(c) Narrating	(d) None
2. Cash Book is a

(a) book of original entry	(b) Subsidiary book
(c) both (a) and (b)	(d) none
3. Trial Balance is

(a) statement	(b) account
(c) both (a) and (b)	(d) none
4. If debits and credits are equal in a trial balance,

(a) arithmetical accuracy in accounts is established
(b) still errors may be there, undetected in accounts
(c) guarantee that there are no errors in accounts
(d) a & b
(e) a & c
5. Prepaid Rent was Rs.4,900 at the beginning of the year, and Rs. 6,100 at the end of the year. Rent Expense was Rs. 30,000. What amount of cash was paid for rent during the year?

(a) 36,100	(b) 31,200
(c) 30,000	(d) 28,800

Answers

1. (b) 2. (c) 3. (a) 4. (d) 5. (b) An extra amount of Rs. 1,200 has been paid, in addition to the actual rent of Rs. 30,000. So Rs. 31,200 has been paid by cash.

Interview Questions

- Q.1.** What is the purpose of a ledger?

Ans. Ledger contains all the accounts maintained for the purpose of business or profession. It shows the details of expenses as well as incomes under different heads, amount to be received and paid, individually. This information is useful for the purpose of control.

Q.2. Explain ‘Posting’?

Ans. The process of recording transactions from the journal and subsidiary books (including cash book) to the ledger is called ‘Posting’.

Q.3. Which book is a journal as well as a Ledger?

Ans. Cash Book is a journal as well as a Ledger. Cash and bank transactions are directly entered into the cash book. So, cash book serves the purpose of a journal, book of original entry. The function of a ledger is to show the balance of an account. From cash book, cash and bank balance, at the end of any day, is known, serving the purpose of a ledger too. Cash Book has a unique position, serving the purposes of a journal as well as a ledger.

Q.4. What is a ‘Trial Balance’?

Ans. Trial balance is a statement or list showing details of all the accounts, along with their corresponding balance (debit or credit) as shown in the ledger. It is a summary of all the accounts, contained in the ledger.

Q.5. What benefit one could get, if one reads the trial balance, at a glance?

Ans. A trial balance, at a glance, gives the overall position of the accounts contained in the ledger.

Q.6. What is the need of a ‘Trial Balance’?

Ans. Preparation of trial balance ensures arithmetical accuracy of books of accounts. If the debits are equal to credits, it is an indication that the books of accounts, arithmetically, are correct. Trial balance is essential for preparation of financial statements.

Q.7. If trial balance is tallied, does it guarantee that the books of accounts are correct in all respects?

Ans. No, there is no guarantee that the books of accounts are correct in all respects. Even, if a wrong account is debited, still trial balance would agree. Agreement of trial balance conveys arithmetical accuracy of accounts only.

Q.8. What is the objective in preparing a trial balance?

Ans. Trial balance facilitates preparation of financial statements like profit and loss account and balance sheet. Without preparing the trial balance, it is not possible to prepare the financial statements.



CHAPTER
5

Preparation of Final Accounts with Adjustments

- Meaning of Final Accounts
- Why this name – Final Accounts?
- Preparation of Final Accounts
- Meaning and Need of Adjustments
- Adjustments in Final Accounts
 - Closing Stock
 - Outstanding Expenses
 - Prepaid or Unexpired Expenses
 - Accrued Income
 - Unearned Income or Income Received in Advance
 - Depreciation
 - Interest on Capital
 - Interest on Drawings
 - Interest on Loan
 - Bad Debts
 - Provision for Bad and Doubtful Debts
 - Accidental Losses
 - Commission Payable on Net Profits
- Closing Entries
- My Balance Sheet not Tallied

- Illustrations
- Pick up the most Appropriate
- Check Your Understanding
- Interview Questions

5.1 MEANING OF FINAL ACCOUNTS

The term ‘Final Accounts’ is a broader term. The three following financial statements are prepared for the preparation of final accounts:

- (i) **Trading account:** It shows gross profit/loss of the business.
- (ii) **Profit & loss account:** It shows the net profit/loss of the business.
- (iii) **Balance sheet:** It shows the financial position of the business.

Out of the above three statements, trading, profit & loss accounts are prepared, together, and balance sheet is prepared, independently. Here, it is very necessary to remember that these accounts are not prepared in the ledger rather than on the plain sheets or papers. These papers are filed for future reference.

The method of preparing these accounts is different from other accounts like personal, real, nominal accounts.

5.2 WHY THIS NAME – FINAL ACCOUNTS?

As stated above, the term ‘final accounts’ refer to trading account, profit & loss account and balance sheet. Balance sheet is a statement but even then it is included in final accounts. Now, here the question arises that why they are named final accounts?

Every businessman is, ultimately, interested to know the final result of the business. These are called final accounts because they are the last accounts, prepared at the end of the year. They serve the ultimate purpose of keeping accounts. Their purpose is to analyze the effect of various incomes and expenses during the year and the resultant profit or loss.

Trading, profit & loss account and balance sheet, all these three together, are called as final accounts. Final result of trading is known through Profit and Loss Account. Financial position is reflected by Balance Sheet. These are, usually, prepared at the close of the year hence known as final accounts.

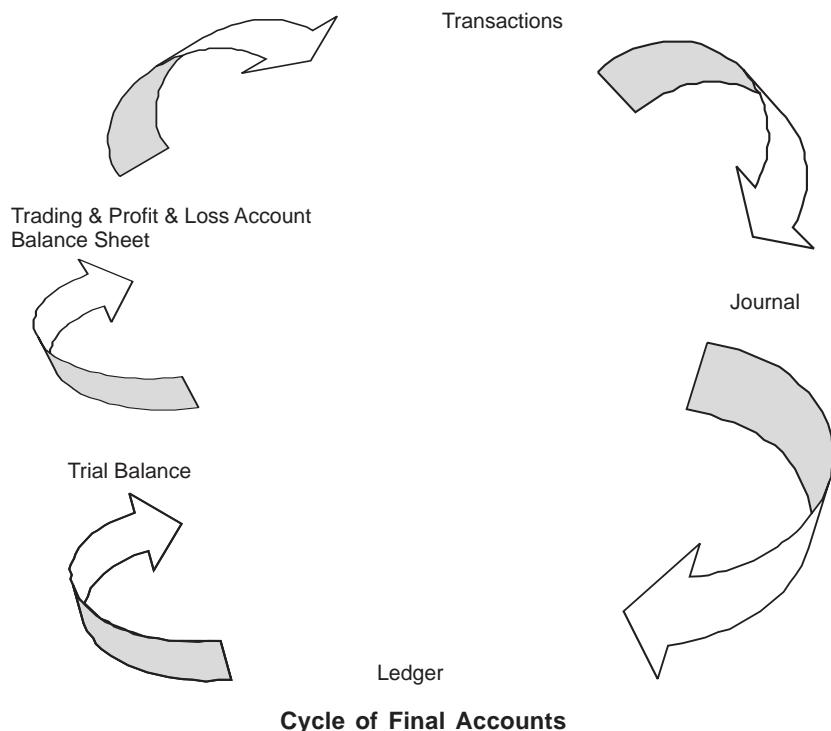
5.3 PREPARATION OF FINAL ACCOUNTS

Final balances of all the accounts in the ledger are transferred to trial balance. From trial balance, expenses and income accounts are transferred to trading account and profit and loss account.

Accounts, with balances, which are to be carried forward to the next year, are shown in the balance sheet. The balance sheet constitutes the final stage of accounting.

Final accounts have to be prepared, every year, in every business. Trading and profit & loss accounts are prepared, after all the accounts have been completely written and trial balance is extracted. Before preparing final accounts, it becomes necessary to examine whether all the expenses and incomes for the year for which accounts are prepared have been duly provided for and included in the accounts. Circumstances and items are common where adjustments, at the end of the accounting period, are to be made. In such items, no cash is involved hence no record has been kept till year-end.

Form of Final Accounts: There is a standard format of final accounts only in the case of a limited company. There is no fixed prescribed format of financial accounts in the case of a proprietary concern and partnership firm.



5.4 MEANING AND NEED OF ADJUSTMENT ENTRIES

Sometimes, it is seen that after preparation of trial balance, but, prior to preparation of final accounts, it may be noticed some business transactions have been, completely or partially, omitted to be recorded or entered wrong. Besides this, there are some incomes or expenses, which are

related to the next year but have been received or paid during the current year. Before preparing trading and profit & loss accounts, adjustment entries are necessary in these accounts.

Transactions omitted relate to the current year must be entered in books. If a transaction entered is not related to the current year, fully or partly, that portion of income or expense must be excluded. This process is made through adjustment entries in the books of accounts. If we ignore to make the necessary adjustments, the trading, profit & loss accounts do not show the true profit or loss and in consequence balance sheet fails to depict true financial position of the business. This situation defeats the very purpose of final accounts. Hence, adjustment entries play an important role in presenting correct picture of accounts.

5.5 ADJUSTMENTS IN FINAL ACCOUNTS

Final Accounts are prepared, normally, for a complete period. It must be kept in mind that expenses and incomes for the relevant accounting period are to be taken, while preparing final accounts. If an expense has been incurred but not paid during the period, a liability for the unpaid amount should be created, before finding out the operating result and financial position of a concern. In order to prepare the final accounts on mercantile system of accounting, all expenses and incomes relating to the period, whether incurred or not, received or not, should be brought into the books. For doing this, a concern is required to pass certain entries at the end of the year to adjust the various items of incomes and expenses. Such entries are called adjusting entries.

Accounting Treatment: Trading and Profit and Loss and Balance sheet, together, are called as final accounts. Item appearing in the trial balance appears only once in final accounts, either on the debit or credit. Any adjustment entry requires two postings, debit and credit for the same amount. Important point is students should do the posting (debit and credit) in the concerned accounts, simultaneously. Care is to be exercised that the amount is the same for the total debit and credit.

The following are the important adjustments, which are, normally made at the end of accounting period.

5.5.1 Closing Stock

Every concern prepares a list of unsold goods at the end of the period and puts value against it. It is to be remembered that stock is valued at cost or market price, whichever is less.

Closing Stock appears below the Trial Balance as an adjustment entry: Normally, closing stock appears as an adjustment entry in the problem and is given at the end of the trial balance. For example, if the value of stock at the end of the period is Rs. 30,000 and is shown below the trial balance, then the following adjusting entry will be passed:

Closing Stock A/c ... Dr	30,000
To Trading Account	30,000

The two-fold effect of this entry will be:

- (i) Stock will have a debit balance. Being a real account, it will be shown on the assets side of the Balance Sheet.
 - (ii) Closing stock will be shown on the credit side of the Trading Account.

Dr.	Trading Account for the year ending...	Cr.	
Particulars	Amt.	Particulars	Amt.
		By closing stock	30,000

BALANCE SHEET as on

Liabilities	Amt.	Assets	Amt.
		Closing stock	30,000

Closing Stock appearing in Trial Balance: Sometimes, opening and closing stock are adjusted through purchases. In this case, closing stock (debit balance) appears in the Trial Balance. Closing stock, under this case, will not be shown on the credit side of the Trading Account but will be shown on the assets side of the Balance Sheet only. Remember, any entry appearing in the Trial Balance appears only once either on the debit side or credit side, depending on the nature of the transaction. Closing stock is a real account, hence appears on the assets side of the balance sheet.

5.5.2 Outstanding Expenses

There are certain expenses, which have been incurred but not paid. These expenses are called outstanding expenses. For example, salary to the clerk Rs. 10,000 is due for the month of December. Books are closed at the end of December. In order to bring this transaction into accounts, the following adjustment entry will be passed:

Salary AccountDr. Rs. 10,000

To Outstanding Salary A/c.

Rs. 10,000

The two fold effect of this entry will be:

- (i) Outstanding salary will be added to salary, if any, on the debit side of Profit & Loss Account.
 - (ii) Outstanding Salary Account, being personal and having credit balance, will be shown on the liabilities side of the Balance Sheet.

Dr.	PROFIT & LOSS Account for the year ending...	Cr.	
Particulars	Amt.	Particulars	Amt.
To Salary Account	10,000		

BALANCE SHEET as on ...

Liabilities	Amt.	Assets	Amt.
Outstanding Salary	10,000		

5.5.3 Prepaid or Unexpired Expenses

Those expenses which have been paid, in full, but their utility or benefit has not expired during the accounting period are called prepaid or unexpired expenses. In other words, amount has been paid even for the period subsequent to the balance sheet date. For example, annual premium Rs. 12,000 is paid on 1st July, where accounting year closes on 31st December. Rs. 6000 will be insurance paid in advance. To bring this into account, the following adjusting entry will be passed:

Prepaid Insurance Premium Account.....Dr. Rs. 6,000

To Insurance Premium Rs. 6,000

The double effect of this adjusting entry will be:

- (i) Prepaid insurance will be deducted from the insurance premium on the debit side of the Profit & Loss Account.
 - (ii) Prepaid insurance, being personal account and having debit balance, will be shown on the assets side of the Balance Sheet.

Dr. PROFIT & LOSS Account for the year ending... Cr.

Particulars	Amt.	Particulars	Amt.
To Insurance Premium	12,000	6,000	
Less Prepaid Insurance Premium	<u>6,000</u>		

BALANCE SHEET as on

Liabilities	Amt.	Assets	Amt.
		Prepaid Insurance	6,000

5.5.4 Accrued Income

Income earned but not received during the accounting period is called accrued Income.

Suppose, the interest on investments shown in the trial balance is Rs. 19,500.

The adjustment may run like this. Interest @10% is due on investments of Rs. 10,000 for 6 months, though accrued, has not been yet been received.

This interest Rs. 500 will be accrued income. In order to bring this into account, the following adjusting entry will be passed:

Accrued Interest on Investments AccountDr. Rs. 500

To Interest on Investment Account Rs. 500

The two fold effect of this entry will be:

- (i) Interest on Investment account (accrued interest) will be added to the interest account on the credit side of the profit & loss account.
- (ii) Accrued interest, being personal account and having debit balance, will be shown on the debit side of the Balance Sheet.

Dr. PROFIT & LOSS Account for the year ending... Cr.

Particulars	Amt.	Particulars	Amt.
		By Interest 19,500 Add Interest accrued 500	20,000

BALANCE SHEET as on

Liabilities	Amt.	Assets	Amt.
		Accrued Interest on Investments	500

Illustration No. 1

On the 1st January, 2008 Nilesh lent Rs 5,000 @ 6% per annum. Interest is receivable on 31st December each year. The accounts are closed on 30th June each year.

Give journal entries on 30th June, 2008 and 1st July, 2008 and show the ledger, profit & loss account and balance sheet 30th June, 2008.

Solution:

Date	Particulars	L.F.	Dr. Amt.	Cr. Amt.
2008 June 30	Accrued interest a/c Dr. To interest a/c (interest for 6 months accrued but not received)		Rs. 150	Rs. 150
2008 July 1	Interest a/c Dr. To accrued interest a/c (transfer of accrued interest to interest account)		150	150

Ledger

Dr.	Interest account			Cr.	
Date	Particulars	Amount	Date	Particulars	Amount
2008 June 30	To profit & loss a/c	Rs. 150	2008 June 30	By accrued interest a/c	Rs. 150

Dr.			Accrued Interest account			Cr.	
Date	Particulars	Amount	Date	Particulars	Amount		
2008 June 30	To interest a/c	Rs. <u>150</u>	2008 June 30	By balance c/d	Rs. <u>150</u>		
2008 July 1	To balanced b/d	150	2008 July 1	By interest a/c	150		

Profit & Loss Account for the year ending 30th June, 2008

Particulars	Amount Rs.	Particulars	Amount Rs.
		By interest a/c	150

Balance Sheet as on 30-6-08

Liabilities	Amount Rs.	Assets	Amount Rs.
		Accrued interest	150

5.5.5 Unearned Income or Income Received in Advance

Sometimes, the amount received in respect of an income during the year pertains, partially, to the next year. Suppose a landlord corrects rent for one quarter, in advance, and closes his account on 30th June each year. Suppose, a tenant has occupied a house on 1st June and pays Rs. 1,800 as rent for 3 months. The landlord must not treat the whole of the rent received as income for the current year. Two months' rent pertains to the next year and should be credited to the Profit and Loss Account of next year. This will ensure that the income for the current year is not overstated. The required entry is:

Rent AccountDr. Rs. 1,200

To Rent Received in Advance Account Rs. 1,200

In the Profit and Loss Account and the Balance Sheet, the item will be shown as indicated below:

Dr. PROFIT & LOSS Account for the year ending... Cr.

Particulars	Amt.	Particulars	Amt.
		By Rent 1,800 Less: Received in advance <u>1,200</u>	600

BALANCE SHEET as on

Liabilities	Amt.	Assets	Amt.
Rent Received in advance	1,200		

The Rent Received in Advance Account will be transferred to the Rent Account in the next year.

This principle should be applied to all incomes, which pertain wholly, or partially to the next year. Other examples can be the fees received from students, before the summer vacation or subscription received in respect of a magazine. The fees applicable to the period after the close of the accounting year or the subscription for copies, to be supplied after the end of the year, should be credited to unearned income account by debit to the account of the students' fees or the subscription. This will ensure that the income for the current year is not overstated.

5.5.6 Depreciation

The value of fixed assets goes on reducing year by year because of wear, tear and efflux of time. This fall in the value should be treated as a loss or expense, to be considered before profit or loss is ascertained. The value to be shown in the Balance Sheet must also be, suitably, reduced. To continue to show it at the old figure will be overstating the assets. Depreciation is usually computed on the basis of the life of the assets. Suppose, a machine costs Rs. 1,00,000 and has a life of 5 years. Then, each year $1/5^{\text{th}}$ of the cost, i.e., Rs. 20,000 should be treated as an expense; only the remaining amount is to be shown in the balance sheet. The entry is:

Depreciation Account	...Dr. 20,000	
To Machinery Account	20,000	

Depreciation is debited to the Profit & Loss Account. In the final accounts, the item will figure as shown below:

Dr.	PROFIT & LOSS Account for the year ending ..		Cr.
Particulars	Amt.	Particulars	Amt.
To Depreciation	20,000		

BALANCE SHEET as on

Liabilities	Amt.	Assets	Amt.
		Machinery 1,00,000	80,000
		Less: Depreciation <u>20,000</u>	

Depreciation appearing in Trial Balance: In this case, depreciation entry has, already, been passed, before preparation of the trial balance. In that case only, the Depreciation Account will figure in the trial balance itself. The concerned asset will appear at its reduced value since the amount of the depreciation would have been credited to it. In such a case, no further adjustment will be necessary; the Depreciation Account will be transferred to the debit of the Profit & Loss Account like other expenses.

Again, it is reminded if any entry appears in the trial balance, only once it appears in the financial statements. Here, it appears in profit & loss account. Only Adjustment involves two entries.

Pro rata depreciation: While computing depreciation, the period for which the asset is used should be kept in mind. Suppose, a machine is purchased on 1st January, 2008 for Rs. 10,000 and another machine is purchased on 30th June, 2008 for Rs. 6,000: the rate of depreciation is 10%. Accounts are closed at the end of the calendar year. The depreciation for 2008 will be Rs. 1,300 as shown below:

	Rs.
On Rs. 10,000 for one year @10%	1,000
On Rs. 6,000 for six months @10%	300
	<u>1,300</u>

Treatment in case of Loose Tools: In some cases like loose tools, depreciation is arrived at by comparing the value on two dates. Suppose loose tools were valued at Rs. 2,300 on 1st January, 2008 and at Rs. 2,100 on 31st December, 2008, the depreciation will be Rs. 200.

5.5.7 Interest on Capital

The proprietor may wish to ascertain his profit, after considering the interest for the amount invested in the firm. Suppose, the capital is Rs. 2,00,000 and the rate of interest is 5%. Then, the interest will be Rs. 10,000. It will be treated like other expenses and debited to the Profit and Loss Account; the amount will also be credited to the Capital Account. The entry is:

Interest on Capital Account	...Dr.	10,000
To Capital Account		10,000

In the final statements of account, the item will appear as shown below:

Dr.	PROFIT & LOSS Account for the period ending...		Cr.
Particulars	Amt.	Particulars	Amt.
To Interest on Capital	10,000		

BALANCE SHEET as on...

Liabilities	Amt.	Assets	Amt.
Capital	2,00,000	2,10,000	
Add: Interest on capital	<u>10,000</u>		

5.5.8 Interest on Drawings

The proprietor may also realize that when he draws money for private use, the firm loses interest as funds for business are reduced. Therefore, the proprietor's capital may be debited with the interest on the money drawn by him. Interest will depend on the amount and the date of

withdrawal concerned. In absence of information about the date of drawings, it should be assumed that the drawings were made, evenly, throughout the year; therefore, interest should be charged for six months on the full amount. Suppose, capital is Rs. 2,00,000 and the total drawings are Rs. 10,000. The rate of interest is 6% on the drawings.

The average amount of drawings on which interest is to be charged is Rs. 5,000. So, interest @ 6% on drawings Rs. 5,000 will be Rs. 300. The entry to be passed is:

Interest on Drawings	...Dr.	Rs. 300
	To Profit & Loss Account	Rs. 300

It will be shown as follows:

Dr.	PROFIT & LOSS Account for the year ending....		Cr.
Particulars	Amt.	Particulars	Amt.
		By Interest on Drawings	300

BALANCE SHEET as on...

Liabilities	Amt.	Assets	Amt.
Capital	2,00,000		1,89,700
Less: Drawings	<u>10,000</u>		
	1,90,000		
Less: Interest on Drawings	<u>300</u>		

Drawings and Interest on drawings are reduced from Capital account.

5.5.9 Interest on Loan

Interest must be paid on loans, whether there is profit or loss. It is calculated by reference to the rate of interest agreed to be paid by the firm. Suppose a loan of Rs. 20,000 is taken on 1st May 2008 at 18%, if the accounts are closed on 31st December, the interest for the year will be Rs. 2,400 i.e., $Rs. 20,000 \times 18/100 \times 8/12$. The amount of the interest, if not paid, is to be credited to the Outstanding Interest Account. The debit entry will be to the Interest on Loan Account. The entry is:

Interest on Loan AccountDr.	Rs. 2,400
	To Outstanding Interest Account	Rs. 2,400

The item will figure as follows in the final accounts:

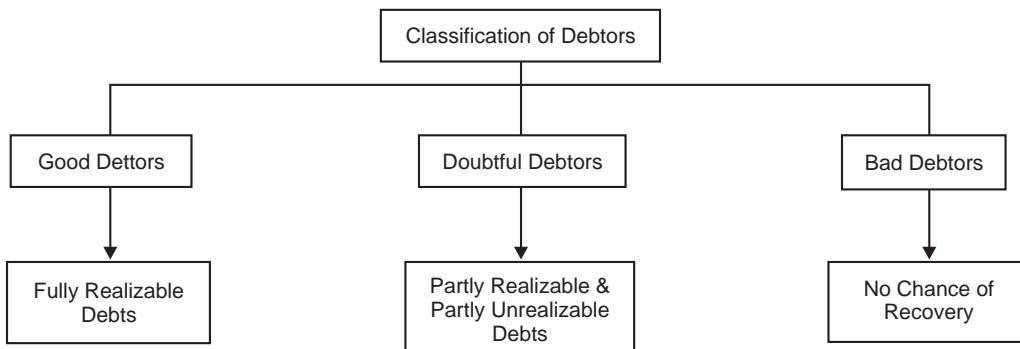
Dr.	PROFIT & LOSS Account for the period ending...		Cr.
Particulars	Amt.	Particulars	Amt.
To Interest on Loan	2,400		

BALANCE SHEET as on...

Liabilities	Amt.	Assets	Amt.
Loan	2,00,000		
Outstanding Interest	2,400		

5.5.10 Classification of Debtors

Once goods are sold on credit, debtors appear in accounts. In place of debtors, bills receivable may also appear. Debtors and bills receivable represent the amounts to be received by the firm for the credit sales made. All debtors and bills receivable may not be realizable. Where recovery is impossible, those amounts are to be written off as bad debts. Against likely bad debts, provision is required to be made. Both bad debts and provision for bad debts reduce the profits of the firm.



5.5.11 Bad Debts

Credit sales have become a must these days and bad debts occur, when there are credit sales. Bad Debt is a loss to the business and a gain to the debtor. The following journal entry should, therefore, be passed in the event of a debt becoming bad.

Bad Debts A/c Dr.

To Debtor's Personal A/c

Illustration No. 2

Kalyan & Co. has been running its cloth business. At the end of Dec. 2008, the firm's books of accounts show the debtors at Rs. 4,00,000. Out of those debtors, Rs. 20,000 have been recognized as bad debts as those debtors have become insolvent.

Show the position in the financial statements.

Solution:

Dr.	PROFIT & LOSS Account for the period ending...		Cr.
Particulars	Amt.	Particulars	Amt.
To Bad Debts	20,000		

BALANCE SHEET as on...

Liabilities	Amt.	Assets	Amt.
		Sundry Debtors 4,00,000 Bad Debts <u>20,000</u>	3,80,000

Illustration No. 3

Following are the extracts from Trial Balance of a business.

TRIAL BALANCE
as on 31st December, 2008

Particulars	Dr. Amount Rs.	Cr. Amount Rs.
Sundry Debtors	50,000	
Bad Debts	5,000	

Additional information: Mehata, one of the debtors became insolvent and it was learnt on 31st December, that out of the total debt of Rs. 5,000 only Rs. 2,500, will be recovered from him. No adjustment has so far been made.

You are required to pass necessary adjusting entries and show how the items will appear in the Final Accounts of the business.

Solution:**JOURNAL**

Date	Particulars	Dr. Amount Rs.	Cr. Amount Rs.
	Bad Debts A/c Dr. To Mehata (Being the amount irrecoverable)	2,500	2,500

PROFIT & LOSS ACCOUNT
for the year ending 31st December, 2008

Particulars	Amount Rs.	Particulars	Amount Rs.
To Bad Debts (as given in the Trial Balance)	5,000		
Add: Additional bad debts	<u>2,500</u>	7,500	

BALANCE SHEET
as on 31st December, 2008

Liabilities	Amount Rs.	Assets	Amount Rs.
		Sundry Debtors Less: Bad Debts	50,000 <u>2,500</u>

Note: Bad debts, appearing in Trial Balance, have already been provided for. Now, the adjustment relates to additional bad debts for the amount appearing in sundry debtors.

5.5.12 Provision for Bad and Doubtful Debts

Prudent accounting principle is to make provision for expected losses and not to take credit for expected profits.

All credit sales would not be realized in the year in which the sales are made. Sales may be made in one year and actual realizations may happen in the succeeding year. A firm, therefore, makes provision at the end of the accounting year, for likely bad debts, which may happen during the course of the next year. The simple reason is all collections do not occur in the same year in which sales are made. Some sales are likely to become bad in the course of the next year. So, the proper course would be to charge such likely bad debts in that accounting year in which sales have been made, since, the profit on such sales has been considered in the year in which the sales have been made.

The following journal entry is passed for creating a provision for bad debts.

Profit & Loss A/c	Dr.
To Provision for Bad and Doubtful Debts	

The provision for bad debts is charged to the Profit & Loss Account and is deducted from debtors in the Balance Sheet.

Calculation of Provision for Bad and Doubtful Debts: Normally, problem states the % of Provision for Bad and Doubtful Debts. On which amount of debtors, this % of Provision for Bad and Doubtful Debts is to be calculated?

- From debtors, first deduct total bad debts from debtors. Bad debts are that amount, appearing in the trial balance and any further provision that may be required in the adjustment for bad debts.
- On the balance amount of debtors only, Provision for Bad and Doubtful Debts is to be calculated. Reason is simple. Once, debt becomes bad, it would be written off. So, bad debts amount is already excluded from debtors. The balance amount of debtors is only good debts, expected to be realized. Even this amount may not be totally recoverable and for this reason only, Provision for Bad and Doubtful Debts would be created.

Provision for Bad and Doubtful Debts is to be calculated on that amount of debtors, after deducting bad debts. Provision for Bad and Doubtful Debts is not to be calculated on the total amount of debtors.

Illustration No. 4

Following are the extracts from the Trial Balance of a firm.

**TRIAL BALANCE
as on 31st December, 2008**

Particulars	Rs.	Rs.
Sundry Debtors	30,000	
Bad Debts	5,000	

Additional Information:

- After preparing the Trial Balance, it is learnt that a debtor, Talwar has become insolvent and therefore, the entire amount of Rs 3,000 due from him was irrecoverable.
- Create 10% provision for bad and doubtful debts.

You are required to pass necessary adjusting entries and show how the items will appear in the firm's Balance Sheet.

Solution:

ADJUSTING JOURNAL ENTRIES

Date	Particulars	Dr. Amount Rs.	Cr. Amount Rs.
	Bad Debts A/c To Talwar (Being amount due from Talwar proved to be bad)	Dr. 3,000	3,000
	Profit & Loss A/c To Provision for Bad and Doubtful Debts (Being bad debts provision created)	Dr. 2,700	2,700

PROFIT AND LOSS ACCOUNT
for the year ending 31st December, 2008

Particulars	Amount Rs.	Particulars	Amount Rs.
To Bad Debts (as given in the Trial Balance)	5,000		
Add: Additional bad Debts	<u>3,000</u>	8,000	
Provision for bad and Doubtful debts		2,700	

BALANCE SHEET
as on 31st December, 2008

Liabilities	Amount Rs.	Assets	Amount Rs.
		Sundry Debtors Less: Additional bad debts Less: Provision for bad debts	30,000 <u>3,000</u> 27,000 <u>2,700</u> 24,300

The provision for bad debts created at the end of the accounting year is carried forward to the next year. At the end of the next year, suitable adjusting entry is passed for keeping the provision for doubtful debts at an appropriate amount to be carried forward.

Illustration No. 5

Kishore & co. has been a running garment business. At the end of Dec, 2007, the firm's books of accounts show the debtors at Rs. 3,00,000. Out of those debtors, Rs. 10,00 are not traceable and to be treated as bad debts. By practice, over the years, it has been noticed that the business loses money even on the expected realizations from the good debtors too. The business adopts a consistent policy of making a provision of 5% on the expected good debtors towards bad and doubtful debts.

Show the position in the financial statements.

Solution:

Dr. PROFIT & LOSS Account for the period ending... Cr.

Particulars	Amt.	Particulars	Amt.
To Bad debts	10,000		
To Provision for Bad and Doubtful debts	14,500		

BALANCE SHEET as on...

Liabilities	Amt.	Assets	Amt.
		Sundry debtors Bad debts Provision for Bad and Doubtful debts	3,00,000 <u>10,000</u> 2,90,000 <u>14,500</u> 2,75,500

Note: Provision for Bad and doubtful debts is to be made on Rs. 2,90,000 but not on Rs. 3,00,000 as Rs. 10,000 has already been removed as bad debt from sundry debtors. Chance of becoming bad is on the balance amount only i.e. Rs. 2,90,000.

Presentation in Accounts for Bad Debts & Provision for Bad and Doubtful Debts:
Students, in particular non-commerce people, often experience difficulty when both bad debts and provision for bad doubtful debts are to be made, in particular, when the trial balance is already showing the provision for bad and doubtful debts.

Trial balance is showing the provision for bad and doubtful debts. So, this was the balance for bad and doubtful debts at the end of the last year, which has been carried forward.

Follow the simple approach:

- Show bad debts and provision for bad and doubtful debts, separately, in Profit and Loss Account. Do not club them up.

Presentation in Profit & Loss account:

- If the current year's provision for bad and doubtful debts, required to be made, is more than the provision for bad and doubtful debts shown in the trial balance, show the additional provision on the debit side of the profit and loss account as this is an additional expense.
- Is the current year's provision for bad and doubtful debts, required to be maintained at the end of the year, is less than the provision for bad and doubtful debts shown in the trial balance? Show the excess provision (Last year's provision in shown Trial Balance – provision required to be maintained in current year) on the credit side of the profit and loss account. This is an income, as the earlier estimated expense is no longer needed to be continued.

Presentation in Balance Sheet:

- Deduct first provision for bad debts and later provision for bad and doubtful debts, required to be maintained at the end of the year, from the debtors in the balance sheet.

The following problem explains the treatment of higher provision for bad and doubtful debts:

Illustration No. 6

At the end of the year 2008, Radhi & Co. has observed that their the debtors are Rs. 5,00,000. Out of those debtors, Rs. 5,000 are not traceable and to be treated as bad debts. By practice, over the years, it has been noticed that the business loses money on the expected realizations from the good debtors too. The business adopts a consistent policy of making a provision of 5% on the expected good debtors. Provision for bad and doubtful debts stand at Rs. 14,500 at the end of Dec, 2007.

Show the position in the financial statements.

Solution:

Dr.	PROFIT & LOSS Account for the period ending...		Cr.	
	Particulars	Amt.	Particulars	Amt.
To Bad debts		5,000		
To Provision for bad & doubtful debts	24,750	10,250		
(required)				
Less Existing	<u>14,500</u>			
Provision for bad & doubtful debts				

BALANCE SHEET as on.....

Liabilities	Amt.	Assets	Amt.
		Sundry debtors	5,00,000
		Bad debts	5,000
			4,95,000
		Provision for bad & doubtful debts	<u>24,750</u>
			4,70,250

The following illustration shows the presentation when provision for bad debts, now, needed is lower than the existing provision in the trial balance:

Illustration No. 7

At the end of the year 2008, Dimpy & Co. has observed that their the debtors are Rs. 2,00,000. Out of those debtors, Rs. 3,000 are to be treated as bad debts. Provision for bad & doubtful debts Rs. 4,000 is needed at the end of Dec, 2008.

Provision for bad & doubtful debts stand at Rs. 10,500 at the end of Dec, 2007.

Show the position in the financial statements.

Solution:

Dr.	PROFIT & LOSS Account for the period ending...		Cr.
Particulars	Amt.	Particulars	Amt.
To Bad debts	3,000	By Existing Provision for Bad debt & Doubtful debts	10,500
		Less	<u>4,000</u>
		Provision required for Bad debt & Doubtful debts	6,500

BALANCE SHEET as on ...

Liabilities	Amt.	Assets	Amt.
		Sundry debtors	2,00,000
		Bad debts	3,000
			1,97,000
		Provision for bad & doubtful debts	4,000
			1,93,000

5.5.13 Accidental Losses

Stock of goods may also be destroyed or damaged by fire, etc. As a result, the value of the closing stock will be lower than otherwise. This will reduce the amount of the gross profit and, in turn, net profit, automatically. It is always better to ascertain the gross profit, which would have been earned, in absence of the loss since this enables the firm to judge its trading operations, properly. This will be possible if the amount of the loss of goods is credited to the Trading Account and debited to the Profit and Loss Account. By this entry, the increases in the gross profit will be neutralized by the debit to the Profit and Loss Account and thus the net profit will not be affected.

The entries to be passed, say, in case of fire, are as follows:

Loss of goods by Fire AccountDr.
To Trading Account.

If there is an insurance policy to cover the goods concerned, part or the whole amount of loss may be admitted by the insurance company. The amount received or agreed to be paid by the insurance company will be credited to the Loss of Goods by Fire Account. The remaining amount only will be transferred to the Profit and Loss Account as a write off as this would be the final loss due to accident.

(ii) Profit and Loss AccountDr.
To Loss of goods by Fire Account

Illustration No. 8

Sundaram & Co. has lost stocks in a fire accident Rs. 50,000. Amount admitted by Oriental Fire insurance company under the fire insurance policy is Rs. 35,000. The claim amount is yet to be received from the insurance company. Show the presentation in the Trading, Profit and Loss Account and Balance Sheet.

Solution:

Dr.	Trading Account for the period ending...	Cr.
-----	--	-----

Particulars	Amt.	Particulars	Amt.
		By Loss of goods by Fire Account	50,000

Dr.	PROFIT & LOSS Account for the period ending..		Cr.
Particulars	Amt.	Particulars	Amt.
To Loss of goods by Fire Account	15,000		

BALANCE SHEET of Sundaram & Co as on...

Liabilities	Amt.	Assets	Amt.
		Oriental Fire Insurance Company (Fire insurance policy amount receivable)	35,000

Note: Out of a loss of Rs. 50,000, Oriental Fire insurance company has admitted the claim for Rs. 35,000. Sundaram & Co. can recover Rs. 35,000 only from the Oriental Fire insurance company. Hence, the net loss due to fire accident Rs. 15,000 has been written off to Profit and Loss Account.

5.5.14 Commission Payable on Net Profits

Sometimes, Company may provide an incentive to the manager in the form of commission on profits to improve profitability of the company. Suppose the profit earned by the firm is Rs. 80,000, without considering the commission; commission is 5%. The commission will be then Rs. 4,000. The profit will be reduced to Rs. 76,000. The entry to be passed will be to debit the Profit and Loss Account and credit the Commission Payable Account. This account will be a liability and shown in the balance sheet.

Sometimes, commission may be on the net profits of the company. If the rate of the commission is 5%, then the profit remaining after the commission should be Rs. 100. In such an event, the profit before the commission should be Rs. 105. In other words, commission is Rs. 5 out of every Rs. 105 profit, before the commission.

The formula to calculate the commission in such a situation is: $5/105 \times \text{Profits before the commission}$.

Illustration No. 9

Kalyan & Co. agrees to pay a commission 5% on net profits to its manager. The profit before commission is Rs. 80,000. The commission has not yet been paid by the company to its manager.

Show the necessary entries in the financial Statements.

Dr.	PROFIT & LOSS Account for the period ending...		Cr.
Particulars	Amt.	Particulars	Amt.
To commission to the Manager	3,810		
To Net Profit	76,190		

BALANCE SHEET as on

Liabilities	Amt.	Assets	Amt.
Outstanding commission to the Manager	3,810		

Note: The manager is entitled to a commission of 5% on net profits. So, before deducting commission, profits should be Rs. 105 to enable him to get a commission of Rs. 5. The commission will be Rs. 3,810, i.e., $Rs. 80,000 \times 5/105$. The profit after the commission is Rs. 76,190 and Rs. 3,810 is 5% of this figure.

If the commission is calculated, directly, on Rs. 80,000, it will be wrong as the remaining profit would be Rs. 76,000 and 5% of Rs. 76,000 is not Rs. 4,000.

5.6 CLOSING ENTRIES

‘Closing Entries’ are essential to ascertain the correct operating results. Accounts relating to expenses and incomes are to be closed to find out the operating profit. So, balances in the expenses and income accounts have to be transferred to Trading and Profit and Loss Accounts. Process of closing expenses and income accounts is done through closing entries.

5.7 MY BALANCE SHEET NOT TALLIED

‘My balance sheet is not tallied, though I have made all the adjustment entries, correctly’ –this is the common statement often heard from the students, coming out of the examination hall.

Follow the following tips to avoid this situation:

- Entry appearing in Trial balance finds place at one place only, debit or credit.
- Give a special identification (giving reference to the adjustment number in the problem), while reading the trial balance, against the entry, which requires adjustment. You would not forget to do the adjustment as the symbol reminds you to do adjustment! This is ‘Time Management’ too.
- All adjustment entries have to be made at two places for the same amount. Students think that they can make entries at their convenience. This is a wrong approach. Once you debit, make credit for the same amount, simultaneously. Students know the adjustment entry, yet they do not make both the adjustments (changes) at the same time.
- After making the adjustment, before you move to the next entry, check, again, that adjustment has been done at both the places for the same amount.
- Do not forget to check that the debit amount and credit amount are the same.
- Once you follow meticulously, your balance sheet would always tally.

Illustration No. 10

From the following Trial Balance and additional information, you are required to prepare profit and loss account and balance sheet.

**TRIAL BALANCE
as on 31st December, 2008**

Particulars	Dr. Amount (Rs.)	Cr. Amount (Rs.)
Capital		20,000
Sundry Debtors	5,400	
Drawings	1,800	
Machinery	7,000	
Sundry Creditors		2,800
Wages	10,000	
Purchases	19,000	
Opening Stock	4,000	
Bank Balance	3,000	
Carriage Charges	300	
Salaries	400	
Rent and Taxes	900	
Sales		29,000
	51,800	51,800

Additional Information:

- (i) Closing Stock Rs. 1,200.
- (ii) Outstanding Rent and Taxes Rs. 100.
- (iii) Charge depreciation on machinery at 10%.
- (iv) Wages prepaid Rs. 400.

Solution:

**TRADING AND PROFIT & LOSS ACCOUNT
for the year ending 31st December, 2008**

Particulars	Amount Rs.	Particulars	Amount Rs.
To Opening Stock	4,000	By Sales	29,000
To Purchases	19,000	By Closing Stock	1,200
To Wages 10,000	9,600	By Gross Loss B/d	2,700
Less Prepaid Wages 400	300		
	<u>32,900</u>		<u>32,900</u>

To Gross Loss b/d	2,700	By Net Loss transferred to Capital A/c	4,800
To Salaries	400		
To Rent and Taxes	900	1,000	
Add outstanding	<u>100</u>		
To Depreciation on Machinery		700	
		<u>4,800</u>	
			<u>4,800</u>

BALANCE SHEET
As on 31st December, 2008

(Rs.)

Liabilities	Amount	Assets	Amount
Outstanding Rent & Taxes	100	Cash at Bank	3,000
Creditors	2,800	Debtors	5,400
Capital	20,000	Closing Stock	1,200
Less: Net Loss	<u>4,800</u>	Prepaid Wages	400
	15,200	Machinery	7,000
Less: Drawings	<u>1,800</u>	Less Depreciation	<u>700</u>
	13,400		
	<u>16,300</u>		<u>16,300</u>

Note: Carriage is treated as carriage inwards, hence shown in trading account.

Illustration No. 11

From the following balances of Shyam & Co., prepare trading and Profit & Loss Account for the year ended 31st Dec., 2008 and balance sheet on that date:

Debit Balances:

	Rs.		Rs.
Drawings	1,700	Rent	450
Plant & Machinery	12,000	Misc. Expenses	150
Horses & carts	2,600	Bad Debts	500
Debtors	3,600	Carriage inwards	160
Purchases	2,000	Credit Balances	
Wages	800	Creditors	2,000
Cash at Bank	2,600	Sales	4,200
Salaries	800	Interest	1,350
Repairs	190	Commission	1,600
Opening stock	1,600	Capital	20,000

Adjustments:

- (1) Closing stock Rs. 1,600
- (2) Depreciate plant & machinery 10%, horses & carts 15%.
- (3) Allowed interest on capital at 5%p.a.
- (4) Rs. 150 is due for wages.
- (5) Paid rent Rs. 150 in advance
- (6) Accrued interest Rs. 150.
- (7) Commission received in advance Rs. 200
- (8) Interest on drawings Rs. 100
- (9) Further bad debts Rs. 200

Solution:

TRADING and PROFIT & LOSS A/c SHYAM & Co.
For the year ended 31st December, 2008

Rs.

To opening stock	1,600	By sales	4,200
To purchases	2,000	By closing stock	1,600
To wages	800		
Outstanding wages	<u>150</u>	950	
To carriage inwardwards		160	
To gross profit c/d	1,090		
	<u>5,800</u>		<u>5,800</u>
To salaries	800	By gross profit b/d	1,090
To repairs	190	By interest	1,350
To rent	450	Add: accrued Interest	<u>150</u>
To less paid in advance	<u>150</u>		1,500
	300		
To Misc. expenses	150	By commission	1,600
To bad debts	500	Less received in Advance	<u>200</u>
Add : further			1,400
Bad debts	<u>200</u>		
To interest on capital	700		
To depreciation on plant & machinery	1,000	By interests on drawings	100
Houses & carts	1,200		
	1,590	Net loss transferred to capital a/c	640
	<u>390</u>		
	<u>4,730</u>		<u>4,730</u>

BALANCE SHEET of Shyam & Co. as on 31st Dec., 2008

Liabilities	Amount	Assets	Amount
Creditors	2,000	Cash at bank	2,600
Outstanding wages	150	Stock	1,600
Commission received in advance	200	Prepaid rent	150
Capital	20,000	Accrued interest	150
<i>Add</i> interest on Capital	<u>1,000</u>	Debtors	3,600
	21,000	Less bad debts	<u>200</u>
<i>Less</i>		Machinery	12,000
Drawings	1,700	Less depreciation	<u>1,200</u>
Interest on drawings	100	Houses & carts	2,600
net loss	<u>640</u>	Less depreciation	<u>390</u>
	<u>2,440</u>		
	<u>18,560</u>		
	<u>20,910</u>		<u>20,910</u>

Illustration No. 12

The Trial Balance of Srinivas stores appeared on 31st March 2008 as below.

Prepare Trading and Profit & Loss Accounts & Balance Sheet as on 31st March 2008.

Debit Balance:

Stock 1 st April, 2007	57,500	Interest on Mortgage	1,500
Purchases	1,60,000	Cash in hand	250
Productive Wages	65,000	Cash at Bank	27,250
Carriage	2,750	Building	40,000
Discount	1,300	Machinery	15,000
Traveling Expenses	5,000	Horses & Carts	5,000
Salaries	20,000	Sundry Debtors	32,500
Insurance	1,500	Credit Balance	
Commission	3,250	Sales	3,00,000
Rent & Rates	5,000	Interest on Mortgage	30,500
Stable Expenses	1,950	Capital	1,06,550
Repairs	1,050	Sundry Creditors	21,000
Sundry Expenses	550		
Sales Return	11,700		

Adjustments:

On 31st March, 2008, the Stock was valued at Rs. 60,750.

- (i) Rent & taxes Rs. 300 were paid in Advance.
- (ii) Depreciation is to be written off at 2.5% on Building, 5% on Machinery & 7.5% on Horse & Carts.

Provision is to be made for doubtful debts at 5% on debtors.

Solution:**Dr. Trading A/c and Profit/Loss A/c for the year ended 31st March 2008 Cr.**

Particulars	Amounts	Particulars	Amounts
To opening stock	57,500	By Sales	3,00,000
To Purchases	1,60,000	Less: Sales Returns	<u>11,700</u>
To Productive Wages	65,000	By Closing Stock	2,88,300
To Carriage	2,750		60,750
To Gross Profit c/d	63,800		
(Transfer to Profit and Loss A/c)			
	<u>3,49,050</u>		<u>3,49,050</u>
To Traveling expenses	5,000	By Gross Profit b/d	63,800
To Salaries	20,000	By Interest on Mortgage	30,500
To Insurance	1,500		
To Commission	3,250		
To Rent & Rates	5,000		
() Advance	<u>300</u>		
To stable expenses	1,950		
To Repairs	1,050		
To Sundry expenses	550		
To Interest on Mortgage	1,500		
To Discount	1,300		
To Depreciation on			
Building	1,000		
Machinery	750		
Horses & Carts	375		
To Provision for Bad Debts	1,625		
To Net Profit (Transfer to Balance Sheet)	49,750		
	<u>94,300</u>		<u>94,300</u>

Balance Sheet as on 31st March 2008

Liabilities	Amount	Assets	Amount
Capital	1,06,550	Cash in Hand	250
(+) Net Profit	<u>49,750</u>	Cash at Bank	27,250
Sundry creditors	21,000	Building	40,000
		() Depreciation	1,000
		Machinery	15,000
		() Depreciation	750
		Horses & carts	5,000
		() Depreciation	375
		Sundry Debtors	32,500
		() Provision for Bad Debts 1,625	30,875
		Closing Stock	60,750
		Advance Rent & Rates	300
	<u>1,77,300</u>		<u>1,77,300</u>

IMPORTANT TIP

Before solving the problem, students are advised to check the total of the trial balance and find out whether debits are equal to credits. Many a time, due to printing mistake or the problem is made deliberately so, there may be a difference in the trial balance. The difference may be shown in the Profit and Loss Account, with a note about the disagreement in trial balance.

This procedure would save precious time during the examination.

Illustration No. 13

Prepare Trading and Profit & Loss A/c for the year ended 31st March, 2007 and Balance Sheet of M/s. Varshney & Company as on that date from the following Trial Balance:

	Dr. (Rs.)	Cr. (Rs.)
Purchase	70,000	
Goods Returned		5,000
Carriage Inwards	1,500	
Salaries and Wages	14,000	
Rent, Rates and Taxes	2,800	
Insurance	500	
Discount	800	
Bank	13,700	
Plant and Machinery	12,000	

Investments		8,000	
Furniture and Fittings		5,000	
Bills Receivable		45,500	
Cash in hand		1,000	
Sundry Expenses		500	
Opening Stock		31,500	
Sales			1,10,000
Bills Payable			15,800
Capital Account			76,000
(Rs.)		2,06,800	2,06,800

Adjustments:

Provide outstanding salary Rs. 2,500/-

Make a provision for bad debts in bills receivable by Rs. 1,500/-

Closing stock Rs. 65,000/-

Stocks lost by fire were Rs. 7,000/-. However, insurance company settled the claim for Rs. 5,000/ and is still receivable.

Manager is entitled to commission @10% on net profits.

Solution:

TRADING and PROFIT & LOSS ACCOUNT of M/S. Varshney & Company.
for the year ending 31st March, 2007

Particulars		Amount	Particulars	Amount
To Opening Stock		31,500	By Sales	1,10,000
To Purchases	70,000		By Closing Stock	65,000
Less : Goods Returned	<u>5,000</u>	65,000	By Loss of Goods by Fire	7,000
To Carriage Inwards		1,500		
To Gross Profit c/d		84,000		
		<u>1,82,000</u>		<u>1,82,000</u>
To Salaries and Wages	14,000		By Gross Profit b/d	84,000
Add : Outstanding Wages	<u>2,500</u>	16,500		
To Rent, Rates and Taxes		2,800		
To Insurance		500		
To Discount		800		
To Sundry Expenses		500		

To Bad Debt in respect of Bills Receivable		1,500		
To Loss by Fire**		2,000		
To Commission to Manager*		5,400		
To Net Profit transferred to Capital A/c		54,000		
		<u>84,000</u>		<u>84,000</u>

**BALANCE SHEET of M/s. Varshney & Company
as on 31st March, 2007**

Liabilities	Amount	Assets	Amount
Bills Payable	15,800	Cash in hand	1,000
Capital	76,000	Bank	13,700
Add : Net Profit	<u>54,000</u>	Investments	8,000
Outstanding Salaries	2,500	Bills Receivable	45,500
Outstanding Commission to Manager	5,400	Less : Bad Debt	<u>1,500</u>
		Closing Stock	65,000
		Plant and Machinery	12,000
		Furniture & Fittings	5,000
		Insurance Claim	5,000
	<u>1,53,700</u>		<u>1,53,700</u>

* Formula for calculating the commission is $\frac{10}{110} \times 59,400$.

** Out of goods lost by fire Rs. 7,000, claim admitted by insurance company is Rs. 5,000 hence loss by fire Rs. 2,000 is written off.

Illustration No. 14

From the following Trial Balance of M/s Sameer & Co., Bhopal, prepare a Trading and Profit & Loss Account for the year ending 31st March, 2007 and also a Balance Sheet as on the date:

	Dr. (Rs.)	Cr. (Rs.)
Capital Account		45,000
Drawings	3,250	
Land and Building	12,750	
Plant and Machinery	7,250	
Furniture and Fixtures	750	
Carriage	2,125	
Wages	10,750	
Salaries	2,350	
Bad Debts Reserve (1.4.2006)		1,250
Sales		47,500
Return Inwards	900	
Bank Charges	750	
Taxes	425	
Discount		60
Purchases	20,000	
Bills Receivable	750	
Debtors	18,900	
Creditors		6,125
Opening Stock	12,500	
Cash in hand	7,000	
Bank loan		515
	Rs. 1,00,450	1,00,450

Adjustments:

- (1) Closing Stock (31.3.2007) Rs. 3,625.
- (2) Provide 10% depreciation per annum on all types of fixed assets.
- (3) Allow interest on capital @ 5% per annum. No interest is to be charged on drawings.
- (4) Increase Bad Debt Reserve to Rs. 1,750.
- (5) Make a provision for Commission to General Manager on Gross Profit @ 2%.

Solution:

TRADING and PROFIT & LOSS ACCOUNT of M/s. Sameer & Co.
for the year ending 31st March, 2007

Particulars		Amount (Rs.)	Particulars		Amount (Rs.)
To Opening Stock		12,500	By Sales	47,500	
To Purchases		20,000	Less : Return Inwards	<u>900</u>	46,600
To Wages		10,750	By Closing Stock		3,625
To Carriage*		2,125			
To Gross Profit c/d		4,850			
	Rs.	<u>50,225</u>		Rs.	<u>50,225</u>
To Salaries		2,350	By Gross Profit b/d		4,850
To Bank Charges		750	By Discount		60
To Taxes		425	By Net Loss Transferred to Capital A/c		3,537
To Interest on Capital		2,250			
To Depreciation - Building	1,275	2,075			
- Plant and Machinery	725				
- Furniture	<u>75</u>				
To Bad Debts Reserve New	1,750				
Less : Old Reserve	<u>1,250</u>	500			
To Commission to General Manager		97			
(2% on Rs. 4,850)					
		<u>8,447</u>			<u>8,447</u>

BALANCE SHEET of M/s. Sameer & Co.
As on 31st March, 2007

Liabilities	(Rs.)	Amount (Rs.)	Assets	(Rs.)	Amount (Rs.)
Sundry Creditors		6,125	Cash in hand		7,000
Bank Loan		515	Bills Receivable		750

Capital	45,000	40,463	Debtors	18,900	17,150
Less : Net Loss	<u>3,537</u>		Less : Bad Debts	<u>1,750</u>	
	41,463		Reserve		
Less : Drawings	<u>3,250</u>		Closing Stock		3,625
	38,213		Land and Building	12,750	11,475
Add : Interest on Capital	<u>2,250</u>		Less :	<u>1,275</u>	
		97	Depreciation		
Outstanding Commission to General Manager			Plant and Machinery	7,250	6,525
			Less :	<u>725</u>	
			Depreciation		
			Furniture	750	675
			Less :	<u>75</u>	
			Depreciation		
		<u>47,200</u>			<u>47,200</u>

Note:

- * Carriage is treated as carriage inwards, hence shown in trading accounts. If treated as carriage outwards, it has to appear in profit and loss account.

Illustration No. 15

The following is the Trial Balance of Theer and Tarkh & Co. on 31st December, 2008.

	Dr. Rs.	Cr. Rs.
Cash in Hand	540	
Cash at Bank	2,630	
Purchases Account	40,675	
Sales Account		98,780
Returns Inward Account	680	
Returns Outward Account		500
Wages Account	10,480	
Fuel & Power Account	4,730	
Carriage on Sales Account	3,200	
Carriage on Purchases Account	2,040	
Stock Account (1 st January 2008)	5,760	
Buildings Account	30,000	
Freehold Land Account	10,000	
Machinery Account	20,000	
Patents Account	7,500	

Salaries Account	15,000	
General Expenses Account	3,000	
Insurance Account	600	
Drawings Account	5,245	
Capital Account		71,000
Sundry Debtors Account	14,500	
Sundry Creditors Account		6,300
TOTAL	1,76,580	1,76,580

Taking into account the following adjustments, make the necessary Journal entries, including closing entries and prepare Trading and Profit and Loss Account and the Balance Sheet as on 31st December, 2008:

- (a) Stock on hand on 31st December, 2008 is Rs. 6,800.
- (b) Machinery is to be depreciated at the rate of 10% and Patents at the rate of 20%.
- (c) Salaries for the month of December, 2008 amounting to Rs. 1,500 were unpaid.
- (d) Insurance includes a premium of Rs. 170 per annum on a policy expiring on 30th June, 2009.
- (e) Wages include a sum of Rs. 2,000 spent on the erection of a cycle shed for employees and customers.
- (f) A provision for Bad and Doubtful Debts is to be created to the extent of 5 per cent on Sundry Debtors.

Solution:

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Adjustment Entries:

Date		Particulars	L.F.	Dr.	Cr.
				Amount	Amount
Dec. 2008	31	Stock Account Dr. To Trading Account (Being the value of the closing stock.)		6,800	6,800
	,,	Depreciation Account Dr. To Machinery Account To Patents Account (Being the amount written off as depreciation on machinery (10% on Rs.20,000) and on patents (20% on Rs. 7,500)		3,500	2,000 1,500

		Salaries Account Dr.		1,500	
"	"	To Outstanding Salaries A/c (Being the amount still due on account of salaries.)			1,500
"	"	Insurance Prepaid Account Dr. To Insurance Account (Being half the premium on a policy which will expire on 30 th June, 2009, i.e., 6 months after the closing date)	85		85
"	"	Building Account Dr. To Wages Account (Being the wages spent on erection of a cycle shed transferred to Buildings Account)		2,000	2,000
"	"	Profit and Loss Account Dr. To Provision for Bad & Doubtful Debts Account (Being the Provision required to be maintained in respect of anticipated bad & doubtful debts)		725	725
"	"	Closing Entries: Trading Account Dr. To Stock Account To Purchases Account To Wages Account To Fuel & Power Account To Carriage on Purchases A/c To Returns Inward Account [Being the various accounts transferred to the Trading Account]		62,365	
"	"	Sales Account Dr. Returns Outward Account Dr. To Trading Account ---- (Being the accounts transferred to the Trading Account.)	98,780 500		99,280
"	"	Trading Account Dr. To Profit & Loss Account (Being the transfer of gross profit.)		43,715	43,715
"	"	Profit & Loss Account Dr. To Carriage on Sales Account To Salaries Account To General Expenses Account To Insurance Account To Depreciation Account (Being the various expenses transferred to the debit of the Profit and Loss Account.)		26,715	
					3,200 16,500 3,000 515 3,500

”	”	Profit & Loss Account To Capital Account (Being transfer of net profit.) Dr.			16,275		16,275
”	”	Capital Account To Drawings Account (Being transfer of drawings to the Capital Account.) Dr.			5,245		5,245

LEDGER

Dr.				PURCHASES ACCOUNT				Cr.	
Date	Particulars	Folio	Amount	Date	Particulars	Folio	Amount		
2008 Jan. to Dec.	31	To Sundries	Rs. <u>40,675</u>	2008 Dec. 31	By Trading A/c		Rs. <u>40,675</u>		

Dr.				SALES ACCOUNT				Cr.	
2008 Dec.	31	To Trading A/c		98,780	2008 Jan. to Dec.	31	By Sundries		98,780

Dr.				RETURNS INWARD ACCOUNT				Cr.	
2008 Jan. to Dec.	31	To Sundries		680	2008 Dec.	31	By Trading A/c		680

Dr.				RETURNS OUTWARD ACCOUNT				Cr.	
2008 Dec.	31	To Trading A/c		500	2008 Jan. to Dec.	31	By Sundries		500

Dr.				WAGES ACCOUNT				Cr.	
2008 Jan. to Dec.	31	To Sundries		10,480	2008 Dec. ,,	31	By Buildings A/c By Trading A/c		2,000 8,480 <u>10,480</u>
				<u>10,480</u>					

Dr.				FUEL & POWER ACCOUNT				Cr.	
2008 Jan. to Dec.	31	To Sundries		4,730	2008 Dec.	31	By Trading A/c		4,730

CARRIAGE ON SALES ACCOUNT							
Dr.				Cr.			
2008 Jan. to Dec.	31	To Sundries		<u>3,200</u>	2008 Dec.	31	By Profit A/c Loss A/c
CARRIAGE ON PURCHASES ACCOUNT							
Dr.				Cr.			
2008 Jan. to Dec.	31	To Sundries		<u>2,040</u>	2008 Dec.	31	By Trading A/c
OPENING STOCK ACCOUNT							
Dr.				Cr.			
2008 Jan.	1	To Balance b/d		<u>5,760</u>	2008 Dec.	31	By Trading A/c
BUILDINGS ACCOUNT							
Dr.				Cr.			
2008 Jan.	1	To Balance b/d		30,000	2008 Dec.	31	By Balance c/d
2008 Dec.	31	To Wages A/c		<u>2,000</u> <u>32,000</u>			
2009 Jan.	1	To Balance b/d		32,000			
FREEHOLD LAND ACCOUNT							
Dr.				Cr.			
2008 Jan.	1	To Balance b/d		<u>10,000</u>	2008 Dec.	31	By Balance c/d
2009 Jan.	1	To Balance b/d		10,000			
MACHINERY ACCOUNT							
Dr.				Cr.			
2008 Jan.	1	To Balance b/d		20,000	2008 Dec.	31	By Dep By Balance c/d
2009 Jan.	1	To Bal b/d		<u>20,000</u> <u>18,000</u>	"		

Dr.		PATENTS ACCOUNT					Cr.		
2008 Jan.	1	To Balance b/d		7,500		2008 Dec. "	31	By Dep By Balance c/d	1,500 6000 <u>7,500</u>
2009 Jan.	1	To Balance b/d		6,000					

Dr.		SALARIES ACCOUNT					Cr.		
2008 Jan. to Dec.	31	To Sundries To Outstanding Salaries A/c		15,000 1,500 <hr/> 16,500		2008 Dec. 31	By Profit & Loss		16,500 <hr/> 16,500

Dr.	GENERAL EXPENSES ACCOUNT						Cr.		
2008 Jan. to Dec.	31	To Sundries		<u>3,000</u>		2008 Dec. 31	By Profit & Loss A/c		<u>3,000</u>

Dr.	INSURANCE ACCOUNT						Cr.	
2008 Jan. to Dec.	31	To Sundries		600	2008 Dec. ,,	31 ,,	By Insurance Prepaid By Profit & Loss A/c	85 515 600
				<u>600</u>				

Dr.	DRAWINGS ACCOUNT						Cr.		
2008 Jan. to Dec.	31	To Sundries		<u>5.245</u>	2008 Dec.	31	By capital account - Transfer		<u>5.245</u>

Dr.			CAPITAL ACCOUNT				Cr.	
2008 Dec.	31	To Drawings A/c To Balance c/d		5,245 82,030 <u>87,275</u>	2008 Jan. 2008 Dec.	1 31	By Balance b/d By Profit & Loss A/c	71,000 16,275 <u>87,275</u> 82,030
Dr.			SUNDRY DEBTORS				Cr.	
2008 Dec. 2009 Jan.	31 1	To Balance b/d To Balance b/d		<u>14,500</u> 14,500	2008 Dec.	31	By Balance c/d	<u>14,500</u>
Dr.			SUNDRY CREDITORS				Cr.	
2008 Dec.	31	To Balance c/d		<u>6,300</u>	2008 Dec. 2009 Jan.	31 1	By Balance b/d By Balance b/d	<u>6,300</u> 6,300
Dr.			DEPRECIATION ACCOUNT				Cr.	
2008 Dec.	31	To Machinery A/c To Patents A/c		2,000 1,500 <u>3,500</u>	2008 Dec.	31	By Profit & Loss A/c	3,500 <u>3,500</u>
Dr.			OUTSTANDING SALARIES ACCOUNT				Cr.	
2008 Dec.	31	To Balance c/d		1,500	2008 Dec. 2009 July.	31 1	By Salaries A/c By Balance b/d	1,500 1,500

INSURANCE PREPAID ACCOUNT							
Dr.							Cr.
2008 Dec.	31	To Insurance A/c		85	2008 Dec.	31	By Balance c/d
2009 Jan.	1	To Balance b/d		85			

PROVISION FOR BAD & DOUBTFUL DEBTS ACCOUNT							
Dr.							Cr.
2008 Dec.	31	To Balance c/d		725	2008 Dec.	31	By Profit & Loss A/c
					2009 Jan.	1	By Balance b/d

CLOSING STOCK ACCOUNT							
Dr.							Cr.
2008 Dec.	31	To Trading A/c		6,800	2008 Dec.	31	By Balance c/d
2009 Jan.	1	To Balance b/d		6,800			

CASH BOOK							
Date		Particulars	L.F.	Cash Rs.	Bank Rs.	Date	
2008 Dec.	31	To Balance b/d		540	2,630	2008 Dec.	31
2009 Jan.	1	To Balance b/d		540	2,630		By Balance c/d

TRADING & PROFIT & LOSS ACCOUNT
for the year ended 31st Dec, 2008

		Rs.		Rs.
To Opening Stock Account		5,760	By Sales A/c	98,780
To Purchases A/c	40,675		Less Returns	
Less Returns Outward	500	40,175	Inwards	680
			By Closing Stock A/c	98,100
To Wages A/c		8,480		6,800
To Fuel & Power A/c		4,730		
To Carriage on		2,040		

To Gross Profit transferred to Profit & Loss A/c		43,715			
		1,04,900			1,04,900
To Salaries A/c	15000		By Gross Profit transferred from Trading A/c		43,715
<i>Add outstanding salary</i>	1,500	16,500			
To Carriage on Sales A/c		3,200			
To General Expenses A/c		3,000			
To Insurance A/c	600				
<i>Less Prepaid</i>	85	515			
To Provision for Bad & Doubtful Debts A/c		725			
To Depreciation A/c					
Machinery	2,000				
Patents	1,500	3,500			
To Net Profit transferred to Capital A/c		16,275			
		43,715			43,715

BALANCE SHEET OF Theer and Tarkh & Co. as on 31st Dec, 2008

Liabilities		Rs.	Assets		Rs.
Capital			Current Assets :		
Balance in the beginning	71,000		Cash in Hand		540
<i>Add Profit during the year</i>	16,275		Cash at Bank		2,630
	87,275		Sundry Debtors	14,500	
<i>Less Drawings</i>	5,245	82,030	Less Provision for Bad & Doubtful Debts	725	13,775
			Insurance Prepaid		85
			Closing Stock		6,800
			Fixed Assets :		
			Freehold Land		10,000

Liabilities :			Building	30,000	
Sundry Creditors		6,300	Cycle shed	2,000	32,000
Outstanding Salaries		1,500	Machinery	20,000	
			Less Depreciation	<u>2,000</u>	18,000
			Patents	7,500	
			Less Depreciation	<u>1,500</u>	
	Total	89,830			
					Total 6,000
					89,830

Check Your Understanding

State whether the following statements are True or False

1. Revenue is not increased by taking loans although assets are increased.
2. A transaction, which increases the capital, is called 'Income'.
3. Capital is assets minus liabilities.
4. Profits or losses have no effect on the closing balance in capital.
5. The value of human resources is shown as an asset in the balance sheet.

Answers

1. True 2. False 3. True 4. False 5. False

Pick up the most appropriate

1. In case of a limited company, the term financial statements includes:
 - (a) P and L A/c and Balance Sheet
 - (b) Balance Sheet
 - (c) P and L A/c, P and L Appropriation A/c and Balance Sheet.
2. Rent is shown at Rs. 30,000 in Profit and Loss Account. Balance sheet shows an outstanding rent of Rs. 5,000. What was the cash outgo for the firm under the head 'Rent'?
 - (a) 35,000
 - (b) 30,000
 - (c) 25,000
 - (d) nil
3. Cash received towards income from investment is Rs. 60,000. Assets side of the balance sheet shows Rs. 10,000 as accrued income from investments. So, Profit and Loss Account should show on the credit side
 - (a) 70,000
 - (b) 60,000
 - (c) 50,000
 - (d) nil
4. Advertisement expenses are shown Rs. 90,000 in Profit and Loss Account. Actual cash payment for advertisement is Rs. 1,00,000. What amount balance sheet should show under the head prepaid advertisement expenses?
 - (a) 1,10,000
 - (b) 10,000
 - (c) 80,000
 - (d) nil

Answers

1. (c) 2. (c) 3. (a) 4. (b)

Interview Questions

Q.1. What are 'Final Accounts'? Why they are so called?

Ans. Trading and Profit and Loss Account and Balance Sheet, all together, are called as 'Final Accounts'.

These are called as final accounts because they are the last accounts prepared at the end of the year. The final accounts convey the final position of the firm, in terms of final profit and final financial position of the organization.

Q.2. What is the purpose of Trading, Profit and Loss Account and Balance Sheet?

Ans. Every businessman is interested to know the operating results and ascertain the financial position of the firm he runs for monitoring, from time to time. Trading Account shows the gross profit, while Profit and Loss Account shows the net profit. Final results of business, profit or loss, are known through Profit and Loss Account.

Balance sheet exhibits the final financial position of the organization.

Q.3. What is the meaning of 'Marshalling of Assets and Liabilities'?

Ans. 'Marshalling of Assets and Liabilities' means arranging the assets and liabilities of the firm in a specific sequence.

Assets may be recorded on the basis of liquidity, speed of conversion of assets into cash. Liquid assets first and non-liquid assets, later, are shown on the assets side of the balance sheet. In a similar manner, capital is recorded first and other liabilities later. There is no standard format of the balance sheet for a proprietary concern and partnership firm, unlike a limited company.

Q.4. What is the need of 'Adjustment Entries'?

Ans. 'Adjustment Entries' are required to be made, before preparing the financial statements such as Trading, Profit and Loss Account and Balance Sheet. Financial statements are made on the basis of trial balance. However, certain accounting adjustments do not find a place in the trial balance. All expenses and incomes related to the year are to be fully accounted for, before drawing the financial statements. There may be certain outstanding expenses, payments made in advance, accrued income but not accounted for and income received in advance etc. All these adjustments are to be made in the financial statements. Then only, profit and loss account shows the factual operating results and balance sheet shows the financial position in a proper way.

Q.5. Why 'Closing Entries' are required to be made?

Ans. 'Closing Entries' are essential to ascertain the correct operating results. Accounts relating to expenses and incomes are to be closed to find out the operating profit. So, balances in the expenses and income accounts have to be transferred to Trading and Profit and Loss

Accounts. Process of transferring expenses and income accounts to Trading and Profit and Loss Accounts is done through closing entries.

Q.6. What is the need of 'Opening Entries'?

Ans. Assets, liabilities, capital appearing in the previous year's balance sheet are to be brought into the ledger of the current year. Balances of these accounts are brought forward into the ledger for continuation in the current year. The process of bringing them into the current year's ledger is done through 'Opening Entries'.

Q.7. What is the difference between outstanding expenses and prepaid expenses?

Ans. Outstanding expenses are the expenses, which have been incurred, but not paid. Prepaid expenses are the amounts paid for which benefit has not been received during the year in which the payment has been made.

Q.8. What is depreciation? What adjustment entry is made for it?

Ans. Depreciation is a reduction in the value of the asset for use, wear and tear etc. Depreciation account is debited and the concerned asset account is credited with the amount of depreciation.

Q.9. What is the need for providing depreciation, when there is no cash outgo?

Ans. Depreciation is an expense as asset has been used in conducting the business. Adjustment for depreciation is to be made before drawing the financial statements to show proper operating results and financial position.

Q.10. A businessman's daughter comes to father's garments shop and takes the clothes of her choice for her personal use.

Why this transaction is to be accounted for when the business belongs to the proprietor? In what manner, the transaction is to be recorded? What impact it would have on the financial statements, if the transaction is not recorded?

Ans. This transaction — consumption of garments by the owner's daughter — is to be accounted for even when the business belongs to the proprietor. Reason is issue of ownership of business and calculating correct operating results are two different matters. For the proprietor too, it is necessary to know the correct operating results and financial position. Business may be in loss and if the proprietor does not know in time, remedial steps cannot be taken by him, in time.

The transaction is to be recorded as personal drawings of the proprietor. If not so recorded, profit would be understated and capital would be overstated.

Q.11. What is a contingent liability?

Ans. Contingent liability is a liability that may occur depending on the happening of a future event. Contingent liability is a liability that may occur or may not occur. There is no certainty of its happening.

Occurrence of the liability is uncertain as it depends on the happening of an external event, in future, on which the company has no control.

- Q.12.** On which side of the balance sheet does contingent liability appear? Explain with an example?

Ans. Contingent liability does not appear on any side of the balance sheet. Contingent liability is not shown in the main body of the balance sheet. Contingent liability is always shown in 'Notes to Accounts', beneath the balance sheet.

Example for contingent liability is 'liability for bills discounted, not matured'. As the bill is already discounted, say with a bank, bill amount does not appear on the assets side in the balance sheet. Due date has not yet arrived, so the position of liability is not known. Liability may occur only if the drawee (person who has accepted the bill and liable to make payment on the due date) fails to make the payment to the bank on the due date, which is subsequent to the balance sheet date.

- Q.13.** 'Balance Sheet is a 'Snap Shot'. Why it is so called?

Ans. When you are photographed, your photo shows the dress you wear for the photo. It does not show the dress that has been changed, ten minutes back. In a similar manner, balance sheet shows the financial position in respect of assets and liabilities on a particular date. Balance sheet does not show the changes that have occurred, earlier.



CHAPTER
6

Inventory Valuation

- Introduction**
- Inventory – Meaning**
- Objectives of Inventory**
- Receipt and Issue of Materials – Documentation**
- Records in Stores**
- Conditions – Good Method for Valuing Issues**
- Methods of pricing Material Issues**
 - First in First out**
 - Last in First out**
 - Average Cost**
 - Specific Price**
 - Base Stock**
 - Inflated Price**
- Inventory Systems**
 - Perpetual Inventory System**
 - Periodic Inventory System**
- Valuation of Inventory for Balance Sheet**
- True or False**
- Pick up the Most Appropriate**
- Descriptive Questions**
- Interview Questions**

6.1 INTRODUCTION

Inventory occupies a greater part in the composition of total current assets. Inventory is needed for production as well as sale. Inventory control is the core of materials management. Inventory valuation, greatly, influences the profitability of the firm.

6.2 INVENTORY – MEANING

Inventory is tangible property. Inventory would include items which are held for sale in the ordinary course of business (Finished goods) or which are in the process of production for the purpose of sale (Work-in-Process), or which are to be used in the production of goods or services, which will be for sale (Raw Materials).

The institute of Chartered Accountants of India defines inventory as “Tangible property held for sale in the ordinary course of business or in the process of production for sale or consumption in the production of goods or services for sale, including maintenance supplies and consumables and other machinery spares”.

In a trading firm, goods purchased are sold in the same form. Stock is inventory to a trading firm. A manufacturing firm purchases raw materials and converts them into finished product. So, inventory may be in the form of raw materials, work-in-process and finished goods for a manufacturing firm. Stores and supplies are common to both the categories.

Classification of inventory: Inventory can be classified as under

- (A) **Raw materials:** Raw materials are, directly, used in manufacturing a product.
- (B) **Work-in-process:** Work-in-process is partly finished goods. They are in the process of conversion from the stage of raw materials to finished goods. Work-in-process is neither raw materials nor finished goods, they are in between.
- (C) **Finished goods:** Finished goods are those goods, which are completely ready for sale. Finished goods of one firm can become the raw materials to another firm.
- (D) **Stores and Supplies:** Stores and Supplies do not enter into production, directly. However, in their absence, entire production would be affected and at times, even, come to a halt. Normally, their value is very small in the total inventory. Examples are grease, oil, bulbs, brooms etc.

In a trading firm, there is no manufacturing process and so the goods purchased are, directly, sold.

6.3 OBJECTIVES OF INVENTORY

Inventory is held for

- Smooth production process for making finished goods, meant for sale.
- Sale of finished goods for sale in the ordinary course of business.
- Facilitating production process.

6.4 RECEIPTS AND ISSUE OF MATERIALS — DOCUMENTATION

For inventory control, documentation is important from the stage of initiation of purchase, receipt, storage and issue to production.

Bill of Materials: As and when an order is received, the engineering or planning department prepares ‘Bill of Materials’. Bill of Materials is a comprehensive list of materials required for executing the order, with details of specification for each material, code, quantity etc. Bill of Materials is prepared for new orders that were not executed by the firm, earlier. Those materials that are included in the Bill of Materials are purchased. In other words, Bill of Materials approved gives authority for purchase of materials, along with their quantity for execution of a specific order.

Purchase Requisition (Materials Requisition Slip): Bill of Materials is the first step for initiating the purchase of materials. In case, material is already in use and requires replenishment (refill), stores department sends the request to the purchase department, preparing ‘Purchase Requisition’. Based on purchase requisition, purchase department initiates purchase of materials.

Goods Received Note: Based on the purchase order, concerned supplier would supply the materials. Once material is received, necessary inspection is made at the stores to ensure that the quality received is as per the specification of the order placed. After inspection and satisfying that the supply is in total conformity of the purchase order, stores department issues ‘Goods Received Note’ which is sent to the purchase department, accounts department, production department and costing department. Goods received note is, popularly, called GRN.

Once Goods Received Note is issued, it is an indication that the goods have been, physically, received at the godown, in total conformity of the terms of Purchase Order, in respect of quantity and quality. Goods Received Note is an important document to the Accounts Department to verify and process the bill for release of payment.

Goods Received Note

CHERRY LTD.						
Name & Address of Supplier _____			G.R.N. No.: _____			
Name of Carrier: _____			Date: _____			
Purchase Order No.: _____			Date of Delivery: _____			
Delivery Note or Challan No.: _____						
Serial No.	Description	Material Code No.	Quantity	Date	Balance after entry in Bin Card	Remarks
Received by _____			Inspected by _____			
Storekeeper _____			Approved by _____			
Stores Ledger posted by _____			Costed by _____			

Stores Requisition Note: Material is issued by the stores department on the basis of ‘Stores Requisition Note / Material Requisition Slip from the user department. Material is equal to money.

So, materials are to be issued on the strength of the Material Requisition Note, signed by the proper person, authorized to draw the materials.

STORES REQUISITION NOTE

CHERRY LTD.

Production Order No. _____ SR No. _____

Job No. _____ Date _____

Description	Material Code No.	Unit	Quantity Issued	For office use		Balance after entry in Bin Card
				Rate Rs.	Amount Rs.	
Authorized by:	Issued by:	Received by:	Bin card No.	Stores Ledger Folio		Cost Office Ref. Priced by:

6.5 RECORDS IN STORES

Bin Card: Bin card is a record of the receipt and issue of materials, kept for each item in the stores. The bin card shows the balance of stock of the item concerned, at any time. This record is of immense help to the storekeeper in controlling the stock position.

A bin card is attached to the bin, drawer or any other container in which the material is stored. All the entries made therein are to be supported by proper documents. Goods received note supports the receipts and materials requisition note supports the issues.

Balance in Bin card has to tally with the balance in the account of the concerned item in the stores ledger. When physical verification is made, physical quantity would be reconciled with the quantity shown in the bin card as well as the concerned account for the materials in the stores ledger.

Bin Card

CHERRY LTD.

Bin No.: _____

Maximum level: _____

Description: _____

Minimum level: _____

Grade: _____

Ordering level: _____

Material Code No.: _____

Ordering quantity: _____

Location: _____

Unit: _____

Date	Receipt		Issues		Balance of Stock Qty.	Date of Physical Verification
	GRN No.	Qty.	SRN No.	Qty.		

6.6 CONDITIONS — GOOD METHOD FOR VALUING ISSUES

Cost of the production is dependant on the method used for issue of materials. A very careful choice has to be made of the method of valuing the material issues because it influences the cost of the jobs and the value of the closing stock.

A good method of valuing material issues should satisfy the following conditions:

1. **Recovery of total cost:** The issue price should recover the cost price of materials, fully.
2. **Issue price must be nearer to the market price:** The issue price must be nearer to the market price so that the effect of current market prices is revealed in the cost of issues. In consequence, cost of production reflects the current market price and, in return, the selling price quoted by the firm would be competitive.
3. **No significant variation in cost of jobs:** The issue price should not lead to any significant variation in cost of similar jobs, during the same period, so far as materials are concerned, otherwise comparison of similar jobs will become difficult.
4. **No major adjustment in valuation of materials at the end of year:** The issue price should not necessitate heavy adjustments in values of stock of materials in the ledger at the end of the year. Otherwise, making stores ledger becomes complicated.

6.7 METHODS OF PRICING MATERIAL ISSUES

There are many methods of pricing material issues, the most important are

- (i) First in First out
- (ii) Last in First out
- (iii) Average Cost
- (iv) Base Stock
- (v) Inflated Price
- (vi) Specific Price

Different pricing methods are followed for pricing the issues of raw materials.

6.8 FIRST IN FIRST OUT (COMMONLY CALLED FIFO)

In this method, the assumption is that the materials received first are issued first. Once the first batch of materials is over, the next batch of materials would be issued. This is the assumption for the purpose of recording the issues. Physically also, normally, materials first received are used first. The materials issued are priced at the oldest cost price listed in the stores ledger account and thus materials on hand are valued at the price of the last purchase.

This method is most suitable in times of falling prices because the issue price of materials to jobs or works order will be high as earliest receipts are at high price. But, in case of rising prices, this method is not suitable because the issue price of materials to production will be low.

Advantages: The advantages are as under:

- (1) **Simple to operate:** The main advantage of FIFO method is that it is simple to understand and easy to operate.
- (2) **Logical method:** It is a logical method because it takes into consideration the normal procedure of utilizing first those materials, which are received first.
- (3) **Actual profit:** No unrealized profit/ loss arises from the operation of this method as materials are issued at actual cost.
- (4) **Proper closing stock valuation:** Valuation of closing inventory is at cost as well as at the latest price paid. So, closing stock valuation reflects the latest market price.
- (5) **No fluctuations in price:** This method is also useful when transactions are fairly steady.

Disadvantages

1. **Cost of production does not reflect current market prices in times of rising prices:** Imagine a situation when the prices are rising, a picture of inflation. As materials are charged to production at the old prices, the cost of production may lag behind the current economic values. In other words, prices quoted by the firm on the basis of cost plus margin may be low. Charge to production is low and in consequence, firm may be showing more profits, which may not sustain, later.
2. **No comparison with similar jobs:** This method does not permit comparison of the costs of similar jobs or cost units because similar jobs, simultaneously, started may be charged materials at different prices.
3. **Cumbersome with frequent changes in prices:** This method increases the possibility of clerical errors, if consignments are received, frequently, at fluctuating prices. Every time, an issue of material is made, the store ledger clerk will have to go through his record to ascertain the price to be charged.
4. **Major fluctuations in cost of production:** In case of fluctuations in prices of materials, comparison between one job and the other job becomes different. One job started a few minutes, later than another of the same nature, may be issued materials at different prices, merely because the earlier job exhausted the supply of the lower priced materials, in stock.
5. **Different Rates for pricing one issue:** For pricing one issue of materials, more than one price has, often, to be taken.

Impact during rising prices/falling prices:

In periods of rising prices, the FIFO method produces higher profits and results in higher tax liability because lower cost is charged to production and higher valuation of closing stock at

the new rates. There would be a double effect on profits, resulting in higher tax liability. Conversely, in periods of falling prices, the FIFO method produces lower profits and results lower taxes because they are derived from a higher cost of goods sold.

The following example will illustrate how issue of materials is valued under this method.

Illustration No.1

Stores Ledger Account of Kanthi & Co. shows the following particulars:

2008

Jan. 1	Opening Balance:	500 units @ Rs. 4
Jan. 5	Received from vendor:	200 units @ Rs. 4.25
Jan. 12	Received from vendor:	150 units @ Rs. 4.10
Jan. 20	Received from vendor:	300 units @ Rs. 4.50
Jan. 25	Received from vendor:	400 units @ Rs. 4

Materials were issued as follows:

2008

Jan. 4	– 200 units
Jan. 10	– 400 units
Jan. 15	– 100 units
Jan. 19	– 100 units
Jan. 26	– 200 units
Jan. 30	– 250 units

Issue is to be priced on the principle of 'First in First out'. Write out the Stores Ledger Account in respect of the materials for the month of January, 2008.

Solution:

Stores Ledger Account of Kanthi & Co (Under FIFO)

Amount in Rs.

Date 2008	Particulars	Receipts			Issues			Balance		
		Qty. (units)	Total Cost	Unit Cost	Qty. (units)	Total Cost	Unit Cost	Qty. (units)	Amt.	Per unit
Jan. 1	Balance b/d	---	---	---	---	---	---	500	2,000	4
Jan. 4	Requisition Slip No.	---	---	---	200	800	4	300	1,200	4
Jan. 5	Goods Received Note No...	200	850	4.25	---	---	---	300	1,200	4
Jan. 10	Requisition Slip No.	---	---	---	300	1,200	4	100	425	4.25
					100	425	4.25			

Jan. 12	Goods Received Note No.	150	615	4.10	---	---	---	100 150	425 615	4.25 4.10
Jan. 15	Requisition Slip No.	---	---	---	100	425	4.25	150	615	4.10
Jan. 19	Requisition Slip No.	---	---	---	100	410	4.10	50	205	4.10
Jan. 20	Goods Received Note No.	300	1,350	4.50	---	---	---	50 300	205 1,350	4.10 4.50
Jan. 25	Goods Received Note No.	400	1,600	4.00	---	---	---	50 300 400	205 1,350 1,600	4.10 4.50 4.00
Jan. 26	Requisition Slip No.	---	---	---	50 150	205 675	4.10 4.50	150 400	675 1,600	4.50 4.00
Jan. 30	Requisition Slip No.	---	---	---	150 100	675 400	4.50 4.00	300	1,200	4.00

Value of Closing Stock under LIFO is Rs. 1,200

6.9 LAST IN FIRST OUT (COMMONLY CALLED LIFO)

This method operates in just reverse order of FIFO method. As against the First in First Out method, the issues under this method are priced in the reverse order of purchase i.e., the price of the latest available consignment is taken first. Thus, the price of the last batch of materials purchased is used for all issues until all units from this batch have been issued. Later, the price of the previous batch received is used. It should be noted that physical flow of materials may not conform to LIFO assumption.

This method is suitable in times of rising prices because material will be issued from the latest consignment at a price, which is closely related to current price levels, as far possible.

Three points should be noted regarding this method:

- (a) Materials issues are priced at actual cost.
- (b) Charge to production for material cost is at the latest prices paid.
- (c) Closing stock valuation is at the oldest prices paid and is completely out of line with the current prices.

Advantages:

- (1) **Easy to operate:** Like FIFO method, this is simple to operate and is useful when transactions are not too many and the prices are fairly steady.
- (2) **No unrealized profit:** Under this method, actual cost of materials is charged to production. So, this method, like FIFO, does not result in any unrealized profit or loss.
- (3) **Prices reflect current market prices:** Materials are charged to production at the latest prices paid. Thus, effect of current market prices of materials is reflected in the cost of sales, provided the materials are recently purchased. In times of rising prices, quotation of prices for company's products will be competitive and profitable.

Disadvantages

This method suffers from the following disadvantages:

1. **Unrealistic method:** This method is not realistic as it does not conform to the physical flow of materials. In physical flow of materials, first in first out method is followed.
2. **Lacks comparison:** Like FIFO, comparison between one job and the other job will become difficult because one job started a few minutes after another of the same type may bear different cost of materials. Similar jobs may differ because materials were issued from different lots and thus at different prices.
3. **Valuation of closing stock:** The closing stock is valued at the old prices and does not represent the current economic values. Consequently, closing stock will be understated in the Balance Sheet.
4. **Cumbersome calculation:** This method is cumbersome when prices are subject to frequent fluctuations. Like FIFO, this method may lead to clerical errors. Every time an issue is made, the store ledger clerk will have to go through his record to ascertain the price to be charged.
5. **More than one price:** For pricing a single issue, more than one price has often to be adopted.

Impact during rising prices/falling prices:

Under the LIFO method, in times of rising prices, profits and taxes would be lower than under FIFO method. In periods of falling prices, the closing stock would be valued at higher price and thus the profits and taxes would also be higher.

It is difficult to generalize about the superiority of any method, be it LIFO or FIFO. Each issue method has its own advantages as well as disadvantages. The actual utility of the method depends upon the prevailing circumstances.

Illustration No. 2

With the data contained in Illustration No. 1, prepare the stores ledger under FIFO method.

Solution:

STORES LEDGER ACCOUNT of Kanthi & Co (Under LIFO)

Amount in Rs.

Date 2008	Particulars	Receipts			Issues			Balance		
		Qty. (units)	Total Cost	Unit Cost.	Qty. (units)	Total Cost	Unit Cost.	Qty. (units)	Amt.	Per unit
Jan. 1	Balance b/d	---	---	---	---	---	---	500	2,000	4.00
Jan. 4	Requisition Slip No.	---	---	---	200	800	4.00	300	1,200	4.00
Jan. 5	Goods Received Note No.	200	850	4.25	---	---	---	300 200	1,200 850	4.00 4.25
Jan. 10	Requisition Slip No.	---	---	---	200 200	850 800	4.25 4.00	100	400	4.00
Jan. 12	Goods Received Note No.	150	615	4.10	---	---	---	100 150	400 615	4.00 4.10

Jan. 15	Requisition Slip No.	---	---	---	100	410	4.10	100	400	4.00
Jan. 19	Requisition Slip No.	---	---	---	50	205	4.10	50	200	4.00
Jan. 20	Goods Received Note No.	300	1,350	4.50	---	---	---	50	200	4.00
Jan. 25	Goods Received Note No.	400	1,600	4.00	---	---	---	50	200	4.00
Jan. 26	Requisition Slip No.	---	---	---	200	800	4.00	50	300	4.50
Jan. 30	Requisition Slip No.	---	---	---	200	800	4.00	50	200	4.00
					50	225	4.50	250	1,125	4.50

Value of Closing Stock Under FIFO is Rs. 1,325.

Illustration No. 3

From the following transactions of Anisha & Co., prepare the stores ledger account for the firm, using LIFO method:

2007

1 July	Opening stock	500 units @ Rs. 20 each
4 July	Purchased GRN 174	400 units @ Rs. 21 each
6 July	Issued SRN 151	600 units
8 July	Purchased GRN 178	800 units @ Rs.24 each
9 July	Issued SRN 158	500
13 July	Issued SRN 162	300
24 July	Purchased GRN 184	500 units @ Rs. 25 each
28 July	Issued SRN 169	400 units

Solution:

STORES LEDGER ACCOUNT (under LIFO)

(in Rs.)

Date 2007	Receipts				Issues				Balance		
	Ref.	Qty.	Rate Rs.	Amt.	Ref.	Qty.	Rate.	Amt.	Qty.	Rate.	Amt.
1 July	---	---	---	---	---	---	---	---	500	20	10,000
4 July	GRN 174	400	21	8,400	---	---	---	---	500	20	10,000
									400	21	8,400
6 July	---	---	---	---	SRN 151	400	21	8,400	300	20	6,000
						200	20	4,000			

8 July	GRN 178	800	24	19,200	---	---	---	---	300	20	6,000
9 July	---	---	---	---	SRN 158	500	24	12,000	300	20	6,000
13 July	---	---	---	---	SRN 162	300	24	7,200	300	20	6,000
24 July	GRN 184	500	25	12,500	---	---	---	---	300	20	6,000
28 July	---	---	---	---	SRN 169	400	25	10,000	300	20	6,000
									100	25	2,500

Closing Stock is 300 Units @ 20 = Rs. 6,000 + 100 Units @ 25 = Rs. 2,500.

Value of total closing stock is Rs. 8,500

6.10 AVERAGE COST

In stores, material is always mixed up. The principle on which the average cost method is based is that all of the materials in store is so mixed up that an issue cannot be made from any particular lot of purchases. Therefore, it is proper, if the materials are issued at the average cost of materials in store. Average may be of two types:

- (i) Simple Arithmetic Average.
- (ii) Weighted Arithmetic Average.

Simple Average Cost

Simple average price is calculated by dividing the total of unit purchase prices of different lots in stock on the date of issue by the number of prices used in the calculation. Quantity of different lots is ignored. Suppose, following are three different lots of materials in stock when the materials is to be issued:

1,000, units purchased @Rs.10

2,000, units purchased @Rs.11

3,000, units purchased @Rs.12

In this example, simple average price will be Rs. 11 calculated as below:-

$$\frac{10+11+12}{3} = \text{Rs. } 11$$

Simple average price ignores the quantities for calculating the issue price.

Does not recover full cost: Simple average price is not to be followed because this method of calculating issue price does not recover the full cost price of the materials. In the above example, the purchase price of the material in stock is Rs. 68,000 ($1,000 \times 10 + 2,000 \times 11 + 3,000 \times 12$)

$3,000 \times 12$) whereas the recovery from the production according to simple average price method will be Rs. 66,000 (quantity 6,000 units issued @ Rs. 11 per unit). Thus, there is under recovery of Rs. 2,000 (Rs. 68,000 – Rs. 66,000).

Simple average price is not a proper method for issuing the prices as this method does not recover the full costs, which is the primary requirement of a good pricing method.

Weighted Average Cost

The weighted average price takes into account the price and quantity of the materials in store. In the above example, the weighted average price is Rs. 11.33 per unit calculated as follows:

$$\frac{1,000 \times 10 + 2,000 \times 11 + 3,000 \times 12}{1,000 + 2,000 + 3,000} = \text{Rs. } 11.33$$

It is better to issue the material at weighted average price method. This method recovers the full cost price of the materials from production. In the above example, the total purchase price of the materials in stock is Rs. 68,000 and the charge to jobs or work orders is also Rs. 68,000 (6,000 units@ Rs. 11.33).

In periods of heavy fluctuations in the prices of materials, the weighted average cost method gives better results because it evens out fluctuations in price by taking the average of prices of various lots in stock.

Advantages

- (1) **Best method even when prices fluctuate:** Weighted Average price method is considered to be the best method when prices fluctuate, considerably, because this method tends to smooth out fluctuation prices.
- (2) **Simple calculation:** Issue prices are not to be calculated each time issues are made. Issue prices are changed only when new lot of materials is received.
- (3) **Full recovery of cost:** This method recovers the cost of materials from production.
- (4) **Issue prices near to market prices:** This method maintains the issue prices as near to the market price as possible.
- (5) **No adjustments in stock ledger:** This method eliminates the necessity for adjustments in stock valuation.

Disadvantages

- (1) **New calculation with every receipt:** The greatest disadvantage of this method is that a fresh rate calculation has to be made as soon as a new lot of materials is purchased which may involve tedious calculations. Thus, there are chances of clerical errors.

Weighted average cost method is used by most organizations because it satisfies most of the conditions of a good method of valuing material issues.

6.11 BASE STOCK

Each concern always maintains a minimum quantity of material in stock. This minimum quantity is known as safety or base stock and this should be used only when an emergency arises. The base stock is created out of the first lot of the material purchased and therefore, it is always valued at the cost price of the first lot and is carried forward as a fixed asset.

This method works with some other method and is generally used with FIFO or LIFO method. Therefore, the advantages and disadvantages of the method, with which the Base stock method is used, will arise. Any quantity over and above the base stock is issued in accordance with the other method, which is used in conjunction with this method. The objective of this method is to issue the material according to the current prices. This objective will be achieved only when the LIFO method is used together with the Base Stock method.

Base Stock Method is always used in conjunction with FIFO or LIFO method. So, Base Stock Method would have the same advantages and disadvantages of the combined method — FIFO or LIFO method.

6.12 INFLATED PRICE METHOD

There are some materials, which are subject to natural wastage. Examples are:

- (1) Coal lost due to loading and unloading and
- (2) Timber lost due to seasoning. In such cases, the materials are issued at an inflated price (a price higher than the actual cost) so as to recover the cost of natural wastage of materials from the production. In this way, the total cost of the material is recovered from the production. For example, if 1,000 tons of coal are purchased at Rs. 75 per ton and if it is expected that 5 tons of coal will be lost due to loading and unloading, the inflated issue price in this case will be

$$\frac{1,000 \times 75}{995} = \text{Rs. } 75.37 \text{ per ton}$$

With the actual issue of 995 tons of coal, the actual cost of Rs. 75,000 (1,000 tons purchased @Rs.75 per ton) will be recovered from production (995 tons @Rs. 75.37).

6.13 SPECIFIC PRICE

When materials are purchased for specific job or work order, they should be issued to that specific job or work order at their actual cost. This method is used, where job costing is in operation and the actual material issued can be identified.

6.14 INVENTORY SYSTEMS

Inventory records relating to quantity and value can be maintained according to any of the following systems:

1. Periodic Inventory System
2. Perpetual Inventory System

6.14.1 Periodic Inventory System

Periodic Inventory System is a method of ascertaining inventory by taking an actual physical count (or measure or weight) of all the inventory items on hand at a particular date on which information about inventory is required. The cost of goods sold is calculated as a residual figure. In the course of operations, there may be theft pilferage. As cost of goods sold is calculated as a residual figure, it includes lost goods also. Cost of Goods Sold is calculated as under:

$$\text{Cost of Goods Sold} = \text{Opening Inventory} + \text{Purchases} - \text{Closing Inventory}$$

6.14.2 Perpetual Inventory System

Perpetual Inventory System is a method of recording inventory balances after each receipt and issue. In order to ensure accuracy of perpetual inventory records, physical stocks should be checked and compared with recorded balances. The discrepancies, if any, should be investigated and adjusted in the accounts, properly. The closing inventory is calculated as a residual figure (which includes lost goods also) as under:

$$\text{Closing Inventory} = \text{Opening Inventory} + \text{Purchases} - \text{Cost of Goods Sold}$$

Characteristics of Perpetual Inventory: The two main characteristics of perpetual inventory system is:

1. In perpetual inventory system, stores balances are recorded after each receipt and issue. Stores balances are always updated in the Bin Card.
2. This facilitates regular checking of stock verification, physically, which obviates the stopping of the work for stock taking. There will not be stoppage of production, in the case of continuous physical stock verification.

In perpetual inventory, the experienced and dedicated staff, throughout the year, does stock-taking, continuously. All the items of stock are covered in a phased manner. The greatest advantage is this process does not disturb the business operations.

Method of perpetual inventory: This continuous physical verification of stock is an essential feature of the perpetual inventory system. Certain number of items should be counted, weighted or measured, daily, and compared with the Bin Card balances. For example, an organization is

possessing 30,000 items of stores. In a year of 300 working days, 100 items are verified physically, once in a year and compared with the Bin Card balances. The programme for physical stock verification covers counting, weighing or measuring daily so that all 30,000 items are verified, physically. The stock verifiers take up the different sections of the store, in rotation. All the items should be completely verified in a year so each item is covered once in a year under the physical stock verification programme and the results of stock verification should be recorded, suitably.

Advantage of the Perpetual Inventory System

1. A detailed and reliable check on the materials in the stores is obtained.
2. It is not necessary to stop production.
3. No stock-taking at the year end.
4. Periodical and annual accounts can be prepared, easily, as per the balances in the stores ledger.
5. Experienced men can be employed to check the Stores at regular intervals.
6. Discrepancies are, readily, discovered and corrected.
7. Staff will be more vigilant and the system serves as a deterrent to dishonesty.
8. Facilitates fixation of the maximum and minimum levels and comparison with the actual physical balances.
9. The storekeeper's duty, attending to replenishments, is facilitated.
10. The disadvantages of excessive stocks are avoided so capital investment in stocks is kept under control.
11. Correct stock figures are, readily, available for insurance purposes.
12. It reveals the existence of slow-moving, non-moving and obsolete stores etc.
13. A system of internal check would be readily available because the bin cards and stores ledger are cross-checked, periodically.

6.14.3 Perpetual Inventory is Better than Periodic Inventory

Periodic inventory is done, normally, at the end of the year, closing business operations, at least for a few days. In perpetual inventory, the experienced and dedicated staff does stock-taking throughout the year. All the items of stock are covered in a phased manner. The greatest advantage with perpetual inventory is this process of stock-taking does not disturb the business operations as it is done throughout the year, continuously, in a planned manner, throughout the year.

Method of Pricing issues and system of inventory influence cost of production and valuation of closing stock. In consequence, profitability of the firm depends upon the method of issues as well as system of inventory.

Illustration No. 4

Satya Rani & Co. provides you with the following information:

1.1.2006 Opening Stock 100 units @ Rs. 1.00; 2.1.06. Purchased 400 units @ Rs. 1.50; 3.1.06. Issued 450 units; 4.1.06. Purchased 500 units @Rs. 2.06; 5.1.06 Issued 300 units.

Compute the Value of Inventory and Cost of Goods Sold as on 5.1.06 assuming

- (a) Perpetual System under FIFO Method.
- (b) Periodic Inventory System under FIFO Method.
- (c) Perpetual System under LIFO Method.
- (d) Periodic Inventory System under LIFO Method.
- (e) Weighted Average Method under Perpetual System
- (f) Weighted Average Method under Periodic Inventory System

Solution:**(a) Stock Ledger under FIFO Method (Using Perpetual System)**

Date	Receipts			Issues			Balance		
	Qty.	Rate Rs.	Amount Rs.	Qty.	Rate Rs.	Amount Rs.	Qty.	Rate Rs.	Amount Rs.
01.1.06	---	---	---	---	---	---	100	1.00	100
02.1.06	400	1.50	600	---	---	---	100	1.00	100
							400	1.50	600
03.1.06	---	---	---	100	1	100			
				350	1.50	525	50	1.50	75
04.1.06	500	2.06	1,030	---	---	---	50	1.50	75
							500	2.06	1,030
05.1.06	---	---	---	50	1.50	75	250	2.06	515
				250	2.06	515			

A	Opening Inventory	100
B	Add: Purchases (Rs. 600 + Rs. 1,030)	1,630
C	Less: Cost of Goods Sold (Rs. 100 + Rs. 525 + Rs.75 + Rs. 515)	<u>1,215</u>
D	Closing Inventory (A + B – C)	<u>515</u>

(b) Statement showing the Value of Inventory and Cost of Goods Sold under FIFO Method (under Periodic Inventory System)

A.	Opening Inventory	100
B.	Add: Purchases (Rs. 600 + Rs. 1,030)	1,630
C.	Less: Closing Inventory (250×2.06)	<u>515</u>
D.	Cost of Goods Sold (A + B – C)	<u>1,215</u>

In perpetual Inventory System, stock records show closing stock value, while value is to be assigned to closing stock to arrive at cost of production in

periodic Inventory System. Though method of issue (FIFO or LIFO as the may be) is same in both the systems, still, value of closing stock may differ in both the systems.

(c) Perpetual System under LIFO Method (Using Perpetual System)

Stock Ledger under LIFO Method (Using Perpetual System)

Date	Receipts			Issues			Balance		
	Qty.	Rate Rs.	Amt. Rs.	Qty.	Rate Rs.	Amt. Rs.	Qty.	Rate Rs.	Amt. Rs.
01.1.06	---	---	---	---	---	---	100	1.00	100
02.1.06	400	1.50	600	---	---	---	100	1.00	100
							400	1.50	600
03.1.06	---	---	---	400	1.50	600	---	---	---
				50	1.00	50	50	1.00	50
04.1.06	500	2.06	1,030	---	---	---	50	1.00	50
							500	2.06	1,030
05.1.06	---	---	---	300	2.06	618	50	1.00	50
							200	2.06	412

- A. Opening Inventory. 100
- B. Add: Purchases (Rs. 600 + Rs. 1,030) 1,630
- C. Less: Cost of Goods Sold (Rs. 600 + Rs. 50 + Rs. 618) 1,268
- D. Closing Inventory (A + B – C) 462

(d) Statement showing the Value of Inventory and Cost of Goods Sold under LIFO Method (under Periodic Inventory System)

- A. Opening Inventory. 100
- B. Add: Purchases (Rs. 600 + Rs. 1,030) 1,630
- C. Less: Closing Inventory [(100 × Rs. 1) + (150 × Rs. 1.50)] 325
- D. Cost of Goods Sold (A + B – C) 1,405

(e) Statement showing the Value of Inventory and Cost of Goods Sold under Weighted Average Method under Perpetual System

Stock Ledger under Weighted Average Method (Using Perpetual System)

Date	Receipts			Issues			Balance		
	Qty.	Rate Rs.	Amount Rs.	Qty.	Rate Rs.	Amount Rs.	Qty.	Rate Rs.	Amount Rs.
01.1.06	---	---	---	---	---	---	100	1.00	100
02.1.06	400	1.50	600	---	---	---	500	1.40	700
03.1.06	---	---	---	450	1.40	630	50	1.40	70
04.1.06	500	2.06	1,030	---	---	---	550	2.00	1,100
05.1.06	---	---	---	300	2.00	600	250	2.00	500

A. Opening Inventory	100
B. Add: Purchases (Rs. 600 + Rs. 1,030)	1,630
C. Less: Cost of Goods Sold (Rs. 630 + Rs. 600)	<u>1,230</u>
D. Closing Inventory (A + B – C)	<u>500</u>

(f) Statement showing the Weighted Average Cost per unit under Weighted Average Method under Periodic Inventory System

Date	Quantity	Rate (Rs.)	Total Cost (Rs.)
Jan. 1	100	1.00	100
Jan. 2	400	1.50	600
Jan. 4	<u>500</u>	2.06	<u>1,030</u>
	1,000		1,730

Weighted Average Cost per unit = Rs. 1,730/1,000 = Rs. 1.73

Statement showing the Value of Inventory and Cost of Goods Sold under Weighted Average Method under Periodic Inventory System

A. Opening Inventory.	100.00
B. Add : Purchases (Rs. 600 + Rs. 1,030)	1,630.00
C. Less: Closing Inventory (250×1.73)	<u>432.50</u>
D. Closing Inventory (A + B – C)	1,297.50

6.15 VALUATION OF INVENTORY FOR BALANCE SHEET PURPOSES

The most generally accepted accounting principle for valuation of inventory is that stock should be valued at cost or market price, whichever is lower. This flows from the Accounting Principle of ‘Conservatism’. As per the principle of conservatism, recognise all possible losses and anticipate no profit.

Inventory should be valued at cost or market price (net realisable value), whichever is lower. Recognise all possible losses in respect of transactions and events that have happened. Do not recognize anticipated profits, however certain they are, till they are realized.

Cost: Cost is the expenditure incurred for bringing the inventory to the place and condition in which the goods concerned are to be sold. So, it is not only the purchase price, but also cost of conversion and other costs incurred in bringing the inventories to the present location and condition. Examples to the later category are wages or manufacturing expenses incurred for converting raw materials into finished goods, transportation costs, duties paid and insurance, etc. However, selling expenses and storage expenses are to be excluded.

Market Price: Market price means ‘net realizable value’, in case of finished goods and replacement price, in case of raw materials and chief stores. The net realisable value is to be calculated after considering all the expenses, which might have to be incurred for making sales. For example, if the seller has to pay commission of 10% of sales, the net realisable value of an article having a selling price of Rs. 100 is to be taken as Rs. 90.

As per International Accounting Standard (IAS) No. 2, cost or market price method is to be followed for each item or group of homogeneous items of inventory.

State whether the following statements are True or False

1. Bill of Materials is a comprehensive list of materials required for executing the order with details of material specification, code, quantity etc.
2. For executing a new order, purchase department places the order on the strength of Bill of Materials.
3. Goods Received Note is a basic document for the accounts department to release payment to the supplier.
4. Stores department verifies whether the rate in the bill is as per the terms of the purchase order.
5. Goods Received Note is an important document that authorizes the accounts department to process for payment.
6. Bin card is a record of the receipt and issue of materials, kept for each item in the stores.
7. Cost of production is same, whatever is the method adopted for valuing the issues.
8. Periodic inventory does not involve closing the business for stock taking.
9. LIFO method operates in just reverse order of FIFO method.
10. Weighted average cost method is used by most organizations because it satisfies most of the conditions of a good method of valuing material issues.
11. Periodic inventory system and perpetual inventory system are the different systems for maintaining inventory records.
12. Inventory should be valued at cost or net realisable value, whichever is lower.

Answers

1. True 2. True 3. True 4. False 5. True 6. True 7. False 8. False 9. True 10. True 11. True 12. True

Pick up the most appropriate

1. The following document is essential for the accounts department to make the payment:

(a) Bill of Materials	(b) Purchase Requisition
(c) Goods Received Note	(d) Material Inspection Note

2. In times of rising prices, the following method is most suitable for valuing the issues that would reflect the cost of production to reflect the current market prices:

(a) First in First out	(b) Last in First out.
(c) Average Cost.	(d) Base Stock.
3. In times of falling prices, the following method would reflect the valuation of closing stock to reflect the current market prices:

(a) Last in First out.	(b) First in First out
(c) Average Cost.	(d) Base Stock.
4. In the following method of pricing the issues, price quoted by the firm on the basis of cost plus margin may not be competitive, when the prices of inputs are falling:

(a) Last in First out.	(b) Base Stock.
(c) Average Cost.	(d) First in First out
5. The greatest advantage with perpetual inventory is

(a) No disturbance to business, while stock-taking	(b) Stock records are always updated
(c) Both (a) and (b)	(d) None of the above
6. Physical issue of goods follows this method

(a) First in First out	(b) Base Stock
(c) Average Cost.	(d) Last in First out
7. The following method is used by most organizations because it satisfies most of the conditions of a good method of valuing material issues.

(a) First in First out	(b) Base Stock
(c) Weighted average Cost.	(d) Last in First out
8. Inventory is valued at cost or market price, whichever is lower for the following accounting principle:

(a) Conservatism	(b) Consistency
(c) Realisation	(d) Money measurement value
9. The following system gives a continuous information about the quantum and value of inventory:

(a) Periodic stock-taking	(b) Perpetual inventory
(c) Continuous stock-taking	(d) None

Answers

1. (c) 2. (b) 3. (b) 4. (d) 5. (c) 6. (a) 7. (c) 8 (a) 9. (b)

Descriptive Questions

1. Explain the meaning of the term 'Inventory'? What are the objectives of inventory? (**6.2 and 6.3**)

2. Name the conditions of a Good Method of Valuing Issues? Which method would satisfy all the requirements? **(6.6 and 6.10)**
3. Write short notes on the following:
 - (E) Goods Receipt Note **(6.4)**
 - (F) Materials Requisition Slip **(6.4)**
 - (G) Bin Card **(6.5)**
 - (H) Bill of Materials **(6.4)**
4. Give a detailed account on 'FIFO' and 'LIFO' methods of valuing the issues and state their merits and demerits of each method? **(6.7, 6.8 and 6.9)**
5. When prices are rising, which method of pricing the issues is recommended? Justify the reasons for recommendation? **(6.9)**
6. 'Average cost method is used by most organizations because it satisfies most of the conditions of a good method of valuing material issues' – Discuss? **(6.6 and 6.10)**
7. Name the different methods of valuing the issues and discuss any two methods, when the prices are rising and falling? **(6.7, 6.8 and 6.9)**
8. Write a detailed note on the inventory systems and which system of inventory taking is recommended? **(6.14, 6.14.1, 6.14.2 and 6.14.3)**
9. What is perpetual inventory and mention their advantages? **(6.14.2)**
10. Explain the method of valuation of raw materials and finished goods for the purpose of balance sheet? **(6.15)**

Interview Questions

Q.1. What are 'FIFO' and LIFO'?

Ans. 'FIFO' stands for 'First in First out'. 'LIFO' stands for 'Last in First out'. They are the different methods of valuing the issues.

Q.2. When the prices are rising, which method of valuing the issues is preferred by most of the firms?

Ans. The objective of every firm is to maintain profits, if not improve. In a scenario of rising prices, input costs would be going up. Recovery of total cost is one of the primary requirements of a good method of pricing the issues. 'LIFO' method satisfies this requirement, in the scenario of rising prices. This method is preferred by most of the firms as the issues would be charged at the current market prices.

Q.3. What is perpetual inventory? Why this method is preferred to periodical Inventory?

Ans. Perpetual inventory is a system of recording inventory balances, after each receipt and issue. So, quantity and value of stock records are always updated. In perpetual inventory, the experienced and dedicated staff does stock-taking, throughout the year. All the items of stock are covered in a phased manner. Periodical inventory is done, normally, at the end of the year, closing business operations, at least for a few days. The greatest advantage with perpetual inventory, in comparison to periodic inventory, is this process of stock-taking does not disturb the business operations as it is done throughout the year, continuously,

in a planned manner, throughout the year. Perpetual inventory facilitates detection of discrepancies and shortages, in an earlier manner. Perpetual inventory acts a deterrent to staff from indulging in dishonest activities.

Q.4. How finished goods are valued for the purpose of balance sheet?

Ans. Finished goods are to be valued at cost or net realizable value (market price), whichever is lower. Cost means not only purchase price but also includes conversion costs to bring the goods into that condition and location such as transportation costs, duties and manufacturing expenses etc. However, selling and advertisement costs do not form part of cost. Expenses to be incurred for making a sale like commission are to be deducted from the selling price to arrive at market price. Method of valuation has to be followed, normally, consistently.

Q.5. Why inventory is to be valued at cost or market price, whichever is lower?

Ans. According to the principle of 'Conservatism', all possible losses have to be recognised and no anticipated profit is to be accounted for, till profit is realised. Following this principle, inventory is to be valued at cost or market price, whichever is lower.



CHAPTER
7

Depreciation

- Introduction
- Meaning of Depreciation
- Need for Depreciation
- Objectives for Providing Depreciation
- Methods of Depreciation
 - Straight Line Method
 - Diminishing Balance Method
 - Annuity Method
 - Depreciation Fund Method
 - Depletion Method
 - Revaluation Method
 - Machine Hour Rate Method
- Change in Method of Depreciation - Disclosure
- Basic Factors for Calculation of Depreciation
- Depreciation Accounting
- Sale of Fixed Asset
- Illustrations
- True or False
- Pick up the Most Appropriate
- Descriptive Questions
- Interview Questions

7.1 INTRODUCTION

Assets are classified into Fixed Assets and Current Assets. Fixed assets are used in the business for earning profits. They are not meant for sale in the ordinary course of business. The benefit of fixed asset spreads for more than one accounting period. Fixed assets would generate revenue till the end of their useful life. At the end of their life, there would be no realizable value, except their scrap value, which is always negligible. When the fixed assets are used to earn revenue, it is necessary that the cost of the fixed assets is charged over the useful life of the assets. Depreciation represents that part of the fixed asset, which is not recoverable to its owner when the asset ceases useful. It is necessary to charge the appropriate portion of the cost of the fixed asset against its revenue to give meaning to the concept of accounting principle — ‘Matching concept’.

Depreciation is required to be provided on fixed assets. Question of depreciation does not arise on current assets.

7.2 MEANING OF DEPRECIATION

Depreciation is the diminution in the value of the fixed assets because of their use, wear and tear, efflux of time; depletion etc. It is a common experience that whenever an asset is used, it reduces in value, which is known as depreciation. Thus, depreciation is a permanent, continuing and gradual shrinkage in the book value of a fixed asset.

Pickles defines depreciation as “The permanent and continuing diminution in the quality, quantity or value of an asset”.

7.3 NEED FOR DEPRECIATION

Let us consider the following factors in the context of depreciation.

- (A) **Use of the Asset:** Use of the asset can be active or passive. If a brand new car is kept in a garage, though not used, car would depreciate, perhaps more than its actual use. So, depreciation is to be calculated from the date of acquiring the asset or when it is put to use, in case of machinery.
- (B) **Efflux of Time:** Some assets may be acquired on lease. Leased assets would have a definite life. On the expiry of the life, asset ceases to exist. In case of other assets like plant and machinery, life of the asset is to be estimated. Depreciation would be spread over the life of the asset. With the passage of time, some assets lose their life. Even though brand new car is not used, still the asset depreciates due to efflux of time.
- (C) **Obsolescence:** If a better machine comes into the market, the existing equipment, though capable of working physically, has to be written off. This happens in case of computers more. Pentium machines have thrown PC 286 and 386 out of use, though they may work, physically. New technology, normally, creates obsolescence.

- (D) **Accidents:** When accident occurs, the asset may be required to be discarded if repairs are more than the realizable value of the asset. In such circumstances, the asset is sold ‘as is where’ condition.
- (E) **A Fall in Prices:** Prices may be changing, in particular computers. Noticeable fall in the value of computers and electronic equipment is observed over years.

Out of the above, the first two factors (A & B) are considered for depreciation. Factors (C) and (D) are considered when they happen. They do not happen to all assets. Factor (E) is not considered as fixed assets are not meant for sale, but for earning profits, using them till the end of their life.

In case of fixed assets, a fall in price for depreciation is ignored. Only current assets are affected by this factor. When we talk of depreciation, we think only of fixed assets.

7.4 OBJECTIVES FOR PROVIDING DEPRECIATION

The objectives for providing depreciation are as under:

- (i) **Calculation of Net Income/Profit:** Depreciation is an expense. All expenses are recorded in books of accounts, whether they are paid or not, when books of accounts are maintained on mercantile basis. So, it is essential to provide depreciation. When an asset is used for earning income, it is reasonable that the reduction in the value of the asset should be provided from that income. This is necessary to calculate the correct and real income of the business. Depreciation is an invisible expense so it must be charged to the profit & loss account, like any other expense that is incurred for earning the income.
- Depreciation is a mere book entry. Though depreciation is an expense, there is no actual cash outgo of funds from the firm. However, provision of depreciation reduces profits. If not provided, operational results would be overstated.**
- (ii) **Presentation of Fixed Assets in Balance Sheet at Proper Value:** In order to show the true financial position of the business in the balance sheet, it is necessary that asset must be shown at their true value, after deducting reasonable depreciation. If depreciation is not provided, the assets are overstated in the balance sheet. To continue to show the asset, at cost, when the value of the asset has fallen due to use, wear and tear, is similar to painting a better financial picture than it is.
- (iii) **Replacement of Asset:** Depreciation when charged to profit and loss account is nothing but keeping that amount for replacement of the asset. In other words, depreciation facilitates creation of resources for replacement of asset. Thus, charging depreciation will provide a fund, which can be utilized for the replacement of the asset, after the expiry of the life of the asset. If depreciation is not provided, profits would be inflated and dividend would be distributed out of unearned profits. In such an event, when replacement of asset is needed, no funds would be available for replacing the asset.

7.5 METHODS OF DEPRECIATION

There are various methods, which are used for charging depreciation. But, the following are important:

- (i) **Straight Line Method:** In this method, depreciation is calculated by dividing the cost of the asset minus scrap value by the effective life of the asset. The amount of depreciation, remains fixed over the whole life of the asset. This method is simple and works well when an asset has a fixed life as in the case of lease etc. But, charge to profit and loss is not equal because of repairs. It is a known fact that repairs would increase when the asset becomes older. Moreover, the income tax authorities, in India, do not recognize this method. The greatest disadvantage with this method is non-availability of ready funds for replacement of asset as depreciation amount is invested in the business of the firm.
- (ii) **Diminishing Balance Method:** Under this method, depreciation is charged at a fixed rate on the opening balance of the asset, every year. As the opening balance of the asset decreases year after year, the depreciation amount also reduces in value, year after year. However, repairs would increase, with the age of the asset. Over a period, the total amount of depreciation and repairs would be more or less uniform. In consequence, this method gives an equal charge to the profit and loss account and is also recognized by the income tax authorities in India. But, in case of addition or sale, tedious calculations are involved. Moreover, it does not provide any fund for the replacement of the asset, similar to straight-line method.

Diminishing Balance Method is also known as ‘Written down Value Method’.

- (iii) **Annuity Method:** This method charges depreciation on the assumption that fixed rate of interest is charged on the asset, treating the fixed asset as an investment. The first two methods — Straight Line Method and Diminishing Balance Method — ignore interest aspect. The annuity method takes into account the interest lost on the acquisition of an asset. The amount to be written off as depreciation is calculated from the annuity table. The depreciation will be different according to the rate of interest and according to the period over which the asset is to be written off.

Charge (burden) on the profit and loss account in the form of depreciation and interest would be more in the annuity method compared to Straight Line Method as well as Diminishing Balance Method.

- (iv) **Depreciation Fund Method:** Funds are needed for replacement of the fixed asset. As and when the fixed asset is required to be replaced with a new asset, all the above three methods do not provide ready funds for replacing the asset. Non-availability of ready funds is the greatest handicap in respect of all the above methods. Depreciation Fund Method provides the advantage of ready funds for replacing the asset, as and when needed.

Depreciation Fund Method is also known as ‘Sinking Fund Method’.

Method of working: Firm invests the depreciation amount, every year, outside the business. Depreciation amount is kept aside and invested in ready saleable securities – preferably Government securities. These securities are preferred for investment as they are secured and price fluctuations are almost negligible. When the life of the asset expires, requiring replacement, the securities are sold and a new asset is purchased with the help of sale proceeds. Since the securities always earn interest, it is not necessary to use the full amount of depreciation for buying the new asset, if there is no change in price. Interest amount would take care of the increased price of the asset, if any, for replacement.

The greatest advantage of ‘Sinking Fund Method’ is its ready availability of cash for replacement of the asset, without disturbing the business operations. Liquidity problem to replace an asset, often experienced by the management, does not come up with ‘Sinking Fund Method’.

The disadvantage of mixing the depreciation amount in the business with all the three above methods — Straight Line Method, Diminishing Balance Method and Annuity Method — is eliminated with the depreciation fund method.

- (v) **Depletion Method:** This method is used in case of mines, quarries and oil wells. Depreciation is calculated on the actual quantity of material extracted from them. Suppose, a mine is purchased for Rs. 5,00,000. It is estimated that the mine is expected to produce 5,000 tons. So, each ton costs Rs. 100 ($5,00,000 / 5,000$). In case, production is 1,000 tons during a particular year, depreciation would be Rs. 1,00,000 ($1,000 \times 100$).
- (vi) **Revaluation Method:** This method is used in case of small items like cattle (livestock) and loose tools, where it is difficult to maintain account for every single item. The amount of depreciation is to be calculated by comparing the value at the end of the year (valuation is done by a person, who has knowledge of those assets) with the value in the beginning and assets purchased during the year. Suppose on 1st April, the value of loose tools was Rs. 20,000 and tools worth of Rs. 10,000 were purchased during the year. If the value of tools were valued at the end of the year Rs. 25,000, the depreciation during the year comes to Rs. 5,000 ($20,000 + 10,000 - 25,000$).
- (vii) **Machine Hour Rate Method:** Under this method, total cost of the machine is divided by the total number of hours of the life of the machine to arrive at the hourly rate of the machine. In order to calculate the depreciation amount, the actual number of hours in a particular year is multiplied with the hourly rate.

7.6 CHANGE IN METHOD OF DEPRECIATION — DISCLOSURE

The method of providing depreciation has to be consistent from year to year. However, firm may change the existing method of depreciation to a new method of depreciation, observing certain requirements.

Whether a firm can change the method of depreciation, presently, followed? Yes, the firm can change the method of depreciation.

A change in the existing method of depreciation is treated as a change in an accounting policy.

Details of change in method of depreciation and impact of the change have to be quantified in 'Notes to Accounts'. Reasoning is the reader of the financial statements should be apprised of the change and impact of change on the financial results.

7.7 BASIC FACTORS FOR CALCULATION OF DEPRECIATION

Amount of depreciation is dependant on the following basic factors:

(A) Cost: Depreciation is to be calculated on the cost of the asset. After purchase, certain expenses may be incurred to bring the asset into working condition or improved capacity. This, normally, happens with a second hand asset. The nature of the expenses is not repair, but of reconditioning nature, so they are a part of the cost of the asset. Similarly, erection expenses are to be capitalized. It means these expenses are to be treated as the part of the cost of the asset. So, depreciation is to be calculated on the total cost of the asset, which includes expenses on reconditioning as well as erection.

What is the cost of an asset? Is it purchase price? Purchase price need not be cost, always, for the purpose of calculating depreciation. This is the case, when additional expenses are incurred towards erection (new asset) or reconditioning (old asset). If the life of the asset increases than its original condition or capacity improved, the amount, additionally, incurred is to be capitalized.

(B) Estimated Life of the Asset: Life of the asset is to be estimated. Depreciation is to be written off, totally, over the estimated life of the asset, except for its scrap value.

(C) Scrap Value: The estimated residual or scrap value at the end of the life of the asset also influences the amount of depreciation.

Period of Holding: Depreciation is to be calculated on the actual period of holding of the asset. If the fixed asset is purchased in the middle of the year, depreciation is to be calculated from the date of purchase. In other words, depreciation is to be calculated pro rata to the period of holding. If the asset is sold in the middle of the year, depreciation is to be calculated till the date of sale.

7.8 DEPRECIATION ACCOUNTING

There are two methods in respect of accounting depreciation:

(A) Depreciation account is debited and the depreciation amount is credited to the concerned asset account. In such a case, the accounting entry is

Depreciation AccountDr.

To Fixed asset Account (name the asset, say, Machinery Account)

(Being depreciation provided on the asset)

Later, depreciation account is closed by transferring the balance to the Profit and Loss Account. The accounting entry is

Profit and Loss AccountDr.

To Depreciation Account

(Being depreciation charged transferred to Profit and Loss Account)

In this method, the concerned fixed asset shows the written value in the balance sheet.

(B) Alternatively, depreciation amount is credited to a separate account called 'Provision for Depreciation Account'. In such a case, asset account is maintained at its cost, always.

The accounting entry for providing depreciation is

Depreciation AccountDr.

To Provision for Depreciation Account

(Being depreciation provided on the asset)

Later, depreciation account is closed by transferring the balance to the Profit and Loss Account. The accounting entry is

Profit and Loss AccountDr.

To Depreciation Account

(Being depreciation charged transferred to Profit and Loss Account.)

Provision for depreciation is deducted from the concerned fixed asset account. When Provision for depreciation account is maintained, balance sheet shows the fixed asset at the original cost, with provision for depreciation as a deduction in the inner column and final amount in the outer column.

Illustration No. 1

On 1st January, 2000 Shakti & Co. purchases machinery worth Rs. 50,000. On 1st July, 2002, it buys additional machinery worth Rs. 10,000 and spends Rs. 1,000 on its erection. The accounts are closed each year on 31st December. Assuming the annual depreciation to be 10% show the machinery account for 5 years under

- (1) Straight Line Method
- (2) Diminishing Balance Method.

Solution:

DEPRECIATION ON STRAIGHT LINE METHOD

Machinery account

Dr.				Cr. Rs.
2000 Jan. 1	To Cash	50,000	2000 Dec. 31 Dec. 31	By Depreciation By Balance c/d
		50,000		5,000 45,000
				<u>50,000</u>

2001 Jan. 1	To Balance b/d	45,000 <u>45,000</u>	2001 Dec. 31 Dec. 31	By Depreciation By Balance c/d	5,000 40,000 <u>45,000</u>
2002 Jan. 1 July. 1	To Balance b/d To Bank	40,000 11,000** <u>51,000</u>	2002 Dec. 31 Dec. 31	By Depreciation By Balance c/d	5,550* 45,450 <u>51,000</u>
2003 Jan. 1	To Balance b/d	45,450 <u>45,450</u>	2003 Dec. 31 Dec. 31	By Depreciation By Balance c/d	6,100 39,350 <u>45,450</u>
2004 Jan. 1	To Balance b/d	39,350 <u>39,350</u>	2004 Dec. 31 Dec. 31	By Depreciation By Balance c/d	6,100 33,250 <u>39,350</u>
2005 Jan. 1	To Balance b/d	33,250			

* Depreciation 10% on Rs. 50,000 for one year & 10% on Rs. 11,000 for 6 months

** Erection amount Rs. 1,000 is also capitalised.

DEPRECIATION ON DIMINISHING BALANCE METHOD

Dr.	Machinery account			Cr.
2000 Jan. 1	To Bank	50,000 <u>50,000</u>	2000 Dec. 31 Dec. 31	By Depreciation By Balance c/d <u>50,000</u>
2001 Jan. 1	To Balance b/d	45,000 <u>45,000</u>	2001 Dec. 31 Dec. 31	By Depreciation By Balance c/d <u>45,000</u>
2002 Jan. 1 July. 1	To Balance b/d To Bank	40,500 11,000 <u>51,500</u>	2002 Dec. 31 Dec. 31	By Depreciation By Balance c/d <u>46,900</u>
2003 Jan. 1	To Balance b/d	46,900	2003 Dec. 31	By Depreciation <u>4,690</u>

		<u>46,900</u>	Dec. 31	By Balance c/d	<u>42,210</u> <u>46,900</u>
2004 Jan. 1	To Balance b/d	42,210	2004 Dec. 31 Dec. 31	By Depreciation By Balance c/d	4,221 <u>37,989</u> <u>42,210</u>
2005 Jan. 1	To Balance b/d	37,989			

** Depreciation 10% on Rs. 40,500 for one year & 10% on Rs. 11,000 for 6 months

7.9 SALE OF FIXED ASSET

Occasions arise when a fixed asset is sold. On expiry of its useful life, asset may be sold as scrap. Even, before its useful life comes to an end, the asset may be sold and sale proceeds are received.

The following is the accounting method to be followed in case of a disposal of an asset:

- Open a separate disposal account of the concerned asset sold, say, 'Machinery disposal account'.
- Sale proceeds or amount received on sale of scrap is to be credited to 'Machinery disposal account'.
- In case, depreciation is credited, directly, to the machinery account, transfer the written down value of the discarded portion of the asset from machinery account to the separate 'Machinery disposal account'.

The accounting entry is

Machinery disposal accountDr.

To Machinery Account

- In case, Provision for Depreciation Account is maintained, transfer the relevant cost (original cost at which it has been purchased or capitalized) from the machinery account to 'Machinery disposal account'. Similarly, transfer the applicable amount of depreciation provided from the Provision for Depreciation Account to 'Machinery disposal account'.

The accounting entry is

Machinery disposal accountDr.

To Machinery Account

To Provision for Depreciation Account

- Close the Machinery disposal account.
- Transfer the profit or loss to the Profit and Loss Account.

In the event of profit, the accounting entry will be

Machinery disposal accountDr.

To Profit and Loss Account

If there is loss on the disposal of the asset, the accounting entry will be

Profit and Loss AccountDr.

To Machinery disposal account

Illustration No. 2

Neha & company whose accounting year is the calendar year, purchased on 1st April, 2006 machinery costing Rs. 30,000. It purchased further machinery on 1st October, 2006 costing Rs. 20,000 and on 1st July, 2007 costing Rs. 10,000.

On 1st January, 2008, one third of the machinery which was installed on 1st April, 2006 became obsolete and was sold for Rs. 3,000. Show how the machinery account would appear in the books of Neha & company, assuming that machinery was depreciated by fixed installment at 10% p.a.

Solution:

		Machinery Account				
					Cr. Rs.	
2006 April. 1 Oct. 1	To bank a/c To bank a/c	30,000 20,000	2006 Dec. 31 Dec. 31	By depreciation (1) on Rs. 30,000 for 9 months (2) on Rs. 20,000 for 3 months By balance c/d	2,250 500 47,250	2,750 50,000
		<u>50,000</u>			<u>50,000</u>	
2007 Jan. 1 July. 1	To balance b/d To bank a/c	47,250 10,000 <u>57,250</u>	2007 Dec.31 Dec. 31	By depreciation (1) 50,000 for 1 year (2) on Rs.10,000 for 6 months By balance c/d	5,000 500 5,500 51,750 <u>57,250</u>	5,250* 51,750 <u>57,250</u>
2008 Jan. 1	To balance b/d	51,750	2008 Jan. 1 Jan. 1 Dec. 31 Dec. 31	By bank a/c By P & L a/c (loss on sale) By depreciation (4,000+1,000) By balance c/d	3,000 5,250* 5,000 38,500	3,000 5,250* 5,000 38,500
		<u>51,750</u>			<u>51,750</u>	
2009 Jan. 1	To balance b/d	38,500				

* Cost of 1/3 machinery	:	10,000
Depreciation		
Year 2006 (9 months)	750	
Year 2007 (one year)	<u>1,000</u>	
		1,750
Written down value		8,250
Sale value		3,000
Loss on sale of machinery		<u>5,250</u>

Illustration No. 3

On 1st July, 2001, Tarkh Ltd purchases second hand machinery for Rs. 20,000 and spends Rs. 3,000 on reconditioning and installing it. On 1st January, 2002, the firm purchases new machinery worth Rs. 12,000. On 30th June, 2003, the machinery purchased on 1st January, 2002 was sold for Rs. 8,000 & on 1st July, 2003, fresh plant was installed. Payment for this plant was to be made as follows:

1st July, 2003 Rs. 5,000

20th June, 2004 Rs. 6,000

30th June, 2005 Rs. 5,500

Payments in 2004 & 2005 include interest Rs 1,000 & 500 respectively.

The company writes off 10% on the original cost. The accounts are closed every year ending 31st March, 2004.

Show the Machinery account for three years ending 31st March, 2004.

Solution:

Dr.	Machinery account			Cr. Rs.
2001 July, 1	To Bank	Rs. 23,000*	2002 March, 31	By Depreciation (for 9 months on Rs 23,000 For 3 months on Rs 12,000)
2002 Jan, 1	To Bank	12,000	March, 31 2002	By Balance c/d
		<u>35,000</u>		<u>35,000</u>
2002 April, 1	To Balance b/d	32,975	2003 March, 31	By Depreciation By Balance c/d
		<u>32,975</u>		<u>32,975</u>

2003 April, 1	To Balance b/d	29,475	June, 30 2003	By Depreciation for 3 months on Rs 12,000 By Cash By Profit & Loss A/c	300
July, 1	To Vendor	15,000**	" "	By Depreciation (for 9 months on Rs 15,000 and one year on Rs. 23,000)	8,000 2,200***
			2004 March, 31	By Balanced b/d	3,425
		44,475			30,550
2004 April, 1	To Balance b/d	30,550			44,475

* Reconditioning charges Rs. 3,000 is also a part of the cost of machinery as the purpose of reconditioning is to increase the life of the asset. Reconditioning is different from repair. Here, it is not repair. Repair is not to be capitalized, while reconditioning is to be capitalized.

** Interest is not a part of the cost of machinery. Depreciation is to be calculated from the date when the asset is put to use. Depreciation has no connection with the date of payment.

*** Loss on sale of machinery:

Cost	12,000
Depreciation (10% 1-1-2002to 30-6-2003)	1,800
Book value (written down value)	10,200
Sale price	8,000
Loss	2,200

Illustration No. 4

On 1.1.2008, the cost of the machinery in use with a firm was Rs. 5,00,000 against which the depreciation provision stood at Rs. 1,91,900 on that date. The firm provided depreciation at 10% per annum on straight-line method. The firm started its business in 2004. On 30.9.2008, two machines costing Rs. 30,000 and Rs. 24,000 respectively, both purchased on 1.7.2005, were discarded because of damage and replaced by two new machines costing Rs. 40,000 and Rs. 30,000 respectively. One of the discarded machines was sold for Rs. 16,000; against the other it was expected that Rs. 6,000 would be realized.

Show the Machinery Account, Depreciation account, Provision for Depreciation account and Machinery Disposal account.

Solution:

Dr.			Machinery Account			Cr.	
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.		
1.1.08	To Balance B/d	5,00,000	30.9.08	By Machinery Disposal A/c	54,000		
30.9.08	To Bank A/c	70,000	31.12.08	By Balance C/d	5,16,000		
		5,70,000			5,70,000		
1.1.09	To Balance B/d	5,16,000					

Dr.			Provision for Depreciation Account			Cr.	
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.		
2008 Sept. 30	To Machinery Disposal A/c	13,500	2008 Jan. 1	By Balance B/d	1,91,900		
Dec. 31	To Balance C/d	2,24,750	Dec. 31	By Depreciation A/c (On machinery in use)	46,350		
		2,38,250			2,38,250		
			2009 Jan. 1	By Balance B/d	2,24,750		

Dr.			Machinery Disposal Account			Cr.	
Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.		
2008 Sept. 30	To Machinery A/c	54,000	2008 Sept. 30	By Provision for Depreciation A/c	13,500		
				By Depreciation A/c (on 2 machines for 9 months)	4,050		
				By Bank A/c	16,000		
				By P & L A/c (Balancing figure)	14,450		
			Dec. 31	By Balance c/d (Expected realizable value of second machinery)	6,000		
		54,000			54,000		
2009 Jan. 1	To Balance c/d b/d	6,000					

Depreciation Account

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
Dec. 31 2008	To Provision for Depreciation A/c	46,350	2008 Dec. 31	By Profit and Loss A/c	50,400
Dec. 31	To Machinery Disposal A/c	4,050			
		50,400			50,400

Working Notes:

	Rs.
1. Depreciation provided on two discarded machines:	
For 2005 (for six months @ 10% on Rs. 54,000)	2,700
For 2006 (10% on Rs. 54,000)	5,400
For 2007 (10% on Rs. 54,000)	5,400
Total Depreciation till 1 st Jan, 2008	<u>13,500</u>
Deprecation for 9 months to Sept. 2008	4,050
2. Depreciation on machinery in use:	
Cost of Machinery on 1.1.2008	5,00,000
Less: Cost of discarded machines	54,000
Cost of Machinery in use	<u>4,46,000</u>
Depreciation on Rs. 4,46,000 for one year @10%	44,600
New machinery purchased during the year	
– Depreciation for 3 months @10% on Rs. 70,000	1,750
Total Depreciation	<u>46,350</u>

Illustration No. 5

Gangadhar & co has been running a crusher from the year 2005. Written down value of Machinery is Rs. 1,20,000 as on 1st Jan, 2006. The firm has purchased a second machine for Rs. 40,000 on 1st April, 2007 and has sold the same for Rs. 65,000 on 1st Jan, 2008. The firm has been following diminishing balance method from the beginning. Depreciation rate for the machine has been 10%. Accounts are closed at the end of calendar year.

Show the Machinery account for the years 2006 to 2008.

Solution:

Date	Particulars	Amount	Date	Particulars	Amount
1 st Jan, 2006	To opening balance	1,20,000	31 st Dec. 2006	By Depreciation	12,000
		<u>1,20,000</u>		By Balance c/d	<u>1,08,000</u>
1 st Jan, 2007	To Balance b/d	1,08,000	31 st Dec. 2007	By Depreciation (10,800 + 3,000)	13,800
1 st April, 2007	To Bank (purchase of second hand machinery)	40,000	31 st Dec. 2007	By Balance c/d	1,34,200
		<u>1,48,000</u>			<u>1,48,000</u>
1 st Jan, 2008	To Balance b/d	1,34,200	1 st Jan 2008	By Bank	65,000
1 st Jan, 2008	To Profit & Loss A/c (profit on sale of machinery)	28,000	31 st Dec, 2008	By Depreciation	9,720
		<u>1,62,200</u>	31 st Dec, 2008	By Balance c/d	<u>87,480</u>
					<u>1,62,200</u>

Sale of Machinery

Sale price	65,000
Original cost	40,000
Depreciation for year 2007 (9 months)	<u>3,000</u>
Written down value	<u>37,000</u>
Profit	<u>28,000</u>

Depreciation for year 2008 (diminishing Balance Method) @ 10%

WDV in 2006	1,20,000
Dep for 2006	12,000
Balance on 31-12-2006	<u>1,08,000</u>
Dep for 2007	<u>10,800</u>
Balance as on 31-12-2007	<u>97,200</u>
Dep for 2008-11-05	<u>9,720</u>
Balance as on 31-12-2008	<u>87,480</u>

Illustration No. 6

A manufacturing firm purchased on 1st January, 1996 certain machinery for Rs. 1,00,000 and spent Rs. 2,000 on erection. On 1st July in the same year, additional machinery costing Rs. 50,000 was acquired. On 1st January, 1998, the machinery purchased on 1st January 1996 (having become obsolete) was auctioned for Rs. 40,000 and on the same date, fresh machinery was purchased at a cost of Rs. 25,000. Depreciation was provided, annually, on 31st December at 10% per annum on the original cost of the asset. In 1998, this method was changed and that of writing off 15% on the written down value was adopted, with retrospective effect.

Prepare Machinery Account from 1996 to 1999

Dr.	Machinery Account				Cr.
Date	Particulars	Amount	Date	Particulars	Amount
1 st Jan 1996	To Bank (purchase of machinery)	1,20,000*	31 Dec, 1996	By Depreciation (10% on straight line method For one year on Rs. 1,20,000 and six months on Rs. 50,000) By Balance c/d	14,500 1,55,500
		<u>1,70,000</u>			<u>1,70,000</u>
1 st Jan 1997	To Balance b/d	1,55,500	31 Dec, 1997	By Depreciation By Balance c/d	17,000 1,38,500
		<u>1,55,500</u>			<u>1,55,500</u>
1 st Jan 1998	To Balance b/d	1,38,500	1 Jan, 1998	By Bank	40,000
	To Bank	25,000	1 Jan, 1998	By Profit & Loss A/c	56,000
			31 Dec, 1998	By Profit & Loss A/c (additional depreciation required for change of method)	3,188
			31 Dec, 1998	By Depreciation (5,897 + 3,750)	9,647
			31 Dec, 1998	By Bal c/d	54,665
		<u>1,63,500</u>			<u>1,63,500</u>
1 st Jan 1999	To Bal b/d	54,665	1 st Jan 1999	By Depreciation	8,200
		<u>54,665</u>	31 Dec 1999	By Bal c/d	<u>46,465</u>
					<u>54,665</u>

- Includes erection charges Rs. 20,000 as the amount is part of the cost of machinery.

Profit or Loss on Sale of old machinery

Original cost	1,20,000
Depreciation for 1996 & 1997	24,000
Written down value	96,000
Sale value	40,000
Loss on sale of machinery	<u>56,000</u>

Change in method of depreciation

Depreciation on Rs. 50,000 – Straight Line Method from July 1996 to Dec, 1997 (18 months) @ 10% (A)	7,500
Depreciation on Rs. 50,000 – Diminishing Balance Method from July 1996 to Dec, 1997 (18 months) @ 15% (B)	<u>10,688**</u>
Additional Depreciation required (B – A)	<u>3,188</u>

**Original cost	50,000
Dep for 6 months 1996 @ 15%	<u>3,750</u>
	<u>46,250</u>

Dep for 12 months 1997 @ 15%	<u>6,938</u>
WDV on 1 st Jan, 1998	<u>39,312</u>
Dep for 1998 @ 15%	<u>5,897</u>
WDV on 1 st Jan, 1999	<u>33,415</u>
Dep for 1999 @ 15%	<u>5012</u>

Depreciation under Diminishing Balance method for 1996 & 1997 ($3,750 + 6,938$) = 10,688

Depreciation for 1998

Asset purchased in July, 1996	50,000
Dep @ 15% for six months	

Illustration No. 7

The plant and machinery account of Vasu & Company Limited had a debit of Rs. 1,47,390 on 1st January, 2007. The company was incorporated in 2004 and has been following the practice of charging depreciation every year on diminishing balance system @ 15%. In 2007, it was decided to change the method from reducing balance method to straight line method, with retrospective effect from 2004 and to give effect to the change, while preparing the final accounts for the year ended 31st December, 2007. The rate of depreciation remains same as before.

On 1st Jan 2007, new machineries were purchased at a cost of Rs. 50,000. All the others were acquired in 2004. Show the plant & machinery account from 2004 to 2007.

Dr.	Plant & Machinery Account	(Rs.)
Cr.		
1.1.2004		
To Bank	2,40,000*	
	<u>2,40,000</u>	
31.12.04 By Depreciation (15% on Rs. 2,40,000)	36,000	
" By Balance c/d	2,04,000	
	<u>2,04,000</u>	
1.1.05		
To Balance b/d	2,04,000	
	<u>2,04,000</u>	
31.1.05 by Depreciation (15% of Rs. 2,04,000)	30,600	
" By Balance c/d	1,73,400	
	<u>1,73,400</u>	
1.1.06		
To Balance b/d	1,73,400	
	<u>1,73,400</u>	
31.12.06 By Depreciation (15% of Rs. 1,73,400)	26,010	
" By Balance c/d	1,47,390	
	<u>1,47,390</u>	
1.1.07		
To Balance b/d	1,47,390	
	<u>1,47,390</u>	
31.12.07 By Depreciation (15% of Rs. 2,40,000 + 50,000)	43,500 **	
To Bank (purchase of New machinery)	50,000	
	<u>50,000</u>	
By Depreciation (Short provision due to change in method)	15,390	
By Balance c/d	1,38,500	
	<u>1,38,500</u>	
1.1.08 to		
To Balance c/d	1,38,500	
	<u>1,38,500</u>	

Tip to students: If the W.D.V. at the end of first year is Rs. 90, we get the original cost of asset by multiplying the WDV with the depreciation rate say 10% as below

$$90 \times 100/ 10 : \text{Rs. } 100$$

Working notes:

(a) Cost on 1.1.04 *	
Rs. 1,47,390*100/85*100/85*100/85	<u>2,40,000</u>
(b) Depreciation to be charged on straight line method for 3 years from 2004 to 2006	
(15% on Rs. 2,40,000)*3	1,08,000
(c) Depreciation already charged on diminishing balance method for 3 years from 2004 to 2006:	
Rs. (36,000 + 30,600 + 26,010)	<u>92,610</u>
Further depreciation to be charged due to change in method (b – c)	<u>15,390</u>

* It is necessary to arrive at the original cost of machinery on 1-1-2004 as the change in method of depreciation has been with effect from Jan, 2004.

** Charged on straight - line method as per the new policy introduced in 2007.

State whether the following statements are True or False

1. Depreciation is the diminution in the value of the fixed assets because of their use, wear and tear, efflux of time; depletion etc.
2. Depreciation amount is same every year both in straight-line method and diminishing balance method.
3. Depreciation Fund Method provides readily available cash for replacement of the fixed asset.
4. Depreciation does not involve any outgo of cash from the firm.
5. Depreciation amount goes on reducing in Straight Line Method year after year.
6. Depreciation amount is invested outside the business in Diminishing Balance method so that replacement of asset does not disturb the firm's liquidity in business.
7. If a fixed asset is not used, depreciation need not be provided.
8. Depreciation is necessary on fixed assets, not on current assets.
9. Depreciation can be credited to the fixed asset account or 'provision for depreciation' account, when a separate account is maintained for this purpose.
10. Provision for depreciation account always shows a debit balance.
11. Replacement of fixed asset creates liquidity problem unless planned, properly.
12. Depreciation is a mere accounting entry, which does not affect the operational results of the firm.
13. Fixed assets are not meant for sale in the ordinary course of business.
14. Even if the fixed asset is purchased in the middle of the year, depreciation is to be provided for the whole year.

15. A change in the method of depreciation is treated as a change in an accounting policy.
16. When Provision for depreciation account is maintained, balance sheet shows the fixed asset at the original cost with provision for depreciation as a deduction.

Answers

1. True 2. False 3. True 4. True 5. False 6. False 7. False 8. True 9. True 10. False
11. True 12. False 13. True 14. False 15. True 16. True

Pick up the most Appropriate

1. A firm is in the business of livestock. The following method is used for computing depreciation:

(a) Straight Line Method	(b) Diminishing Balance Method
(c) Sinking Fund Method	(d) Revaluation Method
2. For calculating the extraction of mines and quarries, the following method of depreciation is used:

(a) Depletion Method	(b) Diminishing Balance Method
(c) Sinking Fund Method	(d) Revaluation Method
3. Change in method of depreciation is in case of a limited company:

(a) Permitted	(b) Not permitted
(c) Permitted, in exceptional cases	(d) Permitted in all cases, but change and impact of change are to be stated in 'Notes to Accounts'.
4. Burden on the profit and loss account in the form of depreciation and interest would be in the annuity method compared to Straight Line Method as well as Diminishing Balance Method

(a) more	(b) less
(c) same	(d) can be more or less
5. The greatest advantage with the following method is availability of ready funds for replacement of fixed asset as depreciation amount is invested outside the business of the firm.

(a) Straight Line Method	(b) Diminishing Balance Method
(c) Sinking Fund Method	(d) Depletion Method

Answers

1. (d) 2. (a) 3. (d) 4. (a) 5. (c)

Descriptive Questions

1. 'Depreciation is to be provided on fixed assets as well as current assets' – Discuss? (7.1)
2. What is the meaning of 'Depreciation'? Explain the need for providing depreciation? (7.2 and 7.3)
3. What are the objectives for providing depreciation? (7.2 and 7.4)

4. Name the different methods of providing depreciation and state their merits and demerits? (7.5)
5. State the accounting procedure in respect of sale of an asset and discarding the machinery as scrap? (7.9)
6. Is it possible for a firm to change the method of depreciation? If so, what is the procedure to be followed? (7.6)
7. If the value of a fixed asset falls, is it necessary to provide depreciation? What are basic factors for calculation of depreciation? (7.3 and 7.7)
8. A firm does not want to disturb its business operations for replacing a fixed asset. Discuss the method of depreciation that is recommended? (7.2 and 7.5 (iv))

Interview Questions

Q.1. What is 'Depreciation'?

Ans. Depreciation is reduction or diminution in the value of the asset caused due to wear and tear or efflux of time. Depreciation occurs whether the asset is used actively or passively. In other words, even if the asset is not used, depreciation occurs due to passage of time.

Q.2. Why depreciation is to be provided while finalizing the accounts?

Ans. Depreciation is to be provided to calculate correct operating results and exhibit proper financial position.

Depreciation is an expense, similar to any other expense. Every fixed asset has a specific life period. The life of the asset has to be estimated. At the end of its span, there is no value to the concerned asset. So, depreciation should be charged during the life of the asset. Just like any other expense, depreciation is to be charged against the concerned income to calculate true profits. Once depreciation is provided in accounts, depreciation amount would be reduced from the value of the relevant asset. In consequence, balance sheet shows the reduced value of the asset and exhibits true and fair financial position.

Q.3. Out of the different methods of providing depreciation, which method is mostly adopted and why it is so?

Ans. Diminishing Balance Method is the method, commonly, adopted by most of the firms. In the diminishing balance method, depreciation is calculated on the balance at the beginning of the year, unlike on the original cost of the asset, which is done in the Straight Line Method. So, depreciation amount would reduce, year after year. However, repairs increase year after year as the asset becomes old. The total burden on the income in the form of depreciation and repairs over the life of the asset would be uniform.

For Income – Tax purposes, diminishing balance method is the accepted method.

For the above reasons, diminishing Balance Method is preferred out of the different methods for providing depreciation.

Q.4. What is the special advantage with the sinking fund method of providing depreciation?

Ans. Normally, depreciation amount is invested in the business. In consequence, depreciation amount is used to acquire current assets and other fixed assets. Replacement of fixed asset requires heavy cash. As and when the fixed asset is required to be replaced, ready

cash would not be available to the firm as depreciation amount is locked in current assets and other fixed assets. When depreciation is provided under Sinking Fund Method, depreciation amount is, separately, invested outside the firm, preferably in safe and liquid investments, such as government securities. So these securities can be conveniently sold without disturbing the business operations for replacement of fixed asset. So, Sinking fund Method is ideal for providing depreciation.

- Q.5.** A firm wants to change the existing Straight Line Method of Depreciation to Diminishing Balance Method from the current year? Can the firm change the method of depreciation?

Ans. Yes, the firm can change the existing method of depreciation to a new method of depreciation. For example, existing method of depreciation, Straight Line Method, is changed to Diminishing Balance Method. Firm has to state about the change in method of depreciation in financial statements. Additionally, change and impact of change on the financial results, duly quantified, have to be stated in 'Notes to Accounts'. Impact of change means increase or decrease in profits/loss on account of introduction of the change in the method of depreciation.



CHAPTER
8

Analysis of Financial Statements

- Introduction**
- Purpose of Financial Analysis**
- Main Objective of Financial Analysis**
- Users of Financial Analysis**
- Types of Financial Analysis**
 - **Horizontal Analysis**
 - **Vertical Analysis**
- Major Tools of Financial Analysis**
- Comparative Financial Statements**
- Trend Analysis or Trend Ratios**
- Common Size Statements**
- Illustrations**
- True or False**
- Pick up the Most Appropriate Answer**
- Descriptive Questions**
- Interview Questions**

8.1 INTRODUCTION

The basic limitation of the traditional financial statements, comprising balance sheet and profit and loss account, is they do not give all the relevant and required information for knowing the

strength and weakness of a firm. Still, they provide extremely useful information to the extent that the balance sheet mirrors the financial position on a particular date, in terms of structure of assets, liabilities and owner's equity, like a snap shot. The profit and loss account shows the operational results during a particular period, in terms of the revenue generated and costs incurred for achieving them. As the financial information is in absolute terms, every one may not, readily, understand them. The answer is 'Analysis of Financial Statements'.

Analysis of financial statements refers to the application of different tools to know the behaviour of the accounting information.

Much can be learnt by analysing the financial statements.

8.2 PURPOSE OF FINANCIAL ANALYSIS

Purpose of Financial Analysis: The purpose of financial analysis is to diagnose the information content in financial statements so as to judge the profitability, financial soundness of the firm and chalk out the ways to improve existing performance.

Every management is interested in knowing the financial strengths to make their better use and spot out the weaknesses of the firm to take suitable corrective action, in time.

The term 'Financial Analysis' is also known as analysis and interpretation of financial statements.

8.3 MAIN OBJECTIVE OF FINANCIAL ANALYSIS

Different parties are interested in the financial statements for different purposes and look to them from their own angle. The objective of the different parties is not the same. Their requirements are not uniform. So, every one is interested to use them for his own requirement. A lender is interested for repayment of the money lent and interest, assured at the time of lending. Shareholder is concerned for earnings and appreciation of the investment, he has made. It is very clear their objectives are not common so their approach and information, they look for, would be different.

8.4 USERS OF FINANCIAL ANALYSIS

Financial analysis can be undertaken by the management of the firm or interested parties, outside the firm. The outsiders of the firm are owners (shareholders), creditors, intending investors and others, in particular potential lenders.

Nature of Analysis: The nature of the analysis depends upon their purpose or requirement. They make the necessary analysis and take the decision, based on their assessment of the results obtained.

Trade creditors are those who have supplied goods and services to the firm. They are interested in their timely repayment. So, before they supply or render service, they want to be sure that the firm would be in a position to pay their dues, in a short period, as assured to them. They analyse the firm's short-term liquidity position. The term 'liquidity' refers to the ability of the firm to pay, as and when the demands and debts fall due for payment.

Firm would be in a position to meet the current obligations, if the cash receipts match payments, in terms of time.

Suppliers of long-term debt are those who provide loans for a long period. They are concerned with the firm's long-term solvency and survival, which depends on profitability and cash generation. Before they lend, they want to assure themselves that the organisation would be able to generate adequate liquid funds to pay the loan installment and interest. They are more concerned with the future outlook, rather than the past, based on the projections of the firm. They analyse the historical data, based on the financial statements, to determine the basis and reasonableness of the projections to decide the future financial standing of the firm.

Shareholders and investors invest their money in the firm's shares to earn dividend and appreciation of share value. They are concerned with the firm's **present and future profitability**. The ability of the company to pay dividends depends on the future prospects and earning capacity of the organisation. They would have more confidence in those firms, which show steady growth in earnings. They are also interested in the firm's financial structure to the extent it influences the firm's earning ability.

Employees and Management: The importance of trust and harmonious relationship between the employees and management requires no more emphasis for accelerated growth of the firm. If the employees feel confident of more salaries, retirement benefits and fast track career growth, in future, their loyalty would be assured. Employees look for stability and profitability in financial statements.

Management of the firm would be interested in every aspect of financial analysis. Management is concerned with the effective and efficient utilisation of resources, analysing the financial statements and other information available to them.

Government regulates the functioning of all organisations for the benefit of public. It has to generate adequate revenue for this purpose. Collection of taxes and information for deciding future policies are based on the financial statements of the firms.

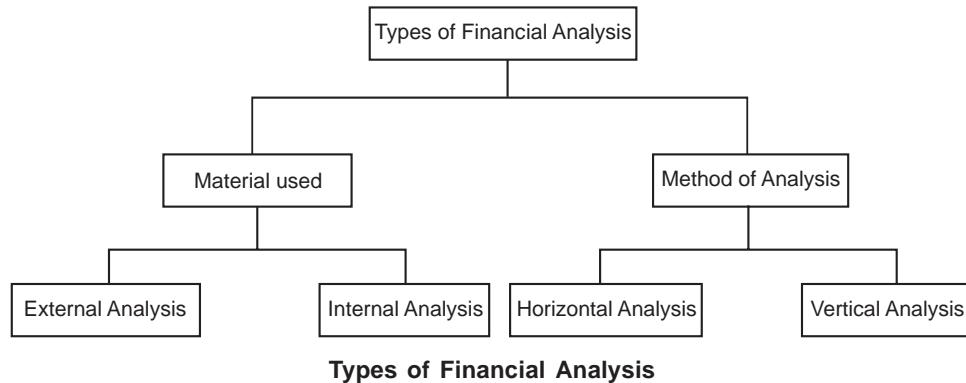
It is clear that the different users need the financial statements for different purposes.

Requirements of users of financial statements are different, not uniform. The aim of the financial statements is to provide the information required for their divergent needs.

8.5 TYPES OF FINANCIAL ANALYSIS

Financial analysis can be classified into two categories depending upon

- (i) Material used and
- (ii) Method of Analysis



- (i) **On the basis of Material used:** According to this category, financial analysis can be of two types. They are:
 - (A) **External Analysis:** Those people who do not have access to the internal records of the firm do this analysis. Basically, they are creditors, present and potential investors, credit agencies and the general public. Normally, except select employees in the firm, all others do not have access to the internal records. There is always a time lag for the publication of accounts, after their preparation. So, updated or recent information is not available for analysis. Due to this inherent limitation, this type of analysis serves a limited purpose as the analysis is based on the published financial accounts, audited or un-audited. However, of late, the position has, significantly, improved due to government regulations to make the published accounts more frequent, transparent and detailed.
 - (B) **Internal Analysis:** Those persons, who have the access to the books of accounts, financial and other records of the firm, do this analysis. Basically, the employees and executives of the firm who have access to the records can do this analysis. Even, the Government agencies also can do when they have the statutory powers to access the records. This analysis would be more meaningful and useful as the analysis is made on the basis of full records and with a specific objective. The management of the firm would, invariably, adopt internal analysis for managerial purposes.
- (ii) **Method of Analysis:** Based on the method, financial analysis can be of two types. They are Horizontal analysis and Vertical Analysis.

Horizontal Analysis: When financial statements of a number of years of the same firm are compared and reviewed, it is known as Horizontal Analysis. Horizontal analysis helps to observe the changes in the financial variables, across the years. For this analysis, first base or standard year is chosen as a starting point. Any year may be taken as the base year, but, generally,

the starting or initial year is taken as the base year. All the financial figures are presented in a horizontal manner. Keeping the data of base year in the beginning, the data of the different years are kept in separate columns.

The attention of the management would be focussed on those items, which have changed, significantly.

The purpose of the analysis is to identify the strengths and weaknesses of the firm. Comparison of the item, over several years, shows the development of trend. The management would be able to get insight of the strength or problem for necessary action, in time. Since this analysis is based on the data from year to year rather than on one-year data, this analysis is also termed as Dynamic analysis.

Comparative financial statements use the technique of Horizontal Analysis. Based on the prevailing trend, it is possible for the firm to make a rational forecast about the future progress.

Vertical Analysis: Vertical analysis refers to the study of relationship of the various items contained in the financial statement of one accounting period. For example, the ratios of different items of cost for a particular period are calculated with the sales for that period. So, sales are taken as 100 and each expense is taken as a percentage of sales, i.e. 100. Such analysis is useful in comparing the performance of several companies in the same group or industry, or divisions or departments in the same company. Vertical analysis is also known as 'Static Analysis'.

Common – size financial statements and financial ratios are the two tools employed in vertical analysis.

Combined use of Horizontal and Vertical Analysis: Both analyses can be used, simultaneously. Vertical analysis can be used along with horizontal analysis to make it more effective and meaningful.

Horizontal Analysis is used for comparing data of several years of one firm, while Vertical Analysis is used for comparing the relative performance of different firms in the same industry for one particular period or year.

A simple sample of horizontal and vertical analysis and its comparison with the industry and its immediate competitor would be like this:

Horizontal Analysis for X Ltd.

Item	2005 (Base year)	2006	2007	2008
Sales	100	100	100	100
Cost of sales	70	69	68	67
Selling & Administrative expenses	7	7	7	7
Financial expenses	13	14	15	16
Profit	10	10	10	10

Vertical Analysis for X Ltd in comparison with Industry and its immediate Competitor (Year 2008)

Item	X Ltd	Industry Average	Immediate Competitor (Z Ltd)
Sales	100	100	100
Cost of sales	67	72	71
Selling & Administrative expenses	7	7	7
Financial expenses	16	13	12
Profit	10	8	10

The position reveals that the financial expenses of X Ltd. have been increasing from year to year, compared to the base year 2005. The same is confirmed that the firm's percentage of financial expenses for the year 2008 is more than the industry as well as its immediate competitor. On other hand, production and purchase departments have been improving their performance year after year, reflected in falling cost of sales. Even their cost of sales is lower than the industry and its immediate competitor for the year 2008. The efficiency of production and purchase departments is eaten by the inefficiency of finance division in X Ltd. This situation requires further investigation to improve its profitability. Despite the inefficiency of finance division, still profitability of X Ltd. is higher than the industry and equal to its immediate competitor. The profit margin to sales has been stagnant during the period 2005-08. If finance division's performance is improved, X Ltd. can improve its profitability, further.

This analysis indicates the area, where focus of action and improvement is, immediately, essential to show better results.

8.6 MAJOR TOOLS OF FINANCIAL ANALYSIS

Various tools or techniques are used in the financial analysis. The main objective of any analytical method is simple presentation of data, in a relevant manner, even for a complex problem for quick understanding. Basic purpose is attention of the management should be focussed only on the problem area for solution.

The most important tools for financial analysis are:

- (a) Comparative Financial Statements
- (b) Trend Analysis or Trend Ratios
- (c) Common Size Statements
- (d) Ratio Analysis
- (e) Fund Flow Analysis
- (f) Cash Flow Analysis

8.7 COMPARATIVE FINANCIAL STATEMENTS

Comparative Financial Statements indicate the direction of movement with respect to financial position and operating results of the firm.

Method of Preparation: Information in the financial statements, both Profit and Loss Account and Balance Sheet, has to be grouped and placed, side-by-side, for two or more years. The next column has to show the amount of change in absolute amount and the last column as a percentage of increase or decrease. From this, it is possible to draw reasonable conclusions about the direction, progress or deterioration of operational efficiency and financial position of the business and the factors that have contributed.

The importance of comparative financial statements can be understood from the requirement of the Companies Act, 1956 which makes obligatory for all companies to prepare the final accounts of the companies by presenting current year as well as previous year figures.

It is obligatory under Companies Act, 1956 for all companies to prepare the final accounts of the companies by presenting current year as well as previous year figures. For comparison, figures have to be regrouped, if necessary.

Illustration No. 1

From the Comparative Balance Sheet of Shyam Ltd., prepare Comparative Balance Sheet for the year 2007 and 2008.

Draw tentative conclusions, after preparing 'CBS'.

[Rs. in lakhs]

Assets	Rs. 31.12.07	Rs. 31.12.08	Amount of increase or decrease in 2008	Percentage of increase or decrease in 2008 %
Fixed Assets:				
Premises [less dep.]	1,200	1,140	60	5.00
Plant & machinery [less dep.]	800	1,000	200	25.00
Furniture [less dep.]	200	170	30	15.00
Total Fixed Assets	2,200	2,310	110	5.00
Investments	400	300	100	25.00
Current Assets:				
Stock	600	600	--	--
Debtors	400	300	100	25.00
Cash & Bank	140	156	16	11.43
Total Current Assets	1,140	1,056	- 84	- 7.40
Total Assets	3,740	3,666	74	2.00

Liabilities	Rs. 31.12.07	Rs. 31.12.08	Amount of increase or decrease in 2008	Percentage of increase or decrease in 2008 %
Capital				
8% Preference Capital	400	600	+ 200	+ 50.00
Equity Capital	1,000	1,000	--	--
Reserve & Surplus	400	500	+ 100	+ 25.00
Total Proprietors' Funds	1,800	2,100	+ 300	+ 16.67
Secured Loans:				
10% Debentures	700	400	- 300	- 43.00
Current Liabilities:				
Sundry creditors	600	700	+ 100	+ 16.67
Bills payable	400	350	- 50	- 12.50
Taxes payable	240	116	- 124	- 50.00
Total Current liabilities	1,240	1,166	- 74	- 5.97
Total Liabilities	1,940	1,566	- 374	- 19.28
Total Capital & Liabilities	3,740	3,666	- 74	- 2.00

Tentative conclusions

Total fixed assets have been added during the year 2008 by Rs. 110 lakhs [i.e., about 5%] compared to 2007, for which long-term investments worth Rs. 100 lakhs have been realised. The level of current assets worth Rs. 84 lakhs has been reduced. Despite the increase in fixed assets, the total assets have been decreased by Rs.74 lakhs. It implies that there has been an addition to fixed assets with a decrease in current assets, which reflects a poor financial policy. Fixed assets are to be supported by current assets for improvement in business. The relationship between the total current assets and total current liabilities is also not satisfactory as the current ratio is around 1 in both the years.

Increase in the preference share capital of Rs. 200 lakhs might have been due to the fresh issue of shares for the redemption of debentures. Reserves have gone up by 100 lakhs, which shows the improving trend in profits. The redemption of debentures has been made from the proceeds of the fresh issue of Preference Share Capital and increase in profits.

8.8 TREND ANALYSIS OR TREND RATIOS

Trend Analysis is a statistical device applied in the analysis of financial statements to reveal the trend of items with the passage of time.

Absolute figures are difficult to understand, in particular when they are big amounts. One can understand better and immediately if the statement says that there has been an increase of 10% in sales, rather than mentioning the absolute amount of sales for both the years.

Absolute amounts of large numbers are substituted by percentages to show brevity and ready readability for management.

Illustration No. 2

From the following data of Sathyavathi & Co, calculate the percentage, taking the year 2006 as the base. Judge which year's performance is better, if the base year is 2006.

(Rs.)

	Year 2006	Year 2007	Year 2008
Sales	50,000	80,000	1,00,000
Purchases	30,000	45,000	60,000
Expenses	6,000	8,000	12,000
Profit	14,000	27,000	28,000

Solution:

Particulars	Year 2006	Year 2007	Year 2008	Trend Percentage (Base Year 2006)		
				2006	2007	2008
Purchases	30,000	45,000	60,000	100	150	200
Expenses	6,000	8,000	12,000	100	133	200
Profit	14,000	27,000	28,000	100	193	200
Sales	50,000	80,000	1,00,000	100	160	200

Tentative Conclusion: During the year 2007, sales have been up 160%, while profit has gone up by 193%. In other words, the percentage of increase in profit has been more than the % of increase in sales. So, performance of profit is better than the performance of sales. However, during the year 2008, sales have gone up by 200%, but profit also has increased only by 200%, alone. It means the performance of profit has just matched the performance of sales.

Reason is lack of control on expenses during the year 2008. Expenses have gone up only by 133%, despite increase in sales by 160% during the year 2007, which indicates good control on expenses. However, during the year 2008, increase of sales and expenses are the same (200%). So, individual identification of expense is to be made for exercising effective control.

Performance is judged by profitability, not sales. So, performance of the year 2007 is better than the year 2008, in terms of profitability.

8.9 COMMON-SIZE STATEMENTS (CSS)

The common-size statements, balance sheet and income statement are shown in analytical percentages. The CSS represents the relationship of different items, contained in a financial statement, with some common item by expressing each item as a percentage of the common item. The common-size statements may be prepared in the following ways:

- (1) The totals of assets and liabilities in the balance sheet are taken as 100.
- (2) The individual assets are expressed as a percentage of total assets. i.e., 100. Different liabilities are calculated in relation to total liabilities. For example, if total assets are Rs. 10 lakh and debtors value is Rs. 1, 00,000. Debtors will be 10% of total assets.

$$\left(\frac{1,00,000}{10,00,000} \times 100 \right)$$

- (3) Similarly, in Common Size Income Statement, each item is stated as percentage of the Net Sales. The percentages for different items are computed by dividing the absolute amount of that item by the Common base (i.e., Net Sales) and then multiplying by 100. The percentages, so calculated, can be easily compared with the corresponding percentages, in some other period.

Purpose: Impact of increase or decrease is immediately known as every item is compared to a common standard base of a fixed value i.e., 100. The CSS is useful not only in intra-firm comparisons over a series of different years but also in making inter-firm comparisons for the same year or several years.

The common size statements are the most valuable in making comparisons between the firms in the same industry as well as series of years for the same firm as each individual item is compared as a percentage to the total, which is taken as 100 always.

Illustration No. 3

Following are the Income Statement and Balance Sheet of Theer & Co. for the year 2005 and 2006. Prepare the CBS and CIS for these two years.

Draw tentative conclusions.

Income Statements for the year 2005 – 2006

(Figures in Rs.)

	2005	2006		2005	2006
To cost of goods sold	5,00,000	3,75,000	By Net Sales	6,00,000	5,00,000
To General Expenses	10,000	10,000			
To Selling Expenses	15,000	20,000			
To Net Profit	75,000	95,000		6,00,000	5,00,000
	6,00,000	5,00,000			

Balance Sheets as on 31st December, 2005 and 2006

(Figures in Rs.)

Liabilities	2005	2006	Assets	2005	2006
Capital	3,00,000	4,00,000	Land Building Plant Furniture Cash Debtors Finished stock	50,000	50,000
Reserves	1,50,000	72,500		1,50,000	1,35,000
Secured Loans	50,000	75,000		1,50,000	1,35,000
Creditors	1,00,000	1,37,500		50,000	70,000
Outstanding Expenses	50,000	75,000		80,000	90,000
				70,000	1,30,000
				1,00,000	1,50,000
	6,50,000	7,60,000		6,50,000	7,60,000

Solution:**COMMON SIZE INCOME STATEMENT**

	Amount (Rs.)		Percentages	
	2005	2006	2005	2006
Net Sales	6,00,000	5,00,000	100.00	100.00
Less: Cost of goods sold	5,00,000	3,75,000	83.33	75.00
Gross: Profit (1)	1,00,000	1,25,000	16.67	25.00
Less: General Expenses	10,000	10,000	1.67	2.00
Selling Expenses	15,000	20,000	2.50	4.00
Total Operating Expenses (2)	25,000	30,000	4.17	6.00
Net Profit (1 – 2)	75,000	95,000	12.50	19.00

COMMON SIZE BALANCE SHEET

	Amount (Rs.)		Percentages	
	2005	2006	2005	2006
Land	50,000	50,000	7.70	6.58
Building	1,50,000	1,35,000	23.07	17.76
Plant	1,50,000	1,35,000	23.07	17.76
Furniture	50,000	70,000	7.70	9.21
Total Fixed Assets (1)	4,00,000	3,90,000	61.54	51.31
Cash	80,000	90,000	12.31	11.84
Debtors	70,000	1,30,000	10.76	17.10
Finished Stock	1,00,000	1,50,000	15.39	19.75
Total Current Assets (2)	2,50,000	3,70,000	38.46	48.69
Total Assets (1+2)	6,50,000	7,60,000	100	100

Capital	3,00,000	4,00,000	46.15	52.63
Reserves	<u>1,50,000</u>	<u>72,500</u>	<u>23.08</u>	<u>9.54</u>
Net Worth (3)	<u>4,50,000</u>	<u>4,72,500</u>	<u>69.23</u>	<u>62.17</u>
Secured Loans	50,000	75,000	7.70	9.87
Creditors	1,00,000	1,37,500	15.37	18.09
Outstanding Expenses	<u>50,000</u>	<u>75,000</u>	<u>7.70</u>	<u>9.87</u>
Total Liabilities (4)	<u>2,00,000</u>	<u>2,87,500</u>	<u>30.77</u>	<u>37.83</u>
Net worth + Total Liabilities (3+4)	<u>6,50,000</u>	<u>7,60,000</u>	<u>100</u>	<u>100</u>

Tentative Conclusions:

1. Sales have gone down by Rs. 1,00,000. However, net profit has increased by 6.5% [12.5% (2005) to 19% (2006)]. The net increase is due to combination of reduction of cost of goods sold by 8.33% [83.33% (2005) to 75% (2006)] and increase of total operating expenses by 1.83%. This indicates that the firm has concentrated on the improvement of profitability, even at the cost of reduction in sales.
2. There has been significant improvement in reducing the cost of production in 2006, compared to 2005 as cost of sales has gone down from 83.33 (2005) to 75% (2006).
3. For further improving profitability, control on operating expenses is required. Inventory control would improve the profitability, further.
4. Finished stock % has gone up from 15.39% to 19.75%, despite fall in sales. This indicates that the firm is experiencing accumulation of stocks.

Descriptive Questions

1. What is the need of Analysis of Financial Statements? (**8.1 and 8.2**)
2. What is meant by 'Financial Analysis'? Discuss the utility and significance of the Analysis of Financial Statements to the management and others, interested in the business? (**8.1 to 8.3**)
3. What are the objectives of Analysis of Financial Statements? Who are the Users of Financial Analysis? (**8.3 and 8.4**)
4. Explain the different types of Financial Analysis? (**8.5**)
5. Explain common-size statements? Explain the technique of preparing the common size balance sheet? (**8.8**)
6. What are the major tools of Financial Analysis and explain any three of them? (**8.6 to 8.8**)

State whether the following Statements are True or False

1. Comparative Financial Statements indicate the direction of the movement of the firm.
2. It is not obligatory under Companies Act, 1956 for all companies to prepare the final accounts of the companies by presenting current year as well as previous year figures for comparison.

3. External analysis is better than the internal analysis.
4. In horizontal analysis, balance sheets of different years of the same firm are kept side by side for comparison.
5. Ratio analysis is one of the major tools of Financial Analysis.
6. The traditional financial statements give all the relevant and required information to show the strength and weakness of the company.
7. The purpose of financial analysis is to diagnose the information content in financial statements so as to judge the profitability, financial soundness of the firm and chalk out the way to improve existing performance.
8. 'Liquidity' refers to the ability of the firm to pay, as and when the demands and debts fall due for payment.
9. Different parties need the financial statements for same purposes.
10. Horizontal Analysis is used for comparing data of several years of one firm, while Vertical Analysis is used for comparing the relative performance of different firms in the same industry for the same period.

Answers

1. True 2. False 3. False 4. True 5. True 6. False 7. True 8. True 9. False 10. True

Pick up the most appropriate answer

1. Financial analysis is meant for
 - a. Identifying strength of firm.
 - b. Identifying weakness of firm.
 - c. Identifying strength and weaknesses of firm.
2. Financial Analysis can be made from
 - a. Profit and Loss Account.
 - b. Balance Sheet.
 - c. Items in Profit and Loss Account and Balance Sheet by establishing relationship.
3. Financial Analysis is meant for the following category.
 - a. Trade creditors.
 - b. Trade creditors and suppliers of long-term debt.
 - c. Investors.
 - d. Management.
 - e. All above categories specified in a, b, c and d.

Answers

1. (c) 2. (c) 3. (e)

Interview Questions

Q.1. What is the basic purpose of analysis of financial statements?

Ans. Management is interested to know the strength and weakness of the firm, in terms of finance. Absolute figures in the financial statements –Profit and Loss Account and Balance Sheet- are always big and difficult to understand, easily. Analysis of financial statements helps the management in understanding the figures better for quicker and meaningful decisions.

Q.2. Name some of the tools available for analysis of financial statements?

Ans. The most important tools for financial analysis are:

- (a) Comparative financial statements
- (b) Trend Analysis or Trend Ratios
- (c) Common Size statements
- (d) Ratio Analysis
- (e) Fund Flow Analysis
- (f) Cash Flow Analysis

Q.3. What do you understand by Trend Analysis?

Ans. Trend Analysis helps in understanding the direction of movement of the firm, in terms of operational results and financial position.



CHAPTER
9

Ratio Analysis

- **Introduction**
- **Meaning of Financial Ratio**
- **Standards of Comparison**
- **Differences between Analysis and Interpretation of Financial Statements**
- **Types of Ratios**
 - Liquidity Ratios
 - Problem of Window Dressing
 - Leverage Ratios
 - Activity Ratios
 - Profitability Ratios
 - Trading on Equity
- **Limitations of Ratio Analysis**
- **Ratios may Become Meaningless**
- **Summary of Ratios and their Purpose**
- **Illustrations**
- **Check your Understanding**
- **Descriptive Questions**
- **Interview Questions**

9.1 INTRODUCTION

Ratio analysis is an important and powerful technique or method, generally, used for analysis of Financial Statements. Ratios are used as a yardstick for evaluating the financial condition and performance of a firm. Analysis and interpretation of various accounting ratios gives a better understanding of financial condition and performance of the firm in a better manner than the perusal of financial statements.

9.2 MEANING OF FINANCIAL RATIO

A ratio or financial ratio is a relationship between two accounting figures, expressed mathematically. Ratio Analysis helps to ascertain the financial condition of the firm. In financial analysis, a ratio is compared against a benchmark for evaluating the financial position and performance of a firm. Financial ratios help to summarise large quantities of financial data to make qualitative judgment about the firm's financial performance.

Scope: With a single financial ratio, no conclusion is to be arrived at. The ratios are to be studied in relation to each other, in comparison of the past ratios of the firm as well as ratios of the industry, better with its immediate competitors to understand their relative significance and impact.

Ratios are the symptoms of health of an organisation like blood pressure, pulse or temperature of an individual. Ratios are the indicators for further investigation.

9.3 STANDARDS OF COMPARISON

A single ratio is not meaningful. For proper interpretation and understanding, ratios are to be compared. Comparison can be with

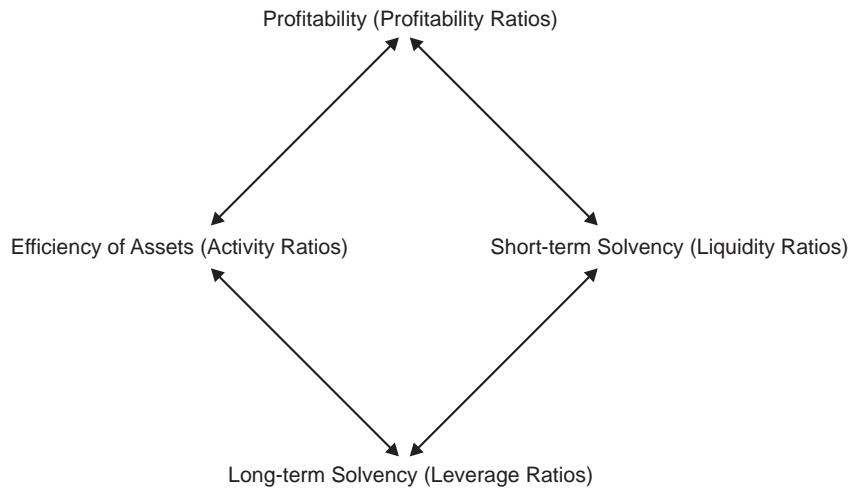
- **Past ratios** i.e. ratios from previous years' financial statements of the same firm.
- **Competitors' ratios** i.e. similar ratios of the nearest successful competitors.
- **Industry ratios** i.e. ratios of the industry to which the firm belongs to.
- **Projected ratios** i.e. ratios developed by the firm which were prepared, earlier, and projected to achieve.

9.4 TYPES OF RATIOS

Several ratios can be grouped into various classes, according to the activity or function they perform. We have, already, discussed in the previous chapter that there are several groups of persons — creditors, investors, lenders, management and public — interested in interpretation of the financial statements. Each group identifies those ratios, relevant to its requirements. They wish to interpret ratios, for those purposes they are interested in, to take appropriate decisions

to serve their own individual interests. In view of the diverse requirements of the various users of the ratios, the ratios can be classified into four categories:

Performance of a company is evaluated using the ratio analysis in the following different directions.



Evaluation — Performance of Company in the Context of Ratio Analysis

- A. **Liquidity Ratios:** They measure the firm's ability to meet current obligations.
- B. **Leverage Ratios:** These ratios show the proportion of debt and equity in financing the firm's assets.
- C. **Activity Ratios:** They reflect the firm's efficiency in utilising the assets.
- D. **Profitability Ratios:** These ratios measure overall performance and effectiveness of the firm.

9.4.1 Differences between Analysis and Interpretation of Financial Statements

The terms Analysis and Interpretation are used, synonymously. However, they differ in the following respects:

1. The term 'Analysis' is used in a narrow manner, while the term 'Interpretation' is a broader term, which includes 'Analysis' too.
2. Analysis is the first step and Interpretation follows.
3. Analysis implies classification of data in a logical order. Interpretation is concerned with explaining the reasons for the results.

Analysis means methodical classification of data and presentation in a simplified form for easy understanding. Interpretation means assigning reasons for the behaviour in respect of the data, presented in the simplified form.

Once analysis is made, interpretation should follow. Only analysis does not serve any purpose, without interpretation. Interpretation is not possible without making the analysis. Careful analysis and meaningful interpretation, both are important. Analysis and interpretation are complementary to each other. Both are essential. They are not independent, but they go hand in hand.

Analysis of ratios, without interpretation, is meaningless and interpretation, without analysis, is impossible.

To have meaningful utilisation of analysis, it is necessary to be clear to whom the analysis is made and their purpose or requirement for analysis. **Once the purpose is clear, the required ratios can be identified.** There are different formulae available for different ratios. For example, for calculation of debt-equity ratio, some authors take total liabilities, while others take only long-term liabilities for computation. Different reasoning is given for the treatment adopted. Similarly, while calculating current ratio, current liabilities are calculated, differently. Some authors include short-term bank borrowing in current liabilities, while some do not include, again for different interpretations.

What is important and necessary is consistent approach. The same formulae and similar treatment have to be used for all the years of comparison.

Equally, the approach should be uniform for all the firms for which comparison is made. Otherwise, distorted results would emerge and the interpretation based on the results would be meaningless.

Once the results are calculated, interpretation is necessary to understand and come to some indications or signals. The results are not the end, but they are the beginning for further investigation. After calculating one ratio, no conclusion is to be arrived at. Ratios are to be studied together, not in isolation.

9.5 DIFFERENT TERMS IN RATIO ANALYSIS

To have understanding of ratios, it is necessary to know how the required information can be calculated:

Statement of Cost of Goods Sold

Raw Materials	xxx
Direct Labour	xxx
Depreciation	xxx
Other manufacturing expenses	<u>xxx</u>
	xxx
Add: Opening stock in process	<u>xxx</u>
	xxx
Less: Closing stock in process	xxx

Cost of Production xxx

Add: Opening Stock of	
Finished goods	<u>xxx</u>
	xxx

Less: Closing stock of finished goods	<u>xxx</u>
---------------------------------------	------------

Cost of Goods Sold xxx**Break up of Profit and Loss Account for the year ending**

A. Net Sales	xxx
B. Cost of Goods sold	<u>xxx</u>
C. Gross Profit (A-B)	xxx
D. Less: Selling & Administrative expenses	<u>xxx</u>
E. Operating income (C-D)	xxx
F. Add: Other income	<u>xxx</u>
G. Earning before interest and tax (EBIT) (E+F)	xxx
H. Less: Interest	<u>xxx</u>
I. Profit before tax (PBT) (G-H)	xxx
J. Provision for tax	<u>xxx</u>
K. Profit after tax (PAT) (I-J)	xxx
L. Dividend distributed	<u>xxx</u>
M. Retained earnings (K-L)	xxx

Break up of Balance Sheet as on...**A. Net Worth**

Equity Share capital	xxx
Preference Share capital	xxx
Reserves	xxx
Net worth	xxx

B. Long-Term Borrowings

Long-term: Debentures	xxx
Others	xxx
Long-term debt	xxx
Long-term borrowings	xxx

C. Capital Employed (A+B)**D. Fixed Assets**

Gross block	xxx
-------------	-----

Less: depreciation	xxx
Net block	xxx
Other non-current assets	xxx
Net fixed assets	xxx

E. Current Assets

Inventories:

Raw material	xxx
Stock in process	xxx
Finished goods	xxx
Inventories	xxx
Debtors	xxx
Cash and bank balance	xxx
Others	xxx
Current assets	xxx

F. Less: Current Liabilities

Trade creditors	xxx
Bank overdraft/cash credit	xxx
Provision and others	xxx
Current liabilities	xxx

G. Net Current Assets (E-F)**H. Net Assets (D+G)**

The above statement shows

$$\text{Net Assets (H)} = \text{Capital Employed (C)}$$

9.6 LIQUIDITY RATIOS

Liquidity ratios are highly useful to creditors and commercial banks that provide short-term credit. Short-term refers to a period not exceeding one year. Liquidity ratios measure the firm's ability to meet current obligations, as and when they fall due.

A firm should ensure that it does not suffer from lack of liquidity and also does not have excess liquidity.

In the absence of adequate liquidity, the firm would not be able to pay creditors, who have supplied goods and services, on the due date promised. Firm's goodwill suffers, in case of default in payment. In fact, dissatisfied suppliers, normally, refuse to supply, further. Who can finance, indefinitely? Loss of creditworthiness may result in legal problems, finally, culminating in the closure of business of a company, even. If the firm maintains more liquidity, it will not experience any

difficulty in making payments. However, a higher degree of liquidity is bad, as idle assets earn nothing, while there is cost for the funds. The firm's funds will be, unnecessarily, tied up in liquid assets.

Both inadequate and excess liquidity are not desirable. It is necessary for the firm to strike a proper balance between high liquidity and lack of liquidity.

9.6.1 Current Ratio

Current ratio is defined as the relationship between current assets and current liabilities. It is also known as working capital ratio. This is calculated by dividing total current assets by total current liabilities.

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

The two basic components of the ratio are current assets and current liabilities. Current assets are those that can be realised within a short period of time, generally one year. Similarly, current liabilities are those that are to be paid, within a period of one year. The components of current assets and current liabilities are shown, hereunder. It is significant to note, even, prepaid expenses are included in current assets as they have been paid, in advance, and are not needed to be paid, again.

Similarly, **current liabilities include bank overdraft or cash credit account as they are, normally, sanctioned by the bank for a period of one year.** Technically, they are sanctioned for one year, but banks renew them, unless there are significant adverse reasons or firm does not require renewal. **Reason for inclusion of Bank overdraft/Cash credit in current liability category is the availability of written sanction of bank for one year only.**

Treatment of Bank Overdraft/Cash credit: There is a difference of opinion about the treatment of bank overdraft/cash credit. Some authors treat them as current liabilities, while others treat as part of long-term liabilities. Bank sanctions overdraft/cash credit limits for a period of one year, only. In the normal course, after the expiry of one year, the firm has to repay the borrowing. Firms do not, normally, repay as the banks renew the limit, at the request of the firm. However, the written sanction of the borrowing is, invariably, for one year only. **Unless bank renews the limit, technically, firm cannot avail the limit, further. We have treated Bank overdraft/cash credit as current liability, throughout the book.** Some authors treat them as long-term borrowings. The reason is firms continue to enjoy the borrowings, indefinitely, as banks renew the sanction, without much difficulty. Normally, banks give renewal sanction, at the request of the firm, after submission of the required data, unless there are adverse features in the conduct of the account. **Students are advised to give specific mention of their treatment and give the reasoning for the treatment given, either as current liabilities or long-term liabilities.** Whatever approach is followed, the treatment is to be consistently followed.

COMPONENTS OF CURRENT RATIO

Current Assets	Current Liabilities
1. Cash in Hand	1. Sundry Creditors
2. Cash at Bank	2. Bills Payable
3. Marketable Securities (short-term)	3. Bank Overdraft / Cash Credit
4. Short-term Investments	4. Short-term Advances
5. Sundry Debtors	5. Outstanding Expenses
6. Bills Receivable	6. Income-Tax Payable
7. Inventory – Raw Materials	7. Dividend Payable
8. – Work in Process	
9. – Finished Goods	
10. Prepaid Expenses	
11. Advance Tax paid	
12. Accrued Income	

Interpretation of Current Ratio

As a conventional rule, a current ratio of 2:1 is considered satisfactory. The rule is based on the logic that in the worst situation, even if the value of current assets becomes half, the firm will be able to meet its obligations, fully. A ‘two to one ratio’ is referred to as ‘Rule of thumb’ or arbitrary standard of the liquidity of the firm. This current ratio represents a margin of safety for creditors. Realisation of assets may decline. However, all the liabilities have to be paid, in full.

Current ratio of 2:1 should not be, blindly, followed in an arbitrary manner.

Firms with less than 2:1 ratio may be meeting the liabilities, without difficulty, though firms with a ratio of more than 2:1 may be struggling to meet their obligations to pay.

A current ratio of 1.33: 1 is considered as the minimum acceptable level by banks for providing working capital finance. Looking at the mere ratio in figures, no conclusion is to be arrived at.

Current ratio is a test of quantity, not test of quality. It is essential to verify the composition and quality of assets before, finally, taking a decision about the adequacy of the ratio.

The current ratio is a crude-and-quick measure of the firm’s liquidity.

A high current ratio, due to the following causes, may not be favourable for the following reasons:

1. Slow-moving or dead stock/s, piled up due to poor sales.
2. Figure of debtors may be high as debtors are not capable of paying or debt collection system of the firm is not satisfactory.

3. Cash or bank balances may be high, due to idle funds.

On the other hand, a low current ratio may be due to the following reasons:

1. Insufficiency of funds to pay creditors.
2. Firm may be trading beyond resources and the resources are inadequate to the high volume of trade.

The following illustration explains composition and quality of Current Assets are more important to comment on adequacy of current ratio, not merely basing on crude figures of current ratio.

BALANCE SHEET as on 31st March, 2006

			(Rs. in thousands)	
	X	Z	Assets	
Liabilities				
Share Capital	400	600	Fixed Assets	100
Sundry Creditors	600	400	Cash	50
	<u>1,000</u>	<u>1,000</u>	Stock	150
			Debtors	700
				<u>190</u>
				<u>1,000</u>
				<u>1,000</u>

Let us analyse the current ratio of both the companies X and Z.

$$\begin{aligned}
 \text{Current Ratio} &= \frac{\text{Current Assets}}{\text{Current Liabilities}} \\
 &= \frac{\text{Cash} + \text{Stock} + \text{Debtors}}{\text{Creditors}} \\
 \text{Current Ratio of X} &= \frac{50 + 150 + 700}{600} \\
 &= 1.5 \\
 \text{Current Ratio of Z} &= \frac{10 + 700 + 190}{400} \\
 &= 2.25
 \end{aligned}$$

The current ratio of Z is 2.25, which appears better as it exceeds the standard ratio of 2, while the ratio of X is 1.5, low compared to the standard. So, one may conclude that the current ratio of Z is better than X.

But, once we analyse the composition of quality of current assets, after collecting further information and the relevant ratios, of both X and Z, it is ascertained:

	Standard	X	Z
Stock holding	2 months' turnover	2 months	6 months
Debtors' collection Period	30 days	20 days	100 days
Creditors' payment Period	30 days	30 days	90 days

This situation points out with a single ratio, immediately; conclusions are not to be drawn.

It is desirable, further, to seek confirmation that X has not been missing business opportunities due to limited holding of stocks and quick realisation of debtors. The above analysis indicates X has been collecting its debtors, more speedily, and managing the inventory, efficiently. For these reasons, X is able to meet the current obligations, even though its current ratio is lower than the standard ratio. Unless the composition and quality of current assets and other ratios are analysed, one should not conclude, merely, based on one ratio.

9.6.2 Problem of Window Dressing

When current assets and current liabilities are manipulated to show a better picture than what is real, it is known as Window Dressing.

Current assets and current liabilities are manipulated in such a way that the current ratio loses its significance. Assume, current assets are 90,000 and current liabilities are 60,000, in the normal times. Here, the current ratio is 1.5, not totally satisfactory. Firm makes special efforts, just before the end of the year, to realize 30,000 from debtors and pay off the creditors to that extent. In consequence, current assets become 60,000 and current liabilities 30,000. Now, the current ratio is 2. This ratio is considered, now, satisfactory. The position of current assets and current liabilities is not the true picture, as they do not appear, always, in the normal times. With effort, the firm has managed to realize the debts and paid the creditors, deliberately, to show a rosy picture, only at the end of the year.

Window dressing can be created in the following ways:

- (i) Over valuation of closing stock
- (ii) Treating a short-term liability as long-term liability
- (iii) Omission of a liability
- (iv) Including obsolete inventory in the closing stock, instead of writing off
- (v) Not treating debtors as bad even though not recoverable and continuing to exhibit as if they are still recoverable and
- (vi) Clearing creditors at the end of the year, bringing pressure on debtors for collection, only at the end of the year, to show a better picture.

The purpose of window dressing is to show a rosy picture of the firm, which is not a normal reality. The inference drawn on such a ratio will be faulty and deceptive.

Limitations of Current Ratio: Though current ratio is one of the important ratios to measure liquidity, it suffers from the following limitations:

1. It is a crude measurement of liquidity. It measures only the quantity, not quality of current assets.
2. Ratio is calculated from the balance sheet figures, at the end of the year. This can be manipulated to show a better position, than what is actually at the end of the year.
3. Even though the ratio may be good, the firm may be in financial problem with heavy stocks not able to convert into cash and debtors not being realized, within the standard period of credit allowed.

9.6.3 Liquid / Quick /Acid Test Ratio / Near Money Ratio

Liquid ratio establishes the relationship between liquid assets and current liabilities. Liquid assets are those that can be converted into cash, quickly, without loss of value. Cash and balance in current account with bank are the most liquid assets. Other assets that are considered, relatively, liquid are debtors, bills receivable and marketable securities (temporary, quoted investments purchased, instead of holding idle cash). Inventories and prepaid expenses are excluded from this category. Normally, most of the sales are on credit basis, in the normal course of business. So, the first stage in a sale is credit sale and the second stage is its realization. Inventory is excluded from liquid assets, as even the first stage of sale is not over. Inventories are considered less liquid as they require time for realising into cash and have a tendency to fluctuate, in value, at the time of realisation. Prepaid expenses cannot be recovered in cash, normally, hence they are excluded.

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

*inventories and prepaid expenses are excluded

Interpretation of Liquid Ratio: Liquid ratio of 1:1 is, normally, considered satisfactory. However, firms with the ratio of more than 1:1 need not be liquid and those having less than the standard need not, necessarily, be illiquid. It depends more on the composition of liquid assets. Debtors, normally, constitute a major part in liquid assets. If the debtors are slow paying, doubtful and long outstanding, they may not be totally liquid. So, firms even with high liquid ratio, containing such type of debtors, may experience the problem in meeting current obligations, as and when they fall due. On the other hand, inventories may not be, totally, non-liquid. To a certain extent, they may be available to meet current obligations. So, all firms not having the liquid ratio of 1:1 may not experience difficulty in meeting the current obligations, depending on the efficient realisation of inventories. On the other hand, firms with a better ratio (more than 1:1) may still struggle, if their debtors are not realised as per the schedule.

9.6.4 Cash Ratio or Absolute Liquid Ratio

Cash is the most liquid asset. Although receivables (debtors) and bills receivable are, generally, better realisable than inventories, still, there are doubts regarding their realisation, more so, in time. So, they are not considered, immediately, available for making payments and so excluded for the calculation of cash ratio.

$$\text{Cash Ratio} = \frac{\text{Cash & Bank} + \text{Short-term Securities}}{\text{Current Liabilities}}$$

Cash ratio of 1:2 is considered acceptable. It means Rs. 1 liquid assets are considered adequate to pay Rs. 2 of current liabilities as all the creditors are not expected to demand cash, at the same time, and cash may be realised, at least something, from debtors and inventories too. More so, sanctioned working capital limits of the bank are not always, fully, utilised and the balance drawing power is available to the firm for immediate withdrawal of cash.

Illustration No. 2

$$\text{Current Ratio} = 2.8$$

$$\text{Acid-test Ratio} = 1.5$$

$$\text{Working Capital} = \text{Rs. } 1,62,000$$

Find out

- (A) Current Assets
- (B) Current Liabilities
- (C) Liquid Assets

(B.U. - MBA June, 2004)

Solution:

$$\text{Current Ratio} = 2.8$$

It means if current assets are 280, current liabilities are 100.

$$\begin{aligned}\text{Current Ratio} &= \frac{\text{Current Assets}}{\text{Current Liabilities}} \\ &= \frac{280}{100} \\ &= 2.8\end{aligned}$$

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

$$= 2.8 - 1$$

$$= 1.8$$

$$\text{Working capital} = 1,62,000$$

In such a case, if 1.8 is Rs. 1,62,000 current Assets (2.8) would be 2,52,000 and current liabilities (1) would be Rs. 90,000.

The correctness can be checked with the current ratio.

$$\text{Current Ratio} = \frac{2,52,000}{90,000} \\ = 2.8$$

$$\text{Acid Test Ratio or Liquid Ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

Liquid assets = current assets – stock

Liquid ratio is 1.5. It means if current liabilities are 1, liquid assets are 1.5.

Current liabilities are Rs. 90,000, so liquid assets are Rs. 1,35,000.

$$\text{Acid Test Ratio or Liquid Ratio} = \frac{1,35,000}{90,000} \\ = 1.5$$

- (A) Current Assets = Rs. 2,52,000
- (B) Current Liabilities = Rs. 90,000
- (C) Liquid Assets = Rs 1,35,000

Illustration No. 3

- (A) The only current assets possessed by a firm are — cash Rs. 1,05,000, inventories Rs. 5,60,000 and debtors Rs. 4,20,000. If the current ratio for the firm is 2:1, determine its current liabilities.
- (B) At the close of the year, a company has an inventory of Rs. 1,50,000 and cost of goods sold Rs. 9,75,000. If the company's turnover ratio is 5, determine the opening balance of inventory.

(B.U. -MBA -2004)

Solution:

	Rs.
(A) Current Assets	
Cash	1,05,000
Inventories	5,60,000
Debtors	4,20,000
Total current Assets	10,85,000

Current ratio of the firm is 2:1. If current assets are 2, Current liabilities are 1.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = 2 \\ \frac{10,85,000}{\text{Current Liabilities}} = 2$$

$$\text{Current liabilities} = \frac{10,85,000}{2} \\ = 5,42,500$$

$$(B) \text{ Stock Turnover Ratio} = \frac{\text{Cost of goods sold}}{(\text{Opening stock} + \text{Closing stock})/2}$$

$$\frac{9,75,000}{(\text{Opening stock} + 1,50,000)} = 5$$

2

$$\frac{19,50,000}{(\text{Opening stock} + 1,50,000)} = 5$$

$$5(\text{Opening stock} + 1,50,000) = 19,50,000$$

$$5 \times \text{Opening stock} + 7,50,000 = 19,50,000$$

$$\begin{aligned}\text{Opening stock} &= \frac{19,50,000 - 7,50,000}{5} \\ &= \frac{12,00,000}{5} \\ &= 2,40,000\end{aligned}$$

The correctness can be checked with the calculation of average stock, $(2,40,000 + 1,50,000)/2$ which works out to 1,95,000.

$$\frac{9,75,000}{1,95,000} = 5$$

So, opening stock = 2,40,000

Tutorial Note: In the examinations, students are advised to check the correctness of their answer with the formulae, once the required information is found out.

9.7 LEVERAGE RATIOS

Leverage ratios indicate the long-term solvency of the firm.

Leverage ratios indicate the mix of debt and owners' equity in financing the assets of the firm.

These ratios measure the extent of debt financing in a firm.

To whom these ratios are important?: Short-term creditors like suppliers of raw materials and banks that provide working capital are concerned with short-term solvency of the firm. On the other hand, long term-creditors like debenture holders, financial institutions that provide long-term capital are concerned with long-term solvency. In fact, it is necessary for the firm to have short-term as well as long-term solvency for financial strength. Long-term solvency relate to the firm's ability to meet

- (i) Interest on the debt and
- (ii) Instalment on the principal amount, on the due date.

9.7.1 Debt-Equity Ratio

Debt-Equity Ratio is also known as External-Internal Equity Ratio. **This ratio is calculated to measure the relative claims of outsiders and owners against the firm's assets.** The ratio shows the relationship between the external equities (outsiders' funds) and internal equities (shareholders' funds).

This ratio can be calculated in two ways. The numerator can only be long-term debt such as debentures, mortgages or long-term loans. Alternatively, it can be total debt that includes both long-term and short-term liabilities. **We are of the opinion that current liabilities (short-term liabilities) should be included in the total debt for calculating debt equity ratio.**

$$\text{Debt-Equity Ratio} = \frac{\text{Total Debt}}{\text{Net Worth}^*} \text{ or } \frac{\text{Long-term Debt}}{\text{Net Worth}^*}$$

* Net Worth = Equity Share Capital + Preference Share Capital + Reserves and Surplus

The accumulated losses and deferred expenses, if any, should be deducted to arrive at net worth.

Treatment of Preference Share Capital: There is a difference of opinion on the inclusion of preference share capital in outsiders' funds (numerator) or shareholders' funds (denominator). The reason for including in numerator (Total debt) is that the funds bear a fixed commitment in the form of dividend to the firm, similar to interest on debentures. If preference share capital is treated as borrowing, it is to be included in the numerator. It may be noted though the preference share capital bears the obligation of fixed dividend, yet, is not in the nature of debt, a basic aspect to be remembered.

The preference share capital does not bring any financial risk to the firm, in the absence of profit and non-payment of dividend, which is the basic character of debt.

We are of the opinion to treat the preference share capital as shareholders' funds and be included in the net worth (denominator). Students are advised to give specific mention of the treatment and substantiate with reasoning.

Interpretation of Debt-Equity Ratio

Debt-Equity Ratio indicates the extent to which debt financing has been used in business. This ratio shows the level of dependence on the outsiders.

As a general rule, there should be a mix of debt and equity. The owners want to conduct business, with maximum outsiders' funds to take less risk for their investment. At the same time, they want to maximise their earnings, at the cost and risk of outsiders' funds. The outsiders (lenders and creditors) want the owners' share, on a higher side in the business and assume lower risk, with more safety to their funds.

Total debt to net worth of 1:1 is considered satisfactory, as a thumb rule. In some businesses, a high ratio 2:1 or even more may be considered satisfactory, say, for example in

the case of contractor's business. It all depends upon the financial policy of the firm, risk bearing profile and nature of business. Generally speaking, the long-term creditors welcome a low ratio as owners' funds provide the necessary cushion to them, in the event of liquidation. It is a better approach to compare the DE ratio of the firm with that of the industry to which it belongs to for proper evaluation of the risk character of the firm. Every industry has its own peculiar characteristics relating to capital requirements. For example, in case of basic and heavy industries, the DE ratio is always higher compared to manufacturing concerns.

Impact of High Ratio: A high debt-equity ratio may be unfavourable as the firm may not be able to raise further borrowing, without paying higher interest, and accepting stringent conditions. This situation creates undue pressures and unfavourable conditions to the firm from the creditors.

9.7.2 Total Debt Ratio (TD Ratio)

Total Debt Ratio compares the total debts (long-term as well as short-term) with total assets.

$$\begin{aligned}\text{Total Debt Ratio} &= \frac{\text{Total Debt}}{\text{Total Assets}} \\ &= \frac{\text{Long Term Debts} + \text{Current liabilities}}{\text{Total Assets}}\end{aligned}$$

Interpretation of Total Debt Ratio: This ratio depicts the proportion of total assets, financed by total liabilities. Impliedly, the remaining assets are financed by the shareholders.

A higher DE ratio or TD ratio shows the firm is trading on equity.

In case, the rate of return of the firm is more than the cost of debt, it implies high return to the shareholders. On the other hand, a lower ratio implies low risk to lenders and creditors of the firm and non-existence of trading on equity. So, neither the higher nor the lower ratio is desirable from the point of view of the shareholders.

A higher ratio is a threat to the solvency of the firm. A lower ratio is an indication that the firm may be missing the available opportunities to improve profitability.

What is required a balanced proportion of debt and equity so as to take care of the interests of lenders, the shareholders and the firm, as a whole.

9.7.3 Coverage Ratios

Debt ratios are static and fail to indicate the ability of the firm to meet interest obligations.

The interest coverage ratio is used to test the firm's debt-servicing capacity.

The interest coverage ratio shows the number of times the interest charges are covered by funds that are ordinarily available to pay interest charges.

As taxes are computed on earnings after deducting interest, earnings before taxes are taken. Depreciation is a non-cash item. Therefore, funds equal to depreciation are also available for payment of interest charges. So, the interest coverage ratio is computed by dividing the earnings before depreciation, interest and taxes (EBDIT) by interest charges.

$$\text{Interest coverage} = \frac{\text{EBDIT}}{\text{Interest}}$$

Interpretation of Coverage Ratio: This ratio indicates the extent to which earnings can fall, without causing any embarrassment to the firm, regarding the payment of interest charges. The higher the IC ratio, better it is both for the firm and lenders. For the firm, the probability of default in payment of interest is reduced and for the lenders, the firm is considered to be less risky. However, too high a ratio indicates the firm is very conservative in not using the debt to its best advantage of the shareholders. On the other hand, a lower coverage ratio indicates the excessive use of debt. When the coverage ratio is low, compared to the industry, it should improve its operational efficiency or retire the debt, early, to have a coverage ratio, comparable to the industry. It is well said, a single soldier cannot afford to be tipsy, while the whole army is sober!

Limitations:

1. IC ratio is based on the accrual concept of accounting. In practice, the interest is to be paid in cash. Therefore, it is better to compare the interest liability with the cash profits (based on cash inflows and outflows, both for incomes and expenses) of the firm.
2. This ratio also ignores the repayment of installment liability of the firm.

9.8 ACTIVITY RATIOS

Firm invests funds of outsiders (lenders and creditors) and shareholders in various assets in business to make sales and profits. The better the management of assets, more would be sales and higher would be the profit.

Activity ratios reflect the management of assets and their effective utilisation.

If assets are converted into sales, with speed, profits would be more. Activity ratios bring out the relationship between the assets and sales.

These ratios are called Turnover Ratios. For example, funds invested in inventories are converted or turned over into sales. Activity ratios are employed to evaluate the efficiency with which the firm manages and utilises the assets, in particular, debtors and stock.

Importance of Activity Ratios: Both current ratio and acid test ratio may give misleading results. If current assets include high volume of debtors, due to slow credit collections, current assets would be high, resulting in a high current and acid test ratio. These ratios fail to show the movement of debtors, as they do not exhibit the quality of debtors. Similarly, if inventories were non-moving or obsolete and not written off, current ratio would be high. It is important to calculate the turnover of these assets to ascertain their quality and how efficiently these assets are used in the business.

9.8.1 Inventory Turnover Ratio / Inventory Velocity

Inventory turnover ratio is also known as stock turnover ratio. This is calculated by dividing cost of goods sold by average inventory.

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

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

$$\begin{aligned}\text{Cost of Goods Sold} &= \text{Opening Stock} + \text{Purchases} - \text{Closing Stock} \\ &= \text{Net Sales} - \text{Gross Profit}\end{aligned}$$

Interpretation

Inventory turnover ratio shows the velocity of stocks. A higher ratio is an indication that the firm is moving the stocks better so profitability, in such a situation, would be more. However, a very high ratio may show that the firm has been maintaining only fast moving stocks. The firm may not be maintaining the total range of inventory and so may be missing business opportunities, which may otherwise be available.

It is better to compare the turnover ratio, with the industry or its immediate competitor.

Points for Consideration: Two points are worth noting in the formula, which are as follows:

- (a) Instead of sales, cost of goods sold is to be taken, as inventory is valued at cost so that both numerator and denominator are on the same basis. If there is no possibility to calculate cost of sales, sales may be taken for calculating the ratio.
- (b) It is the normal practice to liquidate the stocks at the end of the year. So, it is often advocated to take the average of opening stock and closing stock for a better picture. The situation does not, really, improve. Reason is simple. Last year closing stock is the opening stock of the current year. At the end of last year too, liquidation of stocks would have occurred to bring out a better picture. So, averaging opening stock and closing stock at the end of the year, alone, may not show a real picture, if the firm has the tendency of liquidating the stocks, at the end of the year, to improve the ratio. Better ratio and picture would be available if the opening and closing inventory, at the end of every month, are taken and average is arrived at.

However, in questions, the stock figures at the end of every month are not available, so average of opening and closing inventory at the end of the year is to be taken. In case, cost of goods sold is not available, sales are to be taken in their place. But, the ratio, in such a case, may not give satisfactory findings.

Days of Inventory Holdings: If we want to know the holding of inventory in the form of number of days, the following formula helps us.

$$\text{No. of Days Inventory Holding} = \frac{360}{\text{Inventory Turnover ratio}}$$

Ideal Standard: There is no standard ratio.

The ratio depends upon the nature of business. The ratio has to be compared with the ratio of the industry, other firms or past ratio of the same firm.

Every firm has to maintain certain level of inventory, be it raw materials or finished goods, to carry on the business, smoothly, without interruption of production and loss of business opportunities. Inventory Turnover Ratio is a test of inventory management.

This level of inventory should be neither too high nor too low. If the ratio is too high, it is an indication of the following:

- (i) Blocking unnecessary funds that can be utilised somewhere else, more profitably.
- (ii) Unnecessary payment for extra godown space for piled stocks.
- (iii) Chances of obsolescence and pilferage are more.
- (iv) Likely deterioration in quality and
- (v) Above all, slow movement of stocks means slow recovery of cash, tied in stocks.

On the other hand, if the ratio is too low:

- (i) Stoppage of production, in the absence of continuous availability of raw materials and
- (ii) Loss of business opportunities as range of finished goods is not available, at all times.

To avoid the situation, the firm should know the position, periodically, whether it is carrying excessive or inadequate stocks for necessary corrective action, in time.

In the ratio analysis, readers would have observed, by now, it is difficult to lay down specific standards. It is always better to compare the ratios of the firm with the ratios of industry and other firms, in competition, for proper evaluation of the performance of the firm.

9.8.2 Debtors' (Receivables) Turnover Ratio / Debtors' Velocity

Firms sell goods on cash and credit. As and when goods are sold on credit, debtors (receivables) appear in accounts. Debtors are expected to be converted into cash, over a short period, and they are included in current assets. To judge the quality or liquidity of debtors, financial analysts apply three ratios, which are:

- (a) debtors turnover ratio
- (b) collection period
- (c) aging schedule of debtors

Debtors' Turnover Ratio: Debtors turnover is found out by dividing credit sales by average debtors.

$$\text{Debtors Turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Debtors}}$$

Debtors' turnover ratio indicates the number of times debtors are turned over, each year. The higher the debtors' turnover, more efficient is the management of credit. If Bills Receivable is outstanding, they are to be added to the debtors as bills receivable have come into balance sheet, in place of debtors, which are, still, outstanding.

Collection Period: The collection period is calculated by

$$\text{Collection Period} = \frac{360^*}{\text{Debtors' Turnover Ratio}}$$

*360 days are taken in place of 365 for convenience in calculation only.

Signals of Collection Period

Debtors' Turnover Ratio indicates the speed of their collection. The shorter the period of collection, the better is the quality of debtors. A short collection period indicates the efficiency of credit management. The average collection period should be compared with the credit terms and policy of the firm to judge the quality of collection efficiency.

Suppose, the firm's credit policy is to extend 45 days credit and on calculation, the actual collection period is 60 days. This shows the laxity in collection. An excessively long collection period implies an inefficient credit and collection policy. On the other hand, too low a collection period is also not a favourable signal. The firm may be extending credit only to those customers, whose creditworthiness is beyond doubt so that there would be total certainty of payment, with no bad debts. The firm may succeed with no bad debts. But, in the process of rigid credit standards to have no bad debts, the firm may be missing the existing sales opportunities and, equally, possible improved profitability. If credit period is relaxed more, the firm may gain more sales and improved profitability, even after providing for the losses towards bad debts. The best way is to compare the collection period of the firm with the industry's average collection period and decide whether the firm has to make any change in credit policy.

Aging Schedule: The average collection period measures the quality of debtors, in the aggregate way. The aging schedule gives the detailed break up of debtors, according to the length of time, they have been outstanding. The aging schedule gives more information than the collection period as it spots the slow-paying debtors. Through this process, the firm can focus on those debtors, where attention is required to improve the collection efforts.

The different debtors, classified according to the age, are as under:

Aging schedule of debtors as on...

Outstanding Period (Days)	Debtors (Rs.)	% of Total
0–30	2,00,000	20
31–35	1,80,000	18

36–40	1,20,000	12
41–50	1,00,000	10
51 and above	4,00,000	40
Total	<u>10,00,000</u>	<u>100</u>

Assumed, the firm has a policy of allowing credit for 35 days. Out of the above total debtors, 62% are overdue. In other words, almost two thirds — a very big proportion — of the debtors have not been paying, in time. Indeed, a serious situation it is. This requires an immediate and thorough review of the credit administration and in particular, selection of customers to whom goods are to be sold on credit, in future. Otherwise, shortly, the firm would face a grave problem with major debtors remaining unpaid, affecting liquidity as well as profitability, seriously. So, it may be necessary to initiate legal action, if necessary, in respect of 40% of debtors, the last category in the above schedule, as they are likely to cause serious damage to the business. The chunk is high and age wise, it is anxiety causing. As the period is above 51 days, a further detailed analysis is essential about the age of the debtors on a case-to-case basis.

9.8.3 Total Assets Turnover Ratio

Assets are used to generate sales. If the firm manages the assets more efficiently, sales would be more and equally profits would be up. This ratio is calculated by dividing sales by total assets.

$$\text{Total Assets Turnover Ratio: } \frac{\text{Sales}}{\text{Total Assets}}$$

Importance: A firm's ability to make sales indicates its operating performance.

Caution: This ratio should be interpreted, carefully. Between two firms, a firm having old assets, with lower depreciated book value of fixed assets, may generate more sales compared with a firm, with new fixed assets purchased, recently. The firm, with old assets, may generate a misleading impression of higher turnover, without any actual improvement in sales.

9.8.4 Working Capital Turnover Ratio

The WCT Ratio indicates the velocity of utilisation of working capital of the firm, during the year. The working capital refers to net working capital, which is equal to total current assets less current liabilities. The ratio is calculated as follows:

$$\text{Working Capital Ratio} = \frac{\text{Cost of Sales or Sales}}{\text{Average Working Capital}}$$

Working capital average can be calculated by averaging working capital, at the beginning and end of the year.

Importance: This ratio measures the efficiency of working capital management. A higher ratio indicates efficient utilisation of working capital and a low ratio shows otherwise. A high working capital ratio indicates a lower investment in working capital has generated more volume

of sales. Higher ratio improves the profitability of the firm. But, a very high ratio is also not desirable for any firm. This may also imply overtrading, as there may be inadequacy of working capital to support the increasing volume of sales. This may be a risky proposition to the firm. The ratio is to be compared with the trend of the other firms in the industry for different periods to understand the right working capital ratio, without resulting overtrading.

9.8.5 Creditors / Payable Turnover Ratio

In the course business operations of the firm, a firm has to make credit purchases and incur short-term liabilities. Before supply of goods, suppliers can check up the ratio to understand the normal period of payment, firm has been making, for the goods supplied. The ratio is calculated, similar to debtors' turnover ratio. In the place of debtors, creditors are to be substituted and credit purchases in place of credit sales. The ratio can be calculated

$$\text{Creditors' Turnover Ratio} = \frac{\text{Credit Purchases}}{\text{Average Trade Creditors} + \text{Average Bills Payable}}$$

Similarly, to understand the number of days the creditors are outstanding, the ratio is

$$\text{Payment Period} = \frac{360}{\text{Creditors' Turnover Ratio}}$$

Interpretation of Payment Period

Creditors' Turnover Ratio indicates the number of days the creditors are outstanding for payment. If the number of days is lower than the assured period of payment, it indicates liquidity of the firm. This would be good news to the suppliers as they can expect the payment, within the assured period.

If the period is more, it indicates the firm is defaulting in payments and enjoying longer period of credit from the suppliers. Creditors can understand that they may be getting false promises, unless the picture has changed after the preparation of the financial statements they are going through. This position may improve, in the short run, the profitability of the firm. But, the firm may be missing discounts and paying more prices for the goods purchased. To make proper interpretation, a comparative comparison of the period of credit with the other firms is needed.

9.9 PROFITABILITY RATIOS

The last group of financial ratios, more often used, is Profitability Ratios. Profit is the difference between revenue and expenses over a period, usually, one year.

**Profitability ratios are to measure the operating efficiency of the company.
Besides management, lenders and owners of the company are interested in
the analysis of the profitability of the firm.**

If profits are adequate, there would be no difficulty for lenders, normally, to get payment of interest and repayment of principal. Owners want to get required rate of return on investment.

The finance manager should evaluate the efficiency of the company, in terms of profits. So, profit is important to everyone associated with the firm.

Generally, two major types of profitability ratios are calculated:

- Profitability ratios based on sales
- Profitability ratios based on investment

9.9.1 Profitability Ratios Based on Sales

Profit is a factor of sales. Profit is earned, after meeting all expenses, as and when sales are made. These ratios can be further divided into

- Gross profit ratio
- Expenses ratios
- Net profit margin ratio

(A) Gross Profit Ratio: The first ratio in relation to sales is gross profit ratio or gross margin ratio. The ratio can be calculated by

$$\begin{aligned}\text{Gross Profit Ratio} &= \frac{\text{Sales} - \text{Cost of Goods Sold}}{\text{Sales}} \times 100 \\ &= \frac{\text{Gross Profit}}{\text{Sales}} \times 100\end{aligned}$$

Importance: The ratio reflects the efficiency with which a firm produces/sells its different products.

Gross Profit Ratio indicates the spread between the cost of goods sold and revenue. Analysis gives the clues to the management how to improve the depressed profit margins. The ratio indicates the extent to which the selling price can decline, without resulting in losses on operations of a firm.

Reasons for high gross profit ratio: High gross profit ratio is a sign of good management. Reasons could be:

- High sales price, cost of goods remaining constant
- Lower cost of goods sold, sales price remaining constant
- A combination of factors in sales price and costs of different products, widening the margin
- An increase in proportion of volume of sales of those products that carry a higher margin and
- Overvaluation of closing stock due to misleading factors.

Reasons for fall in gross profit ratio: Reasons may be:

- Purchase of raw materials, at unfavourable rates
- Over investment and/ or inefficient utilisation of plant and machinery, resulting in higher cost of production
- Excessive competition, compelling to sell at reduced prices

The finance manager has to analyse the reasons for the fall and initiate the action, necessary to improve the situation.

(B) Net Profit Ratio: Net profit is obtained, after deducting operating expenses, interest and taxes from gross profit. The net profit ratio is calculated by

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

Net profit includes non-operating income so the later may be deducted to arrive at profitability arising from operations.

Interpretation

Net Profit ratio indicates the overall efficiency of the management in manufacturing, administering and selling the products. Net profit has a direct relationship with the return on investment. If net profit is high, with no change in investment, return on investment would be high. If there is fall in profits, return on investment would also go down.

For a meaningful understanding, both the ratios — gross profit ratio and net profit ratio — have to be interpreted together. If gross margin increases but net margin declines, this indicates operating expenses have gone up. Further analysis has to be made which operating expense has contributed to the declining position for control. Reverse situation is also possible with gross margin declining, and net margin going up. This could be due to increase of cost of production, without any change in selling price, and operating expenses reducing more to compensate the change.

The crux is both the Gross Profit ratio and Net Profit Ratio are to be analyzed, together, to find out the causes of increase/decline of profit for control and corrective action.

(C) Operating Expenses Ratios: To identify the cause of fall or rise in net profit, each operating expense ratio is to be calculated. This can be calculated by

$$\text{Operating Expenses Ratio} = \frac{\text{Operating Expense}}{\text{Sales}} \times 100$$

The behaviour of specific expenditure is to be seen, in comparison to the earlier years, in the same firm. This throws the light on the managerial policies and actions. For example, advertisement expenditure may be going up, from year to year, with no significant increase in sales. This may be due to ineffective sales promotional expenditure in not bringing increased sales, despite more expenditure on advertisement. A general rise in advertisement expenses, throughout the industry, or inefficiency of marketing / advertisement department of the firm, alone, may be the contributing factor. The real reason can be better understood, once the comparative ratios of the same expenditure in the other firms of the same industry are known for suitable action.

9.9.2 Profitability Ratios Based on Investment

Equity shareholders are the owners of the company. Profits belong to the owners of the firm who have invested their funds, in anticipation of return. If preference shares exist, then profits, after tax and dividend due to preference shareholders, are to be considered for calculation of the return to equity shareholders. It is not important, whether the profits are distributed to the equity shareholders or left in the firm as retained earnings. The profitability of a firm can be analysed from the point of view of owners in different perspectives, as follows:

(A) Return on Investment

Return on investment is the primary ratio that is most popularly used to measure the overall profitability and efficiency of business.

The term investment may refer to Total Assets or Net Assets.

- (i) **Return on Total Assets:** ‘Total assets’ is the total amount appearing on the assets side of the balance sheet. However, in calculating total assets, fictitious assets like preliminary expenses, accumulated losses and discount on issue of shares are to be excluded. However, intangible assets like goodwill, patents and trademarks are to be included. Reason is these intangible assets contribute for the development of sales and business, while the fictitious assets do not add anything for the growth in business.

When return on investment is calculated on total assets, it is called ROTA.

Total assets are related to operating profit. Operating profit is EBIT, in the absence of other income. EBIT is arrived at by adding financial charges (interest etc.) and tax to net operating profit. By this, we are separating financing effect from the operating effect.

The formula is

$$\text{ROI} = \text{ROTA} = \frac{\text{EBIT}}{\text{Total Assets}}$$

The above formula for ROTA ratio is commonly followed. The above formula is advocated on the ground taxes are not controllable by the management. More so, firm’s opportunities for availing tax incentives also differ, depending on the location, which is one of the many factors. So, it may be more prudent to use profits before-tax to calculate ROI.

Another alternative way to calculate ROTA is:

$$\text{ROI} = \text{ROTA} = \frac{\text{EBIT}(1-T)}{\text{Total Assets}}$$

All said and done, what is left to the shareholders is the final amount of profit, after tax. Tax Management also is necessary, which is a significant part of management. So, some firms advocate the alternative formula. When we have different formulae, it is necessary to use the right formula, understanding the requirement of the situation.

Any one of the formulae can be used for comparison. The same formula is to be used for the figures compared, with consistency.

- (ii) **Return on Capital Employed:** Another way to calculate return on investment is through capital employed or net assets. Net assets are equal to net fixed assets plus current assets minus current liabilities. **Net assets are equal to capital employed. So, net assets and capital employed convey the same meaning, though called differently.** Capital employed can be calculated in two ways:

$$\text{Capital Employed} = \text{Net Worth} + \text{Long-term Borrowings}$$

OR

$$= \text{Net Fixed Assets} + \text{Current Assets} - \text{Current Liabilities}$$

Net worth includes preference share capital too, as already stated.

Return on net assets is called RONA. As net assets are equal to capital employed, the terms RONA and ROCE indicate the same. This ratio indicates the overall efficiency of business, before tax.

The formula for calculation is

$$\text{ROI} = \text{RONA OR ROCE} = \frac{\text{EBIT}}{\text{Capital Employed}}$$

Adjustments: Firm may be having some investments, not connected to the business. The investments and income on those investments are not related to the business. So, both require adjustment. Investments are to be excluded from capital employed and income from investments is to be deducted from EBIT. This treatment is necessary for proper matching.

Another interesting point is interest. Interest on long-term loans only is to be added to arrive at EBIT, but not interest on short-term loans. The reason is short-term loans are not included in capital employed.

Both the numerator and denominator should always match with each other, otherwise distorted results appear.

Another alternative way is

$$\text{ROI OR RONA ROCE} = \frac{\text{EBIT}(1-T)}{\text{Capital Employed}}$$

The above ratio indicates the overall efficiency of business, after tax.

Interpretation:

1. ROI (ROTA and RONA) measure the overall efficiency of business.
2. The owners are interested in knowing the profitability of the firm, in relation to the total assets and amount invested in the firm. A higher percentage of return on capital employed will satisfy the owners that their funds are profitably utilised.

3. It indicates the efficiency of the management of various departments as funds are kept at its disposal for making investment in assets.
4. If the firm increases its size, but is unable to increase its profits proportionately, then ROI (both ROTA and RONA) decreases. In such a case, increasing the size of the firm does not advance the welfare of the owners.
5. Inter-firm comparison would be useful. Both the ratios of a particular firm should be compared with the industry average or its immediate competitor to understand the efficiency of the management in managing the assets, profitably. So, a higher rate of return on capital employed, without comparison, does not imply that the firm is managed, efficiently. Once a comparison is made with other firms, having similar characteristics, in the same industry, a fair conclusion is possible.
6. The ratios help in formulating the borrowing policy of the firm. The rate of interest on the borrowings should always be lower than the return on capital employed. Then only, funds are to be borrowed.
7. With both the ratios, the outsiders like bankers, financial institutions and creditors know the viability of the firm so that they can lend funds, comfortably.

Tutorial Note: There are several types of formulae for calculation of ROI, followed by different authors. Students are advised to give their assumption regarding computation.

(B) Return on Equity: In the real sense, equity shareholders are the real owners of the company. They assume the risk in the firm. Preference shareholders enjoy fixed rate of dividend and preference for payment of dividend, before dividend is distributed to equity shareholders. Similarly, in the event of the liquidation of the company, preference share capital has to be repaid first, before refunding to equity shareholders. Net profits after tax, after dividend is paid to preference shareholders, entirely belong to the equity shareholders. Equity shareholders would be interested to know what their real return is on the funds invested.

This ratio for return on equity is calculated as under:

$$\text{Return on Equity} = \frac{\text{Profit after Tax} - \text{Preference Dividend}}{\text{Equity Shareholders' funds}}$$

Equity shareholders' funds are equity share capital, accumulated reserves (both general reserves and capital reserves), share premium and balance in profit and loss account less accumulated losses, if any. **Preference shareholders are not to be included as the dividend due to them has, already, been deducted from profits, after tax.**

Interpretation:

1. ROE indicates how well the firm has used the resources of owners.
2. Earning a satisfactory return is the most desirable objective of a business. This ratio is of greatest interest to the management as it is their responsibility to maximise the owners' welfare.

3. This ratio is more meaningful to equity shareholders as they are interested to know their return. Interpretation of this ratio is similar to return on investments. Higher the ratio, better it is to equity shareholders.
- (C) Earnings per Share:** The profitability of the equity shareholders can be measured, in other ways. One such measure is to calculate the earnings per equity share. The earnings per equity share is calculated by

$$\text{Earnings per Equity Share} = \frac{\text{Net Profit After Tax} - \text{Preference Dividend}}{\text{Number of Equity Shares Outstanding}}$$

Interpretation:

1. EPS simply shows the profitability of the firm per equity share basis.
2. EPS calculation, over the years, indicates how the firm's earning power, per share basis, has changed over the years.
3. EPS of the firm is to be compared with the industry and its immediate competing firm to understand the relative performance of the firm.
4. As a profitability index, it is widely used ratio.

Bonus Issue Adjustment: Adjustments for bonus issue should be made, while comparing EPS, over a period of time. Bonus shares are additional free shares issued to the existing equity shareholders, out of the profits of the company. Reserves and surplus profit is utilised for issue of bonus shares, by transferring the amount to the equity share capital account. In the process of issue of bonus shares, there is no inflow or outflow of cash to the firm. If bonus shares 1:3 are issued, an existing shareholder, holding 3 shares, gets extra 1 share, freely. Suppose, the market price of the share, before bonus issue, is Rs.100, his total wealth was Rs.300. Immediate to the issue of bonus shares, there is no increase in the wealth of the shareholders, even though additional shares are received. The reason is share price falls, after bonus issue. The share price gets diluted to Rs.75 (around), after issue, and so his total wealth remains the same Rs.300 (75×4). **The total wealth of a shareholder, before and after bonus issue, immediately, remains the same.** EPS calculated, after the issue of bonus shares, requires adjustment for proper comparison. For example, if a bonus issue in the proportion of 1:3 is made, then the adjustment factor 4/3 should be applied to adjust EPS of the year in which the bonus is made as well as the subsequent years. After the issue of bonus shares, If EPS is 9 for the subsequent year, then adjusted EPS would be 12 ($9 \times 4/3$) for comparison to the EPS of previous year. EPS has to be adjusted to reflect the correct earning position, in view of the increased number of equity shares.

(D) Dividends per Share (DPS): After payment of dividend to preference shareholders, balance net profit belongs to equity shareholders, whether distributed in the form of dividend or retained in business. However, equity shareholders are interested in the amount of dividend, distributed to them. Dividend per share is calculated as under:

$$\text{DPS} = \frac{\text{Total Dividend Distributed to Equity Shareholders}}{\text{Number of Equity Shares Outstanding}}$$

Investors, both existing and potential, are interested in DPS rather than EPS.

- (E) Dividend Pay-out Ratio or Pay-out Ratio:** Dividend pay-out ratio is calculated to find out the proportion of dividend distributed out of earnings per share. Dividend per equity share is calculated by dividing the profits, after tax, by the number of equity shares outstanding. For example, if the firm has an EPS and DPS of Rs. 5 and Rs. 3 respectively, DP ratio is 3/5 i.e. 60%. So, the firm has distributed 60% of PAT (profits after tax) as dividend among its shareholders. So, the ratio is calculated by

$$\text{Pay-out Ratio} = \frac{\text{Dividend per Equity Share}}{\text{Earnings per Equity Share}}$$

Earnings not distributed are impliedly retained in the business for the purpose of expansion and growth of the firm. The proportion of retained earnings is equal to $1 - \text{DP ratio}$. So, in the above case, the retained earnings ratio is 40%.

- (F) Dividend Yield Ratio:** Shareholders are the true owners, interested in the earnings distributed and paid to them as dividend. Therefore, dividend yield ratio is calculated to evaluate the relationship between the dividends paid per share and the market value of the share.

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per Equity Share}}{\text{Market Value per Equity Share}}$$

- (G) Price Earnings Ratio:** This is the ratio that establishes the relationship between the market price of a share and its EPS. **This ratio indicates the number of times the earnings per share is covered by its market price.** The ratio is calculated as per the following formula:

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

The price earnings ratio indicates investors' judgement or expectations about the firm's future performance. It signifies the number of years, in which the earnings can equal to market price of share. This ratio is widely used by the security analysts and investors to decide whether to buy or sell the shares of a particular company, at that price.

Generally, higher the price-earnings ratio, the better it is for the management of that firm. If the P/E ratio falls, it is a cause of anxiety to the management of the firm as the investor's perception about the future performance of the company is not expected to be good. So, the management has to look into the causes for the fall of the ratio.

'Good Buy Decision'

For those who want to buy equity shares in a firm, if the P/E ratio of that company is low, compared to its competing firms, the equity shares of that company is a 'good buy', provided they anticipate the future performance of the company would be brighter.

For example, if the market price of X Ltd is Rs. 80 and its EPS is 4, its P/E ratio is 20. Equally good performing company Z Ltd, its competitor in the industry, is quoted Rs. 200 with EPS 8. So, its P/E ratio is 25. By calculating the P/E ratio, investor can decide that the share of X Ltd is undervalued and worth buying.

Significance

Price-earning ratio helps the investor in deciding whether to buy the shares of a company, at a particular market price, or book profit by selling at that rate.

The decision depends on the investor's perception about the future market.

(H) Capital Gearing Ratio: Capital gearing ratio refers to the proportion between fixed interest/dividend bearing funds to non-fixed interest/dividend bearing funds. The fixed interest/dividend-bearing funds include funds provided by the debenture holders and preference shareholders. Funds provided by equity shareholders do not bear fixed commitment, unlike preference shareholders and debenture holders.

In case, the total amount of preference share capital and other fixed interest bearing loans exceed the equity shareholders' funds, the firm is said to be "high geared". In other words, if the capital-gearing ratio is more than one, it is said to be high geared. On the other hand, if preference share capital and other fixed interest bearing loans are less than equity shareholders' funds, capital gearing ratio is less than one, the firm is said to be "low geared". In case the two are equal, the capital structure is said to be "even geared".

For computation of capital gearing ratio, funds that belong to equity shareholders such as equity share capital, share premium and other reserves are to be considered. The capital-gearing ratio can be ascertained as under:

$$\text{Capital Gearing Ratio} = \frac{\text{(Preference Share Capital + Debentures + Long-term Loan)}}{\text{(Equity Share Capital + Reserves and Surplus)}}$$

Interpretation

If the capital gearing ratio is high, the profits available to equity shareholders would be subject to wider fluctuations compared to a company that has a low gearing ratio.

9.10 TRADING ON EQUITY

Normally, assets of the firm are financed by debt and equity. Suppliers of the debt would look to the equity as margin of safety. The use of debt in financing the assets has a number of implications:

Implications of Debt: Firstly, debt is more risky to the firm, compared to equity. Whether the firm makes profit or not, interest on debt has to be paid. If interest and instalment are not paid, there may be a threat of insolvency, even.

Secondly, debt is advantageous to the equity shareholders. The equity shareholders can retain control, with a limited stake. They can find a way to magnify their earnings. When the firm is able to earn on borrowed funds higher than the interest rate paid, the return to owners would be magnified.

To illustrate, when the return on investment of a firm, say, is 20% and firm is able to borrow at 12%, the firm is able to make a saving of 8% by utilising the borrowed funds. In the absence of borrowing, the share capital would get a return of 20% only. Due to borrowing, a saving of 8% is occurring. This saving of 8% increases the return of equity shareholders, resulting in more than 20%, which depends on the number of equity shareholders.

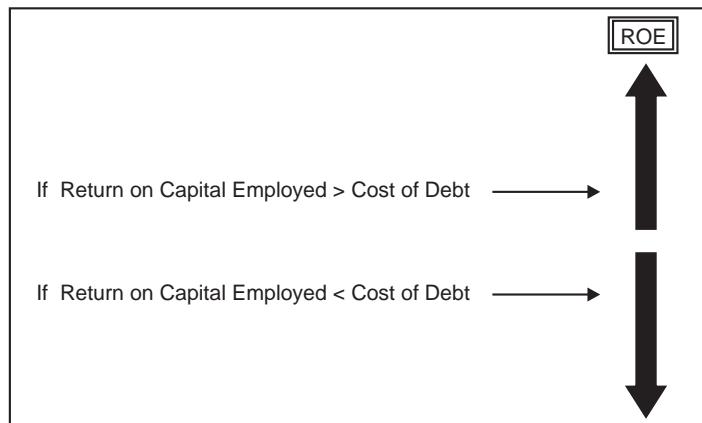
The process of magnifying the earnings of equity shareholders through the use of debt is called “financial leverage” or “financial gearing” or “Trading on Equity”.

It is important to note that if the interest rate is higher than the rate of return on the project, it is not desirable to borrow, as the return on equity would get reduced.

Thirdly, if the firm is burdened with more debt, it experiences greater difficulty in raising funds, at the normal rate of interest. If the firm's equity is thin, the financial risk of the creditors is high. Then, lenders demand a higher interest rate as compensation for assuming higher risk and also impose stringent conditions, even though they lend.

Relationship between ROCE and Cost of Debt and Impact on ROE: When the return on capital employed is greater than the cost of debt, it is advantageous to borrow as the return on equity goes up. At the expense of debt, the beneficiaries are the equity shareholders. The risk the firm would experience on long-term borrowings is in the form of cost of debt, interest burden is permanent. Additionally, when the earnings fall, the ROCE also falls. But, in the process, the equity shareholders are the real sufferers. With the fall of ROCE, the return on equity goes down.

Debt can prove to be either beneficial or detrimental to the interests of equity shareholders. This may happen to the advantage and also to the disadvantage of the equity shareholders. This is called trading on equity, which is a double-edged sword. The key is the relationship between the ROCE and cost of debt.



Relationship between ROCE and Cost of Debt and impact on ROE.

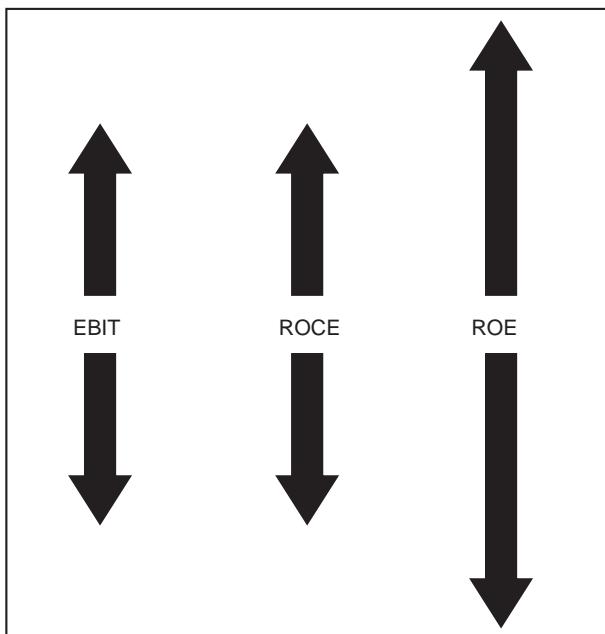
9.11 IMPACT OF CAPITAL GEARING RATIO

The capital-gearing ratio influences the return to equity shareholders. Higher the capital gearing ratio, the impact on equity shareholders would be greater.

If the rate of return on total capital employed is more than the average cost of fixed charge bearing funds, the residue goes to the benefit of equity shareholders. The surplus earned on the fixed charge bearing funds can be utilised for paying dividend to the equity shareholders, at a rate higher than the return on the total capital employed in the company. As a result, the return on equity would be more than the return on total capital employed. The process of magnifying the earnings, through the use of debt, is beneficial to equity shareholders.

However, the leverage can also work in the opposite direction too. When the return on capital employed falls below the cost of debt, the fall in return on equity would be higher. The equity shareholders suffer more. **So, a higher gearing ratio can prove to its advantage as well as disadvantage.**

A change in EBIT results in a corresponding similar change, either increases or fall, in return on capital employed. However, the corresponding change in ROE would be greater. When the capital-gearing ratio is high, an increase of EBIT would result in a higher increase of ROE. If the EBIT increases, say, by 25%, the increase of ROCE would be 25%. But, ROE would increase more than 25%. Similarly, if EBIT falls by 25%, the fall in ROCE would be 25%. But, the decrease in ROE would be more than 25%. A proper balance between the two funds (fixed charge and non-fixed charge bearing funds) is necessary in order to keep the cost of capital and risk at the minimum.



Impact of EBIT on ROCE and ROE in a Highly Geared Firm

The concept of 'Trading on Equity' can be explained with the following example.

Illustration No. 4

Calculate the capital gearing from the following information:

	Rs.
Equity Share Capital	3,00,000
Reserves	2,00,000
5% Debentures	4,00,000
6% Preference Share Capital	3,00,000
10% Long Term Loan	1,00,000
	<hr/> <u>13,00,000</u>

The firm earns a profit of Rs. 4,00,000 before interest and tax. Calculate the capital-gearing ratio and test it for 'Trading on Equity'. Tax rate may be taken at 50%.

Solution:

The capital-gearing ratio has been calculated as follows:

Capital Gearing Ratio = (Preference Share Capital + Debentures + Long-term Loan) / (Equity Share Capital + Reserves and Surplus)

$$(3,00,000 + 4,00,000 + 1,00,000) / ((3,00,000 + 2,00,000)) = 8,00,000 / 5,00,000 \\ = 1.6$$

Since the capital-gearing ratio is more than one, the firm is said to be high geared.

As the firm is high geared, there should be ‘Trading on Equity’. This can be verified as follows:

	Rs.
Profit as given	4,00,000
Less Interest (20,000+10,000)	<u>30,000</u>
	3,70,000
Less Tax (at 50%)	<u>1,85,000</u>
Profit after Tax	1,85,000
Less Preference Dividend	<u>18,000</u>
Profit Available to Equity Shareholders	<u>1,67,000</u>

$$\text{Return on Equity to shareholders} = \frac{\text{Profits after Tax} - \text{Preference Dividend}}{\text{Equity Shareholders' Funds}}$$

$$\begin{aligned}
 &= \frac{\text{Profits Available to Equity Shareholders}}{\text{Equity Shareholders' Funds}} \\
 &= \frac{1,67,000}{5,00,000} \times 100 \\
 &= 33.4\%
 \end{aligned}$$

$$\text{Return on Capital Employed} = \frac{\text{EBIT}}{\text{Capital Employed}}$$

$$\begin{aligned}
 \text{Capital Employed} &= \text{Net worth} + \text{Long-term Borrowings} \\
 &= (3,00,000 + 3,00,000 + 2,00,000) + (4,00,000 + 1,00,000) \\
 &= \frac{4,00,000}{13,00,000} \times 100 \\
 &= 30.76\%
 \end{aligned}$$

The return on capital employed is only 30.76% while the return on equity shareholders’ funds is 33.4%. The equity shareholders have been benefited, at the expense of fixed charge bearing funds. So, there is ‘Trading on Equity’.

Tutorial Note: Equity Shareholders’ funds do not include preference share capital, while net worth includes Preference share capital.

Illustration No. 5

The capital employed in a business has been financed, as below:

	Rs.
Equity Share Capital	6,00,000
7% Preference Share Capital	4,00,000
6% Debentures	8,00,000
Reserves and Surplus	2,00,000
	<u>20,00,000</u>

The company earns a profit of Rs. 4,00,000 before interest. Tax rate may be taken 50%.

You are required to:

- (A) Explain the principles of “Trading on Equity” and Test the data for the principle.
- (B) Elaborate the impact of changes in EBIT, both increase and decrease, on Return on capital employed (ROCE) and Return on equity (ROE) with suitable examples, making the required valid assumption.

(B.U. (MBA) - 2003)

Solution:

- (A) The process of using the debt in capital employed to magnify the return of equity shareholders is called “Trading on Equity”.**

The extent of benefit of debt depends on capital gearing ratio. If capital gearing of the company is more than one, with the increase of EBIT, there would be a similar corresponding increase in ROCE. Similarly, ROE also increases. But, the important point is the % increase of ROE would be more than % increase of EBIT. The reverse also is true. To explain further, if EBIT increases by 10%, ROCE increases by 10%. But, ROE increases more than by 10%. If EBIT falls by 10%, the ROCE also falls, similarly, by 10%. But, ROE falls more than 10%. **For this reason, “trading on equity” is said to be double-edged sword.**

The capital-gearing ratio can be ascertained as under:

Capital Gearing Ratio = (Preference Share Capital + Debentures) / (Equity Share Capital + Reserves and Surplus)

$$\begin{aligned}
 &= \frac{4,00,000 + 8,00,000}{6,00,000 + 2,00,000} \\
 &= \frac{12,00,000}{8,00,000} = 1.5
 \end{aligned}$$

As the capital-gearing ratio of the company is more than one, the company is said to be ‘high geared’.

(B) Impact of Change in EBIT on ROCE and ROE

Capital Employed = Equity Share Capital + Reserves + Preference Share Capital + Debentures + Long-term Loan

$$\begin{aligned} &= 6,00,000 + 2,00,000 + 4,00,000 + 8,00,000 \\ &= 20,00,000 \end{aligned}$$

$$\text{Return on Capital Employed} = \frac{\text{EBIT}}{\text{Capital Employed}}$$

$$\begin{aligned} \text{Return on Capital Employed} &= \frac{4,00,000}{20,00,000} \times 100 \\ &= 20\% \end{aligned}$$

$$\text{Return on Equity} = \frac{\text{Profits after Tax} - \text{Preference Dividend}}{\text{Equity Shareholders' Funds}}$$

Profits Available to Equity Shareholders:

EBIT	4,00,000
Less Interest on Debentures	
6% on Rs. 8,00,000	48,000
	3,52,000
Tax @ 50%	1,76,000
Profit after Tax	1,76,000
7% Preference Dividend	
on Rs. 4,00,000	28,000
Profits Available to equity Shareholders	1,48,000

$$\text{Return on Equity} = \frac{\text{Profits after Tax} - \text{Preference Dividend}}{\text{Equity Shareholders' Funds}}$$

$$= \frac{1,48,000}{8,00,000} \times 100 = 18.5\%$$

Let us presume that there is a change of EBIT by 50%.

If EBIT increases by 50%:

EBIT becomes Rs. 6,00,000.

$$\begin{aligned} \text{Return on Capital Employed} &= \frac{6,00,000}{20,00,000} \times 100 \\ &= 30\% \end{aligned}$$

Profits Available to Equity Shareholders:

EBIT	6,00,000
Less Interest on Debentures	
6% on Rs. 8,00,000	48,000
	<u>5,52,000</u>
Tax @ 50%	2,76,000
Profit after Tax	2,76,000
7% Preference Dividend	
on Rs. 4,00,000	28,000
Profits Available to Equity Shareholders	<u>2,48,000</u>

$$\text{Return on Equity to shareholders} = \frac{\text{Profits After Tax} - \text{Preference Dividend}}{\text{Equity Shareholders' Funds}}$$

$$= \frac{2,48,000}{8,00,000} \times 100 = 31\%$$

So, if EBIT increases by 50%, ROCE also has increased by similar 50% (from 20% to 30%). But ROE has increased by 67.57% (increased from 18.5% to 31% i.e. $\frac{12.5}{18.5} \times 100$)

If EBIT falls by 50%:

EBIT becomes Rs. 2,00,000.

$$\text{Return on Capital Employed} = \frac{2,00,000}{20,00,000} \times 100$$

$$= 10\%$$

Profits Available to Equity Shareholders:

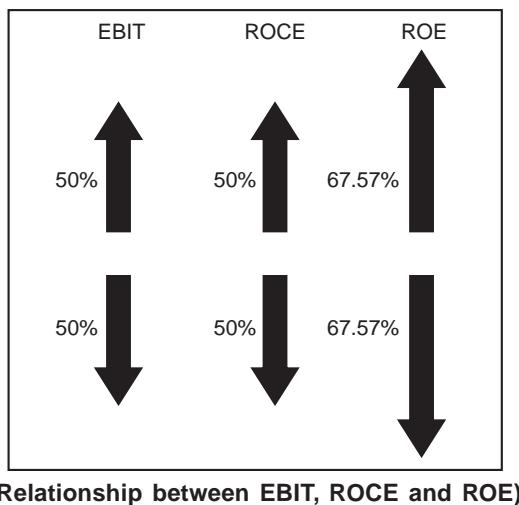
EBIT	2,00,000
Less Interest on Debentures	
6% on Rs. 8,00,000	48,000
	<u>1,52,000</u>
Tax @ 50%	76,000
Profit after Tax	76,000
7% Preference Dividend	
on Rs. 4,00,000	28,000
Profits Available to Equity Shareholders	<u>48,000</u>

$$\text{Return on Equity} = \frac{\text{Profits after Tax} - \text{Preference Dividend}}{\text{Equity Shareholders' Funds}}$$

$$= \frac{48,000}{8,00,000} \times 100 = 6\%$$

So, if EBIT falls by 50%, ROCE also has fallen by similar 50% (from 20% to 10%). But ROE has fallen by 67.57 % (fell from 18.5% to 6% i.e. $\frac{12.5}{18.5} \times 100$)

This impact can be presented in pictorial presentation for quick understanding:



(Relationship between EBIT, ROCE and ROE)

Illustration No. 6

From the following information of Cherry & Cherry Company Ltd., prepare the balance sheet and compute the return on capital employed (ROCE), Return on Total Assets (ROTA) and Return on Equity (ROE):

	Rs.
Current Assets	1,00,000
Investments in Treasury Bonds	1,00,000
Fixed Assets	5,00,000
Sales	5,00,000
Cost of Goods Sold	3,00,000
10% Debentures	1,00,000
Income from Treasury Bonds	10,000
Interest on Debentures	10,000
10% Preference Share Capital	1,00,000
Equity Share Capital	2,00,000
Capital Reserve	1,00,000
Provision for Tax at 30% of Net Profits	

Solution:

Cherry & Cherry Company Ltd.
Profit and Loss Account for the year ended 31st March, 2005

	Rs.		Rs.
To Cost of Goods Sold	3,00,000	By Sales	5,00,000
To Interest on Debentures	10,000	By Income from	
To Provision for Taxation	60,000	Treasury bonds	10,000
To Net Profit after Tax	1,40,000		
	<hr/> 5,10,000		<hr/> 5,10,000

BALANCE SHEET as on 31st March, 2005

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	2,00,000	Fixed Assets	5,00,000
10% Pref. Share Capital	1,00,000	Investments in Treasury Bonds	1,00,000
Capital Reserve	1,00,000	Current Assets	1,00,000
Profit and Loss account	1,40,000		
10% Debentures	1,00,000		
Provision for Taxation *	60,000		
	7,00,000		7,00,000

$$\text{Return on Capital Employed (ROCE)} = \frac{\text{EBIT}^{**}}{\text{Capital Employed}}$$

$$\begin{aligned}
 \text{EBIT} &= \text{Net Profits} + \text{Interest} + \text{Tax} - \text{Non Operating Income} \\
 &= 1,40,000 + 10,000 + 60,000 - 10,000 \\
 &= 2,00,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Capital Employed} &= \text{Net Fixed Assets} + \text{Current Assets} - \text{Current Liabilities} (\text{Provision for Taxation}) \\
 &= 5,00,000 + 1,00,000 - 60,000 \\
 &= 5,40,000
 \end{aligned}$$

$$\text{ROCE} = \frac{2,00,000}{5,40,000} \times 100 = 37.03$$

$$\begin{aligned}
 \text{ROTA} &= \frac{\text{EBIT}}{\text{Total Assets}} \\
 &= \frac{2,00,000}{6,00,000^*} \times 100 = 33.33\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Return on Equity} &= \frac{\text{Net Profits after Tax} - \text{Preference Dividend}}{\text{Equity Shareholders' Funds}} \\
 &= \frac{1,40,000 - 10,000}{2,00,000 + 1,00,000 + 1,40,000} \\
 &= \frac{1,30,000}{4,40,000} \times 100 = 29.55\%
 \end{aligned}$$

* Provision for tax is calculated as under:

$$\text{Profits before Tax} = 5,00,000 + 10,000 - (3,00,000 + 10,000)$$

$$= 2,00,000$$

$$\text{Tax @ 30\%} = 60,000$$

** EBIT does not include income from Treasury Bonds as it is non-operating income. So, total assets, also, should not include the relevant assets – Treasury Bonds. When income is excluded, relevant assets of that income are also to be excluded for proper matching.

Illustration No. 7

From the following details available, prepare balance sheet of Dimpy & Co. as on 31st March, 2006 and compute proprietary funds.

- (a) Net worth turnover ratio (on cost of sales) = 2
- (b) Fixed assets turnover ratio (on cost of sales) = 4
- (c) Gross profits turnover ratio = 20%
- (d) Creditors velocity = 73 days
- (e) Debtors velocity = 2 months
- (f) Stock velocity = 6

Reserves and surplus amount to Rs. 10,000. Closing stock was Rs. 5,000 in excess of opening stock. Gross profit was Rs. 60,000.

You can make the necessary assumption, where required.

Solution:

Total Sales:

Gross profit was Rs. 60,000 and Gross profits turnover ratio = 20%

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Total Sales}}$$

$$20\% = \frac{60,000}{\text{Total Sales}}$$

$$\text{Total Sales} = \frac{60,000}{20\%}$$

$$\text{Total Sales} = \frac{60,000}{20} \times 100 = 3,00,000$$

Debtors:

Debtors velocity = 2 months. Debtors are turning over 6 times in a year.

$$\frac{\text{Sales}}{\text{Debtors}} = 6$$

$$\begin{aligned}\text{Debtors} &= \frac{\text{Sales}}{6} \\ &= \frac{3,00,000}{6} \\ &= 50,000\end{aligned}$$

Cost of Sales:

$$\begin{aligned}\text{Cost of sales} &= \text{Sales} - \text{Gross profit} \\ &= 3,00,000 - 60,000 \\ &= 2,40,000\end{aligned}$$

Net Worth:

Net worth turnover ratio (on cost of sales) = 2

$$\frac{\text{Cost of Sales}}{\text{Net Worth}} = 2$$

$$\begin{aligned}\text{Net Worth} &= \frac{\text{Cost of Sales}}{2} \\ &= \frac{2,40,000}{2} \\ &= 1,20,000\end{aligned}$$

Net Worth = Capital + Reserves

$$\begin{aligned}\text{Capital} &= \text{Net Worth} - \text{Reserves} \\ &= 1,20,000 - 10,000 \\ &= 1,10,000\end{aligned}$$

Fixed Assets:

Fixed assets turnover ratio (on cost of sales) = 4

$$\frac{\text{Cost of Sales}}{\text{Fixed Assets}} = 4$$

$$\begin{aligned}\text{Fixed Assets} &= \frac{\text{Cost of Sales}}{4} \\ &= \frac{2,40,000}{4} = 60,000\end{aligned}$$

Stock:

Stock Velocity = 6.

$$\frac{\text{Cost of Sales}}{\text{Average Stock}} = 6$$

$$\begin{aligned}\text{Average Stock} &= \frac{\text{Cost of Sales}}{6} \\ &= \frac{2,40,000}{6} = 40,000\end{aligned}$$

$$\begin{aligned}\text{Closing Stock} &= 40,000 + 5,000/2 \\ &= 42,500\end{aligned}$$

Opening stock was lower than closing stock by 5,000.

$$\begin{aligned}\text{Opening stock} &= 42,500 - 5,000 \\ &= 37,500\end{aligned}$$

Purchases:

To arrive at purchases, let us prepare Trading Account to get the balancing figure.

Trading Account

	Rs.		Rs.
To Opening Stock	37,500	By Sales	3,00,000
Purchases*	2,45,000	Closing Stock	42,500
Gross Profit	60,000		
Total	3,42,500	Total	3,42,500

* Balancing figure-Purchases

Alternative way

Cost of Sales = 2,40,000

Increase in Closing Stock = 5,000

Purchases 2,45,000

Creditors:

Creditors velocity = 73 days. In other words, creditors have turned over 5 times in a year.

$$\text{Creditors turnover ratio} = \frac{\text{Purchases}}{\text{Creditors}}$$

$$\frac{\text{Purchases}}{\text{Creditors}} = 5$$

$$\text{Creditors} = \frac{\text{Purchases}}{5}$$

$$\begin{aligned}
 &= \frac{2,45,000}{5} \\
 &= 49,000
 \end{aligned}$$

BALANCE SHEET of Dimpy & Co. as on 31st March, 2006

Liabilities	Rs.	Assets	Rs.
Capital	1,10,000	Fixed Assets	60,000
Reserves & Surplus	10,000	Cash *	16,500
		Debtors	50,000
Creditors	49,000	Stock	42,500
	1,69,000		1,69,000

* Balancing figure

Proprietary Funds:

Capital	1,10,000
Reserves & Surplus	10,000
Total	1,20,000

Tutorial Note: Both the terms Debtors Turnover Ratio and Velocity convey the same meaning. However, the problem has stated the velocity in months, so the meaning is different.

9.12 RELEVANCE OF RATIO ANALYSIS FOR PREDICTING FUTURE

The basis to calculate ratio analysis is historical financial statements. Historical financial statements indicate what has happened in the past. The financial analyst is interested to know what would happen, in future. Management of the company has the information about the company's future plans and policies. Using the historical data and equipped with the knowledge of future plans and constraints to achieve, management is in a better position to predict future happening to a certain reasonable extent. But, outside analyst has his own limitation and the analysis based on past ratios may not, necessarily, reflect the financial position and performance in the future.

9.13 LIMITATIONS OF RATIO ANALYSIS

Ratio analysis is one of the most powerful tools of financial management. They are simple and easy to understand.

Ratio analysis provides useful clues to investigate further. They must always be compared with:

- Previous ratios in order to assess trends
- Ratios achieved in other comparable companies

Ratios by themselves mean nothing as they have serious limitations. While using the ratios, caution has to be exercised in respect of the following. The following are some of the limitations:

1. **Absence of identical situations:** It is difficult to obtain identical situations for different firms. Circumstances do not remain the same, even, for the same firm between two different periods. Ratios are useful in judging the efficiency of business, only when they are compared with the past results of the firm, with identical circumstances, or with the results of similar businesses. Comparison becomes difficult due to lack of uniformity of situation between two companies.
2. **Change in accounting policies:** Management has a choice about the accounting policies. The management of different companies may adopt different accounting policies regarding valuation of inventories, depreciation, research and development expenditure and treatment of deferred revenue expenditure etc. The differences between the accounting policies, followed by different companies, make the interpretation of the ratios difficult. Comparison would be meaningful and valuable, if their base is similar. All companies may not be following the same method. For example, one may calculate depreciation on straight-line method, while the other may be following written down value method. Different companies may be following different methods of valuation of closing stock (e.g. FIFO or LIFO etc).
3. **Based on historical data:** The ratios are calculated from past financial statements, and so they are no indicators of future. Such ratios may provide information about the past. But, for forecasting the future, there are many factors that may change, in future. Market conditions and management policies may not remain the same, as they were earlier.
4. **Qualitative factors are ignored:** Ratios are expressed in quantitative form only. Qualitative factors are ignored. A high current ratio may not guarantee liquidity, as current assets may be high due to inclusion of obsolete inventory and non-paying debtors.
5. **Ratios are only indicators, not final:** Ratios are means of financial analysis and they are not end in themselves. They are indicators. They cannot be taken as final regarding good or bad financial position of the business.
6. **Over use could be dangerous:** Over use of ratios as controls on managers could be dangerous. If too much reliance is placed on ratios, management may concentrate in improving the ratios, rather than dealing with significant issues. For example, reducing assets rather than increasing profits can improve the return on capital employed.
7. **Window dressing:** The term ‘window dressing’ means manipulation of accounts in a way so as to conceal the actual facts and present the financial statements, in a way, to show better position than what actually it is. For example, a high current ratio is considered as an indicator of satisfactory liquidity position. To show an impressive current ratio, firm may postpone credit purchases. A company may have current assets of Rs. 4,000 and current liabilities of Rs. 2,000. So, its current ratio is 2:1 that is normally considered satisfactory. On inquiry, it has been found that the firm has postponed credit purchases, though needed,

just to maintain the ratio, in a satisfactory manner. Had the firm made credit purchases of Rs. 2,000 for meeting its normal requirements, current assets would have increased to Rs. 6,000 and current liabilities to Rs. 4,000. Then, its current ratio would have declined to 1.5. The firm has concealed the true picture, just by postponing credit purchases, at the end of the year, though very much needed to its requirements. Similarly, firms may make payments at the end of the year to improve the depressed ratio. In the above situation, if the firm pays Rs. 1,000 to creditors, its current ratio becomes 3.

8. **Problems of price level changes:** Financial analysis based on accounting ratios will give misleading results, if effects of change in price level are not taken into account. For example, two companies that have set up plant and machinery in two different periods, with a long gap, may give misleading results. Firm that has purchased the plant and machinery, very earlier, would have lower amount towards depreciation, when compared with the firm that has set up the machinery, quite later. So, the operating results of both the firms vary, substantially. The financial statements of the two firms cannot be compared without making suitable changes to the price level changes.

9. **No fixed standards:** No fixed standards can be laid down for ratios. Though current ratio 2:1 is normally required, firms enjoying adequate arrangements with banks to provide additional credit, as and when needed, may be able to manage with lesser current ratio. It is, therefore, necessary to avoid any rules of thumb.

Ratios are only a post-mortem of what has happened between two balance sheet dates. The interim position is not revealed by the ratio analysis.

Ratio Analysis can be used as trigger points for further investigation.

9.14 RATIOS MAY BECOME MEANINGLESS

Ratios are only indicators, not end in themselves: They identify the trends, shift in trends or other factors. They are not to be accepted on their face value. They are helpful in identifying the problem areas of a firm. They lead way for further investigation and meaningful conclusion. They are only the means to achieve a particular end. By themselves, they do not give final results.

Ratios are meaningless, if detached from the details from which they are derived. Ratios are based on the data of the company concerned. So, ratios are relevant to that particular company only, which are based on the circumstances and policies of that company. If those ratios are compared to any other company, where the circumstances and policies adopted are totally different, conclusions drawn based on the divergent data would be meaningless. It may, therefore, be concluded that the ratio analysis, if done mechanically, is not only misleading but, equally, dangerous.

The analyst must have practical knowledge as well as experience for calculating the ratios and interpreting the results, carefully. Unless the analyst is able to correlate the ratios, he would not be able to arrive at meaningful clues. Remember, ratios are only indicators or signals for the direction to investigate, further, and conclude with specific conclusions. Conclusions can be drawn, only after careful analysis of all the relevant ratios and gathering detailed information, the inquiries may, further, require.

Ratios, like statistics, have a set of principles and finality about them, at times, may be misleading. It has been said that “a man who has his head in the oven and his feet in the ice-box is on the average, comfortable”! To say a final word on ratio analysis, conclusions on study of single ratios, in isolation, are dangerous.

Illustration No. 8

Complete the following Balance Sheet, assuming that only the Equity Share Capital and Retained Earnings figures are given.

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	1,20,000	Fixed Assets	?
Retained Earnings	1,20,000	Stock	?
Creditors	?	Debtors	?
		Cash	?
Total (Rs.)	?	Total (Rs.)	?

Total debt is Two-Third of Net Worth. Turnover of Total Assets is 1.8;

30 days sales are in the form of Debtors; Turnover of inventory is 5; cost of goods sold in the year is Rs.3,60,000; and the acid test is 1:1.

(B.U. (MBA) -2003)

Solution:

Total debt is Two-Third of Net Worth.

$$\begin{aligned}
 \text{Net Worth} &= \text{Equity Share Capital} + \text{Retained Earnings} \\
 &= 1,20,000 + 1,20,000 \\
 &= 2,40,000
 \end{aligned}$$

$$\text{Therefore, Total debts, creditors} = 2,40,000 \times \frac{2}{3} = 1,60,000$$

$$\begin{aligned}
 \text{Total Liabilities} &= \text{Equity Capital} + \text{Retained Earnings} + \text{Creditors} \\
 &= 1,20,000 + 1,20,000 + 1,60,000 \\
 &= 4,00,000
 \end{aligned}$$

$$\text{Total Liabilities} = \text{Total Assets} = 4,00,000$$

Inventory Turnover Ratio = 5

$$\frac{\text{Cost of Goods Sold}}{\text{Stock}} = 5$$

$$\frac{3,60,000}{\text{Stock}} = 5$$

$$\text{Stock} = \frac{3,60,000}{5} = 72,000$$

Turnover of Total Assets is 1.8

Total assets have turned over 1.8 times. It implies that the firm has generated a sale of Rs.1.8 for every rupee invested in total assets.

$$\text{Assets turnover ratio} = \frac{\text{Sales}}{\text{Total Assets}} = 1.8$$

$$\begin{aligned}\text{Sales} &= \text{Total Assets} \times 1.8 \\ &= 4,00,000 \times 1.8 \\ &= 7,20,000\end{aligned}$$

30 days sales are in the form of Debtors. In other words, debtors have turned over 12 times in a year.

$$\text{Debtors Turnover} = \frac{\text{Sales}}{\text{Debtors}} = 12$$

$$\begin{aligned}\text{Debtors} &= \frac{\text{Sales}}{12} \\ &= \frac{7,20,000}{12} = 60,000\end{aligned}$$

Acid test is 1:1

$$\text{Acid Test Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

There are only cash and debtors other than stock in current assets.

So, total cash and debtors are equal to current liabilities (creditors) i.e. 1,60,000.

$$\text{Cash} + \text{Debtors} = 1,60,000$$

$$\begin{aligned}\text{Cash} &= 1,60,000 - \text{Debtors} \\ &= 1,60,000 - 60,000 \\ &= 1,00,000\end{aligned}$$

Now, let us fill the figures in the balance sheet.

BALANCE SHEET as on...

Liabilities	Rs.	Assets	Rs.
Equity Capital	1,20,000	Fixed Assets *	1,68,000
Retained Earnings	1,20,000	Stock	72,000
Creditors	1,60,000	Debtors	60,000
		Cash	1,00,000
Total	4,00,000	Total	4,00,000

* Balancing figure

9.15 SUMMARY OF RATIOS AND THEIR PURPOSE

(1)	(2) Ratio	(3) Computation Formula	(4) Purpose
1	Current Ratio	<u>Current Assets</u> <u>Current Liabilities</u>	Measures short-term debt paying ability.
2	Quick (Acid Test) Ratio	<u>Quick Assets</u> <u>Current Liabilities</u>	A refined measure of the short- term debt-paying ability of the firm. Measures short-term solvency.
3	Gross Profit Ratio	<u>Gross Profit</u> × 100 <u>Net Sales</u>	Measures efficiency of company's operations, production and trading activities.
4	Net Profit Ratio	<u>Net Profit</u> × 100 <u>Net Sales</u>	Shows net margin on sales. One of the important indicators of management's efficiency.
5	Operating Expenses Ratio	<u>Operating Costs</u> × 100 <u>Net Sales</u>	A yardstick to measure operating efficiency of management's ability to keep / contain operating expenses for level of sales achieved.
6	Earning per Equity Share	<u>Profits Available for Equity Shareholders</u> × 100 <u>No. of Equity Shares</u>	Shows the amount of earnings available for each equity share.

7	Dividend Yield	<u>Dividend per Equity Share</u> $\times 100$ Market Price Share	Shows the rate of return to equity shareholders, in the form of dividends, based on the market price of the share.
8	Price Earning Ratio	<u>Market Price of Equity Share</u> $\times 100$ <u>Earning per Equity Share</u>	A guide to buy /sell at that price.
9	Interest Coverage	<u>EBDIT</u> Interest	A test for firm's debt servicing capacity. Useful to long-term lenders.
10	Debt Equity Ratio	<u>Total Debt</u> Net Worth	Depicts extent of total debt financing in business.
11	Total Debt Ratio	<u>Total Debt</u> <u>Total Assets</u>	Shows the proportion of total assets financed by total liabilities.
12	Inventory Turnover Ratio	<u>Cost of Goods Sold</u> Average Inventory, at cost	Evaluation of efficiency in producing and selling goods and adequacy of controls on inventory holding.
13	No. of days inventory holding	<u>360</u> <u>Inventory Turnover Ratio</u>	Shows the inventory holding, in days, and control on inventory management.
14	Accounts Receivable (Debtors) Turnover	<u>Credit sales</u> Average debtors	Measures liquidity of debtors and effectiveness of the credit policy.
15	Debtors Collection Period	<u>360</u> <u>Debtors' Turnover Ratio</u>	Shows period of holding of debtors and indicates effectiveness of collection department.
16	Working Capital Ratio	<u>Cost of Sales or Sales</u> Average Working Capital	Shows velocity of utilisation of working capital.
17	Return on Investment, before tax (i) ROCE (ii) ROTA	(i) <u>EBIT</u> Capital Employed (ii) <u>EBIT</u> <u>Total Assets</u>	Measures the overall efficiency of business, before tax.

18	Return on investment, after tax (ROCE, ROTA)	<u>EBIT(1-T)</u> Capital employed or Total Assets	Shows overall efficiency of business, after tax.
19	Return on Equity	<u>Net Profit after tax –Preference Dividend</u> <u>Equity Shareholders' funds</u>	Measures earning power of Equity Share holders funds. Management's main responsibility is to take care of the interests of the owners. They try to maximize ROE. This ratio is the index of performance of management.
20	Pay –Out Ratio	<u>Dividend per equity share</u> <u>Earnings per equity share</u>	Shows proportion of payment of dividend out of earnings and stability of dividend policy.
21	Capital Gearing Ratio	<u>(Preference share capital + Debentures + Long -Term Loan)/ (Equity share capital + Reserves and surplus)</u>	Refers to the proportion between fixed commitment funds to non-fixed commitment funds in the total capital employed that influences the variability of profits.

Descriptive Questions

- “Ratios are the symptoms of health of an organisation like blood pressure, the pulse or temperature of an individual” Explain and state their uses? **(9.1 and 9.2)**
- What is a financial ratio? In what manner, financial ratios can be compared? **(9.2 & 9.3)**
- Explain ‘Analysis without interpretation is meaningless and interpretation without analysis is impossible’? **(9.2, 9.4 and 9.4.1)**
- Is it possible for a firm to have a high current ratio and still experience difficulties in paying its current debt? Explain with illustration? **(9.6.1)**
- Explain composition and quality of Current Assets is more important than mere adequacy of current ratio, with an illustration? **(9.6.1)**
- Describe different types of ratios and standards of comparison for evaluating the performance of the firm? **(9.2, 9.4 and 9.3)**
- Describe the different types of ratios? Explain any two ratios in each category with their significance? **(9.2, 9.4, 9.6, 9.7, 9.8 and 9.9)**

8. What are the important profitability ratios? How they are calculated? Explain their significance? **(9.9, 9.9.1 and 9.9.2)**
9. Describe the concept 'Trading on Equity'? Explain the relationship between Return on capital employed and return on equity, with a suitable illustration? **(9.10)**
10. What is meant by Capital Gearing? Elaborate the consequences of significant changes in EBIT, when the firm is highly geared? **(9.11)**
11. Explain the limitations of the ratio analysis? **(9.13)**
12. "Ratios are meaningless if detached from the details from which they are derived." Comment and bring out the limitations of ratio analysis. **(9.13)**
13. Write short notes on:
 - (A) Window Dressing **(9.6.2)**
 - (B) Cost of goods sold **(9.5)**
 - (C) EBIT **(9.5)**
 - (D) Trading on Equity **(9.10)**
 - (E) Relevance of Ratio Analysis for predicting future **(9.12)**

A. State whether the following statements are True or False

1. Current Ratio represents margin of safety.
2. A very high degree of liquidity is good for the firm as it would not experience any difficulty in making payments.
3. Activity Ratios are also called Turnover Ratios because they indicate the speed of converting assets into sales.
4. Aging Schedule does not show the period debtors are outstanding in a firm.
5. Working Capital requirement of a firm is always met by Bank Borrowings alone.
6. Gross Profit Ratio shows the spread between sales revenue and cost of goods sold.
7. Net Profit after Tax to sales indicates Net Profit Margin.
8. The term 'financial analysis', includes both 'analysis and interpretation'.
9. If price earnings ratio of a company is more than the industry's average, it is better to buy the scrip at that market price.
10. A decreased Stock Turnover Ratio usually indicates expanding business.
11. A large number of shareholders in a firm would be more interested in DPS rather than EPS.
12. Current ratio measures quality of assets.
13. If Net Profit margin is inadequate, return on shareholder's funds would be low.
14. If EBIT increases, percentage increase of ROE depends on the capital gearing of the firm.
15. Rule of thumb for acid-test ratio is 1:1.
16. Liquidity ratios measure long-term solvency of a concern.
17. Acceptable current ratio is 2:1.
18. While analysing ratios, investors concentrate on the firm's present and future profitability.

19. A firm should ensure neither excess liquidity nor inadequate liquidity.
20. An arbitrary Current Ratio of 2:1 should not be blindly followed.
21. Inventory is part of liquid assets.

ANSWERS

1. True 2. False 3. True 4. False 5. False 6. True 7. True 8. True 9. False 10. False 11. True
12. False 13. True 14. True 15. True 16. False 17. True 18. True 19. True 20. True 21. False

Pick up the most Appropriate:

1. Debt Equity Ratio is a

(a) Liquidity Ratio	(b) Solvency Ratio
(c) Profitability Ratio	(d) Activity Ratio
2. Calculate the inventory holding, in terms of days:
 Opening stock: 10,000;
 Closing stock: 20,000;
 Sales: 40,000; Gross Profit: 10%

(a) 150	(b) 30
(c) 60	(d) 120
3. For calculating inventory ratio, the following information is more appropriate.

(a) Opening Stocks	(b) Closing Stock
(c) Sales	(d) Gross Profit
(e) Average Stock	
4. Which statement is wrong?

(a) Liquidity Ratio – Measures firm's ability to meet current obligations.	(b) Activity Ratio – Reflects efficiency in utilising assets of the firm.
(c) Management is not interested in evaluating every aspect of firm's performance.	(d) Accounting data is taken from financial statements.
5. Calculate current ratio from the following data:
 Bank OD: 20,000; Cash: 15,000; Outstanding expenses: 10,000
 Accrued income: 5,000; Stock: 5,000; Prepaid expenses: 5,000

(a) 2:1.	(b) 1:1.
(c) 1.5:1.	(d) 1:1.5.
6. Find out the missing figure if current ratio is 2:1.
 Work in progress : 20,000.
 Bank cash credit : 5,000.
 Raw materials : 10,000.
 Creditors : 4,000.
 Bills payable : ?

- (a) 10,000. (b) 9,000.
 (c) 12,000. (d) 6,000.
7. Calculate Quick Ratio from the following.
- | | | |
|------------------|---|--------|
| Debentures | : | 10,000 |
| Long-term loan | : | 20,000 |
| Cash | : | 15,000 |
| Raw materials | : | 6,000 |
| Debtors | : | 5,000 |
| Creditors | : | 5,000 |
| Prepaid expenses | : | 5,000 |
- (a) 3:1 (b) 4:1
 (c) 2:1 (d) 1:1
8. This ratio is a 'Test of Quantity but not Quality'.
- (a) Quick Ratio. (b) Debt-Equity Ratio.
 (c) Current Ratio (d) Dividend Payout Ratio
9. A company can meet its financial obligations as and when they fall due if
- (a) Current Ratio is 2:1. (b) Current Ratio is less than 2 : 1
 (c) More depends on composition of current (d) Current assets just cover current assets rather than currant ratio alone. liabilities.
10. Calculate Net Working Capital
- Cash: 5,000; Finished Goods: 12,000
 Debtors: 20,000; Prepaid Expenses: 3,000
 Debentures: 4,000; Long-term Loan: 5,000 and
 Bank Cash Credit: 6,000;
 Creditors = 10,000
- (a) 24,000. (b) 26,000.
 (c) 21,000. (d) 15,000.
 (e) 20,000.
11. Capital employed means
- (a) Net Worth (b) Net Worth + Long-term Loans.
 (c) Current Assets + Current Liabilities (d) Net Current Assets.
12. Cost of goods sold includes
- (a) Depreciation (b) Gross Profit
 (c) Administrative Expenses (d) Interest
 (e) None.

Answers

1. b 2. a 3. e 4. c 5. b 6. d 7. b 8. c 9. c 10. a 11. b 12. a

Check your ability in Fast Calculations:

1. Calculate Return on Equity with the following information:

EBIT: 50,000; 6% Debentures: 5,00,000

Tax rate: 50%; Equity share capital: 1,00,000 (Face value Rs.10) General Reserves: 3,00,000

- | | |
|---------|----------|
| (a) 10% | (b) 2.5% |
| (c) 20% | (d) 15% |
| (e) 30% | |

Ans. (b)

$$\frac{\text{Profit after Tax}}{\text{Equity Shareholders' Funds}} = \frac{50,000 - 30,000 - 50\% (50,000 - 30,000)}{1,00,000 + 3,00,000}$$

2. Share price, before bonus issue is Rs.100. Bonus issue 1:4 is made.

What would be the ex-bonus price of a share, if other factors were constant?

- | | |
|--------|---------|
| (a) 60 | (b) 70 |
| (c) 80 | (d) 100 |
| (e) 20 | |

Ans. (c) (For every 4 shares held, one bonus share is issued) $\frac{100 \times 4}{5}$

4. Earnings per share are Rs.80. Bonus shares are issued in the ratio of 1:4 during the year.

What is the adjusted earning per share of the year in which bonus is made?

- | | |
|--------|---------|
| (a) 60 | (b) 70 |
| (c) 80 | (d) 100 |
| (e) 20 | |

Ans. (d) $\frac{80 \times 5}{4}$

Find out impact of Decisions taken:

The current ratio of Kishore & Co is 2:1. Which of the following decisions would improve the ratio, which would reduce it and which one would not change it?

1. To pay substantial amount of creditors from the available cash balance?
2. To sell a vehicle, used for carrying staff from their residences to office, for cash at a slight loss.
3. To borrow money for a short period, with a nominal Interest rate, executing a promissory note.
4. To purchase marketable investments for cash.

5. To give an interest bearing promissory note to a creditor to whom money was owed on current account.
6. Purchase of a fixed asset.
7. Bills receivable dishonoured.
8. Issue of Preference shares.

Answers

1. Improves the ratio
2. Improves the ratio
3. Reduces the ratio
4. No change in the ratio
5. No change in the ratio
6. Reduces the ratio
7. No change
8. Improves the ratio

State whether the following statements are True or False

1. Liabilities are not subject to fall, as they have to be paid.
2. Creditors turnover ratio is a 'Solvency Ratio'.
3. Current Ratio is a crude and quick measure of firm's liquidity.
4. Rate of return on capital employed is a turnover ratio.
5. Quick ratio establishes a relationship between liquid assets and current liabilities.
6. Low gearing is preferable to high gearing from the viewpoint of creditors.
7. Generally, a Quick ratio is not better than current ratio in a test of liquidity.
8. A firm's ability to meet the interest charges and repayment dues on long-term obligations is referred to as its short-term solvency.
9. Leverage Ratio indicates proportion of debt and equity in financing firm's assets.
10. 'Acid Test' denotes liquidity.
11. The process of magnifying the equity shareholder's earnings through the use of debt is called 'Financial Leverage' or 'Trading on Equity'.
12. Ratio analysis is a technique of planning and control.
13. If cost of debt is lower than the firm's overall rate of return, the earnings of shareholders will be reduced.
14. A high debt company can borrow on favourable terms and conditions.
15. The term 'Investment' may refer to total assets or net assets.
16. A low debt equity ratio indicates a greater claim of owners than creditors on the assets concerned of the firm.
17. An appropriate debt-equity combination involves a trade-off between return and risk.
18. Profit is a not factor of sales.

Answers

1. True
2. False
3. True
4. False
5. True
6. True
7. False
8. False
9. True
10. True
11. True
12. True
13. False
14. False
15. True
16. True
17. True
18. False

Interview Questions

Q.1. What is 'Net Worth' and explain its significance?

Ans. 'Net Worth' represents the amount that belongs to the owners of the firm. In true sense, equity shareholders are the real owners of the firm. Paid up share capital, general reserves, capital reserves, share premium and balance lying in Profit and Loss Account, totally, constitute net worth. Preference share capital amount is also included in net worth as the amount is also permanent in nature in the firm for a very long period and there is no threat from their end for repayment.

In fact, Net Worth is a cushion available to the outside creditors of the firm. A higher ratio of Net Worth to the total assets of the firm provides greater safety to the creditors, in the event of any unforeseen circumstances and liquidation.

Q.2. Illustrate the concept of 'Window Dressing' with a suitable example?

Ans. Presenting a rosy picture than the real situation is called 'Window Dressing'. Some firms try to present a higher current ratio than the actual situation to create better liquidity impression of the organisation. The situation is created, intentionally. This situation is manipulated in the financial statements at the end of the year. A firm, normally, may have a current ratio of 1.5 with an average of current assets of Rs. 90,000 and current liabilities of Rs. 60,000. Before the year-end, firm brings pressure on the debtors and collects Rs. 30,000 to pay its current liabilities. This action reduces the current assets to stand at Rs. 60,000 with current liabilities at Rs. 30,000. This makes a current ratio of 2:1 at the end of the year in financial statements. Outsiders get a rosy impression about the liquidity of the firm by this deceitful method.

Q.3. What is indicated by Debt-Equity Ratio?

Ans. Debt-Equity Ratio indicates the extent of outsiders' share to the owners share in the firm's total assets. This ratio reflects the extent of financing by short-term as well as long-term creditors in the ownership of total assets.

This ratio is calculated by dividing the total debt by the net worth. It shows the vulnerability of the firm's dependence on the outsiders for its survival.

Q.4. What is the purpose of Ratio Analysis?

Ans. Ratio Analysis helps the management to identify the strength and weakness of their firm, compared with the industry to which their firm belongs to.

Q.5. Name any four ratios that the management of every firm is interested in, along with their significance?

Ans. Every management is interested to maintain sufficient liquidity and utmost profitability of the firm, they manage. Current ratio shows the liquidity strength of the firm. Net Profit Ratio gives the net profit margin of the firm that can be compared with the industry about its competitiveness. Net Profit Ratio is one of the important indicators of management's efficiency.

Return on investment is the primary ratio that is most popularly used to measure the overall profitability and efficiency of business.

Return on Equity conveys the return available to their equity shareholders. Equity shareholders are the real of the firm. Every management wants to satisfy the real owners. Earnings per Share, finally, indicate the rate of earnings the equity shareholders enjoy on the investment made.

- Q.6.** Gross profit ratio has gone up, but net profit ratio has gone down. What is the possible explanation?

Ans. The possible explanation is operating expenses have gone up. This, normally, happens with the fall of net profit ratio, despite the increase in gross profit ratio. Each expense ratio has to be compared with the previous year's ratio to identify where action and control is needed.

- Q.7.** Why preference shareholders are not called as the real owners of the company?

Ans. Preference shareholders enjoy fixed rate of dividend and preference for payment of dividend, before dividend is distributed to equity shareholders. Similarly, in the event of the liquidation of the company, preference share capital has to be repaid first, before refunding to equity shareholders. Preference shareholders enjoy a different status, as they do not assume the risk, similar to equity shareholders. So, preference shareholders are not called as the real owners of the company.

- Q.8.** What is meant by Bonus Shares? Whether their issue results in the outflow of cash? Justify your statement.

Ans. Bonus shares are additional free shares issued to the existing equity shareholders, out of the profits of the company. Bonus issue does not result into outflow of cash.

Reserves and surplus profit is utilised for issue of bonus shares, by transferring the amount to the equity share capital account. If bonus shares 1:3 are issued, an existing shareholder, holding 3 shares, gets one extra share, freely. If there is a balance in the share premium account, that amount is first utilised for issue of bonus shares.

- Q.9.** What is the expansion of 'EPS'? Whether net profit, totally, belongs to the equity shareholders?

Ans. 'EPS' stands for earning per share. EPS is calculated by dividing the net profit after tax by the total number of equity shares outstanding. First, dividend due to the preference shareholders is to be paid from the net profit. The rest of net profit belongs to the equity shareholders. If a portion of net profit is paid to the equity shareholders, it is called dividend. Balance amount of profit retained in the firm, after payment of dividend, is called retained profits. After payment of dividend to preference shareholders, the total net profit belongs to the equity shareholders, either by way of dividend or retained profits.

- Q.10.** Name an important indicator for purchase / sale of a share in respect of market price? Explain the reasoning for the indicator chosen?

Ans. PE Ratio is an important indicator for purchase or sale of a share, depending on its market price. This ratio is calculated by dividing the market price of an equity share by EPS. The PE ratio of the concerned firm is to be compared with the PE ratio of the industry or its competing firms. If PE ratio of the firm is low, in comparison to the industry or its competing firms, the share of that company is worth buying. If the ratio is high in comparison, the

share of that company is worth selling. A comparative analysis of PE ratio gives important information for deciding to buy or sell the share of that company at that particular price.

Q.11. Name the different sources of funds for a long-term commitment?

Ans. Equity share capital, preference share capital, debentures and long-term loans provide funds for a long-term commitment. Reserves and share premium amount available in the firm would provide the means for the same purpose.

Q.12. When borrowing is favourable to the equity shareholders?

Ans. Borrowing is favourable to the equity shareholders so long as return on investment is greater than the cost of borrowing. The excess return on investment, after meeting the cost of borrowing, increases the return to equity shareholders.

Q.13. What is meant by "Trading on Equity"?

Ans. The process of magnifying the earnings of equity shareholders through the use of debt is called "Trading on Equity" or "Financial Leverage" or "Financial Gearing".

Normally, assets are financed by capital and debt. Debt is advantageous to the equity shareholders. The equity shareholders can retain control, with a limited stake. They can find a way to magnify their earnings. When the firm is able to earn on borrowed funds higher than the interest rate paid, the return to owners would be magnified. To illustrate, when the return on investment of a firm, say, is 20% and firm is able to borrow at 12%, borrowing is resulting in a saving of 8% on the funds borrowed, ignoring tax. In consequence, the firm is able to increase the return to equity shareholders with borrowed funds. Reason is simple. Interest is admissible for tax deduction. In the absence of borrowing, the equity share capital would get a return of 20% only. If the interest rate is higher than the rate of return on the project, it is not desirable to borrow, as the return on equity would get reduced.

Q.14. Why "Trading on Equity" is called as a 'Double edged sword'?

Ans. When the return on capital employed is greater than the cost of debt, it is advantageous to borrow as the return on equity goes up. At the expense of debt, the beneficiaries are the equity shareholders. The risk the firm would experience on long-term borrowings is the permanent interest burden. Additionally, when the earnings fall, the ROCE also falls. But, in the process, the equity shareholders are the real sufferers. With the fall of ROCE, the return on equity goes down. In other words, debt can prove to be either beneficial or detrimental to the interests of equity shareholders. In other words, borrowing may turn to be an advantage or disadvantage to the equity shareholders. This is called trading on equity, which is a double-edged sword. The key is the relationship between the ROCE and cost of debt.

Q.15. How ratio analysis helps in forecasting or predicting the future performance of a firm?

Ans. Financial statements are historical in their nature as they relate to the past performance of the firm. When ratio analysis is applied to the past financial statements, strength and weakness of the firm could be analysed and identified. Changes are inevitable as future is not a replica of the past. Only management is aware of the expected changes in policies,

in future. So, ratio analysis can be applied by the management to anticipate the future performance / results, after considering the impact of changes in policies to the past financial statements.

An outsider is not aware of the likely changes in policies. So, only management, not public, is in a better position to use ratio analysis to forecast or predict the future performance of a firm.

Q.16. Which assets, fixed assets or current assets, are important to a firm?

Ans. Funds are limited to every firm. Equally, funds have a cost. If more funds are tied up in current assets, lesser funds would be available for fixed assets. Fixed assets generate production, while current assets support them for generating profits.

In a movie, both hero and heroine are important. For every hero, there should be a heroine. If fixed assets are heroes, current assets are heroines, so both are essential to the firm.

Q.17. What is the importance of liquidity?

Ans. Liquidity means having sufficiency of funds in the firm in right quantum, at the right time. In the absence of liquidity, firm would not be able to make payments on the due date. There would be delay for suppliers of goods and services. Creditors would be unhappy with the repayment behaviour of the firm and may suspend or delay supplies that would affect smooth production. The deficiency of liquidity may lead to short-term insolvency. Excess liquidity eats profitability. It is important for every firm to maintain optimum liquidity, neither excess nor inadequate.

Q.18. Between the two objectives – liquidity and profitability, which objective is important and why?

Ans. Both the two objectives, liquidity and profitability are, equally, important. Liquidity ensures adequate availability of funds in the firm in right quantum, at the needed hour. Excess liquidity erodes profitability. Inadequate liquidity does not enable the firm to meet the short-term obligations, promptly and properly. On the other hand, profitability is vital for every organisation. Existing and potential investors look towards profitability of the firm. With the fall in profitability, market price of share would crash. Liquidity and profitability are two sides of a coin. When we see one side of the coin, other side is not visible. In a similar manner, firm can enjoy only one of them, more.

Liquidity and profitability are conflicting objectives. It is essential for every firm to maintain both the objectives in a balanced manner.



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CHAPTER
10

Sources and Application of Funds

- Need of Funds Flow Statement
- Concept of Funds
- Meaning of Flow of Funds
- Meaning & Objectives – Funds Flow Statement
- Utility of Funds Flow Statement to Different Parties
- Sources of Funds
 - Depreciation as a Source of Funds
- Application or Uses of Funds
- Procedure – Whether a Transaction finds a Place in Funds Flow Statement
- Preparation of Funds Flow Statement
 - Statement of Changes in Working Capital
 - Calculation of Funds from Operations
 - Finding out Hidden Information
- Differentiation – Funds Flow Statement, Income Statement and Balance Sheet
- Limitations of Sources and Application of Funds
- Illustrations
- Descriptive Questions
- Check Your Understanding
- Interview Questions

The most commonly used forms of the Statement of Changes in Financial Position are Sources and Application of Funds (Funds Flow Statement) and Cash Flow Statement.

10.1 NEED OF FUNDS FLOW STATEMENT

Profit and Loss Account and Balance Sheet are the two basic financial statements, which are of immense importance to owners, management and investors. When Profit and Loss Account and Balance Sheet are prepared, what is the need of preparing this separate Funds Flow Statement, again? Balance Sheet shows the summary of assets and liabilities of a firm. The assets side of the balance sheet shows the deployment of funds, while the liabilities side shows how the resources have been raised. In other words, balance sheet shows sources and uses of finance too. It indicates the financial position of a firm on a particular date.

Balance Sheet is a static statement and does not show the causes for the changes in assets and liabilities or movement of finances, between two periods. To meet this requirement, funds flow statement is needed.

Balance Sheet does not show the changes that take place during the period. If loan has been raised and repaid during the same period, balance sheet, at the end of the period, does not show both the transactions. Similarly, Profit and loss account shows the expenses and revenues realised for an accounting period. **Profit and Loss Account also reflects the operational results of a business for a particular period, which causes changes in owners' equity, partially.** Capital raised and funds withdrawn resulting in change in owner's equity does not appear either in Profit and Loss Account or Balance Sheet. In other words, Profit and loss account explains only partial story in respect of owner's equity. Profit and Loss Account and Balance Sheet provide the basic essential information about the business activities of the firm. **However, both these two statements do not explain the causes for changes in assets, liabilities and owner's equity.** Moreover, usefulness of both balance sheet and profit and loss account is limited and fail to serve the purposes of financial analysis and planning.

It is clear, from the above, that Profit and Loss Account and Balance Sheet do not provide, sufficiently, wide range of information to make assessment of the organisation by the end user for the purpose of analysis and planning. **So, there is a need to prepare a separate statement that explains the changes in assets and liabilities, from one period of time to the end of another period. The statement is called "Funds Flow Statement".**

Purposes: Both Profit and Loss Account and Balance Sheet do not explain the changes in assets, liabilities and owners' equity between two dates. So, an additional statement is needed to serve this purpose. Funds Flow Statement serves this purpose. Funds Flow Statement, broadly, serves the following purposes. The Funds Flow Statement shows:

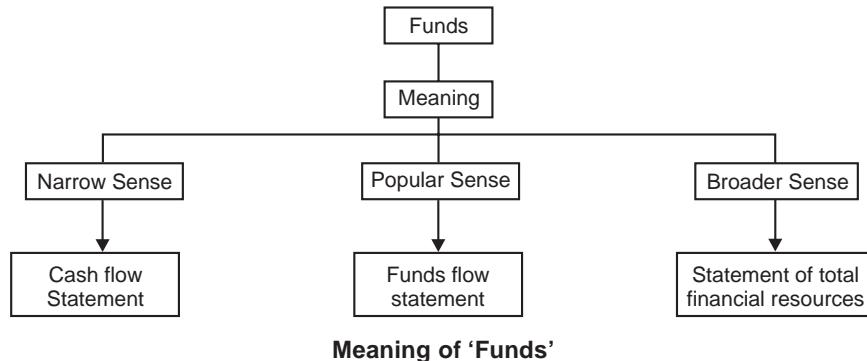
- (i) Changes in assets and liabilities, including working capital, between two periods and
- (ii) Utilisation of financial resources during the period such as acquisition of assets, payment of debts and distribution of dividends to shareholders etc.

10.2 CONCEPT OF FUNDS

The term ‘Funds’ has been defined in a number of ways. They are:

- (A) **In the Narrow sense:** Here, the term ‘funds’ refer to cash only. Transactions that involve cash only are taken. **Cash Flow Statement is prepared, in this approach, where only cash receipts and disbursements are included. It is a summary of cash transactions.**
- (B) **In the Popular sense:** ‘Funds’ refer to working capital, the excess of current assets over current liabilities. Total resources of a business are invested in fixed assets and working capital; the later is partly in the liquid form. **This is the most popular form of ‘Statement of Changes in Financial Position’. Sources and Application of Funds is prepared on this basis.**
- (C) **In the Broader sense:** The term ‘Funds’ refer to financial resources, in whatever form, they may exist. **Statement of Total Financial Resources is prepared as per this approach.** This is a comprehensive statement involving cash and non-cash transactions. Transactions involving money, materials, machinery and others are included. When machinery or building is purchased, in exchange of shares, it is not reported both in cash flow statement and Sources and Application of Funds. However, this type of transaction involves financial resources and so finds place in the Statement of Total Financial Resources. All types of transactions involving financial resources are included in this statement.

The working capital concept of funds is the most popular one, as already stated, amongst the different ways of defining the term ‘Funds’. **In this chapter, when we discuss Sources and Application of funds, the term ‘funds’ refer to working capital only.**



In the context of ‘Source and Application of Funds Statement’, the term ‘Funds’ mean ‘working capital’.

This statement shows the increase or decrease of working capital during a specified period. Further, this statement provides information for the causes or reasons for increase / decrease of working capital. From which sources, working capital is raised or to what purposes there has been diversion of working capital is known from this statement.

In other words, the story behind the change in the financial position between the beginning and end of a period is known.

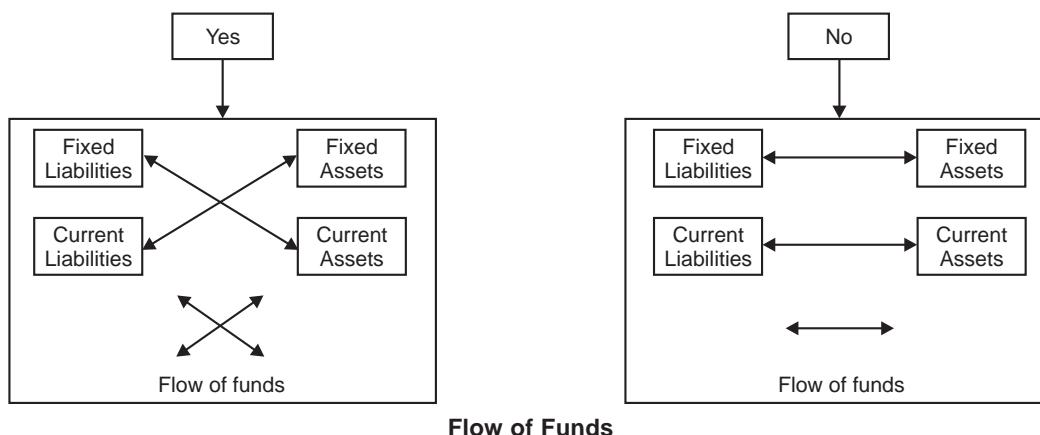
10.3 MEANING OF FLOW OF FUNDS

The term ‘Flow’ refers to movement of funds. The movement can be in the form of increase or decrease of funds i.e. working capital. If a transaction creates a change in the quantum of working capital, ‘flow’ of funds takes place. The transaction may increase or decrease the existing amount of working capital. Every transaction has two sides. Let us take some examples to explain the concept of flow of funds. Issue of shares for cash results in increase of working capital, it is a transaction of ‘Source’. The transaction has resulted in ‘inflow’ of funds. Purchase of furniture on credit reduces the amount of working capital; it is ‘Application’ of funds. There is outflow of funds with the transaction.

There would be change in working capital, if one of the items is related to current assets or current liabilities. Ask the transaction whether it would result in change – increase or decrease working capital. If the answer is yes, the transaction finds a place in “Working Capital Statement”.

If the transaction does not change the amount of working capital, it is said to be non-fund transaction and does not appear in the Sources and Uses of Funds Statement. In a non-fund transaction, both the items are non-current or current items. We are referring to current assets and current liabilities. When machinery has been purchased and in consideration debentures are issued, the transaction has not changed the working capital as both the items are non-current. It is a non-fund transaction. If cash is realised from debtors, there is no increase in working capital as both the items are current items. These types of transactions do not appear in the sources and application of funds statement.

Simple Rule: The simple rule is “Ask the transaction, whether it changes working capital”, if it is ‘YES’, the transaction finds a place in Sources and Application of Funds. If the answer is ‘NO’, no place for the transaction in the Statement.



10.4 MEANING & OBJECTIVES - FUNDS FLOW STATEMENT

Meaning and Definition: Funds Flow Statement is a device that indicates the various means through which funds have been obtained, during a specified period and the ways they have been used. Simply, it shows the different sources of procuring funds and their varied application during that period. It shows the inflow and outflow of funds.

The term 'funds' refer to working capital. Funds Flow Statement shows the change in financial position of a firm between beginning and ending financial statement dates.

Foulke defines this statement as:

"A statement of sources and application of funds is a device designed to analyse the changes in financial condition of a business enterprise between two dates".

The statement has two sides, the left side shows the sources and the right side presents their uses.

The statement is an important tool for financial analysis for the management, bankers and investors who are interested in knowing the changes in the financial position of the firm. It is a supplement to the financial statements. Banks insist on this statement as and when loan application is submitted for financial assistance.

Now, Funds Flow Statement is a mandatory requirement of reporting in India for limited companies.

Funds Flow Statement is called by various names such as:

- (i) Statement of Sources and Uses of Funds
- (ii) Where got, where gone Statement
- (iii) Statement of Inflow and Outflow of Funds
- (iv) Funds Received and Funds Disbursed Statement
- (v) Statement of Sources and Applications of Funds

As observed rightly, the key word is 'Funds'.

Importance and Objectives of Funds Flow Statement: This statement is widely used by the financial institutions, banks, credit rating agencies and management. By preparing the statement, the management can know well, in advance, about the adequacy or otherwise of working capital position for proper planning.

1. Analysis of Financial Position and Profits: Balance sheet is a static statement about the financial position, on a particular date. It shows the net effect of various transactions on the operational and financial position of a concern. It does not explain the causes for the change in assets and liabilities, between two different dates.

The fund's flow statement explains its effect on the liquidity position of the organisation. At times, even after the firm is profitable, still, it experiences

difficulty in meeting normal payments. Firm does not understand reasons for such a situation. Sources and Application of Funds gives the answers for these questions.

2. **Throws light on perplex questions:** Questions of general interest but answers not available, elsewhere, are found from this statement such as:
 - (i) Why firm is not able to declare higher dividend, despite increase in profits?
 - (ii) Where the proceeds of shares and debentures have gone?
 - (iii) In what manner, the sale proceeds of fixed assets have been used?
 - (iv) What are the sources of repayment of long-term debts?
 - (v) How the increase in working capital requirement was financed and how further requirements would be met?
3. **Information of Profit from operations and non-operations:** Profit and Loss Account shows the summary or net effect of operating and non-operating expenses, in the form of net profit. In other words, operating and non-operating profit is not calculated and shown separately.

Firm may be in net profit, due to non-operation profit, even after offsetting the operating losses. This alarming picture is not known from the profit and loss account for timely action. Funds Flow Statement shows the operating and non-operating profit, separately, that helps timely managerial action.
4. **Management of Working Capital:** Statement of changes in working capital reveals to management the ways in which working capital was obtained and used in the past. Projections are always prepared by the management to achieve future plans.

A projected statement of working capital may reveal the need of large amount of working capital. In case, the firm is not able to meet the future working capital needs from internal resources, it can plan, in advance, to procure to meet its needs.
5. **Helps in Borrowing Decision:** Nowadays, banks and other financial institutions insist on the submission of Funds Flow Statement, along with loan application. This helps the bank to assess the working capital needs of the firm.

Based on this statement, banks consider whether to sanction working capital limits or not and if so to what extent, the limit is to be sanctioned. This statement also facilitates the long-term institutions to appreciate the means of the firm for repaying the installment on long-term debt. This is a necessary statement both for commercial banks and long-term institutions, while assessing the borrowing needs of the firm.
6. **Knowledge of Sources and Uses:** Sources in the Funds Flow Statement provide knowledge in respect of the various ways, funds have been raised. In a similar manner,

information in respect of Applications or uses gives knowledge about the different ways in which the funds of the firm have been used. Firm may be able to plan future course of action with the information.

7. **Other Information:** Funds Flow Statement provides that information that is not precisely, available in the financial statements. If the firm purchases building and sells the same in the same accounting year for loss, the transaction does not appear in the Balance Sheet hence it would not be known. For this reason, Funds Flow Statement is always needed as a supplementary statement.

10.5 UTILITY OF FUNDS FLOW STATEMENT TO DIFFERENT PARTIES

The versatile utility of Funds Flow Statement to different parties can be summarised as follows:

1. **Management:** The historical Funds Flow Statement (Statements of the earlier years) provides the information how the funds were made available and their use in the past. They provide the means to understand why the targets of the earlier years were not achieved. That would be useful information to avoid recurrence, in future. Funds Flow Statements can be prepared for future too. Planning can be more effective with their help.

Funds Flow Statements provide the necessary hints to the management, whether it is necessary for them to review and recast their plans, in a more realistic way, in case the future inflows are not adequate to meet the anticipated outflows.

2. **Financial Institutions:** Commercial banks require them to assess the working capital needs of the firm. Term-lending institutions want to satisfy the repayment capacity of the firm. Funds Flow Statement provides the information how the firm used the funds, earlier. Instances of diversion of sanctioned working capital for acquisition of fixed assets, contrary to the terms of sanction, would be known. The lenders would know firm's style of functioning.

Instances are abundant, where working capital limits, sanctioned by banks, are used for purchase of luxurious cars and personal use. Funds Flow Statements show these types of diversion of funds.

The borrowings may be secured by the assets, but the financial institutions want to satisfy with the financial integrity of the borrower too. **Financial institutions would know the ways the funds were used, earlier, and future ways of use to judge their repaying ability.**

3. **Debenture holders:** Debenture holders too are long-term creditors of the firm. Their stake is similar to financial institutions. They would get back their money after several years, dependant on the maturity period of the debentures. **Funds Flow Statement shows the position of availability of funds, when the debentures fall due for repayment.** To continue to hold the debentures till such time or not, Funds Flow Statement is useful for them to take a suitable decision.

4. **Trade Creditors:** They are the suppliers of goods and services and look for short-term liquidity for payment. Liquidity of the firm and operating profits assure the repayment schedule. **Statement of Working Capital Position indicates how far the firm is liquid to meet the promised payment schedule to review their credit policy.**
5. **Shareholders:** Shareholders are, basically, interested about the financial position of the firm and their future investment plans that generate operating profits. This holds well to the existing as well as potential shareholders. **Future investment plans and the operating profits that are likely to generate would be known from the Funds Flow Statement.**

10.6 SOURCES OF FUNDS

The following are the sources through which funds come into the business of the firm.

1. **Funds from operations:** Profits from business is the main source of funds. Profit does not mean the amount that is shown in the profit and loss account. When profit and loss account is prepared, several operating and non-operating expenses are debited. Similarly, operating and non-operating incomes are also credited.

Non-operating item is one, which is not connected with the conduct of the business. Examples are loss on sale of assets, preliminary expenses written off and rent from building, not connected to the business.

Adjustment is necessary to arrive at the correct profit from business operations. To arrive at operating income, non-operating expenses are to be added and non-operating income is to be deducted from the amount of profit shown in profit and loss account.

Profit from operations is the source as funds are received into the business.

2. **Sale of Fixed Assets:** If any fixed asset such as land, building, plant and machinery is sold, the total sale proceeds are a source. Sale of fixed assets increases the working capital. However, if one non-current asset (Fixed asset) is exchanged for another non-current asset, it does not constitute inflow/outflow of funds, as there is no change in working capital.
3. **Issue of Shares and Debentures:** When shares and debentures are issued to be public and cash is received, the amount of cash received is a source. The important point is, if cash is received then only it is a source. In the following instances, it is not to be treated as source:
 - (A) Issue of shares and debentures for consideration, other than current assets.
 - (B) Conversion of debentures and loans into shares.
 - (C) Issue of bonus shares or making partly paid shares as fully paid shares out of the accumulated profits.
- The reason is simple. Such above instances do not increase the working capital.
4. **Increase in Long-term Loans:** Long-term loans from financial institutions and banks are a source as they increase the availability of funds.

5. **Decrease in Working Capital:** If the working capital at the end of the period is decreased, compared to the amount at the beginning of the period, it is a source. This can happen due to reduction of current assets or increase of current liabilities. If stock Rs. 60,000 is reduced to Rs.40,000, working capital is decreased by Rs. 20,000 and the decrease is a source. Similarly, creditors may increase from Rs. 10,000 to Rs. 15,000 and the effect is reduction of working capital by Rs. 5,000. Decrease of working capital is a source of funds.
6. **Non-Trading Receipts:** Non-trading receipts like dividend and rent are also credited to profit and loss account. These items are deducted from the net profit to arrive at profit from business operations. So, these items are to be shown, separately, in the Funds Flow Statement, as they are also sources of funds, not included in the funds from operations.

10.7 IS DEPRECIATION A SOURCE OF FUNDS?

Depreciation means decrease in the value of an asset due to wear and tear, passage of time, obsolescence, exhaustion and accident. It is a part of capital cost of fixed asset, spread over the life of the asset. Depreciation is taken as an operating expense, while arriving at true profits of a business. Depreciation is, simply, a book entry to arrive at book profits. Depreciation is a non-cash item.

It is a myth, depreciation is a source. People misunderstand depreciation as a source as it is added to net profits to calculate funds from operations. Funds (Working capital or cash) are provided by revenues, but not by depreciation. Depreciation does not affect current assets or current liabilities. Preliminary expenses and goodwill written off are also added to net profits as these transactions do not result in any outflow of cash with them. The same treatment is extended to depreciation, while adding back to net profits to arrive at funds from operations.

Depreciation is neither a direct source nor application of funds. **To qualify to be a source, depreciation should increase quantum of working capital.** This is not happening. As depreciation is not decreasing working capital, it is also not an application of funds.

Another dimension, depreciation does not generate funds, but it saves funds. For example, if the firm takes the assets on hire, it has to pay rent for them. Payment of rent is avoided by owning assets, which would have resulted in the outflow of funds. So, ownership of assets has only saved funds, but not generated any new funds.

Depreciation is not a direct source of funds. Then, is it an indirect source of funds? The answer is both YES and NO. When it is an indirect source? If so, to what extent? These are the questions to be answered. Depreciation can be taken as an indirect source of funds, in a limited sense. It depends upon circumstances. If the firm is in profits, depreciation acts as a tax shield in helping the firm for reducing tax liability. Income tax permits depreciation as an admissible expenditure to the extent it is provided as per its rules. As a result, taxable profits are reduced and tax liability is reduced. So, to that extent, depreciation is a source.

Depreciation is a source to the extent tax liability is reduced. Due to depreciation, profits available for distribution of dividend gets reduced. But, more funds would be available to the business for expansion. In these circumstances, depreciation is a source. But, when the firm is in loss, question of tax payment does not rise. In those circumstances, depreciation is not a source.

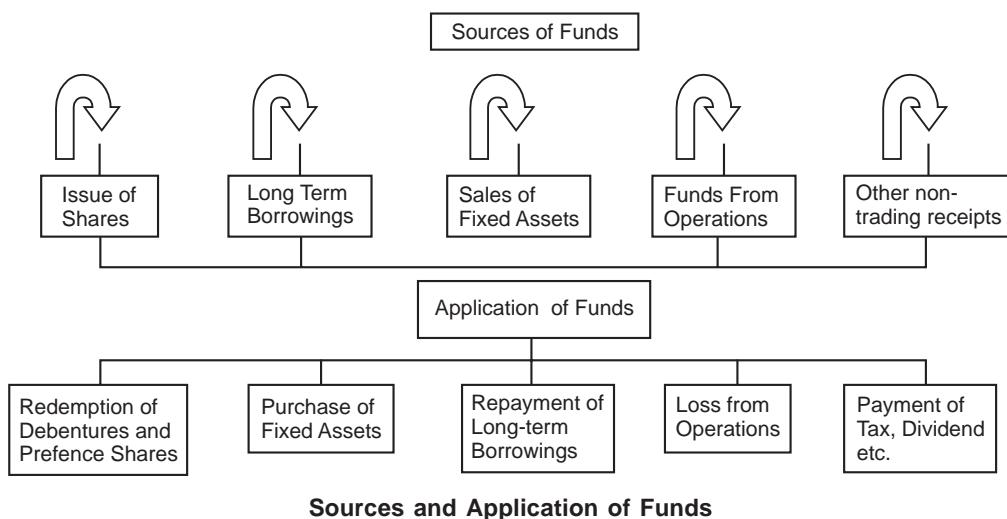
It can be said, with certainty, that depreciation is not a source of funds, directly. So, depreciation is only an indirect source to a limited extent, under certain circumstances.

Depreciation is an expense to be taken into account to arrive at accounting profit, but this has no relevance for calculation of funds from operations. For this reason, depreciation is added back to net profit to calculate funds from operations.

The above point can be understood with a simple example:

	Case I (Rs.)	Case II (Rs.)
Income before depreciation	80,000	80,000
Depreciation provided (A)	----	20,000
Taxable income	80,000	60,000
Income Tax Rate, say 50%	40,000	30,000
Net income after tax (B)	40,000	30,000
Net flow of funds after tax (A+B)	40,000	50,000

In case of II, funds from operations are Rs. 50,000, while they are only Rs. 40,000 in case of I. In case of II, depreciation is a source to the extent of Rs. 10,000 and these funds are, additionally, available to the firm for future expansion.



10.8 APPLICATION OR USES OF FUNDS

1. **Loss from Operations:** Result from trading operations may be loss in a year. Such loss of funds in trading amounts to an application or outflow of funds. Working capital would be the first casualty, if the firm sustains loss.
2. **Redemption of Preference Share Capital:** If preference shares are redeemed during a year, redemption decreases the funds and so it is an application. Where redemption happens at premium or discount, the net amount (including premium or after deducting discount) is the use. However, if preference shares are redeemed in exchange of some type of shares or debentures, it does not constitute outflow of funds as no fund is involved in the transaction.
3. **Repayment of loans or redemption of debentures:** Similar to redemption of preference shares, repayment of loan and redemption of debentures are also uses.
4. **Purchase of Fixed or non-current Asset:** Purchase of fixed assets such as machinery or building results in application of funds. However, purchase of fixed assets in consideration of issue of shares, debentures or loans is not use as no funds are involved.
5. **Payment of Dividend and Tax:** Payment of dividend (including interim dividend) and tax are applications. The important point is their actual payment, and then only they become uses. Mere declaration of dividend and provision of tax are not uses.
6. **Any other non-trading payments:** Any other non-trading payments are also uses as they involve outgo of funds. Examples are loss of cash or theft in business.

10.9 PROCEDURE FOR KNOWING WHETHER A TRANSACTION FINDS A PLACE IN FUNDS FLOW STATEMENT

1. Make out the journal entry and find out the accounts involved.
2. Decide whether the accounts concerned are current (concerned with current assets and current liabilities) or non-current (concerned with non-current assets and non-current liabilities).
3. If both the accounts involved are current i.e. either current assets or current liabilities, it does not result in the flow of funds.
4. If both the accounts are non-current, i.e. either permanent assets or permanent liabilities, the transaction still does not result in the flow of funds.
5. If one of the accounts is concerned with current and the other is non-current, the transaction results in flow of funds.

For the transaction to appear in Funds Flow Statement, it is necessary only one of the accounts in a transaction should be concerned with current assets or current liabilities. If both the accounts are current or non-current assets / liabilities, the transaction does not appear in Funds Flow Statement.

There is attraction between a male and female. In the normal course, there is no attraction between the specie of the same sex. In a similar manner, in a transaction, if both the accounts belong to the same category -current assets or liabilities - there is no funds flow. To appear in a Funds Flow Statement, one of the accounts only should belong to current assets / Current Liabilities.

Examples

Transaction	Journal Entry	Category of Debit Account	Category of Credit Account	Result- Flow of Funds or not-Reason
1. Cash collected from debtors	Cash A/c ...Dr To Sundry Debtors	Current	Current	NO, Both the accounts are current assets. Cash increases with similar decrease in debtors.
2. Goods purchased for cash or credit	Purchases ...Dr To Cash/Creditors A/c	Current	Current	NO, Both the accounts are current assets. Working capital remains same.
3. Purchase of machinery, in exchange of land	Machinery A/c ...Dr To Land A/c	Non-Current	Non-Current	NO, Both the accounts are non-current assets. Does not affect working capital.
4. Transfer to General Reserves	Profit & Loss A/c ...Dr To General Reserves	Non-Current	Non-Current	NO. Does not affect working capital.
5. Issue of Debentures for cash	Cash A/c ... Dr To Debentures	Current	Non-Current	YES. One is current asset and another is non-current liability. Cash inflow increases working capital.
6. Redemption of Debentures	Debentures A/c ...Dr To Cash	Non-Current	Current	YES. One is non-current

				liability and another is current asset. Cash outflow decreases working capital.
7. Purchase of Trade Investment	Trade Investment A/c.. Dr To Cash	Non-Current	Current	Yes. One is non-current asset and another is current asset. Cash outflow decreases working capital.
8. Writing off fictitious assets, say goodwill	Profit and Loss Account...Dr. To Goodwill Account	Non-Current	Non-Current	No. Both are non-current. Does not change working capital.

Illustration No. 1

State with reasons whether there is fund flow from that following transactions –

- (a) Purchase of machine for cash Rs. 20,000.
- (b) Sale of building Rs. 32,000. The original cost was Rs. 40,000 and accumulated depreciation was Rs. 24,000.
- (c) 1,000 shares of Rs. 10 each issued at 11 per share;
- (d) Goodwill written off out of profit Rs. 5,000;
- (e) Rs. 6,000 declared as divided on equity shares and paid.

(B.U. M.B.A. 2007)

Solution:

Transaction	Journal Entry	Category of Debit Account	Category of Credit Account	Result- Flow of Funds or not- Reason
(a) Purchase of machinery for cash	Machinery A/c ..Dr 20,000 To Cash 20,000	Non-current	Current	Yes. One is non-current asset and the other is current asset. Decreases working capital by Rs. 20,000.

(b) Sale proceeds of building, at profit	CashDr. 32,000 To Building 32,000	Current	Non-Current	Yes. One is current asset and the other is non-current asset. Increases working capital by Rs. 32,000.
(c) Issue of shares, at premium	CashDr 11,000 To Share Capital 10,000 Share Premium 1,000	Current Non-current Non-current	Non-current Non-current	Yes. One is current and the other accounts are non-current. Increases working capital by Rs. 11,000
(d) Goodwill written from profit	Profit and Loss A/c. Dr 5,000 To Goodwill 5,000	Non - current	Non-current	No. Both the accounts are non-current. Does not change working capital.
(e) Dividend declared from profits on equity share capital	Profit and Loss A/c .Dr. 6,000 To Cash 6,000	Non - current	Current	Yes. One account is non-current and the other is current. Decreases working capital by Rs. 6,000.

Impact of Opening Stock / Closing Stock on Funds: Opening stock appears on the debit side of the Profit and Loss Account. Opening stock reduces profit, so it is an application. Closing stock appears on the credit side of the profit and loss account and also appears on the assets side of the balance sheet. Profit is a source. Due to closing stock, profit increases. So, closing stock is a source. More so, working capital increases, due to its inclusion in the current assets. This is also another argument why closing stock is a source.

10.10 PREPARATION OF FUNDS FLOW STATEMENT

To prepare Funds Flow Statement, two statements are required to be prepared. They are Statement of Changes in Working Capital and Statement of Funds from Operations. All the information may not be readily available, always. Hidden information has to be found out. The entire process of preparation of Funds Flow Statement can be summarised, as under:

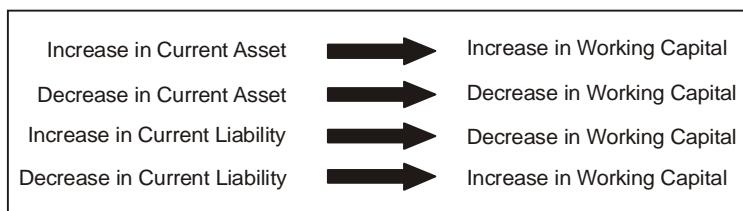
- (A) Statement of Changes in Working Capital
- (B) Calculation of Funds from Operations
- (C) Finding out hidden information, if required
- (D) Preparation of Funds Flow Statement

(A) Statement of Changes in Working Capital

Working capital is the excess of current assets over current liabilities. Every current asset at the end of the year is to be compared with the amount at the beginning of the year to calculate the increase or decrease of working capital. Increase or decrease of working capital is to be recorded in the relevant column. The same procedure is to be repeated in respect of all current liabilities.

All other information is not relevant for preparation of Statement of Changes in Working Capital.

Working capital = Current Assets – Current Liabilities



Effect on working capital

Illustration No. 2

Prepare a Statement of Changes in Working Capital from the following Balance Sheets of THEER & LTD. Bhopal.

	31st March, 2006	31st March, 2005
Assets		
Goodwill	20,000	15,000
Bank	70,000	60,000
Debtors	40,000	45,000
Bills Receivable	10,000	8,000
Closing Stock	20,000	22,000
Long-term Investments	5,000	3,000
Building	25,000	15,000
Preliminary Expenses	4,000	6,000
	1,94,000	1,74,000
Liabilities		
Trade Creditors	55,000	60,000
Bills Payable	30,000	25,000

Loans (Payable during 2007- Rs. 25,000)	40,000	-----
Equity Share Capital	50,000	80,000
Profit & Loss Account	19,000	9,000
	1,94,000	1,74,000

Solution:**Statement of Changes in Working Capital**

Particulars	2005	2006	Effect on Working Capital	
			Increase Rs.	Decrease Rs.
Current Assets:				
Bank	60,000	70,000	10,000	
Debtors	45,000	40,000		5,000
Bills Receivable	8,000	10,000	2,000	
Closing Stock	22,000	20,000		2,000
	1,35,000	1,40,000		
Current Liabilities:				
Trade Creditors	60,000	55,000	5,000	
Bills Payable	25,000	30,000		5,000
*Loans (Payable during 2007)	-----	25,000		25,000
	85,000	1,10,000		
Working Capital (CA- CL)	50,000	30,000		
Decrease in Working Capital		20,000	20,000	
	50,000	50,000	37,000	37,000

* **Note:** Out of the total Loan amount Rs. 40,000, only Rs.25,000 is repayable during the year 2007. Only Rs. 25,000 is current liability, as it becomes payable within one year and so working capital is affected to that extent only.

(B) Calculation of Funds from Operations

The net profit seen in the Profit and Loss Account need not necessarily be the funds from operations. Certain adjustments are to be made to get Funds from Operations. Follow the steps as under:

1. Take the net profit figure in Profit and Loss Account as the **BASE**.

2. **Depreciation:** Add back depreciation to the net profit, debited in the Profit and Loss Account, as it does not involve outflow of funds. Depreciation is an expense to be taken into account to arrive at accounting profit, but this has no relevance for calculation of funds from operations.
3. **Intangible Assets written off:** Add back expenses like preliminary expenses, discount on issue of shares and debentures, goodwill written off. These are intangible assets written off to arrive at profit, but does not involve outflow of funds.
4. **Incomes not related to Operations or Business:** These are the incomes that are not related to operations but included in Profit and Loss Account to arrive at net profit. These incomes – profit on sale of assets, income from investments and rent from buildings, not connected to business – are to be deducted from net profits.
5. **Non-operating Expenses:** Similarly, non-operating expenses like loss on sale of assets, loss due to theft debited to Profit and Loss Account are to be added back to net profit to arrive at Funds from Operations.

The intention of the exercise is to find out funds from operations. Instead of net profit, net loss may appear in Profit and Loss Account. Simply, follow a reverse procedure to arrive at funds from operations, in case loss is in Profit and Loss Account. This easy procedure is suggested for students who experience difficulty in appreciating the implication.

Income Statement or Profit and Loss Account is not given: If Income Statement or Profit and Loss Account is not given, information on net profit or loss may be, indirectly, given. Increase in General Reserve and Profit and Loss Accounts, balances appearing between opening and closing balance sheets, have to be taken as net profit for the period. Suitable adjustments are to be made for the dividend paid and issue of bonus shares, capitalising profits. Funds from operations can be calculated by preparing Profit and Loss Adjustment Account.

Funds Flow Statement can be prepared in two types:

1. Report Form
2. T Form or Account Form or Self-Balancing Type.

Illustration No. 3

From the following information, extracted from the Balance Sheets of Theer & Tarkh Ltd., calculate Funds from Operations:

	As on 31st March,2005 (Rs.)	As on 31st March,2006 (Rs.)
Share Capital	80,000	1,00,000
General Reserve	30,000	35,000
Profit and Loss Account	40,000	1,00,000
Depreciation Fund	15,000	18,000
Goodwill	15,000	10,000
Preliminary Expenses	3,000	2,000
Patents	10,000	8,000

Bonus shares have been issued for Rs.20,000 during 2005-06, capitalising profits from Profit and Loss Account. It is observed in the Profit and Loss Account that an income from sale of machinery Rs.6,000 has been received.

Solution:

Rs.	
Profit and Loss Account (as on 31 st March, 2006) – closing Balance	1,00,000
+ Increase in share capital (Bonus issue)	
Transferring from Profit and Loss A/c	20,000
+ Transfer to General Reserve	5,000
+ Provision for Depreciation	3,000
+ Goodwill written off	5,000
+ Preliminary Expenses written off	1,000
+ Patents written off	2,000
– Income from sale of machinery	6,000
	<u>1,30,000</u>
– Balance in Profit and Loss Account – opening balance	40,000
(As on 31 st March, 2005)	
Funds from Operations	<u>90,000</u>

The funds from operations can be found out in an alternative way by preparing Profit and Loss Adjustment Account.

Dr. Adjusted Profit and Loss Account Cr.

Particulars	Amount	Particulars	Amount
To Transfer to Capital Account (Bonus issue)	20,000	By Balance b/d	40,000
		By Income from sale of machinery	6,000
To Transfer to General Reserve	5,000	By Funds from Operations	90,000
To Depreciation Fund (Provision for Depreciation)	3,000		
To Goodwill written off	5,000		
To Preliminary Expenses written off	1,000		

To Patents Written off	2,000		
To Balance c/d	1,00,000		
	<hr/> 1,36,000		<hr/> 1,36,000

(C) Finding out hidden information

While preparing the Funds Flow Statement, one has to analyse the Balance Sheets given. At the end of balance sheets, certain information may be given as notes that give clues for the hidden information. The hidden information may relate to provision and payment of tax, purchase/sale of assets and issue/ redemption of shares and debentures.

1. **Provision for Taxation:** There are two ways of dealing with provision for Taxation.

- (i) As a current liability
- (ii) As an appropriation of profit
- (i) **As a current liability:** Provision for tax may be treated as current liability as tax, generally, is an immediate obligation of the firm to pay to the Government.

It is preferable to treat ‘Provision of tax’ as current liability as such treatment is simple as nothing, further, is to be done. This approach is recommended for students, if the problem does not stipulate any specific treatment.

When it is treated as current liability, provision for taxation will appear in the Schedule of Changes in Working Capital, like other current liabilities. No further treatment is needed in respect of payment of tax and provision of tax made during the year. There is no need to prepare provision for taxation account. The simple rules are as under:

- (i) In this case, payment of tax shall not be shown as an application of funds.
- (ii) Provision for tax made during the year is not to be added back to the profits to arrive at funds from operations.

The simple rule is to treat provision for tax as current liability and forget further treatment about this matter.

- (ii) **As an appropriation of Profit:** When provision for tax is treated as an appropriation of profit, follow the treatment as under:
 - (A) Do not treat ‘Provision for tax’ as current liability for working capital calculation. In other words, do not include in ‘Schedule of changes in Working Capital’.
 - (B) Show the payment of tax as Application in ‘Funds Flow Statement’.
 - (C) Add back ‘provision made for tax’ in the current year to the current year’s profit to get the operating profit.

So, information for tax payment and provision made for tax in the current year is necessary.

Illustration No. 4

The opening balance in the Provision for Taxation Account as on 1st January 2005 was Rs. 40,000 and the closing balance as on 31st December 2005 was Rs. 50,000. The taxes paid during the year amounted to Rs. 35,000. Show the treatment of the item in the Funds Flow Statement:

- (i) As Current Liability
- (ii) As Appropriation of Profit

Solution:**(i) When provision for taxation is treated as Current liability**

Provision for taxation is treated as current liability and is shown in the schedule of changes in working capital. No further effect on the Funds Flow Statement:

Schedule of Changes in Working Capital				
	1-1-2005 Rs.	31-12-2005 Rs.	Increase in Working Capital Rs.	Decrease in Working Capital Rs.
Current Liabilities				
Provision for Taxation	40,000	50,000		10,000

(ii) As Appropriation of Profit:

1. This item will not be shown in the Schedule of Changes in Working Capital.
2. Taxes paid during the year Rs. 35,000 is an Application of Funds and will appear on the application side of Funds Flow Statement.

Funds Flow Statement
for the year ended 31-12-2005

Sources	Rs.	Application	Rs.
		Payment of Tax	35,000

3. Provision for taxation made during the year Rs. 45,000 is calculated as below. This amount will be added back to net profit for finding Funds from Operations.

Calculation of Provision for Taxation made during the year

Opening balance of Provision for tax on 1-1-2005	40,000
Less : Tax paid during the year	35,000
	5,000
Closing balance of Provision on 31-12-2005	50,000
Provision made during the year	<u>45,000</u>

Dr.	Provision for Taxation A/c	Cr.
To Cash (tax paid)	35,000	By Balance b/d
To Balance c/d	50,000	By Adjusted P/LA/c (Provision made- Balancing figure)
	<hr/> 85,000	<hr/> 40,000 45,000
		<hr/> 85,000

Note: It is suggested to students to adopt 'Prepare Account' approach to find out the hidden information so that double entry concept can be applied, conveniently. More so, account preparation leaves no confusion about adding or subtracting the figures.

Proposed Dividend

Treatment of Proposed Dividend is similar to Provision for Taxation.

Proposed dividend can be treated as current liability or appropriation of profits.

- (i) **As Current Liability:** Dividend recommended for payment by Board of Directors is, normally, approved for payment at Annual General Meeting. Till it is approved, it is appropriation of profits and after approval, it is an obligation on the part of company to make payment, so it is a current liability. **Students are advised to treat the amount of proposed dividend as current liability as the treatment is simple.** Show the amount as current liability in the Schedule of Changes in Working Capital. Information in respect of provision and its payment are to be ignored. Provision should not be added back to the net profits and payment should not be shown in application.
- (ii) **As non-current Liability:** As proposed dividend is an appropriation of profit, it is not a current liability. Hence, the amount is not to be included in the Schedule of Changes in Working Capital. The appropriation of dividend, made during the year, is to be added back to net profits to calculate funds from operations. Actual dividend payment is to be shown as application in Funds Flow Statement.

Treatment of Proposed Dividend is similar to provision for Taxation.

Interim Dividend: The expression 'Interim dividend' denotes dividend paid to shareholders of the company during the financial year, before the finalisation of accounts. This is the dividend paid or declared between two Annual General Meetings. Interim dividend should be added back to the figure of net profits (or debited to Profit and Loss Adjustment Account) to arrive at Funds from Operations. However, if the closing balance in the profit and loss account is given after payment of interim dividend, this adjustment is not required. To ascertain whether the closing balance in the Profit and Loss Account is after or before payment of interim dividend, it is desirable to prepare the Profit and Loss Account and incorporate the adjustments to find out the picture. Interim dividend is to be shown as an Application of funds.

Illustration No. 5

From the following Balance Sheets as on 31st March, 2005 and 31st March, 2006, prepare a Schedule of Changes in the Working Capital and Funds Flow Statement taking:

- (i) the provision for tax and proposed dividend as current liabilities and
- (ii) the provision for tax and proposed dividend as non-current liabilities.

BALANCE SHEET

Liabilities	31-12-2005	31-12-2006	Assets	31-12-2005	31-12-2006
	Rs.	Rs.		Rs.	Rs.
Share Capital	1,00,000	1,50,000	Fixed Assets	1,00,000	1,55,000
Profit and Loss Account	4,000	6,000	Current Assets	13,000	14,500
Provision for tax	2,000	3,000			
Proposed Dividends	1,000	1,500			
Sundry Creditors	4,000	6,000			
Outstanding expenses	2,000	3,000			
	1,13,000	1,69,500		1,13,000	1,69,500

Additional information:

- 1. Tax paid during 2006 Rs.2,500
- 2. Dividends paid during 2006 Rs.1,000

Solution:

- (i) When provision for tax and proposed dividends are taken as current liabilities.

Schedule of Changes in Working Capital

Particulars	31-12-2005	31-12-2006	Effect on Working capital	
			Increase(+) Rs.	Decrease(-) Rs.
Current Assets	13,000	14,500	1,500	
Current Liabilities				

Sundry creditors	4,000	6,000		2,000
Outstanding expenses	2,000	3,000		1,000
Provision for tax	2,000	3,000		1,000
Proposed Dividends	1,000	1,500		500
Total Current Liabilities	9,000	13,500		
Net Working Capital (CA- CL)	4,000	1,000		
Decrease in Working Capital		3,000	3,000	
	4,000	4,000	4,500	4,500

**Funds Flow Statement
for the year ended 31-12-2006**

Sources	Rs.	Application	Rs.
Increase in share capital	50,000	Purchase of Fixed Assets	55,000
Funds from operations	2,000		
Decrease in Working Capital	3,000		
	55,000		55,000

- (ii) When provision for tax and proposed dividends are taken as non-current liabilities:

Schedule of Changes in Working Capital

Particulars	31-12-2005	31-12-2006	Effect on Working capital	
			Increase(+) Rs.	Decrease(-) Rs.
Current Assets	13,000	14,500	1,500	
Current Liabilities				
Sundry creditors	4,000	6,000		2,000
Outstanding expenses	2,000	3,000		1,000
Total Current Liabilities	6,000	9,000		

Net Working Capital (CA- CL)	7,000	5,500		
Decrease in Working Capital		1,500	1,500	
	7,000	7,000	3,000	3,000

Provision for Tax

Dr.	Cr.		
To Cash (Tax Paid)	2,500	By Balance b/d	2,000
To Balance c/d	3,000	By P & L Adjustment A/c (Balancing figure)	3,500
	<u>5,500</u>		<u>5,500</u>

Profit and Loss Adjustment Account

Dr.	Cr.		
To Provision for Tax	3,500	By Balance b/d	4,000
To Proposed Dividend	1,500	By Funds from Operations (Balancing figure)	7,000
To Balance b/d	6,000		
	<u>11,000</u>		<u>11,000</u>

Proposed Dividend Account

Dr.	Cr.		
To Cash	1,000	By Balance b/d	1,000
To Balance c/d	1,500	By Profit and Loss Adjustment A/c	1,500
	<u>2,500</u>		<u>2,500</u>

**Funds Flow Statement
for the year ended 31-12-2006**

Sources	Rs.	Application	Rs.
Increase in share capital	50,000	Purchase of Fixed Assets	55,000
Funds from operations	7,000	Tax Paid	2,500
Decrease in Working Capital	1,500	Dividend Paid	1,000
	<u>58,500</u>		<u>58,500</u>

Illustration No. 6

The comparative Balance Sheets Kalyan & Kishore Ltd are indicated in a condensed form as under:

Liabilities	31-3-06	31-3-05	Assets	31-3-06	31-3-05
	Rs.	Rs.		Rs.	Rs.
Share Capital	4,00000	3,60,000	Fixed Assets	5,20,000	4,80,000
General Reserve	60,000	1,10,000	Less: Depreciation	1,40,000	1,08,000
Profit & Loss Account	53,450	20,450		3,80,000	3,72,000
Sundry Creditors	1,75,350	1,83,650	Investments	50,000	1,00,000
Proposed Dividend	15,000	28,800	Debtors	1,67,800	1,18,300
Provision for Tax	32,000	-----	Stock	90,500	55,600
			Bank Balance	47,500	49,800
			Preliminary Expenses	-----	7,200
	7,35,800	7,02,900		7,35,800	7,02,900

Additional information:

1. The net profit for the year 2005-06 (after providing depreciation Rs. 40,000, writing off preliminary expenses of Rs. 7,200 and making provision for tax Rs.32,000) amounted to Rs.58,000.
2. The company sold during the year, an old machinery costing Rs. 9,000 for Rs. 3,000. The accumulated depreciation on the said machinery was Rs. 8,000.
3. A portion of company's investments became worthless and was written off to General Reserve during the year. The cost of such investment was Rs. 50,000.
4. During the year, the company paid an interim dividend of Rs. 10,000 and the directors have recommended final dividend of Rs. 15,000 for the current year.

Treat proposed dividend as non-current liability and prepare the Schedule of Change in Working Capital and the Funds Flow Statement.

Solution:

Schedule of Change in Working Capital

Particulars	As on 31-3-2005	As on 31-3-2006	Increase in Working Capital	Decrease in Working Capital
Current Assets				
Debtors	1,18,300	1,67,800	49,500	
Stock	55,600	90,500	34,900	
Bank Balance	49,800	47,500		2,300
Total Current Assets	2,23,700	3,05,800		
Current Liabilities				
Creditors	1,83,650	1,75,350	8,300	
Total Current Liabilities	1,83,650	1,75,350		
Working Capital (CA-CL)	40,050	1,30,450		
Net Increase in Working Capital	90,400			90,400
	1,30,450	1,30,450	92,700	92,700

Dr.	Fixed Assets Account	Cr.
To opening Balance b/d	4,80,000	By Sale of Old Machinery Account 9,000
To Cash- Purchase of Assets (Balancing figure)	49,000	By Closing Balance c/d 5,20,000
	<u>5,29,000</u>	<u>5,29,000</u>

Dr.	Sale of Old Machinery Account	Cr.
To Fixed Assets Account	9,000	By Cash (Sale Amount) 3,000
To Profit on sale of Machinery	2,000	By Depreciation Account 8,000
	<u>11,000</u>	<u>11,000</u>

Dr.	Depreciation Account		Cr.
To Old Machinery Account	8,000	By Opening Balance b/d	1,08,000
To Closing Balance c/d	1,40,000	By Depreciation for the year	40,000
	<u>1,48,000</u>		<u>1,48,000</u>

Dr.	Profit and Loss Adjustment Account		Cr.
To Proposed Dividend (2006)	15,000	By Opening Balance	20,450
To Interim Dividend paid	10,000	By Net Profit for the year	58,000
To Closing Balance	53,450		
	<u>78,450</u>		<u>78,450</u>

Funds from Operations

Net Profit for the year 1998	58,000		
Add:			
Depreciation	40,000		
Preliminary Expenses written off	7,200		
Provision for Tax	32,000		1,37,200
Less :			
Profit on Sale of Machinery			2,000
Funds from Operations			<u>1,35,200</u>

Source & Application of Funds

Sources	Rs.	Application	Rs.
Sale of old Machinery	3,000	Purchase of Assets	49,000
Funds from Operations	1,35,200	Payment of Dividends:	
Issue of Share Capital	40,000	Interim Dividend	10,000
		Final Dividend	28,800
		Increase in Working Capital	90,400
	<u>1,78,200</u>		<u>1,78,200</u>

Note:

1. Profit and Loss Adjustment Account has been prepared to show that interim dividend and proposed dividend for the year 2006 have been appropriated.
2. The balance in the profit and loss account at the end of 2006 is after payment of interim dividend and provision for proposed dividend for the year 2006. To confirm that the closing balance in the Profit and Loss Account is after payment of interim dividend, Profit and Loss Adjustment Account is prepared and the adjustments have been incorporated.

Illustration No. 7

The following information has been taken from the Balance Sheet of Tarkh & Company, Indore.

	31 st March, 2005	31 st March, 2006
	Rs.	Rs.
Machinery	1,00,000	2,70,000
Accumulated Depreciation	45,000	60,000
Profit and Loss Account	15,000	40,000

The following additional information is also available:

- (i) A machine costing Rs. 15,000 was purchased during the year by issue of equity shares.
- (ii) On January 1st 2005, a machine costing Rs. 25,000 (with an accumulated depreciation of Rs. 10,000) was sold for Rs. 22,000.

Find out sources/application of funds.

Solution:

Dr.	Machinery Account		Cr.
	Rs.		Rs.
To Balance b/d	1,00,000	By Sale of machinery A/c	25,000
To Share Capital	15,000		
To Cash- Purchase of machinery (Balancing figure)	1,80,000 <hr style="width: 100px; margin-left: 0; border: 0; border-top: 1px solid black;"/> 2,95,000	By balance c/d	2,70,000 <hr style="width: 100px; margin-left: 0; border: 0; border-top: 1px solid black;"/> 2,95,000

Dr.	Accumulated Depreciation A/c		Cr.
	Rs.		Rs.
To Sale of Machinery A/c	10,000	By Balance b/d By Adjusted P/L A/c (Balancing figure)	45,000 25,000**
To Balance c/d	60,000 <hr style="width: 100px; margin-left: 0; border: 0; border-top: 1px solid black;"/> 70,000		70,000

Dr.	Sale of Machinery Account		Cr.
To Machinery Account	25,000	By Depreciation	10,000
To Profit and Loss Adjustment Account	7,000	By Cash (sale of machinery)	22,000
	<u>32,000</u>		<u>32,000</u>
Dr.	Adjusted Profit and Loss Account		Cr.
	Rs.		Rs.
To Accumulated Depreciation A/c	25,000**	By Balance b/d	15,000
To Balance c/d	40,000	By sale of Machinery A/c (Profit on sale)	7,000
		By Funds from Operations	43,000
	<u>65,000</u>		<u>65,000</u>

** represents depreciation provided during the year

1. Purchase of Machinery for Rs.15,000 by issue of equity shares is neither a source nor an application of funds.
2. Sale of Machinery Rs. 22,000 is a source of funds.
3. Funds from Operations Rs. 43,000 are a source of funds.
4. Purchase of machinery by cash Rs. 1,80,000 is an Application of funds.

Illustration No. 8

The following relevant information has been extracted from the following Balance Sheets:

	As on 31 st December, 2005 Rs.	As on 31 st December, 2006 Rs.
Equity Share Capital	6,00,000	10,00,000
Preference Share Capital	3,00,000	4,50,000

Additional Information:

1. Equity shares were issued during the year for purchase of Building for Rs. 2,50,000.
2. 9% Preference Share Capital value Rs. 1,75,000 was redeemed during the year.

Prepare necessary accounts to find out Source/Application of Funds.

Solution:

Dr.	Equity Share Capital Account		Cr.
	Rs.		Rs.
To Balance c/d	10,00,000	By Balance b/d By Building A/c By Cash (Issue of shares-Balancing figure)	6,00,000 2,50,000 1,50,000
	<u>10,00,000</u>		<u>10,00,000</u>

Dr.	9% Preference Share Capital Account		Cr.
	Rs.		Rs.
To Cash (Redemption of shares)	1,75,000	By Balance b/d	3,00,000
To Balance c/d	4,50,000	By Cash (Issue of shares-Balancing figure)	3,25,000
	<u>6,25,000</u>		<u>6,25,000</u>

1. Issue of Equity Shares against purchase of Building Rs. 2,50,000 is neither a source nor application of funds. Issue of shares for Rs. 1,50,000 is a source.
2. Redemption of Preference Shares Rs. 1,75,000 is an application of funds.
3. Issue of Preference Shares Rs. 3,25,000 is a source of funds.

Issue of Shares, other than cash: If shares are issued for cash, proceeds from issue of shares are a source. If shares are issued for acquiring non-current assets like fixed assets, the transaction is totally ignored, as the transaction does not appear, anywhere, in Sources and Application of Funds. However, the typical question comes when shares are issued for acquiring current assets as well as non-current assets, how the transaction is to be presented? Total value of the amount of shares issued is to be shown as a source. The current assets acquired increase working capital and the increased working capital is shown as application of funds. The non-current assets acquired too are to be shown as application.

The following problem explains the method of presentation.

Illustration No. 9

Prepare Statement Showing Changes in Working Capital and Source & Application of Funds from the following information:

	March,2005	March,2006
Creditors	1,40,000	1,30,000
Bills payable	40,000	30,000

Bank overdraft	50,000	----
Income Tax provision	75,000	65,000
Reserves	80,000	80,000
P & L Account	84,000	28,000
Share capital	5,00,000	6,00,000
	9,69,000	9,33,000
Cash in hand	50,000	70,000
Cash at bank	1,00,000	1,20,000
Debtors	1,65,000	1,00,000
Prepaid expenses	4,000	3,000
Stock	1,50,000	1,00,000
Fixed assets	5,00,000	4,80,000
Goodwill	----	60,000
	9,69,000	9,33,000

The following information was obtained:

- (i) In 2006, a dividend of Rs. 84,000 was paid.
- (ii) Assets of another firm were purchased at Rs. 1,00,000, payable in 10,000 shares of Rs. 10 each. The assets included stock Rs. 10,000; fixed assets Rs. 30,000; and goodwill Rs. 60,000.
- (iii) Income tax paid in 2006 was Rs. 10,000.
- (iv) Net profit in 2006 was Rs. 28,000.

Solution:

Statement Showing Changes In Working Capital

	As on 31.3.05	As on 31.3.06	Increase in Working Capital	Decrease in Working Capital
Current Assets:				
Stock	1,50,000	1,00,000		50,000
Debtors	1,65,000	1,00,000		65,000
Cash in hand	50,000	70,000	20,000	
Cash at bank	1,00,000	1,20,000	20,000	
Prepaid expenses	4,000	3,000		1,000
	4,69,000	3,93,000		

Current Liabilities				
Creditors	1,40,000	1,30,000	10,000	
Bills payable	40,000	30,000	10,000	
Bills overdraft	50,000	--	50,000	
Income-tax provision	75,000	65,000	10,000	
	3,05,000	2,25,000		
Working capital	1,64,000	1,68,000		
Increase in working Capital	4,000			4,000
	1,68,000	1,68,000	1,20,000	1,20,000

Dr.	Fixed Assets Account		Cr.
To Opening Balance	5,00,000	By Depreciation (Balancing figure)	50,000
To Additions	30,000	By Balance c/d	4,80,000
	<u>5,30,000</u>		<u>5,30,000</u>

Dr.	Income Tax Provision Account		Cr.
To cash	10,000	By Balance b/d	75,000
To Balance c/d	65,000		
	<u>75,000</u>		<u>75,000</u>

Funds from Operations (Rs.)

Net Profits	28,000
Add : Depreciation	50,000
Funds from Operations	<u>78,000</u>

Statement of Sources and Application of Funds

Sources	Rs.	Application	Rs.
Funds from Operations	78,000	Increase in Fixed Assets	30,000
Issue of Shares	1,00,000*	Goodwill	60,000
		Cash Dividends	84,000
		Increase in working capital	4,000
	<u>1,78,000</u>		<u>1,78,000</u>

Note: Balance in Profit and Loss Account at the end of 31st March, 2005 is Rs. 84,000. The amount is totally paid as dividend, hence shown as Application. There is no balance left out for the previous year's profit. Net Profit for the year 2006 is Rs. 28,000 , which is the balance in the Profit and Loss Account at the end of March, 2006.

*This represents the total value of shares acquired in consideration of stock Rs. 10,000 included the current assets shown in Schedule of Changes in Working Capital and non-current assets acquired shown as application.

Tip to Students: When shares are issued for acquiring current and non-current assets, the whole transaction has to be taken.

Treatment of Investments

Investments: Treatment of investments depends on the nature of investments purchased. i.e. current assets or fixed assets. They can be temporary investments or permanent investments.

Temporary Investments: When a firm has temporary excess funds, it is normal to purchase temporary investments. They are to be treated as current assets. They find a place in Schedule of Changes in Working Capital and they are to be treated like any other current assets. Just like any other current assets, they do not appear in Funds Flow Statement. **Dividend received on such investments is treated like business income.** Loss/profit on sale of such investments is like any other business loss/profit and is to be shown in Profit and Loss Account. If the amount is credited to Profit and Loss Account, it does not appear in Profit and Loss Adjustment account, again, as no adjustment is needed.

Long-term or non-current, Trade Investments: They are to be treated like fixed assets or non-current assets. As they are not current assets, they should not appear in the Schedule of Changes in Working Capital. If investments are purchased on the basis of 'cum-dividend', pre-acquisition dividend as and when received, subsequently, is to be credited to Trade Investment Account. Reason is the price of investments, paid, includes the amount of dividend, to be received later. Here, dividend has been declared and the due date for receipt of dividend has not yet lapsed. Investments are to appear at cost. For this reason, dividend declared but not received is to be credited to the Investment Account. Investment Account has to be prepared to find out investments purchased or sold and profit/loss on sale/purchase of investment, if any.

Purchase of investment is to be treated as Application and sale as a source of funds. **Dividend received on these investments is not normal business income and is not to be credited to Profit and Loss Account.** This dividend amount is to be deducted from net profit to arrive at funds from operations. In case dividend is credited, the amount should be credited to Profit and Loss Adjustment Account to arrive at funds from operations.

The following problem explains the treatment of trade investments (fixed asset or non-current asset).

Illustration No. 10

From the following balance sheets of Beta Limited, make out

- (i) Statement of changes in Working capital and
- (ii) Funds Flow Statement:

BALANCE SHEETS

Liabilities	2001	2002	Assets	2001	2002
	(Rs.)	(Rs.)		(Rs.)	(Rs.)
Equity Capital Share	3,00,000	4,00,000	Goodwill	1,00,000	80,000
8% Redeemable Preference Share Capital	1,50,000	1,00,000	Land&Building	2,00,000	1,70,000
Capital Reserve	-	20,000	Plant	80,000	2,00,000
General Reserve	40,000	50,000	Investments	20,000	30,000
Profit & Loss Account	30,000	48,000	Sundry Debtors	1,40,000	1,70,000
Proposed Dividend	42,000	50,000	Stock	77,000	1,09,000
Sundry Creditors	25,000	47,000	Bills Receivable	20,000	30,000
Bills Payable	20,000	16,000	Cash in hand	15,000	10,000
Liabilities for Expenses	30,000	36,000	Cash at Bank	10,000	8,000
Provision for Taxation	40,000	50,000	Preliminary Expenses	15,000	10,000
	6,77,000	8,17,000		6,77,000	8,17,000

Notes:

1. A piece of land has been sold out in the year 2002 and profits on sales have been carried to capital Reserve.
2. A machine has been sold for Rs.10,000. The written down value of the machine was Rs.12,000. Depreciation of Rs.10,000 is charged on plant account in the year 2002.
3. The investments are trade investments. Rs. 3,000 by way of dividend is received including Rs.1,000 from pre-acquisition of profit, which had been credited to investments account.
4. An interim dividend of Rs.20,000 has been paid in the year 2002.

(M.B.A. –B.U., Bhopal 2003)

Statement of changes in Working capital

Particulars	2001	2002	Increase in Working Capital	Decrease in Working Capital
Current Assets				
Sundry Debtors	1,40,000	1,70,000	30,000	
Stock	77,000	1,09,000	32,000	

Bills Receivable	20,000	30,000	10,000	
Cash in hand	15,000	10,000		5,000
Cash at Bank	10,000	8,000		2,000
	2,62,000	3,27,000		
Current Liabilities				
Sundry Creditors	25,000	47,000		22,000
Bills Payable	20,000	16,000	4,000	
Liabilities for Expenses	30,000	36,000		6,000
Provision for Taxation	40,000	50,000		10,000
	1,15,000	1,49,000		
Working Capital	1,47,000	1,78,000	76,000	45,000
Increase in Working Capital	31,000			31,000
	1,78,000	1,78,000	76,000	76,000

Dr.	Trade Investments Account			Cr.
To Opening Balance b/d	20,000	By Dividend received (credited to this account)		1,000
To Purchase of Investments (Balancing figure)	11,000 <u>31,000</u>	By Closing Balance c/d		30,000 <u>31,000</u>

Dr.	Plant Account			Cr.
To Balance b/d	80,000	By Depreciation		10,000
To Machinery Purchased (Balancing)	1,42,000 <u>2,22,000</u>	By Cash (Sale of machine) By Loss on sale of Machine By Balance c/d		10,000 2,000 2,00,000 <u>2,22,000</u>

Dr.	Proposed Dividend Account			Cr.
To Cash (Payment of dividend)	42,000	By Balance b/d		42,000
To Balance c/d	50,000	By Profit and Loss Account		50,000
	<u>92,000</u>			<u>92,000</u>
Dr.	Adjusted Profit and Loss Account			Cr.
To General Reserve	10,000	By Balance		30,000
To Depreciation	10,000	By Dividend on Trade Investments		2,000
To Interim dividend	20,000	By Funds from Operations		1,33,000
To Loss on sale of machine	2,000			
To Preliminary expenses written off	5,000			
To Proposed Dividend Account	50,000			
To Goodwill Written off	20,000			
To Balance	48,000			
	<u>1,65,000</u>			<u>1,65,000</u>

Sources and Application of Funds

Sources	Rs.	Applications	Rs.
Sale of Land	50,000	Increase in Working Capital	31,000
Funds from Operations	1,33,000	Payment of Dividend	42,000
Sale of machine	10,000	Interim dividend paid	20,000
Dividend on Trade Investments	3,000	Redemption of 8% Redeemable Preference Shares	50,000
Issue of Equity Shares	1,00,000	Purchase of Machinery	1,42,000
	<u>2,96,000</u>	Purchase of Trade Investments	<u>11,000</u>
			<u>2,96,000</u>

Note:

1. Dividend received on Trade Investments is Rs.3,000. Out of Rs.3,000, only Rs.1,000 has been credited to Trade Investments Account. The balance amount Rs.2,000 has been credited to Profit and Loss Account. This is the interpretation of the problem. Many think Rs. 3,000 totally has been credited to Trade Investments Account. But, this is not so. Many a time, students' loose full marks, as answer would be different for incorrect interpretation.
2. The second part is reasoning for crediting part of dividend to Trade Investments Account. When trade investment is purchased on the basis of 'cum dividend', pre-acquisition dividend, subsequently received, is to be credited to Investment Account, as investment should appear at cost only.
3. Dividend received on investments (Fixed assets, non-current assets) is not operating income and so it is to be shown in Profit and Loss Adjustment account for calculating funds from operations. In other words, dividend is not part of normal business income.
4. Proposed Dividend has not been treated as current liability. It has been treated as appropriation of profit for better presentation. Interim dividend has been shown in application as the amount has been paid during the year. Another alternative way is to show proposed dividend as current liability. In that event, both proposed and interim dividends are not to be shown as application.

Revaluation of Fixed Assets

Sometimes fixed assets are revalued and profit or loss on such revalued assets is transferred to Profit and Loss Account. Such change in the value of fixed assets is neither inflow nor outflow of funds.

At times, the profit on revaluation of the fixed asset may be credited to Capital Reserve Account. There is no inflow or outflow of funds as both the accounts are non-current. So, the transaction does not appear in Source and Application of Funds.

The following illustration explains the presentation.

Illustration No. 11

In the following Balance Sheet, a part of machinery costing Rs.20,000 has been revalued at Rs.30,000 and transferred to Profit and Loss Account. Show the necessary accounts.

Liabilities	2005	2006	Assets	2005	2006
			Machinery	1,50,000	2,50,000

Solution:**Profit and Loss Adjustment Account**

Dr.			Cr.
		By Machinery Account (Profit on Revaluation of Machinery)	10,000

Machinery Account

To Balance b/d	1,50,000		
To Profit and Loss Adjustment Account (Profit on Revaluation of Machinery)	10,000		
To cash- Purchase of machinery (Balancing figure)	90,000	By Balance c/d	2,50,000
	<u>2,50,000</u>		<u>2,50,000</u>

Funds Flow Statement

Sources		Applications	
		Purchase of Machinery	90,000

Redemption of Debentures by issue of Shares: If debentures are redeemed by cash, redemption of debentures is to be shown as application of funds. Instead of redeeming by cash, shares may be issued for redemption of debentures. As both the items are non-current, neither issue of shares nor redemption of debentures appears in Source and Application of Funds.

Illustration No.12

You are given the Balance Sheets of Sandhya & Co. as at the end of 2005 and 2006 as under:

Liabilities	2005	2006	Assets	2005	2006
	Rs.	Rs.		Rs.	Rs.
Equity Share Capital	2,00,000	2,50,000	Building	2,00,000	2,00,000
Share Premium	----	5,000	Plant at cost	1,04,000	1,00,000
General Reserve	50,000	60,000	Furniture at cost	7,000	9,000
Profit & Loss Account	10,000	17,000	Investments at cost	60,000	80,000
8% Debentures	70,000	50,000	Debtors	30,000	70,000
Provision for depreciation on plant	50,000	56,000	Stock	60,000	65,000
Provision for depreciation on furniture	5,000	6,000	Cash	30,000	45,000
Provision for taxation	20,000	30,000			
Sundry Creditors	86,000	95,000			
	<u>4,91,000</u>	<u>5,69,000</u>			
				<u>4,91,000</u>	<u>5,69,000</u>

Equity shares were issued, at par, for redemption of debentures. A dividend of 10% on share capital, at the end of the year, was paid.

A plant purchased for Rs. 4,000 (Depreciation Rs. 2,000) was sold for cash for Rs. 800 during the year. An item of furniture was purchased for Rs. 2,000. These were the only transactions concerning fixed assets during 2006.

Treat Provision for Tax as non-current liability.

Prepare Schedule of Changes in Working Capital and Funds Flow Statement.

Solution:

SCHEDULE OF CHANGES IN WORKING CAPITAL

	2005	2006	Increase (+)	Decrease (-)
	Rs.	Rs.	Rs.	
Current Assets :				
Debtors	30,000	70,000	40,000	
Stock	60,000	65,000	5,000	
Cash	30,000	45,000	15,000	
	<u>1,20,000</u>	<u>1,80,000</u>		
Current Liabilities :				
Sundry Creditors	86,000	95,000		9,000
	<u>86,000</u>	<u>95,000</u>		
Working capital	34,000	85,000		
Increase in Working Capital	51,000			51,000
	85,000	85,000	60,000	60,000

FUNDS FLOW STATEMENT

Sources of Funds	Rs.	Applications of Funds	Rs.
Share Capital (including premium)	35,000	Purchase of Furniture	2,000
Sale of Plant	800	Dividend paid	25,000
Funds from Operations	82,200	Investments Purchased	20,000
		Tax paid	20,000
		Increase in Working Capital	51,000
	<u>1,18,000</u>		<u>1,18,000</u>

The increase in Working capital in Schedule of Changes in Working Capital is confirmed with the increase in working capital in Funds Flow Statement.

Note: Shares for Rs. 20,000 were issued at par for redemption of debentures. This transaction does not find a place in Funds Flow Statement and Schedule of Changes in Working Capital as both the items are non-current.

Working:

ADJUSTED PROFIT & LOSS ACCOUNT

To Dividend paid	Rs. 25,000	By Balance b/d	Rs. 10,000
To Provision for taxation	30,000	By Funds from operations	
To Transfer to General Reserve	10,000	(Balancing figure)	82,200
To Plant (Depreciation)	8,000		
To Furniture (Depreciation)	1,000		
To Loss on Sale of Plant	1,200		
To Balance c/d	17,000		
	<u>92,200</u>		<u>92,200</u>

PLANT ACCOUNT

Dr.	PLANT ACCOUNT	Cr.
To Balance b/d	Rs. 1,04,000	By Bank By P & L (loss on sale of plant) By Provision for Depreciation (on plant sold) By Balance c/d

FURNITURE ACCOUNT

Dr.	FURNITURE ACCOUNT	Cr.
To Balance b/d To Cash (balancing figure)	Rs. 7,000 2,000 <u>9,000</u>	By Balance c/d

PROVISION FOR DEPRECIATION ON FURNITURE

Dr.	PROVISION FOR DEPRECIATION ON FURNITURE	Cr.
To Balance b/d	Rs. 6,000	By Balance c/d By P & L A/c (depreciation charged for the year balancing figure)

Dr.	PROVISION FOR DEPRECIATION ON PLANT		Cr.
To Plant Account (Depreciation on plant sold)	Rs. 2,000	By Balance c/d	Rs. 50,000
To Balance c/d	56,000	By P & L A/c (depreciation charged for the year balancing figure)	8,000
	<u>58,000</u>		<u>58,000</u>

10.11 FUNDS FLOW STATEMENT, INCOME STATEMENT AND BALANCE SHEET

Funds flow statement is not a substitute of an income statement i.e. a profit and loss account and a balance sheet. Their purposes are different. Funds flow statement is not competitive but complementary to these financial statements.

Differences Between Funds Flow Statement and Income Statement

Base	Funds Flow Statement	Income Statement
1. Purpose	Shows the means the funds were obtained and ways these funds were used.	Find out profit or loss of the organisation.
2. Scope	Includes both capital and revenue items.	Only revenue items are considered.
3. Knowledge	Provides information on working capital and changes in financial position.	Depicts the items of expenses and income to arrive at profit or loss in business.
4. Format	No Prescribed format	Prescribed format exists for companies like insurance companies, banking companies and electricity companies.
5. Compulsory	A Voluntary statement in case of sole proprietor and partnership firms.	Compulsory to prepare even in the case of proprietor and partnership firms for submission before tax authorities. Compulsory in case of limited companies under Companies Act.
6. Period	Prepared for short intervals.	Prepared yearly and sometimes half-yearly.
7. Preparation	Complementary to Income Statement. Income statement helps the preparation of Funds Flow Statement.	Income Statement is not prepared from Funds Flow Statement.

Differences Between Funds Flow Statement and Balance Sheet

Base	Funds Flow Statement	Balance Sheet
1. Nature	It is a statement of changes in financial position and hence dynamic in nature.	It is a statement of financial position on a particular date and hence static in nature.
2. Aim	Prepared to verify whether working capital is managed effectively or not.	To ascertain and verify the value of assets and liabilities on a particular date.
3. Publication	Not required to be published.	In the case of limited companies, Balance Sheet is published and required to be circulated among the shareholders.
4. Compulsory	A Voluntary statement in case of proprietorship and partnership firms.	Compulsory in case of limited companies under Companies Act.
5. Period	Prepared occasionally.	Prepared at the end of the accounting period.
6. Preparation	Usually, Schedule of Changes in Working Capital is prepared before preparing Funds Flow Statement.	No Schedule of Changes in Working Capital is prepared. Rather Profit and Loss Account is prepared before the preparation of Balance Sheet

10.12 LIMITATIONS OF FUNDS FLOW STATEMENT

Funds Flow Statement is an important tool for analysis and serves several useful purposes. However, its limitations cannot be ignored and they are:

1. It is not an original statement. It is only a rearrangement of data taken from the financial statements (Profit and Loss Account and Balance Sheet).
2. It is based on the financial statements and so the limitations of financial statement are equally applicable to them.
3. It is essentially historic in nature and projected statement cannot be prepared with much accuracy.
4. Funds Flow Statement is not a substitute for basic financial statements like profit and loss account and balance sheet. At best, it can be a supplementary statement to explain the changes in working capital.

Despite the above limitations, Funds Flow Statement serves the basic purpose of explaining the causes for changes in the financial position of the firm between two periods.

Descriptive Questions:

1. Explain the need, meaning, importance and objectives of Funds Flow Statement? **(10.1 and 10.4)**
2. Describe the significance of Funds Flow Statement to the different users? **(10.5)**
3. Describe the need and limitations of Funds Flow Statement? **(10.1 and 10.12)**
4. What are the different Sources and Applications in a Funds Flow Statement? **(10.2, 10.6 and 10.8)**
5. "Depreciation can be taken as a source of funds in a limited sense". Illustrate with a suitable example? **(10.7)**
6. "Depreciation is an indirect source of funds under certain circumstances – Explain? **(10.7)**
7. Depreciation is a source to the extent of reduction of tax liability – Explain with a suitable example? **(10.7)**
8. Explain briefly the procedure and steps to be followed for preparing Funds Flow Statement? **(10.1 and 10.10)**
9. Differentiate between :
 - (a) Funds Flow Statement and Income Statement **(10.11)**
 - (b) Funds Flow Statement and Balance Sheet **(10.11)**

Check Your Understanding**(A) State whether the following statements are True or False**

1. The term 'fund' in a fund flow statement refers to working capital.
2. Loss on sale of machine should be added to net profit for calculating funds from operations.
3. Statement of change in financial position can be either funds flow statement or cash flow statement.
4. Income statements need not be prepared but funds flow statements are required to be compulsorily prepared.
5. Basic financial statements (Profit and Loss account and Balance sheet) fail to show the movement and causes of changes in assets and liabilities during the year.
6. Statement of change in financial position identifies changes in assets, liabilities and the shareholders' funds over a given period.
7. Funds flow statement points out the sources from which additional funds have been received during the year and the uses to which funds have been applied.
8. In funds flow statement, if both the affected accounts relate to working capital only they appear.
9. As per existing legal requirement, in case of a limited company, it is not required to publish statement of changes in financial position along with other financial statements.
10. Flow of funds takes place from transactions, when one account is current and the other is non-current.

11. A funds flow statement shows diversion of working capital for purchase of fixed assets.

Answers

1. True 2. True 3. True 4. False 5. True 6. True 7. True 8. False 9. False 10. True 11. True

(B) Pickup the correct answer

1. Stock at the end results in the

(a) Application of fund.	(b) Source of funds.
(c) No flow of funds.	
2. Sale of investments indicate

(a) Source of funds.	(b) Application of funds.
(c) None of the above.	
3. Tax paid is

(a) Application of funds.	(b) Source of funds.
(c) No flow of funds.	
4. Which of the following will result in flow of funds :

(a) Purchase of furniture on credit.	(b) Writing of goodwill.
(c) Depreciation of assets.	(d) Appreciation in Building.
5. Net profit earned plus non-operating expenses is equal to

(a) Funds provided by operations.	(b) Use of funds.
(c) Sinking fund.	
6. Depreciation is a source of funds

(a) Yes	(b) No
(c) Both Yes and NO	
7. An increase in the share premium account is

(a) An application of funds.	(b) A source of funds.
(c) No flow of funds.	
8. Increase in a fixed asset due to issue of shares is

(a) Source of funds.	(b) Use of funds
(c) None.	
9. By preparing provision for taxation A/c, we can find out the missing figure of ...

(a) Taxes paid during the year.	(b) Taxes provided during the year.
(c) Either of a. & b. above.	(d) Neither of a. & b. above.
10. A company engaged in financial activities receives interest. Such interest is ...

(a) Operating income.	(b) Non-operating income.
(c) Loss from operation.	(d) Non-operational charge.

11. ... is not a current asset.
(a) Book debts. (b) Short-term investment.
(c) Long-term investment. (d) Stock.
12. ... is not a current liability.
(a) Sundry Creditors. (b) Bank overdraft.
(c) Outstanding expenses. (d) Long-term loan
13. X Ltd has sales revenue of Rs.2,000. Depreciation for the period is Rs. 3,000. Other operating expenses are Rs. 900. Net loss for the period is Rs.500.
What is the amount of funds generated from operations during the period by X Ltd?
(a) 2,500 (b) 1,500
(c) 3,500 (d) 1,400

Answer (B)

1 (b), 2 (a), 3 (a), 4 (a), 5 (a), 6 (c), 7 (b), 8 (c), 9 (c), 10 (a), 11 (c), 12 (d), 13 (a)

(C) Pick up the most appropriate answer:

1. If depreciation on furniture is in the additional information, it will be posted...
 - a. At the debit side of adjusted profit and loss A/c.
 - b. At the credit side of plant A/c.
 - c. Neither of a & b. above.
 - d. At both a. & b. above
2. Current liabilities are equal to ...
 - a. Working capital + Current assets.
 - b. Work-capital – Current assets.
 - c. Current assets – Working capital.
 - d. Current assets + Working capital.
3. Inflow of funds does not take place due to ...
 - a. Funds from operation.
 - b. Increase in capital.
 - c. Increase in working capital.
 - d. Sale of fixed assets.
4. Increase in working capital is...
 - a. Source of funds.
 - b. Application of funds.
 - c. Funds from operation.
 - d. Loss from operation.
5. Vehicle sold for credit for a vehicle dealer results in...
 - a. Increases working capital
 - b. Decreases working capital
 - c. Does not change working capital
6. Cash realisation from debtors increases working capital
 - a. Yes
 - b. No
 - c. None of the above answers

Answers (C)

1. (d) . 2. (c). 3. (c). 4. (b) 5. (c) 6. (b)

(D) Fill in blanks:

1. Any gain on sale of non-current assets should be ... from the net profit for determining funds from operations.
2. Difference between Current Assets and Current Liabilities is known as ...
3. Funds flow refers to changes in ...
4. Depreciation is sometimes treated as ... funds.
5. Goods purchased on credit ... in flow of funds.
6. Increase in working capital is ... of funds.
7. Vehicle sold on credit is ... of funds.
8. Furniture sold for cash ... funds flow.

Answers (D)

1. Deducted.
2. Working Capital.
3. Working capital.
4. A source.
5. Does not result.
6. An application.
7. A source.
8. Increases

Interview Questions

Q.1. When we have financial statements of Profit and Loss Account and Balance Sheet, what is the need of Funds Flow Statement, separately?

Ans. Financial statements like Profit and Loss Account and Balance Sheet are static statements. Profit and Loss Account shows the financial results in a consolidated manner during a specific period, combining results of operating performance as well as non-operating performance. Firm may be in loss and the true picture may be concealed with the profits of non-operating activities.

Balance Sheet shows the statement of assets and liabilities on a fixed date. It shows the financial position at the end of a specified period, but does not explain the causes for the changes during the period.

Funds Flow Statements show the operating results from operations, non-operations, separately. How the funds have been raised and equally the ways they are deployed is explained in the funds flow statement.

Funds Flow Statement shows the sources and uses of funds. It also explains the causes and diversion of funds from short-term sources to long-term uses and vice versa. Reason for failure and success of business can be better understood with this statement. Funds Flow Statement gives a comprehensive picture, which the normal financial statements do not provide. So, there is a separate need for the funds flow statement.

Q.2. What is the purpose of 'Schedule of changes in working capital'?

Ans. In the context of 'Source and Application of Funds Statement', the term 'Funds' mean 'working capital'. This statement 'Schedule of changes in working capital' shows the increase or decrease of working capital during a specified period. Further, this statement provides information for the causes or reasons for increase / decrease of working capital. From which sources, this working capital is raised or to what purposes there has been diversion of working capital are known from this statement.

In other words, the story behind the change in the financial position between the beginning and end of a period is known.

Q.3. Who are the users of the Funds Flow Statement and for what purpose this statement is used?

Ans. Funds Flow Statement is widely used by the financial institutions, banks and credit rating agencies. By preparing the statement, the user can know well, in advance, about the adequacy or otherwise of working capital position for proper planning.

Q.4. What is a Non-operating profit and give an example?

Ans. Non-operating profit is that amount of profit, which is not connected with the regular business. Examples are loss on sale of assets, dividend income on trade investments and rent from building, not connected to the business.

Q.5. What is depreciation? What is its impact on cash?

Ans. Depreciation is decrease in the value of an asset due to wear and tear, passage of time, obsolescence, exhaustion and accident. It is a part of capital cost of fixed asset, spread over the life of the asset. Depreciation is taken as an operating expense, while arriving at true profits of a business. Depreciation is, simply, a book entry to arrive at book profits. Depreciation is a non-cash item. Depreciation does not result in any outgo of cash.

Q.6. Is Depreciation a direct source of funds?

Ans. No. Depreciation is not a direct source of funds. Depreciation is an indirect source of funds to a limited extent. It depends upon circumstances. If the firm is in profits, depreciation acts as a tax shield in helping the firm for reducing tax liability. Income tax act permits depreciation as an admissible expenditure to the extent it is provided, as per its rules. As a result, taxable profits and tax liability are reduced. So, to that extent, depreciation is a source. In consequence, depreciation is a source to the extent tax liability is reduced. Due to depreciation, profits available for distribution of dividend get reduced. So, more funds would be available to the business for expansion. In these circumstances, depreciation is a source. But, when the firm is in loss, question of tax payment does not rise. In those circumstances, depreciation is not a source. It can be said, with certainty, that depreciation is not a source of funds, directly. **So, depreciation is only an indirect source to a limited extent, under certain circumstances.**

Q.7. Explain the different meanings of the term "Funds"?

Ans. The term "Funds" has different meanings. Its popular meaning is 'working capital'. Based on this meaning, Funds Flow Statement is prepared. The second meaning – narrow meaning - is 'cash'. Based on this meaning, Cash Flow Statement is prepared. The third meaning, broad in nature, is 'Total Resources'. Based on this meaning, Statement of Total Financial Resources is prepared.

Q.8. What is meant by 'Operating Profit'? From which statement, you can find out this item? Explain the importance of the relevant statement in the context of operating profit?

Ans. Operating profit refers to profit from business operations. This is the business profit, after deducting all the expenses incurred for earning that profit. Operating profit does not include other incomes, not connected with main business, and equally the expenses connected to earn such other incomes.

Operating profit can be found from the Statement of Sources and Application of Funds as this item is shown separately. At times, the firm may be in net profit, even though the business may be sustaining business losses, due to higher other incomes. Other incomes may be neutralizing the business loss. Normal Profit and Loss Account shows only the final profit or loss in a combined manner. It does not show that the business operations are in loss. As the real picture is not known, corrective action may be delayed or not known at all, till the business collapses. Only Statement of Sources and Application of Funds throws the real picture about profit or loss from business operations and other operations, separately. Statement of Sources and Application of Funds exposes what profit and loss account may conceal.

Q.9. In what manner can 'Statement of Sources and Application of Funds' be utilized by financial institutions?

Ans. Normally, commercial banks sanction working capital limits. Before sanction, commercial bank wants to assess the needs and requirements of the working capital limits of the borrowers. After sanction, bank wants to ensure that there is no diversion of working capital limit for other purposes. Borrowers may use the working capital limits for purchase of fixed assets and withdraw funds for the personal use, against the terms of sanction. Banks can utilize the statement to find out any diversion of working capital limit. Funds Flow Statement is used to achieve the above objectives.

Term lending institutions want to satisfy, before sanction, that the projects, proposed to be financed, would generate sufficient funds to service the debt. These institutions want to ensure that the borrower would have sufficient funds to pay the installment and interest amounts, during the proposed repayment period.

Sources and Application of Funds, the other name for the above statement, is highly used by the financial institutions to monitor end use of funds and repayment of the loans sanctioned.

Q.10. What are Long-term sources?

Ans. Long-term sources are share capital, reserves, long term loans and debentures etc.

Q11. What are Short-term sources and when they are due for payment?

Ans. Short-term sources are creditors for goods and services, short-term working capital facilities, provided by banks and outstanding expenses etc. Even employees, technically, provide short duration credit as salaries are paid, after the end of the month. Basically, these short-term funds are to be repaid in the normal course of business, as per payment terms, normally, within a period of one year.

Q.12. What is the golden rule in respect of long-term and short-term sources of funds? What is the consequence of diversion of funds?

Ans. The golden rule is long-term funds are to be used for long term purposes and short term purposes. These funds can be used for purchase of fixed assets and a part for meeting working capital requirements. Long term sources are permanent or remain in the business firm, relatively, for a very long period. So, there is no pressure on these funds for repayment in a short period.

Short term sources are to be used only for short term uses, but not for long term applications. Short term sources, at times, are used for long term purposes, such as purchase of fixed assets or luxurious vehicles, basically for those purposes, which are not to be used. When a firm uses short term sources for long term uses, there would be crunch of funds and experiences difficulty in meeting short term obligations. This situation leads to liquidity crunch and may even lead to insolvency in serious situations.



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CHAPTER
11

Cash Flow Statement

- Importance of Cash
- Cash Flow Statement
 - Meaning
 - Need
 - Legal Requirement
 - AS- 3 (Revised)
- Objectives of Cash Flow Statement
- Classification of Cash Flows
- Procedure for Preparing Cash Flow Statement
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- Methods of Preparing Cash Flow Statements
 - Direct Method
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- Differences between Funds Flow Statement and Cash Flow Statement
- Limitations
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11.1 IMPORTANCE OF CASH

Cash is one of the most significant and important current assets of an organisation. Cash is needed to make purchase of raw materials, payment of wages and meeting day-to-day expenses for every type of activity, including entertainment expenditure. Development of business and faster growth are dependent on adequate and timely availability of cash. **In fact, what blood is to a human body, cash is similar to any business enterprise.**

Firm may be profitable, yet, may experience difficulty in arranging timely payments. It may not have adequate liquid resources to make immediate payments such as wages and salaries. It is due to poor management of cash. Though profits are earned, reason for insufficiency of cash could be of two types. Profits may not be realised in cash. Secondly, profits are diverted for purchase of fixed assets. The classical example is shelling cash for a premium car from profits, beyond means and without planning, later searching cash for payment of daily wages.

Both adequacy and timely availability of cash are essential for the success of any firm's activities. Therefore, management of cash is of vital importance to any enterprise.

11.2 CASH FLOW STATEMENT

Meaning: Cash Flow Statement is a statement, which describes the inflows (sources) and outflows (uses) of cash and cash equivalents during a specified period. It is a summary of cash book. **A cash Flow Statement explains the causes of changes in cash position of a business enterprise, between two dates of balance sheets.** Cash flow statement is a tool that is available to the management to assess, monitor and control the liquidity available in the enterprise.

According to AS-3 (Revised), an enterprise should prepare and enclose the Cash flow statement for the same period for which the financial statements are prepared, in the prescribed format, by the listed companies.

The following terms, in the context of cash flow statement, are explained hereunder:

Cash means physical cash on hand and demand deposits in bank. Balance in a current account in bank comes under the category of demand deposits as the amount can be withdrawn on demand, without any limit.

Cash equivalents are short term, highly liquid investments that can be converted into known amounts of cash within a reasonable period, without subjecting to any significant risk. **Short-term deposits in a bank, Government securities and treasury bills qualify the category of cash equivalents.** They are meant for meeting short-term obligations and not for long-term investment. They are to be converted into cash at short notice, without any significant risk at

the time of conversion. Risk refers to financial risk, in particular, loss in value at the time of conversion. So, equity shares of even reputed companies do not come into the category of cash equivalents though they are listed on stock exchange and are convertible into ready cash, within a short period say three or four days. The reason for non-inclusion is there is no certainty about the amount of realisation as they are subject to fluctuations in price. Preference shares that are subject to redemption, shortly, in a very good company fall into the category of cash equivalents as the amount of realisation is predetermined and there is insignificant risk in respect of the failure of the company.

Cash flows are both inflows and outflows of cash and cash equivalents. Flow of cash is said to have taken place, when a transaction makes change in available cash and equivalents, before and after happening of the transaction.

If cash and cash equivalents increase, on account of transaction, it is called inflow of cash and if it decreases, it is said to be outflow of cash.

Conversion of cash into cash equivalents and vice versa does not constitute cash flows because they are not part of operating, financing and investing activities. Cash management includes the investment of cash into cash equivalents and vice versa.

Definition: A Cash Flow Statement may be defined as “**A financial statement that summarises the cash receipts and payments and net changes resulting from operating, financing and investing activities of an enterprise during a given period of time**”.

11.3 NEED OF CASH FLOW STATEMENT

Basic financial statements i. e. Profit and Loss Account and Balance Sheet provide the essential basic information about the financial activities of the business. But, their utility is limited for analysis and planning purposes. To serve those needs, Funds Flow Statement is prepared to show the causes for changes in assets and liabilities from one period of time to the end of another period. **The question arises when the Funds Flow Statement is prepared, what is the need to prepare Cash Flow Statement, separately?** Funds Flow Statement presents comprehensive picture of different components of working capital. However, working capital concept does not reveal the true picture of availability of cash. In the Funds Flow Statement, cash and inventories are treated, alike. All the components of working capital are treated, alike, in respect of availability from the viewpoint of time. However, this is not the correct picture as their time and quality of realisation, in respect of time, is different from the viewpoint of cash. Debtors take less time for converting into cash, while inventories take more time for realisation. Similarly, inventories may consist of dead stock that has not been written off. Debtors may have bad debts that are not, yet, removed. But, Funds Flow Statement does not recognise this basic difference in their nature. An enterprise may have more slow paying debtors and non-moving stocks, with little cash or its equivalents.

Due to comfortable working capital position, Funds Flow Statement does not throw the real picture about the inadequacy of cash. Only, when Cash Flow Statement is prepared, the real situation about the adequacy of funds, in the sense of cash, is known. From this angle, Cash Flow Statement is superior compared to Funds Flow Statement.

Firms prepare Cash Flow statements for short periods for proper cash planning.

Legal Requirement: To underline the importance of the funds flow statement; The Institute of Chartered Accountants of India had issued Accounting Standard-3 (AS-3) in 1981 that was made applicable to every listed company. However, the accounting standard provided more flexibility in implementation as the term “Funds” was meant for cash or cash equivalents or working capital. **In other words, companies had been given the option to prepare Funds Flow Statement or Cash Flow Statement along with the financial statement.** So, many firms had provided the Funds Flow Statement along with the financial statements, based on working capital concept. This had served the useful purpose in understanding the changes in assets and liabilities between two different dates.

However, this Accounting Standard had suffered the following **limitations**:

1. **Flexibility:** Many firms had prepared the statement on the basis of working capital, where as others prepared it on cash basis, due to flexibility of the Accounting Standard. **As inventories and prepaid expenses were treated similar to cash, while preparing on working capital basis, firm's ability to pay short-term obligations, as and when they fall due, could not be assessed.**
2. **No Standard Format:** AS-3 did not provide the standard format. As such, firms had adopted different methods for preparing the Funds Flow Statement. **Lack of uniformity had made the comparison difficult.**
3. **Lack of Adequate Disclosure:** Even the firms that had prepared the Cash Flow Statement had provided the information merely in respect of inflows and outflows. They did not disclose information in respect of Operating, Financing and Investment activities, separately.

AS- 3 Revised: In view of the above limitations and recognising the importance of Cash Flow Statement, in 1995, Securities and Exchange Board of India (SEBI) had amended clause 32 of the Listing Agreement requiring every listed company to give along with the balance sheet and profit and loss account, a cash flow statement, in the prescribed format. The prescribed format requires the listed company to provide the information in respect of cash flows in respect of Operating, Financing and investing activities, separately. **AS-3 (Revised) issued in 1995 supersedes the requirement of AS-3, issued in 1981.**

Listed companies do not have the option of either preparing funds flow statement or cash flow statement, now. So, now, every listed company has to provide the cash flow statement along with the financial statements, in the prescribed format.

Applicability: AS-3 (Revised) applies to the following enterprises:

- (i) If turnover of the enterprise exceeds more than Rs. 50 crores in a financial year, even though it is not a listed company.

- (ii) Listed companies – shares of those companies listed on Stock Exchange.

Cash flow statement of listed companies should be presented only under the indirect method, as prescribed in AS-3.

11.4 OBJECTIVES OF CASH FLOW STATEMENT

- Cash Management:** Cash flow statement is a tool for short-term financial planning. By preparing the statement, a firm can know how much cash can be generated by its operations. **It helps the firm to plan to arrange for additional cash requirements, in advance.**
- Cash Planning:** It helps in **planning repayment of loans, dividend policy, replacement of fixed assets and capital budgeting decisions.**
- Answers to Difficult Questions:** It explains the causes for financial difficulties. Even if the firm is profitable, firm experiences difficulty for cash. **The statement throws light on the intricate questions like – What happened to the net profits. Where did the profits go? Why more dividends could not be paid, despite increase in profits?**
- Discloses Reasons for success or failure:** It is an **important technique for evaluating success or failure of cash planning.** The actual cash flow is compared with the projected cash flow. If the results are not as per expectation, reasons can be analysed and corrective steps can be taken.

To appear in Cash Flow Statement, actual receipt or payment, in cash or cash equivalents, is essential.

11.5 CLASSIFICATION OF CASH FLOWS

Cash flows as per Accounting Standard – 3 are classified into three categories. They are:

- Cash Flows from Operating Activities:** Operating activities are the revenue producing activities of the enterprise and other activities that are not investing and financing activities. **Revenue producing activity is the key activity in the cash flows.** They, generally, result from the transactions and other events that determine the net profit or loss of the organisation.

For example, for a pickle industry, the main operation is to buy fruits like mangoes, lemon and apples, take out the pulp, mix the necessary ingredients and bottle them as different varieties of pickles, with the help of human resources, plant and machinery etc. Therefore, the cash flows incidental to purchase of fruits and ingredients, payment of wages to labour and salaries, packing charges is operating outflows. Receipts from sale of pickles are to be regarded as operating cash inflows.

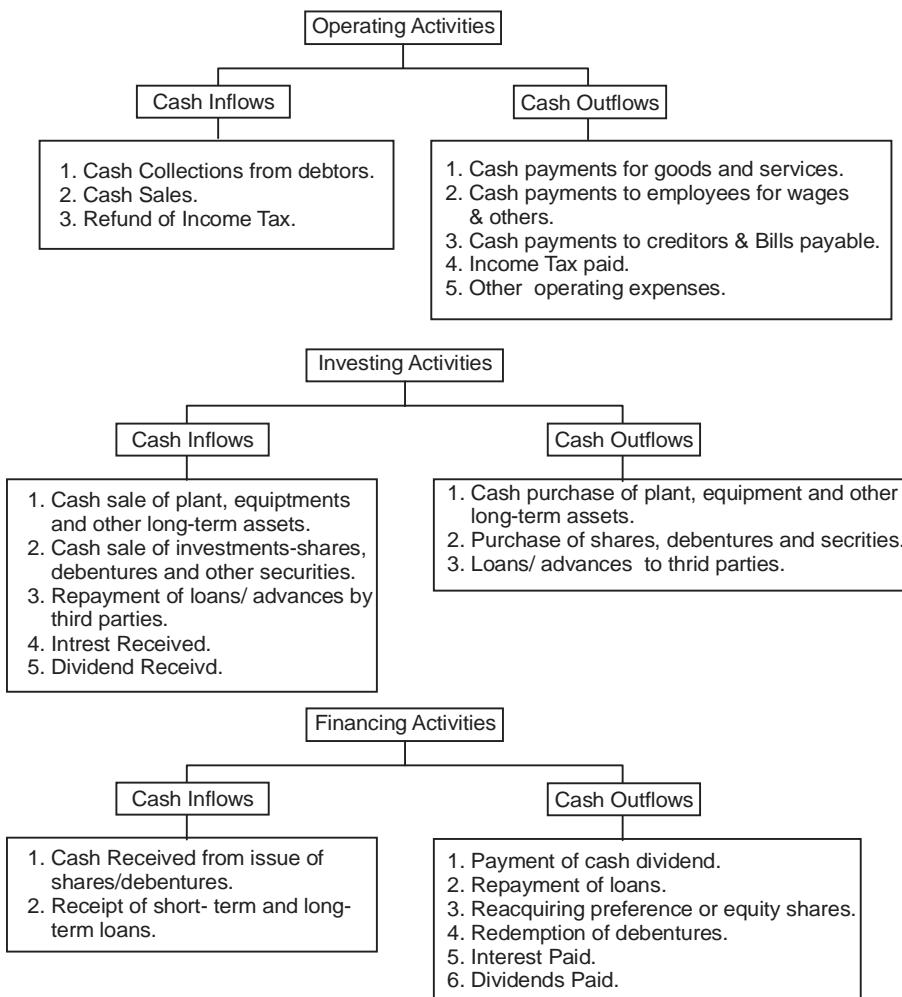
- Cash Flows from Investing Activities:** Investing activities are the acquisition of long-term assets and other investments that are not included in cash equivalent. In other words, long term assets such as plant and machinery, land and building etc that are held by the firm for long-term production, not meant for sale, fall in this category. Short-term securities,

temporary excess funds, are cash equivalents and so are not to be included in this category. However, trade investments that are intended for long term are to be included in this category. Separate disclosure is necessary to know the amount spent in acquiring the resources-long term assets such as plant and machinery and other fixed assets- intended to generate the future income and cash flows.

3. Cash Flows from Financing Activities: Financing activities are activities that result in changes in size and composition of owners' capital (including preference share capital in the case of company) and short-term and long-term debts of the firm.

Separate disclosure is important and necessary, as it is useful to predict the claims of the providers of funds as well as anticipated repayments on the future cash flows.

Inflows and outflows of these activities are:



Classification of Cash Inflows and Cash Outflows

11.6 PROCEDURE FOR PREPARING CASH FLOW STATEMENT

Cash Flow Statement is prepared from the following three sources:

1. **Balance Sheet at the opening and closing period:** If we are preparing cash flow statement for the financial year 2006, Balance Sheets for the years 2005 and 2006 are required. These balance sheets provide the information in respect of assets, liabilities and shareholders' funds.
2. **Profit and Loss Account of Current year:** We need Profit and Loss Account or Income Statement for the year 2006. This statement provides information in respect of operating, financing and investment activities. Interest / dividend paid are covered in financing activity. Interest/ Dividends received are instances of investing activity.
3. **Additional Information:** Both the above statements do not provide all the information required. Additional information such as purchase and sale of assets, payment of taxes, amount paid on redemption of debentures and funds raised in the form of shares, including share premium etc are needed for preparing cash flow statement. This information may be hidden, which is to be explored.

Cash flow means both inflow and outflow of cash.

11.7 STEPS INVOLVED IN PREPARING CASH FLOW STATEMENT

The following steps are involved in its preparation:

- Step 1:** Calculate the increase or decrease in cash and cash equivalents by making a comparison of the opening and closing balance sheets.
- Step 2:** Calculate the net cash flow from operating activities by analysing the Profit and Loss Account, Balance Sheet and other additional information. For this purpose, there are two methods –Direct and Indirect Method. They are explained, subsequently.
- Step 3:** Calculate the net cash flow from investing activities.
- Step 4:** Calculate the net cash flow from financing activities.
- Step 5:** Prepare a formal cash flow statement indicating the cash flows from operating, investing and financing activities.
- Step 6:** Make an aggregate of net cash flows from three activities and ensure that the total net cash flow is equal to the net increase or decrease in cash and cash equivalents, as calculated in Step 1.
- Step 7:** Report the non-cash transactions that did not involve cash and cash equivalents in a separate schedule to the cash flow statement. Examples are redemption of debentures in exchange of issue of shares and purchase of machinery against issue of share capital etc.

11.8 CALCULATION OF CASH FROM OPERATIONS

Cash flows generated from operating activities is an important indicator about the operating capability of the enterprise to pay dividends, repay loans and make new investments, without recourse to external sources of financing.

This determines whether the firm can continue in the long run or not.

Separate non-operation items: The net effect of various transactions in a business is reflected in the form of net profit or net loss, shown in the Profit and Loss Account. A firm may be in net profit, even though the results from operations may be negative, due to non-operational gains. Similarly, firm may be in net loss, even though the firm has made operational profits, due to non-operational losses. To know whether the firm is operationally profitable or not, it is necessary to separate the non-operational expenses and income.

Replace Accrual System with Cash System: Net profit is not, normally, equal to net flow (difference of inflow and outflow). It is so because certain non-cash and non-operating items are charged to profit and loss account. While preparing profit and loss account, accrual system of accounting is followed as per the Generally Accepted Accounting Principles (GAAP). Whether the sales are realised or not (credit sales), they are accounted for.

All revenues are taken into account, if they relate to the period whether they are actually received or not. Similarly, all expenses are charged to the profit and loss account, if they relate to the period, whether they are actually paid or not. Basic principle of accrual is followed both for expenses and revenues.

To calculate net flow from operating activities, it is necessary to replace revenues and expenses with actual receipts and payments, in cash.

Effect of Opening and Closing Stocks

The amount of opening stock is charged to Profit and Loss Account. It thus reduces net profit, without reducing cash from operations. Similarly, closing stock increases the net profit, without increasing cash from operations. When net profit is taken as the base to arrive at cash from operations, they require adjustments.

The following illustration explains the concept, more clearly.

Illustration No. 1

	Rs.
Opening stock	10,000
Purchases	25,000
Sales	30,000
Closing stock	15,000
Expenses (paid in cash)	3,000

Compute the net profit and cash from operations.

Solution:

The amount of net profit can be computed as follows:

Profit and Loss Account

		Rs.
Opening stock	10,000	Sales
Purchases	25,000	Closing Stock
Expenses	3,000	
Net Profit	7,000	
	45,000	45,000

The net profit for the year is Rs. 7,000. The cash from operations is computed as follows:

Net profit for the year	7,000
Add Opening stock	<u>10,000</u>
	<u>17,000</u>
Less Closing stock	<u>15,000</u>
Cash from operations	<u>2,000</u>

Alternatively, cash from operations can be calculated as under:

Net Profit	7,000
Less Outflow of cash on account	
of increase in stock	<u>–5,000</u>
Cash from operations	<u>2,000</u>

11.9 METHODS OF PREPARING CASH FLOW STATEMENTS

There are two methods of preparing cash flow statement:

1. Traditional Method
 2. Preparing under AS-3.
1. **Traditional Method:** The traditional method does not have any standard format. There is no classification of inflow and outflow under operation, investment and finance activities, separately.
 2. **Preparing under AS-3:** The basic difference from traditional method is presentation of cash flow statement. They are two methods of reporting cash flows from operating activities, the Direct Method and Indirect method.
 - (A) **Direct Method:** Cash flows from operations include cash receipts from sale of goods and services, cash payments to suppliers of goods and services, other cash payments and receipts. Total cash receipts and payments are to be calculated. Only cash receipts

and cash payments (known as cash flows) from operating activities are considered. Examples are:

- (i) Cash receipts from the sale of goods and rendering of services;
- (ii) Cash receipts from royalties, fees, commission and other revenue;
- (iii) Cash payments to suppliers of goods and services;
- (iv) Cash receipts and payments relating to insurance, taxes, claims, annuities and other benefits.

Under the direct method, actual receipt and payment in cash only are relevant.

Adjustments for depreciation, amortisation of preliminary expenses and intangible assets like goodwill, discount on issue of shares and debentures are not required. Similarly, profit or loss on sale of assets is not required because operating cash receipts and payments are directly reported in the cash flow statement.

(B) Indirect Method: Under the indirect method, net profit is taken as base and is adjusted instead of individual items appearing in the Profit and Loss Account to arrive at cash from operations.

Net profit or loss is adjusted for the following:

1. Non-cash items such as depreciation, writing off goodwill and preliminary expenses etc.;
2. Changes during the period in inventories, operating receivables and payable and
3. All other items which affect cash included in financing and investing activities such as loss/gain on sale of fixed assets and loss/gain on sale of investments etc.

It is reminded, again, cash flow statement of listed companies should be presented only under the indirect method as prescribed in AS-3.

Traditional Method: There is no standard format for showing the method of calculation of cash from operations (Traditional Method)

Calculation of Cash from Operations (Traditional Method)

Net Profit for the year	-	
Add: Non-cash Expenses:		
Depreciation	-	
Goodwill written off	-	
Loss on Sale of fixed assets	-	
Discount on shares / Debentures written off	-	
Provision for taxation etc	-	
		-

Less: Non Cash Incomes		
Profit on sale of Fixed Assets	-	(-)
Net profit, after adjustment of Non Cash items	-	-
Changes in inventories, operating receivables and payables		
Add: Decrease in Current Assets	-	
Increase in Current Liability	-	
Less: Increase in Current Assets	-	
Decrease in Current Liabilities	-	-
Cash from Operations		

Calculation of changes in inventories, operating receivables and payables:

For example, decrease in debtors (current asset) indicates that cash has been collected, without affecting net profits in any manner, hence added.

Increase in Creditors (current liability) occurs when credit purchases are made but not paid. This has reduced net profits and so added to arrive at cash flows.

Increase in Debtors (current assets) occurs when credit sales are made, but not realised. This has already increased profits. So, deduced to arrive at cash flows.

Decrease in creditors (current liability) occurs when cash is paid, without any effect on net profits. So, deducted to arrive at cash flows.

Note: Students have to think what impact the transaction has created on net profits to decide-add or deduct - to arrive at cash flows.

11.10 CALCULATION OF CASH FLOWS FROM OPERATING ACTIVITIES

- Calculation of Cash collected from Customers (Sales made):** Sales figure in Profit and Loss Account /Income Statement includes cash sales and credit sales. We are to collect total cash collected from customers. This figure can be arrived by adjusting credit sales with the opening and closing balance of Debtors and Bills Receivable as follows:

Calculation of Cash Collected from Customers

Debtors and Bills Receivable at the Beginning of year	Xxx
Add: Credit Sales	Xxx
Less: Debtors and Bills Receivable at the end of year	Xxx
Cash Collected from total credit sales	Xxx

2. Cash paid for Purchase of Inventory: The figure in the Profit and Loss Account/ Income Statement shows the total purchases. Total purchases include both cash and credit purchases. The credit purchases are to be adjusted with the opening and closing balance of creditors and Bills Payable to arrive at the cash paid for purchase of inventory.

Calculation of Cash Paid to Creditors

Creditors and Bills Payable at the Beginning of year	Xxx
Add: Credit Purchases	Xxx
Less: Creditors and Bills Payable at the end of year	Xxx
Cash paid to total credit purchases	Xxx

3. Cash Payments for Expenses: Expenses in the Profit and Loss Account are charged on the accrual basis. There are outstanding expenses or prepaid expenses. They are to be adjusted to arrive on cash basis.

Cash Paid for Expenses-Adjustment of Prepaid Expenses

Expenses appearing in Profit and Loss Account	Xxx
Add: Prepaid Expenses in Closing Balance Sheet	Xxx
Less: Prepaid Expenses in Opening Balance Sheet	Xxx
Cash paid for Expenses	Xxx

Cash Paid for Expenses-Adjustment of Outstanding Expenses

Expenses appearing in Profit and Loss Account	Xxx
Add: Outstanding Expenses in Opening Balance Sheet	Xxx
Less: Outstanding Expenses in Closing Balance Sheet	Xxx
Cash paid for Expenses	Xxx

Let us explain with the following two examples:

- (A) Salary expense in Profit and Loss Account is Rs.30,000. Salary outstanding at the beginning of the year is Rs.5,000 and salary outstanding at the close of the year is Rs. 3,000.

Here, cash paid for salary = Salary – Outstanding salary at the year end + Outstanding salary at the beginning of the year.

$$\begin{aligned} &= 30,000 - 3,000 + 5,000 \\ &= 32,000 \end{aligned}$$

- (B) Insurance premium appearing in Profit and Loss Account is 10,000. Premium Prepaid at the beginning of the year is Rs. 2,000 and premium prepaid at the end of the year is Rs. 1,500.

Here, cash paid for insurance = Insurance premium – Prepaid premium at the beginning + Premium paid at the end.

$$\begin{aligned} &= 10,000 - 2,000 + 1,500 \\ &= 9,500 \end{aligned}$$

After arriving at the answer, Students are advised to check the correctness calculating in a reverse manner i.e. from cash to profit figure appearing in the Profit and Loss Account.

- 4. Non-Cash items:** Certain non-cash expenses like depreciation, goodwill and preliminary expenses written off appear in the Profit and Loss Account. They are charged to arrive at true profits, though there is no outgo of cash. So, these items are to be added.

The following illustration explains the Traditional Method of calculating cash from operations:

Illustration No. 2

Following information is available from the books of Suresh Ltd. for the year-end 31-12-2005 and 31-12-2006.

	31-12-2005	31-12-2006
Profit made during the year	-	2,50,000
Income received in advance	500	400
Prepaid expenses	1,600	2,000
Debtors	80,000	20,000
Bills receivable	25,000	40,000
Creditors	45,000	65,000
Bills payable	13,000	5,000
Outstanding expenses	2,500	3,000
Accrued income	1,500	1,800

Calculate cash flow from operations for the year ending 31-12-2006.

Solution:**Calculation of cash from operations for the year ending 31-12-2006**

	31-12-2006
Profit made during the year	2,50,000
Add:	
Decrease in Debtors	60,000
Increase in creditors	20,000
Increase in outstanding expenses	500 +80,500
	3,30,500
Less:	
Decrease in income received in advance	100
Increase in prepaid expenses	400
Increase in bills receivable	15,000
Decrease in bills payable	8,000
Increase in accrued income	300 23,800
Cash from Operations	3,06,700

Tip to Students: Students often experience difficulty, while dealing with outstanding expenses; income received in advance – liabilities, similar to creditors. Think that they are creditors; you would understand whether to add or deduct. Similarly, think accrued income, prepaid expenses as assets, similar to debtors and treat in the problem for solving.

11.11 DIFFERENCES BETWEEN FUNDS FLOW STATEMENT AND CASH FLOW STATEMENT

The term ‘funds’ has a variety of meanings. In a narrow sense, it means cash. When Statement of Changes in Financial Position is prepared on cash basis, it is called Cash Flow Statement. When Statement of Changes in Financial Position is prepared on working capital basis, it is called Funds Flow Statement. Both the statements are similar in several respects, yet there are some differences between the Funds Flow Statement and Cash Flow Statement. The differences are as under:

Base of Difference	Funds Flow Statement	Cash Flow statement
1. Meaning	It is a statement of changes in the financial position of business due to inflow and outflow of funds .	It is a statement of changes in the financial position of business due to inflow and outflow of cash .

2. Basis of Concept	It is based on the wider concept of funds i.e. working capital.	It is based on the narrower concept of funds i.e. cash.
3. Basis of accounting	It is based on accrual system of accounting.	It is based on cash system of accounting.
4. Concerned with	A funds flow statement is concerned with changes in working capital position, between two balance sheet dates.	A cash flow statement is concerned with changes in cash position between two balance sheet dates.
5. Schedule of Changes in Working Capital	Schedule of Changes in Working Capital is prepared to show the changes in working capital.	No such statement is required /prepared.
6. Purpose of Preparation	This statement reveals sources and uses of funds. The difference between sources and uses indicate the increase or decrease in working capital.	All inflows and outflows are classified in terms of operating, investing and financing activities. The net difference represents the net increase or decrease of cash and cash equivalents.
7. Usefulness	It is useful for long-term planning and financing.	It is more useful for short-term analysis and cash planning of the business.

11.12 LIMITATIONS

Despite a number of uses, cash flow statement suffers from the following limitations:

- Ignores Basic Principles of Accounting:** Cash Flow Statement is prepared on the basis of cash accounting. It ignores the basic accounting concept of accrual basis.
- Not suitable for Judging Profitability:** Cash Flow Statement is prepared ignoring non-cash charges, while preparing cash flow from operations. So, this statement is not suitable for judging profitability of a firm.
- Statement does not reflect real liquid position:** The cash balance reflected in the cash flow statement may not represent the real liquid position. Purchases and payments can be postponed to present a better liquid position.
- Cannot be equated with Income Statement:** Cash flow statement cannot be equated with Income Statement. An income-statement takes into account cash as well as non-cash items and therefore, net cash flow does not necessarily mean net income of the business.

In spite of these limitations, cash flow statement has its own role to play. It is a useful tool

for financial analysis. It is a useful supplementary instrument. It discloses the volume of cash flows in different segments of the business. It helps the management in knowing the amount of capital tied up in each segment of the business. It serves as a barometer in measuring the profitability and financial position of the business.

Illustration No. 3

From the Balance Sheet of Dimpay Ltd. as at 31-3-2005 and 31-3-2006, prepare Cash Flow Statement:

	Rs.	31-3-2005	31-3-2006
Liabilities			
Equity share capital		4,00,000	4,50,000
Share premium		-----	30,000
General reserve		45,000	65,000
Profit and Loss		30,000	80,800
7% Debentures		---	70,000
Sundry Creditors		85,000	90,700
Provision for Taxation		22,500	40,500
Proposed dividend		30,000	35,000
		<hr/> 6,12,500	<hr/> 8,62,000
Assets			
Land and Building		3,30,000	4,90,000
Plant and Machinery		85,400	1,40,000
Furniture		5,500	6,500
Stock		82,400	95,700
Sundry Debtors		75,000	85,500
Bank balance		34,200	44,300
		<hr/> 6,12,500	<hr/> 8,62,000

Additional information:

Details of Depreciation written off on the following assets during the year are as under:

Rs.
Land and Building
Plant and machinery
Furniture

Solution:

Calculation of operating profit, before working capital changes.

Rs.	
Profit and Loss Account (31-3-2006)	80,800
Add: Depreciation - Land and Building	60,000
Depreciation- Plant and Machinery	50,000
Depreciation Furniture	1,200
General Reserve	20,000
Taxation Provision	40,500
Proposed dividend	35,000
	<u>+2,06,700</u>
	2,87,500
Less: Profit and Loss Account (31-3-2005)	<u>30,000</u>
Operating profit, before working capital changes	<u>2,57,500</u>

Dr.	Land and Building A/c	Cr.
To Balance b/d	3,30,000	By Depreciation
To Bank (Balancing figure)	<u>2,20,000</u>	By Balance c/d
	<u>5,50,000</u>	<u>60,000</u>
		<u>4,90,000</u>
		<u>5,50,000</u>

Dr.	Plant and Machinery A/c	Cr.
To Balance b/d	85,400	By Depreciation
To Bank (Balancing figure)	<u>1,04,600</u>	By Balance c/d
	<u>1,90,000</u>	<u>50,000</u>
		<u>1,40,000</u>
		<u>1,90,000</u>

Dr.	Furniture A/c	Cr.
To Balance b/d	5,500	By Depreciation
To Bank (Balancing figure)	<u>2,200</u>	By Balance c/d
	<u>7,700</u>	<u>1,200</u>
		<u>6,500</u>
		<u>7,700</u>

Dr.	Provision for Taxation A/c	Cr.
To Bank	22,500	By Balance b/d
To Balance c/d	<u>40,500</u>	By Profit & Loss A/c
	<u>63,000</u>	<u>22,500</u>
		<u>40,500</u>
		<u>63,000</u>

Dr.	Proposed Dividend A/c	Cr.
To Bank	30,000	By Balance b/d
To Balance c/ d	<u>35,000</u>	By Profit & Loss A/c
	<u>65,000</u>	<u>30,000</u>
		<u>35,000</u>
		<u>65,000</u>

Calculation of Cash from Operations

	Rs.
Operating profit, before working capital changes	2,57,500
Add : Increase in current liabilities	5,700
Sundry creditors (Rs. 90,700 - Rs. 85,000)	<u>2,63,200</u>
Less : Increase in Current Assets	
Stock (Rs. 95,700 - Rs. 82,400)	13,300
Sundry Debtors (Rs. 85,500 - Rs. 75,000)	<u>10,500</u>
Cash inflow from operations	<u>23,800</u> <u>2,39,400</u>

Cash flow statement for the year ended 31st March, 2006

	Rs.
Opening Bank balance	34,200
Add : Cash flow from Operations	2,39,400
Issue of equity shares	50,000
Share premium	30,000
Issue of 7% Debentures	<u>70,000</u>
	<u>3,89,400</u>
Less :	4,23,600
Additions to land and buildings	2,20,000
Additions to plant and machinery	1,04,600
Additions to furniture	2,200
Payment of dividend	30,000
Payment of tax	<u>22,500</u>
Closing Bank Balance	<u>3,79,300</u> <u>44,300</u>

PROFORMA OF CASH FLOW STATEMENT

AS PER AS – 3

DIRECT METHOD

Particulars	Rs.	Rs.
Cash Flows from Operating Activities		
Cash Receipts from Customers	-	
Cash Payment to Suppliers	(-)	
Cash paid to Employees as Salaries and Wages	(-)	
Other Operating Expenses	(-)	

Cash generated from Operations	-	
Income Tax Paid	(-)	
Income Tax Refund	-	
Cash Flow before Extra-ordinary Items	-	
Cash Flow from Extra-ordinary Items	-	
e.g. Proceeds from Earthquake Disaster Settlement	-	
Net Cash Flow from / used in Operating Activities	-	
Cash Flows from Investing Activities		
Proceeds from Sales of Fixed Assets	-	
Cash Payment for Purchase of Fixed Assets	(-)	
Interest Received	-	
Dividend Received	-	
Net Cash Flows from / used in Investing Activities	-	
Cash Flows from Financing Activities		
Proceeds from Issue of Shares	-	
Proceeds from Issue of Debentures	-	
Proceeds from Long-term Borrowings	-	
Redemption of Shares	(-)	
Redemption of Debentures	(-)	
Repayment of long-term borrowings	(-)	
Interest paid	(-)	
Net Cash flows from / used in Financing Activities	-	
Net increase / decrease in cash and cash equivalents	-	
Cash and Cash equivalent at the beginning of the period	-	
Cash and Cash equivalents at the end of the period	-	

INDIRECT METHOD

Particulars	Rs.	Rs.
Cash Flows from Operating Activities		
Balance of P & L A/c as per closing Balance Sheet	-	
Less: Balance of P & L A/c as per opening Balance Sheet	-	
OR		

Increase in the balance of P & L A/c	-	
OR		
Net Profit as per P & L A/c after appropriations	-	
Add: Appropriations during the year		
Transfer to General Reserve	-	
Transfer to Debenture Redemption Fund	-	
Transfer to Dividend Equalisation Fund	-	
Proposed Dividend	-	
Net Profit for the year		
Add: Non-Operating Expenses	-	
Interim Dividend paid	-	
Loss by Fire	-	
Interest paid	-	
-		
Less: Non-Operating Incomes	-	
Interest Received	(-)	
Dividends Received	(-)	
Operating Net Profit	-	
Add: Non-cash Expenses		
Depreciation	-	
Loss on Sales of Fixed Assets	-	
Loss on Revaluation of Fixed Assets	-	
Loss on Redemption of Shares	-	
Loss on Redemption of Debentures	-	
Goodwill written off	-	
Preliminary Expenses written off	-	
Discount on Shares written off	-	
Discount on debentures written off	-	
Provision for Taxation	-	
Less: Non-Cash Incomes		
Profit on Sale of Fixed Assets	(-)	
Profit on Revaluation of Fixed Assets	(-)	
Profit on Redemption of Debentures	(-)	
Profit on Redemption of Shares	(-)	
Operating Profit before Working Capital Changes	-	

Add: Decrease in Current Assets	-	
Less: Increase in Current Assets	(-)	
Add: Increase in Current Liabilities	-	
Less: Decrease in Current Liabilities	(-)	
Cash generated from Operations	-	
Less: Income Tax paid	(-)	
Add: Income Tax Refund	-	
Net cash from Operating Activities after Income Tax but before Extra-ordinary Items		
Add: Cash Inflows from Extra-ordinary Items	-	
Less: Cash Outflows from Extra-ordinary Items	-	
Net cash flows from / used in operating activities		-
Cash Flows from Investing Activities		
Proceeds from Sale of Fixed Assets	-	
Cash Payment for Purchases of Fixed Assets	(-)	
Interest Received	-	
Dividend Received	-	
Net Cash Flows from / used in Investing Activities		-
Cash Flows from Financing Activities		
Proceeds from Issue of Shares	-	
Proceeds from Issue of Debentures	-	
Proceeds from Long-term Borrowings	-	
Redemption of Shares	(-)	
Redemption of Debentures	(-)	
Repayment of long-term borrowings	(-)	
Interest paid	(-)	
Dividend paid	(-)	
Net Cash flows from / used in Financing Activities		-
Net increase / decrease in cash and cash equivalents	-	
Cash and Cash equivalent at the beginning of the period	-	
Cash and Cash equivalents at the end of the period	-	

Illustration No. 4

You are required to prepare cash flow statement from Balance Sheets of THEER & TARKH Company on 31.12.04 and 31.12.05 in the Traditional method and AS-3.

BALANCE SHEETS

	31.12.2004	31.12.2005		31.12.2004	31.12.2005
Liabilities	Rs.	Rs.	Assets	Rs.	Rs.
Share Capital	1,25,000	1,53,000	Cash	10,000	7,000
Capital Reserve	-----	25,000			
Creditors	40,000	44,000	Debtors	30,000	75,000
Mrs. A's Loan	25,000	---	Stock	35,000	25,000
Loan from Bank	40,000	50,000	Machinery	80,000	55,000
			Land	40,000	50,000
			Building	35,000	60,000
	2,30,000	2,72,000		2,30,000	2,72,000

During the year a machine costing Rs. 10,000, accumulated depreciation Rs. 3,000 was sold for Rs. 5,000. The provision for depreciation against machinery as on 31.12.2004 was Rs. 25,000 and on 31.12.2005 Rs. 40,000. Net profit for the year 2005 amounted to Rs. 45,000. Building has been revalued and credited to capital reserve account.

Solution:**Cash flow statement
(Traditional Method)**

	Rs.	Rs.
Cash Balance as on 31.12.2004		10,000
Add: Sources:		
Cash from Operations	34,000	
Loan from Bank	10,000	+49,000
Sale of Machinery	<u>5,000</u>	
Less: Applications:		
Purchase of Land	10,000	
Mrs. A's Loan repayment	25,000	
Drawings	<u>17,000</u>	-52,000
Cash Balance as on December 31, 2005		7,000

Working Notes:**Cash from operations**

Profit made during the year		Rs. 45,000
Add: Depreciation on Machinery	18,000	
Loss on Sale of Machinery	2,000	
Decrease in Stock	10,000	
Increase in Creditors	<u>4,000</u>	<u>34,000</u>
		79,000
Less: Increase in Debtors		<u>45,000</u>
Cash from Operations		34,000

Capital account

Dr.	Rs.	Cr.
To cash-Drawings (Balancing figure)	17,000	By Balance b/d 1,25,000
To Balance c/d	<u>1,53,000</u>	By Profit 45,000
	<u>1,70,000</u>	<u>1,70,000</u>

Dr.	Machinery account (at cost)	Cr.
To Balance b/d	1,05,000	By Bank 5,000
		By Loss on Sale of Machinery 2,000
		By Provision for Depreciation 3,000
		By Balance c / d 95,000
	<u>1,05,000</u>	<u>1,05,000</u>

Dr.	Provision for depreciation Account	Cr.
To Machinery A/c	3,000	By Balance b/d 25,000
To Balance c/d	<u>40,000</u>	By P & L A/c (Depreciation charged 18,000 Balancing figure)
	<u>43,000</u>	<u>43,000</u>

Note: Revaluation of Building is a non-cash item and so does not appear in cash flow statement.

Cash flow statement (AS – 3 (Revised) Method)

I.	Cash flows from operating activities	Rs.
	Net profit made during the year	45,000
	Adjustments for depreciation	18,000
	Loss on sale of machinery	<u>2,000</u>
	Operating profit before working capital changes	65,000
	Decrease in stock	10,000
	Increase in creditors	4,000
	Increase in Debtors	(45,000)
	Net Cash flows from operating activities	<u>34,000</u>
II.	Cash flows from investing activities	
	Sale of machinery	5,000
	Purchase of land	(10,000)
	Net Cash flow from investing activities	(5,000)
III.	Cash flows from financing activities	
	Loan from bank	10,000
	Ms. A's loan repayment	(25,000)
	Drawings	<u>(17,000)</u>
	Net Cash flow from financing activities	(32,000)
	Net increase (decrease) in cash and cash equivalent	(3,000)
	Cash and cash equivalents at the beginning of the period	<u>10,000</u>
	Cash and cash equivalents at the end of the period	7,000

Illustration No. 5

Following are the summarized balance sheets of Cherry and Dimpy Ltd as on 31st March 2005 and 2006, you are required to make the Statement of cash flow under the Traditional Method and AS-3 (Revised Method).

Liabilities	2005	2006
Equity Share capital	2,00,000	2,50,000
General Reserve	50,000	60,000
Profit and Loss A/c	30,500	30,600
Bank Loan (Long Term)	70,000	---
Sundry Creditors	1,50,000	1,35,200
Provision for taxation	30,000	35,000
	5,30,500	5,10,800

Assets	2005	2006
Machinery	1,50,000	1,69,000
Land and Building	2,41,800	2,28,200
Goodwill	-----	5,000
Stock	74,000	20,000
Debtors	64,200	80,000
Bank	---	8,000
Cash	500	600
	5,30,500	5,10,800

Additional Information:

During the year ended 31st March, 2006.

- (i) Dividend Rs. 23,000 was paid.
- (ii) Assets of another company were purchased for a consideration of Rs. 50,000, payable in shares for purchase of the assets- stock: Rs. 20,000; Machinery Rs. 25,000.
- (iii) Machinery was further purchased for Rs. 8,000.
- (iv) Depreciation written off on machinery Rs. 12,000; Land & Buildings Rs. 13,600.
- (v) Income tax provided during the year Rs. 33,000.
- (vi) Loss on sale of machinery Rs. 200 was written off to General reserve.

Solution:**Machinery A/c**

Dr.		Cr.
To Balance b/d	1,50,000	By General Reserve (Loss on sale of Machine)
To Share Capital a/c (Purchase by issue of shares)	25,000	By Depreciation
To Cash (Purchase of machinery)	8,000	By Cash (Sale of machine)- Balancing figure
	<u>1,83,000</u>	By Balance c/d
		<u>1,69,000</u>
		<u>1,83,000</u>

Provision for Taxation A/c

	Rs.	Rs.
To Bank (Tax paid)	28,000	By Balance b/d
To Balance c/d	35,000	By Profit & Loss a/c (Tax provision)
	<u>63,000</u>	<u>63,000</u>

Dr.	General Reserve Account		Cr.
	Rs.		Rs.
To Machinery account (Loss on sale)	200	By Balance b/d	50,000
To Balance c/d	60,000	By Profit and Loss Adjustment A/c (transfer of profit)	10,200
	<u>60,200</u>		<u>60,200</u>

Profit and Loss Adjustment Account

	Rs.		Rs.
To General Reserve A/c	10,200	By opening Balance b/d	30,500
To Provision for taxation	33,000	By funds from operations (Balancing figure)	91,900
To Machinery- Depreciation	12,000		
To Land and Buildings - Depreciation	13,600		
To Dividend paid	23,000		
To closing balance c/d	30,600		
	<u>1,22,400</u>		<u>1,22,400</u>

Decrease in Stock

Opening Stock		74,000
Closing Stock	20,000	
Less Stock acquired * in acquisition	<u>20,000</u>	nil
Decrease in Stock – Increase in cash		<u>74,000</u>

Cash Flow Statement for the year ending 31st March, 2006 (Traditional Method)

	Rs.	Rs.
Opening Cash & Bank Balance		500
Sources:		
Funds from Operations	91,900	
Sale of Machinery	1,800	
Decrease in stock	<u>74,000</u>	

Uses:		+ 1,67,700
Increase in Debtors	15,800	
Purchase of Machinery	8,000	
Tax Paid	28,000	
Dividends paid	23,000	
Decrease in creditors	14,800	
Repayment of Bank Loan	<u>70,000</u>	1,59,600
Closing Cash & Bank Balance		8,600

Note: Acquisition of business-stock and machinery-in exchange of share is a non-cash transaction.

Cash Flow Statement
As-3 (Revised Method)

	Rs.	Rs.
Cash Flows from operating activities		
Net profit made during the year (100+10,200+23,000+33,000)	66,300	
Adjustment for depreciation on Land and Building	13,600	
Adjustment for depreciation on Machinery	12,000	
Operating profit before working capital changes	<u>91,900</u>	
Decrease in stock	74,000	
Increase in Debtors	(15,800)	
Decrease in creditors	(14,800)	
Income Tax Paid	<u>(28,000)</u>	
1. Net cash Flows from operating activities		1,07,300
Cash flows from investing activities		
Sale of Machinery	1,800	
Purchase of Machinery	<u>(8,000)</u>	
2. Cash from investing activities		(6,200)
Cash Flows from financing activities		

Repayment of Bank Loan	(70,000)	
Dividend paid	(23,000)	
3. Cash Flows from Financing Activities		(93,000)
Net increase in cash and cash equivalents		8,100
Cash and cash equivalents at the beginning of the period		500
Cash and cash equivalents at the end of the period		8,600

11.13 STATEMENT OF CHANGES IN FINANCIAL POSITION (TOTAL RESOURCES BASIS)

Here, the term “Funds” refer to all financial resources. The resources may be in any form-material, machinery, money and others- used in the business. The term ‘funds’ is used in the comprehensive way. This is a statement summarising the effect of changes in cash, along with other significant investment and financing activities, which do not involve cash.

Preparation: Preparation of this statement is similar to the preparation of cash flow statement. In cash flow statement, transactions like conversion of debentures into shares and issuance of bonus shares do not get reflected, as they do not affect cash. In this statement, these types of transactions are shown under the head **‘Financial Resources not affecting cash’** both under sources and uses in this statement, **additionally**. This is the only difference. This provides the comprehensive picture of total resources. There is no fixed standard format for presentation.

An illustration explains the concept better.

Illustration No. 6

From the following comparative Balance Sheets of Kishore & Co Ltd, prepare the Cash Flow Statement on Total Financial Resources basis.

**Comparative Balance Sheets
for the year ended 31st March, 2005 and 2006**

		(Rs.)
	2005	2006
Current Assets		
Bank	65,000	1,65,000
Debtors	45,000	70,000
Inventory	90,000	62,000
Total current assets	2,00,000	2,97,000

Fixed Assets		
Goodwill	-----	50,000
Land & Building	2,00,000	2,50,000
Equipment	2,50,000	2,95,000
Less: Accumulated Depreciation	(80,000)	(95,000)
Total net fixed assets	3,70,000	5,00,000
Total Assets	5,70,000	7,97,000
Current Liabilities		
Creditors	15,000	2,000
Salaries payable	22,000	60,000
Provision for tax	60,000	5,000
Proposed dividend	25,000	10,000
Total Current Liabilities	1,22,000	77,000
Long-term Liabilities		
Long-term loan	18,000	84,000
Debentures	1,30,000	1,06,000
Total long-term liabilities	1,48,000	1,90,000
Total Liabilities	2,70,000	2,67,000
Shareholders' Equity		
Equity share capital	2,35,000	3,75,000
Share premium	25,000	65,000
Reserves and surplus	40,000	90,000
Net Worth	3,00,000	5,30,000
Total Funds	5,70,000	7,97,000

The additional information is given below:

1. Debentures of Rs. 24,000 were converted to share capital, at par.
2. During the year, equipment costing Rs. 40,000 (accumulated depreciation Rs. 12,000) was sold for 32,000.
3. The company acquired another company for Rs. 1,00,000 for which equity shares were issued. Assets acquired were Goodwill Rs.50,000 and Building Rs. 50,000.
4. The company declared a cash dividend of Rs. 25,000.
5. The company issued additional shares, par value Rs. 100 per share, at a premium during the year.

6. Bonus shares were also issued, at par, for Rs. 10,000.
 7. Payment of tax Rs. 60,000 was made and a new provision for Rs.5,000 has been created.

Solution:**Cash from operations**

	Rs.	Rs.
Net Profit during the year		70,000
Add: Depreciation	27,000	
Decrease in stock	28,000	
Increase in salaries Payable	38,000	
Provision for tax made	<u>5,000</u>	+98,000
Less: Profit on sale of Equipment	4,000	
Decrease in creditors	13,000	
Increase in debtors	<u>25,000</u>	42,000
Cash from operations		1,26,000

Dr. Reserves and Surplus Account Cr.

Dr.	Rs.	Cr.
To Proposed dividend	10,000	By Balance b/d 40,000
To Share capital (Bonus shares issue)	10,000	By Profit and Loss Account (Profit made during the year 70,000 Balancing figure)
To Balance c/d	<u>90,000</u> <u>1,10,000</u>	<u>1,10,000</u>

Dr. Accumulated Depreciation Account Cr.

Dr.	Rs.	Cr.
To Sale of asset (Depreciation on the asset sold)	12,000	By Balance b/d 80,000
To Balance c/d	<u>95,000</u> <u>1,07,000</u>	<u>27,000</u> <u>1,07,000</u>

Dr.	Equipment Account		Cr.
	Rs.		Rs.
To Balance b/d	2,50,000	By sale of asset	40,000
To cash (purchase of new equipment - Balancing figure)	85,000		
	<u>3,35,000</u>	By Balance c/d	2,95,000
			<u>3,35,000</u>

Dr.	Equity Share Capital Account		Cr.
	Rs.		Rs.
		By Balance b/d	2,35,000
		By Reserves and Surplus Account (issue of bonus shares)	10,000
		By Acquisition of company	1,00,000
		By Cash (Balancing figure)	6,000
		By Debentures Account (Conversion of debentures into shares)	24,000
To Balance c/d	3,75,000		<u>3,75,000</u>
	<u>3,75,000</u>		

Cash Flow Statement

Sources:	
Cash from operations	1,26,000
Cash from issue of shares	6,000
Cash from share premium	40,000
Sale of equipment	32,000
Receipt of long-term loan	66,000
Financial resources, not affecting cash - Sources	
Issue of Bonus shares from Reserves and Surplus	10,000

Issuance of equity shares for purchase of Goodwill and Equipment	1,00,000
Issuance of equity shares for conversion of Debentures	<u>24,000</u>
Financial Resources Provided	4,04,000
Uses:	
Purchase of Equipment	85,000
Payment of tax	60,000
Payment of dividend	25,000
Financial resources, not affecting cash –Uses	
Purchase of Goodwill	50,000
Purchase of Equipment	50,000
Issue of Bonus shares from Reserves and Surplus	10,000
Payment of Debentures through issuance of equity shares	<u>24,000</u>
Financial Resources Applied	3,04,000
Increase in Bank Balance	<u>1,00,000</u>

Descriptive Questions:

1. What is a Cash Flow Statement? Explain the meaning, need and its objectives? (**11.2, 11.3 and 11.4**)
2. Describe the classification of cash flows from Operating, Investing and Financing Activities in a Cash Flow Statement? (**11.2 and 11.5**)
3. Explain the Procedure of preparing Cash Flow Statement and method of calculating fund from operating activities? (**11.6, 11.7, 11.8 and 11.10**)
4. Describe different methods of preparing Cash Flow Statement? (**11.9**)
5. Differentiate between Funds Flow Statement and Cash Flow Statement? (**11.11**)
6. What is a Cash Flow Statement and describe the different steps involved in preparing Cash Flow Statement? (**11.2 and 11.7**)
7. Describe Limitations of Cash Flow Statement? (**11.12**)

Check Your Understanding

State whether the following statements are true or false:

1. Every listed company has an option to prepare and enclose the cash flow statement or funds flow statement along with the financial statements.
2. Cash flow statement describes the inflows and outflows of cash.

3. Cash equivalents are short term, highly liquid investments that are readily convertible into cash.
4. As per AS-3 (Revised), cash flows resulting from the sale of fixed assets are classified as cash flows from investing activities.
5. Cash flow statement reveals the effects of transactions involving movement of cash.
6. Cash Flow Statement is a summary of cashbook.
7. Increase in provision for doubtful debts should be added back to net profit in order to find out cash from operations.
8. Funds Flow Statement and Cash Flow Statement serve the same purpose.
9. A "Cash Flow Statement" can very well be equated with an "Income Statement".
10. Cash flow statement is based upon accrual basis of accounting.
11. The term "Funds" means "Current Assets" in case of a cash flow analysis.
12. Cash flow statement is a substitute of a Cash Account.

Answers

1. False
2. True
3. True
4. True
5. True
6. True
7. True
8. False
9. False
10. False
11. False
12. False

Choose the correct answer:

1. In the context of Cash Flow Statement, the term "Fund" refers to
 - (a) Working capital
 - (b) Cash and cash equivalents
 - (c) Total Resources
 - (d) None
2. Cash from operations is equal to:
 - (a) Net profit plus increase in outstanding expenses;
 - (b) Net profit plus increase in debtors;
 - (c) Net profit plus increase in stock.
3. In the context of Cash Flow Statement, the term 'cash' is equivalent to
 - (a) Physical cash on hand
 - (b) Physical cash on hand and demand deposits in a Bank
 - (c) Physical cash on hand and all types of deposits in a Bank

Answers

1. (b)
2. (a)
3. (b)

State the effect of each of the following transactions considered, individually, on funds (cash concept):

- (a) Purchase of Furniture for cash.
- (b) Purchase of Plant and Machinery against a long-term loan payable.
- (c) Bonus shares issued, capitalising profits.

Answer

Fund denotes 'Cash'. Item (a) will result in decrease of cash, while items (b) and (c) will have no effect on cash.

Fill in the Blanks:

1. Cash payments to suppliers for goods and services are classified as cash flows from activities.
2. Income from long-term investments is cash flow from activities.
3. Decrease in Debtors is ... of cash.
4. Net cash flow is the difference of... andof Cash.

Answers

1. Operating
2. Investing
3. Inflow
4. Inflow, Outflow

Interview Questions**Q.1.** What is the purpose of Cash Flow Statement?

Ans. Cash Flow Statement is a summary of cashbook. It is a statement, which contains the inflows (sources) and outflows (uses) of cash and cash equivalents, during a specified period. A cash Flow Statement explains the causes of changes in the cash position of a business enterprise, between two balance sheet dates. Firm may be profitable, yet it may experience difficulty, even, to make payment of wages and salaries. Firm wants to understand, where the profit has gone and for what purposes, the profit amount has been utilized. This is possible with Cash Flow Statement. Through Cash flow statement, management can assess, monitor and control the available liquidity in the enterprise.

Q.2. Do you consider Cash Flow Statement is better in utility compared to Funds Flow Statement?

Ans. Yes, Cash Flow Statement is better in utility compared to Funds Flow Statement.

Funds Flow Statement shows increase or decrease in working capital and changes in assets and liabilities. However, working capital concept does not reveal the true picture of availability of cash. In the Funds Flow Statement, cash and inventories are treated, alike. All the components of working capital are treated, equally, in respect of availability from the viewpoint of time. However, this is not the correct picture as their time and quality of realisation are different, from the viewpoint of cash.

Debtors take less time for converting into cash, while inventories take more time for realisation. Similarly, inventories may consist of dead stock that has not been written off. Debtors may have bad debts that are not yet removed. Funds Flow Statement does not recognise this basic difference in their nature. An enterprise may have more slow paying debtors and non-moving stocks, with little cash or its equivalents. Due to comfortable working capital position, Funds Flow Statement does not throw the real picture about the inadequacy of cash. Only, when Cash Flow Statement is prepared, the real situation about the adequacy of funds, in the sense of cash, is known.

So, Cash Flow Statement is superior to Funds Flow Statement in respect of utility.

Q.3. Is it necessary to prepare and publish Cash Flow Statement?

Ans. It is necessary for a limited company to prepare and publish Cash Flow Statement, in case it is a listed company (shares of the company, listed on the stock exchange) or its turnover exceeds rupees fifty crores, though not listed. In such circumstances, it is necessary for the concerned company to enclose the Cash Flow Statement to the financial statements—Profit and Loss Account and Balance Sheet. The Cash Flow Statement is to be in the prescribed format and should follow the guidelines of AS-3 (Revised). It should follow the format of indirect method of AS-3.

Q.4. What is meant by 'Flows' in the context of Cash Flow Statement?

Ans. The term 'Flows' mean inflows (receipts) and outflows (payments) of cash. Cash Flow statement is a summary of cash book in a condensed form.

Q.5. Do you consider inventory and receivables stand on the same level in respect of realization into cash?

Ans. No, inventory and receivables do not stand on the same level in respect of realization into cash. Receivables get realized faster into cash, compared to inventory. In inventory, there are three components, raw materials, work-in-progress and finished products. Amongst the components of inventory, finished goods get realized, quickly, as they can be sold in the form they are. In the event of discontinuation of business, liquidation or any other unforeseen event, raw materials can be sold, but the same is not the case with work-in-progress. Work-in-progress is the most difficult component to be sold as only those firms who deal in that activity buy it. In consequence, there would be limited buyers for work-in-progress.



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CHAPTER
12

Management Accounting

- Introduction**
- Divisions of Accounting**
- Financial Accounting**
- Concept of Management Accounting**
- Management Accounting-Definition**
- Importance and Need of Management Accounting**
- Role of Management Accounting in Management Process**
- Objectives/Functions of Management Accounting**
- Differences between Financial Accounting and Management Accounting**
- Limitations of Management Accounting**
- Check Your Understanding**
- Descriptive Questions**
- Interview Questions**

12.1 INTRODUCTION

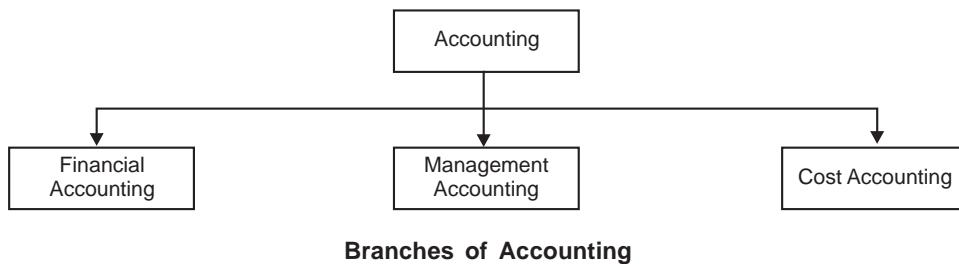
The process of management can never be reduced to a formula. Successful ways of yesterday may turn unsuccessful for today as the environment of the business enterprises has been changing fast. Change has become a normal matter in all walks of life. New problems and opportunities have become a matter of routine in today's business environment. Management wants information about its own business and others in the industry to sharpen the process of decision-making process to overcome problems and turn challenges/opportunities to profit.

12.2 DIVISIONS OF ACCOUNTING

Accounting involves collection, recording, classification and presentation of financial data. Meaning of the term ‘Accounting’ and the different users has already been covered in the earlier chapters.

The word ‘Accounting’ can be classified into three categories:

- (A) Financial Accounting
- (B) Management Accounting and
- (C) Cost Accounting



12.3 FINANCIAL ACCOUNTING

Financial Accounting has come into existence with the development of large-scale business in the form of joint-stock companies. As public money is involved in share capital, Companies Act has provided a legal framework to present the operating results and financial position of the company. Financial Accounting is concerned with the preparation of Profit and Loss Account and Balance Sheet to disclose information to the shareholders. Financial accounting is oriented towards the preparation of financial statements, which summarises the results of operations for select periods of time and show the financial position of the business on a particular date. Financial Accounting is concerned with providing information to the external users. Preparation of financial statements is a statutory obligation. Financial Accounting is required to be prepared in accordance with Generally Accepted Accounting Principles and Practices. In fact, the corporate laws that govern the enterprises not only make it mandatory to prepare such accounts, but also lay down the format and information to be provided in such accounts. In sharp contrast, management accounting is entirely optional and there is no standard format for preparation of the reports.

Financial Accounts relate to the business as a whole, while management accounts focuses on parts or segments of the business.

12.4 CONCEPT OF MANAGEMENT ACCOUNTING

Management Accounting is a new approach to accounting. The term Management Accounting is composed of two words — Management and Accounting. It refers to Accounting for the Management.

Management Accounting is a modern tool to management. Management Accounting provides the techniques for interpretation of accounting data. Here, accounting should serve the needs of management. Management is concerned with decision-making. So, the role of management accounting is to facilitate the process of decision-making by the management.

Managers in all types of organizations need information about business activities to plan, accurately, for the future and make decisions for achieving the goals of the enterprise.

Uncertainty is the characteristic of the decision-making process. Uncertainty cannot be eliminated, altogether, but can be reduced.

The function of Management Accounting is to reduce the uncertainty and help the management in the decision making process.

Management accounting is that field of accounting, which deals with providing information including financial accounting information to managers for their use in planning, decision-making, performance evaluation, control, management of costs and cost determination for financial reporting.

Managerial accounting contains reports prepared to fulfil the needs of managements.

12.5 MANAGEMENT ACCOUNTING-DEFINITION

Different authorities have provided different definitions for the term ‘Management Accounting’. Some of them are as under:

“Management Accounting is concerned with accounting information, which is useful to the management”.

—**Robert N. Anthony**

“Management Accounting is concerned with the efficient management of a business through the presentation to management of such information that will facilitate efficient planning and control”.

—**Brown and Howard**

“Any form of Accounting which enables a business to be conducted more efficiently can be regarded as Management Accounting”

—**The Institute of Chartered Accountants of England and Wales**

The Certified Institute of Management Accountants (CIMA) of UK defines the term ‘Management Accounting’ in the following manner:

“Management Accounting is an integral part of management concerned with identifying, presenting and interpreting information for:

- (1) formulating strategy
- (2) planning and controlling activities
- (3) decision taking
- (4) optimizing the use of resources

- (5) disclosure to shareholders and others, external to the entity
- (6) disclosure to employees
- (7) safeguarding assets".

From the above definitions, it is clear that the management accounting is concerned with that accounting information, which is useful to the management. The accounting information is rearranged in such a manner and provided to the top management for effective control to achieve the goals of business.

Thus, management accounting is concerned with data collection from internal and external sources, analyzing, processing, interpreting and communicating information for use, within the organization, so that management can more effectively plan, make decisions and control operations. The information to be collected and analysed has been extended to its competitors in the industry. This provides more meaningful clues for proper decision-making in the right direction.

The information in the management accounting system is used for three different purposes:

- (A) Measurement
- (B) Control and
- (C) Decision-making

Situation specific: The reports in managerial accounting are situation specific. Information in the accounting statements is to be culled out to meet the requirements of the relevant situation and presented to the management for specific problem, situation or decision.

12.6 IMPORTANCE AND NEED OF MANAGEMENT ACCOUNTING

Conventional forms of business—sole proprietorship and partnership form—have given the way to joint stock company formation. More so, modern business is complex in nature. Delegation of authority and decentralization of decision-making process has become the order of the day in conducting business. The functions of management are no longer personal. A system of information is needed to help the management to analyse, measure and check the functioning of each division or unit for decision-making to achieve the goals of the business. Management Accounting plays the role in meeting the needs of the management.

Management Accounting accumulates, measures and reports relevant information to the management and facilitates in achieving the objectives of the firm. The important point is that the information presented to the management should be relevant and issue based to enable the management to concentrate on the actual issue to deliberate and arrive at a specific conclusion, even, for a complex problem.

12.7 ROLE OF MANAGEMENT ACCOUNTING IN MANAGEMENT PROCESS

An enterprise would operate, successfully, if it directs all its resources and efforts to accomplish its specified objective in a planner manner, rather than reacting to events.

Organisation has to be both efficient and effective. Organisation is effective when the planned objective is achieved. However, the firm is efficient only when the objective is achieved, with minimum cost and resources, both in physical and monetary terms. The role of Management Accounting is significant in making the firm both efficient and effective.

Management Accounting has brought out clear shift in the objective of accounting. From mere recording of transactions, the emphasis is on analyzing and interpreting to help the management to secure better results. In this way, Management Accounting eliminates intuition, which is not at all dependable, from the field of business management to the cause and effect approach.

It is well known the basic functions of management are:

- (1) Planning,
- (2) Organising,
- (3) Controlling and
- (4) Decision-making

Management accounting plays a vital role in the managerial functions performed by the managers.

(1) Planning: Planning is the real beginning of any activity. Planning establishes the objectives of the firm and decides the course of action to achieve it. It is concerned with formulating short-term and long-term plans to achieve a particular end.

Planning is a statement of what should be done, how it should be done and when it should be done.

While planning, management accountant uses various techniques such as budgeting, standard costing, marginal costing etc for fixing targets. For example, if a firm determines to achieve a particular level of profit, it has to plan how to reach the target. What products are to be sold and at what prices? The Management Accountant develops the data that helps managers to identify more profitable products. What are the different ways to improve the existing profits by 25%? Management Accounting throws various alternatives to achieve the goal.

(2) Organising: Organising is a process of establishing the organizational framework and assigning responsibility to people working in the organization for achieving business goals and objectives. The organizational structure may not be the same in all organizations, some may have centralized, while others may be decentralized structures. The management accountant may prepare reports on product lines, based on which managers can decide whether to add or eliminate a product line in the current product mix.

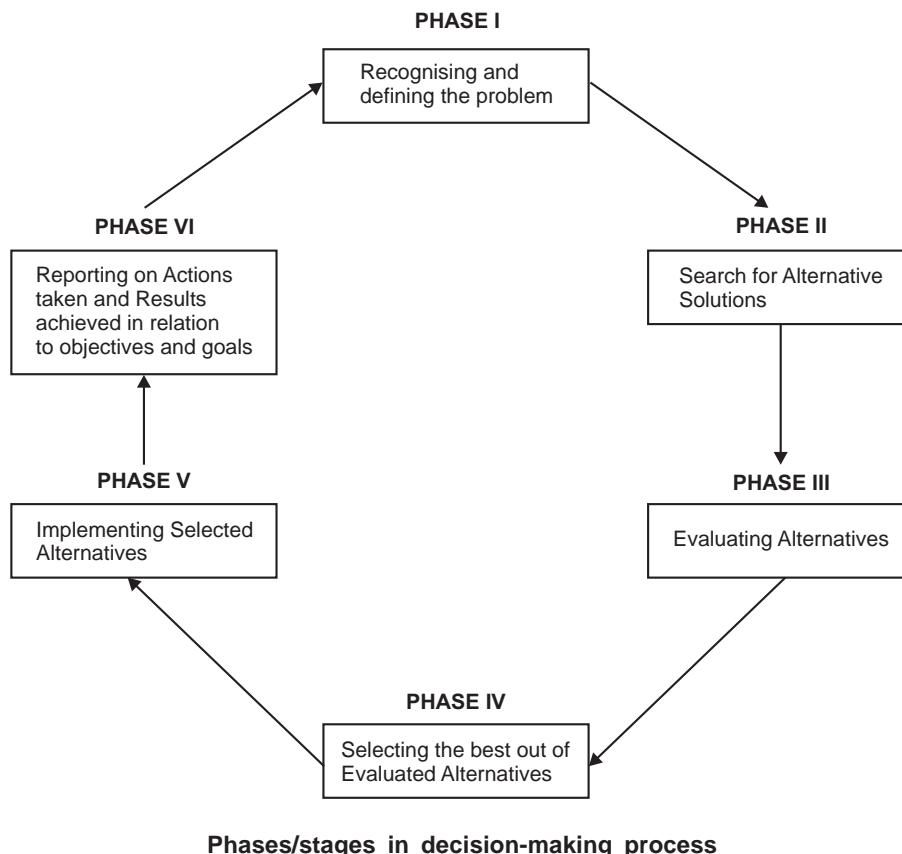
(3) Controlling: Control is the process of monitoring, measuring, evaluating and correcting actual results to ensure that a firm's goals and plans are achieved. Control is achieved through the process of feedback. Feedback allows the managers to allow the operations continue as they are or take corrective action, by some rearranging or correcting at midstream. The use of performance and control reports serve the function of controlling. For example, a

production supervisor may receive weekly or daily performance reports, comparing actual material cost with planned costs. Significant variances can be isolated for corrective action. In the normal course, periodical reports are submitted, appraising the performance against the targets set. Reports for action are given to the top management, following the principle of management by exception.

Performance and control reports do not tell managers what to do. These feedback reports identify, where attention is needed to help managers to determine the required course of action.

- (4) Decision-making:** Decision-making is a process of choosing among competing alternatives. Decision-making is inherent in all the above three functions of management-planning, organizing and controlling. There may be different methods or objectives. The manager can plan or choose only one of the competing plans. Similarly, in organizing, decision can be made whether the organizational structure should be centralized or decentralized. In control function, manager can decide whether variance is worthy to investigate or not.

The decision-making process includes the following phases/steps:



Decision-making process: Management Accountant plays a critical role in the decision-making process. Management Accountant contains a storehouse of valuable information for predicting the results of various courses of action. The Management Accountant can assist the management in formally structuring the problem, identifying various alternatives and their consequences in a form that will be easier to the management to evaluate and decide.

12.8 OBJECTIVES/FUNCTIONS OF MANAGEMENT ACCOUNTING

The primary objective of Management Accounting is to maximize profits or minimize losses. This is done through the presentation of statements in such a way that the management is able to take corrective policy or decision. The manner in which the Management Accountant satisfies the various needs of management is described as follows:

- (1) **Storehouse of Reliable Data:** Management wants reliable data for Planning, Forecasting and Decision-making. Management accounting collects the data from various sources and stores the information for appropriate use, as and when needed. Though the main source of data is financial statements, Management Accounting is not restricted to the use of monetary data only. While preparing a sales budget, the management accountant uses the past data of the products sold from the financial records and makes projections based on the consumer surveys, population figures and other reliable information to estimate the sales budget. So, management accounting uses qualitative information, unlike financial accounting, for preparing its reports, collecting and modifying the data for the specific purpose.
- (2) **Modification and Presentation of Data:** Data collected from financial statements and other sources is not readily understandable to the management. The data is modified and presented to the management in such a way that it is useful to the management. If sales data is required, it can be classified according to product, geographical area, season-wise, type of customers and time taken by them for making payments. Similarly, if production figures are needed, these can be classified according to product, quality, and time taken for manufacturing process. Management Accountant modifies the data according to the requirements of the management for each specific issue to be resolved.
- (3) **Communication and Coordination:** Targets are communicated to the different departments for their achievement. Coordination among the different departments is essential for the success of the organisation. The targets and performances of different departments are communicated to the concerned departments to increase the efficiency of the various sections, thereby increasing the profitability of the firm. Variance analysis is an important tool to bring the necessary matters to the attention of the concerned to exercise control and achieve the desired results.
- (4) **Financial Analysis and Interpretation:** Management accounting helps in strategic decision-making. Top managerial executives may lack technical knowledge. For example, there are various alternatives to produce. There is always a choice for the sales mix. Management

Accountant gives facts and figures about various policies and evaluates them in monetary terms. He interprets the data and gives his opinion about various alternative courses of action so that it becomes easier to the management to take a decision.

- (5) **Control:** It is absolutely essential that there should be a system of monitoring the performance of all divisions and departments so that deviations from the desired path are brought to light, without delay and are corrected then and there. This process is termed as control. The aim of this function ‘control’ is to facilitate accomplishment of the goals in an efficient manner. For the discharge of this important function, management accounting provides meaningful information in a systematic and effective manner. However, the role of accountant is misunderstood. Many consider the accountant as a controller of their performance. Many accountants themselves misunderstand their own role as controllers. The real role of control is effective communication and assist the managers in achieving their goals, as efficiently as possible.
- (6) **Supplying Information to Various Levels of Management:** Every level of management requires information for decision-making and policy execution. Top-level management takes broad policy decisions, leaving day-to-day decisions to lower management for execution. Supply of right information, at proper time, increases efficiency at all levels.
- (7) **Reporting to Management:** Reporting is an important function of management accounting to achieve the targets. The reports are presented in the form of graphs, diagrams and other statistical techniques so as to make them easily understandable. These reports may be monthly, quarterly, and half-yearly. These reports are helpful in giving constant review of the working of the business.
- (8) **Helpful in taking Strategic Decisions:** There are complicated decisions in respect of make or buy, discontinuance of a product line, exploring new market areas etc. In the absence of systematic accounting information, it is difficult to take decisions on such vital areas.

12.9 DIFFERENCES BETWEEN FINANCIAL ACCOUNTING AND MANAGEMENT ACCOUNTING

The points of difference between Financial Accounting and Management Accounting are set out as below:

Features	Financial Accounting	Management Accounting
1. Objective	Basic purpose is to prepare Profit and Loss Account and Balance Sheet to show profitability and financial position, respectively.	Designed to collect information about the optimum use of resources, policy formation and control purposes.
2. Sources of Principles	Generally Accepted Accounting Principles and Practices of Accounting.	Flexible and tailored to meet the specific needs of management.

3. Coverage	Entire business activity.	Segments of business activity or organization, as a whole.
4. Degree of accuracy	As exact as possible, with emphasis on accuracy.	Emphasis is on prompt and timely reporting, even if less precise. Decision maker is satisfied, if information is correct to a large extent.
5. Data	Mainly concerned with presentation of data.	Mainly concerned with analysis of data.
6. Time span covered	Concerned with the past data. So, it is said post-mortem analysis of past activity.	Mainly concerned with future. So, it supplies information both for the present and future.
7. Sources of data	Internal.	Both internal and external.
8. Legal compulsion	Generally, there is legal compulsion.	There is no legal compulsion, totally optional.
9. Users	Serves external users like shareholders, debenture holders and financial institutions.	Exclusively for internal use.

12.10 LIMITATIONS OF MANAGEMENT ACCOUNTING

Despite the development of Management Accounting as an effective discipline to improve the managerial performance, some of the limitations are as under:

- Accuracy is not Ensured:** Management Accounting is largely based on estimates. It does not deal with actuals, alone, and thus total accuracy is not ensured under Management Accounting.
- A Tool in the Hands of Management:** Management Accounting is definitely a tool in the hands of management, but cannot replace management.
- Strength and Weakness:** Management Accounting derives information from Financial Accounting, Cost Accounting and other records. The strength and weakness of these basic information providers become the strength and weakness of Management Accounting too.
- Costly Affair:** The installation of Management Accounting is a costly affair so all the organizations, in particular, small firms cannot afford.
- Lack of Knowledge and Understanding:** The emergence of Management Accounting is the fusion of a number of subjects like statistics, economics, engineering and management theory. Any inadequate grounding in any one or more of the subjects is bound to have an unfavourable effect on the consideration and solution of the problems, relating to management performance.

6. **Persistence on Intuitive Decision-making:** Though the main contribution of Management Accounting is elimination of intuitive approach, there is always a temptation to take an easy course of arriving at decisions, by intuition, rather than taking the tortuous path of scientific decision-making.
7. **Psychological Resistance:** Adoption of a system of Management Accounting brings about a radical change in the established pattern of the activity of the management personnel. It calls for rearrangement of personnel as well as their activities. This is bound to encounter opposition from some quarter or other.
8. **Evolutionary Stage:** Comparatively, Management Accounting is a new discipline and is still very much in a stage of evolution. Therefore, it comes across the same difficulties or obstacles, which a relatively new discipline has to face.

Check Your Understanding

State whether the following statements are True or False

1. Any form of accounting, which enables a business to be conducted more efficiently can be regarded as Management Accounting.
2. Standard formats are used in management accounting for preparation of reports.
3. In Management Accounting, Generally Accepted Accounting Principles and Practices of Accounting govern the preparation of reports.
4. It is optional for a company to have financial accounting.
5. Management Accounting reports are public documents.
6. Decision-making is a process of choosing among competing alternatives.
7. Management Accounting tailors financial information to meet the specific needs of management.
8. Management Accounting is futuristic in its orientation.
9. The accounting information system for financial accounting and management accounting is same.
10. Like financial accounting, management accounting uses information, expressed in monetary terms only.

Answers

1. True, 2. False, 3. False, 4. False, 5. False, 6. True, 7. True, 8. True, 9. True, 10. False

Pick up the most appropriate:

1. Planning and control are done by

(a) top management	(b) lowest level of management
(c) all levels of management	
2. Decision-making concerns the

(a) past	(b) future
(c) past and future both	

3. The comparison of actual results with expected results is referred to as
 - (a) feedback
 - (b) controlling
 - (c) none
4. Decision-making is involved in the following function/s of management
 - (a) planning
 - (b) organizing
 - (c) controlling
 - (d) All the above functions
5. This function works like a policeman to ensure the performance of the employees:
 - (a) Controlling
 - (b) Planning
 - (c) Organizing
 - (d) None of these
6. The use of management accounting is
 - (a) Compulsory
 - (b) Optional
 - (c) Mandatory as per the law
7. Management Accounting relates to
 - (a) Collection of data from different sources
 - (b) Modification of data to meet the specific needs
 - (c) Presentation of data
 - (d) All of the above

Answers

1. (a) 2. (b) 3. (a) 4. (d) 5. (a) 6. (b) 7. (d)

Descriptive Questions

1. What are the different divisions of Accounting and explain any two of them? **(12.2 to 12.4)**
2. What is Management Accounting and explain its need to the management? **(12.4 to 12.6)**
3. What is Management Accounting? How does it help the management? **(12.4 to 12.7)**
4. How does Management Accounting differ from Financial Accounting? **(12.3, 12.4 and 12.9)**
5. What are the four basic functions of management process? How management accounting helps in this process? **(12.4 and 12.7)**
6. Describe the Role of Management Accounting in Management Process? **(12.4 and 12.7)**
7. Explain briefly the objectives of Management Accounting? **(12.8)**
8. Detail the Role of Management Accountant and give an account of the functions performed? **(12.7 and 12.8)**
9. State the limitations of Management Accounting? **(12.10)**

Interview Questions

- Q.1.** What is Management Accounting?

Ans. Any form of accounting, which helps the management in decision-making process is Management Accounting.

- Q.2.** What is the need of Management Accounting to Management?

Ans. Basic function of management is decision-making. Management Accounting helps the management in the process of decision-making.

Q.3. Do you consider Management Accounting is superior to Financial Accounting?

Ans. No, both Management Accounting and Financial Accounting have their own individual roles to play. Financial Accounting provides basic input information. Management Accounting can be well compared to expert tailoring. An experienced tailor shapes the cloth to the required pattern of his choice, removing the unwanted portions of cloth. In a similar manner, Management Accounting provides information in a convenient format to facilitate decision-making process of management. For Financial Accounting, format is more important, while content is more important to management accounting, with purpose specific approach.



CHAPTER
13

Cost Accounting

- Introduction**
- Costing and Cost Accounting**
- Objectives of Costing**
- Cost Centre and Cost Unit**
- Elements of Cost**
- Classification of Costs**
- Difference between Allocation and Apportionment**
- Methods of Costing**
- Techniques of Costing**
- Importance (Advantages) of Cost Accounting**
- Limitations of Cost Accounting**
- Check Your Understanding**
- Descriptive Questions**
- Interview Questions**

13.1 INTRODUCTION

Cost Accounting, essentially a branch of Accounting, has been developed to meet the managerial needs of business. Cost Accounting is, relatively, a recent development due to the growth of modern complexities in business. Cost Accounting is a formal system of accounting costs in the books of accounts by means of which costs of products and services are ascertained and

controlled. This information helps the business operations for the purpose of analysis and control. Cost Accounting is used in profit and non-profit sectors of the economy by manufacturing and non-manufacturing organizations. Cost Accounting facilitates presentation of information to management for the ultimate purpose of decision-making.

13.2 COSTING AND COST ACCOUNTING

Costing should not be confused with cost accounting. They are two different terms. Costing, simply, means finding out cost, by any process or technique. It can be:

- (A) Cost of manufacturing a product e.g. mobile, television, chemical etc.
- (B) Cost of providing a service e.g. transport by a specific mode, electricity etc.

Cost Accounting is the formal system for recording costs. However, both the terms costing and cost accounting are often used, interchangeably.

Costing is defined as ‘the technique and process of ascertaining costs’ by Chartered Institute of Management Accountants (CIMA).

The terminology of Cost Accountancy published by the Institute of Cost and Management Accountants, London gives the following definition to Cost Accounting:

‘The process of accounting for cost which begins with recording of income and expenditure and ends with the preparation of periodical statements and reports for ascertaining and controlling costs.’

13.3 OBJECTIVES OF COSTING

The main objectives of costing are:

- (1) To ascertain the cost of products and/or services
- (2) To determine selling price
- (3) To control costs and
- (4) To provide guidance to the management for formulation of policy.

13.4 COST CENTRE AND COST UNIT

Cost Centre: A cost centre is “a location, person or item or equipment (or group of these) for which costs may be ascertained and used for purpose of control”.

Cost centre may be

- (1) a location (department like production department, sales department)
- (2) a person (salesman, foreman)
- (3) an item of equipment (a lathe machine or delivery van)
- (4) a group of those equipments (two automatic machines operated by one workman)

Importance: The determination of cost centre is very important for ascertainment of cost and cost control. Cost accountant sets up cost centres to enable him to ascertain the costs, he needs to know. The manager incharge of cost centre is held responsible for the purpose of cost control. The size and number of cost centers are dependent upon the amount of expenditure and requirements of management for cost control.

Cost Unit: Cost centre helps in ascertaining the cost by location, equipment or person. Cost unit is a further step, which breaks up the cost into smaller sub-divisions and helps in ascertaining the cost of a saleable product or service.

A cost unit is a unit of product, service or time in relation to which cost may be ascertained or expressed. For example, the cost of steel is ascertained in terms of cost per tonne, cost of carrying a passenger in terms of per kilometer.

A few examples of cost units in different industries are given below:

Industry	Cost Unit
Cement	Per Tonne
Textile	Per Metre
Chemical	Per kg or per Tonne
Power	Per Kilowatt hour (kWH)
Automobile	Per car, vehicle

13.5 ELEMENTS OF COST

A cost is composed of three elements – Materials, Labour and Expenses. Each of these can be direct or indirect.

Material Cost: This is the cost of inputs supplied to an undertaking. For example, cotton used in a cotton mill is a direct material. However, in many cases, though material forms part of the finished product, yet it is not considered direct material. For example, nails used in furniture, thread used in stitching garments are indirect material. The value of these materials is so small that it is difficult and futile to count or measure them.

Labour Cost: This is the cost of remuneration (wages, salaries, commission, bonus etc). Direct labour consists of wages paid to workers, directly, engaged in converting raw materials into finished products. These wages can be identified with a particular product. Wages paid to a machine operator is an example of direct wages. Indirect wages is of a general character and cannot be, conveniently, identified with a particular cost unit. In other words, indirect labour is not, directly, engaged in the production operation, but to assist or help in production operation. Labour engaged in cleaning the workshop is an example of indirect labour.

Expenses: All costs other than materials and labour are termed as expenses. Direct expenses are those, which can be identified with and allocated to cost centers or units. Direct expenses

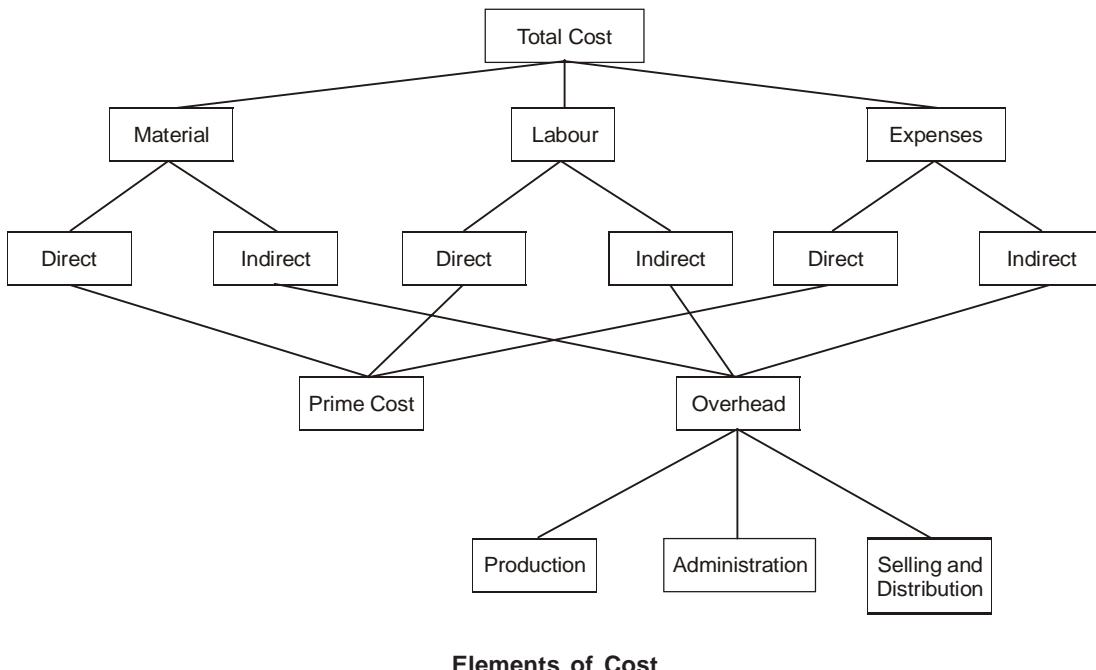
are those expenses, which are specifically incurred in connection with a particular job or cost unit. Direct expenses are also known as chargeable expenses.

Indirect expenses are indirect costs, other than indirect materials and indirect labour costs. These cannot be, directly, identified with a particular job, process or work order and are common to cost units and cost centres.

Indirect expenses are also known as Overheads.

The chart below summarises the elements of cost.

1. Direct Material + Direct Labour + Direct Expenses = Prime Cost
2. Prime Cost + Production overhead = Factory Cost or Works Cost
3. Works Cost + Administration Overheads = Cost of Production
4. Cost of Production + Selling and Distribution Overheads = Total Cost or Cost of Sales



13.6 CLASSIFICATION OF COSTS

There are various ways of classifying costs. Each classification serves different purpose.

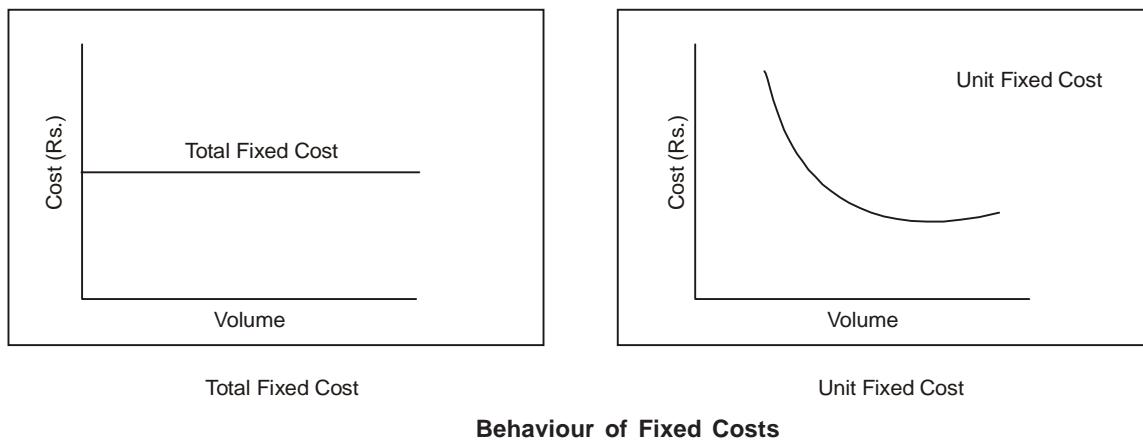
(A) Classification According to Functions: This is a traditional classification. A business has to perform a number of functions such as manufacturing, administration, selling, distribution and research. On the basis of function, they are classified as manufacturing cost, administration cost, selling and distribution cost and research and development cost.

(B) Classification According to Variability and Behaviour: Costs, sometimes, have a definite relationship to the volume of production. Some costs change with the volume of production and some others do not change at all, irrespective of the volume of production, while some of the costs, partly, change.

Under this category, costs are classified as fixed costs, variable costs, and semi-variable or semi-fixed costs.

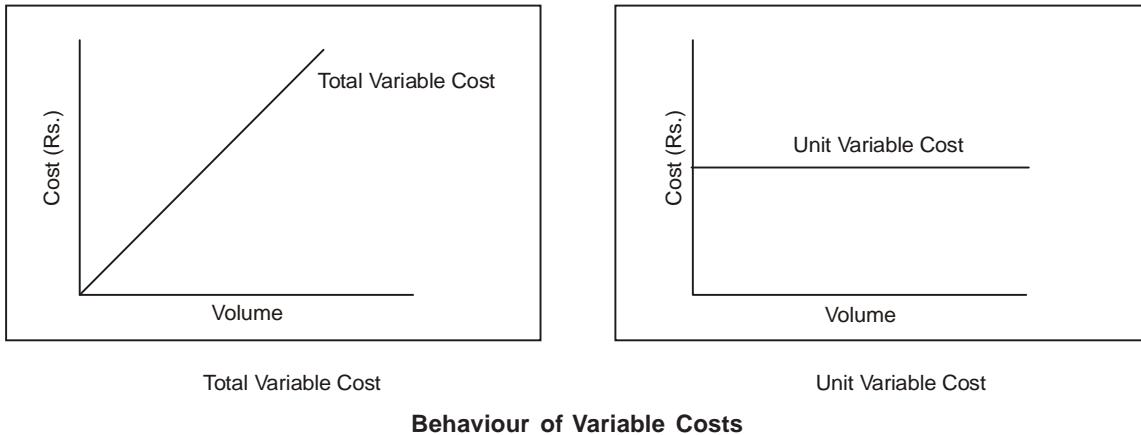
Fixed Costs: When a cost does not change with increase in volume, it is called Fixed Cost. Fixed costs are constant. Fixed costs do not change, irrespective of the level of production. Examples are rent, insurance, depreciation and repairs. The total fixed cost is one and the same, whether one unit is produced or one hundred units are produced, till the production does not exceed the capacity of machine. However, the unit fixed cost decreases as the volume of production increases. In the pictorial presentation of behaviour of fixed costs, unit fixed cost curve descends while total fixed cost is constant at all levels of production. In other words, unit fixed cost decreases as and when volume increases. But, there is no change in total fixed cost at different production volume levels.

The graphical presentation of total fixed cost and unit fixed costs show as under:



Variable Costs: When a cost changes in proportion to the change in volume, it is called Variable Cost. The typical example is raw materials. If production increases, total cost of raw materials increases, in the same proportion of production level. If production is suspended or closed, cost of raw materials becomes zero. **Mathematically, a linear relationship exists between a variable cost and volume.** If volume increases or decreases by 20%, in the same proportion, the cost of production varies. So, unit variable cost is constant and total variable costs changes, proportionately, to volume of production.

The graphical presentation of total variable cost and unit variable cost is as under:

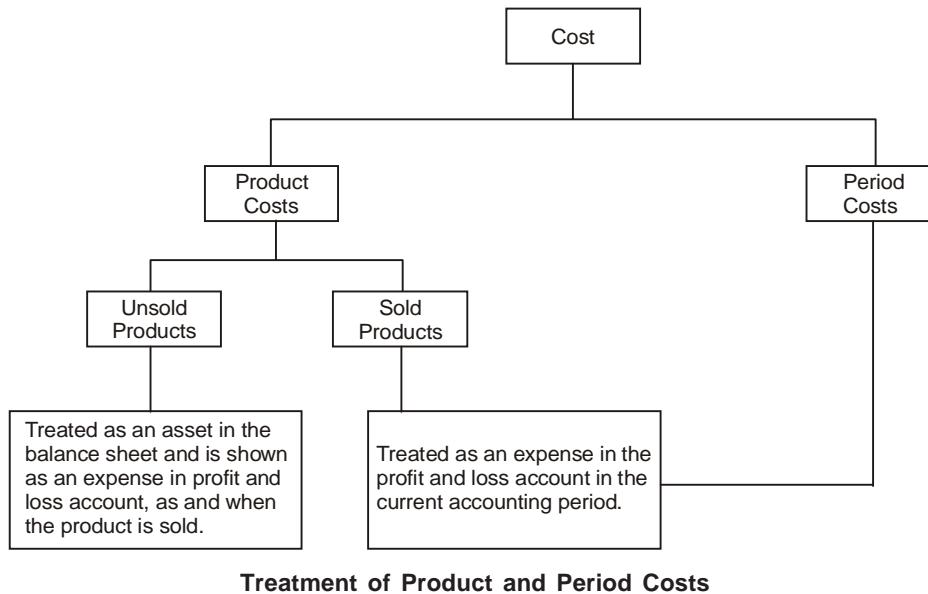


(C) Classification According to Controllability: On this basis, the costs can be classified into controllable and uncontrollable costs. Controllable costs are those costs, which can be influenced by the action of a specified member of a firm. Controllable costs do not imply that they are 100% controllable. In other words, costs are at least, partly, within the control of the management. Generally speaking, all direct material, direct labour and some of the overhead expenses are controllable by the lower level of management. Some costs can be controlled by joint action. For example, the production manager as well as the purchase manager controls the cost of raw materials. The production manager controls the quantity level, exercising control on wastages, while the purchase manager can exercise control on the price front. On the other hand, costs which cannot be influenced by the action of any member of undertaking or beyond control is known as uncontrollable cost. For example, fixed expenses like salary, rent, insurance and taxes.

Cost is a fact while price is a matter of Strategy.

(D) Classification on the basis of Traceability to the Product: Based on traceability, costs are divided into Direct and Indirect costs. Direct cost means that cost which can be, conveniently, identified with and allocated to a particular unit of cost, i.e. job, product or process. On the other hand, indirect cost means those costs, which cannot be identified with a particular unit of cost. It has to be shared or distributed. Examples are cost of consumables, salary of a foreman or supervisor, rent of factory etc.

(E) Product Costs and Period Costs: Product costs are those costs, which can be identified with the product and included in stock valuation. In a manufacturing concern, it is composed of four elements. They are direct materials, direct labour, direct expenses and manufacturing overhead. That is, product cost is a factory cost. Period cost is associated with the time period. Examples are rent, salary, insurance etc. They are not included in the stock valuation and are treated as expenses during the period in which they are incurred.



13.7 DIFFERENCE BETWEEN ALLOCATION AND APPORTIONMENT

For cost ascertainment, it is necessary to understand the difference between the terms ‘Allocation’ and ‘Apportionment’.

The difference between Allocation and Apportionment is as follows:

Allocation: Cost Allocation is defined as allotment of the whole cost to cost centres or cost units. In other words, whole expenses, which can be identified or traced, are allocated to a particular department, cost centre, cost unit or machine, without division of expenses. There are two important matters, in case of allocation of cost. First, the cost should be traceable or identifiable to a particular department, cost centre or machine. Second, the exact amount incurred in cost centre must be known. Once the cost is traceable, no division is made.

Examples: Overtime wages incurred in a particular department is allocated, wholly, to that department. Similarly, repairs incurred to a particular machine are allocated to that particular machine.

Apportionment: Cost apportionment is the allotment of proportionate items of cost to cost centres or cost units. Where the cost is common and cannot be identified, wholly, to a particular department or cost centre, the cost is apportioned. Where the expenses relate to more than one department, the expenses are divided. So, cost apportionment occurs where the cost or expenses are common to more than one department.

Examples: Canteen expenses of a factory are apportioned, proportionately, to the production and service departments, based on the number of employees working in various departments.

Where expenses can be traced or identified with a particular department, it is allocation and if this is not possible, costs are apportioned.

13.8 METHODS OF COSTING

The methods used for ascertainment of cost of production differ from industry to industry. Basically, there are two methods of costing. They are:

- (A) Job Costing and
- (B) Process Costing

All other methods of costing are improvements, extensions or combination of the above two methods. The principles in every method of costing are the same but the methods of analyzing and presenting the costs differ with the nature of business.

Job Costing: Under this method, costs are collected and accumulated for each job or work order or project, separately. A job card is prepared for each job for cost accumulation. This method is suitable for printers, machine tool manufacturers, general engineering workshops, foundries etc.

Batch Costing: Batch costing is a special type of job costing, where articles are manufactured in definite batches. For example, in a ready-made garment factory, shirts are made in suitable batches according to size and kept in stock for sale and it will not be worthwhile to maintain cost for each shirt made. The costing procedure is similar to job costing. Instead of a job, batch constitutes the cost unit for which costs are completed. Cost per unit is calculated by dividing total cost of a batch by the number of units produced in that batch. This method is mainly used in biscuit manufacture, garment manufacture and spare parts components manufacture industries.

Process Costing: A process here refers to a stage of production. If a product passes through different stages, process costing is used to ascertain the cost of each stage or process. Normally, the finished product of one process becomes the raw material of the subsequent process and a final product is obtained in the last process. As the products are manufactured in continuous process, this is also known as Continuous Costing. Process costing is generally followed in textile units, chemical industries, refineries, tanneries, paper manufacturing etc.

Operating Costing: This is suitable for firms, which render services as distinct from those, which manufacture goods. This type of costing is applied to transport undertakings, power supply companies, gas, water works, hospitals and hotels etc. It is used to ascertain the cost of services rendered. There is, usually, a compound unit in such undertakings. Examples are passenger-kilometers in transport companies, kilo-watt-hour in power supply, patient-day in hospital etc.

Multiple Costing: Where more than one method of costing is applied, it is called multiple costing. This is suitable for industries, where a number of components parts are, separately, produced,

and later assembled into a final product. In such industries, materials and components used differ in the products manufactured. In other words, all components and materials are not used in all the products manufactured. So, it will be necessary to ascertain the cost of each component. Cost of component is calculated through the process costing. To ascertain the cost of final product, batch costing method is applied. This method is used in manufacturing cycles, automobiles, radios, typewriters, aeroplane and other complex products.

Methods of costing are different from techniques of costing.

13.9 TECHNIQUES OF COSTING

To produce useful information to management, cost data collected is to be processed according to costing principles, using one or more costing techniques. The techniques of costing are used to link or relate costs to cost units or cost centers. Costing techniques are not independent. They are used along with various methods of costing. Costing techniques are not independent methods of cost ascertainment, such as job costing or operating costing.

Important costing techniques are as follows:

Marginal Costing: Marginal Costing is a special technique of analysis and presentation of costs, which helps the management in decision-making. This technique enables the management to understand the effect of a change in volume of output on costs and profit. Its importance lies in solving the managerial problems.

Marginal Costing is also known as Variable Costing.

Marginal costing is not an independent system of costing similar to process costing, operating costing or Job costing. In marginal costing, the cost of a unit comprises only variable costs. Fixed costs are treated as period costs and written off to costing Profit and Loss Account. Consequently, finished goods and work in progress are valued at marginal cost i.e. Prime cost plus variable overheads.

Absorption Costing: Absorption costing technique is also termed as Traditional or Full Cost Method. Under this method, the cost of a product is determined, after considering both fixed and variable costs. The variable cost, such as direct materials, direct labour, etc. is directly charged to the products. The fixed costs are apportioned on a suitable basis over different products, manufactured during a period.

Under absorption costing, all costs, both variable and fixed, are charged to the products for cost determination.

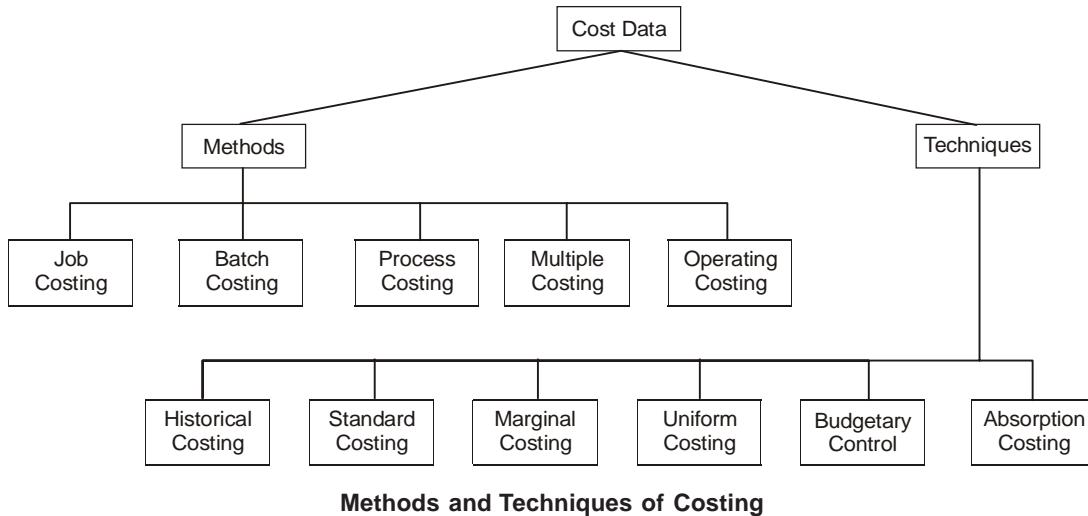
Thus, in case of Absorption costing, all costs are identified with the products manufactured. Both Fixed costs and Variable costs are also treated as product costs. The cost unit is made to bear the burden of full cost, irrespective of the current level of operations.

Uniform Costing: Several undertakings follow the same costing principles and/or practices for common control or comparison. This technique facilitates inter-firm comparisons and help in establishing realistic pricing policies.

Historical Costing: In historical costing, costs are ascertained, after they are actually incurred. It has a limited utility, though comparisons of different periods may yield good utility.

Standard Costing: In standard costing, a comparison of actual cost is made with the pre-determined costs. Any deviation, variance, is investigated by the management for the reasons of variances and suitable corrective action is taken.

Budgetary Control: Budgetary control is the process of determining various budgeted figures for the enterprise and then comparing the actual performance with the budgeted figures for calculating the variances, if any. In this process, first budgets are to be prepared. Second, Actual results are to be recorded. Third, comparison is to be made, between the actual with the planned action for calculating the variances. Once the discrepancies are known, remedial measures are to be taken, at proper time. Then only, results planned can be achieved. A budget is a means and budgetary control is the end result.



Different methods of costing facilitate ascertainment of costs, while techniques of costing help the management in achieving the objective of controlling costs. Both methods of costing and techniques of costing go together to achieve the basic objective of improving the profitability of the firm.

13.10 IMPORTANCE (ADVANTAGES) OF COST ACCOUNTING

In the following areas, the advantages of cost accounting are significant:

(A) Assists in Improving Profitability: It enables management to maintain effective control over inventory to maximize efficiency and minimize wastages and losses by providing detailed

costing information. Profitable and unprofitable activities are disclosed. Management can take steps to eliminate unprofitable products and develop profitable products for improving profitability of the firm.

- (B) **Information for Estimates and Tenders:** It helps cost estimation and fixation of prices. In case of big contracts or jobs, it is difficult to give quotation, without knowing estimated cost.
- (C) **Helps in Preparation of Interim Final Accounts:** Value of closing stock is available, at any time. It provides a perpetual inventory system, which helps in the preparation of interim profit and loss account and balance sheet, without any stock taking.
- (D) **Reconciliation of Accounts and Reliability:** It provides an independent and reliable check on the accuracy of financial accounts, through reconciliation of cost records and financial records.
- (E) **Fixation of Responsibility in Controlling Costs:** When variances are to be corrected, responsibility has to be fixed for corrective action. It helps in controlling costs, with the application of standard costing and budgetary control.
- (F) **Aid in Decision-making:** Costing helps the management in taking vital decisions such as
 - (i) Whether it would be profitable to purchase a component or commence its production, instead of purchasing, done presently.
 - (ii) Whether to accept the order, below its total cost.
 - (iii) Comparing the costs involved in different methods of production and choosing the cost effective method.
- (G) **Guides Future Production Policy:** Cost data helps the management in formulating future production policy. They can rely on costing records to form their judgment about the profitability and future of the firm.
- (H) **Aid to Employees:** When the organization benefits, it would be able to share the benefit of higher operating results in the form of performance bonus, incentives etc with employees of the firm.
- (I) **Aid to the Nation:** Costing system brings the benefits of cost reduction, cost control and elimination of wastages and inefficiencies, which would lead to the growth of the nation, as a whole.

13.11 LIMITATIONS OF COST ACCOUNTING

The limitations of cost accounting are as under:

1. **Not exact Science:** Like any other accounting system, Cost Accounting is not an exact science but an art, which has developed through theories and practices.
2. **Solution not Available:** The cost accounting provides information for taking decisions, but does not give the exact solution to the problem.

3. **Historical Data:** Cost data are essentially ‘post facto’ and historical in nature.
4. **Expensive:** Installation of cost accounting system is costly, which small firms cannot afford to have. Before installing, care must be exercised to ensure that the benefit derived is more than the cost on investment.
5. **System is more Complex:** As the cost accounting system involves number of steps in ascertaining costs such as collection, classification of expenses, allocation and apportionment of expenses, users consider it as a complicated system. More so, the system requires use of several documents and forms in preparing reports. Staff requires expertise in using the system.
6. **Lack of Accuracy:** The accuracy of cost accounting gets distorted due to use of estimated costs.

Descriptive Questions

1. Distinguish between Costing and Cost Accounting? **(13.1 and 13.2)**
2. State the objectives of Cost Accounting? **(13.2 and 13.3)**
3. Explain the terms ‘Cost Centre’ and ‘Cost Unit’? **(13.4)**
4. What are the different Elements of Cost? **(13.5)**
5. Name the different ways of classification of costs? **(13.6)**
6. What is the difference between absorption and allocation? **(13.7)**
7. Write a detailed note about the different methods of costing? **(13.8)**
8. What are the different techniques of costing? **(13.9)**
9. ‘Costing is an aid to management and society’ – Enumerate the main points in support of this statement? **(13.10)**
10. What are the advantages you would expect from the costing system? What are its limitations? **(13.10 and 13.11)**

Check Your Understanding

1. Cost centre facilitates cost ascertainment and cost control.
2. Overheads and indirect expenses are different.
3. Cost allocation refers to charging of direct costs fully and directly to cost centres and cost units, while cost apportionment refers to charging of indirect expenses, proportionately, to cost centres and cost units.
4. The basic methods of costing are Job Costing and Process Costing.
5. If a product passes through different stages, process costing is used to ascertain the cost of each stage or process.
6. Methods of costing are different from techniques of costing.
7. Marginal costing is a method of Costing.

8. In historical costing, costs are ascertained after they are actually incurred so their actual utility is limited.
9. Expenses that can be identified or traced are apportioned to a particular department, cost centre, cost unit or machine
10. The primary objective of cost accounting is to control costs.
11. Both methods of costing and techniques of costing go together to achieve the basic objective of improving the profitability of the firm.
12. A prosperous firm does not require cost accounting.

Answers

1. True, 2. False, 3. True, 4. True, 5. True, 6. True, 7. False, 8. True, 9. False, 10. True, 11. True, 12. false

Multiple Questions

1. Fixed cost per unit increases when
 - (a) production decreases
 - (b) production increases
 - (c) change of production does not have effect
2. The term prime costs refer to
 - (a) direct materials and direct labour.
 - (b) direct materials, direct labour and direct expenses.
 - (c) None of the above
3. Indirect materials
 - (a) is a prime cost
 - (b) can be a variable cost or fixed cost
 - (c) a overhead cost
4. In a hospital, the following method of costing is applied:
 - (a) Batch costing
 - (b) Process costing
 - (c) Operating costing
 - (d) uniform costing
5. The objective of cost accounting
 - (a) Ascertainment of cost
 - (b) Exercising cost control
 - (c) Determination of selling price
 - (d) All above

Answers

1. (a), 2. (b), 3. (c), 4. (c), 5. (d)

Interview Questions

Q.1. What is the difference in behaviour between fixed costs and variable costs? How they affect profits of a firm?

Ans. Fixed costs are constant. They do not change, irrespective of the level of output. Even, if there is no production, the firm has to incur fixed costs, like rent, salaries etc. With increase in production, fixed costs per unit declines. So, cost of production per unit would

go down, with more production, resulting in more profits to the firm, though selling price is same. On the other hand, variable costs change, proportionately, with production. Variable cost per unit is constant. So, change in the levels of production does not have any effect on variable cost per unit.

More production and sales result in more profits as the fixed costs would be spread over a higher quantum. Variable costs do not create any impact on contribution.

Q.2. What is semi-variable costs? Explain with a few examples?

Ans. All costs which are neither perfectly variable nor absolutely fixed, in relation to volume changes, are called semi-variable costs. In other words, semi variable costs are those costs, which are neither fixed nor variable, totally. Semi-variable costs contain both the characteristics of fixed cost as well as variable cost. Semi-variable costs are also known as mixed costs.

Telephone, power, repairs and maintenance are some of the examples of mixed costs. For example, a telephone bill contains two elements, one is a fixed rent and the other component is dependent on the usage, number of calls made. Rent is to be paid, even though phone is not used. Electricity is another example. Meter rent is a fixed expense, while power consumption is variable expense.



CHAPTER
14

Cost Records– Reconciliation of Cost and Financial Accounts

- Organising cost Accounts**
 - Independent Accounts
 - Integrated Accounts
- Cost Records**
- Reconciliation between Cost and Financial Records**
- Reasons for Disagreement in Profit**
- Procedure for Reconciliation**
- Illustrations**
- Check Your Understanding**
- Descriptive Questions**
- Interview Questions**

14.1 ORGANISING COST ACCOUNTS

From the view-point of cost records, there are two ways of organising cost accounts:

- (A) Independent Accounts
- (B) Integrated Accounts

Independent Accounts

Under the conventional system of cost accounting, a separate set of costing books is maintained, along with the financial books of accounts. In other words, two separate sets of books of accounts are maintained to record cost and financial data.

Where cost and financial transactions are kept separate, the system is called ‘Cost Ledger Accounting’ as the cost ledger is the principal book of accounts. The alternative name is non-integrated accounting.

Where separate costing books are maintained, it is desirable to maintain the entire transactions on double entry system, so that arithmetical accuracy is established.

Integrated Accounts

Where cost and financial transactions are integrated, the system is called ‘Integrated Accounting’. In other words, it refers to a single system, which contains both cost and financial records.

It should be possible to prepare Profit and Loss account and Balance Sheet so as to satisfy the statutory requirements. Under this system, there is no need for a separate cost ledger. But, there should be a number of subsidiary ledgers like stores ledger, job ledger and stock ledger. Control accounts are also maintained for each one of them in the financial ledger.

14.2 COST RECORDS

The following are important cost records:

Stores Ledger: Stores ledger contains individual accounts for each item of raw materials, stores and consumable stores. Receipts are posted on the basis of Goods Receipt Note. Issues are posted on the basis of Stores Requisition slips. So, both receipts and issues are, individually, posted into each account, while the totals of receipts and issues are posted into the Stores control account, maintained in the cost ledger. The total of individual accounts in the stores ledger should agree with the balance in the Stores control account, maintained in the cost ledger.

Where the firm is maintaining bin card arrangement and following perpetual inventory system, the accounts maintained in the stores ledger provide counter check to verify the correctness of physical stock as well as balances in bin cards.

Stock Ledger or Finished Goods Ledger: This contains individual accounts of all types of finished goods. Finished Goods Control Account is maintained in the cost ledger.

Work-in-Progress Ledger: Work-in-progress is that stage which is in between raw materials and finished goods. This contains accounts of various jobs. Each job, unit or process is given a separate account number. Concerned control account is maintained in cost ledger.

Expenses or Overheads Ledger: Overheads ledger contains accounts relating to individual expense items such as salaries, rent, insurance, stores consumed, packing charges etc. Overheads are classified under three heads such as factory overheads, administration overheads and selling and distribution overheads. The ledger may be subdivided into three sections and relevant accounts under each head are maintained in each section. Concerned control accounts for each section are maintained in the cost ledger.

Cost Ledger: Cost ledger is similar to general ledger in the financial accounting. This is the principal book for cost accounts. It contains all control accounts of the subsidiary ledgers such as stores ledger, stock ledger, job ledger (work-in-progress ledger) and expenses or overheads ledger. In other words, it would contain stores control account, finished goods control account, work-in-progress control account, factory overheads control account, administration expenses overheads control account, selling and distribution expenses overheads control account etc. The cost ledger would contain appropriate control accounts for each of the subsidiary ledger for self-balancing. It would also contain Financial Ledger Control Account.

The accounting department is interested in personal accounts, real accounts and nominal accounts, while the costing department is concerned with the accounts relating to expenditure and income only.

14.3 RECONCILIATION BETWEEN COST AND FINANCIAL RECORDS

Need for Reconciliation: In those concerns, where there are no separate cost and financial accounts, the problem of reconciliation does not arise. But where cost and financial accounts are maintained independent of each other, it is imperative that accounts are reconciled. Both sets of books are concerned with the same basic transactions. However, the figure of profit disclosed by the cost accounts does not agree with that disclosed by the financial accounts. Thus, reconciliation between the results of the two sets of books is necessary due to the following reasons:

- (i) To find out the reasons for the difference in the profit or loss in cost and financial accounts.
- (ii) To ensure the mathematical accuracy and reliability of both the books of accounts.

14.4 REASONS FOR DISAGREEMENT IN PROFIT

The following causes the disagreement between the costing and financial profit:

1. Items showed only in Financial Accounts: There are a number of items, which are included in financial accounts but find no place in cost accounts. These may be items of expenditure or appropriation of profit or items of income. The former reduces the profit, while the latter have the reverse effect. The items may be classified as under:

(a) Purely financial charges: Examples

- (i) Loss arising from the sale of fixed assets,
- (ii) Loss on investments,
- (iii) Discount on debentures,
- (iv) Interest on bank loan, mortgages and debentures,
- (v) Expenses of the company's share transfer office.

(b) Appropriation of profit: Examples

- (i) Donations and charities,
- (ii) Income tax,
- (iii) Dividend paid,
- (iv) Transfers to reserves and sinking funds,
- (v) Amounts written off (goodwill and preliminary expenses).

(c) Purely financial incomes: Examples

- (i) Rent,
- (ii) Profits on the sale of fixed assets,
- (iii) Transfer fees received,
- (iv) Interest received on bank deposits,
- (v) Dividend received.

2. **Items showed only in Cost Accounts:** There are certain items, which are included in cost accounts but not in financial accounts. These items are very few and usually are notional charges. For example, interest may be calculated on capital employed in production to show the notional cost of employing the capital, through, in fact, no interest has been paid. Similarly, production may be charged with a nominal rent for premises owned to enable the concern to compare its cost of production, with that of a rented factory.
3. **Over or under Absorption of Overhead:** Overhead absorbed in cost accounts on the basis of estimation like percentage on direct materials, percentage on direct wages, etc. may be more or less than the actual amount incurred. If the overheads are not fully absorbed (the amount in cost accounts is less than the actual amount), the shortfall is called under absorption. On the other hand, if overhead expenses in cost accounts are more than the actual amount, this is a case of over absorption. Thus, under or over absorption of overheads leads to difference in two accounts. Sometimes, selling and distribution expenses are ignored in cost accounts, altogether. In such a case, costing profit would be higher than the profit shown in the financial records. This requires reconciliation.
4. **Differences due to different basis of Stock Valuation and Depreciation:** The basis adopted for valuation of work-in-progress, stores, finished stock may differ in these two sets and that may cause disagreement in the results. For example, stock is valued on cost or market value, whichever is less, in financial books and weighted average basis is followed in the cost accounts. The difference in treatment may cause variation. Similarly, using fixed installment in one set and diminishing balance method of depreciation in the other may cause difference, requiring reconciliation.

14.5 PROCEDURE OF RECONCILIATION

When there is a difference between the profits disclosed by cost accounts and financial accounts, the following steps shall be taken to prepare a Reconciliation statement:

- I. Ascertain the various reasons of disagreement, detailed above, between the profits disclosed by two sets of books of accounts.
- II. If profits as per cost accounts are taken as the base:

ADD:

- (i) Items of income included in financial accounts, but not in cost accounts.
- (ii) Items of expenditure (as interest on capital, rent on owned premises etc.) included in cost accounts, but not in financial accounts.
- (iii) Amounts by which items of expenditure have been shown, in excess in cost accounts as compared to the corresponding entries in financial accounts.
- (iv) Amounts by which items of income have been shown, in excess in financial accounts as compared to the corresponding entries in cost accounts.
- (v) Over absorption of overheads in cost accounts.
- (vi) The amount by which closing stock of inventory is undervalued in cost accounts.
- (vii) The amount by which the opening stock of inventory is overvalued in cost accounts.

DEDUCT:

- (i) Items of income included in cost accounts not in financial accounts.
- (ii) Items of expenditure included in financial accounts but not in cost accounts.
- (iii) Amounts by which items of income have been shown in excess in cost accounts over the corresponding entries in financial accounts.
- (iv) Amounts by which items of expenditure have been shown, in excess in financial accounts over the corresponding entries in cost accounts.
- (v) Under absorption of overheads in cost accounts.
- (vi) The amount by which closing stock of inventory is overvalued in cost accounts.
- (vii) The amount by which the opening stock of inventory is undervalued in cost accounts.

After making all the above additions and deductions, the resulting figure will be profit as per financial accounts.

Note: There may be occasions that the amount taken in the base accounts is loss. In such an event, reverse procedure is to be adopted. In other words, what has been added above is to be deducted, while what is shown as deduction should be added.

If profits as per financial accounts are taken as the base, then items added shall be deducted and items to be deducted shall be added i.e. the procedure shall be reversed.

14.6 TIPS FOR RECONCILIATION

If the following tips are followed, it is easy to prepare the reconciliation statement.

1. Taking one as base (say, Profit in cost records), we have to arrive at profit as per financial records.

Think what has been the impact of the transaction on profits, taken on the base. If the transaction has resulted in more profits to the base, deduct. In case, the transaction has created less profit, simply add.

2. Answer can be checked. Profit figure of both the books is given in the question so check whether the figure arrived is tallying with or not. If tallied, fine. If not, verify again, which item has been added instead of deducting or vice versa.

14.7 TREATMENT FOR CERTAIN ITEMS

There are certain items, which may appear in both cost accounts and financial accounts, such as depreciation. But, there may be difference in the amount. In such a case, the difference amount only is to be adjusted from the base amount.

Illustration No. 1

From the following information recorded in the books of Tushil & Co. for the year ending 31st Dec, 2008, prepare a Reconciliation Statement.

	Rs.
(i) Profit as per cost books	84,000
(ii) Overheads over-recovered in cost books	4,350
(iii) Loss not shown in cost books	5,850
(iv) Under valuation of opening stock in cost books	3,500

Find out profit as per financial books?

Solution:

Profit in the financial books of Tushil & Co for the year ending 31st Dec, 2008.

	Rs.
(i) Profit as per Cost books	84,000
Add: (ii) Overheads over-recovered in cost books	<u>4,350</u>
	88,350
Less: (iii) Loss not shown in cost books	5,850
(iv) Under valuation of opening stock in cost books	<u>3,500</u> <u>9,350</u>
Profit as per financial books	<u>79,000</u>

Illustration No. 2

M/s Della Traders have furnished the following information from financial books for the year ended 30th June, 2008.

Trading and Profit and Loss A/c for the year ended 30th June, 2008

		Rs.
To Opening stock (500 units at Rs. 35 each)	17,500	By Sales (10,250 units) 7,17,500
To Materials consumed	2,60,000	By Closing stock (250 units at Rs. 50 each) 12,500
To Wages	1,50,000	
To Gross profit	<u>3,02,500</u>	
	<u>7,30,000</u>	<u>7,30,000</u>
To Factory overheads	94,700	By Gross Profit 3,02,500
To Office overheads	1,06,000	By Rent 10,000
To Selling expenses	55,000	By interest 250
To Bad debts	4,000	
To Preliminary Expenses written off	5,000	
To Net profit	<u>48,050</u>	
	<u>3,12,750</u>	<u>3,12,750</u>

The cost sheet shows the following:

- (a) Cost of materials at Rs. 26 per unit and Labour cost Rs. 15 per unit produced.
- (b) Factory overheads are absorbed at 60% of Labour cost.
- (c) Office overheads are absorbed at 20% of Factory cost.
- (d) Selling expenses are charged at Rs. 6 per unit.
- (e) Opening stock of finished goods is valued at Rs. 45 per unit and closing stock as in financial books.

You are required to prepare:

- (i) A statement showing cost and profit as per cost accounts for the year ended 30th June, 2008 and
- (ii) Statement showing the reconciliation of profit disclosed in cost accounts with the profit shown in financial accounts.

Solution:**Cost Sheet of Della Traders for the year ending 30th June, 2008**

Cost of Material (* 10,000 units @ Rs. 26 per unit)	2,60,000
Labour Cost (10,000 units @ Rs. 15 per unit)	<u>1,50,000</u>
	Prime Cost
	4,10,000
Factory Overhead (60% of Labour Cost)	<u>90,000</u>
	Factory Cost
	5,00,000
Office Overheads (20% of Factory Cost)	<u>1,00,000</u>
	Cost of Production
	6,00,000
Add : Opening Stock : 500 units at Rs. 45 each	<u>22,500</u>
	6,22,500
Less : Closing Stock : 250 units at Rs. 50 each	<u>12,500</u>
	Cost of Goods Sold
	6,10,000
Selling overhead (Rs. 6 per unit on 10,250 units)	<u>61,500</u>
	Cost of Sales
	6,71,500
	Sales
	<u>7,17,500</u>
	Profit
	46,000

$$\begin{aligned}
 * \text{ Units produced} &= \text{Sales} + \text{Closing stock} - \text{Opening stock} \\
 &= 10,250 + 250 - 500 \\
 &= 10,000 \text{ units}
 \end{aligned}$$

Reconciliation Statement

	Amount
	Rs.
Profit as per Cost Accounts	46,000
Add : (i) Income items, i.e., interest and rent not included in cost accounts (250 + 10,000)	10,250
(ii) Over-valuation of opening stock in cost accounts (22,500 – 17,500)	5,000
(iii) Over-recovery of selling overheads in cost account (61,500 – 55,000)	<u>6,500</u> <u>21,750</u>
	67,750

Less : (i) Loss items i.e., bad debts and Preliminary Expenses written off not included in cost accounts (4,000 + 5,000)	9,000
(ii) Under-recovery of factory overheads in cost accounts (94,700 - 90,000)	4,700
(iii) Under-recovery of office overhead in cost accounts (1,06,000 - 1,00,000)	<u>6,000</u>
Profit as per Financial Accounts	<u>48,050</u>

Illustration No. 3

The net profit Sudhir & Co. Ltd. appeared at Rs. 50,052 as per financial records for the year ending 31st March, 2008. The Cost Books however, showed a net profit of Rs. 86,200 for the same period. Examination of the figures from both the sets of accounts has shown the following facts:

Description	Rs.
Works overhead under-recovered in costs	1,560
Administrative overheads over recovered in costs	850
Depreciation charged in financial accounts	5,600
Depreciation recovered in costs	6,250
Interest on investments, not included in cost accounts	4,000
Loss due to obsolescence, charged in financial accounts	2,850
Income tax provided in financial accounts	20,150
Bank Interest and transfer fee in financial books	375
Stores Adjustment (credit in financial books)	237
Value of opening Stock in: Cost accounts	24,800
Financial accounts	26,300
Value of closing Stock in : Cost accounts	27,000
Financial accounts	25,000
Interest charged in cost accounts	2,000
Preliminary expenses written off	15,000
Loss on the sale of furniture	1,200

Prepare a statement showing the reconciliation between the figures of net profit as per Cost Accounts and the figures of net profits as shown in the Financial Books.

Solution:

RECONCILIATION STATEMENT BETWEEN COST ACCOUNTS AND FINANCIAL ACCOUNTS OF SUDHIR & CO LTD.

Profit as per Cost Accounts		86,200
Add:		
(a) Administration overheads over recovered in Cost Accounts	850	
(b)* Depreciation overcharged in Cost Books:		
Cost Books	6,250	
Financial Books	<u>5,600</u>	650
(c) Receipts and gains credited in Financial Books but not shown in Cost Books:		
(i) Interest on investment	4,000	
(ii) Bank interest and Transfer Fee	375	
(iii) Stores Adjustments	237	
(d) Interest charged in cost accounts	<u>2,000</u>	<u>8,112</u>
		94,312
Less:		
(a) Works overhead under recovered in Cost Books	1,560	
(b) Expenses and Losses debited in Financial Books but excluded from Cost Books:		
(i) Income Tax	20,150	
(ii) Loss due to obsolescence	2,850	
(iii) Preliminary expenses written off	15,000	
(c) Under valuation of opening stock in cost accounts	1,500	
(d) Overvaluation of closing stock in cost accounts	2,000	
(e) Loss on the sale of furniture	<u>1,200</u>	<u>44,260</u>
Profit as per Financial Accounts		<u>50,052</u>

* Normally, depreciation appears in both cost accounts and financial accounts. Difference amount only is to be adjusted in reconciliation statement.

Illustration No. 4

The following figures are taken from the books of Cherry & Co. for the year ended 31st December, 2007.

	Rs.	Financial Accounting	Cost Accounting
Opening Stock: Raw Materials		6,000	5,000
Finished Stock		5,000	4,800
Closing Stock : Raw Materials		4,000	4,300
Finished Stock		6,000	8,000
Purchase of Materials		40,000	
Direct Labour		20,000	
Factory Expenses		18,000	21,000 absorbed
Indirect Labour		3,000	
Sales		1,20,000	
Administrative Expenses		6,000	4,000 absorbed
Interest Received on Debentures		5,000	
Patents written off		1,000	

Calculate the profit as per cost and financial books. Prepare a reconciliation statement, showing clearly the reasons for the variation in profit figures.

Solution:

Statement of Cost and Profit of Cherry & Co. as per Cost Books for the year 2007

	Rs.	Rs.
Opening stock of raw materials	5,000	
Add: Purchase of materials	+ 40,000	
	45,000	
Less: Closing stock of materials	- 4,300	
Materials consumed		40,700
Direct Labour		<u>20,000</u>
Prime Cost		60,700
Indirect Labour	3,000	
Factory Expenses	<u>21,000</u>	
Works on cost		<u>24,000</u>
Works Cost		84,700
Administration Expenses		4,000
Cost of Production		88,700
Add: Opening stock of finished goods		<u>4,800</u>

	93,500
Less: Closing stock of finished goods	<u>- 8,000</u>
Cost of Goods Sold	85,500
Profit (Balancing figure)	<u>34,500</u>
Sale	<u>1,20,000</u>

Profit and Loss Account of Cherry & Co. and Profit as per Financial Records for the year ended 31st Dec, 2007

	Rs.		Rs.
Opening stock: Raw Materials	6,000	Sales	1,20,000
Finished stock	5,000	Closing Stock:	
Purchases of Materials	40,000	Raw Materials	4,000
Direct Labour	20,000	Finished Stock	6,000
Indirect Labour	3,000		
Factory Expenses	18,000		
Gross Profit	38,000		
	<u>1,30,000</u>		<u>1,30,000</u>
Administration Expenses	6,000	Gross Profit	38,000
Patents written off	1,000	Interest received on debentures	5,000
Net Profit	<u>36,000</u>		<u>43,000</u>
	<u>43,000</u>		<u>43,000</u>

Reconciliation Statement as at 31st Dec. 2007

Profit as per Cost Accounts	Rs	Rs.
		34,500
Add: Factory expenses over absorbed (21,000 – 18,000)	3,000	
Add: Interest received on debentures	<u>5,000</u>	<u>+ 8,000</u>
		42,500
Less: Administration expenses under absorbed (6,000 – 4,000)	2,000	
Less: Patents written off	1,000	
Less: Under valuation of opening stock in cost books (11,000 – 9,800)	1,200	
Less: Overvaluation of closing stock in cost books (12,300 – 10,000)	<u>2,300</u>	<u>- 6,500</u>
Profit as per Financial P&L A/c		36,000

Illustration No. 5

The following figures for the year ending 31st Dec, 2008 have been extracted from the books of a manufacturing concern M/s Suresh & Co. Ltd.

	Rs.
Sales	50,000
Work-in-Progress in hand :	
Direct Labour	20,000
Direct Material	10,000
Factory Overhead	9,500
Administrative Overhead	5,200
Finished Stock-in-hand	3,800
Patents Written-Off	Interest on Capital
	2,700
	1,500
	500

Cost Accounts Manual states that the Factory Overhead is to be charged at 50% of direct labour wages. Administrative Overhead at 10% of Works Cost and Selling & Distribution Overhead @ Rs. 1 per unit sold.

The units of product sold and in hand were 4,000 and 257 respectively.

- (a) Find out the cost of production and the cost of sales per unit.
- (b) Prepare a statement to reconcile the costing profit and loss, with the profit/ loss exhibited in the financial accounts.

Solution:**P & L a/c of M/s Suresh & Co. Ltd. for the year ended 31st Dec, 2008**

	Rs.	Rs.
To Direct Material	10,000	By Sales 4,000 units
To Direct Labour	20,000	WIP in hand
To Factory overhead Expenses	9,500	Finished Stock in hand
To Admn. Overhead	5,200	(257 units)
To Selling & Distribution Overhead	3,800	
To Patents Written-off	1,500	
To Interest on Capital	500	
To Net Profit	3,500	
	<u>54,000</u>	<u>54,000</u>

Production:

(in Units)

Sales	4,000
Finished Stock-in-hand	257
Production during 2008	4,257

Statement of Cost & Profit of M/s Suresh & Co. Ltd. for the year 2008
(Cost Records)

Particulars	Amt. (Rs.)
Direct Material	10,000
Direct Labour	20,000
Direct exp.	----
Prime Cost	30,000
Factory Overhead 50% of Direct Labour	10,000
	40,000
Add: Opening WIP	Nil
Less: Closing WIP	() 1,300
	38,700
Administrative Overhead 10% of Works Cost	3,870
Cost of Production : 4,257 Units @ Rs. 10	42,570
Add: Opening Finished Stock	Nil
Less: Closing Finished Stock 257 Units @ Rs. 10 (see note below)	() 2,570
Cost of Goods sold (4,000 units)	40,000
Selling & Distribution Overheads @ Rs 1 on units sold 4,000	4,000
Cost of Sales 4,000 units	44,000
Sales of 4,000 Units	50,000
Profit on 4,000 Units	6,000

Note: Closing stock of finished goods is to be valued at current cost of production as follows:

$$\frac{42,570}{4,257} = \text{Rs. } 10 \text{ per unit} \times 257 \\ = \text{Rs. } 2,570/-.$$

Reconciliation Statement of M/s Suresh & Co. Ltd. For the year 2008

	Rs.	Rs.
Profit as per Cost Accounts		6,000
Add: Factory Overheads over absorbed in Cost Accounts		
10,000 9,500	500	
Selling & Distribution Overheads over absorbed in Cost Accounts.		
4,000 3,800	200	
Closing Stock of Finish goods less valued in Cost Accounts. (2,700 2,570)	<u>130</u>	
		<u>830</u>
		6,830
Less: Administration Overheads under absorbed in Cost Accounts		
(5,200 3,870)	1,330	
Patents Written-off in financial accounts, but not in Cost accounts	1,500	
Interest on Capital charged in financial accounts, but not in Cost accounts	<u>500</u>	
		<u>3,330</u>
Profit as per Financial Accounts		<u>3,500</u>

Check Your Understanding

State whether the following statements are True or False:

- Where cost and financial transactions are kept separate, the system is called 'Cost Ledger Accounting'.
- Installation of a suitable system of cost accounting is restricted to manufacturing concerns only.
- Cost accounting is a branch of financial accounts.
- If management is not interested in costing information, there should be no costing department.
- Cost ledger in cost Accounting is similar to general ledger in the financial accounting.
- Reconciliation statement is prepared to reconcile the Profit/Loss in cost records with the Profit/Loss shown in financial records.
- Profit/Loss in financial records would always agree with Profit/Loss in cost records and no reconciliation between them is needed.

Answers

1. True 2. False 3. False 4. True 5. True 6. True 7. False

Descriptive Questions

1. Describe the different ways of cost accounts that can be maintained. (**14.1**)
2. Give a brief note on Cost Records. (**14.2**)
3. What is the need of reconciliation between cost accounts and financial accounts? Explain the reasons for disagreement in Profit/loss between both the records. (**14.3 and 14.4**)
4. State the procedure for reconciliation of accounts between cost accounts and financial accounts. (**14.3 and 14.5**)

Interview Questions

- Q.1.** What purpose would be achieved by reconciliation of cost accounts with financial records?

Ans. Reconciliation between cost accounts with financial records would serve the purpose of establishing arithmetical accuracy between both of them and it would be a cross check about the authenticity of both the records.

- Q.2.** State the items, which are included in financial accounts but not in cost accounts?

Ans. Financial accounts contain all accounts relating to real, personal and nominal accounts. However, Cost accounts maintain accounts relating to expenses and incomes of operations. Items like bad debts written off, preliminary expenses written off, dividend income, interest income, not connected to the operations, appear in financial records, but not in cost records.



CHAPTER
15

Standard Costing and Variance Analysis

- Meaning
 - Purpose
- Definition
- Steps Involved in Implementing Standard Costing
- Utility of Standard Costing
- Preliminaries for Establishment of Standard Costing
 - Study of Technical Aspects of Factory
 - Establishment of Cost Centres
 - Setting Right Standard
 - Allocation and Apportionment of Overheads
 - Staff Training
- Variance Analysis
- Material Cost Variance
- Labour Cost Variance
- Advantages of Standard Costing
- Limitations
- Check Your Understanding
- Descriptive Questions
- Interview Questions

Aim: The aim of the chapter is to provide a basic idea to the students as per the syllabus requirements.

15.1 INTRODUCTION

Cost figures, in general, can be divided into two broad categories. They are Historical Costs and Standard Costs. Historical costs are available, after they are incurred. Such cost figures may have some value, once they are analysed. By analysis, the inefficiencies and deficiencies in production may be detected. However, the damage would have occurred, by the time the analysis under Historical costs is made. Analysis can be done only after the completion of the period and so the exercise would not be effective to correct the past course of action, though it would be of value to learn lessons for not repeating the same mistakes, in future.

Standard Cost is a predetermined cost. Under standard costing, cost of production is determined, in advance. From the Management's point of view "What a product should have costed" is more important than "What did it cost?" Standard costs are compared with the actual costs to find out the differences between the two. The differences or variances so obtained are analysed to determine the efficiency of operations, so that necessary remedial action may be taken, immediately.

To plan what should be the cost, before production is made, is the underlying idea of Standard Costing.

Management is always concerned to plan the costs, before they are actually incurred, to exercise the required control. The important techniques for exercising cost control are Standard Costing and Budgetary Control.

Standard costing is superior compared to historical costing or actual costing. Historical costing is just post-mortem of the expenditure, which has been incurred. So, this is not, indeed, an effective tool for cost control.

15.2 MEANING AND DEFINITION OF STANDARD COSTING

Standard: The word 'Standard' means criterion. Standard is a predetermined measurable quantity, under defined set conditions.

Standard Cost: Standard cost is a scientifically pre-determined cost, which is arrived at assuming a particular level of efficiency in utilization of material, labour and indirect services.

When the actual figure is compared against standard, one can measure the level of efficiency achieved by seeing how much actual differs from the standard.

When costing is used for the purpose of cost control, the technique is known as standard costing.

Through the standard costing system, management is able to control the variances in materials, labour and controllable expenses on quantity, efficiency and cost basis (in terms of money). Standard costs are, widely, used as they serve as an effective management tool for control.

Standard costing is a managerial device to determine efficiency and effectiveness of cost performance.

Definition: The costing terminology of the institute of cost and management accounts, London defines Standard costing as

“Standard costing is the preparation of standard costs and applying them to measure the variances from actual costs and analyzing the causes of variations, with a view to maintain maximum efficiency in production”.

Standard cost has also been referred to a cost plan for a single unit. This thinking is not merely an estimate or guess work. It is based on certain assumed conditions of efficiency, economic and other factors.

When we break the definition, the technique of Standard costing can be broken into the following:

1. Determination of standard costs under each element of cost-material, labour and overheads. In other words, preparation of standard cost sheet is the first step.
2. Finding out the actual costs.
3. Comparison of the actual costs with standard costs to ascertain and measure variances.
4. Analyse the variances.
5. Presentation of information to the appropriate levels of management for remedial action to control costs for achieving improved or better performance.

Industries where standard costing is applied: Standard costing can be applied in industries producing standardised products, which are repetitive in character. Examples are fertilizers, bricks, sugar, cement etc.

In job industries, it is not worthwhile to develop and employ a full system of standard costing. In such industries, jobs undertaken are different from one another. Setting standards in such job industries may be expensive. Implementation partial standard costing in such industries is a better idea. Certain processes or operations may be repetitive and introduction of standard costing can be applied only to those areas.

15.3 STEPS INVOLVED IN IMPLEMENTING STANDARD COSTING

The following are the steps involved in Standard costing for achieving the planned results and efficiency:

- (A) Determination of standard cost
- (B) Recording of actual cost
- (C) Comparison of standard cost and actual cost
- (D) Finding out reasons for variance
- (E) Reporting variance to the concerned for corrective action

15.4 UTILITY OF STANDARD COSTING

The system of standard costing is useful in all types of industries. But, it is more, commonly, used in industries producing standardised products, which are repetitive in nature. So, standard costing is more, widely, applied in process and engineering industries. Examples of industries, where standard costing can be usefully employed are: bricks, cement, fertilizers, paper, electronic lamps, sugar and tobacco products etc.

Standard costing is a valuable aid in cost control.

In jobbing industries, jobs differ from each other in their nature.

It is not possible to apply standard costing in jobbing industries because each job undertaken is different and setting standard for each job may be difficult.

The product in such industries may not be of a repetitive nature. Still, there are several operations or processes in the jobbing industries, which are of a repetitive nature or character. Standards can be set up for such repetitive-nature of operations or processes. In this way, the benefit of standard costing can be derived, even, in jobbing industries.

15.5 PRELIMINARIES FOR ESTABLISHMENT OF STANDARD COSTING

Standard costing is the most effective method available for controlling performance and cost. The following preliminaries are necessary for the establishment of standard costing:

- (A) Study of Technical Aspects of Factory
- (B) Organization Chart
- (C) Establishment of Cost Centres
- (D) Setting Right Standard
- (E) Allocation and Apportionment of Overheads
- (F) Training to Staff

It also pre-supposes there would be no power failures and breakdown in machinery.

(A) Study of Technical Aspects of Factory: This involves study of various methods of manufacture and different processes, involved. For setting the right standard, understanding the process and ascertaining previous years' defectives and costs incurred for their rectification is very important. Previous years' records are to be studied, carefully, to understand the normal efficiency in each production process.

Study of the technical aspects of the factory is very important since standard cost should be based on the actual situation in the factory and the areas of improvement that can be expected in the existing conditions.

(B) **Organization Chart:** Lines of authority and responsibility have to be, clearly, defined so that responsibility may be assigned, as and when required.

(C) **Establishment of Cost Centres**

A cost centre is a location, person or item of equipment at which costs may be gathered, ascertained and used for the purpose of cost control.

Costs can be gathered at the stage of each machine for control. Establishment of cost centre is necessary for fixing responsibilities for unfavorable variances for corrective action and rewarding, where favourable variances are shown.

(D) **Setting Right Standard:** Setting right standard is a big challenge. The challenge set should be attainable and should give the spirit and enthusiasm to achieve to all the staff in the organization.

Different firms may fix different standards. Even the same firm may fix different standards at different periods of time. This is due to change in circumstances.

The various types of standards may be classified as under:

(i) **Theoretical or Ideal Standard:** A standard based on ideal working conditions is said to be ideal standard. This standard is based on the assumption of perfect performance. In this standard, it is assumed that there will be the most desirable conditions of performance. It does not consider the possibility of loss due to wastage of materials or time. These standards provide no scrap, no idle time and no rest period. It also supposes there would be no break down in machinery and total devoted performance of workers. It supposes no inefficiencies in the manufacturing process. In nutshell, the ideal standard presumes that there would be perfect working conditions. This standard is not likely to be achieved because ideal conditions of performance do not prevail. It is, therefore, a theoretical standard. Such ideal conditions may not be found in real world. Once standards are fixed on ideal working conditions, they can never be achieved in real life and, in consequence, there would be no incentive for workers to put in their best efforts as they know from the beginning that the standards fixed are never achievable. One Professor told his students “ideal standards are like dreams of Sophia Lorens—distant, desirable and rarely attainable.

The ideal standard breeds or creates frustration among employees because such standard is never attained.

This standard sets as a goal, which is always aimed at. However, in actual practice, it is not attainable. So, no body pays serious attention to achieve such standards. In fact, setting up of this standard becomes a farce.

(ii) **Basic Standard:** It is a standard, which is established for use over a long period of time. Basic standard is set up for some base year. This standard is not changed on the basis of change in prices of materials and labour rates.

This is useful to help forward planning. They remain unaltered over a period of time. They are not adjusted to current market conditions. In other words, the prices fixed in the base year are applied to all the years for the quantity of materials or number of labour hours. Thus, this type of standard is not suitable from cost control point of view. However, they may be suitable for those items of cost, which are fixed in nature, such as rent, managerial salaries etc.

At best, variances calculated on this basis helps in studying the trends in manufacturing costs over a long period of time.

(iii) Expected or Attainable Standard: This is the standard, which may be anticipated to be attained under conditions and circumstances prevailing within the organization.

Attainable standard is based not on ideal conditions but on expected performance.

In fixing attainable standard, allowance is also made for some unavoidable normal wastage and other inevitable inefficiencies. This standard is considered to be more realistic than the ideal standard because this standard is based on realities. To achieve, certain amount of effort is needed. Attainable standard offers a challenge to achieve. All employees feel the standard as a goal to achieve or even excel. Hence, this type of standard is best suited from control point of view. Application of attainable standard exposes real variances for exercising control.

Expected standard is based on the anticipated performance and is ideal from the control point of view as it reveals the real deviations from the actual performance.

This is an effective tool for cost control. In short, this is a standard, which is anticipated to be achieved during a specified budget period.

Fixation of Standards

It is important to note that standard set should neither be too high nor too low. Nobody takes interest in the standards, if they are too high because such standard are not capable of being achieved. Low standard, on the other hand, does not encourage or induce to put in more efforts because they can be achieved, very easily, without incremental efforts. As a general rule, standards should be such that which are attainable, if workers put some more conscious efforts or become more efficient.

Success of standard costing depends upon the fixation of right standard costs.

Thus, every possible effort should be made for establishing each element of cost i.e. raw materials, labour and overhead charges.

Just like a Budget Committee, there should be a standard committee, which is entrusted with the responsibility of setting standard costs. The committee should consist of all functional heads

such as Production Manager, Purchase Manager, Finance Manager, Sales Manager, Cost Accountant and other functional heads, if any. As all the functional departments are involved in the fixation of standards, standards would be the collective decision of the organization. As all the departments are involved in fixation of the standards, there would be concerted action from all the concerned to achieve them.

Amongst all the persons, Cost Accountant plays an important role in setting the standards and plays a key role in control to achieve the main objective of Standard Costing.

The role of Cost Accountant is vital to co-ordinate the activities of the committee so that standards set are as accurate as possible.

(E) Allocation and Apportionment of Overheads: The existing methods and policies regarding allocation and appropriation should be reviewed in the light of the standard costing principles.

(F) Staff Training: The staff concerned should be given proper training before the introduction of the standard costing.

15.6 VARIANCE ANALYSIS

The Institute of Cost and Management Accountant terminology defines a variance as “the difference between a standard cost and the comparable cost incurred during a given period”.

Variance is the difference between the actual and standard fixed. Variance may be related to materials, labour and overheads. Overheads relate to indirect materials, indirect labour and other expenses such as insurance, lighting, rent etc. Once the difference is found out, the reasons are to be analysed.

Finding out the difference between the standard and actual cost component and analyzing the reasons for the difference is called variance analysis.

Purpose of Variance Analysis: Variance analysis is the process of analyzing variances by subdividing the total variance in such a manner that the management can assign responsibility for the departure from the standard performance. Variance analysis is the foundation for Standard Costing.

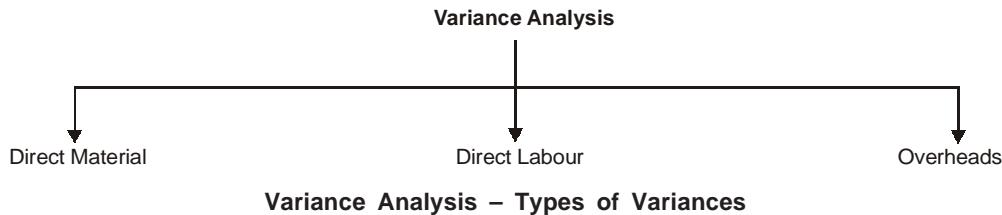
The purpose of variance analysis is to enable the management to improve operations, increase efficiency, utilize resources more effectively and reduce cost.

Standard costing is very important in controlling the performance to achieve planned profits.

There are a number of reasons which give rise to variances and the analysis will help to locate the reason and person or department responsible for it. For the purpose of control, the reasons of variance must be calculated immediately, causes must be inquired into and remedial measures are, quickly, taken.

The deviation of total actual cost from total standard costs is known as total cost variance. Analysis of variances may be done in respect of each element of cost and sales namely

1. Direct Material Variances.
2. Direct Labour Variances.
3. Overhead Variances.
4. Sales Variances.



Favourable and Unfavourable Variance

When actual cost is less than the standard cost or actual profit is greater than the standard profit, it known as Favourable Variance or Credit Variance.

When actual cost exceeds standard cost, it is called Unfavourable or Adverse Variance or Debit Variance.

Controllable and Uncontrollable Variances

If variance can be identified to a specific person, it is said to be controllable variance. Material used in excess of the standard quantity results in controllable variance. Here, the concerned person can take the remedial action so it is a controllable variance.

If the variance is due to factors beyond the control of an individual action, then the variance is said to be uncontrollable variance. Fluctuations in demand and supply and increase in the labour rate of workers, belonging to a particular industry, fall in the category of uncontrollable variance as they cannot be controlled by human action. No person or department can be held responsible for uncontrollable variance.

15.7 MATERIAL COST VARIANCE

Material cost variance is the difference between the standard cost of direct materials specified for the output achieved and the actual cost of direct materials used. It is important that entire calculation is to be made for the actual production, but not planned production. It is calculated as:

$$\text{Material Cost Variance} = \text{Standard Cost} - \text{Actual cost}$$

$$\text{MCV} = \text{SC} - \text{AC}$$

OR

$$\text{Material Cost Variance} = \left\{ \begin{array}{c} \text{Standard} \times \text{Standard} \\ \text{quantity} \quad \text{price} \end{array} \right\} - \left\{ \begin{array}{c} \text{Actual} \times \text{Actual} \\ \text{quantity} \quad \text{price} \end{array} \right\}$$

$$\text{MCV} = (\text{SQ} \times \text{SP}) - (\text{AQ} \times \text{AP})$$

It should be noted that the standard quantity must relate to the actual production.

Material cost variance is the sum of Material quantity (usage) variance and Material price variance.

Illustration No. 1

A furniture company uses sunmica tops for dining tables.

It provides the following data.

Standard quantity of sunmica per dining table 4 sq. fit.

Standard price per sq. fit. of sunmica Rs. 5

Planned production of dining tables 1,200

Actual production of dining tables 1,000

Sunmica actually used 4,300 sq. ft.

Actual purchase price of sunmica per sq. ft. Rs. 5.50

Calculate Material cost variance.

Solution:

Material cost variance will be calculated as under:

$$\text{MCV} = (\text{SQ} \times \text{SP}) - (\text{AQ} \times \text{AP})$$

$$\text{MCV} = (4,000 \times 5) - (4,300 \times 5.5)$$

$$= 20,000 - 23,650$$

$$= 3,650 \text{ (A)}$$

Material Usage (or Quantity) Variance

This is that portion of the material cost variance, which is due to the difference between the standard quantities specified, and the actual quantity used. Its formula is

$$\text{Material Usage Variance} = \left\{ \frac{\text{Standard quantity} - \text{Actual quantity}}{\text{Standard quantity}} \right\} \times \text{Price}$$

$$\text{MUV} = (\text{SQ} - \text{AQ}) \times \text{SP}$$

Thus, this is the difference between standard and actual quantity multiplied by the standard price.

Illustration No. 2

Using the data given in illustration No. 1, calculate material usage variance.

Solution:

Material usage variance will be calculated as under:

$$\text{MUV} = (\text{SQ} - \text{AQ}) \times \text{SP}$$

$$= (4,000 - 4,300) \times 5$$

$$= \text{Rs. } 1,500 \text{ (A)}$$

Reasons for material usage variance

Some or all of the following reasons may cause the material usage variance:

1. Use of defective or sub-standard materials, causing spoilage.
2. Carelessness in the use of materials, resulting excessive consumption.
3. Pilferage of materials.
4. Faulty workmanship.
5. Defect in plant and machinery, causing excessive consumption of materials.
6. Change in the design or specification of the product.
7. Change in the quality of materials.
8. Use of material mixture, other than standard mix.
9. Use of substitute or non-standard materials.
10. Yield from materials in excess of or less than standard yield.
11. Faulty material processing.

Responsibility: Normally, foreman of that machine is responsible for not exercising effective supervision over the concerned worker. But, the department head, production manager is responsible for the department, as a whole.

Material Price Variance

This is “that portion of the material cost variance which is due to the difference between the standard price specified and the actual price paid”. It is calculated by the following formula:

$$\text{Material price variance} = (\text{Standard price} - \text{Actual price}) \times \text{Actual quantity.}$$

$$\text{MPV} = (\text{SP} - \text{AP}) \times \text{AQ}$$

Thus, this is the difference between standard and actual price multiplied by actual quantity.

Illustration No. 3

Using the data given in illustration No. 1, calculate Material price variance.

Solution:

The material price variance will be calculated as follows:

$$\text{MPV} = (\text{SP} - \text{AP}) \times \text{AQ}$$

$$\begin{aligned}\text{MPV} &= (5 - 5.50) \times 4,300 \\ &= \text{Rs. } 2,150 \text{ (A)}\end{aligned}$$

Reasons for material price variance

This variance usually arises due to the following reasons:

1. Change in the basic prices of materials.
2. Failure to purchase the standard quality, thereby resulting in a different price being paid.
3. Uneconomical size of purchase orders, leading to lower/ higher quantity discount.

4. Not availing cash discounts, when standards set are based on such discounts.
5. Bad purchasing.
6. Change in transportation costs.
7. Rush purchases from uneconomical markets.
8. Purchase of a substitute material on account of non-availability of the material specified.
9. Change in the rates of excise duty, purchase tax, etc.
10. Off-season purchasing, especially, for certain seasonal products like jute, cotton, etc.

Responsibility: Normally, the purchase manager is responsible for material price variance. However, he cannot be held responsible for variance due to change in market prices, because a general change in prices is, obviously, outside his control. Similarly, purchase of smaller quantity may be due to shortage of finances, which is a financial matter, beyond his control.

The algebraic sum of material price variance and material usage variance should be equal to material cost variance.

Thus:

$$\text{MCV} = \text{MPV} + \text{MUV}$$

$$\text{MCV} = \text{Rs. } 2,150 \text{ (A)} + \text{Rs. } 1,500 \text{ (A)}$$

$$\text{MCV} = \text{Rs. } 3,650 \text{ (A)}$$

Illustration No. 4

You have gathered the following information in respect of a product 'Y' –

Standard output	1,200 units
Actual output	1,000 units
Standard quantity for standard output	1,200 kg.
Actual quantity used	1,100 kg.
Standard price	Rs. 7.00 per kg.
Actual Price	Rs. 7.50 per kg.
Calculate material cost variance	

Solution:

Material cost variance is to be made for the actual production, but not planned production. The actual production (output) is 1,000 units. So, entire calculation is to be made for 1,000 units.

$$\text{Standard output (production)} = 1,200 \text{ units}$$

$$\text{Standard quantity to be used} = 1,200 \text{ kg}$$

So, for one unit of production (output), standard quantity to be used is one kg.

$$\text{Actual Output} = 1,000 \text{ units}$$

$$\text{Standard quantity to be used} = 1,000 \text{ kg}$$

$$\text{Actual quantity used} = 1,100 \text{ kg}$$

$$\begin{aligned}
 MCV &= (SQ \times SP) - (AQ \times AP) \\
 &= (1,000 \times 7) - (1,100 \times 7.50) = 7,000 - 8,250 \\
 &= 1,250 \text{ Adverse variance}
 \end{aligned}$$

15.8 LABOUR COST VARIANCE

The analysis and computation of labour cost variance is quite similar to material variances.

Labour cost variance is the difference between the standard direct labour costs specified for the activity achieved and the actual direct labour cost incurred. The entire calculation is to be made for the actual production, but not planned production.

It is calculated

$$\text{Labour cost variance} = \text{Standard cost} - \text{Actual cost}$$

$$LCV = SC - AC$$

Or

$$LCV = (\text{Standard hours} \times \text{Standard rate}) - (\text{Actual hours} \times \text{Actual rate})$$

$$LCV = (SH \times SR) - (AH \times AR)$$

Illustration No. 5

The standard time and rate for unit, component “Z” are given below:

Standard hours per unit	15
Standard rate	Rs. 4 per hour

The actual data and related information are as under:

Planned production	1,200 units
Actual production	1,000 units
Actual hours	15,300 hours
Actual rate	3.90 per hours

Calculate Labour Cost Variance

Solution:

$$\begin{aligned}
 \text{Labour cost variances} &= (SH \text{ for actual output} \times SR) - (AH \times AR) \\
 &= (15,000 \times 4) - (15,300 \times 3.90) \\
 &= 60,000 - 59,670 \\
 &= \text{Rs. } 330 \text{ (F)}
 \end{aligned}$$

Labour cost variance is the sum of Labour time (or efficiency) variance and Labour rate variance.

Labour Time (or Efficiency) Variance

This is “that portion of the labour cost variance which is due to the difference between labour hours specified and the actual labour hours expended.”

This variance is calculated as follows:

$$\text{Labour efficiency variance} = (\text{Standard hours} - \text{Actual hours}) \times \text{Standard rate}$$

$$\text{LEV} = (\text{SH} - \text{AH}) \times \text{SR}$$

Thus, this variance is the difference between standard and actual time valued at standard rate.

Tip to Students: This is similar to material quantity variance. Here, instead of quantity of materials, hours of labour are taken into account. The formula is just similar illustration No. 5.

Illustration No. 6

Using the data given in Illustration No. 4, calculate Labour efficiency variance

Solution:

$$\begin{aligned}\text{LEV} &= (\text{SH} - \text{AH}) \times \text{SR} \\ &= (15,000 - 15,300) \times 4 \\ &= \text{Rs. } 1,200 \text{ (A)}\end{aligned}$$

Reasons for labour efficiency variance

One or more of the following reasons usually causes this variance:

1. Poor working conditions e.g. inadequate lighting and ventilation, excessive heating, etc.
2. Defective tools and plant and machinery.
3. Inefficient workers.
4. Incompetent supervision.
5. Use of defective or non-standard materials, which requires more or less time than the standard time for processing.
6. Time wasted by factors like waiting for materials, tools etc. or machine breakdown.
7. Insufficient training of workers.
8. Change in the method of operation.
9. Non-standard grade workers.

Labour Rate Variance

This is “that portion of the labour cost variance which is due to the difference between the standard rate specified and the actual rate paid.” Its formula is:

$$\text{Labour Rate Variance} = (\text{Standard rate} - \text{Actual rate}) \times \text{Actual hours.}$$

$$\text{LRV} = (\text{SR} - \text{AR}) \times \text{AH}$$

Thus, this is the difference between standard and actual rates of wages, multiplied actual hours.

Tip to Students: This is similar to material price variance. Here, instead of price of materials, rate per hour is taken into account. The formula is just similar.

Illustration No. 6

Using the data given in Illustration No. 4, calculate Labour Rate Variance.

Solution:

$$\begin{aligned}\text{LRV} &= (\text{SR} - \text{AR}) \times \text{AH} \\ &= (4 - 3.90) \times 15,300 \\ &= \text{Rs. } 1,530 \text{ (F)}\end{aligned}$$

Reasons for labour rate variance

Usual Reasons are:

1. Change in the basic wage rates.
2. Use of a different method of wage payment.
3. Employing workers of different grades from the standard grades specified.
4. Unscheduled overtime.
5. New workers not being paid at full rates.

Responsibility: Often, labour rate variance will be an uncontrollable variance as labour rates are usually determined by demand and supply conditions in the labour market, backed by a negotiable strength of the trade union. Where this variance is due to the use of a grade of labour other than that specified, there may well be such acceptable explanations as non-availability of the labour grade specified. But when a foreman, carelessly, employs a wrong grade of labour on a job, he may be held responsible.

The algebraic total of labour rate variance and labour efficiency variance is equal to labour cost variance.

Thus:

$$\begin{aligned} \text{LCV} &= \text{LRV} + \text{LEV} \\ \text{Rs. } 330 (\text{F}) &= \text{Rs. } 1,530 (\text{F}) + \text{Rs. } 1,200 (\text{A}) \\ &= 330 \text{ F} \end{aligned}$$

15.9 ADVANTAGES OF STANDARD COSTING

The following are the Advantages of Standard Costing:

(i) Help to Management

The functions of the management are planning, coordination, organization, motivation and control. Standard costing helps the management in performing its functions in the following manner:

(A) Planning: Activities are studied, carefully, before hand and standards are fixed on an attainable basis, with effort. This is a useful exercise in business planning. Standard costing instills in the management a habit of thinking, in advance.

(B) Coordination: Standards are fixed for different functions such as purchasing, selling, production, accounting etc. Coordination is achieved between the different functions, through the working of standard costing.

(C) Organization–Facilitates Delegation of Authority: Shortfalls are to be identified for corrective action. So, organization chart is prepared which establishes the responsibilities of the executives. With the help of organization chart, authority is defined and responsibility for corrective action is identified, in the very beginning. This facilitates better achievement of results as authority and responsibility go hand in hand for better performance.

- (D) **Motivation:** The standards fixed are to be achieved or excelled by the concerned staff, maintaining the quality of the product. Plans can be formulated to reward with suitable incentives. The incentive system motivates the employees to achieve or even excel the levels expected of them. This increases efficiency and productivity.
- (E) **Control:** By comparing actual performance with standards fixed, immediate remedial action can be taken on the basis of variances, so revealed. Standard costing is an important technique of cost control. Cost control is more effective, when standards are constantly reviewed and prompt action is taken on those lines.

The most important advantage of Standard Costing is that it facilitates cost control.

(ii) Measurement of Efficiency

Standard cost provides a yardstick to measure efficiency or inefficiency. This makes possible application of the principle “Management by Exception”. The operations, which meet standard performance or reaches closely, are ignored. The attention of the management would be drawn to those distinct areas, where action is essentially needed.

(iii) Fixing Prices & Formulating Policies

Prices may be fixed, by adding the standardised margin of profits to standard cost. It enables the management to quote prices for potential orders to push sale of products. This serves as a valuable aid to management in formulation of pricing policies.

(iv) Facilitates Control and Decision-making

Variance analysis provides the ready means for interpretation of information and decision-making to exercise control in the areas, where attention is required. Ready reports serve as guide for immediate action.

(v) Eliminates Wastages

By fixing standards, certain wastes such as material wastages, idle time and machine hours etc can be reduced.

(vi) Inventory Valuation

Standard Costing simplifies valuation of inventory. This ensures uniform valuation of stock-raw materials, work-in-progress and finished goods over a period. The difference between standard and actual cost is transferred to a variance account.

(vii) Creates Cost Consciousness

Targets are set to the employees to achieve them. Additionally, Standard Costing creates cost consciousness amongst the employees, irrespective of their level, in the whole organisation.

(viii) Economical and Simple

Standard costing is simple and economical in implementing the costing system. It results in reduction of paper work in accounting and needs lesser number of forms and records. This results in reduction of costs.

(ix) Price Quotations

Standard costing is useful to prepare cost estimates. Quotations can be sent to secure orders and increase the business.

In short, standard Costing is widely used as it is a very effective managerial tool for cost control.

15.10 LIMITATIONS

Standard Costing suffers from certain limitations. These are

1. **Difficult to Establish:** It is difficult to establish standard costs. Inaccurate standards do more harm than good. Inaccurate and unreliable standards may give misleading results. Standards set may not enjoy the confidence of the users.
2. **Conditions Change:** A business may not be able to keep standards up-to-date. Conditions change in business and are never static. Standards too have to change with the times. Revision of standards is costly. If firms ignore to revise standards, suitably, damage would occur. If business does not revise the standard in manufacturing conditions, in tune with changes, even the current level of progress may not be sustained. Firms may not revise standards as it is a difficult and costly affair.
3. **Morale and Motivation may be Affected:** If standards are set too high, it may have an adverse effect on the morale and motivation of the employees. Staff may not be capable of operating the system.
4. **Expensive:** Operation of standard costing system is a costly affair for small concerns.
5. **Unsuitable for Job Orders:** Standard costing is expensive and unsuitable in job order industries and units engaged in manufacturing non-standardised products. For example, in a repair workshop, for each repair job undertaken, standards have to be set. Setting standards for each individual job is quite expensive.

Check Your Understanding

(A) State whether the following Statements are True or False

1. Standard costing is not superior compared to historical costing.
2. Standard costing is more widely applied in process and engineering industries.
3. Standards in standard costing are arrived on the basis of past performance.
4. Establishment of cost centre is necessary for fixing responsibilities for unfavorable variances.
5. Ideal standard is useful to help forward planning in standard costing.
6. Attainable standard reveals real variances for exercising control.
7. Cost Accountant does not play an important role in setting the standards in standard costing.

8. As a general rule, in standard costing, standards should be such that which are attainable, if workers put some more efforts or become more efficient.
9. Success of standard costing depends upon the fixation of standard costs.
10. Standards represent achievable targets after a conscious effort.
11. In jobbing industries, standard costing can be applied in all operations.
12. Standard costing is a valuable aid in cost control.
13. Variance analysis is the foundation of standard costing.
14. Variance is always negative.
15. When the actual cost is more than the standard, it is called adverse variance.
16. Standard costing is very important in controlling the performance and achieving the planned profits.
17. Standards fixed under standard costing do not allow for wastages and any type of idleness, so they are highly theoretical.
18. Historical cost means predetermined cost.
19. In jobbing industries, standard costing cannot be applied in any of the operations as they are not repetitive and their nature differs.
20. Standard Costing is widely used as it is a very effective managerial tool for cost control.
21. Specific person or department can be held responsible for uncontrollable variance.
22. Ideal standard is based on the assumption of perfect performance, achievable in the normal course of events.
23. Standard costing and budgetary control are complementary to each other.
24. Variances are divided into two categories, controllable variance and uncontrollable variance.
25. Ideal standards do not create frustration among employees as they are easy to achieve.
26. Standard costs are fixed by the trade association of the concerned industry.
27. Study of technical aspects of a factory has no relation to the introduction of standard costing.
28. Management can control inefficiencies on the fronts of quantity as well as costs through Standard Costing.
29. A cost center is a location, person or item of equipment at which costs may be gathered, ascertained and used for the purpose of cost control.
30. Standard costs are compared with the actual costs to find out the differences between the two to analyse and determine the efficiency of the operations so that necessary remedial action may be taken, immediately.
31. Unfavourable variances are always uncontrollable.
32. Variance analysis is the difference between the standard cost and comparable actual cost during a given period.

Answers

1. False 2. True 3. False 4. True 5. False 6. True 7. False 8. True 9. True 10. True 11. False
 12. True 13. True 14. False 15. True 16. True 17. False 18. False 19. False 20. True 21. False
 22. False 23. True 24. True 25. False 26. False 27. False 28. True 29. True 30. True 31. False
 32. True

Pick up the most Appropriate:

1. Variance is
 - (a) the sum of total cost and standard cost.
 - (b) the standard cost
 - (c) the difference between standard cost and actual cost
 - (d) none of the above
2. Under standard costing, the cost of product is determined on the basis of
 - (a) historical cost
 - (b) variable cost
 - (c) fixed cost
 - (d) predetermined cost, after technical assessment
3. Variances can be divided into the following categories.
 - (a) Controllable and uncontrollable variances
 - (b) Favourable and unfavourable variances
 - (c) Both (a) and (b)
 - (d) None of the above
4. Which is the best standard to be adopted in implementing standard costing?

(a) Ideal standard	(b) Attainable standard
(c) Base standard	(d) Marginal standard
5. Technique of evaluating deviations of actual cost from standard cost is called

(a) Trend analysis	(b) Variance analysis
(c) Regression analysis	(d) Linear programme
6. Standard costing is useful for all of the following except

(a) valuation of closing stock	(b) application of 'Management by exception' principle
(c) cost control	(d) maintenance of accounts
7. The formula for material cost variance is:

(a) $(SP \times SQ) - (AP \times AQ)$	(b) $(SP \times AP) - (SQ \times AQ)$
(c) $(AP \times AQ) - (SP \times SQ)$	(d) $(SP \times AQ) - (AP \times SQ)$
8. Material cost variance is the sum of
 - (a) Material quantity variance and Material yield variance
 - (b) Material quantity variance and Material price variance

Answers

1. (c) 2. (d) 3. (c) 4. (b) 5. (b) 6. (d) 7. (a) 8. (b) 9. (a)

Descriptive Questions

1. Explain the terms "Historical Cost" and "Standard Cost? **(15.1)**
 2. What is Standard Costing? In what type of Industries, Standard Costing can be applied? **(15.2)**
 3. Explain the different steps in the implementation of Standard Costing? **(15.3)**
 4. Write the preliminaries required for introducing a Standard Costing system in an organisation? **(15.5)**
 5. Explain the meaning of Variance Analysis and give a brief note on it. **(15.6)**
 6. What is meant by 'Variance Analysis'? Whether all variances can be controlled? **(15.6)**
 7. Describe material cost variance and labour cost variance? **(15.7 and 15.8)**
 8. Write the advantages and limitations of Standard Costing? **(15.9 and 15.10)**
 9. Standard costing can be applied in every industry —Discuss. **(15.2)**

Interview Questions

- Q.1.** What is the purpose of Standard Costing and in what type of industries this is used?

Ans. The main purpose of standard costing is to plan for determining the costs, before they are actually incurred. Management of any firm would be more interested to know what a product should cost rather than knowing how much it has costed them to make. The system of standard costing is useful in industries producing standardised products, which are repetitive in nature. So standard costing is more, widely, applied in process and engineering industries. Examples of industries where standard costing can be usefully employed are: bricks, cement, fertilizers, paper, electronic lamps, sugar and tobacco products etc.

- Q.2.** What is variance analysis?

Ans. The difference between the standard and actual cost component is called variance. Finding out the reasons for the difference is called Variance analysis.



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CHAPTER
16

Budget and Budgetary Control

- Needs of Modern Management
- Meaning of Budget and Budgeting
 - Characteristics of a Budget
- Meaning and Nature of Budgetary Control
- Objectives of Budgetary Control
- Requisites for Successful Budgetary Control System
- Essential Steps for installation of Budgetary Control System
- Advantages of Budgetary Control
- Limitations of Budgetary Control
- Classification of Budgets
 - Classification on the basis of Time
 - Classification on the basis of Functions
 - Classification on the basis of Flexibility
- Differences between Fixed and Flexible Budget
- Preparation of Cash Budget
- Comparison of Standard Costing with Budgetary Control
- Check Your Understanding
- Descriptive Questions
- Interview Questions

16.1 NEEDS OF MODERN MANAGEMENT

Various systems of costing provide information about the expenses incurred. Their objective is ascertainment of cost. As information provided is related to past, it is only a postmortem—what has happened.

Modern Management wants something more to make the concern successful. Modern Management wants:

- (A) All operations should be forecasted and planned ahead, as far as possible.
- (B) Compare actual results with the planned action for exercising control.

For the above two functions of Planning and Control, two new techniques are applied, namely Standard Costing and Budgetary Control.

Planning is a management function. In this competitive environment, the business enterprise becomes successful only with planning. Plans are framed to achieve better results. However, planning for the sake of it is of no use. Plans should work to achieve the results planned. This is possible through co-ordination, as all the tasks cannot be performed, in isolation. Where more than one individual is involved; only co-ordination can bring the required results. For it, control is needed.

Management is termed efficient, if maximum results are achieved with minimum costs and efforts.

To achieve the anticipated targets, Planning, Co-ordination and Control are the important main tasks of management, achieved through budgeting and budgetary control.

16.2 MEANING OF BUDGET AND BUDGETING

A budget is a monetary and/or quantitative expression of business plans and policies, prepared in advance, to be pursued in the future period of time. According to Certified Institute of Management Accountants, Budget is defined as “**A budget is a financial and/or quantitative statement prepared prior to a defined period of time, of the policy to be pursued during that period for the purpose of attaining the objective**”.

Budget is a systematic plan for utilisation of all types of resources, at its command. It acts as a barometer of a business as it measures the success from time to time, against the standard set for achievement.

Budgeting is a technique of formulating budgets.

Characteristics of a Budget: The main characteristics of a budget are:

- (A) A Comprehensive Business Plan showing what the enterprise wants to achieve.
- (B) Prepared in Advance.
- (C) For a Definite Period of Time.
- (D) Expressed in quantitative form, physical or monetary terms, or both.

- (E) For achieving a given objective.
- (F) A proper system of Accounting is essential.
- (G) System of Proper Fixation of Authority and Responsibility has to be in place.

Need of Budget

A budget is prepared to have effective utilisation of resources and for the realisation of objectives, as efficiently as possible.

16.3 MEANING AND NATURE OF BUDGETARY CONTROL

Budgetary control is the process of determining various budgeted figures for the enterprise and then comparing the actual performance with the budgeted figures for calculating the variances, if any. In this process, first budgets are to be prepared. Second, actual results are to be recorded. Third, comparison is to be made between the actual with the planned action for calculating the variances. Once the discrepancies are known, remedial measures are to be taken, at proper time. Then only, planned results can be achieved. A budget is a means and budgetary control is the end result.

Definition of Budgetary Control: The Chartered Institute of Management Accountants, London, defines the Budgetary Control as

“The establishment of budgets relating to the responsibilities of executives to the requirements of a policy, and the continuous comparison of the actual with the budgeted result, either to secure by individual action the objective of the policy or to provide a basis for its revision”.

Thus, establishment of budgetary control involves the following:

1. Establishment of budgets.
2. Continuous comparison of actual with the budgets for achievement of targets and fixing the responsibility for failure to achieve the budget figures.
3. Revision of budgets in the light of changed circumstances.

The position of budgetary control can be likened or compared to the navigation of a ship, across the seas. The navigating officer works out the course, ahead, and records the happening of the position of the ship from hour to hour in a log-book. To navigate the ship across the seven seas, safely, the captain wants the navigating officer to check his ship's position, constantly, against the predetermined one. If the ship is off its course, the navigating officer must report, immediately, to the captain for prompt action to regain the course. Valuable lessons are learnt by the captain of the ship from a study of the factors that have caused misadventure in the past. Exactly, so it is with the industrial ship.

What the modern management requires for day to operating purposes is detailed forecasts and immediate reporting of variances, with explanations of the reasons for variations.

This facilitates the management to take the required corrective action by the persons who have been made responsible, but contributed for the failure.

16.4 OBJECTIVES OF BUDGETARY CONTROL

The main objectives of budgetary control are as under:

1. Planning

Budgetary control forces the management at all levels to plan, in time, all the activities to be done during the future period.

2. Co-ordination

Normally, employees are efficient. If they are not considered efficient, they would not have been recruited. Most of the employees can work very efficiently, individually, but they fail to deliver better or improved results when they work, as a group. Majority of the functions in an organisation cannot be done in isolation. The functions, be it production or marketing, are to be performed in a greater coordination for smooth completion and better results. Budget exercise develops team spirit amongst the employees to work in a coordinated manner. The role of Budgetary Control is immense in integrating the activities of different departments.

Budgetary Control forces executives to think and think as a group.

3. Communication

A budget is a communicating device. Budget cannot be achieved without communicating to the concerned, what is expected of them to achieve. The approved budget shows, in detail, the plans of management, which are communicated to the concerned departments. This would help them to give adequate understanding and knowledge of the programmes and policies, but also the restrictions to which the organisation is expected to adhere to. For example, maximum amount that can be spent on advertisement, maintenance will be brought to the knowledge of the executives for exercising the restraint and achieving the results.

4. Control

Control refers to that action, necessary to bring the performance according to the original plan. Control is possible with pre-determined standards laid down in the budget. Budgetary control becomes possible with continuous comparison of actual performance with that of budget to find out the variances and report them for necessary corrective action.

Standard Costing and Budgetary Control are complementary to each other for achieving improved performance in an organisation.

16.5 REQUISITES FOR SUCCESSFUL BUDGETARY CONTROL SYSTEM

The following requisites are essential for effective budgetary control system.

1. **Determination of the Objectives:** There should be clear perspective of the objectives to be achieved through the budgetary control system. In most of the cases, the basic objective is to achieve desired/increased profits. To achieve, the following problems are to be sorted out:
 - (A) **Laying down the Plan** for implementation to achieve the objectives,
 - (B) Bringing **co-ordination** amongst the different departments and
 - (C) **Controlling** each function so as to bring the best possible results.The steps needed to be followed to achieve the above are explained further, here.
2. **Proper Delegation of Authority and Responsibility:** The first step is to have clear organisation chart explaining the authority and responsibility of each individual executive. **There should be no uncertainty regarding the point where the jurisdiction of one authority ends and that of another begins.**
3. **Proper Communication System:** The flow of information should be quick so that the budgets are implemented. **Two-way communications is important.** What is required to be achieved and how it is to be achieved should reach the lowest level. Similarly, upward communication in respect of implementation difficulties should reach the top level to sort out, without loss of time. The performance reports at the various levels help the management in monitoring and leading to the achievement of the budgeted goals.
4. **Participation of All Employees:** Budget preparation and control are done at the top level. However, involvement of all persons, including at the lower level, is necessary in framing the budget and its implementation for the success of budgetary control. In practice, budgets are executed at the lower level. With experience, they can offer practical suggestions that can lead to success.

The success of Budgetary Control depends more on the active participation of all employees of the organisation.

5. **Flexibility:** Future is uncertain. Despite the best planning and foresight, still there may be occurrences that may require adjustments. Budgets should work in the changed circumstances. **Flexibility in budgets is required to make them work under changed circumstances.**
6. **Motivation:** Human beings execute Budgets. **There should be incentive in achieving the required targets.** All persons should be motivated to improve their working to achieve the goals set in the budgets.

16.6 ESSENTIAL STEPS FOR INSTALLATION OF BUDGETARY CONTROL SYSTEM

In order to have effective Budgetary Control System, it is appropriate to take the following steps:

1. **Budget Manual:** This is a written document specifying the objectives and procedures of budgetary control. **It spells out the duties and responsibilities of executives.** The budget manual defines the sanctioning powers of the various authorities.

2. **Budget Centres:** A budget centre is that part of organisation for which the budget is prepared. **Budget centre can be a department, section of a department or any other part of department.** Budget centres are necessary for the purpose of ascertaining cost, performance and its control.
3. **Budget Committee:** In a large concern, all the functional heads are the members of the budget committee. They discuss their respective budgets and finalise the budget, after collective decisions. **The committee is responsible for its execution and achievement of the goals set.**
4. **Budget Officer:** The chief executive appoints some person as the budget officer. He is conversant with the functioning of the various departments. All budgets are presented to the budget officer who places before the budget committee, after making the necessary changes, for its approval. The actual performance of each department is communicated to the budget officer. He determines the variances, analyses the reasons and reports to the top management to take the necessary steps to remove the deviations. The variances are reported to the concerned departments too for necessary action, as may be necessary.

As the convenor of the budget committee, the main function of Budget officer is co-ordination to ensure achievement of the budgeted targets.

5. **Functional Budgets:** Separate functional budgets have to be prepared. Examples are Production Budget, Sales Budget, HR Budget, Cash Budget, Capital expenditure Budget and R & D Budget.
6. **Budget Period:** A budget period is the length of the period for which budget is prepared. Normally, budgets like purchases and sales budgets are prepared for one year. However, a capital expenditure budget is prepared for a longer period i.e. 3 to 5 years.
7. **Determination of Key Factor:** Budgets are prepared for all the functional areas such as production, sales, purchases, finance, human resources and research and development. These activities are inter-connected and inter-dependent and so the budgets are. For example, raw material supply may be limited. So, production and sales budgets are prepared, based on the purchase budget. To some of the firms, finance may be a constraint. Then, all other budgets are prepared based on the availability of finance.

A factor, which influences all other budgets, is known as key factor or principal factor.

A better co-ordination brings better performance, even while facing constraints.

The influence of key factor may neither be permanent nor the same factor may be constant. Limited supply of raw materials may be the key factor, till an alternative source of supply for that material is found. When the raw material supply problem is cleared, another factor may create the problem and become key factor. After raw materials problem is eased, sales may become a problem and become a key factor, due to change in trends. The management would

be constantly endeavouring to remove the problems associated with key factor for better performance.

16.7 ADVANTAGES OF BUDGETARY CONTROL

The following are the advantages of budgetary control system.

1. Profit Maximisation

The resources are put to best possible use, eliminating wastage. Proper control is exercised both on revenue and capital expenditure. To achieve this, proper planning and co-ordination of various functions is undertaken. So, the system helps in reducing losses and increasing profits.

2. Co-ordination

Co-ordination between the plans, policy and control is established.

The budgets of various departments have a bearing with each other, as activities are inter-related. As the size of operations increases, co-ordination amongst the different departments for achieving a common goal assumes more importance. This is possible through budgetary control system.

As all the personnel in the management team are involved and coordinated, there is bound to be maximum profits.

Budgetary control system acts as a friend, philosopher and guide to the management.

3. Communication

A budget serves as a means of communicating information through out the organisation. A sales manager for a district knows what is expected of his performance. Similarly, production manager knows the amount of material, labour and other expenses that can be incurred by him to achieve the goal set to him. So, every department knows the performance expectation and authority for achieving the same.

4. Tool for Measuring Performance

Budgetary control system provides a tool for measuring the performance of various departments. The performance of each department is reported to the top management.

The system helps the management to set the goals. The current performance is compared with the pre-planned performance to ascertain deviations so that corrective measures are taken, well at the right time.

It helps the management to economise costs and maximise profits.

5. Economy

Planning at each level brings efficiency and economy in the working of the business enterprise. Resources are put to optimum use. All this leads to elimination of wastage and achievement of overall efficiency.

6. Determining Weaknesses

Actual performance is compared with the planned performance, periodically, and deviations are found out. This shows the variances highlighting the weaknesses, where concentration for action is needed.

7. Consciousness

Budgets are prepared in advance. So, every employee knows what is expected of him and they are made aware of their responsibility. So, they do their job uninterrupted for achieving, what is set to him to do.

8. Timely Corrective Action

The deviations are reported to the attention of the top management as well as functional heads for suitable corrective action, in time. In the absence of budgetary control, deviations would be known only at the end of the period. There is no time and opportunity for necessary corrective action.

9. Motivation

Success is measured by comparing the actual performance with the planned performance. Suitable recognition and reward system can be introduced to motivate the employees, at all levels, provided the budgets are prepared with adequate planning and foresight.

10. Management by Exception

The management is required to exercise action only when there are deviations. So long as the plans are achieved, management need not be alerted. This system enables the introduction of 'Management by Exception' for effective delegation and control.

11. Overall Efficiency

Every one in the management is associated with the preparation of budget. There is involvement from the top functionaries and each one knows how the target fixed can be achieved. Budgets once, finally, approved by the Budget Committee, it represents the collective decision of the organisation. With the implementation of budgetary control, there would be over all alertness and improved working in all the departments, with better coordination.

Budgetary Control acts like an impersonal policeman to bring all round efficiency in performance.

12. Optimum Utilisation of Resources

As there is effective control over production, the resources of the organisation would be put to optimum utilisation.

16.8 CLASSIFICATION OF BUDGETS

Budgets can be classified on the basis of time, function and flexibility.

- (A) **Classification on the basis of Time:** Budgets can be long-term and short-term. Long-term budgets relate to a period ranging from 5 to 10 years. Only the top level knows these budgets and lower level would not be aware of them. These budgets are prepared for certain areas of the enterprise such as capital expenditure and research and development. Short-term budgets are for one or two years. Generally, budgets are prepared to coincide with the financial year so that comparison of the actual performance with budgeted estimates would facilitate better interpretation and understanding.
- (B) **Classification on the basis of Function:** Budgets are divided on the basis of different functions performed in the organisation. They are Sales Budget, Production Budget, Purchase Budget, Direct Labour Budget, Overheads Budget, Cash Budget and, finally, Master Budget.

The Master or Final Budget is a summary budget, which incorporates all functional budgets, in a summarised form.

- (C) **Classification on the basis of Flexibility:** There are two types of budgets on the basis of flexibility.
- (i) **Fixed Budgets:** The budget is prepared on the basis of fixed level of activity. In other words, **a fixed budget remains unchanged, irrespective of the change in volume or level of activity.** It is presumed that the forecast and actual level of activity, both production and sales, would be one and the same. In other words, if the budget is prepared for a particular quantity of production and sales, at a particular cost and selling price, the same should happen. Then only, this type of budgeting would be useful. Where static conditions occur, this is useful. In practical life, it does not happen on account of changes that cannot be anticipated or foreseen. It is not, practically possible to anticipate the likely production and sales, accurately. Due to this limitation, fixed budgets are not followed, where the forecast cannot be done, accurately, both for production and sales.
- (ii) **Flexible Budgets:** Flexible Budget is a good budgeting technique as well as tool of control.

Flexible budgets are prepared, where the level of activity cannot be estimated with accuracy. Preparation of Flexible Budgets is, normally, adopted in real life working.

This type of budget is prepared for a range of production activity say 15,000 to 25,000 units. **A flexible budget recognises the difference between fixed, semi-fixed and variable cost and is designed to change, in relation to change in level of activity.**

The flexible budgets will be useful, where the level of activity changes and cannot be estimated at the time of preparation of budget.

16.9 DIFFERENCES BETWEEN FIXED AND FLEXIBLE BUDGET

Base of Difference	Fixed Budget	Flexible Budget
1. Level of Activity	It is based on single level of activity.	It is based on more than one level of activity.
2. Assumptions	Assumes that conditions and level of activity remain constant.	Assumes that level of activity may change.
3. Cost Classification	Costs are not classified, according to their nature.	Costs are classified as per their nature i.e. fixed, semi-fixed and variable.
4. Comparison	If the level of activity changes, budget and actual performance cannot be compared.	If there is a change in the level of activity, budget can be recast to make it possible for comparison.
5. Adjustment	Fixed budget is not able to provide any automatic adjustment, when the volume of production/sales changes.	Flexible budget is automatically geared to changes in production/sales activity.
6. Utility	A fixed budget has limited utility and may give misleading results, when level of activity changes.	Flexible budget provides wider acceptance to several organisations as it provides a reliable basis for changed level of activity.

Illustration No. 1

With the following data for a 60% activity, prepare a budget for production at 80% and 100% capacity:

Production at 60% activity	600 units
Material	Rs. 100 per unit
Labour	Rs. 40 per unit
Expenses	Rs. 10 per unit
Factory Expenses	Rs. 40,000 (40% fixed)
Administration Expenses	Rs. 30,000 (60% fixed)

Solution:

Production Budget at 80% and 100% capacity

	80% capacity	100 % capacity
Production activity	800 units	1,000 units
Variable Cost:		
Materials @Rs.100 per unit	80,000	1,00,000

Labour @Rs. 40 per unit	32,000	40,000
Expenses @Rs.10 per unit	8,000	10,000
Factory Expenses @Rs.40 per unit	32,000	40,000
Administration Expenses @Rs.20 per unit	16,000	20,000
Total Variable Cost	1,68,000	2,10,000
Fixed Cost:		
Factory Expenses	16,000	16,000
Administration Expenses	18,000	18,000
Total Fixed Cost	34,000	34,000
Total Cost	2,02,000	2,44,000

Illustration No. 2

The expenses for the production of 5,000 units in a factory are given as follows:

	Per Unit Rs.
Materials	50
Labour	20
Variable Overhead	15
Fixed Overhead (Rs. 50,000)	10
Administrative Expenses (5% Variable)	10
Selling Expenses (20% fixed)	6
Distribution Expenses (10% fixed)	5
Total Cost of Sales per Unit	116

You are required to prepare a budget for the production of 7,000 units and 9,000 units.

Solution:

Production Budget for 7,000 units and 9,000 units

(Rs.)

Production Activity	7,000 Units	9,000 Units
Variable Cost:		
Material Cost Rs. 50 per unit	3,50,000	4,50,000
Labour Rs. 20 per unit	1,40,000	1,80,000
Variable overhead Rs. 15 per unit	1,05,000	1,35,000
Administrative Expenses @ 0.50 p per unit *	3,500	4,500

Selling Expenses @ Rs.4.80 per unit **	33,600	43,200
Distribution Expenses @ Rs.4.50 per unit ***	31,500	40,500
Total Variable Cost	6,63,600	8,53,200
Fixed Cost:		
Fixed overheads	50,000	50,000
Administrative Expenses	47,500	47,500
Selling Expenses	6,000	6,000
Distribution Expenses	2,500	2,500
Total Fixed Cost	1,06,000	1,06,000
Total Cost of Sales	7,69,600	9,59,200

Note: * In the problem, expenses per unit are calculated on the production level of 5,000 units. So, administrative expenses were Rs. 10 per unit, when the production level was 5,000 units. So, total administrative expenses were Rs. 50,000. Out of which, 5% was variable cost (Rs. 0.50 per unit) and balance 95% was fixed cost, which works out to Rs. 47,500. Fixed costs Rs. 47,500 are constant, whatever be the level of activity.

** Total Selling Expenses are Rs. 30,000. Out of which, 20% were fixed costs, which works out Rs. 6,000. Balance amount was variable cost Rs. 24,000, which works out to Rs. 4.80 per unit.

*** Total Distribution costs were Rs. 25,000. Out of which 10% were fixed costs, which works out to Rs. 2,500. Balance amount was variable cost Rs. 22,500, which works out to Rs. 4.50 per unit.

Illustration No. 3

Prepare a Production Budget for each month and summarized Production Budget for the six months period ending 31st Dec., 1989 from the following of product X.

- (i) The units to be sold for different months are as follows:

July 1989	1,100
August	1,100
September	1,700
October	1,900
November	2,500
December 1989	2,300
January 1990	2,200

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

- (iii) Finished units equal to half the sales for the next month will be in stock at the end of each month (including June 1989).

(iv) Budgeted production and production cost for the year ending 31st December, 1989 are as follows:

Production Units	Rs. 22,000
Direct Materials Per Unit	Rs. 10
Direct Wages Per Unit	Rs. 4
Total Factory Overheads Apportioned to Product	Rs. 88,000

Solution:

**Summarized Production Budget for the period ending 31st Dec., 1989 for product X
(in terms of units)**

Month (Year 1989)	Opening Stock	Production	Sales	Closing Stock
June				550
July	550	1,100	1,100	550
August	550	1,400	1,100	850
Sept	850	1,800	1,700	950
Oct	950	2,200	1,900	1,250
Nov	1,250	2,400	2,500	1,150
Dec	1,150	2,250	2,300	1,100
Total		11,150	10,600	

**Summarized Production Budget for the period ending 31st Dec., 1989 for product X
(in Rs.)**

Month (Year 1989)	Production (in Units)	Direct Materials Rs. 10 per unit	Direct Wages Rs. 4 per Unit	Total factory overheads apportioned @ Rs. 4 per Unit	Total
July	1,100	11,000	4,400	4,400	19,800
August	1,400	14,000	5,600	5,600	25,200
Sept	1,800	18,000	7,200	7,200	32,400
Oct	2,200	22,000	8,800	8,800	39,600
Nov	2,400	24,000	9,600	9,600	43,200
Dec	2,250	22,500	9,000	9,000	40,500
Total	11,150	111,500	44,600	44,600	2,00,700

Illustration No. 4

Following are the budget estimates of a repairs and maintenance department, which are to be used to construct a flexible budget for the ensuing year:

(Rs.)

Details of cost	Planned at 6,000 direct hours	Planned at 9,000 direct hours
Employee salaries	28,000	28,000
Indirect Repair Material	42,000	63,000
Miscellaneous cost	16,000	20,500

- (i) Prepare a flexible budget for the department up to activity level of 10,000 direct repair hours using increment of 1,000 hours.
- (ii) What would be the budget allowance for 9,500 direct repair hours?

(B.U. MBA-2002)

Solution:

(i)

Flexible Budget of Repairs and Maintenance Department						
Details of Cost	Planned Activity (Direct Hours)					
	6,000 hours	7,000 hours	8,000 hours	9,000 hours	9,500 hours	10,000 hours
Fixed Cost	28,000	28,000	28,000	28,000	28,000	28,000
Employee salaries						
Variable Cost						
Indirect Repair Material (@ Rs.7 per hour)	42,000	49,000	56,000	63,000	66,500	70,000
Semi-fixed cost	16,000	17,500	19,000	20,500	21,250	22,000
Miscellaneous cost*						
Total Cost	86,000	94,500	1,03,000	1,11,500	1,15,750	1,20,000

* Miscellaneous cost is a semi-variable cost, containing fixed cost and variable cost components. Fixed cost is Rs. 16,000. Balance amount Rs. 4,500 ($20,500 - 16,000$) is variable cost component, which works out to Rs. 1.50 per hour ($4,500/3,000$).

- (ii) At 9,500 hours, for the incremental increase of 500 hours, the cost increases by Rs. 4,250 due to the following:

Variable Cost

Indirect Repair Material (@ Rs. 7 per hour) = $500 \times 7 = 3,500$

Semi-fixed cost

Miscellaneous cost (@ Rs. 1.50 per hour = $500 \times 1.50 = 750$

-Variable cost component)

Total incremental cost	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin-bottom: 2px;"/> 4,250
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16.10 PREPARATION OF CASH BUDGET

A cash budget is an estimate of cash receipts and disbursements during a future period. The anticipated cash receipts from various sources are taken into account. Similarly, the amount spent on various heads, both revenue and capital, are taken into cash budget. In short, it is a summary of cash intake and outlay.

Illustration No. 5

Prepare a Cash-Budget of a company for April, May and June 2003 in a columnar form using the following information:

(Rs.)

Month, 03	Sales	Purchases	Wages	Expenses
January (Actual)	80,000	45,000	20,000	5,000
February (Actual)	80,000	40,000	18,000	6,000
March (Actual)	75,000	42,000	22,000	6,000
April (Budgeted)	90,000	50,000	24,000	7,000
May (Budgeted)	85,000	45,000	20,000	6,000
June (Budgeted)	80,000	35,000	18,000	5,000

You are further informed that:

- (a) 10% of the purchases and 20% of the sales are for cash;
- (b) The average collection period of the company $\frac{1}{2}$ month and the credit purchases are paid off regularly after one month;
- (c) Wages are paid half monthly, and the rent of Rs. 500 included in expenses is paid monthly;
- (d) Cash and Bank Balance as on April, was Rs. 15,000 and the company wants to keep it at the end of every month approximately this figure, the excess cash being put in fixed deposits in the bank.

(B.U. MBA-2003)

Solution:

(Rs.)

Cash Budget For the months from April to June, 2003			
	April	May	June
Receipts:			
Opening Balance of Cash at Bank	15,000	15,000	15,000
Cash Sales	18,000	17,000	16,000
Collections from Debtors	66,000	70,000	66,000
Total Receipts	99,000	1,02,000	97,000
Payments			
Cash Purchases	5,000	4,500	3,500
Payments for Credit Purchases	37,800	45,000	40,500
Wages	23,000	22,000	19,000
Expenses	6,500	5,500	4,500
Rent	500	500	500
Total Payments	72 ,800	77,500	68,000
Cash Balance Left	26,200	24,500	29,000
Fixed Deposit Placed	11,200	9,500	14,000
Closing Cash Balance	15,000	15,000	15,000

Calculation of cash sales and realisation of credit sales				
Month	Total Sales	Cash Sales (20% of Total Sales)	Credit Sales	Collections During Month
March (Actual)	75,000	15,000	60,000	Current month 30,000 + previous month 32,000 = 62,000
April (Budgeted)	90,000	18,000	72,000	Current month 36,000 + Previous month 30,000 = 66,000

May (Budgeted)	85,000	17,000	68,000	Current month 34,000 + Previous month 36,000 = 70,000
June (Budgeted)	80,000	16,000	64,000	Current month 32,000 + Previous month 34,000 = 66,000

Calculation of Payments for Purchases				
Month	Total Purchases	Cash Purchases (10%)	Credit Purchases	Payments for Credit Purchases
March (Actual)	42,000	4,200	37,800	36,000
April (Budgeted)	50,000	5,000	45,000	37,800
May (Budgeted)	45,000	4,500	40,500	45,000
June (Budgeted)	35,000	3,500	31,500	40,500

Calculation for Payment of Wages				
	Total Wages	Payment for Current Month's wages (50 %)	Payment for Previous Month's wages	Total Payment of wages
March (Actual)	22,000	11,000	9,000	20,000
April (Budgeted)	24,000	12,000	11,000	23,000
May (Budgeted)	20,000	10,000	12,000	22,000
June (Budgeted)	18,000	9,000	10,000	19,000

Illustration No. 6

From the following forecast of income and expenditure, prepare a cash budget for the months January to April 2001.

Months	Sales (Credit)	Purchases (Credit)	Wages	Manufacturing Expenses	Administrative Expenses	Selling Expenses
2000, Nov	30,000	15,000	3,000	1,150	1,060	500
2000, Dec	35,000	20,000	3,200	1,225	1,040	550
2001, Jan	25,000	15,000	2,500	990	1,100	600
Feb	30,000	20,000	3,000	1,050	1,150	620
March	35,000	22,500	2,400	1,100	1,220	570
April	40,000	25,000	2,600	1,200	1,180	710

Additional information is as follows:

1. The customers are allowed a credit period of 2 months.
2. A dividend of Rs. 10,000 is payable in April.
3. Capital expenditure to be incurred: Plant ‘purchased on 15th January for Rs. 5,000, a Building has been purchased on 1st March and the payments are to be made in monthly instalments of Rs. 2,000 each.
4. The creditors are allowing a credit of 2 months.
5. Wages are paid on the 1st on the next month.
6. Lag in payment of other expenses is one month.
7. Balance of cash in hand on 1st January, 2001 is Rs. 15,000

B.U MBA (2002)

Solution:

	January 2001	February 2001	March 2001	April 2001
Opening Balance	15,000	23,985	31,795	33,975
Sales	30,000	35,000	25,000	30,000
Total Receipts	45,000	58,985	56,795	63,975
Payments				
Purchases	15,000	20,000	15,000	20,000
Wages	3,200	2,500	3,000	2,400
Manufacturing expenses	1,225	990	1,050	1,100
Administrative expenses	1,040	1,100	1,150	1,220
Selling expenses	550	600	620	570
Capital expenditure instalment (Plant)		2,000	2,000	1,000
Capital expenditure instalment (Building)				2,000
Dividend				10,000
Total Payments	21,015	27,190	22,820	38,290
Closing Balance	23,985	31,795	33,975	25,685

16.11 LIMITATIONS OF BUDGETARY CONTROL

Budgetary control is a sound technique of control but is not a perfect tool. Despite many good points, it suffers from the following limitations:

1. Uncertainty of Future

Budgets are prepared for the future periods. So, budgets are prepared, with certain assumptions. There is no certainty that all the assumptions prevail in future. With the change in assumptions, the situation, in future, changes. Due to this, the utility of budgetary control reduces.

2. Problem of Co-ordination

The success of budgetary control, largely, depends upon effective co-ordination. The performance of one department depends on the performance of the other department. To ensure necessary co-ordination, organisation appoints a budget officer. All organisations cannot afford the additional expenditure involved with the appointment of a budget officer, separately. In case, budget officer is not appointed, lack of co-ordination results in poor performance.

3. Not a Substitute for Management

Budgetary control helps in decision-making, but is not a substitute for management. A budgetary programme can be successful, if there is proper administration and supervision.

4. Discourages Efficiency

Every person is given a target to achieve. So, every one is concerned only achieving the target of his own. This is the common tendency. Even capable and competent people too would concentrate just to achieve their individual targets. So, budgets may become managerial constraints, unless suitable award or incentive system is introduced. In the absence of award system to recognise efficiency and exceptional talents, budgets may dampen the people, with initiative and enthusiasm.

5. Timely Revision Required

Budgets are prepared on certain assumptions. When those conditions do not prevail, it becomes inevitable to revise the budget. Such frequent revision of budgets reduces reliability and value. Revision of budgets involves additional expenditure too.

6. Conflict among Different Departments

For the success of budgetary control, co-ordination of the different departments is essential. Every department is concerned with the achievement of the individual department's goal, not concerned with the final goal of the enterprise. In this process, each department tries to secure maximum fund allocation and this creates conflict among the different departments.

7. Depends upon Support of Top management

The success of budgetary control depends upon the support of top management. If the top management is not enthusiastic for its success, the budgetary control collapses. So, the whole-hearted interest of top management is highly essential for its implementation, in its true spirit, to make it workable and succeed.

16.12 COMPARISON OF STANDARD COSTING WITH BUDGETARY CONTROL

Standard Costing with Budgetary Control aims at maximising efficiency and controlling costs. They are useful tools to management. However, they differ in the following aspects.

Base	Budgetary Control	Standard Costing
1. Coverage	It covers all the functions of a business such as purchases, production, sales, finance, capital expenditure and research and development etc. In other words, it has a macro-approach.	Standard costs are, basically, developed for the manufacturing function i.e. production. In other words, it has a micro-approach.
2. Objective	Objective is to delegate responsibility and ensure performance, without sacrificing control.	Objective is to enable the management to fix standards, control variances and value closing stock.
3. Application	It can be implemented in all industries.	It is not possible to implement in all types of industries. It cannot be applied in jobbing activity, in all operations.
4. Scope	It is more extensive as it covers all the departments or operations of the business, as a whole.	It is more intensive in application as it calls for detailed analysis of variances. Concentration is on various elements of cost like raw materials, labour and overheads.
5. Implementation	It can be implemented, even in parts. To certain areas or departments, it can be implemented, while leaving rest of the areas. For example, it can be implemented in the sales department, alone.	It cannot be operated in parts. It has to cover all items of expenses, without leaving any item.
6. Emphasis	Emphasis is on Limits. Targets are to be achieved.	Emphasis is on Standards. Costs should not exceed the standards set.
7. Projection	It is based on the past actual records and suitably adjusted to future trends and expectations. It is a projection of financial accounts.	It is based on the technical assessments. It is a projection of cost accounts.
8. Variances	Budgetary control deals with total variances. The variances are calculated for the different departments or the organisation, as a whole.	Variances are calculated for different elements of costs i.e. material, labour and overheads. Further, they are analysed, in detail, for their causes.
9. Orientation	It is more management oriented.	It is more engineering oriented.
10. Relationship	Budgetary control can be applied, even without the help of standard costing.	To establish standard costing, some form of budgeting is needed to forecast the level of output and prescribed set of working conditions in which standard costs would be used.

11. Difference in Advantages	It aims in policy determination and facilitates introduction of 'Delegation of Authority'.	Standard costs are used in various management decisions, price fixing and valuation of closing stock etc.
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Both standard costing and budgetary control are complementary to each other. Both should be used to achieve maximum efficiency.

Check Your Understanding

(A) State whether the following Statements are True or False

1. Budget is a means and budgetary control is the end result.
2. To achieve the anticipated targets, Planning, Co-ordination and Control are the important main tasks of management, achieved through budgeting and budgetary control.
3. A key factor or principal factor does not influence the preparation of all other budgets.
4. Budgetary control does not facilitate introduction of 'Management by Exception'.
5. Generally, budgets are prepared to coincide with the financial year so that comparison of the actual performance with budgeted estimates would facilitate better interpretation and understanding.
6. A flexible budget is one, which changes from year to year.
7. A flexible budget recognises the difference between fixed, semi-fixed and variable cost and is designed to change in relation to the change in level of activity.
8. Sales budget, normally, is the most important budget among all budgets.
9. The principal factor is the starting point for the preparation of various budgets.
10. A budget manual is the summary of all functional budgets.
11. Budgeting is a technique for formulating budgets.
12. Budgets are blueprints for action.
13. Standard Costing and Budgetary Control are not complementary to each other for achieving improved performance in an organisation.
14. On the basis of budget, next year's financial statements—profit and loss account and balance sheet can be drawn up.
15. A flexible budget is quickly recast based on changed volumes of activity.
16. A budget is nothing but an estimate based on the past records.
17. Budget is drawn by the accountant of the organisation.
18. The Master Budget is a summary budget, which incorporates all functional budgets in a summarised form.
19. Raw materials supply can be a key factor.
20. Standard costing can operate without the support of budgetary control in any manner.
21. Standard costing cannot be introduced when budgetary control is in operation.
22. Normally, sales budget is prepared first and the other budgets are coordinated with it.

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- 23. Materials Budget and Purchase Budget mean one and the same.
 - 24. A fixed budget is preferable to flexible budget.
 - 25. Budgetary control has a macro-approach, while standard costing has a micro-approach.
 - 26. Before the functional budgets are prepared, master budget is prepared.

(A) Answers

1. True 2. True 3. False 4. False 5. True 6. False 7. True 8. True 9. True 10. False. 11. True 12. True 13. False 14. True 15. True 16. False 17. False 18. True 19. True 20. False 21. False 22. True 23. False 24. False 25. True 26. False

(B) Choose the appropriate answer

- 1. The basic difference between a fixed budget and flexible budget is that a fixed budget.....
 - (a) is concerned with a single level of activity, while flexible budget is prepared for different levels of activity.
 - (b) is concerned with fixed costs, while flexible budget is concerned with variable costs.
 - (c) is fixed while flexible budget changes.
- 2. A flexible budget requires a careful study of
 - (a) Fixed, semi-fixed and variable expenses
 - (b) Past and current expenses
 - (c) Overheads, selling and administrative expenses.
- 3. Sales budget is a ...
 - (a) expenditure budget
 - (b) functional budget
 - (c) Master budget
- 4. The budget that is prepared first of all is ...
 - (a) Master budget
 - (b) Budget, with key factor
 - (c) Cash Budget
 - (d) Capital expenditure budget
- 5. The difference between fixed cost and variable cost assumes significance in the preparation of the following budget.
 - (a) Master Budget
 - (b) Flexible Budget
 - (c) Cash Budget
 - (d) Capital Budget
- 6. Materials become key factor, if
 - (a) quota restrictions exist
 - (b) insufficient advertisement prevails
 - (c) there is low demand
 - (d) there is no problem with supplies of materials
- 7. Which of the following is a long-term budget?
 - (a) Master Budget
 - (b) Flexible Budget
 - (c) Cash Budget
 - (d) Capital Budget

8. Which of the following is not a potential benefit of using a budget?
 - (a) Enhanced coordination of firm activities
 - (b) More motivated managers
 - (c) Improved interdepartmental communication
 - (d) More accurate external financial statements
9. Which of the following is not an element of master budget?

(a) Capital Expenditure Budget	(b) Production Schedule
(c) Operating Expenses Budget	(d) All above
(e) None of the above	
10. Budgets are shown in Terms

(a) Qualitative	(b) Quantitative
(c) Materialistic	(d) both (b) and (c)

(B) Answers

1. (a) 2. (a) 3. (b) 4. (b) 5 (b) 6 (a) 7 (d) 8 (d) 9 (b) 10 (d)

Descriptive Questions

1. How Budget fulfils the needs of Modern Management? Explain the meaning of 'Budget' and describe its characteristics. (**16.1 and 16.2**)
2. Explain 'Budget' and 'Budgeting'. Describe the characteristics of Budget. (**16.2**)
3. What does Budgetary Control mean? Discuss, in brief, the objectives and advantages of budgetary control. (**16.2 to 16.4, and 16.7**)
4. Discuss the requisites of a good budgetary control system. Explain briefly the essential steps in setting up of a budgetary control system so that its working efficiency is ensured. (**16.5 and 16.6**)
5. Explain the classification of Budgets. (**16.8**)
6. Bring out the differences between Fixed and Flexible Budget. (**16.9**)
7. Detail the advantages and limitations of Budgetary Control. (**16.7 and 16.11**)
8. Compare Standard Costing with Budgetary Control and bring out the differences between them. (**16.12**)

Interview Questions

- Q.1.** What is 'Budgetary Control' and how is this achieved?

Ans. A budget is a financial and quantitative statement, prepared prior to a defined period of time. Budgetary Control is a technique of exercising control to achieve the desired objective of the firm. In this process, budget, having a key factor, is prepared, first. Based on that budget, all other budgets are prepared. Later, actual results are compared with the budgets and variances are found out for action to be exercised. Person who has contributed the shortfall is the proper person who can take the corrective action.

Q.2. What is the importance of Budgetary Control in the current context?

Ans. Organisations are becoming big, with increasing volumes of production, associated with complex problems. Delegation of authority is necessary for achieving the results, bringing coordination between the different departments. At the same time, fixation of responsibility and initiating corrective action are essential. Budgetary control is an important tool to execute the principle of 'Management by Exception'. Top management would be concerned only when the actual result is off the planned action. Corrective action is to be initiated, in time, to achieve the planned result, without loss of time and resources. In this light, budgetary control is essential in the current context.

Q.3. What is a key factor in the context of Budgetary Control? What is its importance?

Ans. A factor, which influences all other budgets, is known as key factor or principal factor. A key factor is a limiting factor in any organisation. First, the key factory in the organisation is identified. Budget related to that key factor is prepared, first. For example, raw materials may be a key factor to a particular firm. In such an event, the firm first prepares the raw materials budget and based on that budget, all other budgets are prepared.

Q.4. What is a Master Budget?

Ans. Master Budget is a summary budget, which incorporates all functional budgets, in a summarised form. When all the functional budgets are prepared, then 'Master Budget' is prepared. Master budget is a consolidated plan of overall proposed operations developed by management for the company, covering a definite period of time, normally a year.

Q.5. Which method of budgeting is preferred and explain the reasoning for preference?

Ans. A flexible budget is the most ideal form of budgeting as it would suit different levels of production. Despite best planning, in the light of growing uncertainties, it is rather difficult to predict the demand for any product, with certainty. Flexible budget overcomes the disadvantage of a fixed budget and would meet the different levels of production and changing conditions of sales.



CHAPTER
17

Zero-Base Budgeting

- Introduction**
- Meaning and Justification of Zero Base Budgeting**
- Differences between Traditional Budgeting and Zero Base Budgeting**
- Steps for Preparation of Zero Base Budgeting**
- Benefits of Zero Base Budgeting**
- Limitations of Zero Base Budgeting**
- Conclusion**
- Check Your Understanding**
- Fill in the Blanks**
- Descriptive Questions**
- Interview Questions**

17.1 INTRODUCTION

The use of Zero-Base Budgeting (ZBB) as a managerial tool has become, increasingly, popular since the early 1970s. ZBB has been gaining acceptance in the business world as a tool in integrating the managerial functions of planning and control. Initially, the former President of America, Jimmy Carter, has developed this technique, when he was working as the Governor of Georgia, for controlling state expenditure.

17.2 MEANING

Zero Base Budgeting is the latest technique of budgeting. A budget is a representation of quantification of the firm's objectives. An accurate budget can be framed, when a relationship between the inputs and outputs can be established. In all the activities, such relationship cannot be established. In such areas, it is difficult to develop standard costs. Where it is difficult to compare the resources allocation with the output, ZBB is more appropriate in controlling.

The term 'Zero Base Budgeting' means starting from the scratch.

In Zero Base budgeting, justification of expenditure is to be made for the past as well as new projects. In the traditional budgeting, the figures of the previous years are taken as base and additions are made for the current year. But, in Zero Base Budgeting, even the running projects are to be justified for continuation. If the past projects were allowed to continue, without justification, the past inefficiencies would continue, automatically. So, the manager has to justify, why he wants to continue to spend.

In ZBB, the manager has to justify the essentiality of the new projects for their starting and continuation of previous projects, every year. Equally, the concerned manager has to justify the amount of spending, thereon, is reasonable.

17.3 DIFFERENCES BETWEEN TRADITIONAL BUDGETING AND ZERO BASE BUDGETING

The differences between the two are as under:

Traditional Budgeting Vs Zero Base Budgeting		
	Traditional Budgeting	Zero Base Budgeting
1. Emphasis	Lays emphasis on 'How much'	Lays emphasis on 'Why'
2. Focus	Focus is on increase or decrease in expenditure.	Focus is on 'cost benefit analysis'.
3. Communication	Communication is, usually, vertical.	Communication is, usually, both vertical and horizontal.
4. Approach	Past is taken for granted and never questioned for continuation.	Past is questioned and justification needed for continuation and fund allocation.

Zero Base Budgeting can be applied successfully in State Government spending.

17.4 STEPS FOR PREPARATION OF ZERO BASE BUDGETING

The following steps are involved in Zero-Base Budgeting:

- (A) **Determining the Objectives:** Determination of the objectives is the first step. The objective can be cost reduction in staff overheads or dropping those projects that do not fit in the organisational objectives or focus.
- (B) **Extent of Coverage:** It relates to the decision whether Zero-Base Budgeting is to be introduced in all areas or certain select areas on trial basis.
- (C) **Developing Decision Units:** Decision Unit can be a functional department, a programme, a product-line or sub-line. Each decision unit must be independent. Then only, they come under consideration. Cost benefit analysis is to be done to the decision units. Decision is to be taken, whether the units are to be continued or dropped. If the cost benefit analysis is favourable, the decision unit can be implemented, otherwise can be dropped.

Benefit should be more compared to the cost. Cost benefit analysis is the foundation of ZBB, which helps in ranking the projects.

If the decision unit is dropped, no further thinking is needed about those activities.

- (D) **Developing Decision Packages:** This is the most important step involved in the ZBB process. After decision for selection of the units, the concerned manager of the activity is given the freedom to come out with the alternatives to achieve. He does the cost-benefit analysis and selects the best course of alternative. He summarises the plans and resources required to achieve.
- (E) **Preparation of Budgets:** This is the last stage involved in ZBB process. Once the top management has ranked the various decision packages keeping in view of the cost benefit analysis and availability of funds, a cut-off point is established. All packages (programmes, products etc), which come within the cut-off point are accepted and others rejected. The resources are then allocated to the different decision units and budgets relating to units are approved.

Zero Base Budgeting is an extension of the cost benefit analysis method to the area of corporate budgeting.

17.5 BENEFITS OF ZERO BASE BUDGETING

ZBB is a revolutionary concept. The benefits are as under:

1. **Proper Allocation of Funds:** Funds are scarce. Priority in allocation of funds is made on cost-benefit analysis.
2. **Systematic Evaluation:** Manager has to justify the demand for resources, every year. So, it provides the organisation a systematic way to evaluate different programmes and operations

undertaken. So, for the ongoing projects too, review is made, every year. Funds allocation for the ongoing projects is made, if there is justification to continue, further.

In other words, there is no difference between the new projects and ongoing projects from the view-point of allocation of funds.

- 3. Links Budgets with Goals of Enterprise:** Those projects that do not fit within the overall goals of the enterprise are not continued, even if they were commenced. Goal oriented approach of the enterprise would be developed.
- 4. Zero Base Approach:** Zero is taken as the base, every time. Only those activities and programmes that are essential are undertaken, which improves the overall efficiency of the enterprise. Alternative courses of action are always studied. Economies are achieved, eliminating wastage. The focus of the management is on analysis and decision-making
- 5. Optimum use of Resources:** As cost-benefit analysis is the guiding principle in fixing priorities, resources are used to the optimum advantage of the organisation.
- 6. No Incremental Approach:** Normally, budgets are based on incremental approach. The usual feature of functional heads is to seek information from the accounts department for the previous year's expenditure, add 'something' for the current year and try to justify the increase. This incremental approach is not possible with Zero-Base Budgeting. Manager has to justify their activities and the funds requested.
- 7. Most Appropriate for Non-Manufacturing Areas:** Zero-Base Budgeting is very appropriate for the staff and support areas (Non-Manufacturing Areas). In these areas, the output of these areas is not, directly, related with the final output of the organisation.

Within the business world, ZBB can be applied to research and development, data processing, quality control, marketing and transportation, legal staff and personnel office.

Example: A separate training department may remain in an organisation. The utility of the continuation of the department may be studied, in comparison to conducting training outside the organisation. Training is a non-manufacturing area and its discontinuation within the organisation and providing diverse types of training to staff, outside the firm, may be more ideally suitable, while reducing the costs to the enterprise.

17.6 LIMITATIONS OF ZERO BASE BUDGETING

In spite of the many advantages, it suffers from the following limitations:

1. Computation of cost-benefit analysis is essential for ZBB. This is not possible in respect of non-financial matters.
2. The system of ZBB has no scope to adjust for changes. So, ZBB has no scope in flexible budgeting.

3. ZBB involves lot of time and cost of operating is also high.
4. Formulation of decision package is a difficult process and all the managers may not have the necessary expertise.

17.7 CONCLUSION

To conclude, Zero-Base Budgeting is not a panacea for all evils. But, it can certainly overcome the weaknesses of the conventional budgets and improves the usefulness of budgeting process.

Check Your Understanding

(A) State whether the following Statements are True or False

1. Zero-Base Budgeting is the latest technique of budgeting.
2. In Zero-Base Budgeting, the focus of management is on analysis and decision-making.
3. There is no difference between the conventional budgeting and Zero-Base Budgeting.
4. In Zero-Base Budgeting, zero is taken as base.
5. Zero-Base Budgeting allows the continuation of ongoing projects, without any review and justification.
6. Non-manufacturing areas are suitable for implementation of Zero-Base Budgeting.
7. Cost benefit analysis is the foundation for Zero-Base Budgeting.
8. Zero-Base Budgeting cannot be applied in Government departmental budgets.

Answers

1. True 2. True 3. False 4. True 5. False 6. True 7. True 8. False

Fill in the Blanks

1. Zero-Base Budgeting overcomes the weaknesses of
2. Zero-Base Budgeting is ideal for implementation in

Answers

1. conventional budgeting. 2. non-manufacturing areas/Government budgets.

Descriptive Questions

1. What is meant by Zero-Base Budgeting? What are the different steps involved in it and how is it useful to the business? Explain its limitations. (**17.1 to 17.6**)
2. Justify Zero-Base Budgeting is superior to conventional budgeting. (**17.1, 17.2, 17.3 and 17.5**)
3. What do you mean Zero-Base Budgeting? How does it overcome the weaknesses of the conventional budgeting? (**17.1, 17.2, 17.3 and 17.5**)

Interview Questions

Q.1. What is 'Zero-Base Budgeting'? State its utility.

Ans. 'Zero-Base Budgeting' is the latest technique of budgeting. This is a managerial tool, where every manager has to justify each rupee of expenditure on the basis of cost-benefit analysis. This is applicable to the new as well as on-going projects/activities. This is more applicable in non-manufacturing areas such as research and development, training, legal, staff and support areas. This type of budgeting is ideal in Governmental activities.



CHAPTER
18

Costing For Decision-Making Break Even Analysis

- Introduction
- CVP Analysis
- Behaviour of Fixed and Variable Costs
- CVP Analysis and Break-even Analysis
- Break-even Analysis
 - Break-even Point
 - Contribution
 - PV Ratio or Contribution Ratio
 - Angle of Incidence
- Advantages or Uses of Break-even Chart
- Assumptions of Break-even Analysis
- Limitations of Break-even Analysis and Break-even Chart
- Margin of Safety
- Cash Break-Even Point
- Multi Product Break-Even Point (Composite Break-Even Point)
- Check Your Understanding
- Descriptive Questions

18.1 INTRODUCTION

Decision-Making is the most important function of a manager. All the functions of execution can be delegated to others. Even, the persons, delegated to, can make the thinking process. But,

the final Decision-making is the ultimate responsibility of the manager. Decision-making is the final product of thinking process.

18.2 DECISION-MAKING PROCESS

Decision-making is a selection process and concerned with selecting the best type of alternative. The decision taken is aimed at achieving the organizational goals. It is concerned with the detailed study of the available alternatives for finding out the best possible alternative. Decision-making is a mental process. It is the outline of constant thoughtful consideration. It leads to commitment. The commitment depends upon the nature of the decision, whether short-term or long-term.

Steps in Decision-making Process

- Define the Problem or Specify the Objective
- Explore All Available Alternatives
- Analyse all Pros and Cons of Different Alternatives
- Select the Best Alternative
- Decision-Making is only a Beginning, not the end in Process
- Implement Effectively
- Follow-Up, till Planned Result is achieved

Profit Planning

A firm's performance is measured by the profit it makes. Profits of a firm depend upon a large number of factors. But, the most important factors are costs of manufacture, volume of sales and selling price of the products.

The analytical technique employed to study the inter-relationship of cost, volume and price and its impact on the behaviour of profit is known as 'Cost-Volume Profit Analysis'.

In the short-run, profit planning can be made with the use of CVP analysis. It helps the management to achieve an ideal combination of costs and volume. This becomes possible with the understanding of the implications of variable cost, fixed costs and volume. CVP analysis helps the management in deciding the quantum of sales required to be made to avoid losses, as well as reaching a particular level of sales to achieve the targeted amount of profit.

18.3 CVP ANALYSIS

Utility of CVP Analysis: CVP analysis studies the relationship of cost-volume-profit at different levels of output. This analysis is an important tool for profit planning. The three factors of CVP analysis — costs, volume and profit — are interconnected and dependent on one another.

For example, profits depend upon the selling price. Selling price, largely, depends upon cost of production. Cost of production, in turn, depends upon volume of production. It is only the variable costs that vary directly with production, whereas fixed costs remain constant, regardless of the volume of production, in the short-run.

In some quarters, there is an opinion that business firms, rarely, operate at their break-even point. Therefore, the break-even analysis is of very limited use to the management. This is incorrect. Reason is many people consider CVP analysis and Break-even point are one and the same. It is not so.

The scope of CVP analysis is quite wide, while BEP is only a part of CVP analysis. Break-even analysis provides answer how much sales are to be made to avoid losses. CVP analysis provides not only this answer, as BEP is a part of it, but provides answers in many areas to the management.

Understanding CVP relationship is important in financial decision making to a dynamic management. It provides right answers to the following questions such as:

- How much sales are required to avoid losses?
- What level of sales is required to achieve a targeted amount of profit?
- What will be the effect of change in prices, costs and volume on profits?
- What will be the effect of change in sales mix on profits?
- What will be the new break-even point, if there is change in prices, costs, volume or sales mix?
- Should we buy or manufacture some products or components?
- What will be the impact of plant expansion on the relationship of cost-volume-profit?
- Which product or product mix is most profitable and which one is least profitable?
- Should the sale of a product or operation of a plant be discontinued?
- Is it desirable to shut down the plant, temporarily?

These are some of the intricate questions for which management can find answers with the help of CVP analysis. All the above aspects have immense influence on the profitability of the firm. CVP analysis is concerned with entire profit planning, as management's main thrust is to build a good level of profit, at all times. This analysis provides the necessary insight to the management to take suitable decisions for necessary and timely action. It is of great use for profit planning, cost control and decision-making.

18.4 CVP ANALYSIS AND BREAK-EVEN ANALYSIS

Many think break-even analysis and CVP analysis are one and the same. It is not so. **The Break-even analysis is the most widely known form of CVP analysis.** For this reason, many use both the terms interchangeably.

The purpose of CVP analysis is to examine the effect of change in costs, volume and price on profits. This is a comprehensive study. Break-even analysis is a part of CVP analysis.

18.5 BREAK-EVEN ANALYSIS

Break-even analysis establishes the relationship between revenues and costs with respect to volume. It indicates the level of sales at which total costs are equal to total revenues.

Breakeven analysis is a specific way of presenting information to management in a precise manner. Many a time, CVP analysis is popularly designated as break-even analysis. But, there is a narrow difference between the two.

CVP analysis is concerned with the entire profit planning, while the break-even analysis is one of the techniques used in that process.

Break-even point: Break-even point is the point at which the firm makes no profit or loss. At the break-even point, the firm is in the stage of equilibrium. The equilibrium point is commonly known as break-even point. **Break-even point is that point, where the revenue is just equal to total costs.** It is the point where the firm makes neither profit nor loss. This is a zero position. After this level, if the firm makes production and sells above the variable cost, it earns profit. If the sales fall below this level, firm sustains loss. There are two approaches to calculate the break-even point. They are:

- (A) Break-even Formulae Approach and
- (B) Break-even Chart or Graphic Method Break-even Analysis

(A) Break-even Formulae Approach: The break-even point can be calculated in terms of units, in terms of money value of sales volume or as a percentage of estimated capacity.

18.5.1 Contribution

When the selling price per unit is more than its variable cost, the excess is called contribution. Total contribution is calculated by multiplying the unit contribution with the number of units sold. Total contribution is the excess amount, after covering total fixed costs that is incurred by the firm. After covering fixed costs, the amount left out from total sales in the firm is gross margin. So, contribution covers total fixed costs and profit. If the contribution does not cover fixed costs, the difference is loss, sustained by the firm. Every firm looks to achieve break-even point, at the earliest. After the break-even level, whatever is sold that can leave in the form of contribution to the firm is a welcome decision. While making production and sales decisions, the firm chooses that product that gives the highest contribution. Contribution is vital in profit planning decision-making. Firm is always concerned to choose that product, where it can sell and achieve the highest amount of contribution. Contribution is important to the finance manager and, equally, to marketing manager to show impressive performance of the firm, in terms of profitability.

The formulae for their calculation are

Contribution per unit = Selling price per unit – Variable cost per unit

Contribution per unit × Number of units sold = Total Contribution

Total Contribution = Total fixed costs + Profit

Profit = Total Contribution – Total fixed costs

Loss = Total fixed costs – Total contribution

BEP in Terms of Units: The break-even point, in terms of units, can be computed by dividing fixed costs by contribution per unit. The formula for break-even point (BEP), in terms of units, is as follows:

$$\text{BEP (units)} = \frac{\text{Total fixed cost}}{\text{Selling price per unit} - \text{Variable cost per unit}}$$

$$\text{or} \quad \text{BEP (units)} = \frac{\text{Total fixed cost}}{\text{Contribution per unit}}$$

The above formula is useful to find out break-even point, in terms of number of units of sales.

From the above formula, it is evident that the selling price per unit should be higher than the variable cost per unit to have positive break-even point. Suppose, if the variable cost is higher than the selling price, a negative sales volume can be calculated, mathematically, to arrive at break-even point, but is of no help in the real life situation.

No Fixed Costs Situation: In case, a firm has no fixed costs, what is the break-even point to that firm? If the firm does not produce anything, it does not incur any loss. So, no production level is the first break-even point. This is the safest situation for the firm. At each level, total contribution is equal to profit. So, every sales level will be the break-even point to that firm, if there are no fixed costs to the firm.

Illustration No. 1

A firm produces a single product and its selling price is Rs.40. Its variable cost per unit is Rs. 32. Its fixed costs are Rs. 2,40,000. What is its break-even point?

Solution:

Selling price per unit = Rs. 40

Variable cost per unit = Rs. 32

Contribution per unit = 8

$$\begin{aligned}\text{BEP (units)} &= \frac{\text{Fixed costs}}{\text{Contribution per unit}} \\ &= \frac{2,40,000}{8} \\ &= 30,000 \text{ units}\end{aligned}$$

Proof:

Total Sales	$30,000 \times 40 = 12,00,000$
Total Variable cost	$30,000 \times 32 = 9,60,000$
Contribution	$30,000 \times 8 = 2,40,000$
Fixed costs	$\underline{2,40,000}$
Profit	$\underline{\underline{0}}$

BEP in terms of Rupees: The break-even point can be calculated with the following formula:

$$\text{BEP (in rupees)} = \text{BEP (in terms of units)} \times \text{Selling price per unit}$$

or

$$\text{BEP (in rupees)} = \frac{\text{Total fixed cost}}{1 - (\text{Variable cost per unit/Selling price per unit})}$$

When we apply the same formula to the illustration No. 1, we can find out the BEP in terms of rupees:

$$\begin{aligned} \text{BEP (in rupees)} &= \frac{\text{Total fixed cost}}{1 - (\text{Variable cost per unit/Selling price per unit})} \\ \text{BEP (in rupees)} &= \frac{2,40,000}{1 - \left(\frac{32}{40}\right)} \\ &= \frac{2,40,000}{\frac{8}{40}} \\ &= 2,40,000 \times 40/8 = 12,00,000 \end{aligned}$$

Note to Students: There are various formulae to calculate the same result. It is advisable to remember simple formula. To facilitate students, required formulae to remember are put in Bold.

18.5.2 PV Ratio or Contribution ratio

PV Ratio is important for studying the profitability of operations of a business. This ratio establishes the relationship between contribution and sales value. PV ratio is useful to calculate the BEP, in terms of rupees. **The term P represents Profit that is equivalent to contribution, when calculating BEP, in terms of rupees. The term V refers to Volume of sales.**

$$\text{Contribution ratio} = \frac{\text{Contribution per unit}}{\text{Selling price per unit}}$$

or

PV Ratio

Alternatively,

$$\text{P/V Ratio} = \frac{\text{Change in profit or Contribution}}{\text{Change in sales}} \times 100$$

PV Ratio can be used to calculate BEP and ascertain required sales to achieve a desired level of profit.

$$\text{BEP (in terms of Rupees)} = \frac{\text{Fixed cost}}{\text{P/V Ratio}}$$

BEP to Achieve a Desired Amount of Profit: The above formula requires a small change. In the numerator, the desired amount of profit is to be added. The formula is

BEP (to achieve required amount of profit)

$$= \frac{\text{Total fixed cost} + \text{Desired Profit}}{\text{P/V Ratio}}$$

Importance of PV Ratio: Management is interested to know which product is more profitable. Organization wants to reward the department, which is working efficiently and pull up that one, that is not working to the level expected. Higher the PV Ratio, more will be the profit. Thus, aim of management is at increasing the PV Ratio, identifying where the action is needed.

PV Ratio indicates availability of margin on sales made. So, firm that enjoys higher PV Ratio stands to gain, when demand for the product is growing.

Change in PV Ratio: If selling price is reduced, P/V Ratio gets reduced. In consequence, Break-even point becomes higher and margin of safety becomes lower. So, the effect of a price reduction is always to reduce P/V Ratio that raises break-even point and shortens margin of safety.

The above concept is explained, with a simple example.

Milk-man teaches break-even point: Let us take the example of a milkman. He purchases milk packets @ Rs. 6 per packet and sells at Rs. 10. He distributes milk packets, hiring a motorcycle and the fixed hire charge is Rs. 100 per day. So, contribution per packet is Rs. 4. At this stage, his PV Ratio is 40% (contribution 4/ selling price 10). If he sells 25 packets, he becomes break-even. If he sells 60 packets, his margin of safety is 35 packets (Actual sales 60 – sales at break-even point 25).

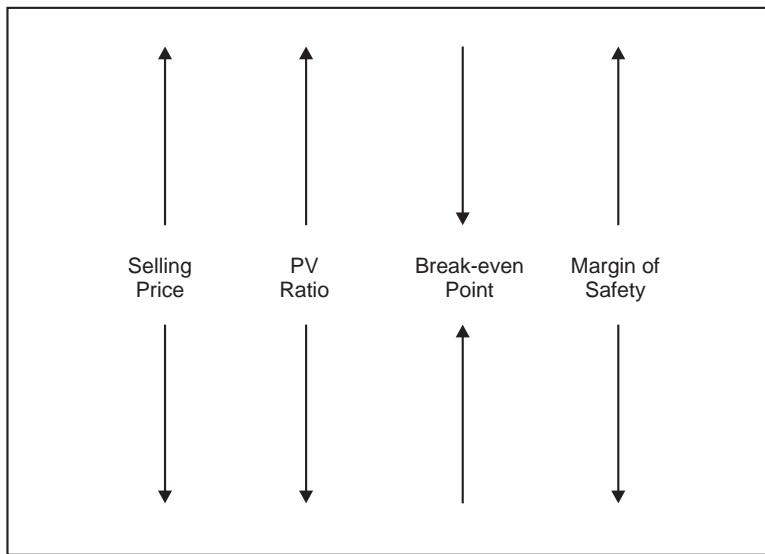
Suppose, he reduces the selling price to Rs. 8 per packet and continues to sell 60 packets, as earlier. Now, his PV Ratio is 25% (contribution 2/ selling price 8). As fixed cost is Rs.100 and contribution is Rs. 2, break-even point is 50 packets. However, as he continues to sell 60 packets, his margin of safety is reduced to 10 packets (Actual sales 60 – sales at new break-even point 50).

Now, the margin of safety is reduced to 10 packets, which was at 35 packets, earlier.

This explains reduction of selling price results in the following:

- (i) Reduction of PV Ratio (40% reduced to 25%)
- (ii) Break-even point is increased (in place of 25 packets, 50 packets are needed) and
- (iii) Margin of safety reduced (earlier 35 packets reduced to 10 packets)

This situation is explained through pictorial presentation.



Impact of Selling Price on PV Ratio, BEP and Margin of Safety

Utility and Special Features: These are the following special features.

1. It helps the management in ascertaining the total amount of contribution for a given volume of sales. Say, if sales are rupees four lakhs and PV Ratio is 25%, its contribution is rupees one lakh. It is so simple and easy to calculate contribution.
2. When the firm is engaged in producing more than one product, by calculating this ratio for each product, it can concentrate to produce that product, which has higher PV Ratio as it gives more profitability. Leaving products that have less PV Ratio, the firm can concentrate on those products, having higher PV Ratio to boost profitability.
3. Management can increase this ratio by increasing selling price or reducing variable cost of the products.
4. PV Ratio remains constant so long as the selling price and variable cost per unit remain constant or fluctuate in the same proportion.
5. This remains unaffected by any change in the level of activity. In other words, it remains the same whether the sales are 1,000 units or 2,000 units.
6. This ratio also remains unaffected with any change in fixed cost, as they are not considered. It means even if the fixed cost increases or decreases, PV ratio remains the same as fixed costs are not taken into account, while calculating.
7. The above formula is of immense use to calculate break-even point, when the firm is engaged in multiple products. A Multi-product firm experiences difficulty to calculate break-even point in terms of any common unit. Such firms can calculate break-even point, at the time of budgeting and actual sales, in terms of total rupee sales only.

BEP in Terms of Capacity: Many firms compute the break-even point, in terms of estimated sales or capacity of the manufacturing unit. Dividing the break-even sales with estimated sales

or full capacity sales could do this. If break-even sales are, say, rupees ten lakhs and the estimated sales are rupees forty lakhs, the break-even point is 25%.

$$\text{BEP (\% of capacity)} = \frac{\text{Sales at break-even point}}{\text{Estimated sales}}$$

Alternatively, if the total contribution at the estimated sales or full capacity is known, it can be calculated directly.

$$\text{BEP (\% of capacity)} = \frac{\text{Total fixed cost}}{\text{Total contribution at the estimated sales}}$$

Impact of Break-even Point: When two firms working with the same amount of sales and equal unit variable cost, with difference in fixed costs, which firm can withstand better? A firm enjoying lower break-even point is always at an advantage as its fixed costs get recovered early and can withstand better compared to a firm with higher break-even point.

Illustration No. 2

Calculate the sales required to earn a profit of Rs.6,00,000, from the following data:

$$\text{Fixed Expenses} = 1,20,000$$

Variable cost per unit:

$$\text{Direct Material} = \text{Rs. } 4$$

$$\text{Direct Labour} = \text{Rs. } 2$$

$$\text{Direct Overheads} = 50\% \text{ of Direct Labour}$$

$$\text{Selling price per unit} = \text{Rs. } 14$$

Solution:

(Rs.)

Selling price per unit		14
Less: Direct Material	4	
Direct Labour	2	
Direct Overheads	1	
		7
Contribution per unit		7

$$\begin{aligned} \text{P/V Ratio} &= \frac{\text{Contribution}}{\text{Sales}} \times 100 \\ &= \frac{7}{14} \times 100 \\ &= 50\% \end{aligned}$$

Sales required to earn a profit of Rs. 6,00,000

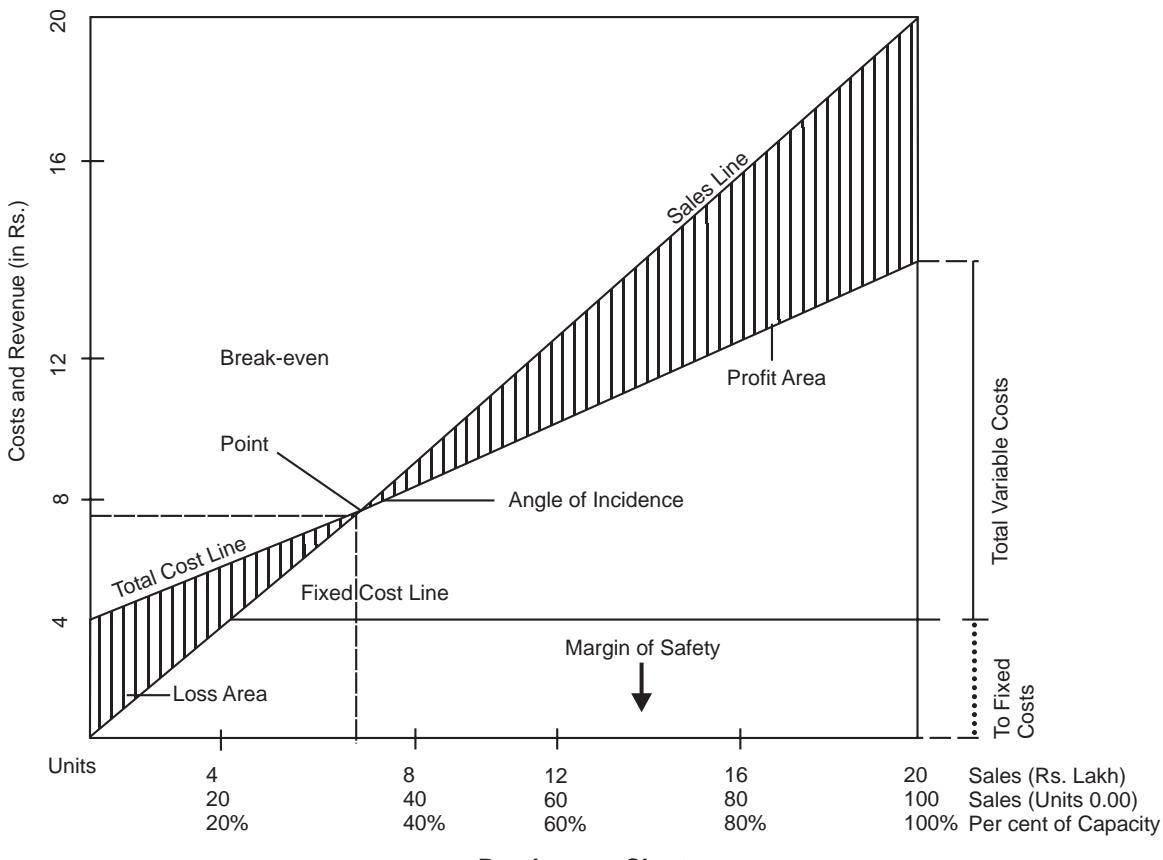
$$\begin{aligned}
 &= \frac{\text{Fixed Expenses} + \text{Desired Profit}}{\text{P/V Ratio}} \\
 &= \frac{1,20,000 + 6,00,000}{0.5} \\
 &= 14,40,000
 \end{aligned}$$

Required sales are Rs. 14,40,000 to make a profit of Rs.6,00,000

(B) Break-even Chart or Graphic Method of Break-even Analysis

The break-even point can be presented graphically. The pictorial presentation gives a better view of the relationship of cost, volume and profit. Graphical presentation gives immediate and clear understanding of the picture. This type of presentation always impresses the management as it gives instantaneous understanding of the situation.

The graphical chart of break-even analysis looks like this:



Break-even Chart

Following are the steps involved in preparing break-even chart:

1. Sales volume is plotted on the horizontal line i.e. X-axis. Sales volume may be expressed in terms of units, rupees or as a percentage of capacity.

2. Vertical line i.e. Y-axis is used to represent revenue, fixed costs and variable costs.
3. Both horizontal and vertical lines are spaced, equally, with the same distance.
4. Break-even point is the point of intersection between total cost line and sales line.
5. Sales revenue at the break-even point can be determined by drawing a perpendicular line to the X-axis from the point of above intersection.
6. Total sales line and Total cost line intersect forming an angle known as 'Angle of Incidence'.

18.5.3 Angle of Incidence

The break-even point is indicated where the Total cost line and Total sales line intersect each other. The angle that is formed with their intersection is called 'Angle of incidence'. **Larger the angle of incidence, lower is the break-even point and vice versa.** A lower break-even point is an indication that the firm can withstand, even if the sales fall. Firm does not go into loss immediately and remains, at least, with a small amount of profit.

Area of Contribution: Profit area is shown on the right side when total sales line is in excess of the total cost line, while loss area is shown when the total cost line is above the total sales line. The variable cost is represented by the gap between the total cost line and fixed cost line.

18.6 ADVANTAGES OR USES OF BREAK-EVEN CHART

Following are the advantages or uses of break-even chart:

1. It is simple to form. Even a layman can understand, clearly.
2. It helps the management to take managerial decisions because the effects of changes in fixed cost and variable cost, at various levels of output, can be depicted, in a meaningful manner. The effect of changes in selling price on profits can be better explained by graphical presentation.
3. It is used to study the comparative profitability of various products.
4. The break-even chart is a better managerial tool for forecasting, planning and control.
5. Besides determining the break-even point, profit at various levels of output can be determined with the help of break-even charts.

18.7 ASSUMPTIONS OF BREAK-EVEN ANALYSIS

The break-even analysis is based on the following assumptions:

1. **Costs segregation:** It is based on the assumption that all costs can be segregated into fixed costs and variable costs.
2. **Constant Selling Price:** The selling price remains constant. That is, selling price does not change with volume or other factors.
3. **Constant Fixed costs:** Fixed costs are constant, at all levels of activity. They do not change, with change in sales.

4. **Constant Variable costs:** Variable cost per unit is constant. So, variable costs fluctuate, directly, in proportion to changes in volume of output. In other words, they change in direct proportion to sales volume.
5. **Synchronised production and sales:** It is assumed production and sales are synchronised. That is, inventories remain the same in the opening stock and closing stock.
6. **Constant sales mix:** Only one product is manufactured. In case, more than one product is manufactured, sales mix of products sold does not change.
7. **No Change in operating efficiency:** There is no change in operating efficiency.
8. **No other factors:** The volume of output or production is the only factor that influences the cost. No other factors have any influence on break-even analysis.

18.8 LIMITATIONS OF BREAK-EVEN ANALYSIS AND BREAK-EVEN CHART

Despite many advantages, break-even analysis and charts suffer from the following limitations:

1. **Number of Assumptions:** Break-even analysis is based on several assumptions and they may not hold well, under all circumstances. Fixed costs are presumed to be constant, irrespective of the level of output. It does not happen. When the production increases, above the installed capacity, fixed costs change as new plant and machinery has to be installed for increased production. Variable costs do not vary in direct proportion to the change in volume of output, due to the laws of diminishing returns. Selling price that is supposed to be constant also changes due to increased competition.
2. **Application in Short Run:** Break-even analysis is a short run analysis. In long run, the cost analysis may not hold good as the assumptions may vary and situation may be, totally, different.
3. **Applicable in Single Product line:** This analysis is applicable for a single product only. If break-even point for each product is to be calculated, fixed costs have to be allocated to different products, which is a practical problem in the real life. Otherwise, BEP for the overall firm only is possible to calculate.
4. **No Remedial Action:** It does not suggest any remedy or action to the management for solving the problem.
5. **Other Factors Ignored:** Other important factors such as amount of investment, problems of marketing and policies of Government influence the problem. Break-even analysis does not consider them. This analysis focuses only on cost volume profit relationship.
6. **Limited Information:** Break-even charts provide limited information. If we want to study the effects of changes in fixed costs, variable costs and selling prices on profitability, a number of charts have to be drawn. It becomes rather more complicated and difficult to understand.
7. **Static View:** More often, a break-even chart presents a static view of the problem under consideration.

Despite the limitations, it has great application for the basic problem of understanding the interrelationship of cost, volume and price on profits.

18.9 MARGIN OF SAFETY

The excess of actual or budgeted sales over the break-even sales are called ‘Margin of safety’. It is the difference between actual sales minus break-even sales.

Margin of safety = Estimated sales – Sales at Break-even point

It represents the amount of safety to the firm. Suppose, if the firm is able to break-even at a sale level of rupees ten lakhs and its actual sales are rupees forty lakhs, its margin of safety is rupees thirty lakhs. It means if the sales fall by rupees thirty lakhs, still, the firm does not incur loss. Higher the margin of safety, it is better for the firm. When two firms are compared, the firm having higher margin of safety can withstand any adverse conditions such as fall in demand for the product or even recession.

Margin of safety ratio can be calculated as under:

$$\text{Margin of safety ratio} = \frac{\text{Actual sales} - \text{Break - even sales}}{\text{Actual sales}} \times 100$$

As margin of safety is the volume of sales beyond the break-even sales point, all the sales above the break-even point give some profit, which can be calculated as:

$$\text{Profit} = \text{Margin of safety} \times \text{P/V Ratio}$$

OR

$$\text{Margin of safety} = \frac{\text{Profit}}{\text{P/V Ratio}} \times 100$$

The size of margin of safety is an important indicator of the strength of business. If the margin of safety is large, the firm can withstand fall of sales and can continue to be in some profit. If the margin of safety is thin, decline of sales would, seriously, affect the profit of business and may run into losses.

Steps to Improve Margin of Safety: The margin of safety can be improved by taking the following steps:

1. Increasing the level of production and sales.
2. Increasing the selling price.
3. Reducing fixed costs.
4. Reducing the variable cost.
5. Substituting profitable products, with the unprofitable products
6. Changing the business mix to improve contribution and dropping unprofitable products.

18.10 CASH BREAK-EVEN POINT

Many a time, it is difficult for the industrial units to become break-even in the initial years. From that environment, the concept of cash-break even point has emerged. **The Cash break-even point may be defined as that point of sales volume, where cash revenues are equal to cash costs.** In other words, if we eliminate non-cash items from revenues and costs, the break-even analysis on cash basis can be computed. Depreciation is, generally, a fixed cost. However, when plant and machinery is used for additional shifts, the additional depreciation is a variable cost. Reason for treating the additional depreciation as variable cost is the firm can avoid additional shift, at any time, and in such circumstances this cost would not be incurred. To calculate cash-break even point, depreciation is to be removed from fixed costs. Additional depreciation, component, treated as variable cost, is also to be excluded from variable costs. Similarly, deferred expenses are to be excluded from the fixed cost.

Thus, cash-break even point may be calculated as below:

$$\text{Cash break-even Point (in terms of units)} = \frac{\text{Cash Fixed Cost}}{\text{Cash Contribution per unit}}$$

Illustration No. 3

From the following information, calculate cash-break point.

	Rs.
Selling price per unit	60
Variable cost per unit	40
Additional Depreciation included in variable cost per unit	5
Fixed cost	1,50,000
Depreciation included in Fixed cost	25,000

Solution:

$$\begin{aligned}\text{Cash fixed cost} &= 1,50,000 - 25,000 \\ &= 1,25,000\end{aligned}$$

$$\text{Cash Contribution per unit} = 60 - (40 - 5) = 25$$

$$\begin{aligned}\text{Cash break-even Point (in terms of units)} &= \frac{\text{Cash Fixed Cost}}{\text{Cash Contribution per unit}} \\ &= \frac{1,25,000}{25} \\ &= 5,000 \text{ units}\end{aligned}$$

$$\text{Cash Break-even point (in sales value)} = 5,000 \times 60 = \text{Rs. } 3,00,000$$

18.11 MULTI PRODUCT BREAK-EVEN POINT (COMPOSITE BREAK-EVEN POINT)

If a firm produces more than one product, it is known as Multi-product firm. As the firm is producing various products, the relative proportion of sales of different products is called the sales mix or product mix. In the case of a Multi-product firm, contribution of each product can be calculated by deducting variable cost from the individual revenue of the product. If contribution of all the products is aggregated, firm's total contribution can be arrived at. **The firm's overall break-even point can be calculated by dividing the total contribution by the total sales volume of the firm.**

$$\text{Composite Break-even point (in Rs.)} = \frac{\text{Cash Fixed Cost}}{\text{Composite P/V Ratio}}$$

$$\text{Composite P/V Ratio} = \frac{\text{Total Contribution}}{\text{Total Sales}} \times 100$$

P/V ratio of each product can be calculated without distributing the fixed costs of the firm over the different products. So, it is not, really, important to calculate the cost-volume-profit interrelations to allocate fixed costs to individual product lines. Even, without allocating of fixed costs, individual product contribution can be calculated to decide priority amongst different products to take advantage of the available production capacity and maximise profits of the firm.

Break-even point in a Multi Product firm can be calculated, without allocating fixed costs to different products.

Illustration No. 4

The following data of Kish & Co. for the period ending 31st March, 2006 is as under:

(Rs.)

	Product A	Product B	Product C
Sales	10,00,000	4,00,000	6,00,000
Variable costs	6,00,000	2,80,000	4,00,000

Total Fixed costs are Rs. 2,00,000. You are required to calculate contribution of each product, firm's composite break-even point, profit and P/V Ratio.

Solution:

(Rs.)

	Product A	Product B	Product C	Total
Sales Mix	50%	20%	30%	100%
Sales Revenue	10,00,000	4,00,000	6,00,000	20,00,000
Variable cost	6,00,000	2,80,000	4,00,000	12,80,000

Contribution	4,00,000	1,20,000	2,00,000	7,20,000
Fixed Cost				2,00,000
Net Profit				5,20,000
P/V Ratio	40%	30%	33.33%	36%
BEP for the firm (Rs.)				<u>Total Fixed cost</u> <u>P/V Ratio</u> <u>2,00,000</u> <u>0.36</u> <u>= 5,55,556</u>

The firm's P/V Ratio is 36%. i.e., $\frac{7,20,000}{20,00,000}$

This is the weighted average of the P/V ratios for the individual products i.e.
 $(40\% \times 50\%) + (20\% \times 30\%) + (30\% \times 33.33\%)$

Illustration No. 5

You are required to calculate the break-even point from the following information:

Selling price per unit	Rs. 20
Variable cost per unit	Rs. 04
Fixed costs for the year	Rs. 80,000
Estimated sales for the period	Rs. 2,00,000

The number of units involved coincides with the expected volume of output.

Calculate the margin of safety ratio, margin of safety and advise its impact, if there is a fall demand in business.

(B.U, Bhopal, MBA-2002)

Solution:

Selling price per unit	Rs. 20
Variable cost per unit	Rs. 04
Contribution per unit	Rs. 16

$$\begin{aligned} \text{Break-even point} &= \frac{\text{Fixed cost}}{\text{Contribution}} \\ &= \frac{80,000}{16} = 5,000 \text{ units} \end{aligned}$$

Estimated sales for the period = Rs. 2,00,000

Selling price per unit = Rs. 20

$$\text{So, number of units expected to be sold} = \frac{\text{Estimated sales for the period}}{\text{Selling price per unit}}$$

$$= \frac{2,00,000}{20} = 10,000 \text{ units}$$

Expected sales = 10,000 units

Sales at Break-even point = 5,000 units

$$\text{Margin of safety ratio} = \frac{\text{Actual sales} - \text{Break-even sales}}{\text{Actual sales}} \times 100$$

$$= \frac{10,000 - 5,000}{10,000} \times 100$$

$$= 50\%$$

Margin of Safety = Expected sales – sales at Break even point (In terms of Units)
 $= 10,000 - 5,000 = 5,000 \text{ units}$

Margin of Safety = $5,000 \times 20 = \text{Rs. } 1,00,000$ (In terms of Rupees)

$$\text{Margin of Safety (in terms of capacity)} = \frac{\text{Sales at break-even point}}{\text{Estimated sales}}$$

$$= \frac{5,000}{10,000}$$

$$= 50\% \text{ capacity}$$

Break-even point is 50% of the expected sales, in terms of number of Units (sales).

So, margin of safety is 50%. A high margin of safety indicates the soundness of business. Even if there is some fall in sales, still, the firm can withstand the loss. If the sales of the firm decline by Rs. 1,00,000, still the firm would not suffer any loss.

Illustration No. 6

The sales and profits of a company during two periods were as follows:

Period	Sales	Profit
I	1,00,000	10,000
II	1,50,000	20,000

- (1) Find out the P/V ratio.
- (2) What amount of sales will generate a profit of Rs. 40,000?
- (3) What will be the profit, if the sales are Rs. 1,20,000?

(B.U. Bhopal – MBA, 2003)

Solution:

$$\begin{aligned} \text{(i) P/V Ratio} &= \frac{\text{Change in profit}}{\text{Change in sales}} \times 100 \\ &= \frac{10,000}{50,000} \times 100 \\ &= 20\% \end{aligned}$$

(ii) Calculation of sales to generate a profit of Rs. 40,000:

$$\begin{aligned} \text{P/V Ratio} &= \frac{\text{Contribution}}{\text{Sales}} \\ \text{Contribution} &= \text{Fixed cost} + \text{Profits} \\ \text{P/V Ratio} &= \frac{\text{Fixed cost} + \text{Profit}}{\text{Sales}} \end{aligned}$$

Problem states sales of Rs. 1,00,000 gives a profit of Rs. 10,000

$$\begin{aligned} \text{So, } 20\% &= \frac{\text{Fixed cost} + 10,000}{1,00,000} \\ \frac{20}{100} &= \frac{\text{Fixed cost} + 10,000}{1,00,000} \\ (0.2) \times 1,00,000 &= \text{Fixed cost} + 10,000 \\ \text{Fixed cost} &= 20,000 - 10,000 \\ &= 10,000 \\ \text{Desired sales} &= \frac{\text{Fixed cost} + \text{Desired Profit}}{\text{P/V Ratio}} \\ &= \frac{10,000 + 40,000}{\text{P/V Ratio}} \\ &= \frac{50,000}{0.2} \\ &= 2,50,000 \end{aligned}$$

So, Sales of Rs. 2,50,000 are needed to earn a profit of Rs. 40,000

(iii) Calculation of profit, if sales are Rs. 1,20,000

$$\begin{aligned} \text{P/V Ratio} &= \frac{\text{Fixed cost} + \text{Profit}}{\text{Sales}} \\ 0.2 &= \frac{10,000 + \text{Profit}}{1,20,000} \\ (0.2) \times 1,20,000 &= 10,000 + \text{Profit} \\ \text{Profit} &= 24,000 - 10,000 \\ &= 14,000 \end{aligned}$$

If sales are Rs. 1,20,000, profits would be Rs. 14,000

Illustration No. 7

Two firms, X Ltd. and Y Ltd. sell identical products in the same market. Their budgeted profit and loss accounts for the year ending on 30th June, 2001 are as follows:

(Rs.)

X Ltd.			Y Ltd.	
Sales		4,00,000		4,00,000
Less:				
Variable cost	3,20,000		2,80,000	
Fixed cost	40,000	3,60,000	80,000	3,60,000
Net Profit		40,000		40,000

You are required to:

- (a) Calculate the break-even point for each firm and
- (b) State what shall be the likely effect on the profits of the firms in conditions of
 - (i) increasing demand for the products
 - (ii) falling demand for the products.
- (c) Calculate the sales volume at which each business will earn Rs. 50,000 profit;

(B.U. Bhopal MBA- 2000)

Solution:

(a)

		X Ltd.	Y Ltd.
Sales		4,00,000	4,00,000
Less:			
Variable cost		3,20,000	2,80,000
Contribution		80,000	1,20,000
Fixed cost		40,000	80,000
PV Ratio	$\frac{\text{Contribution}}{\text{Sales}} \times 100$	$\frac{80,000}{4,00,000} \times 100$ 20%	$\frac{1,20,000}{4,00,000} \times 100$ 30%
Break-even point	Fixed cost PV Ratio	$\frac{40,000}{20\%}$ $= 2,00,000$	$\frac{80,000}{30\%}$ $= 2,66,667$

(b)

(i) Effect on the profits of the firms, in conditions of increasing demand for the products:

PV Ratio of X Ltd. is 20%, while it is 30% in case of Y Ltd. In case of high demand, Y Ltd. will be in a position to earn higher profit because PV ratio is higher. PV Ratio indicates availability of margin on sales made. So, firm that enjoys higher PV Ratio stands to gain, when demand for the product is growing.

(ii) Effect on the profits of the firms, in conditions of falling demand for the products:

Break-even point of X Ltd. is 2,00,000 while it is 2,66,667 in case of Y Ltd.

Firm that has a low break-even point would be in a position to withstand, even if there is a fall in sales. So, X Ltd. would have more profits, compared to Y Ltd, if there is a corresponding fall in sales to both the firms.

(c) Sales volume at which each business will earn Rs. 50,000 profit;

Sales required to earn a profit of Rs. 50,000

$$= \frac{\text{Fixed Expenses} + \text{Desired Profit}}{\text{P/V Ratio}}$$

$$\begin{aligned} \text{X Ltd.} &= \frac{40,000 + 50,000}{20\%} \\ &= 4,50,000 \\ \text{Y Ltd.} &= \frac{80,000 + 50,000}{30\%} \\ &= 4,33,333 \end{aligned}$$

Check your understanding

Please state whether the following statements are True or False

1. CVP analysis helps the firm in understanding the impact of change in cost, volume and price on the behaviour of profit.
2. Break-even analysis is fundamentally a static analysis.
3. With the help of CVP analysis, it is possible to decide which product is most profitable and least profitable.
4. Mathematically, a linear relationship does not exist between a variable cost and volume of production.
5. Contribution is also known as Gross Margin.
6. At break-even point, contribution covers total fixed costs and leaves a little towards profit.
7. It is not possible to calculate break-even analysis of the firm if the firm is engaged in producing and selling multiple products.

8. Fixed costs and variable costs do not behave in the same manner.
 9. In break-even analysis, unit variable cost decreases as and when the volume of production increases.
 10. A large margin of safety indicates that the business is sound and even if there is some fall in sales, there will be profit.
 11. Angle of incidence is the angle between the sales line and the total cost line formed at the break-even point.
 12. Margin of safety =
$$\frac{\text{Fixed expenses}}{\text{P/V Ratio}}$$
 13. PV Ratio can be used to calculate BEP and ascertain required sales to achieve a desired level of profit.
 14. PV Ratio does not change with a change in fixed costs.
 15. By reducing the fixed expenses, the P/V ratio of a product can be improved.

Answers

1. True. 2. False. 3. True. 4. False 5. True 6. False 7. False 8. True 9. False 10. True
11. True 12. False 13. True 14. True 15. False

(B) Pick up the right answer

7. PV Ratio can be increased by
(a) Reducing variable cost
(c) A & B
(b) Increasing selling price
(d) None

8. Break-even sales =
(a) Variable cost + Fixed cost
(c) Variable Cost – Fixed Cost
(b) Fixed cost – Variable Cost
(d) None

9. Profit Volume ratio is =
(a) Contribution / Sales
(b) Sales / Contribution
(c)
$$\frac{\text{Sales} - \text{Fixed Expense}}{\text{Sales}}$$

(d) Profit / Sales

Answers

1. (a) 2. (b) 3. (a) 4. (a) 5. (b) 6. (b) 7 (c) 8 (a) 9 (a)

Descriptive Questions

Interview Questions

Q.1. What is 'Break-even Point' and explain its importance?

Ans. The 'Break-even Point' is that volume of sales at which total revenue is equal to total costs, with zero profit. 'Break-even Point' is a situation where the firm is neither in profit nor loss. In other words, this is a 'no-profit, no-loss situation'. When the organisation is not able to earn profits, the best alternative for the firm is, at least, not to incur loss. So, organisation would like to know at what level of production and sales, the organisation would be able to achieve no-loss, no-profit situation. This is the greatest contribution of 'Break-even Point'.

Q.2. Is 'Break-even Analysis' useful to achieve the target level of profit?

Ans. Yes. Organisations identify those products, which yield the highest contribution. 'Break-even Analysis' helps the firm in selecting and ranking those products, based on contribution, to achieve the targeted level of profit.

Q.3. How cash break-even point is different from break-even point?

Ans. Cash break-even point is that sales volume which covers cash expenses only during a particular period. Depreciation is treated as an expense for calculating break-even point. However, the same is not included in costs for calculating cash break-even point. In other words, non-cash items are excluded from costs and revenues to calculate cash break-even point. If the firm were not able to reach break-even point, the effort of the firm would be to achieve, at least, cash break-even point.



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Marginal Costing – Accept or Reject Decisions

- Introduction
- Behaviour of Fixed and Variable overheads
- Marginal Costing as a Technique
- Definition
- Basic Characteristics of Marginal Costing
- Mechanism of Marginal Costing
- Marginal Costing and Profit
- Assumptions of Marginal Costing
- Advantages of Marginal Costing
- Accept or Reject Decision-making
- Fixation of Selling Price below Marginal Cost
- Limitations or Disadvantages of Marginal Costing
- Check Your Understanding
- Descriptive Questions
- Interview Questions

19.1 INTRODUCTION

Marginal costing is a special technique of analysis and presentation of costs, which helps the management in decision-making. This technique enables the management to understand the effect of a change in a volume of output on costs and profit. Its importance lies in solving the managerial problems.

Marginal costing is also known as Variable costing.

Marginal costing is not an independent system of costing similar to process costing, operating costing or Job costing. In marginal costing, the cost of a unit comprises only variable costs. Fixed costs are treated as period costs and written off to costing Profit & Loss Account. Consequently, finished goods and work in progress are valued at marginal cost i.e. Prime cost plus variable overheads.

Marginal costing is Technique of costing.

19.2 BEHAVIOUR OF FIXED AND VARIABLE OVERHEADS

Overheads are of two types, fixed costs and variable costs. Marginal costing recognizes the distinction between Fixed costs and Variable costs in their behaviour. Fixed costs are constant, irrespective of the level of production. Fixed costs do not increase or decrease, with similar increase in the volume of production. They remain the same, whatever be the production, in the short run. Even if there is no production, fixed costs are incurred. Fixed costs like rent, insurance and salary of permanent staff are constant and do not change at all, even if there is a change in the volume of production. However, once production increases beyond the installed capacity of the machinery, then the fixed costs do not remain constant.

Variable costs behave, altogether, in a different manner. Variable costs increase or decrease with the volume of production. In other words, variable costs move in the same direction of production. If production increases, variable costs increase, while they decrease with the reduced volume of production.

Variable costs move in line with production, while fixed costs are constant.

Fixed costs tend to change in total with time, regardless of the volume of production, while variable costs change with increase or decrease in the volume of production. For this reason, fixed costs are known as period costs, while variable costs are called product costs.

Fixed costs are called Period costs as they change with time, while Variable costs are called Product costs as the latter change with the volume of production.

Marginal cost is the same as variable cost. Marginal costing is also known as Direct costing, Variable Costing, Differential Costing or Incremental Costing. The technique of Marginal costing can be used in conjunction with job or process costing or with other techniques such as standard costing or budgetary control.

19.3 MARGINAL COSTING AS A TECHNIQUE

Marginal costing understands the distinction between fixed costs and variable costs. On account of this, a special technique known as Marginal costing has been developed, which excludes the fixed overheads, entirely, from calculation of cost of production.

Under the technique of Marginal costing, cost of production includes variable overheads only and fixed overheads are, totally, excluded.

As a result, cost of production per unit remains the same up to a particular level of output. Under the technique of Marginal costing, fixed expenses are not allocated to cost units but charged against a “Fund”, which arises out the excess of selling price over total variable costs.

In this technique of costing, only variable costs are charged to operations or products, leaving all fixed costs to be written off against the profits in which they arise.

19.4 DEFINITION

Marginal cost is the variable cost, comprising prime cost and variable overheads. Prime cost consists of direct material, direct labour and direct expenses. The variable overheads relating to factory, administration, selling and distribution have to be taken into account. In simple words, all variable expenses are taken into account, while fixed expenses are ignored.

The Institute of Cost and Management Accountants, England defines the term marginal cost and marginal costing as follows:

Marginal Cost: “The amount at any given volume of output by which aggregate costs are changed, if the volume of output is increased or decreased by one unit.”

Additional cost incurred for one unit of output from the existing level to the new level is known as marginal cost.

In simple words, marginal cost is the incremental cost incurred for making for one more additional unit.

For example, a company is producing 1,000 air-coolers per annum. Total fixed cost is Rs. 1 lakh per annum. Variable cost per air-cooler comes to Rs. 500. Total cost appears as under:

$$\text{Variable (Marginal) Cost } (1,000 \times 500) = 5,00,000$$

$$\text{Fixed costs} = 1,00,000$$

$$\text{Total cost} \quad \underline{\underline{6,00,000}}$$

If output is increased by one cooler, the cost will appear as follows:

$$\text{Variable Cost } (1,001 \times 500) = 5,00,500$$

$$\text{Fixed costs} = 1,00,000$$

$$\text{Total cost} \quad \underline{\underline{6,00,500}}$$

Marginal cost per unit is, therefore, Rs. 500.

Marginal Costing: Marginal costing is defined as “the ascertainment of marginal cost and of the effect on profit of changes in volume or type of output by differentiating between fixed cost and variable costs”.

Variable costs are only regarded as costs of manufacturing, ignoring the fixed costs as they are permanent, irrespective of the level of output.

Marginal costing means finding the cost for a single unit, over the current level of production, and understanding the effect of incremental production on costs and profits.

19.5 BASIC CHARACTERISTICS OF MARGINAL COSTING

Marginal costing helps the management in taking several managerial decisions.

Under Marginal Costing Procedure, costs are separated into fixed and variable cost components. Fixed costs and variable costs are differentiated. Fixed costs are treated as period costs, regardless of the volume of output. Fixed costs are charged, directly, to Profit and Loss Account. Variable costs are treated as the cost of product. With change in the volume of output, the effect on profits is studied.

Only variable costs are treated as cost of manufacture of the product, under Marginal Costing.

MAIN FEATURES OF MARGINAL COSTING

- Costs are divided into two categories, i.e., fixed costs and variable costs.
- Fixed cost is considered as period cost, not considered for determination of product cost and valuation of inventories.
- Prices are determined, with reference to marginal cost and contribution required.
- Profitability of departments and products is determined, with reference to their contribution.
- Closing stock is valued on the basis of variable costs only.
- In presentation of cost data, display of contribution assumes dominant role.

19.6 MECHANISM OF MARGINAL COSTING

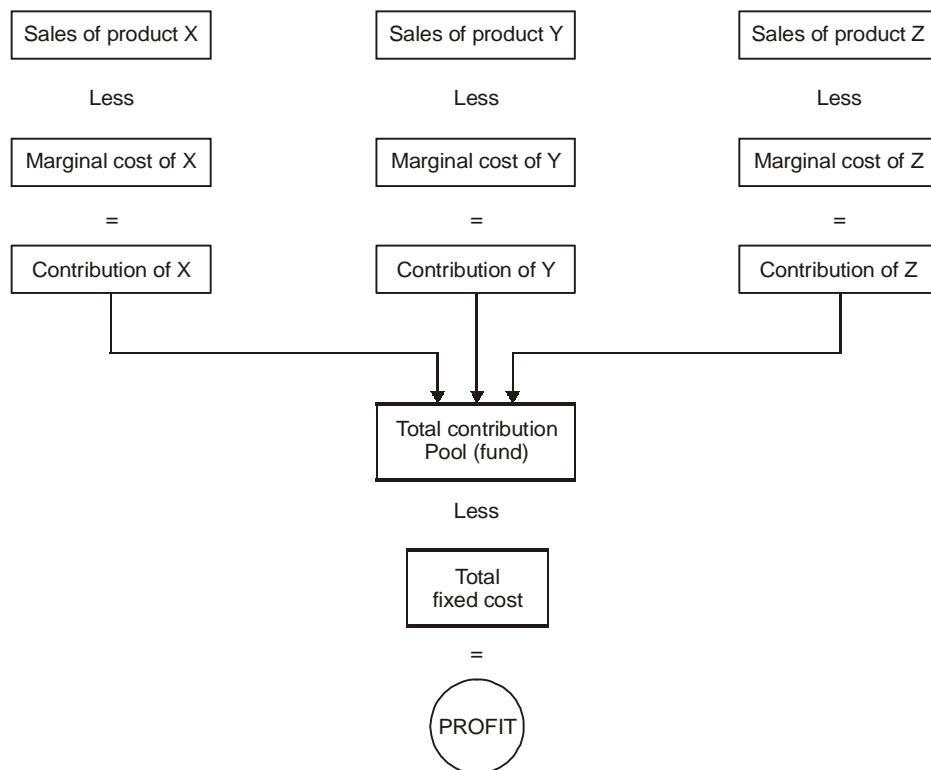
The mechanism of marginal costing is summed up hereunder:

1. Cost of direct material, direct labour and direct expenses are shown.
2. All elements of overheads—works, administration and selling and distribution are classified into fixed and variable components. Semi-variable costs are also analysed into fixed and variable elements. There is no third category of costs.
3. The variable cost component in overheads is added.
4. Fixed costs are charged to the Profit and Loss Account of the period during which they are incurred. These costs, therefore, do not find a place in the product cost. For valuation of closing stock or work in progress, these fixed costs component are not taken into account.
5. Prices are based on the marginal cost plus contribution. Contribution is the excess of selling price over the marginal cost of sales.

6. The relative profitability of products or departments is determined, after a study of the available contribution of the different products or departments.
7. The product or department, which gives the highest contribution is regarded as efficient or profitable to pursue.

19.7 MARGINAL COSTING AND PROFIT

In marginal costing, profit is calculated by two-stage approach. First of all, contribution is determined for each product or department. The contribution of various products or departments is pooled together. The total contribution so calculated is called ‘Fund’. From the fund, the total fixed cost is deducted to arrive at profit or loss. This is illustrated below:



Profit Ascertainment in Marginal Costing

19.8 ASSUMPTIONS OF MARGINAL COSTING

The Marginal costing assumes the following:

1. All elements of cost—production, administration and selling and distribution can be divided into fixed and variable components.

2. Variable costs remain constant per unit and so they vary, with the level of production, proportionately.
3. Selling price per unit is constant at all levels. In other words, selling price does not fall, even if more units are sold.
4. Fixed costs are constant or unchanged for the entire volume of production.
5. Volume of production or output only influences the costs.

19.9 FIXATION OF SELLING PRICE, BELOW MARGINAL COST

A new product is sold at a lower price in the market, initially. The total costs may not be recovered by the selling price and so the unit may incur loss. With the passage of time, sales increase. Additional sales require more production. Increased production results in spread of fixed costs, over a higher volume of production. This results in a reduced total cost per unit. Finally, cost of production falls in line with the selling price and the concern starts making profit from the new product.

19.10 ADVANTAGES OF MARGINAL COSTING

Marginal costing claims the following advantages:

1. Better Suited for Decision-Making

Marginal costing is better suited to the needs of management. Management is interested to understand the behaviour of costs.

Fixed costs are more or less uncontrollable, while variable costs are controllable costs.

Cost data prepared, differentiating fixed cost and variable cost, helps the management in decision-making.

Marginal Costing helps the management to accept or reject an offer, at a lower price, received from a foreign market, compared to the selling price, prevailing in the local market.

Accepting the offer at a reduced rate from a foreign market does not affect the local market sales. It is not possible for the management to offer different prices in the local market. It results in a reduced market rate, totally, and is not, finally, beneficial to the concern.

2. Simple to Operate

Marginal costing is simple to operate. Apportionment of fixed costs is difficult and arbitrary. As the apportionment of fixed costs is, all together avoided, management finds marginal costing simple to understand and operate.

3. No Complication of Over Absorption and Under Absorption

As fixed costs are not apportioned, there is no complication of over absorption and under absorption of overheads.

4. Avoids Misleading Statement

Fixed costs are time costs. They are independent and occur, whether there is production or not. Fixed costs mislead the cost statement. It is better to consider marginal costs only, which fluctuate, in sympathy, with the volume of production. In the absence of fixed costs, cost statement provides better understanding.

5. Facilitates Profit Maximisation

When a number of products are manufactured, marginal costing facilitates the study of relative profitability of different products.

By choosing the highest contribution yielding products for production, while utilizing the capacity of the machinery, profitability would be maximized.

6. No Fictitious Profit

When valuation of closing stock includes an element of fixed cost component, current year's fixed overheads are carried forward to the next year. Under Marginal Costing, closing stock is valued at variable cost only, excluding fixed costs. This procedure prevents presentation of fictitious profits.

7. Valuable Adjunct

Marginal Costing is a valuable adjunct to Standard Costing and Budgetary Control.

Illustration No: 1

From the following data extracted from the books of Kumari & Co. ascertain profits in the formats of (1) financial accounting (2) Marginal costing system as on 31st March, 2008 :-

Costs	Rs. .000
Production	
Materials:	
Direct variable	13
Indirect variable	9
Indirect fixed	8
Wages:	
Direct variable	10
Direct fixed	6
Indirect variable	4
Indirect fixed	5
Expenses:	
Direct variable	3

	Indirect variable	12
	Indirect fixed	14
Marketing:	Selling indirect fixed	7
Distribution:	Direct variable	1
	Direct fixed	2
	Administration indirect fixed	11
	Total	<u>105</u>
	Profit	15
	Sale	<u>120</u>

(Assume no opening or closing stocks, and overheads are fully absorbed in cost accounting).

Solution:

(i) Profits as per Financial Accounting for year 2008:

Production cost:	Rs.
Materials 13 + 9 + 8	30
Wages 10 + 6 + 4 + 5	25
Expenses 3 + 12 + 14	<u>29</u>
	84
Sales	<u>120</u>
Gross profit	36
Admin cost	11
Selling	7
Distribution 1 + 2	<u>3</u>
	21
Net Profit	<u>15</u>

(ii) Profit Calculation in Marginal costing for year 2008:

Sales	120
Production Cost:	
Prime cost	
Material	13
Wages	10
Expense	<u>3</u>
	26
Work overhead	
Material	9
Wages	4
Expenses	<u>12</u>
	25

Distribution cost	<u>1</u>	
Total marginal cost		52
Contribution		68
Fixed overhead		
Production 8 + 6 + 5 + 14	33	
Marketing	7	
Distribution	2	
Administration	<u>11</u>	53
Profit		<u>15</u>

19.11 ACCEPT OR REJECT DECISION-MAKING

Illustration No. 2

The Cost Sheet of a product is given as under:

	Rs.
Direct Materials	5.00
Direct Wages	3.00
Factory Overheads:	
Fixed	Rs. 0.50
Variable	Rs. <u>0.50</u>
Administrative Expenses	0.75
Selling and Distribution Overheads:	
Fixed	Rs. 0.25
Variable	Rs. <u>0.50</u>
	<u>0.75</u>
	<u>10.50</u>

The selling price per unit is Rs. 12.

The above figures are for an output of 85,000 units, the capacity for the firm is 1,00,000 units. A foreign customer is desirous of buying 15,000 units at a price of Rs. 10 per unit.

- (A) Advise the manufacture, whether the order should be accepted.
- (B) What will be your advice, if the orders were from a local merchant, at the same price?
- (C) What would be the profits, if the local selling price falls to Rs. 10 from Rs. 12, after acceptance of the order from a local merchant?

(B.U., MBA)

Solution:

(A) Marginal cost or additional cost for additional 15,000 units is as under:

	Per unit Rs.	For 15,000 units Rs.
Direct Materials	5.00	75,000
Direct Wages	<u>3.00</u>	<u>45,000</u>
Prime Cost	8.00	1,20,000
Variable Overheads:		
Factory	0.50	7,500
Selling and Distribution	<u>0.50</u>	<u>7,500</u>
Marginal Cost	9.00	1,35,000
Sales	<u>10.00</u>	<u>1,50,000</u>
Contribution	<u>1.00</u>	<u>15,000</u>

Additional order of 15,000 units is within the capacity of the firm. The order from the foreign customer would give an additional contribution of Rs. 15,000. Hence, the order should be accepted because additional contribution of Rs. 15,000 will increase the profit by Rs. 15,000 because fixed expenses have already been met from the sales of local market.

(B) If orders were from a local merchant, at the same price, instead of the foreign order:

The order from the local merchant should not be accepted at a price of Rs. 10, which is less than normal price of Rs. 12. Acceptance of the offer from the local market @ rs.10 gives additional contribution. However, this price will affect relationship with other existing customers and there will be a general tendency for reduction of price in future.

Finally, the order from the foreign buyer has to be accepted, while similar offer from the local buyer at the same rate is not to be accepted.

(C) Profit if the local selling price falls from Rs. 12 to Rs. 10, after acceptance of the local order for 15,000 units, additionally:

	Per unit Rs.	For 85,000 units @ Rs. 12	For 1,00,000 units @ Rs. 10
Direct Materials	5.00		
Direct Wages	<u>3.00</u>		
Prime Cost	8.00		
Variable Overheads:			
Factory	0.50		
Selling and Distribution	<u>0.50</u>		
Marginal Cost	9.00	7,65,000	9,00,000
Fixed Costs *		1,27,500	1,27,500

Total Costs		8,92,500	10,27,500
Sales	10.00	10,20,000	10,00,000
Profit / (Loss)		1,27,500	(27,500)

* Fixed costs are as under for 85,000 units:

Factory overheads @ Rs. 0.50	42,500
Administrative Expenses @ Rs. 0.75	63,750
Selling and Distribution overheads @ Rs. 0.25	<u>21,250</u>
Total	<u>1,27,500</u>

These fixed costs do not increase, even after increasing the production and sale from 85,000 units to 1,00,000 units.

Conclusion: After the selling price falls from Rs. 12 to Rs. 10, earlier profit of Rs. 1,27,500 would turn into a loss of Rs. 27,500.

Illustration No. 3

Cherry Ltd. has planned its level of production at 50% of its plant capacity of 30,000 units. At 50% of the capacity, the expenses are as follows:

	Rs.
(a) Direct material	8,280
(b) Direct labour	11,160
(c) Variable manufacturing expenses	3,960
(d) Fixed manufacturing expenses	5,000

The home selling price is Rs. 2 per unit. Now, the company has received a trade enquiry from overseas for 6,000 units at a price of Rs. 1.45 per unit. If you were the manager of the company, would you accept or reject the offer. Support your answer with suitable cost and profit details.

Solution:

Statement of Cost and Profit

	15,000 Units		6,000 Units		Total 21,000 Units
	Rs.	Per unit	Rs.	Per unit	Rs.
Direct Material	8,280	0.552	3,312	0.552	11,592
Direct Labour	11,160	0.744	4,464	0.744	15,624
Variable Mfg. Exp.	3,960	0.264	1,584	0.264	5,544
Marginal Cost	23,400	1.560	9,360	1.560	32,760
Sales	30,000	2.000	8,700	1.450	38,700
Contribution	6,600	0.440	(-)660	(-)0.110	5,940
Less: Fixed exp.	5,000	----	----	----	5,000
Profit/ loss (-)	1,600		(-)660		940

Conclusion:

The offer from overseas should not be accepted because price offered of Rs. 1.45 is even less than the variable cost of Rs. 1.56. It gives a reduced contribution of Rs. 0.11 per unit and thereby a loss of Rs. 660. Acceptance of export order results into reduction of profit. Once the export order is accepted, profit would be Rs. 940, compared to the earlier profit of Rs. 1,600/-.

Illustration No. 4

Quality products Ltd. manufactures and markets a single product. The following data is available.

	Rs. per unit
Materials	16
Conversion Cost	12
Dealer Margin	4
Selling Price	40
Fixed Cost	Rs. 5 lakh
Present Sales	90,000 units
Capacity Utilization	60%

There is over competition in the market. Firm has realized concerted efforts are necessary to increase sales. The following suggestions have been made for increasing sales.

- (a) By reducing the sale price by 5%.
- (b) By increasing the dealer's margin by 25% over the existing rates.

Which of these suggestions would you recommend?

(B.U., MBA)

Solution:

Present capacity utilization of the firm is 60%. In other words, capacity of 40% is unutilized. With the present capacity of 60%, the sales of the firm are 90,000 units. It is presumed that the entire production is sold. If 60% of the capacity is 90,000 units, 40% of unutilized capacity is 60,000 units.

There are two alternatives for increasing sales. The objective of increasing sales is to improve profits of the firm. So, we have to consider which of the options would improve profits.

	Reduction of Selling Price by 5%	Increasing Dealer's Margin by 25%
Materials per unit	16	16
Conversion Cost	12	12
Dealer's Margin	4	5
Total Variable Cost	32	33
Selling Price	38	40
Contribution	6	7

Contribution is 6 if the selling price is reduced by 5%, while contribution is 7, even after increase of dealer's margin by 25%. There would be no change in fixed costs in both the options.

Increased contribution would improve the profitability. So, option of increasing Dealer's Margin by 25% is recommended.

Illustration No. 5

A firm, having a capacity of 15,000 units per year, produces 10,000 units, which are consumed in home market at Rs.25 per unit. The cost sheet per unit is as under:

	Rs.
Material	8.00
Labour	6.00
Factory Expenses:	
Fixed	2.00
Variable	1.50
Office Expenses (Fixed)	1.00
Selling Expenses:	
Fixed	0.50
Variable	<u>1.00</u>
Total Cost	<u>20.00</u>

A foreign consumer is interested in the product and is willing to buy 5,000 units at a price of Rs. 18 per unit only. Do you advise the firm to accept the order? Justify your recommendation, with suitable reasoning.

Solution:

The existing capacity of the firm is 15,000 units and its current demand is 10,000 units. So, there is an existing capacity of 5,000 units, which is not utilized. To utilize the unutilized capacity, only variable costs are to be incurred and no fixed costs are, additionally, required to be made.

A comparison of the variable cost is to be made with the proposed selling price to decide whether the offer is worthwhile or not. If the amount of proposed sales is more than the additional variable costs, it would result in additional contribution. In consequence, profitability of the firm would go up.

Marginal cost or additional cost for additional 5,000 units is as under:

	Per unit	For 5,000 units
	Rs.	Rs.
Direct Materials	8.00	40,000
Direct Wages	6.00	30,000
Prime Cost	<u>14.00</u>	<u>70,000</u>

Variable Overheads :		
Factory	1.50	7,500
Selling	1.00	5,000
Marginal Cost	16.50	82,500
Sales	18.00	90,000
Contribution	1.50	7,500

Acceptance of the foreign order would result in additional contribution of Rs. 7,500 to the firm. So, the additional order even at a reduced price of Rs. 18, in comparison to the local market rate of Rs. 25, is recommended.

19.12 FIXATION OF SELLING PRICE, BELOW MARGINAL COST

Ideally speaking, product price is to be fixed to cover variable cost as well as fixed cost and leave a reasonable return on the capital employed. But, there may be certain circumstances, requiring the firm to fix the selling price, below its variable cost.

It may be advisable to fix selling price below the marginal cost under the following circumstances:

- New Introduction of Product:** When a new product is introduced in the market, initially, it is sold below the variable costs to attract customers towards the product. The new product is sold, at a very low price, to make it popular.
- Import Quota Against Foreign Exchange Earned:** Government, sometimes, allows import quotas against foreign exchange earned and provide subsidy or duty drawback. Profits from the sale of import quotas may be more than the loss incurred by selling the product, below the marginal cost.
- Large Quantities of Raw Materials Already Purchased:** A firm may find itself with excess of raw materials, purchased. Sale of excess raw materials may be resulting in loss. It is desirable for the firm to convert the raw materials into finished goods and sell at a lesser loss than the loss that may be incurred by selling the raw materials.
- Goods are of Perishable Nature:** It is better to sell the perishable goods at a price which they can realize, otherwise these goods perish and nothing may be realized. This happens, normally, with the sale of fruits, as the shelf life of fruits is always short.
- Closure of Business and Subsequent Revival:** In some types of business, once the business is closed, it is difficult to revive, again. This is the case with industries, where skilled and trained employees are needed. Instead of closing the business, temporarily, and reviving later, which would attract lot of costs in recruitment and training, business may be continued. When it is difficult to revive the business connections, the firm also may decide to continue the business, despite loss, for a short period.
- Elimination of Competitors from Market:** To eliminate competitors in the market, market price may be fixed below the variable cost. An existing photocopier may find another

photocopier, opening his shop in the same locality. Till date, there has been no competitor to the existing photocopier. After allowing the competitor to open his new shop and installing the photocopy machine, the existing photocopier reduces the photocopy rate to 25 paise per page, from the earlier rate of 50 paise. The new photocopier too has to fix the rate at 25 paise to remain in business. But, the new firm would not be able to run the business and continue to sustain the loss, for long, as the reduced rate does not cover even the paper cost. The old photocopier would be able to withstand the loss from the, earlier, profits. Once the competitor closes the business, the old photocopier may increase the rate to 60 paise per page, if there is no competition. Closure of business would result in heavy loss. Seeing the plight, people may be afraid to open new shops to give competition. This would be a strategy to avoid competitors, emerging in the existing business, when only one firm has been enjoying the monopoly.

7. **Publicity:** A small quantity may be sold at a low rate to provide publicity for the product. The latest classical example is sale of flight ticket to USA from Hyderabad by Jet Airlines at Rs. 999 + taxes to as many as 23 destinations. Number of tickets reserved at the special concession rate is very low, but the publicity has been immense that tickets to USA are cheap in Jet Airlines.
8. **Push up Sales of other Profitable Products:** Sale of one product at a price below the marginal cost would result in loss; but may push up sales of other products. The loss of one product may be made up from the profit of other products.

19.13 LIMITATIONS OR DISADVANTAGES OF MARGINAL COSTING

Marginal costing suffers from the following limitations:

1. Classification of Expenses

Marginal costing assumes all expenses can be classified into fixed and variable. Such classification is not possible with certain expenses such as ex gratia amount to Staff (amount not legally bound to pay) and amenities to staff. These expenses are caused, purely, by management decisions, which are voluntary in character. These expenses do not have any relation to volume of output or with time factor. So, it is wrong to assume all expenses can be classified into fixed and variable.

2. All Costs are Variable in the Long Run

It is difficult to segregate all costs into fixed and variable. In reality, all costs are variable in the long run. Even, the machinery can be sold to avoid fixed costs.

3. Valuation of Closing Stock

For valuation of closing stock, fixed costs are not taken into account. The technique of marginal costing is difficult to apply to certain industries where the manufacturing cycle-production of one product – is very long. For instance, in ship building industry, manufacture of one ship or one

turbine in BHEL takes years. In such a case, while the manufacture is in progress, the corresponding year's show loss. On completion, the relevant year shows abnormal profits.

4. Resistance of Customers

It is not possible to sell a product, without including the fixed cost component, all the time. In certain circumstances, output may be sold at less than the total cost (aggregate of variable cost as well as fixed cost). But, such course of action cannot be continued for long. At best, this technique of costing can be followed when the product is sold in different markets and price in one market does not affect the other market. An order from a foreign market may be accepted at a lower price, based on marginal costing.

This approach cannot be followed for a new customer in a local market. This may, sometimes, lead to a general reduction in selling price and thus to heavy losses. If this course of action were done for a long period, there would be resistance from the existing customers, for the differential selling price.

5. Increased Usage of Automation

Technological automation is much in progress. Where automation is more, the proportion of fixed costs (depreciation and maintenance) increases. A system, which ignores fixed costs, is, therefore, less effective.

6. Balance Sheet does not Show a True and Fair Picture

Balance sheet does not exhibit a true and fair picture, as finished stock and work in progress are valued at marginal cost, which does not include fixed expenses. Thus, the inventory is understated in the balance sheet, which is against the fundamental principles of accounting.

7. Insurance Claim Settlement

In case of fire accident, full loss of stock cannot be recovered, as the stock is valued without taking the fixed cost component. Due to non-consideration of fixed cost, the valuation in accounts presents a lower value and in consequence, insurance company may pay lesser amount than the actual cost towards claim settlement.

8. Cost Control

Cost control can be better achieved with the help of other techniques such as budgetary control and standard costing.

Check Your Understanding.

State whether the following Statements are True or False

1. Marginal costing recognizes the distinction between Fixed Costs and Variable Costs in their behaviour.

2. Under the technique of Marginal costing, cost of production includes fixed overheads as well as variable overheads.
3. Cost of production per unit remains the same up to a particular level of output under marginal costing.
4. Under the technique of Marginal costing, fixed overheads are not allocated to cost units, but charged against a “Fund”, which arises out of the excess of Selling price over Total Variable costs.
5. Overheads can be of two types, fixed costs and variable costs.
6. Fixed costs are called Product costs, while Variable costs are called period costs.
7. The technique of Marginal costing can be used in conjunction with job or process costing or with other techniques such as standard costing or budgetary control.
8. Fixed costs are more or less uncontrollable, while variable costs are controllable costs.
9. Marginal costing assumes all expenses can be classified into fixed and variable, which is always possible.
10. Certain expenses such as ex gratia amount to Staff (amount not legally bound to pay) and amenities to staff cannot be classified into fixed and variable costs.
11. Marginal costing is a valuable adjunct to Standard costing and Budgetary control.
12. The fixed costs component is included in the valuation of work-in-progress and finished stocks in marginal costing.
13. Closing stock valuation is made at a higher price in marginal costing, compared to absorption costing.
14. Approach of marginal costing and absorption costing in the treatment of variable cost is one and the same.
15. Semi-variable costs, containing fixed costs component, form part of product cost in marginal costing.
16. Marginal costing cannot be used without standard costing.
17. Overheads can be fixed and variable in nature.
18. Marginal costing is the appropriate technique of costing for decision-making in accepting or rejecting an offer from a foreign market at a price lower than the local market price.
19. Marginal costing has no utility as it does not recover fixed costs.
20. Marginal costing is not an independent system of costing.
21. Fixed costs are constant, irrespective of the level of production, within the capacity of the machine.
22. Ideally speaking, product price is to be fixed to cover variable cost as well as fixed cost and leave a reasonable return on the capital employed.
23. When a firm has idle capacity to manufacture, ‘Accept or Reject Decision’ depends on the comparison of variable cost of the component with its current market price.
24. It is always better to reject a foreign order, when the price offered does not cover total cost.

25. When a firm has idle capacity, it is cheap to buy, if the market price is in excess of the marginal costs.

Answers

1. True 2. False 3. True 4. True 5. True 6. False 7. True 8. True 9. False 10. True
 11. True 12. False 13. False 14. True 15. False 16. False 17. True 18. True 19. False
 20. True 21. True 22. True 23. True 24. False 25. False

Pick up the most appropriate:

1. Cost accounting mainly helps the management in

(a) Controlling costs	(b) Decision-making
(c) Fixing prices of products	(d) Earning extra profits
2. Fixed costs per unit decreases when

(a) Production volume decreases	(b) The volume of production fluctuates
(c) Variable costs per unit increase	(d) Production volume increases, within the capacity of the machinery
3. Variable costs

(a) Change with fixed costs	(b) Remain constant per unit
(c) Increase per unit, with increased production	(d) Behave in an unpredictable manner
4. Behaviour of fixed costs and variable costs

(a) One and the same	(b) Fixed costs are constant, while variable costs move in the direction of production volume
(c) Fixed costs move with volume of production, while variable costs are constant	(d) Unpredictable
5. Fixed costs are called

(a) Period costs	(b) Product costs
(c) Marginal costs	(d) Variable costs
6. For calculation of contribution from export order for acceptance or rejection, the following is appropriate for decision-making.

(a) Marginal Costing	(b) Standard Costing
(c) Absorption Costing	(d) Process Costing

Answers

1. (b) 2. (d) 3. (b) 4. (b) 5. (a) 6. (a)

Descriptive Questions

1. Define 'Marginal cost' and 'Marginal costing'. How profit is calculated in Marginal costing? (19.4 and 19.7)

2. Explain the concept of Marginal Costing? What are the basic characteristics of Marginal costing? **(19.4 and 19.5)**
3. What is marginal costing and state the assumptions? **(19.4 and 19.8)**
4. What are the Advantages and Limitations of Marginal costing? **(19.10 and 19.13)**
5. Explain the technique of Marginal costing and state its importance in decision-making? **(19.6 and 19.10)**
6. Narrate the circumstances when the firm would fix the selling price below its marginal cost? **(19.12)**
7. Explain the difference in the behaviour of fixed costs and variable costs? **(19.2)**

Interview Questions

Q.1. What is the utility of marginal costing as this technique, totally, ignores fixed costs, while calculating costs?

Ans. The objective behind any decision of every firm is to improve the level of profits, from the current stage it is in. For example, when the firm receives an export order, it need not recover full costs. Fixed costs are constant, whatever be the level of production. So, if the market price that can be procured covers the variable costs and leaves something extra, which is called contribution, the extra would go for increasing the level of current profits. Here, marginal costing helps the management in decision-making to improve the profits. So, it is wrong to consider that marginal costing has no utility simply because it ignores fixed costs, totally.



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CHAPTER
20

Marginal Costing – Make or Buy Decisions

- Application of Marginal Costing – Make or Buy Decision
- Application of Marginal Costing, in case of Additional Fixed Costs
- Other Considerations than Cost
- Illustrations
- Check Your Understanding
- Descriptive Questions
- Interview Questions

20.1 APPLICATION OF MARGINAL COSTING – MAKE OR BUY DECISION

Marginal costing can be applied in the area of fixation of selling price. The next important area is whether to make or buy decision.

When a company has unused capacity and wants to manufacture some components, it has two alternatives:

- (A) to make within the organization or
- (B) to buy from the market.

Often, firms face the question whether to outsource production of a component or continue to make it in the factory. Comparison of the relevant costs of both the alternatives in such cases will show whether to continue the existing arrangement or change to buying it, discontinuing the current production. The answer depends upon whether the firm has the option to use the freed capacity, profitably, or not.

The decision to buy, discontinuing present production, depends on whether the capacity that is released by the non-manufacture of the component can be profitably utilized, elsewhere, or not.

Role of Fixed Costs: **Fixed costs are sunk costs.** What is sunk cannot be retrieved in the same condition. Fixed costs cannot be reversed, without loss. Machinery purchased, already, cannot be sold, without loss, in terms of money. Fixed costs that are incurred are not relevant for our decision-making. Costs that will be incurred, in any event, should not be considered in the decision-making. In other words, the existing fixed costs, which cannot be saved, do not influence the decision as those costs are already incurred and cannot be reversed, whether the firm makes or buys.

Decision-making between purchase and continuation of production: Decision depends on whether the machinery that is freed would remain idle or can be utilized profitably, elsewhere.

Machinery turns idle: Let us consider the first situation. If the machinery remains idle, existing fixed costs related to that machinery is not to be considered for decision-making. Compare variable costs only with the market price of the material. If we stop making the component in the factory and buy it from the market, what we can save is only future variable costs, but not the fixed costs, already incurred. The firm would continue to incur costs on the idle machine. In other words, we consider those costs that can be saved or avoided.

Put the question, what costs are saved? Compare the saved costs with the corresponding market price for decision-making to buy or continue to produce. Costs that can be saved are only Variable Costs. So, compare variable costs with market price for decision making, when the machinery turns to be idle.

Machinery would be utilized profitably, elsewhere: The second situation is that the existing machinery can be utilized, elsewhere, profitably. Where the capacity freed can be utilized in an alternative profitable way, the fixed costs can be considered as saved. As the machinery is utilized in a profitable way, the existing component does not bear the burden of fixed costs, as the machinery is not utilized in producing that component and not remaining idle too. In such an event, costs saved are both variable costs and fixed costs. So, comparison is to be made between the aggregate costs saved with the corresponding market price.

When the machine is not idle and can be profitably utilized, elsewhere, compare total costs saved, both variable and fixed costs, with the market price for decision-making.

If saved costs are more than the market price, buying is cheaper than producing. Produce, if market price is more than saved costs.

Illustration No. 1

Suresh Ltd. is producing a part at a cost of Rs. 11 per unit. The composition of the cost is as follows:

	(Rs.)
Materials	3.00
Wages	4.00
Overheads–Variable	2.50
- Fixed	<u>1.50</u>
	<u>11.00</u>

Presently, the firm has been incurring a total fixed cost of Rs. 15,000 for manufacturing the current production of 10,000 units. An outsider is offering the same component, in all aspects identical in features, for Rs. 10 per unit. On enquiry, it is found from the firm that the machine that is manufacturing the parts would remain idle as the machinery cannot be utilized elsewhere.

- (A) Should the offer be accepted?
- (B) Would your answer would be different, if the outside firm reduces the price to Rs. 9, after negotiation. What is the impact of the fixed costs in the decision-making process?

Solution:

The variable cost of the product is as under:

	(Rs.)
Materials	3.00
Wages	4.00
Overheads–Variable	2.50
Total Variable Cost	9.50

- (A) Here, the additional costs (variable costs) for making are Rs. 9.50. The outside market price is Rs. 10. The outside offer is on a higher side by Rs. 0.50 per unit, so the offer is to be rejected. For every unit bought outside, it results in a loss of Rs. 0.50 per unit.
- (B) Now, the outside firm is willing to reduce the price to Rs. 9, while the variable cost is Rs. 9.50. The offer is to be accepted.

So far as the fixed costs Rs. 15,000 is concerned, the firm would incur, whether the firm makes the product itself or buys it outside. In other words, the existing fixed costs are not to be considered, while taking a decision.

Illustration No. 2

Rani and Co. manufactures automobile accessories and parts. The following are the total processing costs for each unit.

	(Rs.)
Direct material cost	5,000
Direct labour cost	8,000
Variable factory overhead	6,000
Fixed cost	50,000

The same units are available in the local market. The purchase price of the component is Rs. 22,000 per unit. The fixed overhead would continue to be incurred even when the component is bought from outside, although there would be reduction to the extent of Rs. 2,000 per unit. However, this reduction does not occur, if the machinery is rented out.

Required:

- (A) Should the part be made or bought, considering that the present capacity when released would remain idle?
- (B) In case, the released capacity can be rented out to another manufacturer for Rs. 4,500 per unit, what should be the decision?

Solution:

(A) The present capacity when released would be remain idle:

Statement showing the cost to make or buy

Cost Element per Unit	Make		Buy
Direct Material	5,000		
Direct Labour	8,000		
Variable factory overhead	6,000	19,000	
Purchase price			22,000
Reduction in fixed cost per unit			(2,000)
		19,000	20,000

Since the cost to make is less than the price to buy, it is desirable to manufacture the component as the idle capacity is not, alternatively, used.

(B) Statement showing costs of two alternatives, when released capacity is rented out:

Cost Element per Unit	Make	Buy
Relevant Cost to Make	19,000	
Purchase Price		22,000
Related income from alternative use per Unit		(4,500)
Total Relevant Cost	19,000	17,500

In the above situation, the decision is in favour of buying from outside.

Illustration No. 3

Dimpy Co. A radio manufacturing company finds that the existing cost of a component, Z 200, is Rs. 6.25. The same component is available in the market at Rs. 5.75 each, with an assurance of continued supply.

The breakup of the existing cost of the component is:

	Rs.
Materials	2.75 each
Labour	1.75 each
Other Variables	0.50 each
Depreciation and other Fixed Cost	1.25 each
	<u>6.25</u>

- (a) Should the company make or buy? Present the case, when the firm cannot utilize the capacity elsewhere, profitably, and when the capacity can be utilized, profitably.
- (b) What would be your decision, if the supplier has offered the component at Rs. 4.50 each?

Solution:

- (a) The decision to make or buy will be influenced by the fact whether the capacity to be released, by not manufacture of the component, can be utilized profitably, elsewhere, or not.

If the capacity would be idle:

Fixed costs are sunk costs. These fixed costs cannot be saved, as the capacity cannot be utilized in an alternative way, profitably. Even if the product is purchased, still the firm has to incur fixed costs.

Variable costs per unit, ignoring fixed costs are:

	Rs.
Materials	2.75
Labour	1.75
Other variables	0.50
Total	<u>5.00</u>

By incurring Rs. 5, component, Z 200 can be manufactured by the firm, while it is available in the market at Rs. 5.75 each. So, it is desirable for the firm to make.

If the capacity would not be idle:

Capacity that is released would be utilized elsewhere, profitably. So, the costs that can be avoided by buying are both variable costs as well as fixed costs.

So, the total costs assume the character of variable costs. Costs that can be saved are

	Rs.
Materials	2.75 each
Labour	1.75 each
Other Variables	0.50 each
Depreciation and other Fixed Cost	1.25 each
Total	<u>6.25</u>

The same product is available at Rs. 5.75. So, by buying, instead of making, there is a saving of Rs.0.50 per unit. So, if the capacity would not be idle, it is better to buy rather than making.

- (b) The marginal cost of the product (only variable expenses) is Rs. 5. If the price offered is Rs. 4.50 per unit, then the offer can be accepted as there will be saving of 50 paise per unit, even if the capacity released cannot be profitably employed. This is so because the price offered is less than the marginal cost of the product.

Illustration No. 4

Cost of a component "X" and its market price are as under:

Direct Material	Rs. 400
Direct Labour	Rs. 200
Prime Costs	Rs. 600
Overhead Cost	Rs. 200 (Fixed Rs. 150 and Variable Rs. 50)
Total Cost	Rs. 800
Market Price	Rs. 700

The firm is planning to discontinue the production of component "X" and intends to manufacture component "Y" as current market price of "X" is high. Advise the firm about the production if

- (i) capacity of the plant would remain idle, if "X" is not manufactured and
- (ii) capacity of the plant, that would be freed, can be utilized profitably, in making component "Y". Advise for any other considerations.

Solution:

- (i) **Case when the capacity would remain idle:** The total cost is Rs. 800, while its market price is Rs. 700. Prima facie, it looks it is cheap to buy rather than making the component. However, analysis shows the correct picture is not so. Fixed costs are sunk costs as they are already incurred and cannot be saved, in the short run. In other words, firm would continue to incur fixed costs, whether the firm makes the component or buys it from the market. Firm cannot utilize the capacity that would be freed, elsewhere, and so remains idle. Hence, fixed costs are permanent costs that cannot be saved, if not utilized, elsewhere. So, a real comparison is between the total costs (Rs. 800) and aggregate of market price (Rs. 700) along with the fixed costs (Rs. 150) that cannot be saved. The aggregate is Rs. 850. It is not wise to buy at Rs. 850, which can be made at Rs. 800. So, it is desirable for the firm to continue to make.

There is another way to explain. Compare variable costs (Rs. 650) with market price (Rs. 700). It is, now, Marginal Costing. Even in this type comparison too, it is desirable for the firm to continue to make.

- (ii) **Case when the capacity can be utilized, elsewhere:** Here, the capacity can be utilized, profitably, elsewhere. In other words, the existing fixed costs would be recovered by making

component “Y”. In other words, these fixed costs component of Rs. 150 also can be saved if component “X” is not manufactured. So, total savings are:

Direct Material	Rs. 400
Direct labour	Rs. 200
Prime cost	Rs. 600
Variable Overhead Cost	Rs. 50
Fixed Cost	Rs. 150
Total Cost	Rs. 800

Total costs that can be saved are Rs. 800. The market price is Rs. 700. So, it is desirable to buy at Rs. 700 instead of incurring Rs. 800.

Other Consideration: Further, irregularity of supplies from the outside source should also be taken into account, which is an important issue to be considered, before a final decision. In case, the supplies from outside are assured, the firm should go for purchase from outside agency.

When capacity can be alternatively utilized, even the fixed costs become variable costs. Total costs that can be saved are to be compared with the market price for deciding, whether to manufacture or buy the component.

20.2 APPLICATION OF MARGINAL COSTING, IN CASE OF ADDITIONAL FIXED COSTS

We have dealt with cases, all along, when there is unutilized capacity, with no increase in fixed costs. There may be cases when, the existing infrastructure is not utilized, totally. For example, the present factory shed may have some space remaining unutilized. With some incremental additional machinery, firm may be getting opportunities to replace the components, presently purchased, by making within the factory. In such an event, the question is whether the firm should go for making or not. It becomes essential to find out the minimum requirement of volume that is guaranteed, in future, to justify making, instead of purchasing.

This volume can be calculated by the following formula:

$$\frac{\text{Increase in Fixed Costs}}{\text{Contribution per Unit} (\text{Market Price} - \text{Additional Variable Cost of Production})}$$

The following illustration would explain the above better.

Illustration No. 5

Srinivas & Co purchases 20,000 units of a spare part from an outside source @ 3.50 per unit. There is a proposal that the spare be produced in the factory itself. For the purpose, an additional machine costing Rs. 50,000, with a capacity of 30,000 units and a life of 5 years, will be required. A foreman with a monthly salary of Rs. 2,000 p.m. will have to be engaged. Materials required

will be 60 paise per unit and wages 45 paise per unit. Variable overheads are 150% of labour and fixed expenses are recovered @ 200% of wages.

Existing fixed costs of the firm are Rs. 10,000. The firm can raise funds @ 18% p.a.

Advise the firm whether the proposal should be accepted.

Solution:

The decision should be based on the comparison of the price being paid at present and the additional costs to be incurred, if manufacture is undertaken. This comparison is made below:

	Rs.
(i) Price being paid at present ($20,000 \times 3.50$)	<u>70,000</u>
(ii) Cost to be incurred if manufacture is undertaken:	
Materials @ 60 p.	12,000
Labour @ 45 p.	9,000
Variable overheads – 150% of labour	13,500
Additional foreman's salary	24,000
Depreciation ($50,000 / 5$)	10,000
Interest (18% on Rs. 50,000)	<u>9,000</u>
	<u>77,500</u>

The cost of making 10,000 units will be higher than the price being paid at present. Hence, the proposal is not acceptable.

Notes:

- (i) Though the capacity of the equipment is 30,000 units, capacity to the extent of 20,000 is utilized. Full depreciation is to be considered as cost as non-utilisation of balance capacity does not result into any saving in depreciation.
- (ii) Existing fixed costs of the firm has no relevance for the decision-making, hence ignored. Additional fixed costs to the extent of foreman's salary, depreciation and interest are relevant. Hence, these three items have been added.

Illustration No. 6

Adarsh & Co. has been purchasing a separate part from an outside source @ Rs. 11 per unit. Adarsh's son, after completion of his MBA, has come up with a proposal to improve profitability. He has put up a proposal that the spare part be produced in the factory itself, utilizing the available free space in the factory shed. For this purpose a machine costing Rs. 80,000, with an annual capacity of 20,000 units and a life of 10 years, will be required. A foreman with a monthly salary of Rs. 600 will have to be engaged. Materials required will be Rs. 3.00 per unit and wages Rs. 2.00 per unit. Variable overheads are 150% of direct labour. The firm can easily raise funds @ 10% p.a. There is a guaranteed requirement for the part, presently purchased, for a period of 12 years.

Advise the firm for purchase or making, based on the son's advice.

Solution:

Increase in Fixed Costs	Rs.
Depreciation of Machine	8,000
Salary of Foreman	7,200
Interest on Capital	8,000
	<hr/>
	Rs.
Contribution per unit	Rs.
Purchase Price	11
Less: Variable Cost:	Rs.
Material	3.00
Wages	2.00
Variable Overheads	<hr/> 3.00
	<hr/> 8
Contribution per unit	<hr/> 3

$$\text{Minimum Volume} = \frac{23,200}{3} = 7,733 \text{ units.}$$

In order to accept the proposal, it is essential that the required volume should be at least 7,733 units. In this case, the expected volume is 8,000 units. The firm has a guaranteed demand for a period of 12 years, which is more than the life of the fixed asset, which is to be bought. So, firm should go for manufacturing.

20.3 OTHER CONSIDERATIONS THAN COST

Besides comparison of price demanded by outsiders and the marginal cost, other considerations are as under:

(A) Keeping Fixed Costs Controllable, in case Demand Fluctuates: Normally, fixed costs are not controllable. To keep fixed costs under control, firm adopts a dual policy of making as well as buying the same product. The firm buys a small quantity, though the price is marginally higher than the cost at which it can be made.

In case, the firm produces a part or component, there would be some fixed costs, besides variable costs. Some staff has to be necessarily engaged and staff costs become fixed and permanent, in nature. Some firms, deliberately, buy from outside to keep the burden of fixed costs as low as possible. This is the case more, where the product has fluctuations in demand. The firm produces the minimum estimated requirement and the excess quantity is purchased from outside. The effect of this policy is a 'win, win situation' under both the circumstances. When

the demand increases, the firm buys from outside the extra quantity needed, at a little higher price. In case, demand falls, orders on outsiders are reduced. In other words, the bulk of the fixed cost then becomes controllable.

- (B) **Quality:** Quality of the final product depends on the qualitative components and parts that go into the finished product. If quality of components cannot be ensured in own production, they are to be bought from outside. In case, suppliers cannot be relied on quality, firm has to manufacture, irrespective of the cost.
- (C) **Regularity of Supply:** Interruption of production is a costly matter. Before order is placed on the outsiders for supply of parts, regularity of supply and penal conditions that the suppliers would be agreeable for failure to supply, in time, are important considerations.

Check Your Understanding

State whether the following are True or False

1. For 'make or buy' decision-making, existing fixed costs that cannot be saved are ignored for comparison with market price.
2. In case existing capacity is not sufficient to make the product, additional fixed costs incurred are ignored for comparison between make or buy decision.

Answers

1. True
2. False

Descriptive Questions

1. Discuss the approach to be adopted in "Make or Buy" decision? What aspects are considered, if the existing capacity is not adequate and additional fixed costs are to be incurred for making a product? (**20.1 and 20.2**).
2. What considerations are taken into account for "Make or Buy" decision? (**20.1 and 20.3**).

Interview Questions

- Q.1.** What are 'sunk costs'? Why they are so called?

Ans. 'Sunk costs' are fixed costs. What is sunk cannot be retrieved. In a similar manner, fixed costs, once incurred, cannot be reversed.

- Q.2.** Why fixed costs are ignored in 'Make or Buy' decisions?

Ans. Fixed costs are already incurred and so they do not influence the future 'Make or Buy' decisions. Hence, they are ignored for comparison. Only variable costs, in both options, are compared and that option is chosen, where the variable costs are lower.



CHAPTER
21

Absorption Costing or Full Costing

- Concept
- Objective of Absorption Costing
- Differences between Marginal Costing and Absorption Costing
- Cost of Production per Unit under Absorption Costing would be Misleading
- Effect of Opening and Closing Stock on Profits
- Limitations of Absorption Costing
- Check Your Understanding
- Descriptive Questions
- Interview Questions

21.1 CONCEPT

Absorption costing technique is also termed as Traditional or Full Cost Method. Under this method, the cost of a product is determined, after considering both fixed and variable costs. The variable costs, such as direct materials, direct labour, etc. are, directly, charged to the products. The fixed costs are apportioned on a suitable basis over different products, manufactured during a period.

Under absorption costing, all costs, both variable and fixed, are charged to the products for cost determination.

Thus, in case of absorption costing, all costs are identified with the products manufactured. Both Fixed costs and Variable costs are also treated as product costs. The cost unit is made to bear the burden of full cost, irrespective of the current level of operations. This will be clear

with the help of the following example.

Illustration No. 1

A company is manufacturing three products A, B and C. The costs of their manufacture are as follows:

	A	B	C
Direct Material per unit	Rs. 3	Rs. 4	Rs. 5
Direct Labour	2	3	4
Selling Price	10	15	20
Output	1,000 units	1,000 units	1,000 units

The total overheads are Rs. 9,000. Out of which Rs. 6,000 are fixed and rest are variable. It is decided to apportion these costs over different products in the ratio of output.

You are required to prepare separate statements, showing cost of each product and profit according to Absorption Costing and Marginal Costing.

Solution:

STATEMENT SHOWING COST AND PROFIT (According to Absorption Costing Technique)

Rs.

	A		B		C	
	Per Unit	Total	Per Unit	Total	Per Unit	Total
Direct Material	3	3,000	4	4,000	5	5,000
Direct Labour	2	2,000	3	3,000	4	4,000
Overheads:						
Fixed	2	2,000	2	2,000	2	2,000
Variable	1	1,000	1	1,000	1	1,000
Total Cost	<hr/> 8	<hr/> 8,000	<hr/> 10	<hr/> 10,000	<hr/> 12	<hr/> 12,000
Profit	2	2,000	5	5,000	8	8,000
Selling Price	10	10,000	15	15,000	20	20,000
Total Profit	Rs. 2,000 + 5,000 + 8,000 = 15,000					

**STATEMENT SHOWING COST AND PROFIT
(According to Marginal Costing Technique)**

Rs.

	A		B		C		Total (A+B+C)
	Per Unit	Total	Per Unit	Total	Per Unit	Total	
Direct Material	3	3,000	4	4,000	5	5,000	12,000
Direct Labour	2	2,000	3	3,000	4	4,000	9,000
Overheads:							
Variable	1	1,000	1	1,000	1	1,000	3,000
Marginal Cost	6	6,000	8	8,000	10	10,000	24,000
Selling Price	10	10,000	15	15,000	20	20,000	45,000
Contribution	4	4,000	7	7,000	10	10,000	21,000
Fixed costs							6,000
Profits							15,000

Note: Net profit is same both in Absorption Costing and Marginal Costing, due to absence of closing stock and opening stock.

21.2 OBJECTIVE OF ABSORPTION COSTING

The management is interested that every product should bear its total cost, be it fixed or variable cost and leave something towards profits towards return on investment. In the absence of profits, in the long run, management is not interested to continue that product. Management wants to ensure a reasonable return on the investment made. Absorption costing facilitates that objective.

The objective of management, under absorption costing, is that each product recovers its full cost and leaves something towards profit as a return on investment.

All products may not give equal contribution. Selling price of some products may cover the variable cost component, fully, while they may not cover the fixed cost component, totally. Though full costs are not recovered, in the short run, management continues production as they leave

certain amount in the form of contribution that would cover the fixed costs, at least, partly. This is only short-term approach. In the long - run, every firm wants to recover full costs, both fixed and variable, and leave something towards planned profits, which is the objective of every firm to maximize.

21.3 DIFFERENCES BETWEEN MARGINAL COSTING AND ABSORPTION COSTING

Objective: Under marginal costing, management is concerned with recovery of variable costs. This is a short-term objective. Any management for a long period, permanently, cannot sustain, ignoring recovery of fixed costs.

Under absorption costing, management is concerned with recovery of total costs. Unless total costs are recovered, management does not continue production of the concerned product. Basically, this is a long-term objective.

The objectives of marginal costing and absorption costing are conflicting with each other.

Marginal costing is appropriate in the short-run and for selecting special orders, while absorption costing is suited as a long-term objective.

The objectives of marginal costing and absorption costing are not one and the same, in respect of recovery of costs.

The differences between Marginal Costing and Absorption Costing are summarized hereunder:

Basis	Marginal Costing	Absorption Costing
1. Fixed Costs	Fixed costs are considered as period costs. Fixed costs are ignored for product costing and inventory valuation.	Fixed costs are considered as product costs. Fixed costs are considered for product costing and inventory valuation.
2. Profitability	P/V Ratio of different products judges profitability of different products.	Profitability is influenced by recovery of full costs.
3. Apportionment of fixed costs	Fixed costs are not apportioned to products. They are charged to contribution from different products.	Subjective apportionment of overheads is made to different products. In other words, the apportionment is arbitrary and not exact.
4. Presentation of Data	Presentation of Data is given highest importance to highlight contribution of each product and total contribution of the firm.	Presentation of Data is on conventional pattern. Net profit is determined, after deducting fixed overheads.

	Variable cost of production			
	(10,000 x Rs. 50)	5,00,000		
	(5,000 x Rs. 50)			2,50,000
	Fixed Production overhead (10,000 x Rs. 10) (5,000 x Rs.10)	1,00,000		50,000
	Under absorbed overhead	----		50,000*
	Total Stock	6,00,000		6,50,000
	Less Closing stock (5,000 x Rs. 60)	3,00,000		---
	Cost of goods sold		3,00,000	6,50,000
	Gross Profit		2,00,000	3,50,000
	Less : Selling and Administration cost		50,000	50,000
	Net Profit		1,50,000	3,00,000

Absorption Costing and Marginal Costing have their own role to play, depending on the situation.

Both Absorption Costing and Marginal Costing have their own role to play. If only variable costs are recovered by the unit cost, when and how fixed costs can be recovered?

When a special export order is under consideration, application of absorption costing may result in rejection of the order when full cost is not recovered by the unit cost in the proposed export order. Marginal costing is the right technique to decide on such special orders.

Application of Marginal Costing results in acceptance of the special order as the same unit cost results in recovery of variable costs, totally, and leaves something towards contribution, which results in increased profits of the firm. The special order may be rejected, if absorption costing is applied for determining the cost. Depending on the context, suitable application is to be made.

21.4 VALUATION OF CLOSING STOCK UNDER ABSORPTION COSTING AND MARGINAL COSTING AND IMPACT ON PROFIT

Fixed costs are taken into account in Absorption costing for valuation of cost of production and closing stock. However, fixed costs are ignored in Marginal costing for valuation of cost of production and closing stock.

Profit calculated between Absorption costing would be different from the profit calculated under Marginal costing.

21.5 IMPACT OF FIXED COSTS ON COST OF PRODUCTION PER UNIT UNDER ABSORPTION COSTING WOULD BE MISLEADING

The fixed costs are apportioned to the products on some basis. The basis could be a percentage of direct material or percentage of direct labour or rate per article etc. Whatever be the basis of apportionment of fixed cost to different products, it cannot be said that the apportionment is exact and definite. Charging of fixed costs creates certain problems.

Cost of production would be higher in Absorption Costing, compared to Marginal Costing, due to inclusion of fixed cost component in the former.

A simple example would explain the picture better.

Cost sheet of a firm is as under:

Direct materials per unit = Rs. 6

Direct Labour per unit = Rs. 4

Prime cost per unit = Rs. 10

Fixed overheads = Rs. 1,00,000

Production capacity of the firm is 10,000 units.

If the firm works to its full capacity, the total cost of production would be as under:

Direct materials = Rs. 60,000

Direct Labour = Rs. 40,000

Fixed costs = Rs 1,00,000

Total cost = Rs. 2,00,000

Total cost per unit = 2,00,000 / 10,000

= Rs 20

If the firm produces only 1,000 units, then the cost of production would be as under:

Direct materials = Rs. 6,000

Direct Labour = Rs. 4,000

Fixed costs = Rs. 1,00,000

Total cost = Rs. 1,10,000

Total cost per unit = 1,10,000 / 1,000

= Rs. 110

The total cost per unit, under full capacity, has been only Rs. 20 and it has gone up to Rs. 110, when the capacity of the firm is partly utilized. There is no increase in the price of raw materials or labour. However, the cost of production per unit has gone up by Rs. 90, amounting to 495% increase, due to lower volume of production. It appears illogical. Some people, therefore, argue that the fixed costs should not be considered, while computing the cost of product. In Marginal costing, fixed costs are charged against a fund, arising out of excess of selling price over variable cost. This is the logic of marginal costing.

21.6 EFFECT OF OPENING AND CLOSING STOCK ON PROFITS

Impact of opening stock and closing stock would be as under in Absorption Costing and Marginal Costing:

- When sales and production coincide (no opening stock and closing stock situation), profit would be same under both Absorption costing and Marginal costing.
- If closing stock were more than the opening stock, profit under Absorption Costing would be more than profit under Marginal Costing. This is, because, under Absorption Costing, a portion of fixed overhead is charged to the closing stock and carried over to the next year, instead of being charged to the current period.
- If closing stock is less than the opening stock, the profit shown under Absorption Costing will be lower than the profit under Marginal Costing. This is because a portion of fixed cost relating to the previous year is charged to the current period.

The following examples would explain.

Illustration No. 2

The data below relates to Kishore Co., which makes and sells sweet packets.

	January	February
Sales	5,000 units	10,000 units
Production	10,000	5,000
Selling Price/ unit	Rs. 100	Rs. 100
Variable production cost/ unit	50	50
Fixed production overhead incurred	1,00,000	1,00,000
Fixed production overhead cost per unit, being the predetermined overhead absorption rate	10	10
Selling, Distribution and administration cost (all fixed)	50,000	50,000

You are required to present comparative profit statement for each month using

- (i) absorption costing;
- (ii) marginal costing

Comment on the reasons for difference in profit, if any.

Solution:

(i) Profit statement using absorption costing

		January	February
1.	Sales (5,000 units x Rs. 100) (10,000 units x Rs. 100)	5,00,000	10,00,000
2.	Cost of Goods Sold: Opening Stock -----	-----	3,00,000 -----

	Variable cost of production			
	(10,000 x Rs. 50)	5,00,000		
	(5,000 x Rs. 50)			2,50,000
	Fixed Production overhead (10,000 x Rs. 10) (5,000 x Rs.10)	1,00,000		50,000
	Under absorbed overhead	----		50,000*
	Total Stock	6,00,000		6,50,000
	Less Closing stock (5,000 x Rs. 60)	3,00,000		---
	Cost of goods sold		3,00,000	6,50,000
	Gross Profit		2,00,000	3,50,000
	Less : Selling and Administration cost		50,000	50,000
	Net Profit		1,50,000	3,00,000

* Apportionment of overheads is made on a planned production of 10,000 units. However, production has been only 5,000 units. Hence, under absorbed overhead has been charged.

(ii) Profit statement under Marginal Costing

		January	February
1.	Sales (5,000 units x Rs. 100) (10,000 units x Rs. 100)		5,00,000
2.	Cost of Goods Sold :		
	Opening Stock	-----	2,50,000
	Production (10,000 x Rs. 50) (5,000 x Rs. 50)	5,00,000	
	Total Stock	5,00,000	5,00,000
	Less Closing stock (5,000 x Rs. 50)	2,50,000	----
	Cost of goods sold		2,50,000
	Contribution		5,00,000
	Less Fixed Cost :		
	Production Overhead		1,00,000
	Selling and Admn. Overhead		50,000
	Net Profit		1,00,000
			3,50,000

Note: Net profit is different due to difference in valuation of closing stock / opening stock both under Absorption Costing and marginal Costing for different months. However, total amount of profit is same Rs. 4,50,000 under both the methods as there is no opening stock and closing stock, at the end. So cumulative profit is same under both absorption costing and marginal costing.

Illustration No. 3

Radhika Company is manufacturing three products X, Y and Z. The costs of their manufacture are as follows:

	X	Y	Z
Direct Material per unit	Rs. 3	Rs. 4	Rs. 5
Direct Labour	2	3	4
Selling Price	10	15	20
Output	1,000 units	1,000 units	1,000 units

The total overheads are Rs. 6,000, out of which Rs. 3,000 is fixed and rest is variable. It is decided to apportion these costs over different products in the ratio of output.

Compute the amount of profit under Marginal and Absorption Costing systems, in case the units sold of the products X, Y and Z are 900 in each case.

Comment on the reasons for the difference in profit between Absorption Costing and Marginal Costing.

What would be the impact of closing stock and opening stock on the profits shown between Absorption Costing and Marginal Costing?

Note: Net profit is different due to difference in valuation of closing stock/opening stock, both under Absorption Costing and marginal Costing for different months. However, total amount of profit is same Rs. 4,50,000 under both the methods.

Solution:

**STATEMENT OF PROFIT
(Under Absorption Costing System)**

(Rs.)

	X	Y	Z
Sales (A)	9,000	13,500	18,000
Direct Material	3,000	4,000	5,000
Direct Labour	2,000	3,000	4,000
Overheads: Variable	1,000	1,000	1,000
Total Marginal Cost	6,000	8,000	10,000
Add: Fixed Overheads	1,000	1,000	1,000
Production Cost	7,000	9,000	11,000
Add: Opening stock	----	700	900
Less: Closing stock	700	900	1,100
Cost of Goods Sold (B)	6,300	8,800	10,800
Net Profit (Sales - Cost of Goods Sold) (A - B)	2,700	4,700	7,200

Thus, total net profit under Absorption Costing is:

Product X	Rs. 2,700
Product Y	4,700
Product Z	7,200
Total	<u>14,600</u>

STATEMENT OF PROFIT (Under Marginal Costing)

	X	Y	Z
Sales (A)	9,000	13,500	18,000
Direct Material			
	3,000	4,000	5,000
Direct Labour	2,000	3,000	4,000
Overheads: Variable	1,000	1,000	1,000
Production Cost	6,000	8,000	10,000
Add: Opening stock	----	600	800
Less: Closing Stock*	600	800	1,000
Cost of Goods Sold (B)	5,400	7,800	9,800
Contribution (Sales - Cost of Goods Sold)	3,600	5,700	8,200

* Valuation of closing stock is based on variable cost of direct material, direct labour & variable overheads.

Thus, total profit under Marginal Costing will be:

Contribution from Product X	Rs. 3,600
Contribution from Product Y	5,700
Contribution from Product Z	<u>8,200</u>
Total Contribution	<u>17,500</u>
Less: Fixed Cost	3,000
Total Net Profit	<u>14,500</u>

The total Net Profit Under Absorption Costing System is Rs. 14,600, while it is Rs. 14,500 in case of Marginal Costing System, a difference of Rs. 100. This is on account of the difference in valuation of closing Stock on account of fixed costs. The closing stock under Absorption Costing System is Rs. 1,100, while it is Rs. 1,000 under marginal Costing. The difference in profit Rs. 100 is due to difference in valuation of closing stock. As there is no opening stock, the difference in profit is due to valuation of closing stock, alone.

Thus, the profit under Absorption Costing System would be more as compared to Marginal Costing, if closing stock only exists, without any opening stock.

In case, there are no stocks (Opening stock and closing stock) whatsoever, the profits under both absorption costing and marginal costing will be the same.

Illustration No. 4

Ansiha & Co. is engaged in manufacturing toys. Details of cost of production shows variable costs are Rs. 1,20,000 and fixed costs Rs. 35,000, totaling Rs. 1,55,000. They are uniform for three months. But sales, opening and closing stocks are different in three months, details of which are given below:

			(Rs. In thousands)		
			Months		
			1	2	3
Sales			200	165	235
Stocks under marginal Costing: Opening			84	84	105
Closing			84	105	84
Stock under absorption Costing: Opening			108	108	136
Closing			108	136	108

Prepare two tabulations, side by side, to summarise these results for each of three months and the quarter of the year, showing differences in profits on marginal costing and absorption costing theories. Draw conclusions.

Solution:

(Rs. In thousands)								
Marginal Costing			Absorption Costing					
	Months	Total		Months	Total			
Opening Stock	1	84	2	84	105	3	84	108
Cost	120	120	120	360	155	155	155	465
	204	204	225	444	263	263	291	573
Closing Stock	84	105	84	84	108	136	108	108
Cost of Sales	120	99	141	360	155	127	183	465
Sales	200	165	235	600	200	165	235	600
Contribution	80	66	94	240				
Fixed Cost	35	35	35	105				
Profit	45	31	59	135	45	38	52	135

Conclusions

Valuation of stock in absorption costing contains fixed cost element, which is not the case with Marginal costing. This creates variation in profit between Marginal costing and Absorption costing. Profit at different situations has been as under:

1. If there is no change in opening stock and closing stock i.e. production is totally sold, profit in marginal costing and absorption costing would be the same. In the first month, profit is 45,000 in both marginal costing and absorption costing.
2. If closing stock is more than the opening stock, profit in absorption costing would be more than the marginal costing as stock would contain portion of fixed costs in absorption costing. In second month, the closing stock is more than the opening stock. Profit in absorption costing is Rs. 38,000, while it is only Rs. 31,000 in marginal costing.
3. If opening stock is more than the closing stock, profit in marginal costing would be more than the profit in absorption costing. Stock in absorption costing always contain fixed costs component. As opening stock is more than the closing stock, profit would be less in absorption costing, compared to marginal costing. It may be noted that fixed costs would not be apportioned in marginal costing. This situation is evident in the third month, with a profit of Rs. 59,000 in marginal costing and Rs. 52,000 in absorption costing.
4. The profit determined under Marginal Costing is a linear function of sales. In other words, contribution is exactly proportional to sales. 40% is contribution ratio in all the three months. Changes in production and sales do not have any impact on contribution. See all the four columns in Marginal Costing.
5. Profit determined under Absorption Costing is influenced by both production and sales.

21.7 PRESENTATION OF DATA

The table given below summarises the difference of presenting the data under absorption costing and marginal costing.

	Absorption Costing		Marginal Costing		
Sales:		xxx	Sales:		xxx
Less:	Manufacturing cost of goods sold (including fixed manufacturing overheads)		Less: Variable cost Manufacturing		xx
Less:	Administration and Selling Expenses	xxx	Less: Administration and Selling Expenses		xx
	Profit	xxx	Contribution		xxx
			Less: Fixed cost		
			Manufacturing	xx	
			Administration	xx	
			Selling	xx	xxx
			Profit		xxx

Note : If there are opening and closing inventories, profit figures under the two methods will be different. In the absence of opening stock and closing stock, profit under Absorption Costing & Marginal Costing would be same.

21.8 LIMITATIONS OF ABSORPTION COSTING

The following are the limitations of Absorption Costing:

1. **Cost Data not Useful for Control Purpose:** Fixed costs are apportioned on an arbitrary basis. This reduces the practical utility for the purpose of control.
2. **Fixed Costs:** Fixed costs are included in the valuation of closing stock and carried forward to the next year. In other words, though the fixed costs relate to the current year, they are not charged to the current year. They are carried forward to the next year to the extent they relate to closing stock. In a similar manner, opening stock contains fixed costs of the previous year and they were not charged during the previous year. Normally, costs are to be charged in the year in which they incur. As, that practice is not followed, it is an unsound practice.
3. **Presentation of Data:** As fixed costs are apportioned to the products, presentation of data is not useful for decision-making as overheads obscure cost-profit-volume relationship.
4. **Opportunities Get Unnoticed:** The behavioural pattern of costs is not highlighted. So, opportunities, otherwise, available may get unnoticed. An export order may not be considered worthy for acceptance as its unit cost may not cover the total cost. If accepted, the order may cover variable costs and leave something towards contribution to boost up profits. Marginal costing provides the opportunity for acceptance, while Absorption costing ignores the same.

Check Your Understanding

State whether the following Statements are True or False

1. Under Absorption costing, all costs, both variable and fixed, are charged to the product for cost determination.
2. The objective of marginal costing and absorption costing is one and the same in respect of recovery of costs.
3. Marginal costing is appropriate in the short-run and for selecting special orders, while absorption costing is suited as a long-term objective.
4. The valuation of closing stock is low in absorption costing, compared to marginal costing, when the firm incurs fixed costs.
5. Absorption costing is appropriate as a long-term objective for the management to pursue as all costs are to be recovered, if the firm is to sustain.
6. When a special export order is under consideration, application of absorption costing may result in rejection of the order when full cost is not recovered by the unit cost in the proposed export order.

7. A special order would be accepted even if the firm recovers variable costs fully and fixed costs, partly, when absorption costing is followed.

Answers

1. True 2. False 3. True 4. False 5. True 6. True 7. False

Pick up the most Appropriate

1. Total costing is known as

(a) Marginal Costing	(b) Standard Costing
(c) Absorption Costing	(d) Process Costing
2. Recovery of variable and fixed costs is made under

(a) Standard Costing	(b) Marginal Costing
(c) Absorption Costing	(d) Process Costing
3. If only closing stock exists, without opening stock, profit under absorption costing would be.... compared to Marginal Costing on account of fixed costs.

(a) More	(b) Less
(c) Same	(d) Unpredictable
4. To decide whether an export order is to be accepted or not, the following helps in decision-making:

(a) Absorption Costing	(b) Marginal Costing
(c) Process Costing	(d) Operating Costing

Answers

1. (c) 2. (c) 3. (A) 4. (b)

Descriptive Questions

1. What is meant by Absorption Costing? Describe the objective of Absorption Costing. (**21.1 and 21.2**)
2. Bring out the differences between Absorption Costing and Marginal Costing. (**21.3**)
3. Explain the concept 'Absorption Costing' and bring out its limitations. (**21.1 and 21.8**)
4. What would be the impact of fixed costs on cost of production and profit under Absorption Costing and Marginal Costing? (**21.4 and 21.5**)
5. Marginal costing is appropriate in the short-run and for selecting special orders, while absorption costing is suited as a long-term objective-Discuss (**21.3**)
6. " Approach of Marginal Costing and Absorption Costing is different, yet both have a role to play" – Justify the statement, while explaining the differences between them. (**21.3**)

Interview Questions

- Q.1.** What is 'Absorption Costing'?

- Ans.** 'Absorption Costing', as the name indicates, absorbs both variable costs and fixed costs. All costs are treated as product costs. Under absorption costing, all costs, both variable and fixed, are charged to the products for cost determination.
- Q.2.** Name the main difference between 'Absorption Costing' and 'Marginal Costing'.
- Ans.** In 'Absorption costing', there is no difference between fixed costs and variable costs for treatment. Both are charged to production in the year in which they are incurred. Fixed costs are apportioned to different products on a suitable basis. In other words, all costs are charged to production for determining the selling price. However, in 'Marginal costing', fixed costs are ignored and only variable costs are considered for determining the selling price.
- Q.3.** Orders that may be refused in absorption costing may be accepted in marginal costing. Explain the reasoning.
- Ans.** Yes, orders that may be refused in absorption costing may be accepted in marginal costing. Fixed costs are ignored in marginal costing, which are considered in absorption costing for determining the cost of production. The aim of absorption costing is recovery of full costs, while marginal costing is concerned with recovery of variable costs, alone. Approach of both is, totally, different. For this reasoning, export order is accepted, under Marginal Costing, if price recovers variable costs and leaves something towards contribution. The same export order would be rejected under Absorption costing, if the price offered does not cover both variable costs and fixed costs, totally. Fixed costs are normal in every business. Hence, it is correct to say an export order may be rejected under Absorption Costing, while it may be accepted under Marginal Costing.

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