ज्ञानगंगा घरोघरी

Yashwantrao
Chavan
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MBA 101

Accounting & Finance for Managers

Yashawantrao Chavan Maharashtra Open University

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UNIT 1 INTRODUCTION TO FINANCIAL ACCOUNTING

NOTES

Structure

1.0 Introduction

Accounting plays important role in the business organization. In this chapter, we shall see what accounting is, different types of accounting and what role does in paly in the business organization. We will also deal with forms of business organization, accounting as an academic discipline and finance function.

1.1 Unit Objectives

After studying this Unit, you should be able to :

- ★ Define accounting and realize its importance
- ★ Distinguish between Financial, Cost and Management Accounting

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- ★ Relate finance function and accounting
- ★ Understand accounting as an academic discipline and as profession
- ★ Get an overview about auditing and internal control
- ★ Know ethical issues in accounting
- ★ Relate Accounting and Corporate Governance

1.2 Introduction to Accounting

1.2.1 Meaning

In simple words, 'accounting' refers to recording. Whenever any organization is operating, one would like to know its performance. In order to be able to do so, it is necessary that as far as possible all the transactions that have taken place should be recorded systematically in monetary terms. The process of accounting involves recording, classifying and summarizing of past events and transactions of financial nature, with a view to enabling the users of accounting data to interpret the resulting summary.

Accounting is one of the most widely used information processing systems in business. The utility of accounting information increases, when it is compiled in a systematic manner and financial statements are prepared at periodic intervals. For the purpose of compilation, all monetary events are recognized as 'transactions' and classified into various 'account' heads. An account is a statement which shows all transaction related to a particular asset, liability, income or expense e.g. Cash Account (Cash A/c). The 'account' heads are then summarized under related groups so that interpretation becomes possible. For example, when a travel agent purchases stationary for office use, it is recorded in Stationary A/C, grouped as office expenses. All such expenses are compared with business income to arrive at profit.

There is a small difference between the terms 'accounting' and 'book keeping'. Book keeping is part of accounting that is concerned with recording; a book keeper normally needs lower academic qualification. Accounting in its broad sense extends to financial reporting, taxation compliance, cost analysis, interpretation, and estimation.

> "Accounting is the art of recording, classifying and summarizing 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".
>
> **The American Institute of Certified Public Accountants (AICPA)**

Accounting is the process of identifying, measuring, recording and communicating economic transactions.

Financial Accounting consists of creation of financial information and the subsequent use of such information. Accounting entails various steps namely Recording, Classifying and Summarizing which are dealt below:

1. What to record? : All financial transactions affecting the business have to be recorded in accordance with the principles of accountancy. As money is

the common unit of measurement, all events that are expressed in monetary terms will be recorded.

2. When to record? : Accounting is historical in nature because of which the recording is to be effected only after the occurrence of a transaction. Therefore, sale of goods cannot be recorded when the goods are merely intended to be sold but only after such sale is complete and the property in the goods has been transferred to the buyer.
3. How to record? : Whenever a transaction occurs, it is decided in which account/s it is to be recorded. Accounting concepts, policies guide recording procedure. This will be covered in-depth in the chapter 'Accounting Mechanics'.
4. Value at which it is to be recorded: All the ingredients of the financial statements are to be assigned appropriate values. Money is the scale of measurement in accounting and we can measure only those which can be translated into monetary terms. Different valuation bases are used in accounting, of which, the frequently used are Historical cost, Current cost, Realizable value and Present value. Value is determined at the time of recording and also at the time of preparation of financial statements.
5. Preparing statements: Income statement is prepared so as to calculate profit or loss during a particular year by summarizing all incomes and expenses. Balance sheet is prepared to record assets and liabilities stating financial position of the concern as at the end of a particular period. Cash flow statement shows inflows and outflows of cash. The financial statements are prepared at the end of certain period, usually yearly or quarterly.

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Check Your Progress

Define accounting.

1.2.2 Evolution of Accounting

Both merchants and Governments have been using accounting for keeping records of transactions since times immemorial. India has a very long tradition of maintaining books of accounts known as Chopadis. These chopadis were closed at the end of the year and new set of books were opened. Lakshmi Poojan (Diwali) is considered as an auspicious day for worshipping new books (Chopadis) to be opened from next day (Bali Pratipada). The concept of accounting period is firmly rooted in Indian tradition. We do also see mention of financial instruments like Hundis being mentioned in ancient India. Kautilya also known as Chanakya or Vishnugupta a well known statesmen, economist and spiritual guru wrote famous book Arthshastra in 4th century B.C., where he has recognized the importance of accounting. He realized that a proper measurement of economic performance was absolutely essential for efficient allocation of resources. He specified a very broad scope for accounting and considered explanation and prediction as its proper objectives. Kautilya developed bookkeeping rules to record and classify economic data, emphasized the critical role of independent periodic audits and proposed the establishment of two important but separate offices—the Treasurer and Comptroller-Auditor, to increase accountability, specialization, and above all to reduce the scope for conflicts of interest. Clarity, consistency and completeness of rules is key to such enforcement. Kautilya believed that such measures were necessary but not sufficient to eliminate fraudulent accounting. He also emphasized the role of ethics, considering ethical values as the glue which binds society and promotes economic development.

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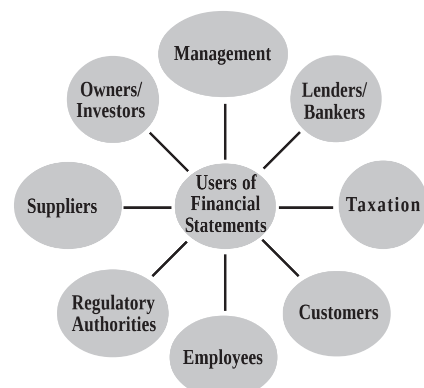
The origins of the organized form of accounting that we use today can be traced to Italy. The recognition in record keeping, of the fact of the duality of values – that is, the benefit to the entity on the one hand, and its sacrifice on the other – can be considered to be the crux of the modern accounting system. Luca Pacioli (1445- 1515) is usually recognized as the father of modern accounting as he published first text on accounting. Though accounting systems were used much prior to Pacioli's book, the system became a standard for merchants especially in Europe only after Pacioli structured and organized it in his book. Accounting methodology, which was developed and used in trade and commerce during the Middle Ages, faced its first serious challenge with the coming into being of the modern manufacturing industry, as a result of the industrial revolution.

Check Your Progress
Explain evolution of accounting

In today's information technology intensive environment, we see that accounting is getting increasingly adapted to the new situation and getting integrated into new software packages. Computerized accounting systems have taken place of traditional book keeping. They are designed to automate and integrate all the business operations, such as sales, finance, purchase, inventory and manufacturing.

1.2.3 Importance of Accounting

Accounting plays important role in success of any business, social or regulatory organization. Following are the major points showing importance of accounting.



- ★ It ensures systematic recording of financial transactions.
- ★ It records income and expenses in such a manner that net result of any period can be determined.
- ★ It records assets and liability in such a way that financial position of the entity can be judged.
- ★ It makes tax assessment easy and benefits both business organisations and tax authorities.
- ★ It helps share holders, management and other stakeholders to monitor and evaluate organizations the performance of the organization.
- ★ It provides reliable and timely information for decision making.
- ★ It acts as a basis for estimation and projection of financial figures and hence enables preparation of budgets.

Check Your Progress
How accounting is important for business organization?

1.2.4 Users of financial statements

Financial statements are prepared by following proper accounting process. Such financial statements are used by various users for different purpose as follows.

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★ **Owners/ Shareholders**

The major users of financial statements of business include sole proprietor or partners or shareholders. The financial position of the company is communicated to the shareholders through the financial statements which state the profit gained or loss suffered and the value of its assets and liabilities. Prospective investors also use such information to take decisions about their investments in companies. In case of listed companies, a whole lot of groups like analysts, mutual funds, investment bankers, institutional investors become interested in financial statements.

★ **Management/Board of Directors**

In a company form of organization the owners or the shareholders elect a group of people to manage the day-to-day affairs of the company. Since these directors/ managers are ultimately responsible for the financial performance, they must periodically compile and report the financial statements. Financial information are also useful for decision making function.

★ **Lenders**

Banks, financial institutions and other lenders would willingly part with their money only if they are assured of the repayment capacity, profitability and long-term solvency of the business to which they are asked to lend. Financial statements are normally used by the lenders to judge for the financial health of the business and to assure themselves of the security available for the monies lent. The financial statements are also used to monitor company's performance on regular basic.

★ **Suppliers/Creditors**

Suppliers of raw material or services are primarily interested in the short-term liquidity of the company. The financial statements facilitate the creditors in ascertaining the capacity of the organization, to pay on time the consideration for the goods/services to be supplied.

★ **Customers**

They can determine the strength and reliability of an organization based on financial performance. Legal obligations associated with guarantees, warranties and after sales service contracts tend to establish long-term relationships between a business and its customers. The financial statements are used by the customers to draw inferences about the long-term viability of the firm.

★ **Employees**

Employees have an interest in the continued and profitable operations of the organization in which they work. Financial statements can be used as an important source for obtaining information regarding the current and future profitability and solvency. Sometimes, contracts tying remunerations to profits or payment of incentives based on certain financial measure would tend to magnify this interest.

★ **Government and Regulatory Agencies**

The correct assessment of income tax, sales-tax, excise duty, etc. takes inputs from the financial statements of an organization especially to detect tax evasion, if any. Government, as the guardian of public interest, must also keep a close watch over the various business firms to detect profiteering and creation of monopolies. Vital information in this regard can be gathered from a scrutiny of the financial statements of business enterprises. National income accounting used in macroeconomic analysis derives its fundamental inputs from financial statements. The tax payable by the enterprises as well as the compilation of countrywide statistics is discerned using the financial statements. Regulatory authorities like Securities Exchange Board of India (SEBI), Reserve Bank of India (RBI), Registrar of Companies (ROC) also uses the financial information to keep vigilance on the companies.

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Check Your Progress

Who are the users of financial statements?

1.3 Financial, Cost and Management Accounting

Financial accounting deals with recording and preparation of the statements revealing the income and financial position of the business on the basis of events which have happened in a particular period.

The major purpose of financial accounting is to report the position of the entity as on the reporting date, as well as the performance of the entity during the period covered by the previous reporting date and the present reporting date. This reporting is done through various financial statements, important ones being income statement and balance sheet. Financial statements present information on revenues, profits, cash flows, assets, liabilities and so on. Though this information is very important, it does not adequately aid the management in planning, controlling, organizing and efficiently conducting the course of the business as a result of which Cost Accounting and Management Accounting have emerged.

Cost accounting records, analyses and estimates cost. It also deals with cost computation, cost saving, cost reduction, etc. The costing function provides information that is crucial for profit measurement in financial accounting. The cost of products/ services to be considered with respect to the revenues earned is provided by the cost accounting system. Cost accounting is primarily targeted to inside users.

Management accounting deals with the processing of data generated in financial accounting and cost accounting for managerial decision-making. It also uses managerial economic concepts for decision-making. Management accounts facilitate planning and control of activities of organization to assist in decision-making process.

Cost accounting is indistinguishable from management accounting as the major purposes of providing information for control purpose and for formulating plans and policies, is common to both. It should, however, be noted that traditionally, cost accounting was concerned with the determination of product costs and inventory valuation and in this respect; it was an extension of financial accounting. The function of management involves taking decision with respect to day-to-day operations of the entity and strategic planning. Managers depend on the accounting data for guiding their managerial decisions. Management accounting provides relevant information to facilitate decision making.

	Managerial Accounting	Financial Accounting
1	It is generally targeted to managers within the organization.	It is targeted to various stakeholders including outside the organization.
2	Preparing managerial accounting is not mandatory.	Maintaining financial accounting records is statutory requirements.
3	It is not regulated as it is intended only for management.	It is closely regulated by GAAP, accounting bodies and government authorities.
4	It uses historical data along with projections and estimations.	It primarily uses historical data.

NOTES

Check Your Progress

Explain difference between financial, cost and management accounting.

1.4 Finance Function and Accounting

Accounting involves the creation of financial records of business transactions, flows of finance, the process of creating wealth in an organization, and the financial position of a business at a particular moment in time.

Finance is the life-blood of economy without which business cannot be run successfully. Sufficient funds at the required time are the key to success. In terms of Husband and Dockery "Finance is the agent that directs the flow of economic activity and facilitates its smooth operation."

Check Your Progress

Explain finance function.

John J. Hampton defined it as the management of the flow of money through an organization. In the sense it involves the proper custody and authorized utilization of available funds. It is related to procurement of funds and as well as their effective utilization. It covers not only financial planning, financial forecasting, raising finance but optimum use of funds.

1.5 Accounting and other Disciplines

An academic discipline, or field of study, is a branch of knowledge that is taught and researched. Disciplines are defined and recognized by the academic journals in which research is published, and the learned societies and academic departments or faculties to which their practitioners belong. Accounting has generally been oriented towards practical knowledge as opposed to theoretical abstractions.

Accounting and economics: Economics is concerned with rational decision making regarding efficient use of scare resources for satisfying human wants. Accounting and economics are related to each other in the way that both of them consider the effective and efficient use of resources. Accounting activity provides information to stakeholders of the business firm, effective and efficient use of resources and maximization of the wealth of the firm, while economics deals with all the activities for the nation and not for an individual.

Accounting and finance are related to each other as accounting is a part of finance function. Accounting deals with recording financial transactions on daily basic

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Check Your Progress
How accounting is related to other disciplines?

whereas raising and utilizing funds are focus areas in finance activity.

Accounting and statistics: Statistics is the science of numbers. It is concerned with numerical data as well as various statistical techniques which are used for collection, classification, analysis and interpretation of such data. Accounting has close relation with statistics as numbers of statistical techniques are used for analysis and interpretation of accounting data.

Accounting and law: A business entity operates within a legal framework. There are laws governing specific entity e.g. Companies Act is applicable to Joint Stock Companies and it provides detailed guidelines of preparing accounting statements, Baking regulation act is applicable to banking companies.

1.6 Accounting as a Career and Profession

Accounting is considered as a profession as it requires specialized knowledge. Each country has its own accounting bodies to regulate the accounting profession.

In India a qualified accountant must have passed examinations conducted by Institute of Chartered Accountants of India (ICAI) and has to become member of that institute. The ICAI is a statutory body established under the Chartered Accountants Act, 1949 for the regulation of the profession of Chartered Accountants in India. During its 61 years of existence, ICAI has achieved recognition as a premier accounting body not only in the country but also globally, for its contribution in the fields of education, professional development, maintenance of high accounting, auditing and ethical standards.

Apart from ICAI following professional bodies offer professional qualifications which are widely accepted in India. Institute of Cost and Works Accountants of India (ICWAI) (Established in 1944). Institute of Company Secretaries of India (ICSI) (Established in 1980).

Following is the list of no. of members in some recognized bodies.

Institute	Country	No. of Members
American Institute of Certified Public Accountant (AICPA)	USA	370000
The Institute of Chartered Accountants of India (ICAI)	India	161516
The Chinese Institute of Certified Public Accountants (CICPA)	China	140000
The Institute of Chartered Accountants in England & Wales (ICAEW)	UK	136000
Canada Institute of Chartered Accountants (CICA)	Canada	78000
The Institute of Chartered Accountants of Australia (ICAA)	Australia	50000
The Institute of Professional Accountants of Russia(IPAR)	Russia	50000
Institute of Company Secretaries of India (ICSI)	India	27313
Institute of Cost and Works Accountants of India (ICWAI)	India	56000

These accounting bodies contribute to accounting profession by identifying opportunities for accountants in audit and assurance function, performance measurement services, strategic management, general practice specialization and servicing global organizations. Such institutes plays important role in providing high quality education and maintain professional ethics.

Other international accounting bodies are as follows.

Association of Chartered Certified Accountants (ACCA) is a British accountancy body which offers the Chartered Certified Accountant qualification worldwide. It is one of the world's largest and fastest-growing accountancy bodies with 140,000 members in 170 countries.

International Federation of Accountants (IFAC) is the global organization for the accountancy profession. IFAC has 164 member and associates in 124 countries and jurisdictions, representing more than 2.5 million accountants employed in public practice, industry and commerce, government, and academe. The organization, through its independent standard-setting boards, establishes international standards on ethics, auditing and assurance, accounting education, and public sector accounting. It also issues guidance to encourage high quality performance by professional accountants in business.

The Association of International Accountants (AIA) is a professional accountancy body. It was founded in the UK in 1928 and since that date has promoted the concept of 'international accounting' to create a global network of accountants in over 85 countries worldwide.

Accounting profession is done by individual accountants or by their partnership firms. Global consultancy business is dominated by certain accounting firms. Following table provides information about top international accounting/consulting firms for 2012.

Audit Firm	Revenue	Employees	Headquarters
PwC	$31.5bn	180,000	USA
Deloitte	$31.3bn	193000	UK
Ernst & Young	$24.4bn	167000	UK
KPMG	$23bn	152000	The Netherlands

(Source: http://en.wikipedia.org/wiki/Big_Four_(audit_firms))

1.7 Place of accounting officers in the organization

In the large organizations, professionals with accounting and finance background are placed at all the levels i.e. higher, middle and lower level.

Following is sample organizational chart:

1.8 Auditing and Internal Control

The final accounts of business concern are used by various persons such as owners, shareholders, investors, creditors, Banks, Government etc. for different purposes. All these users need to be sure that such accounting statements prepared by the management are reliable. An auditor is an independent expert who examines the accounts of business concern and reports whether they present "true and fair view."

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Examination and Auditing: In the Arthashastra, stress has been given both on fraud prevention as well as fraud detection. Kautilya had listed several ways by which funds are misappropriated. Some of these frauds relevant in today's corporate environment are as follows:

(a) Falsification with a motive of personal profit.

(b) Misrepresentation (of income received or expense incurred) with a motive of personal profit:

(c) Discrepancies (arising out of willful fraud) in:
- Personally supervised work
- Account heads
- Labour and overhead charges
- Work measurement

Kautilya admitted that some degree of corruption would always exist, and cannot be scrutinized perfectly, ' It is possible to mark the movements of birds flying high up in the sky; but not so is it possible to ascertain the movement of personnel of hidden purpose.' He therefore recommends strictest punishment, both material and corporal, as a disincentive to cheat.

As per Standards on Auditing (SA) 200 issued by ICAI - "Auditing is the independent examination of financial information of any entity, whether profit oriented or not, and irrespective of its size or legal form, when such an examination is conducted with a view to expressing an opinion thereon."

As per Standards on Auditing (SA) 200 issued by ICAI basic principles governing auditing include Integrity, Objectivity and Independence, Confidentiality, Skill and competence, Planning, Audit evidence etc.

As per Indian Companies Act a qualified Chartered Accountant (CA) holding certificate of practice issued by ICAI is authorized to be appointed as an auditor of the company. Audit report issued by an auditor is opinion of the auditor mainly regarding true and fair view of financial position of the company and compliance with Accounting Standards issued by ICAI.

Internal control is a process affected by an organization to provide reasonable assurance regarding the effectiveness and efficiency of operations, reliability of financial reporting and compliance with related rules and regulations. Internal control system comprises of accounting controls as well as administrative controls. Accounting controls mainly aims at safeguarding assets and ensuring reliability of financial records. It provides reasonable assurance that all the transactions authorized by the management are promptly and properly recorded. Administrative controls are basically regarding improving operational efficiency and adherence to management policies e.g. Stores Department can issue materials only against a requisition slip duly authorized.

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> A system of internal control comprise of following five elements control environment, Entity's risk assessment process, Information system and communication, Control activities; and Monitoring of controls.
>
> **- Standard on Internal Audit (SIA) 11- ICAI**

Large organizations are required to set up a system of internal audit within the organization as an integral part of the internal control. Internal audit is review of various operations of the company and its records by staff/professionals specifically appointed for this purpose.

> Internal audit is an independent appraisal activity within an enterprise for the review of accounting, financial and other operational controls as basis to service for management.
>
> **-Guidelines on internal audit by ICAI**

Internal audit has always been of immense significance to the corporate world. From being a cross check over the accounts of the organization, internal audit has, over the years moved to being a strong indispensable control tool in the hands of the management, which can help it to add to the shareholders' value. Internal audit can significantly help the management improve its operational efficiency through improved risk management and control systems and strengthening the overall governance mechanism of the entity. Internal audit covers review of all the functional areas of management be it HR, Marketing, Production and is not restricted to just Finance and Accounts. With growing competition and increasing expectations of the stakeholders, the importance of internal audit is also gaining ground.

In July 2002, the United States Congress passed the Sarbanes- Oxley Act (SOX) into law. The SOX was primarily designed to restore investor confidence following well-publicized bankruptcies that brought chief executives, audit committees, and the independent auditors under heavy scrutiny. The SOX is applicable to all publicly registered companies under the jurisdiction of the Securities and Exchange Commission (SEC). SOX is a far reaching legislation, effecting significant changes to laws affecting officers, directors and reporting obligations of public companies, and mandating a myriad of new regulations to prevent securities fraud and other abuses.

The SOX called for the formation of a Public Company Accounting Oversight Board (PCAOB) and specified several requirements that include management's quarterly certification of the financial results and management's annual assertion that internal controls over financial reporting are effective among others. SOX have extended the reach of the United States' laws to many aspects of the internal affairs and governance regimes of foreign companies and their auditors.

Check Your Progress

What do you mean by auditing? Explain inter control.

1.9 Forms of Organizations and Effect on Accounting

There are various forms of organizations. The principles of accounting do not change with the form of organization. However, disclosure requirements may change. In some instances transact recording also changes with the form of organization. Following Exhibit summarizes the various forms of organization, their essential features and effect on accounting.

NOTES

Form of organization	Ownership	Financial statements	Auditing	Regulations on Accounting and Disclosures	Suitability
Sole Proprietorship	Single owner	No specific format	Not compulsory	Minimal	Small business
Partnership firm	Minimum: 2 Maximum: 20	No specific format	Not compulsory	Minimal	Small and Medium business
Limited Liability Partnership (LLP)	Minimum : 2 Maximum : no limit	Specific format	Compulsory	Very less (under Limited Liability Partnership Act 2008)	Medium sized business
Private company	Minimum : 2 Maximum: 50	Specific format	Compulsory	minimum regulation (Companies Act, 1956.)	Medium and relatively large business
Public company	Minimum : 7 Maximum : no limit	Specific format	Compulsory	minimum regulation (Companies Act, 1956)	Large business
Listed Public company	Wide spread	Specific format	Compulsory	Stiff regulation (SEBI and Companies Act, 1956)	Large business
Banks	Usually Wide spread	Specific format	Compulsory with stringent norms	Stiff regulation (RBI and Companies Act, 1956)	Banking business
Insurance Companies	Not so Wide spread	Specific format	Compulsory with stringent norms	Stiff regulation (IRDA and Companies Act, 1956)	Insurance business
Co operative society	Minimum : 10 Maximum : no limt	Specific format	Compulsory	Moderate regulation (Co-operative Societies Act, 1912 or State Co-operative Societies Acts)	Medium sized business with social angle.
Public Trust or Society	Minimum : 2 Maximum : no limt	Specific format	Compulsory	Moderate regulation (Societies Registration Act or Indian Public Trust Act or State Public Trust Acts)	Non Business entities

Check Your Progress

Which are different forms of business organization? How do they differ?

1.10 Summary

NOTES

- ★ Accounting involves recording, classifying and summarizing of past events and transactions of financial nature, with a view to enabling the user of accounts to interpret the resulting summary.
- ★ Users of financial statements are management, shareholders, suppliers, creditors, government authorities.
- ★ Accounting entails various steps namely Recording, Classifying and Summarizing.
- ★ Accounting plays important role in success of any business, social or regulatory organization.
- ★ Accounting involves the creation of financial records of business transactions, flows of finance, the process of creating wealth in an organization, and the financial position of a business at a particular moment in time.
- ★ Accounting has generally been oriented towards practical knowledge as opposed to theoretical abstractions.
- ★ An auditor is an independent expert who examines the accounts of business concern and reports whether they present "true and fair view."
- ★ Internal control is a process affected by an organization to provide reasonable assurance regarding the effectiveness and efficiency of operations, reliability of financial reporting and compliance with related rules and regulations.
- ★ Internal audit is an independent appraisal activity within an enterprise for the review of accounting, financial and other operational controls as basis to service for management.
- ★ Accounting is considered as a profession as it requires specialized knowledge. Each country has its own accounting bodies to regulate the accounting profession.
- ★ In the large organizations, professionals with accounting and finance background are place at all the levels i.e. higher, middle and lower level.

1.11 Key Terms

- ★ Accounting: It is a process which involves recording, classifying and summarizing of past events and transactions of financial nature, with a view to enabling the user of accounts to interpret the resulting summary.
- ★ Cost accounting: It is a branch of accounting which records, analyses and estimates cost. It also deals with cost computation, cost saving, cost reduction, etc. The costing function provides information that is crucial for profit measurement in financial accounting.

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- ★ Management accounting: It is a branch of accounting which facilitates planning and control of activities of organization to assist in decision-making process. Management accounting deals with the processing of data generated in financial accounting and cost accounting for managerial decision-making.
- ★ Finance function: It is related to procurement of funds as well as their effective utilization. It covers not only financial planning, financial forecasting, raising finance but optimum use of funds.

1.12 Questions and Exercises

1.12.1 Multiple Choice Questions

1. The process of accounting involves
   a. Recording the transactions
   b. Classifying the transactions
   c. Summarizing the transactions
   d. All the above
2. An account is a statement which shows all transaction related to
   a. a particular asset, liability, income or expense
   b. any financial data
   c. any business event
   d. none of the above
3. who amongst the following is usually recognized as the father of modern accounting
   a. Adam Smith
   b. Karl Marx
   c. Luca Pacioli
   d. Chankya
4. Which of the following accounting deals with recording and preparation of the statements revealing the income and financial position of the business on the basis of events which have happened in a particular period?
   a. Financial accounting
   b. Cost accounting
   c. Management accounting
   d. All of the above
5. Which of the following accounting deals with recording, analyzing and estimating cost? It also deals with cost computation, cost saving, cost reduction, etc.
   a. Financial accounting
   b. Cost accounting

c. Management accounting

d. All of the above

6. Which of the following accounting deals with the processing of data generated in financial accounting and cost accounting for managerial decision-making?

a. Financial accounting

b. Cost accounting

c. Management accounting

d. All of the above

7. In India a qualified accountant must have passed examinations conducted by

a. Institute of Chartered Secretaries of India (ICSI)

b. Institute of Chartered Accountants of India (ICAI)

c. Institute of Cost and Works Accountants of India (ICWAI)

d. All the above

8. Auditing is

a. the independent examination of financial information

b. process of recording accounting transactions

c. analysis of financial information

d. interpretation of accounting data

9. Which of the following system provides the structure through which the company objectives are set, and the means of attaining those objectives and monitoring performance?

a. Corporate governance

b. Auditing

c. Internal control

d. Accounting

10. Internal control system comprises of

a. accounting controls

b. administrative controls

c. both the above

d. none of the above

NOTES

1.12.2 Theory questions

1. What is accounting? What is its importance?
2. Write a note on evolution of accounting.
3. Who are users of financial statements? Explain in brief.
4. Distinguish between –

a. Financial and cost accounting

b. Financial and management accounting

c. Cost and management accounting

NOTES

5. Explain accounting as academic discipline.
6. Write a note on –
   a. Finance function and accounting
   b. Accounting profession as a career
7. Write a note on ethical issues in accounting.
8. Explain relationship between corporate governance and accounting.
9. Explain auditing and internal control.

1.13 Further Reading and References

★ Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education

★ "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi.

UNIT 2 ACCOUNTING PRINCIPLES

NOTES

Structure

2.0 Introduction

For making accounting information meaningful for the users, it is necessary that such information is reliable and comparable. This is possible only when such information is provided with consistent principles and policies. Accounting transactions are recorded with certain basic assumptions and common practices which are called as Accounting concepts and conventions. The Institute of Chartered Accountants of India, (ICAI), which is the regulatory body for standardization of accounting policies in the country, has issued Accounting Standards which are expected to be uniformly adhered to, in order to bring consistency in the accounting practices. Similarly, at international level there are International Financial Reporting Standards which aims at bringing uniformity in reporting practices across the globe. Let us discuss these issues in details.

2.1 Unit Objectives

After studying this unit, you should be able to:

★ Understand accounting concepts and conventions
★ Learn principles of accounting
★ Know the International Financial Reporting Standards (IFRSs)
★ Understand Indian Accounting Standards (Ind ASs)

2.2 Accounting Concepts and Convention

Accounting concepts refer to the basic assumptions which are the basis for

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recording of business transactions and preparing financial statement. These are tenets or postulates used by accountants.

Accounting conventions refer to common practices which are followed in recording and presenting accounting information. They are followed like customs, traditions etc. in a society. Accounting conventions are evolved through the regular and consistent practice over the years to facilitate appropriate recording in the books of accounts. Going Concern, Consistency and Accrual are considered as Fundamental Accounting Assumptions as per Indian Accounting Standards.

Followings are important accounting concepts and conventions.

1. **Going concern concept**: This concept states that a business firm will continue to carry on its activities for an indefinite period of time. It will not be dissolved in the foreseeable future. Going concern concept implies that the resources of the concern would continue to be used for the purposes for which they are meant to be used. This is an important assumption of accounting, as it provides a basis for showing the value of assets in the balance sheet. For example, a company purchases a machinery of Rs.130000 and its useful life span is 10 years. According to this concept depreciation will have to be charged annually to write off the asset in 10 years. The possibility of disposal of machinery before 10 years due to closure of entity is ruled out.

2. **Consistency :** The convention of consistency means that same accounting principles, assumptions and methods should be used for preparing financial statements year after year. Comparison between financial statements of an enterprise will be possible only when accounting policies and practices followed by the enterprise are uniform and consistent over a period of time. If different accounting procedures and practices are used for preparing financial statements of different years, then the result will not be comparable. E.g. Depreciation should be recorded using a particular method annually on consistent basic.

3. **Accrual concept :** Accrual refers to something that becomes due especially an amount of money that is yet to be paid or received at the end of the accounting period. It means that revenues are recognized when they become receivable, though cash may or may not be received and the expenses are recognized when they become payable though cash may or may not be paid. The transactions will be recorded in the accounting period to which they relate.

   Cash System of accounting contradicts accrual concept/ double entry system. Under the Cash system, revenues and expenses are recorded and accounted as and when they are received and paid in cash respectively. GAAP usually does not permit application of the Cash system of accounting. For example, if the firms make payment of salary every month for the earlier month, while recording salary in the books of accounts even outstanding salary has to be recorded.

4. **Entity concept :** This concept assumes that, for accounting purposes, the organisation and its owner are two separate independent entities. The business and personal transactions of its owner are separate. When the owner invests money in the business in the form of capital, it is recorded as liability of the business. Similarly, when the owner takes away from the business cash/goods

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for his/her personal use, it is not treated as business expense but it is considered as withdrawal of capital. Thus, the accounting records are made in the books of accounts from the point of view of the entity and not the person owning the business. Let us take an example. Suppose Mr. Sandeep started business investing Rs150000. He purchased goods for Rs 80000, Furniture for Rs25000 and plant and machinery of Rs.35000. Rs10000 remains in hand. These are the assets of the business and not of the owner. According to the business entity concept Rs150000 will be treated by business as capital i.e. a liability of business towards Mr. Sandeep, the owner of the business.

5. **Accounting period concept :** This concept requires that a balance sheet and profit and loss account should be prepared at regular intervals. This is necessary for different purposes like, calculation of profit, ascertaining financial position, tax computation etc. Profit (or) loss of the business is measured periodically. This is measured for a specified interval of time, called the accounting period. For the purpose of reporting to outsiders, one year is the usual accounting period, though quarterly reporting is required in certain cases. In India the accounting year was traditionally followed from Diwali to Diwali. Different countries follow different accounting year (Table 1.1).

   A common accounting/financial year is very useful for comparison of company performance, aggregation of national/international data, tax assessment and so on.

6. **Dual aspect concept :** Dual aspect concept assumes that every transaction has a two effect, i.e. it affects two accounts in their respective opposite sides. Each transactions has equal amount of Debit and Credit.

For example, Machinery purchased for cash worth Rs.10000 has two aspects:

1. Cash Paid Rs. 10000
2. Machinery Received worth Rs. 10000

Both the aspects should be recorded.

Pl Make a few minor changes.

7. **Disclosure/Transparency :** Convention of full disclosure requires that all material and relevant facts concerning financial statements should be fully disclosed. Full disclosure means that there should be fair and adequate disclosure of information. The business provides financial information to all interested parties like investors, lenders, creditors, shareholders etc. The shareholder would like to know profitability of the firm while the creditor would like to know the solvency of the business. In the same way, other parties would be interested in the financial information according to their requirements. This is possible if financial statement discloses all relevant information in full, fair and adequate manner.

8. **Materiality :** The convention of materiality states that, to make financial statements meaningful, only material fact i.e. important and relevant information should be provided in the financial statements. The materiality of a fact depends

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on its nature and the amount involved. Material fact means the information which will influence the decision of its user. An item of Rs. 5000 may be immaterial for a firm whose turnover is in Crores. This may not be the case for a firm whose turnover is a few thousands.

9. **Conservatism/Prudence :** This convention is based on the principle that "Anticipate no profit, but provide for all possible losses". It provides guidance for recording transactions in the books of accounts. It is based on the policy of playing safe in regard to showing profit. Profit should not be overstated. Thus, this convention clearly states that profit should not be recorded until it is realised. But if the business anticipates any loss in the near future, provision should be made in the books of accounts for the same. For example, valuing closing stock at cost or market price whichever is lower, creating provision for doubtful debts.

10. **Matching concept :** The matching concept is an accounting principle that requires the identification and recording of expenses associated with revenue earned and recognized during the same accounting period. Accordingly, under the matching concept the expenses of a particular accounting period are the costs of the assets used to earn the revenue that is recognized in that period. It follows, therefore, that when expenses in a period are matched with the revenues generated for the same period, the result is the net income or loss for that period.

11. **Money measurement concept :** This concept assumes that all business transactions should be expressed in monetary terms. Further the transactions which can be expressed in terms of money are alone recorded. For example, important business meeting may be valuable but it is not recorded. Similarly a motivated and honest employee joining business is also not recorded in books of accounts. Whereas transactions like sale of goods worth Rs.200000, purchase of raw materials Rs.120000, rent paid Rs.13000 etc. are expressed in terms of money, and so they are recorded in the books of accounts.

12. **Cost Concept :** As per cost concept all assets are recorded in the books of accounts at their purchase price, which includes cost of acquisition and expenses incurred to put it for use. It means that fixed assets like building, plant and machinery, furniture, etc are recorded in the books of accounts at a purchase price and not at market price.

Check Your Progress

Explain different accounting concepts and conventions.

2.3 Accounting Policies

Accounting policies encompass the principles, bases, conventions, rules and procedures adopted by managements in preparing and presenting financial statements. There are many different accounting policies in use even in relation to the same subject. Accounting policies are the specific accounting assumptions and the methods of applying these principles for the preparation and presentation of financial statements of an enterprise. These policies are based upon the accounting concepts and conventions. Since different enterprises follow different accounting concepts, there cannot be a single set of accounting policies, which can be applicable to every type of enterprise, under all the situations. They are usually as per prevalent GAAP with limited choice to entity.

The areas where different types of accounting policies are used by different enterprises are:

- Valuation of Inventories
- Treatment of Goodwill
- Valuation of Fixed Assets
- Treatment of Contingent Liabilities
- Valuation of Investments
- Treatment of Retirement Benefits
- Treatment of Depreciation
- Treatment of Foreign Exchange Transactions

There are few areas where adopting different accounting policies is permissible, depending upon the laws, customs, usage, and the business environment.

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Check Your Progress

Give examples of different accounting policies.

2.4 Generally Accepted Accounting Principles (GAAP)

GAAP includes accounting standards, provisions of law and guidelines issued by regulators. These principles enable standardization in recording and reporting of information so that the users, once they are aware of the principles, can read and understand the financial statements prepared by diverse organizations.

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> "Generally accepted accounting principles incorporate the consensus at a particular time as to which economic resources and obligations should be recorded as assets and liabilities by financial accounting, which changes in assets and liabilities should be recorded, when these changes are to be recorded, how the assets and liabilities and changes in them should be measured, what information should be disclosed and which financial statement should be prepared".-
>
> **- Statement No. 4 of Accounting Principles Board (USA) on 'Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises'**

Accounting standards are concepts, policies and practices as notified by accounting bodies. It has been dealt with in detail later.

To standardize the accounting information, every organization would have to establish certain accounting policies based on GAAP.

GAAP is a combination of authoritative standards (set by policy boards) and the accepted ways of doing accounting. These differ from country to country, depending upon the accounting principles and standards adopted in that country. Table 2.1 gives a list of professional bodies determining the GAAP in select countries.

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Check Your Progress

What do you mean by GAAP?

Table 2.1 List of Accounting Standard Setting Bodies

Country	Standard Setting Board	Institute
India	Accounting Standards Board (ASB)	The Institute of Chartered Accountants of India (ICAI)
Canada	Canadian Accounting Standards Board (CASB)	Canada Institute of Chartered Accountants (CICA)
USA	Financial Accounting Standards Board (FASB)	American Institute of Certified Public Accountant (AICPA)
Australia	Australian Accounting Standards Board (AASB)	The Institute of Chartered Accountants of Australia (ICAA)

2.5 International Financial Reporting Standards (IFRS)

International Financial Reporting Standards (IFRS) is a set of accounting standards, developed by the International Accounting Standards Board (IASB, London) that is becoming the global standard for the preparation of public company financial statements.

International Accounting Standards Committee (IASC) was constituted in 1973 to formulate accounting standards. International Accounting Standards (IASs) were issued by the IASC from 1973 to 2000. The IASB replaced the IASC in 2001 and all 41 IASs issued by IASC. Since then, the IASB has amended some IASs and has proposed to amend others, has replaced some IASs with new International Financial Reporting Standards (IFRSs), and has adopted or proposed certain new IFRSs on topics for which there was no previous IAS. Through committees, both the IASC and the IASB also have issued Interpretations of Standards. Financial statements may not be described as complying with IFRSs unless they comply with all of the requirements of each applicable standard and each applicable interpretation. Figure 2.1 shows structure of IFRS board.

Diagram 1.1 IFRS set up

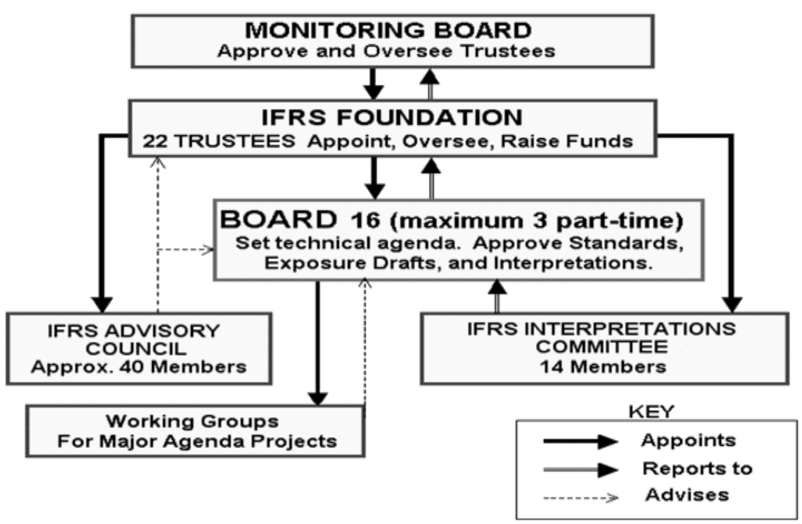

Figure 2.1: IFRS Board Structure

Source: http://www.iasplus.com/restruct/restruct.htm

International Financial Reporting Standards (IFRS) is a set of accounting standards, developed by the International Accounting Standards Board (IASB, London) that is becoming the global standard for the preparation of public company financial statements.

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Followings are the IFRSs and its summary.

1. IFRS 1 First-time Adoption of International Financial Reporting Standards: The objective of IFRS 1 is to ensure that an entity's first IFRS financial statements, and its interim financial reports for part of the period covered by those financial statements, contain high quality information that:
   (a) is transparent for users and comparable over all periods presented;
   (b) provides a suitable starting point for accounting in accordance with International Financial Reporting Standards (IFRSs); and
   (c) can be generated at a cost that does not exceed the benefits.

An entity shall prepare and present an opening IFRS statement of financial position at the date of transition to IFRSs. This is the starting point for its accounting in accordance with IFRSs. An entity shall use the same accounting policies in its opening IFRS statement of financial position and throughout all periods presented in its first IFRS financial statements. In general, those accounting policies shall comply with each IFRS effective at the end of its first IFRS reporting period.

In general, the IFRS requires an entity to do the following in the opening IFRS statement of financial position that it prepares as a starting point for its accounting under IFRSs:

   (a) recognize all assets and liabilities whose recognition is required by IFRSs;
   (b) not recognize items as assets or liabilities if IFRSs do not permit such recognition;
   (c) reclassify items that it recognized in accordance with previous GAAP as one type of asset, liability or component of equity, but are a different type of asset, liability or component of equity in accordance with IFRSs; and
   (d) apply IFRSs in measuring all recognized assets and liabilities.

2. IFRS 2 Share-based Payment: The objective of this IFRS is to specify the financial reporting by an entity when it undertakes a share-based payment transaction. In particular, it requires an entity to reflect in its profit or loss and financial position the effects of share-based payment transactions, including expenses associated with transactions in which share options are granted to employees. The IFRS requires an entity to recognize share-based payment transactions in its financial statements, including transactions with employees or other parties to be settled in cash, other assets, or equity instruments of the entity. There are no exceptions to the IFRS, other than for transactions to which other Standards apply. This also applies to transfers of equity instruments of the entity's parent, or equity instruments of another entity in the same group as the entity, to parties that have supplied goods or services to the entity. The IFRS sets out measurement principles and

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specific requirements for three types of share-based payment transactions:

(a) equity-settled share-based payment transactions, in which the entity receives goods or services as consideration for equity instruments of the entity (including shares or share options);

(b) cash-settled share-based payment transactions, in which the entity acquires goods or services by incurring liabilities to the supplier of those goods or services for amounts that are based on the price (or value) of the entity's shares or other equity instruments of the entity; and

(c) transactions in which the entity receives or acquires goods or services and the terms of the arrangement provide either the entity or the supplier of those goods or services with a choice of whether the entity settles the transaction in cash or by issuing equity instruments.

3. IFRS 3 Business Combinations: The objective of the IFRS is to enhance the relevance, reliability and comparability of the information that a reporting entity provides in its financial statements about a business combination and its effects. It does that by establishing principles and requirements for how an acquirer:

(a) recognises and measures in its financial statements the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree;

(b) recognises and measures the goodwill acquired in the business combination or a gain from a bargain purchase; and

(c) determines what information to disclose to enable users of the financial statements to evaluate the nature and financial effects of the business combination.

The IFRS requires the acquirer to disclose information that enables users of its financial statements to evaluate the nature and financial effect of business combinations that occurred during the current reporting period or after the reporting date but before the financial statements are authorized for issue. After a business combination, the acquirer must disclose any adjustments recognized in the current reporting period that relate to business combinations that occurred in the current or previous reporting periods.

4. IFRS 4 Insurance Contracts : The objective of this IFRS is to specify the financial reporting for insurance contracts by any entity that issues such contracts (described in this IFRS as an insurer) until the Board completes the second phase of its project on insurance contracts. In particular, this IFRS requires:

(a) limited improvements to accounting by insurers for insurance contracts.

(b) disclosure that identifies and explains the amounts in an insurer's financial statements arising from insurance contracts and helps users of those financial statements understand the amount, timing and uncertainty of future cash flows from insurance contracts.

The IFRS requires disclosure to help users understand:

(a) the amounts in the insurer's financial statements that arise from insurance contracts.

(b) the nature and extent of risks arising from insurance contracts.

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5. IFRS 5 Non-current Assets Held for Sale and Discontinued Operations: The objective of this IFRS is to specify the accounting for assets held for sale, and the presentation and disclosure of discontinued operations. In particular, the IFRS requires:

   (a) assets that meet the criteria to be classified as held for sale to be measured at the lower of carrying amount and fair value less costs to sell, and depreciation on such assets to cease;

   (b) an asset classified as held for sale and the assets and liabilities included within a disposal group classified as held for sale to be presented separately in the statement of financial position; and

   (c) the results of discontinued operations to be presented separately in the statement of comprehensive income.

6. IFRS 6 Exploration for and Evaluation of Mineral Assets: The objective of this IFRS is to specify the financial reporting for the exploration for and evaluation of mineral resources. Exploration and evaluation expenditures are expenditures incurred by an entity in connection with the exploration for and evaluation of mineral resources before the technical feasibility and commercial viability of extracting a mineral resource are demonstrable. Exploration for and evaluation of mineral resources is the search for mineral resources, including minerals, oil, natural gas and similar non-regenerative resources after the entity has obtained legal rights to explore in a specific area, as well as the determination of the technical feasibility and commercial viability of extracting the mineral resource. Exploration and evaluation assets are exploration and evaluation expenditures recognized as assets in accordance with the entity's accounting policy. An entity shall disclose information that identifies and explains the amounts recognized in its financial statements arising from the exploration for and evaluation of mineral resources.

7. IFRS 7 Financial Instruments: Disclosures : The objective of this IFRS is to require entities to provide disclosures in their financial statements that enable users to evaluate:

   (a) the significance of financial instruments for the entity's financial position and performance; and

   (b) the nature and extent of risks arising from financial instruments to which the entity is exposed during the period and at the end of the reporting period, and how the entity manages those risks. The qualitative disclosures describe management's objectives, policies and processes for managing those risks. The quantitative disclosures provide information about the extent to which the entity is exposed to risk, based on information provided internally to the entity's key management personnel. Together, these disclosures provide an overview of the entity's use of financial instruments and the exposures to risks they create.

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The IFRS applies to all entities, including entities that have few financial instruments (eg a manufacture whose only financial instruments are accounts receivable and accounts payable) and those that have many financial instruments (eg a financial institution most of whose assets and liabilities are financial instruments). When this IFRS requires disclosures by class of financial instrument, an entity shall group financial instruments into classes that are appropriate to the nature of the information disclosed and that take into account the characteristics of those financial instruments. An entity shall provide sufficient information to permit reconciliation to the line items presented in the statement of financial position.

8. IFRS 8 Operating Segments: An entity shall disclose information to enable users of its financial statements to evaluate the nature and financial effects of the business activities in which it engages and the economic environments in which it operates. The IFRS requires an entity to report a measure of operating segment profit or loss and of segment assets. It also requires an entity to report a measure of segment liabilities and particular income and expense items if such measures are regularly provided to the chief operating decision maker. It requires reconciliations of total reportable segment revenues, total profit or loss, total assets, liabilities and other amounts disclosed for reportable segments to corresponding amounts in the entity's financial statements. The IFRS requires an entity to report information about the revenues derived from its products or services (or groups of similar products and services), about the countries in which it earns revenues and holds assets, and about major customers, regardless of whether that information is used by management in making operating decisions. However, the IFRS does not require an entity to report information that is not prepared for internal use if the necessary information is not available and the cost to develop it would be excessive. The IFRS also requires an entity to give descriptive information about the way the operating segments were determined, the products and services provided by the segments, differences between the measurements used in reporting segment information and those used in the entity's financial statements, and changes in the measurement of segment amounts from period to period.

Check Your Progress

Explain importance of IFRS.

2.6 INDIAN ACCOUNTING STANDARDS (IND AS)

The Institute of Chartered Accountants of India (ICAI), recognizing the need to harmonize the diverse accounting policies and practices in use in India, constituted the Accounting Standards Board (ASB) on 21st April, 1977. The main function of the ASB is to formulate Accounting Standards so that such standards may be established by the ICAI in India. While formulating the Accounting Standards, the ASB takes into consideration the applicable laws, customs, usages and business environment prevailing in India. The ICAI, being a full-fledged member of the International Federation of Accountants (IFAC), is actively promoting the International Accounting Standards

Board's (IASB) pronouncements in the country with a view to facilitate global harmonization of accounting standards. Accordingly, while formulating the Accounting Standards, the ASB gives due consideration to International Accounting Standards (IASs) issued by the International Accounting Standards Committee (predecessor body to IASB) or International Financial Reporting Standards (IFRSs) issued by the IASB, as the case may be, and try to integrate them, to the extent possible, in the light of the conditions and practices prevailing in India.

The Accounting Standards are issued under the authority of the Council of the ICAI. The ASB has also been entrusted with the responsibility of propagating the Accounting Standards and of persuading the concerned parties to adopt them in the preparation and presentation of financial statements. The ASB provides interpretations and guidance on issues arising from Accounting Standards. The ASB also reviews the Accounting Standards at periodical intervals and, if necessary, revise the same.

Following is the list of Accounting Standards (AS)

AS 1 : Disclosure of Accounting Policies

AS 2 : Valuation of Inventories (Revised)

AS 3 : Cash Flow Statements

AS 4 : Contingencies and events occurring after the Balance date

AS 5 : Net Profit/Loss for the period prior period items & changes in Accounting Policies

AS 6 : Depreciation Accounting

AS 7 : Accounting for Construction Contracts

AS 8 : Accounting for Research & Development

AS 9 : Revenue Recognition

AS 10 : Accounting for Fixed Assets

AS 11 : Accounting for effects of changes in Foreign Exchange Rates

AS 12 : Accounting for Government Grants

AS 13 : Accounting for Investments

AS 14 : Accounting for Amalgamations

AS 15 : Accounting for Retirement Benefits in the Financial Statement of Employers

AS 16 : Borrowing Costs

AS 17 : Segment Reporting

AS 18 : Related Party Disclosures

AS 19 : Leases

AS 20 : Earnings Per Share

AS 21 : Consolidated Financial Statements

AS 22 : Accounting for Taxes on Income

AS 23 : Accounting for Investments in Associates in Consolidated Financial Statements

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AS 24 : Discounting operations

AS 25 : Interim Financial Reporting

AS 26 : Intagible Assets

AS 27 : Financial Reporting of Interests in Joint Ventures

AS 28 : Impairment of Assets

AS 29 : Provisions, Contingent Liabilities and Contingent Assets

AS 30 : Financial Instruments: Recognition and measurement & Limited revisions to other accounting standards

AS 31 : Financial Instruments: Presentation

AS 32 : Financial Instruments: Disclosures and limited revisions to AS 19

As the markets expand globally local standards have to be matched with international standards. The convergence with IFRS benefits the country by increasing the growth of its international business. It plays important role from the point of the investors who wish to invest in different countries. Investors want the information that is more relevant, reliable, timely and comparable across the countries. The financial statements prepared using a common set of accounting standards helps the investors to better understand investment opportunities as opposed to financial statements prepared using a different set of national accounting principles. The convergence is also helpful from industry point of view as it will be able to raise capital from foreign markets at lower cost if it can increase confidence of the foreign investors that their financial statements comply with globally accepted accounting standards. With the diversity in accounting standards from country to country, enterprises which operate in different countries face multitude of accounting requirements prevailing in the countries.

The proposed converged accounting standards have been prepared after following a detailed consultative exercise through issue of exposure drafts by Accounting Standards Board (ASB) of Institute of Chartered Accountants of India (ICAI), examination of comments received thereon and thereafter consideration of such standards by ICAI, National Advisory Committee on Accounting Standards (NACAS) and thereafter by Central Government (MCA) in consultation with M/o Law and Justice. ICAI has released following new set of Indian Accounting Standards (Ind AS) which incorporates the requirements of IFRS. Ind AS 101 to 108 are similar to IFRS and list of other Ind ASs is as follows:

- ★ Ind AS 1 Presentation of Financial Statements
- ★ Ind AS 2 Inventories
- ★ Ind AS 7 Statement of Cash Flows
- ★ Ind AS 8 Accounting Policies, Changes in Accounting Estimates and Errors
- ★ Ind AS 10 Events after the Reporting Period
- ★ Ind AS 11 Construction Contracts
- ★ Ind AS 12 Income Taxes
- ★ Ind AS 16 Property, Plant and Equipment
- ★ Ind AS 17 Leases

- ★ Ind AS 18 Revenue
- ★ Ind AS 19 Employee Benefits
- ★ Ind AS 20 Accounting for Government Grants and Disclosure of Government Assistance
- ★ Ind AS 21The Effects of Changes in Foreign Exchange Rates
- ★ Ind AS 23 Borrowing Costs
- ★ Ind AS 24 Related Party Disclosures
- ★ Ind AS 27 Consolidated and Separate Financial Statements
- ★ Ind AS 28 Investments in Associates
- ★ Ind AS 29 Financial Reporting in Hyperinflationary Economies
- ★ Ind AS 31 Interests in Joint Ventures
- ★ Ind AS 32 Financial Instruments: Presentation
- ★ Ind AS 33 Earnings per Share
- ★ Ind AS 34 Interim Financial Reporting
- ★ Ind AS 36 Impairment of Assets
- ★ Ind AS 37 Provisions, Contingent Liabilities and Contingent Assets
- ★ Ind AS 38 Intangible Assets
- ★ Ind AS 39 Financial Instruments: Recognition and Measurement
- ★ Ind AS 40 Investment Property

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2.7 India's Roadmap to Convergence with IFRS

On 22 January 2010, the Ministry of Corporate Affairs (MCA) issued a press release setting out the roadmap for International Financial Reporting Standards (IFRS) convergence in India.

There will be two separate sets of Accounting Standards under Section 211(3C) of the Companies Act, 1956 as follows:-

- ★ The first set would comprise the Indian Accounting Standards which are fully convergent with IFRS and which are to be applied by specified companies. These standards are known as Ind AS.
- ★ The second set would comprise the existing Indian Accounting Standards which are not fully convergent with IFRS and would be applicable to other companies, including Small and Medium-sized Companies (SMC). These standards are known as AS.

2.8 Summary

- ★ Accounting concepts refer to the basic assumptions which are the basis for recording of business transactions and preparing financial statement.
- ★ Accounting conventions refer to common practices which are followed in

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recording and presenting accounting information.

- ★ Accounting policies are the specific accounting assumptions and the methods of applying these principles for the preparation and presentation of financial statements of an enterprise.
- ★ GAAP includes accounting standards, provisions of law and guidelines issued by regulators. These principles enable standardization in recording and reporting of information so that the users, once they are aware of the principles, can read and understand the financial statements prepared by diverse organizations.
- ★ Accounting standards are concepts, policies and practices as notified by accounting bodies
- ★ International Financial Reporting Standards (IFRS) is a set of accounting standards, developed by the International Accounting Standards Board (IASB, London) that is becoming the global standard for the preparation of public company financial statements.

2.9 Key Terms

- ★ Accounting concepts: It refers to the basic assumptions that are the basis for recording of business transactions and preparing financial statement. These are tenets or postulates used by accountants.
- ★ Accounting conventions: It refers to the common practices that are followed in recording and presenting accounting information. They are followed like customs, traditions, etc., in a society.
- ★ Accounting standards: They are concepts, policies and practices as notified by accounting bodies.
- ★ Accrual Concept: Accrual refers to something that becomes due, especially an amount of money that is yet to be paid or received at the end of the accounting period. It means that revenues are recognised when they become receivable, though cash may or may not be received and the expenses are recognised when they become payable though cash may or may not be paid. The transactions will be recorded in the accounting period to which they relate.
- ★ Going concern Concept: This concept states that a business firm will continue to carry on its activities for an indefinite period of time. It will not be dissolved in the foreseeable future. Going concern concept implies that the resources of the concern would continue to be used for the purposes for which they are meant to be used.
- ★ Money Measurement Concept: This concept assumes that all business transactions should be expressed in monetary terms. Further, the transactions that can be expressed in terms of money are alone recorded.

For example, important business meeting may be valuable but it is not recorded.

2.10 Questions and Exercises

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2.10.1 Multiple Choice Questions

1. Accounting concepts refer to
   (a) the basic assumptions
   (b) rules and regulations
   (c) procedures
   (d) none of the above
2. This business entity concept assumes that, for accounting purposes,
   (a) The business enterprise and its owner are two separate independent entities.
   (b) The business enterprise and its owner are same entities
   (c) Business is continued forever
   (d) None of the above
3. This money measurement concept assumes that
   (a) all business transactions should be expressed in non monetary terms
   (b) all business transactions should be expressed in non monetary terms
   (c) either in monetary or non-monetary terms
   (d) none of the above
4. During the life-time of an entity financial statements are prepared periodically in accordance with which basic accounting concept:
   (a) Conservation
   (b) Matching
   (c) Accounting period
   (d) None of the above
5. When information about two different entities have been prepared and presented in a similar manner the information shows the characteristic of:
   (a) Verifiability
   (b) Relevance
   (c) Reliability
   (d) None of the above
6. A concept that a business organization will not be closed down in the near future is known as:
   (a) Going concern
   (b) Economic entity
   (c) Monetary
   (d) None of the above
7. The primary qualities that make accounting information useful for decision-

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making are:

(a) Relevance and freedom from bias

(b) Reliability and comparability

(c) Comparability and consistency

(d) None of the above

8. Krishna Enterprises follows the written down value method of depreciating machinery year after year due to

(a) Comparability

(b) Consistency

(c) Convenience

(d) All the above

9. A purchased a car for Rs. 10,00,000 in 2011, the market value goes down to Rs.7,00,000 in 2012, the accounting effects would be –

(a) It should be recorded at gross value of Rs. 10,00,000 in 2011 and 2012 as well due to Cost Concept

(b) It should be recorded at Rs. 10,00,000 in 2011 and Rs. 7,00,000 in 2012 due to Market Value Concept

(c) Either (a) or (b)

(d) Neither (a) or (b)

10. The determination of expenses for an accounting period is based on the principle of

(a) Objectivity

(b) Materiality

(c) Matching

(d) Periodicity

11. The 'going concern concept' is the underlying basis for

(a) Stating fixed assets at their values.

(b) Disclosing the market value of securities.

(c) Disclosing the sales and other operating information in the income statement.

(d) None of the above.

12. Economics life of an enterprise is split into the periodic interval as per

(a) Periodicity

(b) Matching

(c) Going concern

(d) Accrual

13. Salary of Rs. 7,000 payable in the financial year has not been taken into account. Which of the following concept is violated?

(a) Accrual

(b) Conservatism

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(c) Historical cost

(d) Materiality

14. Mr. A purchased an asset for Rs. 75,000 but its fair value on the date of purchase was Rs.85,000. Mr. A recorded the value of asset in his books at Rs.85,000.Which of the following concept is violated?

    (a) Accrual

    (b) Conservatism

    (c) Historical cost

    (d) Materiality

15. Convention of full disclosure requires that

    (a) All material and relevant facts concerning financial statements should be fully disclosed.

    (b) Only monetary information should be fully disclosed.

    (c) Only non monetary information should be disclosed

    (d) None of the above

16. This convention is based on the principle that

    (a) "Anticipate all possible profit, and provide for all possible losses"

    (b) "Anticipate no profit, but provide for all possible losses".

    (c) "Anticipate all possible profit, but no losses"

    (d) None of the above

17. The areas wherein different accounting policies can be adopted are –

    (a) Providing depreciation.

    (b) Valuation of inventories.

    (c) Valuation of investments

    (d) All of the above

18. Accounting policies refer to specific accounting

    (a) Principles

    (b) Methods of applying those principles

    (c) Both (a) and (b).

    (d) None of the above.

19. GAAP includes

    (a) accounting standards,

    (b) provisions of law

    (c) guidelines issued by regulators

    (d) all the above

20. which of the following is becoming the global standard for the preparation of public company financial statements

    (a) Ind AS

    (b) IFRS

    (c) IAS

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(d) None of the above

2.10.2 Short Questions

1. The proprietor of a firm withdrew Rs. 56,000 for his personal use. This was shown as an expense of the firm. Profits were reduced to pay a lower tax. Is this right from accounting point of view? Justify your answer.

2. Suppose the CEO of a company is killed in a plane crash. To the extent "an organisation is the lengthened shadow of a man", the real value of the company will change immediately and this will be reflected in the market price of the company shares. Will this have any effect as far as the accounts of the company are concerned? Give appropriate reasons.

3. A company revalues its buildings which were purchased at a cost of Rs. 10, 00,000 in 1995 to Rs. 90, 00,000 in 2010 and records the difference of Rs. 80, 00,000 as profit for the year 2003. Is this practice right? Give reasons.

4. The accounting year of a firm closes on 31st December each year. The rent for business premises of Rs 45,000 for the last quarter could not be paid to the owner on account of his being away in a foreign country. Should the rent payable be taken into account for computing the firm's profit for the accounting year? Give reasons.

5. A government contractor supplies stationery to various government offices. Some bills amounting to Rs. 10,000 were still pending with various offices at the close of the accounting year on 31st March. Should the businessman take the revenue of Rs. 10,000 into account for computing the net profit of the period?

6. A company had been charging depreciation on a machine at Rs. 10,000 per year for the first 3 years. Then it began charging Rs. 9,000 for 4th year and Rs. 7,800 for 5th year and so on. Is this practice justified? Give reasons for your answer.

7. Indicate which of the following transactions relate to Mr. Keshav 's business as news agent and which are his personal transactions?
   a. Rs. 50,000 won from a lottery ticket
   b. Rs. 10,000 for placing Advertisement on a local cricket ground regarding his up to date news service
   c. Sale of unsold newspaper to local stationary shop
   d. Payment to newspaper wholesaler Rs.20,000
   e. Purchase of new car for family use although it was used in each morning to collect newspapers from suppliers

8. At the end of the year 2012, an organisation had a factory on a piece of land measuring 10 acres, office building containing 50 rooms, 50 personal computers, 50 office chairs and tables, 100 kg of raw materials. All these assets were disclosed as mentioned above in the balance sheet. Using accounting concepts you are required to comment on this approach.

9. Using realization concept, offer you comments on recording following transactions in the books of accounts:

a. N.P. Jeweller received an order to supply gold ornaments worth Rs.500000. They supplied ornaments worth Rs.200000 up to the year ending 31st December 2010 and rests of the ornaments were supplied in January 2011.

b. Bansal sold goods for Rs.1, 00,000 for cash in 2010 and the goods have been delivered during the same year.

c. Akshay sold goods on credit for Rs.50, 000 during the year ending 31st December 2010. The goods have been delivered in 2010 but the payment was received in March 2011.

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2.10.3 Assignments

Assignment 1

Collect annual report of Manufacturing, service and IT company (1 each). Identify differences in their accounting policies disclosures. Also list out and explain with examples as to how accounting concepts and conventions are used for preparing financial statements.

Assignment 2

Study annual report of Dabur India Ltd. for 2011-12. You will notice that the Financial Statements are disclosed as per Indian GAAP as well as IFRS. You are required to identify major differences in both the reporting practices. Note the differences in profits, ---- and soon.

2.11 Further Reading and References

★ Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education

★ “Financial Accounting - A Managerial Perspective”, by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi.

UNIT 3 PRESENTATION OF FINANCIAL STATEMENTS : BALANCE SHEET

NOTES

Structure

3.0 Introduction

A balance sheet is a statement of assets and liabilities of an individual or entity at any particular date. At the end of each accounting period, every business organization prepares a Balance Sheet to have a clear understanding of its assets and liabilities, which indicate the financial position.

The balance sheet is not prepared for any particular period. The balance sheet is prepared on a particular day and the assets and liabilities disclosed by the balance sheet show the position on that particular day and not for a period. That means, the figures shown in the balance sheet is the result of all transactions till that date.

The balance sheet is a summary of financial position of an organization at a specific point in time, showing assets and liabilities.

Therefore Balance Sheet shows the cumulative position of resources (assets) and sources of funds (liabilities) at the end of the year.

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Check Your Progress

Define balance sheet

3.1 Unit Objectives

After studying this Unit, you should be able to

- ★ Understand the concept of balance sheet
- ★ Classify Assets under various categories
- ★ Classify Liabilities under various categories
- ★ Learn format of balance sheet
- ★ Analyze transactions through balance sheet
- ★ Prepare the Balance Sheet from Simple transactions

3.2 Capital and Revenue Expenditure and Receipts

Expenditure refers to any payment made. If the benefit of expenditure extends up to one accounting period, it is termed as revenue expenditure. Generally, they are incurred for the day-to-day business operations. An example can be payment of salaries, rent, etc. If the benefit of expenditure extends more than one accounting period, it is termed as capital expenditure. An example can be payment to acquire furniture for use in the business. Furniture acquired in the current accounting period will give benefits for many accounting periods to come. The usual examples of capital expenditure can be payment to acquire fixed assets and/or to make additions/ extensions in the fixed assets.

Following points of distinction between capital expenditure and revenue expenditure:

(a) Capital expenditure is incurred to acquire fixed assets for operation of business whereas revenue expenditure is incurred on day-to-day conduct of business.

(b) Revenue expenditure is generally recurring expenditure and capital expenditure is non-recurring by nature.

(c) Capital expenditure benefits more than one accounting year whereas revenue expenditure normally benefits one accounting year.

Sometimes, it becomes difficult to correctly decide whether the expenditures is

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revenue or capital. In normal usage, the advertising expenditure is termed as revenue expenditure. However, a heavy expenditure on advertising on launching a product is likely to give benefit for more than one accounting period, as people are likely to remember the advertisement for a slightly longer period. Such revenue expenditures, which are likely to give benefit for more than one accounting period, are termed as deferred revenue expenditure.

Similarly receipts can also be divided into capital and revenue. If the receipts create an obligation to return the money, they are capital receipts. For example capital brought in by the owner or a loan taken from the bank. If a receipt does not incur an obligation to return the money it is termed as revenue receipt. For example, sales made by the firm, interest on investment received by the firm etc.

Illustration 1

Classify following expenses into capital, revenue or deferred revenue expenses.

a) salaries

b) wages for installing machine

c) repairs of machinery

d) heavy advertisement for launching a new product

e) research and development expenses

f) construction of additional room

g) building maintenance

Solution:

Capital expenses: b) , f) Revenue Expenses: a),c),g) Deferred revenue expenses: d), e)

Check Your Progress

Explain difference between capital and revenue expenses

3.3 Classification of Items on a Balance Sheet

The liabilities and assets are classified as the 'long term' or 'fixed' and the 'short term' or 'current'. The detailed classification of assets and liabilities has been explained as under:

3.3.1 Assets

Asset represent property owned, which usually provides benefit in future. Assets have debit balance. Anything of material value or usefulness that is owned by an entity is termed as Asset. It also results into future cash flows to an entity.

An asset is a resource that is controlled by the entity as a result of past events (for example, purchase or self-creation) and from which future economic benefits (inflows of cash or other assets) are expected. **IAS 38**

Such Assets can be classified as under:

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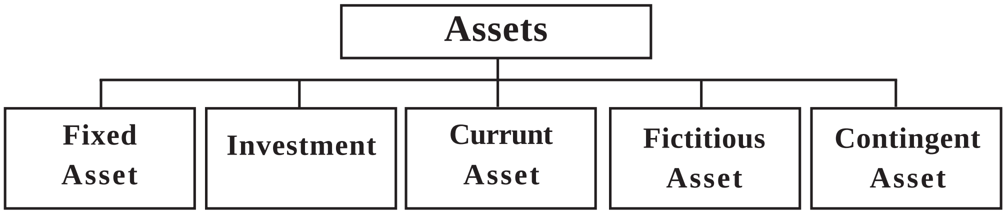
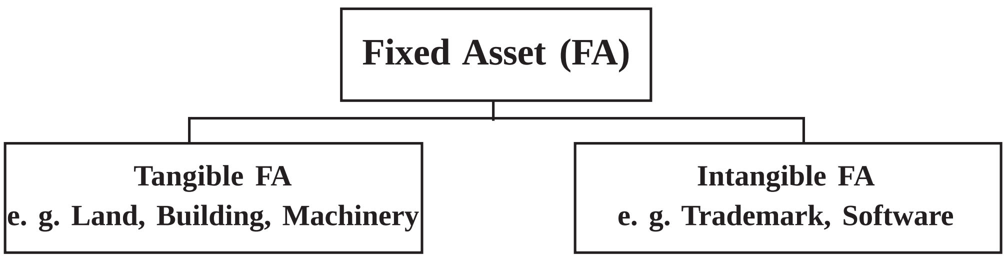


A. Fixed Assets

The fixed or long term assets are those assets which are purchased to use them for a long period. These are not meant for resale. The purpose of buying such assets is to generate returns for a long period and they remain within the organization as long as they are usable and capable of generating revenue. Of course, when these assets become old or unusable or their productivity reduces drastically, they can be disposed off and replaced with new assets.



Tangible Fixed Assets are those fixed assets which are physical in nature. They can be seen and touched.

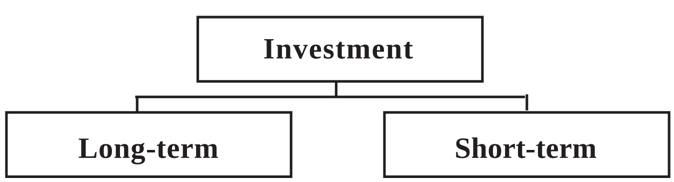
Plant and Machinery, Buildings, Furniture, Office Equipments are some of the examples of Tangible Fixed Assets. Intangible Fixed Assets are those fixed assets which are not physical in nature, and cannot be seen or touched. Goodwill, Copyrights, Trademarks are some of the examples of Intangible Fixed Assets.

Fixed assets can be used productively during their useful life. Since they have limited life the cost will expire along with the expiration of their useful life. Thus, value of the asset is reduced in proportion to the expired life of the asset. Depreciation is the continuous and permanent decline in the value of fixed assets due to usage, efflux of time and obsolescence. Fixed Assets are valued at Written down Value (WDV) i.e. Cost less Accumulated Depreciation.

We shall Fixed Asset and Depreciation in separate chapter in details.

B. Investments

Investments refer to money invested outside normal business. They are usually securities of one company held by another copany in order to generate some return. Investment can be classified on the basis of its nature as follows:



Long term investments are usually intended to be held more than one year. Some examples are shares, debentures, land, and gold. Short-term investments are intended to be held for less than one year Liquid Funds, Money Market instruments etc.

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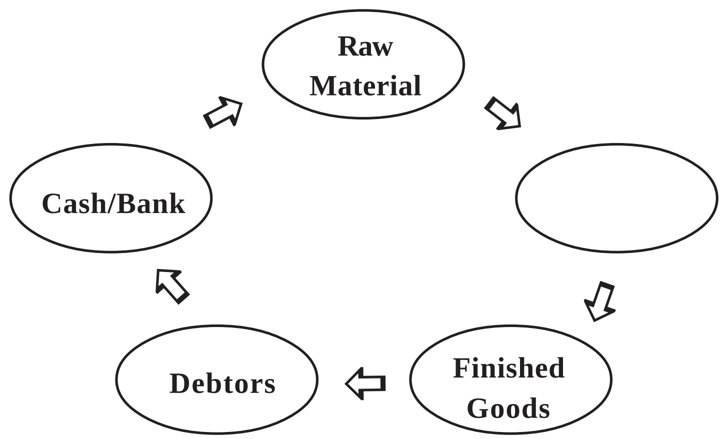
C. Current Assets

Current assets are the assets that are used to fund day-to-day operations and pay ongoing expenses. In addition to cash and bank balance the debtors, bills receivable, closing stock are the examples of current assets. Current assets can be easily understood with the help of operating cycle. The operating cycle is the duration of time taken by a unit of cash to circulate through the business operations and return back as cash.



The above diagram represents cyclical flow of current assets.

The Raw materials are purchased and put into process. Once they get converted into finished goods, they are sold to customers on credit basic. When the collection is received it is utilized for purchasing raw materials and the cycle continues.

Cash/Bank is usually taken to include currency (including foreign currency), cheques or any other instruments which are easily convertible into cash. It is held for daily requirement. It also includes bank balance.

Debtors' represents balances receivable from customers by an organisation for credit sales made. Only receivables arising from credit sale of goods or services are included in debtors therefore it is also called as 'accounts receivables', 'trade receivables' or 'trade debtors',

Bills Receivable is negotiable instrument in the form of written promise from debtors towards account payable by him.

Prepaid Expenses are those expenses are paid in advance, such as rent, taxes, insurance premium. They are considered as current assets because if these prepayments had not been made, it would have required a cash payment during next period.

Stock is another important type of current assets. It includes Raw Material, Work-In-Progress as well as Finished Goods. It is discussed in detail in the chapter on Inventory Valuation.

D. Fictitious assets

Fictitious assets are not assets in real sense, though they are disclosed on asset side of balance sheet. They represent losses which are not written off e.g. Company formation expenses, Shares/Debentures issue expenses etc.

E. Contingent Assets

These are those assets existence and value of which depends upon occurrence of specific event or on performance of specific act e.g. compensation claimed from service provider, which may be received on court decision.

3.3.2 Liabilities

A liability is a financial obligation, debt, claim, or potential loss. They are probable future sacrifices of economic benefits due to present obligations towards other entities.

> Liability is defined as present obligation as a result of past events and its settlement is expected to result in an outflow of resources (payment)
>
> **IAS 37**

Liabilities

Owner's Fund | **Logn term Liabilities** | **Current Liabilities and Provisions** | **Contingent Liabilities**

A. Owner's Fund

Owners funds are amount payable to owners. It is considered as liability due to Entity Concept of Accounting which assume business as separate from its Owner and hence amount contributed by the Owner is considered as liability for the business.

Owner's Fund= Net Worth=Proprietor's Equity=Equity

Owner's Fund= Capital + Reserves

Owner's Fund= Capital + Accumulated Profits

B. Long Term Liabilities

The long term liabilities are those liabilities which are to be repaid over a long period. That period should be normally of more than one year e.g. Term Loan from Bank or Financial Institutions, Debentures etc. Such liabilities are usually classified as under.

Long term Liabilities

Secured | **Unsecured**

Secured loans are loans taken on a hypothecation/pledge/mortgage of an asset of the organization. Generally fixed assets are assigned to the lender as a collateral security. In case of default, such assigned security can be confiscated by the lender. It usually includes Debentures, Bonds, and Borrowing from Large Financial Institutions, lease payments for assets taken on lease.

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Check Your Progress

Explain different types of assets

NOTES

Unsecured loans are loans taken without providing any security in return. In case of default lender cannot have any control over asset of the firm.

C. Current Liabilities and Provisions

The short term or current liabilities are those liabilities which are to be repaid within a period of one year. They usually arise from normal business transaction. Current liabilities include Bills Payable, Creditors, Outstanding expenses etc.

Creditors' represents accounts payable by an organization for credit purchases made. It is also called as 'accounts payables', 'trade payables' or 'trade creditors',

Bills Payable is negotiable instrument in the form of written promise made towards account payable.

Outstanding expenses are those expenses which are due but unpaid. It remains as current liability till the payment is made. It can include salary, wages, rent etc. if payment for every month's due is made in next month.

Provision is money set aside for liability where amount cannot be substantially decided e.g. Provision for tax, Proposed Dividend etc.

D. Contingent Liabilities

These are not actual liabilities but their becoming actual liabilities depend on the occurrence of certain events which are uncertain. They are not recorded in Balance sheet but shown by way of footnotes at the bottom of the balance sheet. E.g. Suit for damages against company, Bills receivable discounted etc.

Check Your Progress

Explain different types of liabilities

3.4.Format of Balance sheet

Balance Sheet can be prepared either in Horizontal format or Vertical Format. Let us understand the contents and presentation of Balance Sheet in both the formats.

Exhibit 1.1 (Horizontal Format of Balance Sheet)

Balance sheet as on __________________

Liabilities	**Rs.**	**Assets**	**Rs.**
Capital	xxxx	Goodwill	xxxx
Loans	xxxx	Land& Buildings	xxxx
Bank overdraft	xxxx	Machinery	xxxx
Bills payable	xxxx	Furniture	xxxx
Sundry creditors	xxxx	Closing stock	xxxx
Outstanding expenses	xxxx	Bills receivable	xxxx
		Sundry debtors	xxxx
		Cash at bank	xxxx
		Cash in hand	xxxx
Total	**xxxx**	**Total**	**xxxx**

Note: Contingent liability _________

Exhibit 1.2 (Vertical Format of Balance Sheet)

Liabilities	**Amount**
Capital	xxxx
Add: Accumulated Profit	xxxx
Less: Drawings	(xxxx)
A	xxxx
Borrowed Funds	
Loan form Bank	xxxx
B	xxxx
Total Capital Employed (A+B)	xxxx
Fixed Assets	
Building	xxxx
Furniture	xxxx
Computer	xxxx
A	xxxx
Investments B	xxxx
Current Assets	
Stock	xxxx
Debtors	xxxx
Bank	xxxx
Prepaid Insurance Expenses	xxxx
Total Current Assets (a)	xxxx
Current Liabilities	
Creditors	xxxx
O/s Salary	xxxx
Total Current Liabilities (b)	xxxx
Net Current Assets (C) = (a) - (b)	xxxx
Total Assets Employed (A + B + C)	xxxx

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Illustration 2

You are required to prepare the Balance sheet from balances as on 31/03/2013.

Particulars	Amount
Capital at the beginning	400000
Furniture	160000
O/s Salary	10000
Computer	86000
Creditors	45000
Debtors	60000
Prepaid Insurance Expenses	25000
Loan form Bank of India	250000
Bank	7000
Building	488000
Profit and Loss A/c	350000
Investment	150000
Capital introduced during Year	180000
Drawings	219000
Closing Stock	40000

Solution:

Balance Sheet as on 31 March 2013

Particulars	Amount	Amount
Capital	400000	
Introduced in year	180000	
Profit and Loss A/c	350000	
Drawings	(219000)	711000
Borrowed Funds		
Loan form Bank of India		250000
Total Capital Employed		961000
Fixed Assets		
Building	488000	

Furniture	160000	
Computer	86000	734000
Investments		150000
Current Assets		
Bank	7000	
Debtors	60000	
Prepaid Insurance Expenses	25000	
Closing Stock	40000	
Total Current Assets	132000	
Current Liabilities		
Creditors	45000	
O/s Salary	10000	
Total Current Liabilities	255000	
Net Current Assets		77000
Total Assets Employed		**961000**

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3.5 Balance Sheet Equation

The balance sheet is a position statement of assets & liabilities. Therefore the two sides of the balance sheet are known as the 'liabilities (left hand side) and the 'assets' (right hand side) sides. The total of the assets and liabilities sides of the balance sheet shall always be equal. This is because of the fundamental accounting equation.

Owner's Fund + Outside Liabilities = Assets

In the balance sheet on the liabilities side we show the Owner's Fund and the outside liabilities and in the asset side, we show all the assets therefore, based on the fundamental accounting equation both sides shall be equal.

Every business transaction can be analyzed in terms of its effect on Assets, Liabilities, and owner's Fund.

Analysis business transactions through Balance Sheet Equation

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Assets (A) = Liabilities (L) + Owner's Fund (O)

	A	L	O	
1	+	+	-	Loan taken from bank
				(+ Bank, + Bank Loan Payable)
	+	+	-	Goods acquired on credit
				(+ Inventory, + Account Payable)
2	+		+	Shares issued for cash
				(+ Bank, + Equity Shares)
3	±			Equipments purchased & Paid for
	-			(+ Equipment, - Bank)
	±			Collections from debtors
				(+ Bank, - Accounts Receivable)
4	-	-		Repayment of loan to bank
				(- Loan Payable, - Bank)
	-	-		Payment made to creditors
				(- Account Payable, - Bank)

3.6 Preparing Balance Sheet

We have already discussed the contents and format of balance sheet in the earlier discussion. We shall now see how an organization prepares balance sheet. Let us understand the process with the help of following illustration.

Illustration 3

Show the effect of each transaction on the balance sheet of M/s. Krishna Book Stores

1. Shyam and Murlidhar set up a book stall M/s. Krishna Book Stores in their town. On 1 Jan 2010, Shyam opened new bank account in the name of their partnership by depositing Rs. 100000 cash and Murlidhar brought his own shop worth Rs. 200000 as capital.
2. On 2 January 2010, store purchased book of Rs. 75000 and Stationary of Rs. 10000 on immediate payment from SK International.
3. On 5 January 2010, Stores supplies books of Rs. 90000 (costing 60000) to Saraswati Highschool. School paid cheque Rs. 45000 immediately and reaming amount will be paid on 10 January 2010.

4. On 9 January 2010, books costing 47000 purchased on credit from SSK and Associates.
5. On 10 January 2010, a cheque of Rs. 15000 received from Saraswati High school .
6. On 15 January 2010, cheque of Rs. 47000 paid to creditors.

Solution

Let us understand the process by considering each transaction:

1. Shyam and Murlidhar set up a book stall M/s. Krishna Book Stores in their town. On 1 Jan 2010, Shyam opened new bank account in the name of their partnership by depositing Rs. 100000 cash and Murlidhar brought his own shop worth Rs. 200000 as capital.

Balance Sheet as on 1 January 2010

Liabilities	Amount	Assets	Amount
Capital			
Shyam	100000	Shop Premises	200000
Murlidhar	200000	Bank	100000
	300000		**300000**

Cash received from Shyam is a Current Asset and it has created Liability towards Shyam.

Shop premises provided by Murlidhar is a Fixed Asset and it has created Liability towards Murlidhar.

2. On 2 January 2010, store purchased book of Rs. 75000 and Stationary of Rs. 10000 on immediate payment from SK International.

Balance Sheet as on 2 January 2010

Liabilities	Amount	Assets	Amount
Capital			
Shyam	100000	Shop Premises	200000
Murlidhar	200000	Bank 100000 Less: Purchase of Stores and Stationary (85000)	15000
		Inventory	85000
		(Stores + Stationary)	
	300000		**300000**

Inventory in the form of Stores and stationary has been purchased by utilizing Bank balance.

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3. On 5 January 2010, Stores supplies books of Rs. 90000 (costing 60000) to Saraswati High School. School paid cheque Rs. 45000 immediately and reaming amount will be paid on 10 January 2010

Balance Sheet as on 5 January 2010

Liabilities	Amount	Assets		Amount
Capital				
Shyam	100000	Shop Premises		200000
Murlidhar	200000	Bank	25000	
		Add: Cheque collection	45000	60000
Profit and Loss A/c	30000	Inventory	85000	
		Less : cost of books Sold	60000	25000
		Sundry Debtors		45000
	330000			**330000**

Books sold for Rs. 90000 against which a Cheque of Rs.45000 received (Bank Balance increases by same amount) and Rs.45000 is receivable (Debtors created for the same)

Cost of books being Rs.60000 reduces inventory by that Amount.

4. On 9 January 2010, books costing 47000 purchased on credit from SSK and Associates.

Balance Sheet as on 9 January 2010

Liabilities	Amount	Assets		Amount
Capital				
Shyam	100000	Shop Premises		200000
Murlidhar	200000	Bank		60000
Profit and Loss A/c	30000	Inventory	25000	
		Add: purchased	47000	72000
Sundry Creditors				
(SSK and Associates)	47000	Sundry Debtors		45000
	377000			**377000**

Books purchased adds to the stock (Inventories) and Liability in the form of Creditors created for same amount since no payment is made in cash.

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5. On 10 January 2010, Rs. 15000 received from Saraswati High school.

Balance Sheet as on 10 January 2010

Liabilities	Amount	Assets		Amount
Capital				
Shyam	100000	Shop Premises		200000
Murlidhar	200000	Bank	60000	
		Add: Cheque recd.	15000	75000
Profit and Loss A/c	30000	Inventory		72000
Sundry Creditors	47000	Sundry Debtors	45000	
		Less: Cheque recd.	15000	30000
	377000			**377000**

Collection of Cheque has increased Bank Balance and reduced Debtors.

6. On 15 January 2010, cheque of Rs. 47000 paid to creditors.

Balance Sheet as on 15 January 2010

Liabilities		Amount	Assets		Amount
Capital					
Shyam		100000	Shop Premises		200000
Murlidhar		200000	Bank	75000	
			Less Paid to creditors	(47000)	28000
Profit and Loss A/c		30000	Inventory		72000
Sundry Creditors	47000				
Less: paid	47000	------	Sundry Debtors		30000
		330000			**330000**

Payment to creditors reduces liability and asset (Bank Balance)

3.7 Solved Illustrations

Illustration 4

Classify following receipts into capital and revenue receipts.

1. Sale of goods
2. Loan from banks
3. Interest on fixed deposits
4. Additional capital from proprietor
5. Public deposits
6. Rent received
7. Sale of machinery

Solution:

Capital Receipts are 2,4,5,7

Revenue receipts are 1,3,6

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Illustration 5

Prepare Balance sheet from given balances.

Bank Loan	100,000
Closing Stock	30,000
Creditors	47,000
Capital	285000
profit	100000
Investments	120,000
Land and Building	200000
Cash in Hand	16,000
Cash at Bank	30,000
Debtors	36,000

Solution:

Balance Sheet

Liabilities	**Amt. in Rs.**	**Assets**	**Amt. in Rs.**
Capital	285000.00	Land and Building	200000.00
Bank Loan	100000.00	Investments	120000.00
Creditors	47000.00	Closing Stock	30000.00
		Cash in Hand	16000.00
		Cash at Bank	30000.00
		Debtors	36000.00
	432000.00		**432000.00**

Illustration 6

Prepare Balance sheet of the concern after each transaction.

- ★ On 1.3.2010, Parvati invested 70000 in her business, deposited in bank current account.
- ★ On 3.3.2010, took loan of Rs. 30000 from Bank of India @ 20% p.a.
- ★ On 5.3.2010, Parvati bought Furniture of Rs. 25000 and computer of Rs. 20000.

- On 9.3.2010, Parvati purchased goods of Rs. 30000.
- On 15.3.2010, all goods sold at Rs. 60000, of which Rs. 20000 were on credit.
- On 28.3.2010, paid salary of Rs. 15000 and Telephone bill of Rs. 1500.
- On 29.3.2010, Parvati paid 15000 for her son's tuition fees.
- On 31.3.2010, paid interest to bank.

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Solution:

Balance Sheet as on 1 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	70000	Bank	70000
	70000		**70000**

Balance Sheet as on 3 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	70000	Bank	100000
Bank Loan	30000		
	100000		**100000**

Balance Sheet as on 5 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	70000	Bank	55000
Bank Loan	30000	Furniture	25000
		Computer	20000
	100000		**100000**

Balance Sheet as on 9 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	70000	Bank	25000
Bank Loan	30000	Furniture	25000
		Computer	20000
		Inventory	30000
	100000		**100000**

NOTES

Balance Sheet as on 15 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	70000	Bank	65000
Bank Loan	30000	Furniture	25000
Profit and Loss A/c	30000	Computer	20000
		Debtors	20000
	130000		**130000**

Balance Sheet as on 28 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	70000	Bank	48500
Bank Loan	30000	Furniture	25000
Profit and Loss A/c	13500	Computer	20000
		Debtors	20000
	113500		**113500**

Balance Sheet as on 29 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	55000	Bank	33500
Bank Loan	30000	Furniture	25000
Profit and Loss A/c	13500	Computer	20000
		Debtors	20000
	98500		**98500**

Balance Sheet as on 31 March 2010

Liabilities	Amt. in Rs.	Assets	Amt. in Rs.
Capital	55000	Bank	33000
Bank Loan	30000	Furniture	25000
Profit and Loss A/c	13000	Computer	20000
		Debtors	20000
	98000		**98000**

Illustration 7

Prepare horizontal Balance Sheet from the following information.

Particulars	Rs.
Capital	300000
Creditors	100000
Bank overdraft	28000
Cash in hand	32000
Furniture	128000
Debtors	140000
Plants	80000
Drawings	24000
Creditors	25000
Closing stock	44000
Bills payables	15000
Bills receivables and	20000
Net profit	25000
	916000

NOTES

Solution:

Balance Sheet

Liabilities	Rs	Assets	Rs.
Capital	3,00,000	Plants	80,000
Less: Drawings	-24,000	Furniture	128,000
	276,000	Debtors	140,000
Creditors	100,000	Closing stock	44,000
Bank overdraft	28,000	Bills receivables	20,000
Bills payables	15,000	Cash in hand	32,000
Creditors	25,000		
	444,000		**444,000**

NOTES

3.8 Summary

- A balance sheet is a statement of assets and liabilities of an individual or entity at any particular date.
- The balance sheet is prepared on a particular day and the position of assets and liabilities disclosed by the balance sheet are the position on that particular day and not for a period.
- The total of the assets and liabilities sides of the balance sheet shall always be equal. This is because of the fundamental accounting equation. Owner's Fund + Outside Liabilities = Assets
- Anything of material value or usefulness that is owned by a person or company is termed as Asset. It also results into future benefit to the organization.
- Assets can be classified as Fixed Assets, Investments, Current Assets and Fictitious Assets.
- They are a financial obligation, debt, claim, or potential loss. They are probable future sacrifices of economic benefits due to present obligations towards other entities as a result of past transactions.
- Liabilities can be classified as Owner's Fund, Long-Term Liabilities and Current Liabilities.

3.9 Summary

- Balance Sheet: A balance sheet is a statement of assets and liabilities of an individual or entity at any particular date. The balance sheet is prepared on a particular day and the position of assets and liabilities disclosed by the balance sheet are the position on that particular day and not for a period.
- Fixed Assets: The fixed or long-term assets are those assets that are purchased for a long-period usage. These are not meant for resale. The purpose of buying such assets is to generate returns for a long period and they remain within the organisation as long as they are usable and capable of generating revenue.
- Current assets: These are the assets that are used to fund day-to-day operations and to pay ongoing expenses
- Contingent Liabilities: These are not actual liabilities but their becoming actual liabilities depend on the occurrence of certain events which are uncertain. They are not recorded in balance sheet but shown by way of footnotes at the bottom of the balance sheet. For instance suit for damages against a company, bills receivable discounted etc.
- Current liabilities: Liabilities which are to be repaid within a period of one year are known as current liabilities. They usually arise from normal

business transactions. Current liabilities include bills payable, creditors, outstanding expenses, etc.

3.10Questions and Exercises

NOTES

3.10.1 Multiple Choices Questions

1) A liability is…
   a) Office supplies
   b) Accounts payable
   c) Prepaid expenses
   d) None of the above
2) Owners Fund is………
   a) Outstanding Reserves balance
   b) Amount invested by Owners
   c) Debt on new building
   d) Capital + Accumulation of net revenues
3) An asset is…….
   a) What you own
   b) Cash
   c) Accounts receivable
   d) All of the above
4) Which of the followings liabilities are not recorded in Balance Sheet?
   a) Current
   b) Contingent
   c) Fixed
   d) Owners fund
5) Which of the following types of assets represent losses which are not written off?
   a) Fixed
   b) Current
   c) Fictitious
   d) Contingent
6) Investment refers to…
   a) Money invested within the normal business
   b) Money invested outside normal business
   c) Amount brought by Proprietor
   d) Amount withdrawn by proprietor
7) The fundamental accounting equation is
   a) Owner's Fund + Outside Liabilities = Assets
   b) Owner's Fund + Assets = Outside Liabilities

NOTES

c) Assets + Liabilities = Owner's Fund

d) None of the above

8) Contingent Liabilities refers to

a) Uncertain liabilities not to be recorded in balance sheet

b) Actual liabilities

c) Current liabilities and provisions

d) Cannot be determined

9) If owner's funds are Rs.50000, Outside liabilities are Rs.70000, Contingent Liabilities are Rs.20000 then Total Assets of the firm is -

a) Rs. 1,40,000

b) Rs. 1,20,000

c) Rs.1,00,000

d) None of the above

10) If Assets are worth Rs.100000, Outside liabilities are Rs.60000, Contingent Liabilities are Rs.20000 then Owner's fund is -

a) Rs.40000

b) Rs.20000

c) Rs.60000

d) Rs. 100000

3.10.2 Theory Questions

1) What is Balance Sheet? Why is it needed?

2) Explain Balance Sheet Equation.

3) What do you mean by Assets? How do you classify them?

4) What do you mean by Liabilities? How do you classify them?

3.10.3 Practical Problems

Exercise 1

Prepare balance sheet after each of these transactions.

1. On January 2, owners invest Rs.15,000 in ShriRam Company to begin the business.
2. On January 3, ShriRam Company borrows Rs. 10,000 from DhanLakshmi Bank.
3. On January 5, ShriRam Company purchases Rs. 18,000 of inventory from suppliers, on account. Payment due on January 8.
4. On January 9, ShriRam Company sells inventory that cost Rs. 6,000 for Rs. 8,000 in cash.
5. On January 10, ShriRam Company pays for inventory purchased on January 5.
6. On January 12, ShriRam Company sells inventory that cost Rs. 5,000 for Rs. 6,000, on account. Payment will be received on January 31
7. On January 31, ShriRam Company collects the account receivable n puts in bank.

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Exercise 2

Ram starts a store on, January 1, 2012 with an investment of Rs.2,00,000 from his personal savings. He decides to call his venture M/s. Ram store. On January 2 the Store purchases a shop for Rs.5,00,000 paying Rs.1,00,000 cash and signing a mortgage for Rs.4,00,000. On January 3, the store purchased Rs.50,000 worth of merchandise paying cash and Rs.1,50,000 worth of merchandise on credit from Mr. Vanik.

On January 4, he sells half the merchandise inventory for Rs.1, 50,000 cash. On January 6 he sold half of the remaining inventory for Rs. Rs. 75000 on credit of 15 days to Mr. Bharat. On January 7 inventory worth Rs. 1, 50,000 purchased from Mr. Laxman on credit of 30 Days. On 10 January Inventory costing Rs. 1,00,000 sold for Rs. 1,20,000 in cash.

Prepare Balance sheet of M/s. Ram Store as on 15th January

Exercise 3

Particulars		**Particulars**	
Opening Stock	32,250	Sales	255000
Purchases	180,000	Returns Outward	12000
Closing Stock	26,250	Capital	187500
Returned Inward	7,500	Discount (Cr.)	7500
Freight	4,500	Creditors	42000
Rent	18,000	Cash at Bank (Cr.)	13500
Carriage	3,000	Loan (cr.)	27000
Debtors	52,500	Bad Debts Recovered	750
Cash	6,000	Outstanding expenses	16950
Interest on Loan	2,700	Net loss	22200
Goodwill	12,000	Salaries	25500
Furniture	18,000	Samples	7500
Bad debts	6,000	Land and Building	150000
Wages	10,500		

Prepare Balance sheet from the given balances.

Exercise 4

Vimal a software engineer wants to be in business. He started providing computer maintenance services in city Nagpur. You are required to prepare the Balance sheet from the following information showing effect of each transaction separately at the end of March 2012.

- ★ Day 1, Vimal invested Rs. 130000.
- ★ Day 2, Vimal deposited Rs. 65000 for office premises, on rent of Rs.6500 p.m.
- ★ Day 3, Vimal contracts with Sree Kumar International to provide services on monthly basis. Monthly charges will be Rs. 13000 and paid at the 15th of each

NOTES

month.

- ★ Day 10, Vimal provided services to P.M. Shah Hospital and charged Rs. 7150 to them.
- ★ Day 16, paid Rs. 6500 for office rent.
- ★ Day 18, Vimal appointed an employee for office administration purpose at a salary of Rs. 3900 per month. In the current month, salary for half month is paid.
- ★ Day 25, Purchased of a computer Chip of Rs. 650.
- ★ Day 26, Vimal provided maintenance services to Mr. Nandkishore and replaced the computer hard disk, which was purchased by him. He charged bill of Rs. 9750. This was unpaid till the end of month.
- ★ Day 29, paid rent of Rs. 6500 for Apr 2012 in advance.

3.11.4 Business Cases

Case 1

Roadways Transport Company began trucking operations on January 1, 2012. The company's bank account showed a balance of Rs. 1,80,000 on December 31, 2012, which was in agreement with the bank statement received on the same date. The company had Rs. 12,000 cash in the office and Rs. 8,000 worth cheques received from customers.

On December 31, receivables outstanding amounted to Rs. 6,00,000. Company also had Rs. 60,000 worth promissory notes signed by their customers. Employees had drawn festival advance, which was outstanding in the amount of Rs. 12,000. Roadways owed Rs. 7,20,000 to Southern Service Station as on December 31, 2012.

During the year Roadways purchased stationery and office supplies costing Rs. 22,000 from Ramlinga lyer & Sons. The use of stationery and supplies during the year was estimated at Rs. 16,000.

Roadways purchased eight trucks during the year, each costing Rs. 8,00,000. They owed Rs. 40,00,000 to Southern Sales and Finance at the end of the year on account of trucks bought. The balance is paid in cash. Depreciation was Rs. 1,60,000 per truck for the year. Spare parts and tyres inventory amounted to Rs. 26,000.

Company had rented a garage on a 30 year lease, office space and parking space at Rs. 2,00,000 a year on the NH 47 within the city limits. Because of the real estate boom, Roadways could easily sublet the premises for Rs. 3,00,000 a year. On January 1, 2012 when Roadways started operations they had paid first two years' rent in advance.

On December 31, 2012 Roadways purchased an air conditioned car for office use costing Rs. 2,00,000. Insurance and registration cost amounted to Rs. 16,000.

The company had a bulk storage tank for diesel needed for its trucks. The tank was filled on 4 occasions with 50,000 litres each. On December 31 the meter reading indicated that 3,60,000 litres had been used during the year. Average cost per litre of diesel was Rs. 6.00.

Roadways paid employees' salary on the last day of each month. Bonus for the employees was due in the amount of Rs. 4, 24,000 relating to 2012 and will be paid along with first salary in 2013.

The owners of Roadways originally invested Rs. 12,00,000. Net income for 2012 was Rs. 4,16,000. Drawings by the owners during the year amounted to Rs. 2,00,000.

Prepare the balance sheet as on December 31, 2012 for Roadways Transport.

NOTES

3.12 Further Reading and References

- Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education
- "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi.

UNIT 4 THE INCOME STATEMENTS

NOTES

Structure

4.0 Introduction

Income statement shows the financial performance in the form of profit earned or loss sustained by the business. Income is defined as increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants. Income encompasses both revenue and gains. Revenue is income that arises in the course of ordinary activities of an entity and is referred to by a variety of different names including sales, fees, interest, dividends and royalties (Ind AS -18).

4.1 Unit Objectives

After Studying this Unit, you should be able to

- ★ Understand measurement of profit
- ★ Draw profit and loss account
- ★ Learn profit and loss appropriation account

4.2 Measurement of Profit

Profit or gain arising from business activities can be measured as follows.

Profit = Revenue - Cost

Revenue includes only the gross inflows of economic benefits received and receivable by the entity on its own account. Amounts collected on behalf of third parties such as sales taxes, goods and services taxes and value added taxes are not economic benefits which flow to the entity and do not result in increases in equity. Therefore they are excluded from revenue. Similarly, in an agency relationship, the gross inflows of economic benefits include amounts collected on behalf of the principal and which do not result in increases in equity for the entity. The amounts collected on behalf of the principal are not revenue. Instead, revenue is the amount of commission (Ind AS -18).

NOTES

Revenue arises from -

★ Sale of goods

★ Rendering of services

★ Interest, royalties and dividends etc.

Revenue is recognized only when it is probable that the economic benefits associated with the transaction will flow to the entity.

Cost includes expenses incurred for regular business activities. Generally it is classified as -

★ Manufacturing expenses

★ Administrative expenses

★ Selling expenses

Check Your Progress

How do you measure profit?

The matching concept is an accounting principle that requires the identification and recording of expenses associated with revenue earned and recognized during the same accounting period. It follows, therefore, that when expenses in a period are matched with the revenues generated for the same period, the result is the net income or loss for that period.

4.3 Format of Profit and Loss Account

Profit and loss account comprises of incomes and expenses related to business activities carried out during a particular year. It can be understood in easier way by looking at simple format and detailed format.

Simple format of Profit and loss account (adapted) gives list of incomes and expenses and calculates profit as excess of incomes over expenses. Following is the profit and loss account of India Cements ltd. for the year ending Mar, 2012.

Profit & Loss account of India Cements

	Mar '12
	Rs. In Cr.
Income	
Sales Turnover	4,722.53
Excise Duty	519.12
Net Sales	4,203.41
Total Income	4,203.41

NOTES

Expenditure	
Raw Materials	586.86
Power & Fuel Cost	1,094.69
Employee Cost	302.63
Other Manufacturing Expenses	87.02
Selling and Admin Expenses	1,023.31
Miscellaneous Expenses	202.37
Interest	286.73
Depreciation	251.29
Tax	88.02
Total expenses	3922.92
Profit (Total Income - Total Expenses)	280.49

The above format is simple in nature as it just calculates profit as difference between incomes and expenses, however users would like to know profits at various stages as it gives clear picture about company's financial position.

Detailed format of profit and loss account takes into account requirements of users and analyst and calculate profits at various stages. Let us prepare detailed profit and loss account of India cements ltd.

Profit & Loss account of India Cements

	Mar '12
Income	
Sales Turnover	4,722.53
Excise Duty	519.12
Net Sales	4,203.41
Total Income	4,203.41
Expenditure	
Raw Materials	586.86
Power & Fuel Cost	1,094.69
Employee Cost	302.63
Other Manufacturing Expenses	87.02
Cost of Goods Sold	2071.2

NOTES

Gross Profit	2,132.21
Selling and Admin Expenses	1,023.31
Miscellaneous Expenses	202.37
PBDIT	906.53
Depreciation	251.29
PBIT	655.24
Interest	286.73
PBT	368.51
Tax	88.02
Profit (PAT)	280.49

Let us understand profits earned at different levels.

1. Gross Profit: It is calculated as difference between sales turnover and cost of goods sold. It enables to know about company's operating results.
2. Profit Before Depreciation, Interest and Tax (PBDIT): it is calculated as difference between gross profit and administrative and selling expenses. Depreciation and interest is not considered at this stage. This is also called as cash profit.
3. Profit Before Interest and Taxes (PBIT): It is calculated as difference between PBDIT and depreciation. It represents a part of profit that is available to service the debt and owners.
4. Profit Before Tax (PBT): It represents part of profit which is taxable.
5. Profit After Tax (PAT): It represents profit after tax which is available for distribution of dividends.

Let us discuss various expenses incurred by business entity.

1. Wages: Wages includes payment made to workers for manufacturing of goods.
2. Freight or Carriage /Carriage inward: it includes cost of bringing raw material or finished goods to the godown.
3. Factory Expenses: Factory lighting, power, factory rent etc. incurred for manufacturing of goods.
4. Office and Administration Expenses: All expenses related to administration of business and maintenance of office is debited to profit and loss account. These include salaries, printing & stationery, office rent, legal charges, audit fees, telephone expenses, postage insurance premium etc.
5. Selling and Distribution Expenses: Expenses incurred at the time of sale and

delivery of goods to customers and losses in collection of sales revenue are included in this category. Examples are salesman's commission, advertisement expenses, carriage outward, depreciation and repair expenses of vehicle used for free home delivery, bad debts etc.

NOTES

6. Financial Charges: Financial charges include interest on loan, interest on public deposits, interest on bank overdraft, interest on capital etc.

7. Miscellaneous Expenses: These include donations, charity, loss by fire, loss by theft etc. As net profit is calculated, after charging all expenses and losses for the current year, any expense or loss item not included in the abovementioned categories falls in this category.

8. Provisions: Provision is money set aside for liability which is not substantially decided e.g. provision for Bad Debts, discount allowed are provided as they are likely to incur in future.

Check Your Progress

Draw profit and loss account of a trading concern.

4.4 Profit and Loss Account of a Manufacturing Concern

A manufacturing organization purchase raw material and converts it into finished product. It has to manage three kinds on inventories, namely, 'Raw Materials', 'Finished Goods', and 'Work-in-process'.

Profit and loss account of a manufacturing concern is prepared in three parts i.e. Manufacturing A/c, Trading A/c and Profit and Loss A/c.

All costs related to manufacturing are recorded in manufacturing account. These include all direct costs and the portion of indirect costs related to manufacturing of goods.

The information, when contained in the account form, appears as below:

Dr .		**Manufacturing Account**	**Cr.**
Opening Stock -Raw Material	XXX	Scrap	XXX
Purchase of Raw Material	XXX	Closing Stock-Raw Material	XXX
Freight Inward		Closing stock-work-in-Process	XXX
Factory Overheads	XXX	By cost of manufactured goods transferred to trading account (b.f)	XXX
Opening Stock-Work in-Process	XXX		
	XXX		XXX

Trading account is prepared to find out gross profit (or loss) due to operation of business. Stocks of raw material and work-in-process have been adjusted in the manufacturing account whereas the stock of finished goods is adjusted in the trading account.

Cost of Goods sold = Opening Stock + Net Purchases (Purchases - Purchase return) + Direct Expenses - Closing Stock

NOTES

Direct expenses include carriage inward, freight, wages, royalty on production etc. thus, trading account shows the result of buying of goods, bringing them in saleable condition and selling of goods. All transactions relating to goods affect the trading account. Trading account is a nominal account and closed by transfer of gross profit (or loss) to profit and loss account. Performa of trading account appears as follows:

Dr.	Trading Account for the year ending…………. Cr.
To Opening stock	By Sales Less : Sales return
To Purchases Less :	
Purchase Return	
To Direct Expenses	By Closing stock
(Wages, Freight etc.)	
To Gross Profit	

Gross profit or gross loss as revealed by the trading account is transferred to profit and loss account. All expenses and losses not transferred to trading account are recorded in profit and loss account. These expenses are called indirect expenses because these are not directly related with purchase of goods and bringing them in saleable condition. Performa of profit and loss account appears as follows:

Date	Particulars	J.F	Amount Rs.	Date	Particulars	J.F	Amount Rs.
	Administrative Expenses To Office salaries and wages To Office rent, rates and taxes To Office lighting and insurance To Printing and stationery To Postage and telegrams To Legal expenses To Audit fees To Telephone expenses				By Gross profit By Income from investments By Commission received By Interest on deposits By Gain on sale of fixed assets		

NOTES

	To General expenses Finance Expenses To Interest on capital To Interest on loans Selling and distribution expenses To Bad debts To Carriage, Freight, Cartage outwards To Cost of samples, catalogue expenses To Salesmen's salaries, expenses and commission To Advertising expenses To Depreciation on fixed assets To Net profit (transferred to capital account)						

4.5 Appropriation of Profit

After determination of profit by matching revenue and expenses, net profit is allocated by preparing profit and loss appropriation account. Appropriation A/c records the balance in the beginning of the year, net profit for the year transferred from profit and loss account and appropriations of profits such as interest on capital, salaries of partners, interest on drawings, transfer to reserve, payment of dividends etc. Thus, it incorporates various items of appropriation of profit, as against charges against profit which are recorded in profit and loss account.

Profit and Loss Appropriation Account

(for partnership firm)

Particulars	**Rs.**	**Particulars**	**Rs.**
To Interest on capital	XXX	By Net profit before appropriation	XXX
		By interest on drawings	XXX
To Salary to partner	XXX		
To net profit after appropriation			
	XXX		XXX

Appropriation of profit (India Cements ltd.) adapted.

Particulars	Rs. In Cr.
PAT	280.49
Equity dividend	20.00
Retained Earnings	260.49

NOTES

Check Your Progress
Explain the term appropriation of profit.

4.6 Advantage of Profit and Loss Account

Preparation of profit and loss account gives following advantages:

1. It gives overall view of the results of a business which can be used for intra-firm and inter-firm comparisons.
2. It provides details of indirect expenses which is of great help for controlling expenses.
3. Profitability ratios which are of great interest to financial analysts such as net profit ratio. Operating ratio return on capital employed etc. are based on figures contained in profit and loss account
4. The figure of net profit as revealed by income statement can be suitably adjusted to ascertain cash from operating activities. The figure of cash flows is of major concern to security analysts and other users of accounting information.

Check Your Progress
Explain merits of profit and loss account.

4.7 Solved Illustration

Illustration 1

Following balances were extracted from the books of Moonlight Ltd. as on 31/03/2012. You are required to prepare trading and profit and loss account in horizontal format and income statement in vertical format.

Particulars	Amt.	Particulars	Amt.
Purchases	170000	Bank Loan	100000
Closing Stock	30000	Interest on Investments	14000
Wages	20000	Rent Received	24000
Interest on Bank Loan	10000	Sales	340000
Bad Debts	8000	Purchases Return	14000
Salaries	40000	Creditors	24000
Salesman Commission	24000	Discount	8000

NOTES

Advertising	16000	Capital	245000
Investments	120000	Carriage	6000
Land and Building	200000	Repairs	5000
Return Inwards	14000	Cash in Hand	16000
Freight	4000	Cash at Bank	30000
Debtors	36000	opening stock	50000

Tax payable is 40%

Solution:

Trading Account for the year ending March 31,2012

Particulars		**Amt.**	**Particulars**		**Amt.**
Opening Stock		50000	Sales	3,40,000	
Purchases	1,70,000		Less: Returns		
Less; Returns	14,000	156000	Inward	14,000	326000
Wages		20000	Closing Stock	30000	
Freight		4000			
Carriage		6000			
Gross Profit c/d		120000			
		356000			**356000**

Profit and Loss Account for the year ending March 31,2012

Particulars	**Amt.**	**Particulars**	**Amt.**
Repairs	5000	Gross profit b/d	120000
Salaries	40000	Interest on Investments	14000
Interest on Bank Loan	10000	Rent Received	24000
Bad Debts	8000	Discount Received	8000
Salesman Commission	24000		
Advertising	16000		
Tax	25200		
Net Profit after tax	37800		
	166000		**166000**

Income Statement for the year end 31-3-2012

Particulars	Rs.	Rs.
Sales (less returns)		326000
Add: Other Incomes		
Interest on Investments	14000	
Rent received	24000	
Discount received	8000	46000
		372000
Less: Cost of gods sold:		
Opening stock	50000	
Add: Purchases (less returns)	156000	
	206000	
Less: Closing Stock	30000	
Add; Direct expenses:	176000	
Wages	20000	
Freight	4000	
Carriage	6000	206000
Gross Margin (or profit)		166000
Less: Indirect Expenses:		
Repairs	5000	
Salaries and wages	40000	
Bad debts	8000	
Salesman's Commission	24000	
Advertising	16000	93000
Profit Before Interest and Tax		73000
(PBIT)/ Operating Profit		
Less: Interest on bank loan		10000
Profit Before Tax		63000
Less: Tax @ 40%		25200
Profit After Tax		37800

NOTES

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Illustration 2

From the following information, prepare a profit and loss account for the year ending March 31, 2013.

	Rs.
Gross profit	60,000
Rent	5,000
Salary	15,000
Commission paid	7,000
Interest paid on loan	5,000
Advertising	4,000
Discount received	3,000
Printing and stationery	2,000
Legal charges	5,000
Bad debts	1,000
Depreciation	2,000
Interest received	4,000
Loss by fire	3,000

Solution

Amt.in Rs.

Profit and Loss Account

Rent	5000	Gross Profit	60000
Salary	15000	Discount Received	3000
Commission Paid	7000	Interest Received	4000
Interest Paid on Loan	5000		
Advertising	4000		
Printing and Stationery	2000		
Legal Charges	5000		
Bad Debts	1000		
Depreciation	2000		
Loss By Fire	3000		
Net Profit	18000		
	67000		**67000**

Illustration 3

Following data has been extracted from the financial statements of Reliance Industries ltd. you are required to arrange them into vertical Income Statement and calculate Operating Profit, PBT and PAT.

NOTES

Particulars	Mar-09	Mar-10
Raw Materials	109284	153689
Tax	3137	4325
Power & Fuel Cost	3356	2707
Employee Cost	2398	2331
Other Manufacturing Expenses	1163	2154
Total Turnover	143651	199128
Selling and Admin Expenses	4737	5756
Interest	1774	2000
Depreciation	5195	10497

Solution:

	Rs.	Rs.
Particulars	**March 2009**	**March 2010**
Total Turnover	143651	199128
Less:		
Raw Materials	1,09,284	1,53,689
Power and Fuel Cost	3,356	2,707
Employee Cost	2,398	2,331
Other Manufacturing Expenses	1,163	2,154
Selling and Admin Expenses	4737	5756
Depreciation	5195	10497
EBIT/Operating profit	17,518	21,994
Less:		
Interest	1,774	2,000
EBT	15744	19994
Less:		
Tax	3137	4325
EAT	12607	15669

NOTES

Illustration 4

From the following balances of Mr. Shiva, a sole trader for the year ended 2012, prepare Trading and Profit and Loss Account.

Particulars	Rs.
Cash	2800
Trade debtors	10000
Rent	2750
Salaries	6000
Trade Creditors	9350
Insurance	2000
Petty Expenses	1500
Opening Stock	10000
Sales	132500
Purchases	90000
Capital	52950
Drawings	5000
Motor Vehicle	32500
Machinery	27000
Office Expenses	1475
Machinery exps.	2500
Fuel & Lubricants exps.	1275
closing stock	15000

Solution:

Trading Account			
Opening Stock	10,000	Sales	132500.00
Purchases	90,000	Closing Stock	15000.00
Fuel and Lubricants Expenses	1,275		
Gross Profit	46,225		

Profit and Loss Account

Rent	2,750	Gross Profit	46225
Salaries	6,000		
Insurance	2,000		
Petty Expenses	1,500		
Office Expenses	1,475		
Machinery Expenses	2,500		
	30,000		

NOTES

Illustration 5

Following balance is extracted from the books of a trader compute gross profit, net profit for the year ended March 31, 2012, by preparing Trading and Profit & Loss A/c.

Particulars	**Amount Rs.**
Sales	75,250
Purchases	32,250
Opening stock	7,600
Sales return	1,250
Purchases return	250
Rent	300
Stationary and printing	250
Salaries	3,000
Misc. expenses	200
Travelling expenses	500
Advertisement	1,800
Commission paid	150
Office expenses	1,600
Wages	2,600
Profit on sale of investment	500
Depreciation	800
Dividend on investment	2,500
Loss on sale of old furniture	300

Closing stock (March 31, 2012) valued at Rs. 8,000

Solution:

NOTES

Trading Account

Opening Stock		7,600	Sales	75250	
Purchases	32250		Less Return	1250	74000
Less: Purchase Return	250	32,000			
Purchases			Closing Stock		8000
Wages		2,600			
Gross Profit		39,800			82000

Profit and Loss Account

Rent	300	Gross Profit	39,800
Salaries	3,000	Profit on Sale of	500
		Investment	
Misc. Expenses	200	Dividend on	2500
		Investment	
Travelling	500		
Advertisement	1800		
Commission	150		
Office Expenses	1600		
Depreciation	800		
Loss on Sale of Old	300		
Furniture			
Loss on Sale of Old	300		
Furniture			
Net Profit	33,850		
	42,800		42,800

4.8 Summary

- ★ Income statement shows the financial performance in the form of profit earned or loss sustained by the business.
- ★ Revenue includes only the gross inflows of economic benefits received and receivable by the entity on its own account.
- ★ Revenue arises from Sale of goods, Rendering of services, Interest, royalties and dividends etc.
- ★ Revenue is recognized only when it is probable that the economic benefits associated with the transaction will flow to the entity.

NOTES

- Trading account is prepared to find out gross profit (or loss) due to operation of business.
- Cost of Goods sold = Opening Stock + Net Purchases (Purchases - Purchase return) + Direct Expenses - Closing Stock
- Gross profit or gross loss as revealed by the trading account is transferred to profit and loss account. All expenses and losses not transferred to trading account are recorded in profit and loss account.
- P & L Appropriation A/c records the balance in the beginning of the year, net profit for the year transferred from profit and loss account and appropriations of profits such as interest on capital, salaries of partners, interest on drawings, transfer to reserve etc.

4.9 Key Terms

- Gross Profit: It is calculated as difference between sales turnover and cost of goods sold. It enables to know about company's operating results.
- Net profit after tax: It is obtained after deducting all expenses, interest and tax from sales. Net profit ratio is the ratio of net profit after taxes to net sales.
- Profit After Tax (PAT)/EAT: It represents profit after tax which is available to owners. It can be used for distribution of dividends.
- Profit and loss appropriation account: Appropriation A/c records the balance in the beginning of the year, net profit for the year transferred from profit and loss account and appropriations of profits such as interest on capital, salaries of partners, interest on drawings, transfer to reserve, payment of dividends, etc.
- Profit before Depreciation, Interest and Tax (PBDIT): It is calculated as difference between gross profit and administrative and selling expenses. Depreciation and interest is not considered at this stage. This is also called as "cash profit".This is some times referred to as Earnings Before Depreciation, Interest, Tax and Amortisation(EBDITA).
- Profit before Interest and Taxes (PBIT): It is calculated as difference between PBDIT and depreciation. It represents a part of profit that is available to service the debt and owners. This is also referred to as Earnings before Interest and Tax (EBIT).
- Profit before Tax (PBT)/EBT: It is the amount of profit before providing for Income Tax

4.10 Questions and Exercises

4.10.1 Multiple Choices Questions

1. Revenue arises from -
   a) Sale of goods

NOTES

b) Rendering of services

c) Goods are delivered

d) Both the above

2. Revenue is recognized

   a) Only when it is probable that the economic benefits associated with the transaction will flow to the entity

   b) Only when cash is received

   c) When there is demand of goods

   d) Both (a) and (b)

3. As per Accrual principle an income is recognized,

   a) when right to receive the income arises

   b) when the amount of income is known with reasonable accuracy

   c) both the above

   d) either (a) or (b)

4. As per Accrual principle an expense is recognized,

   a) when it becomes due,

   b) when it is paid

   c) either (a) or (b)

   d) Both (a) and (b)

5. The matching concept is an accounting principle

   a) That requires the identification and recording of expenses associated with revenue earned and recognized during the same accounting period

   b) That requires any period income and expenses to be recorded any time in the year

   c) Last years' expenses to be recorded in the current year

   d) None of the above

6. Cost of Goods sold is calculated as

   a) Cost of Goods sold = Opening Stock + Net Purchases (Purchases - Purchase return) + Direct Expenses - Closing Stock

   b) Cost of Goods sold = Opening Stock + Net Purchases (Purchases - Purchase return) + Direct Expenses + indirect expenses- Closing Stock

   c) Cost of Goods sold = Closing Stock + Net Purchases (Purchases - Purchase return) + Direct Expenses + indirect expenses- Opening Stock

   d) None of the above

7. Trading account is prepared to

   a) Find out gross profit/gross loss

   b) Find out net profit/net loss

   c) Find out cost of goods sold

   d) None of the above

8. Profit and loss account is prepared to

a) Present financial position
b) Find out net profit/net loss
c) Find out cost of goods sold
d) None of the above

NOTES

9. Which of the following is recorded in Profit and Loss Appropriation account
a) Interest on capital
b) Interest on bank loan
c) Salaries to partner
d) Both (a) and (c)

10. Interest on drawings by partner is transferred to
a) Trading account
b) Profit and loss account
c) Profit and loss appropriation account
d) None of the above

4.10.2 Theory Questions

1. Define revenue and its recognition.
2. Write short notes on (a) Accrual concept (b) Realization concept.
3. Explain the concept of matching of revenue and expenses.
4. Distinguish between Manufacturing and Trading Account.
5. Distinguish between Profit and Loss and Profit and Loss Appropriation Account.

4.9.3 Practical Problems

Exercise 1

From the following balances as on 31st March 2012, prepare Trading and Profit and Loss Account in the books of Sunrise Ltd.

Sr. No.	Particulars	Amount(Rs.)
1	Mr. A's capital a/c	10,00,000
2	Mr. A's drawing a/c	20,000
4	Purchase of finished goods less return	20,00,000
5	freight inward for finished goods	20,000
6	wages	1,20,000
7	salaries	1,50,000
8	Rates and taxes	30,000
9	electric power	60,000
10	electricity charges for lights fans	25,000

NOTES

11	office rent	30,000
12	reserve account	50,000
13	traveling expenses	1,00,000
14	insurance premium	1,80,000
15	advertisement expenses	40,000
16	sales less return	30,00,000
17	bad debts written off	10,000
18	discount (debit balance)	5,000
19	general expenses	36,000
20	postage and telegram	15,000
21	opening stock as on 1 April 2011:	330000
22	factory land	80,000
23	factory building	60,000
24	plant and machinery	5,00,000
25	furniture and fixtures	1,05,000
26	sundry creditors	2,00,000
27	sundry debtors	6,00,000
28	cash in hand	20,000
29	cash in bank	14,000
30	Depreciation	50000
31	closing stock	350000

Exercise 2

Omkarnath started providing computer maintenance services in city Pune in March. You are required to prepare the profit and loss account from the following information at the end of March 2012.

- Day 1, Omkarnath invested Rs. 150000 and obtained a bank loan of Rs.50,000 @ 12% p.a.
- Day 2, Omkarnath deposited Rs. 75000 for office premises, Rent of Rs.7500 to be paid in advance.
- Day 3, Omkarnath contracts with S.K. International to provide services on monthly basis. Monthly charges will be Rs. 15000 and paid at the 5th of each month for last month.

NOTES

- ★ Day 10, Omkarnath provided services to J.K. Mehta Hospital and charged Rs. 7750 to them. This was received immedietly.
- ★ Day 16, paid Rs. 7500 for office rent.
- ★ Day 18, Omkarnath appointed a graduate assistant for office administration purpose at a salary of Rs. 4500 per month. In the current month, salary for half month is paid immedietly.
- ★ Day 25, Purchased of a computer Chip of Rs. 750.
- ★ Day 26, Omkarnath provided maintenance services to Mr. Nityanand and used chip to replace the broken down from the computer, which was purchased by him. He charged bill of Rs. 11250. This was unpaid till the end of month. One time hiring cost of Rs.2000 paid.
- ★ Day 29, paid rent of Rs. 7500 for Apr 2012.

4.10.4 Business Cases

Case 1

India's largest power company, NTPC was set up in 1975 to accelerate power development in India. NTPC is emerging as a diversified power major with presence in the entire value chain of the power generation business. Apart from power generation, which is the mainstay of the company, NTPC has already ventured into consultancy, power trading, ash utilisation and coal mining. NTPC ranked 341st in the '2010, Forbes Global 2000' ranking of the World's biggest companies. NTPC became a Maharatna company in May, 2010, one of the only four companies to be awarded this status.

The total installed capacity of the company is 36,014 MW (including JVs) with 15 coal based and 7 gas based stations, located across the country. In addition under JVs, 5 stations are coal based & another station uses naptha/LNG as fuel. The company has set a target to have an installed power generating capacity of 1,28,000 MW by the year 2032. The capacity will have a diversified fuel mix comprising 56% coal, 16% Gas, 11% Nuclear and 17% Renewable Energy Sources(RES) including hydro. By 2032, non fossil fuel based generation capacity shall make up nearly 28% of NTPC's portfolio.

NTPC has been operating its plants at high efficiency levels. Although the company has 17.75% of the total national capacity, it contributes 27.40% of total power generation due to its focus on high efficiency.

Following information is available regarding its incomes and expenses in Rs. Cr. for the year ending 31st March 2010 and 2011.

NOTES

Particulars	Mar '11	Mar '10
sales turnover	55,216.69	46,623.60
Excise Duty	278.01	245.9
Other Income	2,525.48	2,872.80
Raw Materials	31.33	31.1
Power & Fuel Cost	35,796.37	29,689.10
Employee Cost	3,395.27	2,946.80
Other Manufacturing Expenses	1,273.14	1,096.60
Selling and Admin Expenses	2,264.01	578.5
Miscellaneous Expenses	525.63	436.4
Interest	2,027.21	1,861.90
Depreciation	2,485.69	2,650.10
Profit Before Tax	10,713.99	10,822.60
Tax	2,630.54	2,682.70
Preference Dividend	0	0
Equity Dividend	3,133.26	3,133.20

You are required to prepare income statement and calculate profit at various levels.

4.11 Further Reading and References

- Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education
- "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi.

UNIT 5 MECHANICS OF ACCOUNTING

NOTES

Structure

5.0 Introduction

We have seen the structure of financial statements in earlier chapter. A balance sheet discloses various assets and liabilities while an income statement shows incomes and expenses. As we have seen the balance sheet equation is

Owner's Fund + External Liabilities = Assets or

Owner's Fund = Assets - External Liabilities.

It shows that total assets are equal to total liabilities. This equality arises due to specific system of maintaing books of accounts to record various transactions. We shall discuss the entire process of recording various transactions in a systematic manner to arrive at financial statements.

5.0 Unit Objectives

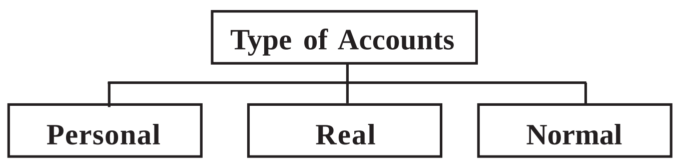
NOTES

After Studying this Unit, you should be able to

- ★ Understand classification of accounts
- ★ Understand accounting cycle
- ★ Prepare journal and subsidiary books
- ★ Post journal entries to ledger accounts
- ★ Learning preparation of trial balance
- ★ Prepare Bank Reconciliation Statement
- ★ Knowing Computerized Accounting

5.2 Classification of Accounts

An account is a statement which shows all transaction related to a particular party, asset, liability, income or expense. The types of accounts are A. Personal, B. Real, and C. Nominal. The classification of accounts can be shown as under:



A. Personal Account: Account related to some party like individual, bank, firm, company etc. is known as personal account. The personal account may be for natural persons (e.g. Sumit's A/c, Krishna's A/c), artificial persons (e.g. Chaitanya Cements Ltd A/c, KP & Co. A/c) and representative persons (e.g. Prepaid Insurance A/c, Outstanding Salary A/c).

B. Real Accounts: Real accounts are related to assets. Anything of material value or usefulness that is owned by a person or company is termed as asset. An asset results into future benefit to an organization. Some examples of real accounts are Building A/c, Plant A/c, Furniture A/c, Cash A/c, Goodwill A/c, etc. However it may be noted that accounts of any parties like Debtors A/c, Bank A/c are always treated as personal accounts, though they may be assets.

C. Nominal Accounts: The accounts for recording income, expenses, losses and gains are classified as nominal accounts. For example, Wages A/c, Salaries A/c, Insurance Premium A/c, Rent Received A/c etc.

Illustration 1

Classify the following accounts into three categories Personal, Real and Nominal account.

1	Cash	7	Bank loan
2	Capital	8	Interest
3	Furniture	9	Ms. Vanadna
4	Wages	10	Advances from customers
5	Carriage inward	11	Bank
6	Power and Electricity A/c	12	Prepaid Expenses

Solution:

Personal accounts: 2, 7, 9, 10, 11, 12; Real accounts: 1, 3; Nominal accounts: 4, 5, 6, 8.

5.3 Double Entry System

This is a scientific system of recording transactions. According to this every transaction has two fold aspects (debit and credit) and both these aspects need to be recorded in the books of accounts. It records every transaction with equal debits and credits. As a result the total of debits must equal to the total of credits.

NOTES

Check Your Progress

Explain different types of accounts

In case of double entry system, accounts are prepared with the help of following rules:

NOTES

Personal Account

*** Debit the receiver**
*** Credit the giver**

Mr. Ram, one of the debtors deposited Rs. 10,000 directly in Bank Account
Debit - Bank A/c - The receiver
Credit - Mr. Ram - The giver

Real Account

*** Debit what comes in**
*** Credit what goes out**

Furniture worth Rs. 20,000 purchased
Debit - Furniture A/c - It comes in
Credit - Cash A/c - It goes out

Nominal Account

*** Debit all expenses and losses**
*** Credit all incomes and gains**

A) salary paid Rs. 10,000
Debit - Salary A/c - Debit all expenses
credit - cash - it goes out
B) Rent received
Debit - Cash - it comes in
Credit - Rent - Credit all incomes

Examples

1. Wages Paid Rs. 3000
   Wages - Nominal Account- Debit all expenses
   Cash - Real Account - credit what goes out
2. Rs. 10,000 collected from Mr. Bharat
   Cash - Real Account - Debit what comes in
   Mr. Bharat - Personal Account - Credit the giver
3. Commission received Rs. 5000 through cheque
   Bank - Personal Account- Debit the receiver
   Commission - Nominal Account- credit all incomes and gains

Check Your Progress
What is double book keeping system?

5.4 Overview of Accounting Cycle

Accounting Cycle refers to the process which starts with recording of opening entries in the Journal and ends with the preparation of financial statements. The following steps are included in the accounting cycle:

Recording Opening Entries in Journal

⇩

Recording Transactions in Journal and other subsidiary books

⇩

Ledger posting and balancing

⇩

Recording Adjucting and Closing Entries in Journal

⇩

Preparing financial statements

NOTES

Check Your Progress

Explain accounting cycle

5.5 Preparing Journals

For recording any transaction it is necessary to identify the accounts which are to be debited and credited and the amount of such debit/credit. The affected account may be shown by way of Journal Entry. The transactions are recorded in the books of accounts is called Journal Entry. The process of recording transaction is called as journalizing.

Journal entries are recorded chronologically that is date-wise. Journal is prepared in following format:

Date	Particulars	Ledger Folio	Debit (Rs.)	Credit(Rs.)

Date column mentions the date of transaction. In Particulars column accounts involved in the transaction are recorded along with narration (Brief explanation starting with Being…..). Ledger folio provides with page number of ledger for cross-reference. In debit and credit column respective amount should be mentioned.

Journal entry can be simple journal entry with one debit and one credit or else compound journal entry with more than one debit and/or credit.

Let us understand through following practical question

NOTES

Illustration 2

Journalize the following transactions in the journal of M/s Jay Enterprises.

2012

April	1	Started business with cash Rs. 1,75,000, Goods Rs. 1,25,000. Furniture Rs. 1,10,000
	2	Deposited into Bank Rs. 60,000
	5	Discussed with Ramesh & Co. for the supply or goods of the list price of Rs. 2,00,000.
	7	Ramesh & co. supplied goods of the list price of Rs. 1,70,000.
	11	Purchased goods from Mahesh Traders of the list price of Rs. 2,35,000 less 10% trade discount. Cheque issued to him under a cash discount of 2%.
	15	Goods sold to Sham Ltd. of the list price of Rs. 1,09,250. It paid half of the amount by cheque.
20%	16	Goods costing Rs. 70,000 sold to Mr.Umesh for cash at a profit of on cost price less 10% trade discount and 5% cash discount.
	18	Goods taken away by the proprietor for the personal use, amount Rs. 10000 (Sale Price Rs.13000).
	20	Sham Ltd became insolvent and paid only 80 paise in rupee by cheque in full and final settlement.
	22	Paid Ramesh & Co. 98% of the amount due to him by cheque in full and final settlement of account.
	23	Goods (cost Rs. 6,500, sale price Rs. 8,000) stolen.
	25	Cash Paid For the Life insurance premium Rs. 1800 for proprietor
	29	Cash embezzled by an employee Rs. 4,200.

Solution:

Date	**Particulars**	**Dr/Cr**	**L.F.**	**Debit Amt. (Rs.)**	**Credit Amt. (Rs.)**
1st April					
2012	Cash A/c	Dr.		175000	
	Stock A/c	Dr.		125000	
	Furniture A/c	Dr.		110000	
	To Capital A/c				410000
	(Being the cash, goods and furniture brought in as capital)				

NOTES

2	Bank A/c To Cash A/c (Being the amount deposited into bank)	Dr.		60000	 60000
5	No Entry				
7	Purchases A/c To Ramesh & Co. A/c (being the goods purchased on credit)	Dr.		170000	 170000
11	Purchases A/c To Bank A/c To Discount A/c (being the goods purchased for cash)	Dr.		211500	 207270 4230

Note	
	Rs
List Price	2,35,000
Less:Trade Discount	
@10% (23,500)	
Invoice Price	2,11,500
Less : Cash Discount	
@ 2% 4,230	
Cash received	2,07,270

15	Bank A/c Sham Ltd A/c To Sale A/c (being the goods sold to Sham Ltd , half of the amount is received in cash)	Dr. Dr.		54625 54625	 109250
16	Cash A/c Discount Account To Sale A/c (being the goods sold to Mr.Umesh for cash)	Dr. Dr.		71820 3780	 75600

NOTES

Note	
	Rs.
Cost Price	70,000
Add : Profit @ 20% on cost	14,000
List price	84,000
Less : Trade Discount @10% (8,400)	
Invoice Price	75,600
Less : Cash Discount @ 5% (3,780)	
Cash Received	71,820

18	Drawings Account To Stock Account (Being the goods withdrawn by the proprietor for personal use)	Dr.		10000	 10000
20	Bank Account Bad Debts Account To Sham Ltd Account (Being 80 paise in rupee received from Sham Ltd.in full and final settlement)	Dr. Dr.		43700 10925	 54625
22	Ramesh & Co A/c To Discount A/c To Bank A/c (Being the 98% of amount due to Ramesh & co. paid to him in full and final settlement of account)	Dr.		170000	 3400 166600
23	Loss by Theft Account To Stock Account (Being the goods stolen)	Dr.		6500	 6500
25	Drawings Account To Cash a/c (Being life insurance premium paid in cash)	Dr.		1800	 1800
29	Loss by Embezzlement A/c To Cash A/c (being cash embezzled by an employee)	Dr.		4200	 4200
	Total			**1283475**	**1283475**

Check Your Progress

Draw format of journal.

5.6 Subsidiary Books

NOTES

Business transactions can be classified as those transactions relating to purchase, sales, cash etc. it is convenient to record these transactions in a separate register for each such class of transactions. Such registers are books of original entry and are known as subsidiary books. These books improve availability and accuracy of information without sacrificing the fundamental principle of double entry book keeping system.

Types of Journals	**Purpose**
Purchase Day Book	To record transaction relating to credit purchases of goods in trade
Sales Day Book	To record transaction relating to credit sales
Purchase Return Book	To record transaction relating to purchase return
Sales Return Book	To record transaction relating to sales return
Cash Book	To record cash, bank and discount transactions
Journal Proper	To record other transactions for which no specific journal is maintained, and for recording entries to rectify mistakes in books of accounts

5.6.1 Purchase Day Book

This book is prepared to record transactions related to credit purchase of goods in trade. It does not record credit purchase of fixed assets. Cash transactions are not recorded in this journal. Enterprises also maintain a 'Purchase Return Book' to record return of goods to supplier.

Purchase Day Book of

Date	Particulars	Inward Invoice no.	Ledger folio	Amount	Net Amount

Illustration 3

A & Co. deals in ladies garments. The rough book of the firm shows the following transaction for the month of January 2012:

Jan. 1 Purchased from B &Co. on credit:
10 cotton salwar suits @ Rs. 500 per suit
10 silk salwar suit @ Rs. 1,500 per suit
Less: Trade discount @ 10%

Jan. 10 Purchased in cash from C& Co:
2 cotton salwar suit @ Rs. 150 per suit

Jan. 15 purchased a calculator for office use from D & Co. on credit for Rs.500

Jan. 20 Purchased from Y & Co. on credit:

NOTES

10 cotton sarees @ Rs. 600 per saree
10 silk sarees @ Rs. 2,000 per saree
Less: Trade discount @10%

Jan.31 Purchased 10 cotton suit lengths @Rs. 300 per suit length from Z & Co. on credit.

Prepare the purchase day book of A & Co. for the month of January 2005.

Solution:

Purchase Day Book of A & Co.					
Date	**Particulars**	**Inward Invoice no.**	**Ledger folio**	**Amount Rs.**	**Net Amount Rs.**
2012					
Jan. 1	M/s B & Co.				
	10 cotton salwar suits @ Rs. 500			5,000	
	10 silk salwar suits @Rs. 1,500			15,000	
				20,000	
	Trade discount @ 10%			-2,000	18,000
Jan 10	No Entry*				
Jan 15	No Entry**				
Jan. 20	M/s y & Co.				
	10 cotton sarees @ Rs. 600			6,000	
	10 silk sarees @Rs. 2,000			20,000	
				26,000	
	Trade discount @ 10%			-2,600	23,400
Jan. 31	M/s Z & Co.				
	10 cotton suit lengths @ Rs.300				3,000
	Total				44,400

* cash purchases are not to be recorded in Purchase Book

**Purchase of Fixed Asset (Calculator) will not be recorded in purchase Day Book.

5.6.2 Sales Day Book

Enterprises record credit sales of stock-in-trade in a 'Sales Day Book'. The mechanics of posting entries from the sales day book to the general ledger and the subsidiary ledger for debtors are similar to those posting from the purchase day book.

NOTES

Sales Day Book of

Date	Particulars	Outward Invoice no.	Ledger folio	Amount	Net Amount

Illustration 4

A & Co. deals in ladies garments. The rough book of the firm shows the following transactions for the month of January 2012:

Jan. 2	Sold to Alpha & Co. on credit:
	5 cotton salwar suits @ `600 per suit
	5 silk salwar suits @ ` 1,800 per suit
	Less: Trade discount@ 10%
Jan.3	Sold old furniture to M & Co. for ` 100 on credit
Jan. 8	Sold to Beta & Co. on credit:
	5 Cotton salwar suits @ ` 600 per suit
	5 Silk salwar suits @ ` 1,800 per suit
	Less: Trade discount @ 10%
Jan. 15	Sold 2 silk sarees to M/s. Beauty for ` 2,500 in cash
Jan.31	Sold to Gamma & Co. on credit:
	10 cotton sarees @ ` 800 per saree
	10 silk sarees @ ` 2,500 per saree
	Less: Trade discount @ 10%

Prepare the sales day book of A & Co. for the month of January 2005.

Solution:

Date	**Particulars**	**Ledger folio**	**Amount Rs.**	**Net amount Rs.**
2012				
Jan. 2	M/s Alpha & Co.			
	5 cotton salwar suits @ `600		3,000	
	5 silk salwarb suits @ ` 1,800		9,000	
		12,000		
	Trade discount @ 10%		(1,200)	10,800

NOTES

Jan. 3	No Entry*			
Jan. 8	M/s Beta & Co.			
	5 cooton salwar suits @ `600		3,000	
	5 silk salwar suits @ ` 1,800		9,000	
		12,000		
	Trade discount @ 10%		(1,200)	10,800
Jan.15	No Entry**			
Jan. 31	M/s Gamma & Co.			
	10 cotton sarees @ `800		8,000	
	10 silk sarees @ ` 2,500		25,000	
		33,000		
	Trade discount @ 10%		(3,300)	29,700
	Total		51,300	

* Sale of Fixed Asset (Furniture) will not be recorded in Sales Book

** Cash sales not recorded in sales book

5.6.3 Cash Book

Cash and bank transaction are recorded in the 'Cash Book'. A cash book is a book of primary entry. It also servers the purpose of a ledger account and, therefore, the cash account and bank account are not maintained in the general ledger. Balances in the cash book are taken directly to the trial balance that lists out balances in various account heads in the general ledger. Thus, a cash book serves the dual purpose of maintaining a journal to record cash and bank transactions, and also maintaining cash and bank accounts in the general ledger. The following are the different types of cash books that are being maintained by enterprises:

1. Single-column cash book: It records only cash receipts and cash payments. 2. Double-column cash book: It has an additional column to record bank transactions 3. Three-column cash book: It provides additional information on discount received and discount allowed.

Illustration 5

A commenced business as A & Co. on January 1, 2012 with a cash balance of Rs. 2,000. Record the transactions for the month of January 2012 in a cash book with discount and bank columns.

NOTES

Jan. 1 Deposited cash with bank	1,500
Jan. 4 Received cheque from B &Co.	1,000
Jan. 5 C & Co. is paid by cheque Rs.330 He allowed a discount of Rs. 20	
Jan. 6 Received cheque from M &Co. Rs.450 after allowing a discount of Rs. 50.	
Jan. 10 Goods sold in cash to R & Co.	500
Jan. 12 Cash drawn for office use	500
Jan. 15 Paid for office Paid expenses in cash	500
Jan 17 Goods sold on Credit to R & Co.	1000
Jan. 25 Paid salaries for January in cash	500
Jan. 25 Cheque received from Y & Co.	400
Jan. 31 Cheque received from Y & Co. returned by bank	400

A & Co.
CASH BOOK

Dr.	Receipts						Payments	.			Cr.
Date	Particulars	L F	Discount	Cash	Bank	Date	Particulars	L F	Discount	Cash	Bank
				Rs.	Rs.	Rs.			Rs.	Rs.	Rs.
2012						2012					
Jan. 1	To capital			2,000		Jan. 1	By cash	C		1,500	
Jan. 1	To bank	C			1,500	Jan. 5	By C & Co.		20		330
Jan. 4	To B & Co.				1,000	Jan.12	By cash	C			500
Jan. 6	To M & Co.				450	Jan.15	By office expenses			500	
Jan.10	To sales		50	500		Jan.17			No Entry *		
						Jan.25	By salaries			500	
Jan. 12	To bank	C		500		Jan.31	By Y & Co.				400
Jan. 25	To Y & Co.				400	Jan.31	By balance c/d			500	2,210
			50	3,000	3,350				20	3,000	3,350
Feb. 1	To balance b/d		500	2,120							

* Credit sales are not to be recorded in cash book.

5.6.4 Petty Cash Book

NOTES

As a matter of convenience, an imprest (a predetermined amount of cash) is sanctioned to individuals authorized to make payments of small amounts of high frequency. Examples of such payments are: portage, conveyance, carriage and stationery. The individual so authorized maintains a cash book known as a petty cash book. A petty cash book usually has multiple columns to accommodate different types of payment.

Name of Company

Petty Cash For the month of

Cash Receipt Details				Cash Payment Details								
Date	Sr. No.	Particular	Amt	Sr.No.	Particular	Total	postage & Tel.	Conve-yances	Fright Inword	Fright Outword	Repair & Main tenece	Mics. Exp.
01/12 /2010		Bal. C/F (Nov.2010)										
		Total			Total	0	0	0	0	0	0	0

Cash Bal. At the End of Month

5.6.5 Journal Proper

Check Your Progress
Explain different subsidiary books.

Those transactions which cannot be recorded in other subsidiary books are recorded in journal proper. Format of journal proper is similar to the usual journal for recording journal entries. The transactions recorded in journal proper are: (a) Fixed assets introduced by owners as capital (b) Exchange of assets (c) Bad debts. Opening, closing and adjusting entries are recorded in journal proper.

5.7 Ledger

After recording transaction in the books of primary entry, the next phase in the accounting process is to prepare accounts in the general ledger. On the basis of journal entries, transactions are recorded in the ledger accounts. This process is also known as posting of journal entry. Periodically, accounts in the general ledger are balanced. For example, if in a particular account the total of the debit side comes to Rs.20, 000 and the total of the credit side comes to Rs.17, 000, the account shows a debit balance of Rs. 3,000. Thus, a debit balance of Rs.3, 000 reflects that the total of the debits exceeds the total of the credits by Rs. 3,000. The balances in ledger accounts at the end of accounting period are transferred to financial statements. The format of ledger account is as follows:

Debit (Dr.) Credit (Cr.)

Date	Particulars	Journal Folio	Amount Rs.	Date	Particulars	Journal Folio	Amount Rs.

NOTES

Each ledger account has two sides debit side and credit side. Each of the side provides for date of posting, particulars (starts with "To" in case of debit side and "By" in case of credit side), journal folio noumber for cross reference and amount of transaction.

Illustration 6

Using information available in Illustration 2 prepare Ledger Accounts.

Solution:

In the books of Jay Traders

Ledger

Cash Account

Dr. Cr.

Date	Particulars	J.F.	Amount (Rs..)	Date	Particulars	J.F.	Amount (Rs.)
2012				2012			
Apr-01	To Capital		175000	Apr-02	By Bank		60000
Apr-16	To Sale		71820	Apr-25	By Drawings		1800
				Apr-29	By loss by emblezment		4200
				Apr-30	By Bal C/d		180820
			246820				246820

Dr. Stock Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012				2012			
Apr-01	To Capital		125000	Apr-18	By Drawings		10000
				Apr-23	By Loss by Theft		6500
				Apr-30	By Bal C/d		108500
			125000				125000

Dr. Bank Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012				2012			
Apr.1	To cash		60000	Apr-11	By Purchase		207270
Apr-15	To sale		54625	Apr-22	By Ramesh		166600
Apr-20	To Sham		43700				
Apr-30	To bal C/d		215545				
			373870				373870

NOTES

Dr. Purchase Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012				2012			
Apr.1	To Ramesh . & co		170000	Apr-30	By Bal C/d		381500
Apr-11	To Bank		207270				
	To Disc. Recd.		4230				
			381500				381500

Dr. Furniture Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012				2012			
Apr.1	To Capital		110000	Apr-30	By Bal C/d		110000
			110000				

Dr. Sham Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012				2012			
Apr-15	To sale		54625	Apr-20	By Bank A/c		43700
				3	By Bad Debts A/c		10925
			54625				54625

Dr. Ramesh & Co. Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012				2012			
Apr-22	TO Bank		166600	Apr-07	By Purchase		170000
	To Discount		3400				
			170000				170000

NOTES

Dr. Capital Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
				2012			
Apr-30	To bal C/d		410000	Apr.1	By cash		175000
					By Stock		125000
					By Furniture		110000
							410000

Dr. Discount Received Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
				Apr-11	By purchase		4230
Apr-30	To bal C/d		7630	Apr-22	By Ramesh		3400
							7630

Dr. Discount Allowed Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
Apr-16	To Sale		3780	Apr-30	By Bal C/d		3780

Dr. Loss By Theft A/c Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
Apr-23	To Stock A/c		6500	Apr-30	By Bal C/d		6500

Dr. Loss By EmblezmentA/c Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
Apr-29	To Cash A/c		4200	Apr-30	By Bal C/d		4200
			4200				

NOTES

Dr. Sales Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
30	To Balance c/d		184850	Apr-15	By Bank		54625
					By sham		54625
				Apr-16	By Cash A/c		71820
					By Discount Allowed		3780
							184850

Dr. Bad Debts Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
Apr-16	To Sham		10925	Apr-30	By Balance c/d		10925
			10925				

Dr. Drawings Account Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
Apr-18	To Stock A/c		10000	Apr-30	By Balance c/d		11800
Apr-25	To Cash		1800				

Illustration 7

Pass the opening entry in the Journal of Raj & Co. (as on April 1, 2012) and post the same into the Ledger:

Cash at Bank Rs. 16,000,

Land and Building Rs. 1, 75,000,

Prepaid Insurance Rs. 820,

Loan from Y Ltd. Rs. 30,000,

Solution

In the books of Raj & Co.

Date	Particulars		L.F.	Dr. Rs.	Cr.Rs.
2012					
	Bank	Dr.		16000	
	Land and Building	Dr.		175000	
	Prepaid Insurance	Dr.		820	
	To Loan from Y Ltd.				30000
	To Raj's Capital A/c				161820
	(being the balance brought forward from last year)				

NOTES

Ledger of Raj & Co.

Dr. Bank A/c Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012 Apr-01	To Balance b/d		16000				

Dr. Land and Building A/c Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012 Apr-01	To Balance b/d		175000				

Dr. Prepaid Insurance A/c Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
2012 Apr-01	To Balance b/d		820				

Dr. Loan from Y Ltd A/c Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
				2012 Apr-01	By Balance b/d		30000

NOTES

Check Your Progress
What is ledger?

Dr. Raj's Capital A/c Cr.

Date	Particulars	J.F.	Amount (Rs.)	Date	Particulars	J.F.	Amount (Rs.)
				2012 Apr-01	By Balance b/d		588910

5.8 Preparation of Trial Balance

After balancing the ledger account, the next step is the preparation of Trial Balance. A trial balance is a list of all accounts with their balances. It is a statement which is prepared periodically, usually at the end of each month, which contains list of the ledger accounts at a specified date, showing their debit and credit (totals or balance). Trial balance is not an account. According to the Double Entry System of accounting, every entry should have same amounts of debit and credit. Therefore the total of trial balance must tally. If the two sides of Trial Balance do not agree it indicates that the books of account are arithmetically incorrect, however tallying of trial balance is not a conclusive proof of accuracy.

The standard form of a Trial Balance is as follows:

Trial Balance of ____________ as on _____________

Particulars	Debit Total/ Balance Amount (Rs.)	Credit Total/ Balance Amount (Rs.)

Advantages of preparing trial balance

1) A Trial balance is prepared to check the arithmetic accuracy of books of accounts.

2) Trial Balance contains a summary of ledger accounts balances on a particular date and it forms the basis for preparation of income statement and balance sheet.

Illustration 8

Using solution (Ledger Balances) of Illustration 1.6 prepare Trial Balance.

Solution:

Trial Balance of Jay Traders

Particulars	Debit Total/ Balance (Rs.)	Credit Total/ Balance (Rs.)
Cash	180820	
Stock	108500	
Furniture	110000	
Bank Overdraft		215545
Capital		410000
Sales		184850
Purchases	381500	
Loss by Theft	6500	
Loss by Embezzlements	4200	
Discount allowed	3780	
Discount Received		7630
Bad debts	10925	
Drawings	11800	
Total	818025	818025

NOTES

Illustration 9

From the following balances taken from the ledger of M/s Krishna trading, prepare a trial balance as on 31st March, 2012 :

Particulars	**Amt. (Rs.)**
Cash	5600
Trade debtors	20000
Rent	5500
Salaries	12000
Trade Creditors	18700
Insurance	4000
Petty Expenses	3000
Opening Stock	20000
Sales	265000
Purchases	180000

NOTES

Capital	105900
Drawings	10000
Motor Vehicle	65000
Machinery	54000
Office Expenses	2950
Machinery exps.	5000
Fuel & Lubricants exps.	2550

Solution

Trial Balance of M/s Krishna Trading

As on 31st March, 2012

Particulars	Debit Balance Amount (Rs.)	Credit Balance Amount (Rs.)
Cash	5600	
Trade debtors	20000	
Rent	5500	
Salaries	12000	
Trade Creditors		18700
Insurance	4000	
Petty Expenses	3000	
Opening Stock	20000	
Sales		265000
Purchases	180000	
Capital		105900
Drawings	10000	
Motor Vehicle Machinery	65000 54000	
Office Exps.	2950	
Machinery exps.	5000	
Fuel & Lubricants exps.	2550	
Total	**389600**	**389600**

There are certain errors which are disclosed by Trial balance, but certain type of errors remain undetected. Thus, it is well known that the agreement of trial balance is not the conclusive proof of the accuracy of the books of accounts.

Errors Disclosed by a Trial Balance

1) Omission in Posting 2) Posting on the wrong side of an account 3) Posting of wrong amount 4) Wrong Totaling or Balancing of Ledger Account 5) Wrong Totaling of Subsidiary Books 6) An item Posted twice 7) Wrong Totaling of Trial Balance 8) Omission to Post an Amount in Trial Balance 9) Missing of balances in the list of debtors or creditors

Errors shown by Trial Balance are avoided when accounting is done by using software. Hence such errors are rare in today's era. However one needs to guard against other errors, as they may get unnoticed.

NOTES

Check Your Progress

Define trial balance.

5.9 Accounting Errors and their Rectification

An accounting error is a non-fraudulent discrepancy in financial documentation. These errors may not be immediately traced but may be detected at much later stage. These are rectified as and when detected. Followings are classification of such errors.

1) Errors of Total Omission: If a transaction is not at all recorded in the books of original entry, both its debit and credit aspects would be omitted. The trial balance, therefore, shall not be affected. E.g. goods purchased from Milind for ` 10,000. If the entry is not recorded in purchase book at all, neither the purchases accounts will be debited nor the Milind's account will be credited. So, the trial balance will tally.

2) Errors of principal: Such error arises because of lack of knowledge of principles of accountancy. It can be in any of the ways:

   (i) Treating Capital Expenditure as Revenue Expenditure and vice versa.

   (ii) Treating Capital Income as Revenue Income and vice versa.

For instance, repairs to machinery of ` 5,000 debited to Machinery A/c. in this case, revenue expenditure has been treated as capital expenditure. Similarly, if building sold is credited to sales A/c, Trial balance will be unaffected though principally wrong classification has been made of capital and revenue items.

4) Errors in the book(s) of Original Entry: The trial balance would be unaffected if an entry is in a wrong book of original entry or it is recorded in the proper subsidiary books but with a wrong amount. In both the case, the trial balance would tally. For example, an item of credit purchases wrongly entered in the sales book. It will result into a wrong debit and a wrong credit. Similarly, if purchases of ` 554 wrongly entered in the purchase book as ` 5544. In this case, both the purchases account and the account of the creditor are affected to the same extent, thus the trial balance shall tally.

Illustration 10

Following errors have been noted

(i) Sales Account credited with Rs.1,000 instead of Rs. 5,000.

(ii) Samir's Account debited with Rs. 2,000 instead of Rs. 3,000. in sales transaction

(iii) Repairs to machinery Rs. 1,000 credited to both Repairs A/c and Cash A/c.

(iv) Krishan paid cash Rs. 500 but his A/c has been wrongly credited with Rs. 1,500

NOTES

Show the effect of the above errors on the trial balance. Also show the wrong, the correct and the rectification Journal entries. Also prepare suspense A/c.

Solution

Net Effect on Trial Balance

S.No.	Particulars	Debit >	Credit	Credit >	Debit
(i)	Sales account credited with Rs. 1,000 instead of Rs. 5,000	4000			
(ii)	Samir's Account debited with Rs. 2,000 instead of Rs. 3,000			1000	
(iii)	Repairs to machinery Rs. 1,000 has been credited to repairs A/c but rightly credited to cash A/c				2000
(iv)	Krishan's A/c over credited by Rs. 1,000			1000	
	Total	**4000**	**4000**		

Wrong Journal Entries

Date	Particulars	Dr./Cr.	L.F.	Debit Amt.Rs.	Credit Amt.Rs.
1	Debtors A/c To Sales A/c	Dr.		5000	 1000
2	Samir A/c To Sales A/c	Dr.		2000	 3000
3	Repairs A/c To Cash A/c	Dr.			1000 1000
4	Cash A/c To Krishnan A/c	Dr.		500	 1500

Correct Journal Entries

Date	Particulars	Dr./Cr.	L.F.	Debit Amt.Rs.	Credit Amt.Rs.
1	Debtors A/c To Sales A/c	Dr.		5000	 5000
2	Samir A/c To Sales A/c	Dr.		3000	 3000

3	Repairs A/c To cash A/c	Dr.		1000	 1000
4	Cash A/c To Krishnan A/c	Dr.		500	 500

NOTES

Rectification Journal Entries

Date	Particulars	Dr./Cr.	L.F.	Debit Amt.Rs.	Credit Amt.Rs.
1	Suspense A/c To Sales A/c	Dr.		4000	 4000
2	Samir A/c To Suspenses A/c	Dr.		1000	 1000
3	Repairs A/c To Suspenses A/c	Dr.		2000	 2000
4	Krishnan A/c To Suspenses A/c	Dr.		1000	 1000

Suspense A/c

Debit (Dr.) Credit (Cr.)

Date	Particulars	Journal Folio	Amount Rs.	Date	Particulars	Journal Folio	Amount Rs.
1	To Sales		4000	2	By Samir		1000
				3	By Repairs		2000
				4	By Krishnan		1000
			4000				4000

Check Your Progress

What are the accounting errors?

5.10 Bank Reconciliation Statement (BRS)

Business entities maintains cash book to record bank transactions. If all the transactions that are entered in the cash book match with those in the bank statement there will not be any difference in the bank balance as per the cash book and bank statement. In practice this does not happen. Often the balances as per cash book and bank statement are different. So reconciliation becomes necessary.

Bank reconciliation statement is a statement of that explains the reason for differences between bank balance as per cash book and that as per bank statement, as on a particular day.

Reasons for differences:

The difference may arise because of the following reasons.

NOTES

1. Cheques deposited but not cleared.

Bank takes time for cheque clearance. Usually local cheques of other banks take 2-3 days while outstation cheques take 5-6 days for clearance. Due to this collection leg difference may arise in the balances shown by cash book and pass book.

Example: cheques worth Rs. 5000 are deposited on 06/08/2012 but not cleared till 09/08/2012. Bank balance as per cash book will increase by Rs. 5000 on 06/08/2012 whereas bank balance as per pass book will not change till the cheque is cleared on 09/08/2012.

2. Cheques issued but not presented for payments.

When payment is made by cheque, there may be lag in clearing of cheque due to delay in presentation and collection of cheque. As soon as a cheque is issued cash book is credited whereas bank debits parties account only when the cheque is cleared.

Example: cheque worth Rs. 4000 is issued on 05/01/2013 but not presented till 09/01/2013. On issue of cheques (05/01/2013) bank balance as per cash book will decrease by Rs. 4000 whereas pass book balance will not change till they are presented for payments (09/01/2013).

3. Direct payments/collections by bank.

Sometimes banks are given standing instruction for making certain payments. E.g. payment of life insurance premium. Receipts are directly credited to bank a/c. Such direct payments/receipts are not recorded in the cash book until the current account statement is received, or instruction is received from the paying party.

4. Dishonour of cheques.

Cheques deposited into banks for collection are sometimes dihonoured. Bank debits the amount of dishonoured cheque to customer account along with dishonor penalty. No effect is given on the Cash Book about the dishonoured cheque until bank's advice reaches the business entity who deposited the cheque for collection.

Preparing reconciliation statement:

Reconciliation can be made starting from one balance and sorting out the reasons for differences one after another till the other balance is reached. Let's assume if one can start with balance as per Cash Book. All such transactions are to be added which have reduced the cash book bank balance and all such transactions should be deducted which have increased the bank balance as compared to the balance as per current account statement.

Exhibit 1 : Bank Reconciliation Statement (starting with cash book balance)

	Rs.	Rs.
Bank Balance as per Cash book		xxxx
Add: cheques issued but not presented for payment		
Direct collections by bank	xxxx	
Direct deposits by debtors/collection agents	xxxx	
Interest credited by bank	xxxx	xxxx
Less: Cheques deposited but not cleared	xxxx	
Direct payment by bank	xxxx	
Dishonoured cheques and related charges	xxxx	
Interest and bank charges	xxxx	xxxx
Balance as per pass book		xxxx

BRS can also be prepared starting with pass book balance as per following exibit:

Exhibit 2 : Bank Reconciliation Statement

	Rs.	Rs.
Bank Balance as per current account statement		xxxx
Add: cheques deposited by not cleared		
Direct payments by bank	xxxx	
dishonour of cheques and related charges	xxxx	
Interest and bank charges	xxxx	xxxx
Less: Cheques issued but not presented for payment	xxxx	
Direct collections by banks	xxxx	
Direct deposits by debtors / collection agents	xxxx	
Interest credited by bank	xxxx	xxxx
Bank Balance as per Cash book		xxxx

NOTES

Illustration 11

Mr. Brijesh, a sole-trader, found on 31st March 2010 that bank balance as per Cash Book and bank balance as per Bank statement are different. He requests you to look into the matter. The following further information is available:

i)	Bank balance as per Cash Book	16,000
	Bank balance as per Bank statement	35,140
ii)	Cheques deposited but not cleared	18,000
iii)	Cheques issued but not debited in the bank statement	16,000
iv)	Direct payments by customers into bank account	51,000

NOTES

v) Direct payments by bank:

LIC Premium against the policy taken on Mr.Biren's life	800
Interest on term Loan	13,000

vi) Bank charges not recorded in the Cash Book 60

vii) Cheques dishonoured but not reversed in the Cash book 16,000

You are required to prepare a Bank Reconciliation Statement

Solution

Particulars	Rs.	Rs.
Balance as per cash book		16000
Add:		
Cheques issued but not deposited	16000	
Direct payment by customers	51000	67000
Less:		
Cheques deposited but not clear	18000	
Direct payment of LIC premium	800	
Direct payment of term loan interest	13000	
Bank charges	60	
Cheque dishonoured	16000	47860
Balance as per pass book		35140

Check Your Progress

What is BRS? Why is it prepared?

5.11 Computerized Accounting

Computerized accounting is a system which simplifies, integrates, and streamlines transaction recording processes, cost-effectively and easily. It is designed to automate and integrate recording for all the business operations, such as sales, finance, purchase, inventory and manufacturing. Computerized accounting facilitates better control over the day-to-day business operations by providing access to latest, accurate and relevant information. Most of the human errors are removed from the equation since the calculations are done via machines that simply can't get anything wrong except by the user's fault. It can provide highly integrated application that transforms the business processes with its performance enhancing features which encompass accounting, inventory, reporting and statutory processes.

The main advantages of a computerized accounting system are listed below:

★ Speed - computerized accounting saves time as it records transaction with better speed than manual accounting process.

★ Easy and Accurate Data Entry - data entry onto the computer with its formatted screens and built-in databases of customers and supplier details and stock records can be carried out far more quickly than any manual processing.

★ Automatic document production - Documents like invoices, credit notes, purchase orders, printing statements and payroll documents are all prepared automatically, with high speed and accuracy.

★ Accuracy - there is less room for errors as only one accounting entry is needed for each transaction rather than two (or three) for a manual system.

★ Real time information - the accounting records are automatically updated and so account balances (e.g. customer accounts) will always be up-to-date.

★ Availability of information - the data is instantly available and can be made available to different users in different locations at the same time.

★ Management information - reports can be produced which will help management monitor and control the business, for example the age-wise debtors analysis will show which customer accounts are overdue, trial balance, trading and profit and loss account and balance sheet.

★ Tax compliance - the automatic creation of figures for the regular GST/VAT returns.

★ Legibility - the onscreen and printed data should always be legible and so will avoid errors caused by poor figures.

★ Efficiency - better use is made of resources and time; cash flow should improve through better debt collection and inventory control.

★ Staff motivation - the system will require staff to be trained to use new skills, which can make them feel more motivated. Further to this with many 'off-the-shelf' packages like MYOB the training can be outsourced and thus making a particular staff member less critical of business operations. Physical fatigue is minimized.

★ Cost savings - computerized accounting programs reduce staff time doing accounts and reduce audit expenses as records are neat, up-to-date and accurate.

★ Reduce frustration - management can be on top of their accounts and thus reduce stress levels associated with what is not known.

★ The ability to deal in multiple currencies easily - many computerized accounting packages now allow a business to trade in multiple currencies with ease. Problems associated with exchange rate changes are minimized.

A typical computerized accounting package will offer a number of different facilities. These include:

★ On-screen input and printout of sales invoices

★ Automatic updating of customer accounts in the sales ledger

★ Recording of suppliers' invoices

★ Automatic updating of suppliers' accounts in the purchases ledger

★ Recording of bank receipts

★ Making payments to suppliers and for expenses

★ Automatic updating of the general ledger

NOTES

★ Automatic adjustment of stock records
★ Integration of a business database with the accounting program
★ Automatic calculation of payroll and associated entries
★ Tax and regulatory compliances

NOTES

Data required for Computerized accounting programs can provide instant reports for management, for example:

★ Aged debtors' summary - a summary of customer accounts showing overdue amounts
★ Trial balance, trading and profit and loss account and balance sheet
★ Stock valuation
★ Sales analysis
★ Budget analysis and variance analysis
★ Payroll analysis

Manual accounting vs. computerized accounting

Following example illustrates difference between manual and computerized accounting process.

Example

On 15th June Furniture purchased for Rs. 12000

Journal entry in manual accounting is as follows:

Date	Particulars	Ledger Folio	Debit (Rs.)	Credit (Rs.)
15- June	Furniture A/c ……………… Dr.		12000	
	To Cash A/c			12000
	(Being furniture purchased for cash)			

Further it is required :-

★ To be posted to ledger accounts
★ Summerized to finacial statement
★ Transferred to Income statement and/or Balance sheet.

In case of computerized accounting it will be recorded as under:

Check Your Progress
Explain computerized accounting

In case of computerized accounting further process is automatic and it directly gives balance sheet as output to ascertain financial position.

NOTES

5.12 Solved Illustration

Illustration 12

M/s Vikram Pharmacy owned by Vivek had the following assets and liabilities as on 1st April, 2011:

Cash Rs. 5,000;

Bank Rs. 35,000;

Stock Rs. 55,000;

Furniture Rs. 20,000;

Plant and machinery Rs. 65,000;

Land and building Rs. 1,60,000;

Sundry Debtors Rs. 30,000;

Sundry Creditors Rs. 95,000;

Bills Payable Rs. 25,000;

Loan A/c Rs. 85,000.

Pass the necessary opening entry.

Solution

Journal of M/s Vikram Pharmacy

Date	Particulars	Dr/Cr	L.F.	Debit Amt. (Rs)	Credit Amt. (Rs)
2011					
Apr.1	Cash A/c	Dr.		5000	
	Bank A/c	Dr.		35000	
	Stock A/c	Dr.		55000	
	Furniture A/c	Dr.		20000	
	Plant and Machinery A/c	Dr.		65000	
	Land and Building A/c	Dr.		160000	
	Sundry Debtors A/c	Dr.		30000	
	To sundry Creditors A/c				95000
	To Bills Payable A/c				25000
	To Loan A/c				85000
	To Vivek's Capital A/c				165000
	(Being the opening entry; the balance transferred to Capital A/c)				

NOTES

Illustration 13

An accountant provides you with the following trial balance. In case you find it to be incorrect redraft it

Debit Heads of Accounts	**Amount (Rs.)**	**Credit Heads of Account**	**Amount Rs.**
Opening Stock	5000	Furniture	15000
Machinery	20000	Salaries	5000
Capital	30000	Creditors	20000
Discount allowed	1000	Sales	20000
Debtors	14000		
Purchases	10000		
Total	80000		60000
		Difference	20000

Solution:

Debit	**Amount Rs.**	**Credit**	**Amount Rs**
Opening Stock	5,000		
Machinery	20,000		
Furniture	15,000	Creditors	20,000
Discount Allowed	1,000	Sales	20,000
Debtors	14,000	Capital	30,000
Purchases	10,000		
Salaries	5,000		
Total	70,000		70,000

Illustration 14

Pass journal entries for the following transaction:

(a) Umesh started business with:

(i) Cash Rs. 10,00,000

(ii) Goods Rs. 2,00,000

(b) Purchased building for cash Rs.4, 00,000

(c) Purchased goods from Himanshu Rs. 1,00,000

(d) Sold goods to Ashmita (Cost Rs. 50,000) Rs. 72, 000

(e) Paid insurance premium Rs. 6,000

(f) Rent outstanding Rs. 10,000

(g) Depreciation on building Rs. 16,000

(h) Cash withdrawn for personal use Rs. 40,000
(i) Rent received in advance Rs. 10,000
(j) Cash paid to Hamu on account Rs. 40,000
(k) Cash received from Asha Rs. 60,000

NOTES

Solution

Journal

			Rs.	Rs.
Bank A/c	Dr.		10,00,000	
Stock A/c	Dr.		2,00,000	
To Capital		Cr.		12,00,000
(Being Started business of with cash				
and inventories)				
Building A/c	Dr.		4,00,000	
To Cash A/c		Cr.		4,00,000
(Being building purchased)				
Stock(Goods) A/c	Dr.		1,00,000	
To himanshu's A/c		Cr.		1,00,000
(Being goods purchased from Himanshu)				
shmita's A/c	Dr.		72,000	
To Stock(Sales) A/c		Cr.		50,000
To Profit and Loss A/c		Cr.		22,000
(being Good sold to Ashmita)				
Insurance Premium A/c	Dr.		6,000	
To Cash A/c		Cr.		6,000
(Being Insurance Premium Paid)				
Rent A/c	Dr.		10,000	
To Outstanding Rent A/c		Cr.		10,000
(Being provided for Outstanding Rent)				
Depreciation A/c	Dr.		16,000	
To Building A/c		Cr.		16,000
(Being Depreciation Provided)				
Drawings A/c	Dr.		40,000	
To Cash A/c		Cr.		40,000
(Being cash withdrawn by proprietor)				

NOTES

Bank A/c	Dr.		10,000	
To Prepaid Rent A/c		Cr.		10,000
(Being rent received in advance)				
Hemu A/c	Dr.		40,000	
To Cash		Cr.		40,000
(Cash Paid to Hemu)				
Cash A/c	Dr.		60,000	
To Asha A/c		Cr.		60,000
(Cash Received from Asha)				

Illustration 15

M/s. Prashanna Readymade purchased the following item during the month of December, 2012:

4th Dec, Purchased from M/s. Goodwill Furnitures

100 Shirts @ Rs.100 per Shirt

25 Trousers @ Rs, 200 per Trouser

Less 10% discount.

10th Dec, Purchased from M/s, Naresh Motors

One Maruti car for Rs.70,000

One Scooter for Rs.7,000

15th Dec, Cash purchases from Deepak textiles

2 Trousers @ Rs.250 each

12 T shirts @ Rs.100 each

Less 15% trade discount and 5% cash discount.

Prepare purchases book

Solution:

Purchase Day Book of M/s Prashanna Readymade

Date	Particulars	Inward Invoice No.	Ledger Folio	Amount Rs	Net Amount Rs
2011					
4th December	M/s Goodwill Furnitures				
	100 shirts @ Rs 100			10,000	
	25 trousers @ Rs 200 per trouser			5,000	
				15,000	

	Trade discount @ 10%			-1500	13,500
10th December	No Entry*				
15th December	No Entry**				
	Total				13,500

NOTES

Illustration 16

M/s. Femina, who is dealer in readymade garments, sold the following items during the month of December 2012 :

4th Dec, Sold to M/s. Style Corner

100 shirts @ Rs.80 per shirt

100 trousers @ Rs.300 per trousers

Less trade discount 10%.

11th Dec, Sold to M/s. Mens Corner

140 ladies suits @ Rs.200 per suit.

175 Jeans @ Rs.250 per jean

1 second hand scooter for Rs.20,000.

14th Dec Cash sales to customers

120 T-shirts @ Rs.100 per T-shirt

60 jeans @ Rs.230 per jean

80 ladies suits @ Rs.190 per suit

40 trousers @ Rs.280 per trouser

Prepare sales book.

Solution

Sales Day Book of M/s Femina

Date	Particulars	Ledger Folio	Amount Rs	Net Amount Rs
2011				
4th December	M/s Style Corner			
	100 shirts @ Rs 80 per shirt		8,000	
	100 trousers @ Rs 300 per trousers		30,000	
			38,000	
	Trade discount @ 10%		-3,800	34,200
11th December	M/s Mens Corner			
	140 ladies suits @ Rs 200 per suit		28,000	
	175 jeans @ Rs 250 per jean		43,750	71,750
14th December	No Entry**			
		Total		1,05,950

NOTES

Illustration 17

An accountant provides you with the following trial balance. In case you find it to be incorrect redraft it

Debit	Amount	Credit	Amount
Heads of Accounts	(Rs.)	Heads of Account	Rs.
Opening Stock	9700	Furniture	12500
Machinery	25000	Capital	39450
Bank overdraft	5800	Creditors	12000
Discount allowed	500	Sales	35800
Debtors	15000	Drawings	2000
Salaries	2400	Insurance premium	850
Purchases	30500	Loan from Z	10000
Investment	3000	Int. on loan	200
Int. on investments	300	Returns inwards	100
Returns outwards	150	Carriage Inwards	600
Carriage Outwards	300		
Advertisements	850		
Total	93500		113500
Difference	20000		

Solution

Trial Balance of - as on

S. No.	Heads of Account	Dr. Amount (Rs.)	Cr. Amount (Rs.)
1	Opening Stock	9700	
2	Machinery	25000	
3	Creditors		12000
4	Bank overdraft		5800
5	Purchases	30500	
6	Discount allowed	500	
7	Sales		35800
8	Loan from Z		10000
9	Carriage Inwards	600	
10	Investment	3000	
11	Returns inwards	100	
12	Returns outwards		150

13	Insurance Premium	850	
14	Interest on Loan	200	
15	Capital		39450
16	Furniture	12500	
17	Debtors	15000	
18	Salaries	2400	
19	Interest on Investments		300
20	Advertisement	850	
21	Drawings	2000	
22	Carriage Outwards	300	
	Total	103500	103500

NOTES

Illustration 18

The transactions of the business for April are as follows:

April.2011	
3	Started business of Machinery Repairs by depositing Rs. 30,000 in a bank account in the name of the Ganesh Equipments for 2,000 shares of Rs. 15 each in the company.
5	Paid two month's rent in advance for a shop. Rs. 4,000 by cheque
6	Purchased Machinery From Ram Tools Pvt.Ltd. Of Rs. 15,000 amount paid by cheque.
8	Purchased goods on credit from Ramesh & Co. Rs. 8,500
11	Machinery repairing charges received from Alok Tools & Equipment by cheque Rs. 23,500.
15	Advertisement expenses Rs. 1,500 paid to Karishma Yello Pages through Bank
18	Received Rs. 14,800 by cheque for Machinery maintenance.
20	Billed to customers for work done (machinery repairing) on credit Rs. 25,000.
22	Paid cheque to Mr.Sham for salaries Rs. 3,000
25	Paid electricity charges, Rs. 350 by cheque
28	Received partial payment from customers billed on April 20, Rs. 15,000 by cheque

NOTES

You are Required to :

1	Prepare journal entries for the above transactions.
2	Post the entries from the journal to the ledger accounts
3	Prepare a trial balance.

Solution

In the Books Of Ganesh Equipment Ltd.

General Journal

Date	Explanation	Dr/Cr	Post Ref. (L.F.)	Debit Amt. (Rs.)	Credit Amt. (Rs.)
2011					
April.3	Bank A/c To Capital (Being Started business of depositing Rs. 30,000 in bank)	Dr.	110 205	30000	 30000
5	Prepaid Rent A/c To Bank A/c (Being Paid rent in advance for 2 months)	Dr.	115 110	4000	 4000
6	Machinery A/c To Bank A/c (Being Purchased Machinery from Ram tools pvt.ltd. amount paid by cheque)	Dr.	102 110	15000	 15000
8	Purchases A/c To Creditors A/c-Ramesh & Co. (Being goods Purchased on credit)	Dr.	103 200	8500	 8500
11	Bank A/c To Machinery repairing Charges Earned A/c (Being Machinery repairing Charges received from Alok tools & equip.)	Dr.	110 405	23500	 23500
15	Advertisement Expenses A/c To Bank A/c (Being Paid advertisement charges to Karishma yello pages)	Dr.	504 110	1500	 1500

18	Bank A/c To Machinery repairing Charges Earned A/c (Being Machinery maintenance charges received by cheque)	Dr.	110 405	14800	 14800
20	Debtors A/c To Machinery repairing Charges Earned A/c (Being Billed to customers for work done)	Dr.	114 405	25000	 25000
22	Salary A/c To Bank A/c (Being paid cheque to Mr.sham For Salary)	Dr.	500 112	3000	 3000
25	Electricity Expenses A/c To Bank A/c (Being Paid electricity charges)	Dr.	502 110	350	 350
28	Bank A/c To Debtors A/c (Being Collected partial amounts from debtors)	Dr.	110 114	15000	 15000
	Total			140650	140650

NOTES

General Ledger

Date	Explanation (J.F.)	Post Ref. Debit	Machinery Account No. 102 Credit	Balance
2011 Apr-06		1	15000	15000 (Dr.)

Date	Explanation	Post Ref. Debit	Purchases Account No. 103 Credit	Balance
2011 Apr-08		1	8500	8500 (Dr.)

Debtors

Date	Explanation	Post Ref.	Debtors Account No. 114 Debit	Credit	Balance
2011		1			
Apr-20		1	25000		25000 (Dr.)
28				15000	10000 (Dr.)

NOTES

Date	Explanation	Post Ref.	Bank Account No. 110 Debit	Credit	Balance
2011 Apr-03		1	30000		30000 (Dr.)
5		1		4000	26000 (Dr.)
6		1		15000	11000 (Dr.)
11		1	23500		34500 (Dr.)
15		1		1500	33000 (Dr.)
18		1	14800		47800 (Dr.)
22		1		3000	44800 (Dr.)
25		1		350	44450 (Dr.)
28		1	15000		59450 (Dr.)

Date	Explanation	Post Ref.	Prepaid Rent Account No. 115 Debit	Credit	Balance
2011 Apr-05		1	4000		4000 (Dr.)

Date	Explanation	Post Ref.	Creditors Account No. 200 Debit	Credit	Balance
2011 Apr-08		1		8500	8500 (Cr.)

Date	Explanation	Post Ref.	Capital Account No. 205 Debit	Credit	Balance
2011 Apr-03		1		30000	30000 (Cr.)
Apr-29					

Date	Explanation	Post Ref.	Machinery Repair Charges Earned Account No. 405 Debit	Credit	Balance
2011					
Apr-11		1		23500	23500 (Cr.)
18		1		14800	38300 (Cr.)
20		1		25000	63300 (Cr.)

Date	Explanation	Post Ref.	Salary Account No. 500		
			Debit	Credit	Balance
2011 Apr-22		1	3000		3000 (Dr.)

Date	Explanation	Post Ref.	Electricity Account No. 502		
			Debit	Credit	Balance
2011 Apr-25		1	350		350 (Dr.)

Date	Explanation	Post Ref.	Advertisement Expense Account No. 504		
			Debit	Credit	Balance
2011 Apr-15		1	1500		1500 (Dr.)

NOTES

Trial balance

Particulars	**Debit Amt.(Rs)**	**Credit Amt.(Rs.)**
Machinery A/c	15000	
Purchase A/c	8500	
Debtors A/c	10000	
Bank A/c	59450	
Prepaid rent A/c	4000	
Creditors A/c		8500
Capital A/c		30000
Machinery repairing charges earned A/c		63300
Salary A/c	3000	
Electricity Expenses A/c	350	
Advertisement Expenses A/c	1500	
Total	**101800**	**101800**

Illustration 19

Record the following transactions of M/s Vishal Traders in Journal. Post them to ledger and prepare the trial balance.

Month	Date	Particulars	Amt. (Rs.)
2012	1	Assets : Cash-in-hand	1200
April		Cash-at-bank	25500
		Stock of goods	5000
		Plant and Machinery	25000
		Furniture and fixtures	8500
		Customer A/c Keshav & Co.	2500
		Customer A/c Madhav & Co.	9800

NOTES

		Liabilities : Loan from Geeta Fincorp ltd.	15000
		Amount due to Rajesh & Co.(Supplier A/c)	8500
April	3	Purchased goods on credit from Ravindra & Co.	4800
April	5	Sold goods for cash to Hari Kirana.	5500
April	7	Sold goods on credit to Sham General Stores.	18500
April	8	Received cheque from Sham General Stores	
		in full & final settlement.	18200
April	10	Paid amount by cheque to Rajesh & Co.	8500
April	10	Payment made to Ravindra & Co. by cheque	
		(Ravindra & Co.allowed Discount Rs. 300)	4500
April	12	Old furniture sold to Mr. Prakash in cash	
		(book value Rs. 1600)	1050
April	15	Received cheque from Keshav & co. deposited	
		in bank	2000
April	16	Paid cash for repairs	650
April	17	Bought goods from Rajan sales on credit	17600
April	18	Paid cash for expenses of carriage	1250
April	18	Paid cheque to Rajan sales of Rs. 17000 & discount	
		allowed by him Rs. 600 in full settlement of A/c	17000
April	24	Withdrawn cash from bank	2500
April	25	Paid cash for expenses of Printing & stationary	550
April	25	Paid municipal taxes by cheque	1300
April	27	Paid for advertisements by cheque	1800
April	28	Sold old newspapers amount received in cash	350
April	29	Paid rent by cheque	2000
April	29	Paid salaries for the month by cheque	2500
April	30	Drawn by Vishal for personal use	1600
April	30	Interest for the month of April unpaid	150
April	30	Fixed assets are to be depreciated by 10 % p.a.	
April	30	Balance receivable from Keshav & Co. is	
		considered as bad debts	

Solution:

Jornal Of M/s Vishal Traders

Date	Particulars	Dr/ Cr	L.F.	Dr. Amount (Rs.)	Cr. Amount (Rs.)
April. 1	Cash in Hand	Dr.		1200	
2012	Cash at Bank	Dr.		25500	
	Stock of goods	Dr.		5000	
	Plant and Machinery	Dr.		25000	
	Furniture and fixtures	Dr.		8500	
	Customer A/c Keshav & Co.	Dr.		2500	
	Customer A/c Madhav & Co.	Dr.		9800	
	To Loan From Geeta Fincorp Ltd.				15000
	To Supplier A/c Rajesh & Co.				8500
	To Capital A/c-Vishal				54000
	(Being the assets and liabilities brought forward from the previous reporting period)				
3	Purchase A/c	Dr.		4800	
	To Ravindra & Co. A/c				4800
	(Being Goods Purchased on credit)				
5	Cash A/c	Dr.		5500	
	To Sales A/c				5500
	(Goods Sold to Hari Kirana on cash)				
7	Sham General Stores A/c	Dr.		18500	
	To Sales A/c.				18500
	(Being goods sold to Sham general Stores on credit)				
8	Bank A/c	Dr.		18200	
	Discount A/c	Dr.		300	
	To Sham General Stores A/c				18500

NOTES

NOTES

	(Being received cheque from Sham general stores & discount allowed to him for full & final settlement of his account)				
10	Supplier A/c - Rajesh & Co.	Dr.		8500	
	To Bank A/c				8500
	(Being cheque paid to Rajesh & co.)				
10	Supplier A/c - Ravindra & Co.	Dr.		4800	
	To Bank A/c				4500
	To Discount A/c				300
	(Being amount Paid by cheque to Ravindra & co.& received discount of ` 300)				
12	Cash A/c	Dr.		1050	
	Loss on Sale of Old Furniture A/c	Dr.		550	
	To Furniture & Fixtures A/c.				1600
	(Being Old furniture Sold to Mr.Prakash in cash of ` 1050.(Book value of old furniture is ` 1600)				
15	Bank A/c	Dr.		2500	
	To Customer A/c-Keshav & Co.				2500
	(Being cheque received from Keshav & co.)				
16	Repairs & maintenance A/c	Dr.		650	
	To Cash A/c				650
	(Being cash Paid for repairs)				
17	Purchase A/c	Dr.		17600	
	To Supplier A/c-Rajan sales				17600
	(Being Goods Purchased on credit from Rajan sales)				
18	Carriage A/c	Dr.		1250	
	To Cash A/c				1250
	(Being cash Paid for carriage exps.)				

18	Supplier A/c-Rajan sales	Dr.		17600	
	To Bank A/c				17000
	To Discount A/c				600
	(Being cheque paid to Rajan sales for full & final settlement of his account)				
24	Cash A/c	Dr.		2500	
	To Bank A/c				2500
	(Being Cash withdrawn From Bank)				
25	Printing & Stationary Exps.A/c.	Dr.		550	
	To Cash A/c.				550
	(Being Cash paid for exps.of printing & stationary)				
25	Municiple Tax A/c	Dr.		1300	
	To Bank A/c				1300
	(Being municiple tax paid by cheque)				
27	Advertisement Expenses A/c	Dr.		1800	
	To Bank A/c				1800
	(Being advt.exps.paid by cheque)				
28	Cash A/c	Dr.		350	
	To Sale Of Old News Paper A/c				350
	(Being sold old Newspaper Amt. received in cash)				
29	Rent A/c	Dr.		2000	
	To Bank A/c				2000
	(Being rent paid by cheque)				
29	Salary A/c	Dr.		2500	
	To Bank A/c				2500
	(Being salaries paid by cheque)				
30	Drawing A/c	Dr.		1600	
	To Bank A/c				1600

NOTES

NOTES

	(Being amount drawn by vishal for personal use)				
30	Interest A/c	Dr.		150	
	To Interest Payable a/c.				150
	(being outstanding interest for the month of april unpaid)				

Ledger of M/s Vishal Traders for the month of April.2012

Cash A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
April.1	To Balance b/d		1200	16	By Cash A/c		650
5	To sales A/c		5500	18	By carriage A/c		1250
12	To Furniture & . Fixtures A/c		1050	25	By Printing & Stationary A/c		550
24	To Bank A/c		2500	30	By Balance c/d		8150
28	To Sale Of Old News Paper A/c		350				
			10600				10600
May.1	To Balance b/d		8150				

Bank A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
April.1	To Balance b/d		25500	10	By Supplier A/c -Rajesh & co.		8500
8	To Customer A/c-Sham		18200	10	By Supplier A/c -Ravindra & co.		4500
	General Stores						
15	To Customer A/c-Keshav .& Co		2000	18	By Supplier A/c-Rajan sales		17000
				24	By Cash A/c		2500
				25	By Municiple Tax A/c		1300
				27	By Advertisement Exps.A/c		1800
				29	By Rent A/c		2000
				29	By Salary A/c		2500

				30	By Drawing A/c		1600
				30	By Balance c/d		4000
			45700				45700
May.1	To Balance b/d		4000				

NOTES

Stock A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
April.1	To Balance b/d		5000	30	By Balance c/d		5000
			5000				5000
May.1	To Balance b/d		5000				

Plant & Machinery A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
April.1	To Balance b/d		25000	30	By Balance c/d		25000
			25000				25000
May.1	To Balance b/d		25000				

Furniture & Fixtures A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
April.1	To Balance b/d		8500	12	By Cash A/c		1050
				12	By Loss On Sale Of Old Furniture		550
				30	By Balance c/d		6900
			8500				8500
May.1	To Balance b/d		6900				

NOTES

Customers A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
April.1	To Balance b/d		12300	8	By Bank A/c (sham general stores)		18200
7	To Sales A/c (sham general stores)		18500	8	By Discount A/c (sham general stores)		300
				15	By Bank A/c (Keshav & Co.)		2000
				30	By Bad Debts		500
				30	By Balance c/d		9800
			30800				30800
May.1	To Balance b/d		9800				

Geeta Fincorp Ltd.A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
30	To Balance c/d		15000	April.1	By Balance b/d		15000
			15000				15000
				May.1	By Balance b/d		15000

Capital A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
30	To Balance c/d		54000	April.1	By Balance b/d		54000
			54000				54000
				May.1	By Balance b/d		54000

Purchases A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
3	To Supplier A/c Ravindra & co.		4800	30	By Balance c/d		22400
17	To Supplier A/c-Rajan sales		17600				
			22400				22400
May.1	To Balance b/d		22400				

NOTES

Sales A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
30	To Balance c/d		24000	5	By Cash A/c		5500
				7	By Customer A/c-Sham General Stores		18500
			24000				24000
				May.1	By Balance b/d		24000

Discount A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
8	To Customer A/c-Sham General Stores		300	10	By Supplier A/c - Ravindra & co.		300
30	To Balance c/d		600	18	By Supplier A/c-Rajan sales		600
			900				900
				May.1	By Balance b/d		600

Suppliers A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
10	To Bank A/c-Rajesh & Co.		8500	April.1	By Balance b/d		8500
10	To Bank A/c-Ravindra & Co.		4500	3	By Purchase A/c-Ravindra &Co.		4800
10	To Discount A/c-Ravindra & co.		300	17	By Purchase A/c-Rajan sales		17600
18	To Bank A/c-Rajan sales		17000				
18	To Discount A/c-Rajan sales		600				
			30900				30900

Loss on sale of Old Furniture A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
12	To Furniture & Fixtures A/c.		550	30	By Balance c/d		550
			550				550
May.1	To Balance b/d		550				

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Repairs & maintenance A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
16	To Cash A/c		650	30	By Balance c/d		650
			650				650
May.1	To Balance b/d		650				

Carriage A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
18	To Cash A/c		1250	30	By Balance c/d		1250
			1250				1250
May.1	To Balance b/d		1250				

Printing & Stationary Exps.A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
25	To Cash A/c		550	30	By Balance c/d		550
			550				550
May.1	To Balance b/d		550				

Municiple Tax A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
25	To Bank A/c		1300	30	By Balance c/d		1300
			1300				1300
May.1	To Balance b/d		1300				

Advertisement Expenses A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
27	To Bank A/c		1800	30	By Balance c/d		1800
			1800				1800
May.1	To Balance b/d		1800				

Sale Of Old News Paper A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
30	To Balance c/d		350	28	By Cash A/c		350
			350				350
				May.1	By Balance b/d		350

Rent A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
29	To Bank A/c		2000	30	By Balance c/d		2000
			2000				2000
May.1	To Balance b/d		2000				

Drawing A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
30	To Bank A/c		1600	30	By Balance c/d		1600
			1600				1600
May.1	To Balance b/d		1600				

Interest A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
30	To Interest Payable A/c		150	30	By Balance c/d		150
			150				150
May.1	To Balance b/d		150				

Interest Payable a/c.

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
30	To Balance c/d		150	30	By Interest A/c		150
			150				150
				May.1	By Balance b/d		150

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Salary A/c

Dr. Cr.

Date	Particular	J.F.	Amt. Rs.	Date	Particular	J.F.	Amt. Rs.
29	To Bank A/c		2500	30	By Balance c/d		2500
			2500				2500
May.1	To Balance b/d		2500				

5.13 Summary

- ★ An account is a statement that shows all transaction related to a particular party, asset, liability, income or expense.
- ★ Account related to some party like individual, bank, firm, company, etc., is known as personal account.
- ★ Real accounts are related to assets. Anything of material value or usefulness that is owned by a person or company is termed as asset.
- ★ The accounts for recording income, expenses, losses and gains are classified as nominal accounts.
- ★ Double entry system is a scientific system of recording transactions. According to this system, every transaction has two-fold aspects (debit and credit) and both these aspects need to be recorded in the books of accounts.
- ★ Accounting cycle refers to the process which starts with recording of opening entries in the journal and ends with the preparation of financial statements.
- ★ The transactions are recorded in the books of accounts is called journal entry. The process of recording transaction is called journalizing.
- ★ Business transactions can be classified as those transactions relating to purchase, sales, cash, etc. It is convenient to record these transactions in a separate register for each such class of transactions. Such registers are books of original entry and are known as subsidiary books.
- ★ After recording transaction in the books of primary entry, the next phase in the accounting process is to prepare accounts in the general ledger. On the basis of journal entries, transactions are recorded in the ledger accounts. This process is also known as posting of journal entry.
- ★ A trial balance is a list of all accounts with their balances. It is a statement which is prepared periodically, usually at the end of each month, which contains list of the ledger accounts at specified date, showing their debit and credit (totals or balance).
- ★ An accounting error is a non-fraudulent discrepancy in financial documentation. These errors may not be immediately traced but may be detected at much later stage. These are rectified as and when detected.

- ★ Bank reconciliation statement is a statement that explains the reason for differences between bank balance as per the cash book and that as per bank statement, as on a particular day.
- ★ Computerized accounting is a system which simplifies, integrates and streamlines transaction recording processes, cost-effectively and easily. It is designed to automate and integrate recording for all the business operations, such as sales, finance, purchase, inventory and manufacturing.

5.14 Key Terms

- ★ Journal Proper: Those transactions which cannot be recorded in other subsidiary books are recorded in journal proper.
- ★ Journalizing: The transactions are recorded in the books of accounts is called journal entry. The process of recording transaction is called journalizing.
- ★ Ledger: After recording transaction in the books of primary entry, the next phase in the accounting process is to prepare accounts in the general ledger. On the basis of journal entries, transactions are recorded in the ledger accounts.
- ★ Trial Balance: A trial balance is a list of all accounts with their balances. It is a statement which is prepared periodically, usually at the end of each month, which contains list of the ledger accounts at a specified date, showing their debit and credit (totals or balance).

5.15 Questions and Exercises

5.15.1 Multiple Choice Questions

1. A cash book:
   a) Is a journal
   b) Is a ledger account.
   c) Servers the dual purpose of journal and ledger accounts.
   d) None of the above.
2. A purchase day book is used:
   a) To record only credit purchase of stock and Fixed assets
   b) To record only credit purchase of stock-in-trade
   c) To record credit as well as cash purchases.
   d) For none of the above.
3. Dishonoring of cheques received from debtors are taken in books through:
   a) Sales day book.
   b) Journal proper.

c) Cash book.

d) None of the above.

4. Trial balance fails to disclose:

NOTES

(a) Errors in casting the book of subsidiary records.

(b) Errors in balancing the account.

(c) Error in posting from the book of subsidiary record to the ledger.

(d) None of the above.

5. A wholesaler dealing with stationary items purchases a Motor van for Rs.100000 for business purpose and issues a cheque to the supplier, as per double entry system of accounting he will:-

a) Debit Motor Van Account and credit Cash Account

b) Debit Motor Van Account and credit Bank Account

c) Debit Profit and Loss Account and Credit Bank Account

d) Debit Profit and Loss Account and Credit Cash Account

6. Journal proper records transactions –

a) Related to credit purchase and sales

b) Which are not recorded in other subsidiary books

c) Related to purchase and sale of fixed assets

d) Both (b) and (c)

7. A purchase of machine for cash should be debited

a) Cash account

b) Machine account

c) Purchase account

d) None of these

8. Cash withdrawn by the Proprietor should be credited to:

a) Drawings account

b) Capital account

c) Profit and loss account

d) Cash account

9. The book in which all accounts are maintained is known as:

a) Cash book

b) Journal

c) Purchase Book

d) Ledger

10. When a firm maintains a cash book, it need not maintain;

a) Journal proper

b) Purchase book

c) Sales book

d) Cash account

11. Double column cash book records:

a) Only cash transaction

b) Cash and bank transaction

c) Only credit transaction

d) Purchase and sale transaction

12. Credit balance of bank account in cash book shows

a) Overdraft

b) Cash deposited in our bank

c) Cash withdrawn from bank

d) None of these

13. If wages paid for installation of new machinery is debited to wages Account, it is:

a) An error of commission.

b) An error of principle.

c) A compensating error.

d) An error of omission

14. A trial balance is prepared:

a) After preparation of financial statement

b) After recording transaction in subsidiary books

c) After posting to ledger is complete

d) After posting to ledger is complete and accounts are balanced

15. If wages paid for installation of new machinery is debited to wages Account, it is:

a) An error of commission.

b) An error of principle.

c) A compensating error.

d) An error of omission

16. A bank reconciliation statement is mainly prepared for:

(a) Reconcile the cash balance of the cash book.

(b) Reconcile the difference between the bank balance shown by the cash book and bank passbook

(c) Both a and b

(d) None of these

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5.15.2 Theory Questions

1. What are the types of accounts? Give appropriate examples.

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2. Write a note on double entry book keeping system.
3. What are the rules for debit and credit?
4. Explain accounting cycle in brief.
5. Distinguish between journal and ledger.
6. What is trial balance? Explain its features.
7. What are the errors in trial balance? Explain with appropriate examples.
8. Explain the necessity of preparing Bank Reconciliation Statement.

5.15.3 Practical Problems

Exercise 1

Journalize the following transactions of M/s/. Dilip and Co. for the month of March 2012.

Balances on March 1, 2012 (a) Cash –Rs.14,000 (b) Bank-Rs.40,000 (c) Stock–Rs.30,000 (d) Furniture –Rs.10,000 (e) Building- Rs.80,000 (f) Debtors: A- Rs.6,000. B-Rs.10,000 (g) Bank Loan- Rs.14,000 (h) Creditors : X-Rs.14,000. Y- Rs.16,000.

Transactions during the month of March, 2012 were as follows:

March	
2	Received Rs. 5600 cash from Mr.A in full and final settlement.
6	Purchased goods of the list price Rs.20,000 at 10% discount on credit from Mr. Z.
7	Sold goods to C on credit Rs.16,000.
11	C pays Rs.14,400 after getting 10% discount for prompt payment.
15	Salaries paid in cash Rs.4,000.
18	Interest on bank loan Rs. 1400 debited to the current account of the business enterprise.
20	Goods costing Rs.2,000 distributed as free samples.
25	Cash withdrawn by Ramesh for personal use Rs.4,000.
30	Paid Rs.12,000 to X in full and final settlement of his account.
31	Cash sales at list price Rs.10,000. Trade discount allowed Rs.1000.

Exercise 2

There was an error in records on 31.3.2011 and the difference in books was carried to a Suspense Account. On going through the Books you find that:

1. Rs. 10,800 receoved from Mr.A was posted to the debit of his Account.
2. Rs.2,000 being purchases return were posted to the debit of Purchases Account.
3. Discount received Rs.4,000 was posted to the debit of Discount Account.
4. Rs.5,480 paid for repairs to Motor Car was debited to Motor Car Account as Rs.3,480.
5. Rs.8,000 paid to B was debited to A's Account.

Give Journal Entries to rectify the above error and ascertain the amount transferred to Suspense Account on 31st March, 2011, assuming that the Suspense Account is balanced after the above corrections.

Exercise 3

Prepare a Cash book with Cash and discount Column from the following information for the month of March 2012:

NOTES

		Rs.
1	Cash in hand	70000
3	Paid to Ramesh to final settlement of Rs.12,000	20000
5	Cash sales	24000
7	Cash Purchases	30000
9	Salaries paid	8000
11	Telephone bill paid	2000
14	Credit purchases from X	20000
15	Credit sales to A	20000
16	Received from A in final settlement	19000
16	Stationery purchased	1000
20	Speed-post charges	1000
22	Goods received by V.P.P. & paid	2000
24	Paid to X in full & final settlement	18000
25	Furniture of list price purchased at 10% trade discount	20000
28	Tuition fees paidPaid	4000
31	for an advertisement in newspaper	1000

Exercise 4

A book-keeper finds that the trial balance is out by excess debit of Rs.250. He puts the difference to a newly opened Suspense Account Later on, he detects the following errors.

1. Goods worth Rs.7500 purchased fron Raj, but entered in the sales book.
2. Received a promissory note for Rs.12500 from Arman, but entered in the bills payable book.
3. An item of Rs.1750 relating to prepaid rent account was omitted to be brought forward.
4. An item of Rs.1000 in respect of purchase returns to Rohan had been wrongly entered in the purchases book.
5. Rs.2500 paid to Harish against acceptance was debited to Harendra.
6. A bill was received for repairs of furniture for Rs.1250. The amount was debited to furniture account.

Pass journal entries to rectify the above errors and prepare the Suspense Account.

5.15.4 Business Cases

Case 1

NOTES

Mr. Murliprasad, a recent pass out from IIM, started his own venture InfoTechno as a retail store for selling electronic items of different brands. He started his first store at Banglore. This being a high investment and ambitious project he raised a loan of Rs. 20,00,000 from a bank financing venture capital @ 10% p.a. and also contributed Rs.10,00,000 from his own savings. He had hired store at a rent of Rs. 15000 p.m. He maintained his own records and provides you with following details of the transactions that took place during first year of his business.

- He hired 3 employees at a monthly salary of Rs. 10,000 each.
- He took fire insurance policy and paid a premium of Rs. 1200 p.m.
- He had purchased his inventories for Rs. 6, 00,000 by cash payment and Rs. 16, 00,000 on credit basis out which Rs. 7, 00,000 was still payable at the end of the year.
- His cash sales during the year amounted to Rs. 10, 00,000.
- His credit sales amounted to Rs.20, 00,000 out of which Rs. 9, 00,000 was receivable at the end of the year.
- He paid electricity charges of Rs. 36000 during the year.
- He also incurred miscellaneous expenses amounting to Rs. 25, 000 during the year.
- Two of his employees were paid on the last day of the month whereas one of them was paid on 10^{th} of the next month.

This being his first year of business he has not opted for computerized accounting and he requests you to suggest him proper accounting procedures that he should flow and also advise him about status of his financial position at the end of first year of his business.

5.16 Further Reading and References

- Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education
- "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi

NOTES

UNIT 6 FIXED ASSETS AND DEPRECIATION ACCOUNTING

Structure

6.0 Introduction

Any assets which is intended to be used for business and not intended to be processed or sold, is termed as fixed assets. Classification of an asset as fixed asset depends on the purpose for which it is held. For example, the land on which factory is proposed to be built is fixed assets whereas similar piece of land purchased for resale is considered as current assets.

6.1 Unit Objectives

After studying this Unit, you should be able to

- ★ Understand fixed assets
- ★ Understand depreciation and its causes
- ★ Computing cost of Fixed Assets
- ★ Know various methods of depreciation
- ★ Pass entries for fixed assets and depreciation

★ Understand impairment of assets

Fixed asset is an asset held with the intention of being used for the purpose of producing or providing goods or services and is not held for sale in the normal course of business.

AS-10

Property, plant and equipment are tangible items that:

(a) are held for use in the production or supply of goods or services, for rental to others, or for administrative

purposes; and

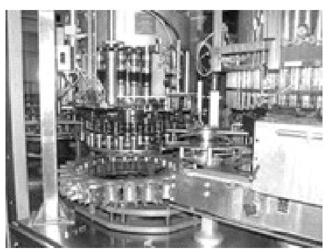
(b) are expected to be used during more than one period.

IAS - 16

Fixed assets are classified as (a) tangible and (b) intangible.

Fixed Assets
- Tangible Assets
- Intangible Assets

(a) Tangible Assets: These are the fixed assets that have physical existence and can be seen and felt. They include land, buildings, plant and machinery, vehicles etc.



(b) Intangible Assets: Unlike tangible assets, these have no physical existence. However they represent legal rights or economic benefits. Trademarks, patents, logo, software, franchise copyrights, copyright, and goodwill are examples of tangible assets. An intangible asset is an identifiable non-monetary asset without physical substance. (IAS - 38)

6.2 Cost of Fixed Assets

The cost of fixed asset comprises its purchase price and any directly attributable cost of bringing the asset to its working condition for its intended use; any trade discounts and rebates are deducted in arriving at the purchase price.

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The cost of an item of property, plant and equipment comprises:

(a) its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates.

(b) any costs directly attributable to bringing the asset to the location and condition necessary for it to be

capable of operating in the manner intended by management.

(c) the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period.

(IAS - 16)

The recognition of an item as an intangible asset requires an entity to demonstrate that the item meets:

(a) the definition of an intangible asset; and

(b) the recognition criteria.

This requirement applies to costs incurred initially to acquire or internally generate an intangible asset and those incurred subsequently to add to, replace part of, or service it.

An asset meets the identifiability criterion in the definition of an intangible asset when it:

(a) is separable, i.e. is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, asset or liability; or

(b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

An intangible asset shall be recognized if, and only if:

(a) it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and

(b) the cost of the asset can be measured reliably.

(IAS - 38)

Examples of directly attributable costs are:

(i) Site preparation;

(ii) Initial delivery and handling costs;

(iii) Installation cost, such as special foundations for plant; and

(iv) Professional fees like fees of architects and engineers;

(v) Taxes like import duties, Value Added Tax (VAT), octroi;

(vi) Carriage inward/Transportation charges for bringing the assets to site

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Administration and other general overhead expenses are usually excluded from the cost of fixed assets because they do not relate to a specific fixed asset. However, in some circumstances, such expenses as are specifically attributable to construction of a project or to the acquisition of a fixed asset or bringing it to its working condition, may be included as part of the cost of the construction project or as a part of the cost of the fixed asset. The expenditure incurred on start-up and commissioning of the project is capitalized as the construction cost. However, the expenditure incurred after the plant has begun commercial production, i.e., production intended for sale is not capitalized and is treated as revenue expenditure.

When a fixed asset is acquired in exchange for another asset, its cost is usually determined by reference to the fair market value of the assets given as consideration. It may be appropriate to consider the fair market value of the asset acquired if this is more clearly evident. When a fixed asset is acquired in exchange for shares or other securities in the enterprise, it is usually recorded at its fair market value, or the fair market value of the securities issued, whichever is more clearly evident.

As defined by AS 10 Fair market value is "the price that would be agreed to in an open and unrestricted market between knowledgeable and willing parties dealing at arm's length who are fully informed and are not under any compulsion to transact."

An alternative accounting treatment that is sometimes used for an exchange of assets, particularly when the assets exchanged are similar, is to record the asset acquired at the net book value of the asset given up; in such case an adjustment is made for any balancing receipt or payment of cash or other consideration.

Only expenditure that increases the future benefits from the existing asset beyond its previously assessed standard of performance is included in the gross book value, e.g., an increase in capacity. The cost of an addition or extension to an existing asset which is of a capital nature and which becomes an integral part of the existing asset is usually added to its gross book value. Any addition or extension, which has a separate identity and is capable of being used after the existing asset is disposed of, is accounted for separately. Let us understand calculation of cost of Fixed Assets with the help of following illustration:

Illustration 1

M/S. Shyam Industries acquires a machine; details of which are as follows:

List price, Rs. 40,000;

Trade discount Rs. 1,500;

Value Added Tax (VAT), Rs. 8,000;

Transit insurance, Rs. 240;

Freight-Inward, Rs.800; Annual Maintenance Cost Rs.5500

Installation charges, Rs. 2,400; Estimated Scrap Value Rs. 3,800.

Calculate cost of acquisition of Machine.

Solution:

	Rs.
List price	40,000
Less: Trade discount	1,500
Net price	38,500
Add: VAT	8,000
Transit Insurance	240
Freight	800
Installation charges	2400
Cost of acquisition	49940

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Check Your Progress

How do we calculate cost of fixed assets?

6.3 Depreciation

Depreciation may be defined as gradual and continuous decline in the value of fixed assets due to usage, passage of time and/or obsolescence.

Depreciation is a system of accounting which aims to distribute the cost or other basic value of tangible capital assets less salvage (if any) over the estimated useful life in a systematic and rational manner. It is a process of allocation and not of valuation. (AICPA Adapted.)

The use of the term depreciation should be avoided in connection with the valuation procedure for securities and investments and is not dependent on the amount of profit earned.

> "Depreciation is a measure of wearing out, consumption or other loss of value of depreciable asset arising from use, effluxion of time or obsolescence through technology and market changes. Depreciation is allocated so as to change a fair proportion of depreciable amount in each accounting period during the expected useful life of the asset. Depreciation includes amortization of assets whose useful life is predetermined." **AS -10**

> Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life. Depreciable amount is the cost of an asset, or other amount substituted for cost, less its residual value.
>
> **IAS - 16**

Depletion is the process of measuring the exhaustion of natural resources such as mines. The term 'amortization' is used for recording the writing off intangible assets like patents, copyrights, leasehold properties, trademarks.

It may be noted that all the three terms, i.e., depreciation, depletion and amortization are slightly different, but there is a general tendency to use the term depreciation even for describing the depletion and amortization as well (AICPA).

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Depreciation	Amortization	Depletion
Tangible assets like machinery, vehicles	Exhaustive assets like Mines	Intangible assets like goodwill, patents

Causes of depreciation

Followings are causes of depreciation:

i) Wear and tear :Tangible fixed assets (like building, machinery) are worn or torn out on account of use of an asset, strain, weathering out, poor maintenance, improper handling, etc. Tangible fixed asset are bound to lose value on account of wear and tear.

ii) Effluxion of time: Fixed assets decrease in the value with the passage of time. It is applicable to both tangible assets (like vehicles, buildings, equipments) and intangible assets (like leasehold properties, copyright, patents)

iii) Obsolescence: Fixed assets lose value on account of obsolescence which is caused by new inventions, technological improvements, loss of demand due to change in fashion, tastes or habits of consumers. It reduces the economic life of assets. Assets like computers, mobile phones, patents, software have high level of obsolescence.

Exhibit 1.1 Fixed Assets Schedule (ONGC Ltd.)

FIXED ASSETS (₹ in million)

	GROSS BLOCK				DEPRECIATION AND IMPAIRMENT						NET BLOCK	
						For the Year						
							Impairment					
	As at 1st April, 2010	Additions during the year	Deletions/ Adjustments during the year	**As at 31st March, 2011**	Up to 31st March, 2010	Deprecia-tion	Charged	Reversed	Deletions/ Adjustments during the year	**Up to 31st March, 2011**	**As at 31st March, 2011**	As at 31st March, 2010
Land												
i)Freehold	2,259.32	450.64	-	**2,709.96**	13.85	-	-	0.36	-	**13.49**	**2,696.47**	2,245.47
ii)Leasehold	5,611.13	5.41	-	**5,616.54**	358.55	50.93	-	-	-	**409.48**	**5,207.06**	5,252.58
Buildings and Bunk Houses	12,700.00	3,348.06	(1.13)	**16,049.37**	7,001.78	574.24	-	0.47	(44.54)	**7,620.09**	**8,429.28**	5,698.22
Railway Sidings	89.95	-	-	**89.95**	83.16	0.94	-	-	-	**84.10**	**5.85**	6.79
Plant and Machinery	675,589.82	94,265.25	4,078.48	**765,776.59**	539,145.71	65,971.97	596.46	141.43	3,479.67	**602,093.04**	**163,683.55**	136,444.11
Furniture & Fittings	8,133.45	889.96	258.01	**8,765.40**	3,939.30	913.03	1.33	1.23	206.02	**4,646.41**	**4,118.99**	4,194.15
Vehicles, Survey Ships, Crew Boats and Helicopters	5,402.45	313.30	1,286.92	**4,428.83**	4,771.27	210.71	-	1.13	1,227.50	**3,753.35**	**675.48**	631.18
	709,786.12	99,272.62	5,622.10	**803,436.64**	555,313.62	67,721.82	597.79	144.62	4,868.65	**618,619.96**	**184,816.68**	154,472.50
Intangibles-Software	5,751.67	215.07	17.40	**5,949.34**	3,739.15	640.63	-	-	9.21	**4,370.57**	**1,578.77**	2,012.52
TOTAL	715,537.79	99,487.69	5,639.50	**809,385.98**	559,052.77	68,362.45	597.79	144.62	4,877.86	**622,990.53**	**186,395.45**	156,485.02
Previous Year	613,556.05	105,378.72	3,396.98	**715,537.79**	509,412.32	52,537.58	233.58	181.80	2,948.91	**559,052.77**	**156,485.02**	
The above includes the Corporation's Share in Joint Venture Assets	34,705.69	25,566.63	225.06	**60,047.26**	26,393.82	11,190.72	100.71	-	218.78	**37,466.47**	**22,580.79**	
Previous year	31,032.55	3,868.97	195.83	34,705.69	23,557.07	2,901.22	-	-	64.47	**26,393.82**	**8,311.87**	

Notes:
1. Land includes lands in respect of certain projects for which execution of lease/conveyance deeds are in process.
2. Registration of title deeds in respect of certain Buildings is pending execution.
3. Depreciation for the year includes ₹ 12.34 million taken to prior period (Previous Year ₹ 110.99 million).
4. Building includes cost of undivided interest in land.

(Source: Annual Report, ONGC ltd., 2010-11)

Fixed assets are required to be disclosed as a schedule to the balance sheet in the annual report of the company. Block refers to a category in which similar type of assets are put together. Gross block is the total cost of the block of assets. Net block is the written down value of the block. Exhibit 1.1 shows an extract of fixed assets schedule published in Annual Report of Videocon Industries Ltd.

NOTES

6.4 Method of Computing Depreciation

Depreciation can be computed by using variety of methods which includes:

(a) Fixed installment method or Straight Line Method (SLM)

(b) Reducing Balance Method (RBM)

(c) Machine Hour Rate Method

(d) Sum of Year's Digits method

(e) Depreciation Fund method

(f) Insurance Policy Method

(g) Annuity Method

(h) Provision for Depreciation Method

Those most commonly used methods are the Straight-Line Method (SLM) and the Reducing Balance Method (RBM). The management of a business selects the most appropriate method(s) based on various important factors e.g., (i) type of asset, (ii) the nature of the use of such asset (iii) circumstances prevailing in the business (iv) GAAP prescription and (v) legal/ regulatory requirement. A combination of more than one method is sometimes used.

6.4.1 Fixed Installment Method or Straight Line Method (SLM)

According to this method, a fixed proportion of the original cost of the asset is written off each year so that value of the asset is reduced to its residual value at that end of its estimated economic useful life. The same amount of depreciation is charges every year throughout the life of the asset. Depreciation is charges on a uniform basis every year till the asset is written off. The amount of depreciation is calculated as follows:

$$\text{Amount of Depreciation (p.a.)} = \frac{\text{Cost of the Asset - Scrap Value}}{\text{Life of the Asset (In Yrs.)}}$$

$$\text{Rate of Depreciation (p.a.)} = \frac{\text{Depreciation p.a.}}{\text{Cost of Asset}} \text{ X } 100$$

Illustration 2

Furniture is acquired at a cost of Rs. 4, 00,000. Its estimated useful life is 8 years. Installation expense amounted to Rs. 10,000. Its scrap will realize Rs. 10,000. Calculate amount of depreciation p.a., rate of depreciation p.a. and show WDV at the end of each year. Also show how will furniture appear in the balance sheet, at the end of year 1, 2 and 3.

NOTES

Solution:

The amount of depreciation will be calculated as under:

$$\text{Depreciation p.a.} = \frac{(4,00,000 + 10,000) - 10,000}{8} = \text{Rs. } 50,000$$

The rate of depreciation is the reciprocal of the estimated useful life. This may be calculated as.

$$\text{Rate of Depreciation} = \frac{50,000 \text{ X } 100}{4,00,000} = 12.5\%$$

Following table presents WDV over a period of life of an asset

Year	Cost	Depreciation	Accumulated Depreciation	WDV = Cost - accumulated Depreciation
1	410000	50000	50000	360000
2	410000	50000	100000	310000
3	410000	50000	150000	260000
4	410000	50000	200000	210000
5	410000	50000	250000	160000
6	410000	50000	300000	110000
7	410000	50000	350000	60000
8	410000	50000	400000	10000

Furniture will appear in balance sheet as under:

Fixed Assets	Year 1	Year 2	Year 3
Furniture			
- Gross Block	410000	410000	410000
Less: Accumulated Depreciation	50,000	100,000	150000
- Net Block	360,000	310,000	260000

Merits of SLM are:

(a) It is simple and easy to understand. (b) The value of the asset can be exactly written off to scrap value. (c) It is useful for assets with relatively uniform usage during its useful life.

Check Your Progress

Write a note on SLM.

Demerits:

(a) It does not take into account the effective utilization of the asset. The same amount of depreciation is charged irrespective of use of the asset. (b) Even though the asset is used uniformly from period to period, the total charge for the use of the asset keeps on increasing every year. It is because cost of repairs rises when the asset gets older, though same amount of depreciation is charged every year.(c) taxation authorities prefer RBM.

NOTES

6.4.2 Diminishing/Reducing Balance Method or Written Down Value Method (RBM)

Under this method, the depreciation is charged at a fixed annual rate on the reducing balance (i.e., cost less depreciation). The amount of depreciation charged in each year is not fixed but goes on decreasing gradually every year. Thus, the amount of depreciation is higher in earlier periods and lower in subsequent periods when repairs and maintenance cost of the asset increases. The formula for calculating the rate of depreciation under diminishing balance method is as follows:

$$\text{Rate of Depreciation} = 1 - n\sqrt{\frac{\text{Net Residual Value}}{\text{Cost of Acquisition}}}$$

If residual value is zero, assume as 1.

Where, n = life of the asset (in year)

Illustration 3

The cost of the asset is Rs. 20,000, residual value is Rs. 2,000 and the life of the asset is 3 years.

Compute the annual rate of depreciation.

Solution:

The rate of depreciation would be calculated as follows:

$$\text{Rate of Depreciation} = 1 - 3\sqrt{\frac{2000}{20000}}$$

$$= 53.6\ \%$$

Illustration 4

A company buys equipment at a cost of Rs. 10,000. It decides to depreciate the asset at the cost of 20% per annum based on the Reducing Balance Method (RBM). Calculate amount of depreciation and WDV for 5 years. Show how equipment will appear in the balance sheet at the end of Year 1, 2 and 3.

NOTES

Solution:

Year	Cost	Depreciation = Cost * 20%	WDV= Cost-Depreciation	Accumulated Depreciation
1	10000	2000	8000	2000
2	8000	1600	6400	3600
3	6400	1280	5120	4880
4	5120	1024	4096	5904
5	4096	819.2	3276.8	6723.2

Equipment will appear in balance sheet as under:

Fixed Assets	Year 1	Year 2
Equipment		
- Gross Block	10000	10000
- Less: Accumulated Depreciation	2,000	3600
- Net Block	8,000	6400

Merits:

(a) The charge for depreciation reduces every year, while maintenance cost is likely to rise thus total cost of use of asset will remain more or less constant. (b) Valuation of asset as shown in WDV is likely to represent its fair value. (c) This method reduces the impact of tax on profit during the earlier years of the life of the asset by charging higher amount of depreciation. (d)This method is approved by income tax authorities.

Demerits:

(a)The amount of depreciation keeps on changing each year. b) The value of the asset cannot be reduced to zero and some balance will always be left at the end of useful life of an asset.

Table 1.1 comparisons between SLM and RBM

Basis	Straight Line Method	Reducing Balance Method
Depreciation	It remains the same throughout the life of the asset.	It goes on decreasing every year.
Book Value	The book value of the asset can be reduced to zero.	The book value of the asset cannot be reduced to zero
Income Tax Law	This method is not acceptable.	This method is acceptable.

NOTES

Under Companies Act, a company is free to choose either of the two methods: SLM or RBM. However regarding rates of depreciation are prescribed in Table no. 1.2 as per Companies Act and 1.3 as per Income tax Act.

Table 1.2 Rates of depreciation as per Companies Act

Provisions of Companies Act (Schedule XIV)	Rate of Depreciation	
Assets	WDV	SLM
Factory Buildings	10%	3.34%
Furniture	18.1%	6.33%
Plant and Machinery (Single shift)	13.91%	4.75%
Computers	40%	16.21%

Vehicles

Income tax act provides for following provisions:

a) Reducing Balance Method is permissible.

b) Block of Assets methodology is followed which provides for grouping of similar assets that carry same rate of depreciation.

c) Full depreciation for the year is allowed if the asset is used for 180 days or more during the year. In case of use for less than 180 days depreciation is restricted to 50% of annual amount.

It is compulsory to provide depreciation as per Income tax act as it mandates Reducing Balance Method.

Table 1.3 Rates of depreciation as per Income Tax Act

Block of Assets	Rates as per RBM
Factory Buildings	10%
Furniture	10%
Plant and Machinery	15%
Computers	60%
Intangible Assets	25%
Pollution control equipments	100%

It is the duty of the company management to choose appropriate rate of depreciation. The depreciation method used shall reflect the pattern in which the asset's future economic benefits are expected to be consumed by the entity

(IAS - 16)

Disclosures of depreciation as accounting policy

The depreciation methods used, the total depreciation for the period for each class of assets, the gross amount of each class of depreciable assets and the related

NOTES

accumulated depreciation are disclosed in the financial statements along with the disclosure of other accounting policies. The depreciation rates or the useful lives of the assets are disclosed only if they are different from the principal rates specified in the statute governing the enterprise. In case the depreciable assets are revalued, the provision for depreciation is based on the revalued amount on the estimate of the remaining useful life of such assets. In case the revaluation has a material effect on the amount of depreciation, the same is disclosed separately in the year in which revaluation is carried out. A change in the method of depreciation is treated as a change in an accounting policy and is disclosed accordingly. Exhibit 1.2 shows depreciation policy of Reliance Petroleum Ltd.

Exhibit 1.2 Depreciation Policy Reliance Petroleum Ltd. Annual Report 2009-10

Depreciation Policy

Depreciation on fixed assets is provided to the extent of depreciable amount on written down value method (WDV) at the rates and in the manner prescribed in Schedule XIV to the Companies Act, 1956 over their useful life except,: on fixed assets pertaining to refining segment and SEZ units, depreciation is provided on Straight Line method (SLM) over their useful life; on fixed bed catalyst with a life of 2 years or more, depreciation is provided over its useful life; on fixed bed catalysts having life of less than 2 years, 100% depreciation is provided in the year of addition; on additions or extensions forming an integral part of existing plants, including incremental cost arising on account of translation of foreign currency liabilities for acquisition of fixed assets and insurance spares, depreciation is provided as aforesaid over the residual life of the respective plants; on development rights and producing properties, depreciation is provided in proportion of oil and gas production achieved vis-a-vis the proved reserves (net of reserves to be retained to cover abandonment costs as per the production sharing contract and the Government of India's share in the reserves) considering the estimated future expenditure on developing the reserves as per technical evaluation; premium on leasehold land is amortised over the period of lease; technical know how is amortised over the useful life of the underlying assets and computer software is amortised over a period of 5 years; intangible assets - others are amortised over the period of agreement of right to use, provided in case of jetty the aggregate amount amortised to date is not less than the aggregate rebate availed by the company; on amounts added on revaluation, depreciation is provided as aforesaid over the residual life of the assets as certified by the valuers'; on assets acquired under finance lease from 1st April 2001, depreciation is provided over the lease term.

Source: Annual Report of Reliance Petroleum 2009-10

Check Your Progress

Explain WDV method of providing deprecation.

6.5 Accounting Treatments for Transactions

Depreciation may be recorded as reduction in asset account or by crediting it to Provision for Depreciation A/c. These entries are shown in 5.1 and 5.2 respectively.

6.5.1 Recording Depreciation in Asset Account

While accounting for depreciation for simple transaction, amount of depreciation may be shown as reduction from the value of fixed assets; in the balance sheet fixed assets are shown at written down value for the year.

Following journal entries are passed.

For Recording Depreciation

Depreciation Account Dr. xxxx

To Fixed Assets xxxx

For transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr. xxxx

To Depreciation Account xxxx

Illustration 5

Mr. Laxman, a sole proprietor purchased machinery costing Rs. 150000 on 1st April, 2010 having a useful life of 10 years, with no salvage value at the end. If he decides to provide depreciation @ 10% p.a. as per WDV method, let us pass journal entry for the year 1 and 2:

Solution:

In 2010-11

Depreciation: 150000 X 10% = 15000

For Providing Depreciation

Depreciation Account Dr. 15000

To Machinery 15000

For transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr. 15000

To Depreciation Account 15000

Value of machinery will be shown as under:

Beginning of the year	150000
Less: Dep.	15000
WDV at the end	135000

In 2011-12

Depreciation: 135000 X 10% = 13500

For Recording Depreciation

Depreciation Account Dr. 13500

To Fixed Assets 13500

For transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr. 13500

To Depreciation Account 13500

NOTES

NOTES

Value of machinery will be shown as under:

Beginning of the year	135000
Less: Dep.	13500
WDV at the end	121500

6.5.2 Recording Depreciation in Provision for Depreciation Account

The amount of depreciation to be charged in a particular year is credited to Provision for Depreciation Account and debited to Profit and Loss Account. The asset continues to be shown at its original cost till it is sold off or destroyed or discarded. This method is generally used by companies to record the depreciation.

The following journal entries are required in this connection:

For Provision of Depreciation

Depreciation Account Dr. xxxx

To Provision for Depreciation Account xxxx

For transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr. xxxx

To Depreciation Account xxxx

Illustration 6

Assuming same information as in illustration 1.4 let us use provision for depreciation method to provide depreciation and pass journal entries for year 1 and 2.

In 2010-11

Depreciation: 150000 X 10% = 15000

For Provision of Depreciation

Depreciation Account Dr. 15000

To Provision for Depreciation Account 15000

For transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr. 15000

To Depreciation Account 15000

Value of machinery will be shown as under:

Gross Block at cost	150000
Less: Prov. For Dep. (Accumulated Dep.)	15000
Net Block at the end	135000

In 2011-12

Depreciation: 135000 X 10% = 13500

For Provision of Depreciation

Depreciation Account Dr. 13500

To Provision for Depreciation Account 13500

For transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr. 13500

To Depreciation Account 13500

Note

Value of machinery will be shown as under:

Gross Block at cost		150000
Less: Prov. For Dep. (Accumulated Dep.)	28500	(15000 +13500)
Net Block at the end		121500

6.5.3 Recording Sale of Asset

The asset may be sold or discarded before or on the expiry of the useful life of the asset. It becomes necessary to calculate the profit or loss, if any on such sale. The book value of the asset at the date of sale is calculated by deducting the total depreciation from the date or purchase to the date of sale firm the original cost. If sale price is greater than the book value, there is a profit on sale of the asset and if the sale price is less than the book value, there is a loss on the sale of the asset. When the asset is sold, the Provision for Depreciation Account is transferred to the asset account. Any amount which is realized on the sale of the asset is credited to the Asset Account. The balance, if any, in the Asset Account is taken to the Profit and Loss account.

(a) Recording amount received through sale

Cash/Bank Account Dr. xxxx

To Asset Account xxxx

(b) The total accumulated depreciation for that asset is transferred to that asset account by the following journal entry:

Provision for Depreciation Account Dr. xxxx

To Asset Account xxxx

(b) In case of profit or loss on sale of an asset :

If Profit :

Asset Account Dr. xxxx

To Profit and Loss Account xxxx

If Loss :

Profit and Loss Account Dr. xxxx

To Asset Account xxxx

Illustration 7

Assuming same information as in illustration 1.4 and as per the provision of depreciation method let us understand journal entries if the same machinery is sold in 1st Oct, 2012 for Rs. 120000

NOTES

Solution:

Calculation of depreciation:

2010-11: Depreciation: 150000 X 10% = 15000

2011-12: Depreciation: 135000 X 10% = 13500

2012 (Apr to Oct): 121500X10%X1/2(6 month) = 6075

Total: 15000+13500+6075=34575

On sale of an Asset

(a) For recording depreciation till the date of sale

Depreciation Account	Dr.	6075	
To Provision for Depreciation Account			6075

(b) Recording amount received through sale

Cash/Bank Account	Dr.	120000	
To Machinery Account			120000

(c) The total accumulated depreciation for that asset is transferred to that asset account by the following journal entry:

Provision for Depreciation Account	Dr.	34575	
To Asset Account			34575

In case of profit on sale of an asset :

Profit = Sale Value - WDV of machinery at the time of sale

= 120000 - 115425 (150000-34575)

= 4575

Machinery Account	Dr.	4575	
To Profit and Loss Account			4575

6.5.4 Change in the Method of Depreciation

Accounting to the GAAP the depreciation method should be consistently applied and followed from year to year to ensure comparability of the reported profit or loss. However, sometimes a change in the method becomes inevitable. The GAAP permits the change in the method of depreciation under certain circumstances, provided it helps in better preparation and presentation of final accounts. When such a change is made , the depreciation should be recalculated according to the new method from retrospective effect. The deficiency or surplus arising from retrospective calculation of depreciation according to the new method should be adjusted in the accounts in the year in which the method of depreciation is changed. The change in the method of depreciation should be treated as a change in the accounting policy and its effect should be disclosed and quantified in the books of accounts.

6.6 Impairment of Assets

An unexpected or sudden decline in the utility of an asset due to physical damage to the asset or due to technological obsolescence it is called as impairment of the assets.

An entity shall assess at each reporting date whether there is any indication that an asset may be impaired. If any such indication exists, the entity shall estimate the recoverable amount of the asset. Irrespective of whether there is any indication of impairment, an entity shall also:

(a) test an intangible asset with an indefinite useful life or an intangible asset not yet available for use for impairment annually by comparing its carrying amount with its recoverable amount. This impairment test may be performed at any time during an annual period, provided it is performed at the same time every year. Different intangible assets may be tested for impairment at different times. However, if such an intangible asset was initially recognised during the current annual period, that intangible asset shall be tested for impairment before the end of the current annual period.

(b) test goodwill acquired in a business combination for impairment annually.

IAS 36

According to AS 28, an enterprise should assess at each balance sheet date whether there is any indication that an asset may be impaired. If any such indication exists, the enterprise should estimate the recoverable amount of the asset. If any asset is carried at more than its recoverable amount, the asset is described as impaired. AS 28 requires the enterprise to recognize an impairment loss. It ensures that its assets are carried at no more than their recoverable amount

External sources of information

(a) during the period, an asset's market value has declined significantly more than would be expected as a result of the passage of time or normal use;

(b) significant changes with an adverse effect on the enterprise have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the enterprise operates or in the market to which an asset is dedicated;

(c) market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to affect the discount rate used in calculating an asset's value in use and decrease the asset's recoverable amount materially;

(d) the carrying amount of the net assets of the reporting enterprise is more than its market capitalization;

Internal sources of information

(e) evidence is available of obsolescence or physical damage of an asset;

(f) significant changes with an adverse effect on the enterprise have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, an asset is used or is expected to be used. These changes include plans to discontinue or restructure the operation to which an asset belongs or to dispose of an asset before the previously expected date; and

NOTES

Check Your Progress

What do you mean by impairment of an assets.

(g) evidence is available from internal reporting that indicate that the economic performance of an asset is, or will be, worse than expected.

NOTES

6.7 Solved Illustration

Illustration 8

Amteck Ltd. Bought a Machine on 1.1.2012 costing Rs.5,00,000 with a useful life of 10 years. It is expected to have a scrap value of Rs.20,000 at the end of its useful life. The rate of depreciation applicable for RBM method is 10%. You are required to calculate depreciation for the year 2013 and 2014 and also WDV as on 31.12.2013 and 31.12.2014 as per SLM and RBM method and offer your comments.

Solution:

Calculation of Depreciation (SLM)

Dep. = (Cost - Scrap)/ Life of Asset

Dep. = (500000 - 20000)/ 10

= 48000 p.a.

Rate of Dep. = (48000/500000)*100

= 9.6%

Accumulated Depreciation

Year	Depreciation	Accumulated Depreciation
1	48000	48000
2	48000	96000
3	48000	144000
4	48000	192000
5	48000	240000

Disclosure of Machinery in Balance sheet (3 years)

Fixed Assets	2013	2014
Machinery		
- Gross Block	500000	500000
Less: Accumulated Depreciation	48000	96000
- Net Block	452000	404000

NOTES

Accumulated Depreciation (RBM)

Year	Cost	Depreciation	Closing WDV	Accumulated Depreciation
1	500000	50000	450000	50000
2	450000	45000	405000	95000
3	405000	40500	364500	135500
4	364500	36450	328050	171950
5	328050	32805	295245	204755

Disclosure of Machinery in Balance sheet (3 years)

Fixed Assets	2013	2014
Machinery		
- Gross Block	500000	500000
Less: Accumulated Depreciation	50000	95000
- Net Block	450000	405000

Illustration 9

Mr. Omprakash purchased machinery costing Rs. 180,000 on 1st April, 2012 having a useful life of 15 years, with no salvage value at the end. He decides to provide depreciation @ 10% p.a. as per RBM method. You are required to pass necessary journal entries using provision for depreciation method for 3 years.

Solution:

YEAR 1

For Provision of Depreciation

Depreciation Account Dr 18,000

To Provision for Depreciation Account 18,000

For Transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr 18,000

To Depreciation Account 18,000

YEAR 2

For Provision of Depreciation

Depreciation Account Dr 16,200

To Provision for Depreciation Account 16,200

For Transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr 16,200

To Depreciation Account 16,200

NOTES

YEAR 3

For Provision of Depreciation

Depreciation Account Dr 14580

To Provision for Depreciation Account 14580

For Transfer or Depreciation to Profit and Loss Account

Profit and Loss Account Dr 14580

To Depreciation Account 14580

Workings:

Year	Op WDV	Depreciation	Closing WDV	Accumulated Depreciation
1	180000	18000	162000	18000
2	162000	16200	145800	34200
3	145800	14580	131220	48780

Illustration 10

Complete the following Fixed Assets Schedule: Rs. In lacs

Particulars	Gross Block			Depreciation			Net Block	
	Cost as on 1/4/2011	Additions	Cost as on 31/03/2012	Accumulated as on 1/4/2011	Current year	Accumulated as on 31/3/2012	As on 1/4/2011	As on 31/03/2012
Goodwill	50000	-		-				
Land and Building	180000	5000		50000				
Plant and machinery	450000	15000		60000				
Furniture	155000	5000		10000				

You are informed that:

- ★ Rate of depreciation for Land and Building is 10%, Plant and Machinery is 15% and Furniture is 20%
- ★ Full depreciation is provided on assets purchased during the year.
- ★ WDV method is used for providing depreciation.

Solution:

Net Block

Particulars	Gross Block		Depreciation				Net Block	
	Cost as on 1/4/2011	Additions	Cost as on 31/3/2012	Accumulated as on 1/4/2011	Current Year	Accumulated as on 31/3/2012	As on 1/4/2011	As on 31/03/2012
Goodwill	50,000	-	50,000	-			50,000	50,000
Land and Building	180000	5,000	1,85,000	50,000	13500	63,500	180000	1,21,500
Plant and Machinery	450000	15,000	4,65,000	60,000	60750	1,20,750	450000	3,44,250
Furniture	155000	5,000	1,60,000	10,000	30000	40,000	155000	1,20,000

NOTES

Illustration 11

Following information is available for Bharat Ceramic Ltd.

Particulars	
Cost of the machine(Rs.)	2600000
Useful life(Yrs.)	5
Scrap value(Rs.)	130000

You are required to

1) Determine annual depreciation for first 3 years and rate of depreciation as per SLM
2) Determine accumulated depreciation at the end of third year.
3) Show disclosure of machine in balance sheet at the end of third year.

Solution:

Calculation of Depreciation (SLM)

Dep. = (Cost - Scrap)/ Life of Asset

Dep. = (2600000 - 130000)/ 5

= 494000 p.a.

Rate of Dep. = (494000/2600000)*100

= 19%

Accumulated Depreciation

Year	Depreciation	Accumulated Depreciation
1	494000	494000
2	494000	988000
3	494000	1482000
4	494000	1976000
5	494000	2470000

NOTES

Disclosure of Machinery in Balance sheet (3 years)

Fixed Assets	Year 1	Year 2	Year 3
Machinery			
- Gross Block	2600000	2600000	2600000
Less: Accumulated Depreciation	4,94,000	9,88,000	1482000
- Net Block	21,06,000	16,12,000	11,18,000

Illustration 12

Omkar Silk Ltd. purchased machinery details of which are as under. Using the given information you are required to calculate cost of the machine.

Particulars	Amount	Amount
Invoice Price:		
List price	2500000	
Less: Trade discount	50000	
Balance	2450000	
Add: sales tax and excise duty	300000	2750000
Transportation charges to factory site		12500
Installation charges		37500
Travelling charges for Manager for monthly visit		40000
Scrap Value		20000

Solution:

Particulars	Amount	Amount
Invoice Price:		
List Price	25,00,000	
Less: Trade Discount	50,000	
Balance	24,50,000	
Add: Sales Tax and Excise Duty	3,00,000	2750000
Transportation Charges to Factory Site		12,500
Installation Charges		37,500
Cost of Machine		28,00,000

Illustration 13

Complete the following Fixed Assets Schedule: Rs. In lacs

Particulars	Gross Block			Depreciation			Net Block	
	Cost as on 1/4/2011	Additions	Cost as on 31/3/2012	Accumulated as on 1/4/2011	Current Year	Accumulated as on 31/3/2012	As on 1/4/2011	As on 31/03/2012
Land and Building	350000			25000				
Plant and machinery	185000			24000				
Furniture	120000			16500				
Computer	225000			59000				

You are informed that:

- ★ Rate of depreciation for Land and Building is 5%, Plant and Machinery is 10%, Furniture is 10% and computer is 20% on per annum basis.
- ★ Assets purchased during the year included Machinery worth Rs.4500 on 1/7/2011 and computers worth Rs. 40000 on 30/09/2011.
- ★ WDV method is used for providing depreciation.

Solution:

Particulars	Gross Block			Depreciation			Net Block	
	Cost as on 1/4/2011	Additions	Cost as on 31/3/2012	Accumulated as on 1/4/2011	Current Year	Accumulated as on 31/3/2012	As on 1/4/2011	As on 31/03/2012
Land and Building	3,50,000	-	3,50,000	25,000	16,250	41,250	3,25,000	3,08,750
Plant and Machinery	1,85,000	4,500	1,89,500	24,000	16,438	40,438	1,61,000	1,49,063
Furniture	1,20,000	-	1,20,000	16,500	10,350	26,850	1,03,500	93,150
Computer	2,25,000	40,000	2,65,000	59,000	37,200	96,200	1,66,000	1,68,800

Illustration 14

Suman Ltd. purchased following assets during the year 2012.

Asset	Cost	Residual value	Useful life
Plant	2400000	160000	10
Building	3000000	180000	20

Company used Straight Line Method for providing depreciation from the year of purchase, however from year 5 company decided to change depreciation method to WDV and decided to apply Rate of 10%.

NOTES

NOTES

Assuming company earning a profit of Rs. 650000 before depreciation which grows @ 10% p.a., you are required to:-

Compute Profit after depreciation for 5 years. Show the impact of change in method of depreciation in year 5 (assuming it is done retrospectively from year 1.)

Solution:

Plant

Depreciation as per SLM	year	Depreciation as per SLM
	1	224000
Dep. = (Cost - Scrap)/ Life of Asset	2	224000
Dep. = (2400000 - 160000)/ 10	3	224000
= 224000 p.a.	4	224000
	5	224000
		1120000

Depreciation as per WDV

	year	Cost	Dep.
10% of Rs.2400000	1	2400000	240000
	2	2160000	216000
	3	1944000	194400
	4	1749600	174960
	5	1574640	157464
			982824

Building

Depreciation as per SLM	year	Depreciation as per SLM
	1	141000
Dep. = (Cost - Scrap)/ Life of Asset	2	141000
Dep. = (3000000 - 180000)/ 20	3	141000
= 141000 p.a.	4	141000
	5	141000
		705000

Depreciation as per WDV

	year	Cost	Dep.
10% of Rs.3000000	1	3000000	300000
	2	2700000	270000
	3	2430000	243000
	4	2187000	218700
	5	1968300	196830
			1228530

NOTES

Year	PBD	Dep AS per SLM	Profit after dep. As per SLM	Dep. As per WDV	Profit after dep. As per WDV
1	650000	224000	426000	240000	410000
2	715000	224000	491000	216000	499000
3	786500	224000	562500	194400	592100
4	865150	224000	641150	174960	690190
5	951665	224000	727665	157464	794201
			2848315		2985491

Increase in Profit due to change in method 137176

Year	PBD	Dep AS per SLM	Profit after dep. As per SLM	Dep. As per WDV	Profit after dep. As per WDV
1	650000	141000	509000	300000	350000
2	715000	141000	574000	270000	445000
3	786500	141000	645500	243000	543500
4	865150	141000	724150	218700	646450
5	951665	141000	810665	196830	754835
			3263315		2739785

Increase in Profit due to change in method -523530

Combined Effect on Profit Due to Change in Method

		SLM		Profit after dep. As per SLM	WDV		Profit after dep. As per WDV
Year	PBD	Dep on Plant	Dep on Building		Dep on Plant	Dep. On Bldg.	
1	650000	224000	141000	285000	240000	300000	110000
2	715000	224000	141000	350000	216000	270000	229000
3	786500	224000	141000	421500	194400	243000	349100
4	865150	224000	141000	500150	174960	218700	471490
5	951665	224000	141000	586665	157464	196830	597371
				2143315			1756961

Increase in Profit due to change in method -386354

NOTES

Illustration 15

Carriage Transport Company purchased 5 trucks at the cost of Rs. 2,00,000 each on April 01, 2001. The company writes off depreciation @ 20% p.a. on

Original cost and closes its books on December 31, every year. On October 01, 2003, one of the trucks is involved in an accident and is completely destroyed. Insurance company has agreed to pay Rs. 70,000 in full settlement of the claim. On the same date the company purchased a second hand truck for Rs. 1,00,000 and spent Rs. 20,000 on its overhauling. Prepare truck account and provision for depreciation account for the three years ended on December 31, 2003. Also give truck account if truck disposal account is prepared.

Solution:

Machinery Account

Dr. Cr.

Date	Particulars	Amount Rs.	Date	Particulars	Amount Rs.
1.4.2013	To Bal B/d	1000000	1.4.2013	By Repairs to Machinery	41625
1.4.2013	To Generator	76950	31.12.2013	By cost of plant discarded upto 1.4.2013	76000
31.12.2013	To Bank	120000	31.03.2012	By depreciation (95932+30000)	125932
			31.03.2013	BY Bal C/d	953393
		1196950			1196950

Calculating Revenue Expenses wrongly capitalized

30-06-2011 Cost	50000
Less: depreciation Charged	
upto 31/03/12	3750
WDV on 31/03/12	46250
Less: depreciation Charged	
upto 31/03/13	4625
WDV on 31/03/13	41625

Calculating Capital Expenses wrongly written off

01-10-2010 cost	100000
Less: depreciation Charged	
upto 31/03/11	5000
WDV on 31/03/11	95000
Less: depreciation Charged	9500

upto 31/03/12	
WDV on 31/03/12	85500
Less: depreciation Charged	
upto 31/03/13	8550
WDV on 31/03/13	76950
Calculating depreciation on plant replaced	
30-09-2012 cost	80000
Less: depreciation Charged	
upto 31/03/13	4000
WDV on 31/03/12	76000
Less: depreciation Charged	
upto 31/12/2013	5700
WDV on 31.12.2013	70300

6.8 Summary

- ★ A fixed asset in an asset that is held for being used for day to day activities and is not held for sale in the normal course of business. Fixed assets include tangible (Land, Building, vehicle) and intangible assets (goodwill, patents, software)
- ★ The cost of fixed asset comprises its purchase price and any directly attributable cost of bringing the asset to its working condition for its intended use; any trade discounts and rebates are deducted in arriving at the purchase price.
- ★ Depreciation is a gradual fall in the value of depreciable fixed asset arising from use, effluxion of time or obsolescence. Depletion is the process of measuring the exhaustion of natural resources such as mines. The 'amortization' refers to the process of writing off intangible assets like patents, copyrights, leasehold properties, trademarks. It is compulsory to provide depreciation as per AS and as per Law
- ★ Though there are various methods of providing depreciation, the most commonly used ones are the Straight-Line Method (SLM) and the Reducing Balance Method (RBM). Income Tax act mandates RBM.
- ★ An unexpected or sudden decline in the utility of an asset due to physical damage or obsolesce is called as impairment of an assets. As per AS 28 it is compulsory to provide for loss due to impairment.

6.9 Key Terms

- ★ Fixed Assets: A fixed asset in an asset that is held for being used for day to day activities and is not held for sale in the normal course of business. Fixed assets include tangible (land, building, vehicle) and intangible assets (goodwill, patents, software).

- ★ Depreciation:Depreciation is a gradual fall in the value of depreciable fixed asset arising from use, effluxion of time or obsolescence. Depletion is the process of measuring the exhaustion of natural resources such as mines.
- ★ Amortization:The "amortization" refers to the process of writing off intangible assets like patents, copyrights, leasehold properties, trademarks. It is compulsory to provide depreciation as per AS and as per law.

6.10 Questions and Exercises

6.10.1 Multiple Choice Questions

1) Depletion method is more suitable for
   a) Service industry
   b) Mining industry
   c) Intangible assets
   d) All the above
2) In case of SLM the amount of depreciation
   a) Fluctuates every year
   b) Decreases every year
   c) Increases every year
   d) Remains same every year
3) Amortization is related to
   a) Tangible Fixed Assets
   b) Intangible Fixed Assets
   c) Any Fixed assets
   d) None of the above
4) A proprietor sold old furniture for Rs. 12000 which had a book value of Rs.30000 and accumulated depreciation of Rs.24000. what is profit/loss on sale of furniture?
   a) Loss Rs.18000
   b) Profit Rs. 6000
   c) Loss Rs. 12000
   d) Cannot be determined
5) Strawberry ltd. purchased a vehicle for Rs.6,00,000 on April 1, 2012. The expected residual value is Rs. 60,000 and its estimated life is 6 years. What is net book value at the end of the year March 2014 if SLM of providing depreciation is followed?
   a) Rs. 400000
   b) Rs. 480000
   c) Rs. 540000
   d) Rs 420000

NOTES

6) In case of Q.5. What is net book value at the end of the year March 2014 if RBM method of providing depreciation (@ 15% p.a.) is followed?

a) Rs. 433500

b) Rs. 390150

c) Rs. 540000

d) None of the above

Using the given information, answer Q.7 to Q.10.

As at 31 December 2012 Machinery costing Rs.10, 80, 000 was reported on the balance sheet at a written down value of Rs.7, 62, 000. On 1 April 2013 Rs.4, 20, 000 was paid for another machine and Rs.60, 000 incurred on freight, insurance and installation. On 1 July 2012 a machine which had been acquired for Rs.1, 60, 000 on 1 July 2009 was sold for Rs.24, 000. Place select an appropriate choice to identify the amount written off as depreciation in the year ended 31 December 2013 and the written down value of machinery as at 31 December 2013 in each of the following alternative scenarios:

Q.7. Machinery is depreciated at 10% per annum, using the Straight-Line Method; but full year's depreciation is charged on year of acquisition and no depreciation in the year of disposal, the amount of depreciation is:

a) Rs. 136000

b) Rs.156000

c) Rs.140000

d) None of the above

Q.8. If SLM is used, WDV as on 31.12.2013 will be:

a) Rs. 3,90,000

b) Rs. 10,06,000

c) Rs. 9,90,000

d) Rs. 9,94,000

Q.9. Machinery is depreciated at 10% per annum, using the Reducing Balance Method; but full years depreciation is charged on year of acquisition and no depreciation in the year of disposal, the amount of depreciation is:

a) Rs. 124200

b) Rs.156200

c) Rs. 248400

d) None of the above

Q.10. WDV as on 31.12.2013 will be:

a) Rs. 10,21,160

b) Rs. 10,06,000

c) Rs. 9,90,000

d) None of the above

6.10.2 Theory Questions

NOTES

1) What are fixed assets? How to determine cost of fixed assets?
2) What is depreciation? Is it necessary to provide for the same?
3) Distinguish between SLM and RBM methods of depreciation?
4) What is Asset impairment? Why is it necessary to provide for the same?

6.10.3 Practical Problems

Exercise 1

Aparna Pharmaceuticals Ltd. purchase on 1.1.97, a divisible plant for Rs.20,00.000. The pland had estimated useful life of 5 years. It was depreciated as per SLM. A major extension was carried out for Rs.4,00,000 which was mae operational from 1.1.99. Prepare the machinery account for all the years assuming :

(a) the extension will last only till the life of the existing asset:

(b) the extension is capable of being used independently of existing plant is expected to last 5 years from its installation.

Exercise 2

Prithvi Ltd. purchased a machinery on January 01, 2011 for Rs. 5,50,000 and spent Rs. 50,000 on its installation. On September 01, 2011 it purchased another machine for Rs. 3,70,000. On May 01, 2012 it purchased another machine for Rs. 8,40,000 (including installation expenses). Depreciation was provided on machinery @10% p.a. on original cost method annually on December 31. Pass journal entries and Prepare:

(a) Machinery account and depreciation account for the years 2011, 2012, 2013 and 2014.

(b) If depreciation is accumulated in provision for Depreciation account then prepare machine account and provision for depreciation account for the years 2011, 2012, 2013 and 2014.

Exercise 3

Azad Ltd. purchased furniture on October 01, 2012 for Rs. 4,50,000. On March 01, 2013 it purchased another furniture for Rs. 3,00,000. On July 01, 2014 it sold off the first furniture purchased in 2012 for Rs. 2,25,000. Depreciation is provided at 15% p.a. on written down value method each year. Accounts are closed each year on March 31. Prepare furniture account, and accumulated depreciation account for the years ended on March 31, 2013, March 31,2014 and March 31,2015.

Exercise 4

M/s. Ram stores acquired a printing machine for Rs.2,70,000 on 1st April,1998. It was company's policy to depreciate a machine on straight line basis at 20% p.a. During 2000-01 a modification was made to the machine to improve its technical reliability, at a cost of Rs.25,000, which it was considered would extend the useful life of the machine by 2 years. At the same time an important component of the machine was replaced at a cost of Rs.5,000 because of excessive wear and tear. Routine maintenance during said accounting year cost Rs.3750.

Show the Asset Account, the Provision for Depreciation Account and charge to Profit and Loss Account in respect of the machine for the year ended 31st March,2001.

6.11 Further Reading and References

NOTES

- Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education
- "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi

UNIT 7 COMPANY ACCOUNTS : ACCOUNTING FOR SHARES AND DEBENTURES

Structure

7.0 Introduction

Check Your Progress
Explain different types of companies.

According to Justice Marshall, 'A corporation is an artificial being invisible, intangible and existing only in the contemplation of law'. In India Company is formed and registered under the Companies Act, 1956.

7.1 Unit objectives

After studying this unit, you should be able to

- ★ Understand company form of business organization
- ★ Know shares and debentures
- ★ Learn the accounting for issue/buyback of shares/debentures

Characteristics of a company:

- ★ Incorporated Association: A company comes into existence through the operation of law. Therefore, its incorporation under Companies Act is imperative. Without such registration, company cannot come into existence. The registration provides the status of domicile to the company.
- ★ Separate Legal Entity: A company has a separate legal entity, which is not affected by changes in its membership.
- ★ Perpetual Existence: Since a company's existence is independent of its

members, it continues to be in existence despite the death, insolvency, or change in the composition of its members.

★ Limited Liabilities: The liability of every shareholder of a company is limited to the face value of shares allotted to that shareholders. If such shares are fully paid up, member has no further liability. There is also provision for unlimited liability company though such companies are not popular in India.

★ Separation of ownership and management: Shareholders are the owners of the company while the control and management of company's affairs are entrusted to the directors; they carry on the business of the company on the basis of fiduciary relationship with the shareholders.

★ Periodic Audit: A company has to get its accounts periodically audited through the Charted Accountant appointed for the purpose by the shareholders on the recommendation of the board of directors.

★ Memorandum of Association: it is a document of charter of company defining scope of the power with which company is established.

★ Articles of Association: it determines the constitution for the internal management of the company. It defines the relationship between the members and with the companies.

Types of companies:

★ Statutory Company: All companies that operate under a special act passed by the state legislature or parliament, such as the Reserve Bank of India, are known as statutory companies. Such companies are not required to use the word 'limited' as part of their names. E.g. Life Insurance Corporation of India (LIC), Reserve Bank of India (RBI) etc.

★ Government Company: According to Section 617 of the Companies Act, 1956, 'a government company means any company in which not less than 51% of the paid-up capital is held by the central government , or by any state government or Governments. Such companies are also known as public sector company. E.g. Hindustan Petroleum Corporation Limited (HPCL), Oil and Natural Gas Corporation (ONGC)

★ Foreign Company: A foreign company is one that is incorporated outside India but has business operations inside India. E.g. General Motors Company, Microsoft Corporation, Suzuki motor, Hyundai etc.

★ Subsidiary Company: A company is deemed to be subsidiary of another company when other company controls the composition of its board of directors or other company holds more than half in its nominal value of its equity share capital.

★ Holding Company: A company is deemed to be a holding company if the other company is its subsidiary company. i.e. it owns 51% or more of paid-up share capital of subsidiary company.

For example

Holding company: TCS Ltd.

Some of Its subsidiaries are:

· CMC Limited

· WTI Advanced Technology Ltd.

· APONLINE Limited

· C-Edge Technologies Limited

· MP Online Limited

· Tata America International Corporation

· Tata Consultancy Services Netherlands BV

· Tata Consultancy Services Belgium SA

· Tata Consultancy Services Sverige AB

Source: Annual Report TCS Ltd. (2010-11)

★ Private Company: A private company means a company which restricts the rights of members to transfer its shares; orprohibits any invitation to the public to subscribe to any shares/ debentures of, the company; or limits the number of members to 50.

★ Public Company: ‘public company’ means a company which is not a private company.

★ Listed company: listed companies are those whose securities are listed on any recognized stock exchange. They are required to comply with corporate governance and other regulations lay down by SEBI. All big companies are listed companies like Reliance Industries Ltd., Tata Motors Ltd., Infosys Technologies Ltd.

7.2 Shares and Share Capital

Share capital is the amount of money contributed by owners/shareholders for the furtherance of objectives of the company for which it was crated. Important terms related to share capital are-

- Authorized, registered, or nominal capital: This is maximum amount of capital that can be raised by company. This is disclosed in Memorandum of Association.
- Issued capital: is the part of authorized capital, which is offered for subscription.
- Subscribed capital: It is that part of issued capital that represents the face or nominal value of shares subscribed by investoes.
- Called-up capital: it is the portion of subscribed capital that the directors require the shareholder to pay on the shares allotted to them.
- Paid-up capital: The amount of called-up capital, which has been actually paid by the shareholders, is referred to as paid-up capital.
- Reserve capital: A company may decide by special resolution that a certain portion of its uncalled capital shall not be available for being called up except in the event, and for the purpose, of liquidation. Such a portion is called reserve capital.

The following Exhibit 1.1 shows details of Share Capital of Infosys Technologies Ltd. while Exhibit 1.2 shows schedule of share capital of ONGC ltd.

Exhibit 1.1 Details of Share Capital of Infosys Technologies Ltd.

Rs. In cr.

As on 31st March	Class Of Share	Authorized Capital (Rs. Cr.)	Issued Capital (Rs. Cr.)	Paid Up Capital (Rs. Cr.)	Paid Up Shares (Nos)	Paid Up Face Value (Rs. Cr.)
2010	Equity Share	300	286.91	286.91	573825192	5
2009	Equity Share	300	286.42	286.42	572830043	5
2008	Equity Share	300	286	286	571995758	5
2007	Equity Share	300	285.6	285.6	571209862	5
2006	Equity Share	150	137.78	137.78	275554980	5

(Source: Annual Report Infosys Technologies Ltd. 2010-11)

NOTES

Exhibit 1.2 Schedul

e of Share Capital of ONGC Ltd.

SCHEDULE-1

(₹ in million)

	As at 31[st] March, 2011	As at 31[st] March, 2010
SHARE CAPITAL		
Authorised:		
30,000,000,000 Equity Shares of ₹ 5 each (Previous Year 15,000,000,000 Equity Shares of ₹ 10 each)	**150,000.00**	150,000.00
Issued and Subscribed:		
8,555,528,064 Equity Shares of ₹ 5 each (Previous Year 2,138,891,502 Equity Shares of ₹ 10 each)	**42,777.64**	21,388.92
Paid up:		
8,555,490,120 Equity Shares of ₹ 5 each (Previous Year 2,138,872,530 Equity Shares of ₹ 10 each)	**42,777.45**	21,388.73
Add: Shares forfeited	**0.14**	0.14
TOTAL	**42,777.59**	**21,388.87**

Notes :

(i) Pursuant to the approval of the members dated 28.01.2011 one Equity share having face value of ₹ 10/- each has been sub-divided into two Equity share of ₹ 5/- each and bonus shares have been issued in the proportion of one new Equity bonus share of ₹ 5/- each for every one existing fully paid equity share of ₹ 5/-each held on 09-02-2011 (record date).

(ii) The above includes:

(a) 685,707,432 Equity Shares of face value of ₹ 5 each (Previous year 342,853,716 Equity share of face value of ₹ 10 each) issued as fully paid up to the President of India without payment being received in cash in terms of Oil and Natural Gas Commission (Transfer of Undertaking and Repeal) Act, 1993.

(b) 7,856,540,812 Equity Shares of face value of ₹ 5 each (Previous year 1,789,397,876 Equity share of face value of ₹ 10 each) issued as fully paid up by way of bonus shares by capitalisation of General Reserve and Securities Premium.

Source: Annual Report ONGC Ltd. 2010-11

Illustration 1

A limited company has been incorporated with an authorized capital of Rs. 10,00,000 divided into

1, 00,000 shares of Rs. 10 each. It offered 90,000 shares for subscription by the public and, out of these

85,000 shares were subscribed for. Company has called up Rs.6 per share and the amount called up has been paid by shareholders. You are required to show the information as required to be shown in the schedule of share capital for the company.

Solution:

Types of share capital

S. No.		Shares (No.)		share capital (Rs.)
a	Authorized capital	100000	Shares of Rs. 10 each	1000000
b	Issued capital	90000	Shares of Rs. 10 each	900000
c	Subscribed capital	85000	Shares of Rs. 10 each	850000
d	Called-up capital	85000	Shares of Rs. 10 each,	
			Rs. 6 each called up	510000
e	Paid-up capital	85000	Shares Rs. 10 each,	
			@ Rs. 6 each paid up	510000

Types of shares

A share is a fractional a fraction of the share capital and forms the basis of ownership interest in a company. The persons who contribute money through shares are referred to as shareholders.

Any company can have two types of shares;preference shares andequity shares.

(1) Preference shares are the shares which carry a preferential right to dividend and to the repayment of capital on the winding up of the company, before anything is paid to equity shareholders. Preference shares carry with them a right to receive a fixed percentage of dividends. E.g. 12% Prefernce shares indicate that dividend of 12% on face value will be paid. However, the right to receive dividend is subject to availability of profit.

Types of preference shares:

★ Cumulative preference share: In case no dividend is declared in a year due to any reason, the right to receive such dividend for that year is carried forwarded to next year.

★ Non cumulative preference share: In case no dividend is declared in a year due to any reason, the right to receive such dividend for that year expires.

★ Redeemable preference shares These are the shares that are issued on the condition that the company will redeem them and repay the face value of shares, after the certain period.

★ Non-redeemable preference shares preference shares that do not carry with them the arrangement regarding redemption. Currently companies are not allowed to issue such shares.

★ Convertible preference shares give the right to the holder to get them converted into equity shares according to the terms and conditions of their issue.

In real life preference shares are not popular as they are entitled to fixed dividend and not surplus.

(2) Equity shares: Shares that entitle their holder to the whole of the profits earned by the company, after a fixed dividend on preference shares that has been paid by it, are equity shares. Equity shareholders are the real owners of the companies. In case of public companies, equity shares may be listed on stock market for trading. Equity shares are traded in huge volumes and stock exchange is treated as a very important financial market.

7.3 Issue of Shares

The company issue shares to investor and raise long term funds. The shares of a company can be issued (1) for cash or (2) for consideration other than cash

(1) Issue of shares for cash: When shares are issued against the payment in cash, it is referred to as "issue for cash." Following is the accounting entry for recording such transaction.

Bank A/c (Add) Dr. [Total amount received]

To Share Capital A/c (Add)

(Being amount for shares @ Rs per share)

Illustration 2

Amtechltd. issued 10,000 shares of Rs. 10 each and it has been fully paid up. Pass journal entry.

Solution:

Bank A/c……………………………………………. Dr. 1, 00,000

To Share Capital A/c 1, 00,000

(Being amount received for 10000 shares @ Rs. 10 per share)

(2) Issue of Shares for Consideration other than Cash

There are instances where a company enters into an arrangement with the vendors from whom it has purchased assets, whereby the latter agrees to accept, and the payment in the form of fully paid shares of the company issued to them. Normally, no cash is received for such issue of shares. These shares can also be issued either at par, at premium or at discount, and the number of shares to be issued will depend upon the price at which the shares are issued and the amount payable to the vendor. This is also applicable when shares are issued to promoters.

Illustration 3

Rahul Limited purchased building from Honda Limited for Rs.5, 40,000 and the payment is to be made by the issue of shares of Rs.100 each. Pass journal entries under following situations

Solution

Date	Particulars	L/F	Debit Rs.	Credit Rs.
1	Building A/c Dr To Honda Limited (Building building purchased)		5,40,000	5,40,000
2	Honda Limited Dr. To Share Capital A/c (Being 5,400 Shares issued at par)		5,40,000	5,40,000

Specialized Issue

Bonus share is an equity share issued to current shareholders in a company free of cost, based upon the number of shares that the shareholder already owns. Such issue will increase companies equity shares, however it reduces companies reserves as they are generally issued out of general reserves or profit.

Illustration 4

Amay Ltd. issues 50 % bonus shares to their shareholder against existing 20000 equity shares of Rs. 10 each. Company has General Reserves of Rs. 100000 and Profit & Loss A/c balance of Rs. 50000. Pass necessary journal entries.

Solution:

1, Profit & Loss A/c …………………………………..Dr. 50000

General reserve A/c………………………………Dr. 50000

To Bonus to equity shareholders a/c (10000xRs.10) Rs.1,00,000

2, Bonus to equity shareholders a/c (10000xRs.10) 1,00,000

To Equity share capital A/c 1,00,000

Right shares are those shares which are offered to the existing shareholders, usually at a discount to market price.

Sweat equity shares the equity shares issued by the company to employees or directors at a discount or for consideration other than cash for providing know-how or for making available intellectual property rights provided that not less than one year has elapsed since the date of commencement of business.

Employee Stock Option Plans (ESOPs) A choice given to whole time directors, officers, and employees, whereby they have the right to purchase or subscribe at a future date the securities offered by the company at a pre-determined price is known as employee stock option.

Issue of shares at premium

When a company issues its securities at a price that exceeds the face value, it is said to be an issue at premium.

Premium is the excess of issue price over face value of the security. It is quite common for the financially strong and well managed companies to issue their shares at premium, i.e., at an amount more than the nominal or par value of shares.

NOTES

Illustration 5

Amtechltd. issued 10,000 shares of Rs. 10 each at a premium of Rs.2 per share and it has been fully paid up. Pass journal entry.

Solution:

Bank A/c…………………………………………… Dr. 1, 20,000

To Share Capital A/c 1, 00,000

To Securities Premium A/c 20,000

(Being amount received for 10000 shares @ Rs. 12 per share)

Issue of shares at discount: There are instances when the shares of a company can also be issued at a discount, i.e., at an amount less than the nominal or par value of shares.

The journal entry to record discount on the issue of shares is given below.

Bank A/c ……………………………………………………..Dr.

Discount on the issue of shares A/c (Add) Dr.

To Share capital A/c (Add)

(Being amount due on allotment of ___ shares @ Rs___ per share and discount on issue brought into account)

Illustration 6

Amtechltd. issued 10,000 shares of Rs. 10 each at a discount of Rs.2 per share and it has been fully paid up. Pass journal entry.

Solution:

Bank A/c…………………………………………… Dr. 80,000

Discount on issue of shares…………………Dr. 20,000

To Share Capital A/c 1, 00,000

(Being amount received for 10000 shares @ Rs. 12 per share)

Initial Public Offer (IPO) Market

IPO is sale of shares by company to public. It can be used by existing companies to raise capital and or new company to become publicly traded companies. IPO is offered in primary market.

Reliance Power Ltd's initial public offer has broken all records in the primary market as it drew a massive response from retail and institutional investors alike who bid to buy shares worth over Rs 100,000 crore.The first IPO from the Group on Jan 15, 2008 received bids for 242 crore shares, or 10.6 times of the 22.80 crore shares on offer for the public. So much was the demand for the issue that investorsencashed a part of their holdings in the secondary market to buy its shares, pulling the benchmark BSE Sensex down by almost 477 points. Even power stocks, including parent firm Reliance Energy Ltd, ended in losses on the bourses.The Qualified Institutional Buyer (QIB) segment of the IPO was oversubscribed 17 times, while the high net worth individual (HNI) segment was oversubscribed 7.4 times. The portion reserved for retail

Check Your Progress

Explain the accounting process to issue shares.

investors received bids for close to 1.4 times the shares on offer, market sources said.Overall, the IPO was oversubscribed 10.64 times, with demand worth about Rs 1,09,000 crore, according to data available with stock exchanges. The company looked set to make history with record proceeds of Rs 11,700 crore as almost all bids came at Rs 450, the top end of the price band.

7.4 Share Issue: Payments in Installment

Issue of shares can be collected in installments i.e. on Application, on allotment and on calls.

Application for shares: The starting point for the issue of share capital is the application for shares by prospective investors. When applications for shares along with the money have been received, the journal entry is as follows:

Bank A/c (Add) Dr. [Total amount received on application]

To share application A/c (Add)

(Being amount received on application for_______ shares @ Rs per share)

Allotment of shares:

The allotment of shares means acceptance by the company of the offer made by the applicants to take up the shares applied for.

(1) Transfer of Application Money

Share application A/c (less) Dr.

[No. of shares allotted * Application money per share]

To Share capital A/c (Add)

(Being application money on ______ shares allotted/transferred to share capital)

(2)Money refunded on regretted Applications

Share application A/c (Less) Dr.

[No. of shares regretted* Application money per share]

To Bank A/c (Less)

(Being application money returned on rejected application for _____ shares)

(3)Amount due on allotment

Share allotment A/c (Add) Dr.

[No. of shares allotted * Allotment amount per share]

To Share Capital A/c (Add)

(Being amount due on the allotment of _____ shares @ Rs ______ per share)

(4) Adjustment of excess application money

Share Application A/c (Less) Dr.

NOTES

[Application amount received – (Application money transferred to share capital + Money refunded)]

To Share allotment A/c (Less)

(Being application amount of _____ shares @ Rs ____ per share adjusted to the amount due on allotment)

(5) Receipt of allotment amount

Bank A/c (Add) Dr.

To share allotment A/c (Less)

(Being Allotment money received on ____ shares @ Rs ____ per share)

Call on shares: In the event of share not being fully called up until the completion of allotment, the directors have the authority to call for the remaining amount on shares as and when they decide about the same.

Any no. of calls __ first call, second call, third call, and final call __ may made to get the full face value of share in cash.

Accounting Treatment

When a call is made on the shares and the amount of the same is received, the journal entries are given below.

(1) Call Amount Due

Share calls A/c (Add) Dr.

[No. of Shares * Call amount per share]

To Share Capital A/c (Add)

(Being call money due on ____ shares @ Rs ____ per share)

(2) Receipt of Call amount

Bank A/c (Add)

To Share Call A/c (Less)

(Being call money received)

Illustration 7

On 1st April 2012, ABC Company Limited was incorporated with an authorized capital of Rs. 5,00,000 divided into shares of Rs. 100 each.

It offered to the public for subscription 4,000 shares payable thus.	
On application	Rs. 30 per share
On allotment	Rs. 20 per share
On first call (One month after allotment)	Rs. 28 per share
On second call (Three months after allotment)	Rs. 22 per share

The shares were fully subscribed for by the public and application money duly received on 15th April 2012.

The directors made the allotment on 1st May 2012.

Record journal entries in the books of the company to record these share capital transactions,

assuming that amount due have been received within 15 days of making allotment and calls.

Solution:

In the books of ABC Limited Company

Journal Entries

Date	Particulars	Dr./ Cr.	L.F.	Debit Amt.Rs.	Credit Amt.Rs
15-Apr	Bank A/C To Equity share application A/c (Being Money received on applications for 4,000shares @ Rs. 30 per share)	Dr.		120000	 120000
01-May	Equity share application A/c To equity share capital A/c (Being Transfer of application money on 4,000 shares to share capital)	Dr.		120000	 120000
01-May	Equity share allotment A/c To equity share capital A/c (Being Amount due on the allotment of 4,000 shares @ Rs. 20 per share)	Dr.		80000	 80000
15-Apr	Bank A/C To equity share allotment A/c (Being Allotment money received)	Dr.		80000	 80000
01-Jul	Equity share first call A/c To equity share capital A/c (Being First call money due on 4,000 shares @ Rs. 28 per share)	Dr.		112000	 112000
15-Jul	Bank A/C To equity share first call A/c (Being First call money received)	Dr.		112000	 112000
01-Aug	Equity share second and final call A/c To equity share capital A/c (Being Final call money due on 4,000 shares Rs. 22 per share)	Dr.	88000		 88000

NOTES

15-Aug	Bank A/C To equity share second and final call A/c (Being Final call money received)	Dr.		88000 88000	

Calls-in-arrears: Sometimes shareholders fail to pay the amount due on allotment or calls. The total unpaid amount on one or more installments is known as calls-in-arrears or unpaid calls.

For recording calls-in-arrears, the following journal entry is recorded.

Calls-in-arrears A/c (Add) Dr. [Amount of unpaid calls]

To Share Allotment A/c (Less)

To Share call A/c (Less)

Illustration 8

Vedant Ltd. issued 10,000 equity shares of Rs. 10 each payable at Rs. 2.50on application, Rs. 3 on allotment, Rs. 2 on first call, and the balance of Rs. 2.50on the final call. All the shares were fully subscribed and paid except of ashareholder having 100 shares who could not pay for the final call. Give journalentries to record these transactions.

Solution

In the books of Vedant Limited CompanyJournal Entries

Date	Particulars	Dr./ Cr.	L.F.	Debit Amt.Rs.	Credit Amt.Rs
	Bank A/C To Equity share application A/c (Being Money received on applications for 10,000shares @ Rs. 2.5 per share)	Dr.		25000	 25000
	Equity share application A/c To equity share capital A/c (Being Transfer of application money on 10,000 shares to share capital)	Dr.		25000	 25000
	Equity share allotment A/c To equity share capital A/c (Being Amount due on the allotment of 10,000 shares @ Rs. 3 per share)	Dr.		30000	 30000
	Bank A/C To equity share allotment A/c (Being Allotment money received)	Dr.		30000	 30000
	Equity share first call A/c To equity share capital A/c (Being First call money due on 10,000 shares @ Rs. 2 per share)	Dr.		20000	 20000

	Bank A/C To equity share first call A/c (Being First call money received)	Dr.		20000	 20000
	Equity share second and final call A/c To equity share capital A/c (Being Final call money due on 4,000 shares Rs. 22 per share)	Dr.		25000	 25000
	Bank A/C Calls in arrears A/c To equity share second and final call A/c (Being Final call money received)	Dr. Dr.		24750 250 25000	

Call-in-advance: Some shareholders may sometimes pay part, or whole, of the amount not yet called up, such amount is known as calls-in-advance.

Bank A/c (Add) Dr.

To Calls-in-advance A/c (Add)

When calls become actually due, calls-in-advance account is adjusted at the time of the call. For this the following journal entry is recorded:

Calls-in-advance A/c (Less) Dr.[Call amount due]

To particular call A/c (Less)

Forfeiture of shares: It may happen that certain shareholders fail to pay one or more installments. In such circumstances, the company can forfeit their shares by giving due notice and following the procedure specified in the articles of Association in this behalf.

To forfeit a share means to cancel the allotment to defaulting shareholders and to treat the amount already received thereon as forfeited to the company within the framework of provisions embodied in the Articles of Association.

Forfeiture of Shares issued at par

When the shares issued at par are forfeited, the journal entry required to record the forfeiture is as follows:

Share capital A/c (Less) Dr. [Amount called-up]

To Share forfeited A/c (Add) [Amount received]

To share allotment A/c (Less) [Amount called-up but unpaid]

To Share call/calls A/c (Less)[Amount called-up but unpaid]

Reissue of forfeited shares the directors of a company have authority to reissue the shares once forfeited by them due to non-payment of calls.

When forfeited shares are reissued at a discount, the journal entry is as given below:

NOTES

Bank A/c (Add) Dr. [Amount received]

Shares forfeited A/c (Less) Dr. [Discount allowed]

To Share capital A/c (Add) [Amount called up]

(Reissue of ____ forfeited shares at Rs___ per share and discount on reissue debited to forfeited shares)

Closure of forfeited shares account: After all forfeited shares have been reissued; the credit balance left on the forfeited share account is transferred to capital reserve amount, the entry being:

Share forfeited A/c (Less) Dr.

To capital reserve A/c (Add)

Illustration 9

Using the information of illustration 1.5 pass journal entries if 100 shares on which there were calls-in-arrears have been forfeited and reissued at Rs. 9 per shares fully paid.

Solution:

Forfeiture

1) Share capital A/c Dr. 1000

To Share forfeited A/c 750

To Calls in arrears 250

Reissue

2) Bank A/c Dr. 900

Shares forfeited A/c (Less) Dr. 100

To Share capital A/c 1000

Transfer to capital reserve

3) Share forfeited A/c Dr. 650

To capital reserve A/c 650

7.5 Buyback of Shares

The term buyback of shares implies the act of purchasing its own shares by a company either from free reserve, securities premium, or proceeds of any shares or securities. Company opts for buyback when they have excess cash surplus. Buy back signals to the stock market that companies' shares are underpriced and company is willing to pay cash to buy back and cancel the shares. Buyback usually has a positive effect on stock prices (also true for bonus and Right issue).

A company can buy its own shares either from the existing equity shareholders on a proportionate basis, open market, odd lot shareholders, or employee of the company pursuant to a scheme of stock option or sweat equity.

Following are the procedural rules:

a) Shares bought back are required to be cancelled immediately.

b) The buyback should be authorized by the articles & by special resolution is to be passed the general meeting of shareholders.

c) The buyback of the shares cannot exceed 25% of paid-up capital and free reserves in a financial year.

d) The debt-equity ratio should not be more than 2:1 after such buyback.

e) All the shares for buyback should be fully paid up.

f) Where a company completes the buyback of its shares, it shall not make further issue of share within a period of 24 months.

Illustration 10

Amtech buybacks 100000 shares of Rs.10 each at Rs. 15. Company has a balance of Rs. 6000000 in their General Reserve account and Rs.2500000 in Bank account. Pass necessary journal entries.

Solution 10

Share capital A/c....................................	Dr. 10,00,000
General reserve A/c..............................	Dr. 5,00,000
To Bank A/c	15,00,000
General Reserve A/c	Dr. 10,00,000
To Capital Redemption Reserve	10,00,000

Check Your Progress

What do you mean by buyback of shares?

7.6 Debentures and bonds

A debenture/bond is an instrument of acknowledgement of debt. A debenture is issued by a company as an evidence of its debt or loan. Debentures are freely transferable and can be listed and traded on stock exchanges.

A debenture holder is a creditor of the company. A debenture holder receives fixed rate of interest on a due date. The principal amount is repaid on maturity. Debenture holders do not enjoy voting rights.

Share capital is owner's funds and debentures are borrowed funds. Dividend paid on the shares is distribution of profits, while interest paid on debentures is a charge against profits of the company.

While shares are unsecured, debentures are generally secured.

Types of debentures:

Debentures are classified as shown below:

On the basis of security, debentures are classified as:

a) Unsecured debentures: No security for repayment of principal or interest.

b) Secured debentures: Secured against mortgage or fixed assets of the company.

NOTES

On the basis of convertibility, debentures are classified as:

a) Non-convertible: they retain their debt character throughout their lifetime and cannot be converted into shares or any other forms of security.

b) Convertible

1) Fully convertible: They are fully convertible into equity shares at the issuer's notice or as per terms of issue.

2) Partly convertible: A part of these instruments are convertible into shares or other securities. The ratio of conversion is decided by the issuer at the time of subscription.

Issue of debentures:

Debenture may be issued at par, premium or discount. It may be issued for cash or for consideration other than cash. Similarly it may be redeemed at par, at premium or at discount.At premium refers to issue at a price higher than the face value while at discount refers toissue at a price lower than face value.

Illustration 11

Karnavati Plastics ltd. issued 30,000, 6% debentures of Rs 100 each at par.

Solution:

Entries in the books of Karnavati Plastics ltd.

Particulars	Dr(Rs.)	Cr. (Rs Rs.)
Bank A/C	30,00,000	
To 6 % Debentures A/c		30,00,000

(being issue of 30,000, 6 % debentures of Rs.100 each)

Check Your Progress
Explain the term Debenture.

7.7 Solved Illustration

Illustartion 12

Prakash Ventures Ltd. issued 80,000 shares of Rs. 10 each to the public for the subscription of its share capital, payable at Rs. 4 on application, Rs. 3 on allotment and the balance on first and final call. Applications were received for 80,000 shares. The company made the allotment to the applicants in full. All the amounts due on allotment and first and final call were duly received. Give the journal entries in the books of the company.

Solution:

In the books of Prakash Ventures Limited Company

Journal Entries

NOTES

Date	Particulars	Dr./ Cr.	L.F.	Debit Amt.Rs.	Credit Amt.Rs
	Bank A/c To Equity share application A/c (Being Money received on applications for 80000 shares @ 4 per share)	Dr.		320000	 320000
	Equity share application A/c To equity share capital A/c (Being Transfer of application money on80000 shares to share capital)	Dr.		320000	 320000
	Equity share allotment A/c To equity share capital A/c (Being Amount due on the allotment of 80000 shares @ 3 per share)	Dr.		240000	 240000
	Bank A/c To equity share allotment A/c (Being Allotment money received)	Dr.		240000	 240000
	Equity share first call A/c To equity share capital A/c (Being First call money due on 80000 shares @ 3 per share)	Dr.		240000	 240000
	Bank A/c To equity share first call A/c (Being First call money received)	Dr.		240000	 240000

Illustration 13

Heena Limited issued 20,000 equity shares of 100 each payable at follows: Rs. 20 on application, Rs. 30 on allotment, Rs. 20 on first call and Rs. 30 on second and final call 20,000 shares were applied for and allotment. All money due was received with the exception of both calls on 300 shares held by Surya. These shares were forfeited. Give necessary journal entries.

NOTES

In the Books of Heena Limited Company

Journal Entries

Date	Particulars	Dr./ Cr.	L.F.	Debit Amt.Rs.	Credit Amt.Rs
30-Apr	Bank A/c (Add) To Equity share application A/c (Add) (Money received on application for 2,0000 shares @ ‘ 20 per share)	Dr.		400000	 400000
01-Jun	Equity share application A/c (Less) To Equity share capital A/c (Add) (Transfer of application money on 20000 share to share capital)	Dr.		400000	 400000
01-Jun	Equity share allotment A/c (Add) To Equity share capital A/c (Add) (Amount due on the allotment of 20000 shares @ ‘ 30 per share)	Dr.		600000	 600000
01-Jul	Bank A/c (Add) To Equity share allotment A/c (Less) (Allotment money received)	Dr.		600000	 600000
01-Sep	Equity share first call A/c (Add) To Equity share Capital A/c (Add) (First call money due on 20000 shares @ ‘20 per share)	Dr.		400000	 400000
01-Oct	Bank A/c (Add) Calls-in-arrears A/c (Add) To Equity share first call A/c (Less) (First call money received on 300 shares ‘20per share)	Dr. Dr.		394000 6000	 400000
	Equity share final call A/c (Add) To Equity share Capital A/c (Add) (final call money due on 20000 shares @ ‘ 20 per share)	Dr.		600000	 600000
	Bank A/c (Add) Calls-in-arrears A/c (Add) To Equity share final call A/c (Less) (Final call money received except on 300 shares ‘30per share)	Dr. Dr.		591000 9000	 600000

Illustration 14

Pass journal entries for the following transactions.

1. Jeevan Ltd. paid total dividend of Rs. 10000 to its shareholder for the year ended 31st March, 2012.

2. Mukund Ltd. issued 10000 bonus shares of Rs. 10 each to its shareholder out of General reserves.

Solution:

DIVIDEND PAID

31-Mar P & L A/c ....DR. 10000

To Dividend A/c 10000

31-Mar Dividend A/c..Dr. 10000

To bank A/c 10000

BONUS ISSUE

General reserve A/c ....Dr. 100000

To Bonus to Equity Shareholder A/C 100000

Bonus to Equity Shareholder A/c 100000

To Equity Share Capital A/c 100000

Illustration 15

Unique Pictures Ltd. was registered with an authorised capital of Rs. 5,00,000 divided into 20,000, 5% preference shares of Rs. 10 each and 30,000 equity shares of Rs. 10 each. The company issued 10,000 preference and 15,000 equity shares for public subscription.

Calls on shares were made as under:

	Equity Shares (Rs.)	Preference Shares (Rs.)
Application	2	2
Allotment	3	3
First Call	2.50	2.50
Second and Final Call	2.50	2.50

All these shares were fully subscribed. All the dues were received except the second and final call on 100 equity shares and on 200 preference shares. Record these transactions in journal. You are also required to pass journal entries.

NOTES

Solution:

UNIQUE PICTURES LTD

1	Equity Share Application A/c Dr.	30000	
	5% Preference Share Application A/c Dr.	20000	
	To Equity Share Capital A/c		30000
	To 5% Preference Share Capital A/c		20000
	(Transfer of application money)		
2	Equity Share Allotment A/c Dr.	45000	
	5% Preference Share Allotment A/c Dr.	30000	
	To Equity Share Capital A/c		45000
	To 5% Preference Share Capital A/c		30000
	(Amount due on allotment)		
3	Equity Share First Call A/c Dr.	37500	
	5% Preference Share First Call A/c Dr.	25000	
	To Equity Share Capital A/c		37500
	To 5% Preference Share Capital A/c		25000
	(First call money due)		
4	Call-in-Arrears A/c Dr.	750	
	To Equity Share Second and Final Call A/c		250
	To 5% Preference Share Final Call A/c		500
	(For Calls-in-Arrears)		

Illustration 16

Janta Papers Limited invited applications for 1,00,000 equity shares of Rs. 25 each payable as under:

On Application	Rs. 5.00 per share
On Allotment	Rs. 7.50 per share
On First Call	Rs. 7.50 per share
(Due two months after allotment)	
On Second and Final Call	Rs. 5.00 per share
(Due two months after First Call)	

Applications were received for 4, 00,000 shares on January 01, 2006 and allotment was made on February 01, 2006. Record journal entries in the books of the company to record these share

Capital transactions under each of the following circumstances:

1. The directors decide to allot 1,00,000 shares in full to selected applicants and the applications for the remaining 3,00,000 shares were rejected outright.
2. The directors decide to make a pro-rata allotment of 25 per cent of the shares applied for to every applicant; to apply the balance of application

money towards amount due on allotment; and to refund the amount remaining thereafter.

3. The directors totally reject applications for 2,00,000 shares, accept full applications for 80,000 shares and make a pro-rata allotment of the 20,000 shares to remaining applicants the excess of application money is to be adjusted towards allotment and calls to be made.

Solution:

FIRST ALTERNATIVE

Jan-01 Bank A/c Dr. 20,00,000

To Equity Share Application A/c 20,00,000

(Money received on applications for 4,00,000

shares @ Rs. 5 per share)

Feb-01 Equity Share Application A/c Dr. 20,00,000

To Equity Share Capital A/c 5,00,000

To Bank A/c 15,00,000

(Transfer of application money on 1,00,000

shares to share capital and money refunded

on rejected applications)

Feb-01 Equity Share Allotment A/c Dr. 7,50,000

To Equity Share Capital A/c 7,50,000

(Amount due on the allotment of 1,00,000

shares @ Rs 7.50 per share)

Bank A/c Dr. 7,50,000

To Equity Share Allotment A/c 7,50,000

(Allotment money received)

Apr-01 Equity Share First Call A/c Dr. 7,50,000

To Equity Share Capital A/c Dr. 7,50,000

(First call money due on 1,00,000 shares @

Rs. 7.50 per share)

Jun-01 Equity Share Second and Final Call A/c Dr. 5,00,000

To Equity Share Capital A/c 5,00,000

(Final Call money due on 1,00,000 shares

@ Rs. 5 per share)

Jun-01 Bank A/c Dr. 5,00,000

To Equity Share Second and Final Call A/c 5,00,000

(Final call money received)

NOTES

SECOND ALTERNATIVE

Jan-01 Bank A/c Dr. 20,00,000

To Equity Share Application A/c 20,00,000

(Money received on applications for 4,00,000 shares @ Rs. 5 per share)

Feb-01 Equity Share Application A/c Dr. 20,00,000

To Equity Share Capital A/c 5,00,000

To Equity Share Allotment A/c 7,50,000

To Bank A/c 7,50,000

(Transfer of application money on Shares allotted to share capital, excess application amount credited to allotment account and money refunded on rejected applications)

Feb-01 Equity Share Allotment A/c Dr. 7,50,000

To Equity Share Capital A/c 7,50,000

(Amount due on the allotment of Rs. 1,00,000 shares @ Rs 7.50 per share)

Feb-01 Bank A/c Dr. 7,50,000

To Equity Share Allotment A/c 7,50,000

(Amount due on the allotment of Rs. 1,00,000 shares @ Rs 7.50 per share)

The entries regarding the two calls would be the same like alternative 1.

THIRD ALTERNATIVE

Jan-01 Bank A/c Dr. 20,00,000

To Equity Share Application A/c 20,00,000

(Money received on applications for 4,00,000 shares @ Rs. 5 per share)

Feb-01 Equity Share Application A/c Dr. 20,00,000

To Equity Share Capital A/c 5,00,000

To Equity Share Allotment A/c 1,50,000

To Calls-in-Advance A/c 2,50,000

To Bank A/c 11,00,000

(Amount on share application adjusted to share capital, share allotment and calls-inadvance and the balance refunded including the money on rejected applications

Feb-01 Equity Share Allotment A/c Dr. 7,50,000

To Equity Share Capital A/c 7,50,000

(Transfer of application money on shares
allotted to share capital and amount due
on the allotment of 1,00,000 shares @
Rs. 7.50 per share

Bank A/c Dr. 6,00,000
To Equity Share Allotment A/c 6,00,000
(Allotment money received)

Apr-01 Equity Share First Call A/c Dr. 7,50,000
To Equity Share Capital A/c 7,50,000
(First Call money due on 1,00,000
shares @ Rs. 7.50 per share)

Apr-01 Bank A/c Dr. 6,00,000
Calls-in-Advance A/c Dr. 1,50,000
To Equity Share First Call A/c 7,50,000
(Calls-in-advance adjusted against first call
and the balance money on call received)

Jun-01 Equity Share Second and Final Call A/c Dr. 5,00,000
To Equity Share Capital A/c 5,00,000
(Final Call money due on 1,00,000
shares @ Rs. 5 per share)

Jun-01 Bank A/c Dr. 4,00,0001
Calls-in-Advance A/c Dr. 1,00,000
To Equity Share Second and Final Call A/c 5,00,000
(Calls-in-advance adjusted against final call
and the balance money on call received)

7.8 Summary

★ A corporation is an artificial being invisible, intangible and existing only in the contemplation of law. In India a company is formed and registered under the Companies Act, 1956.

★ Company can be of various types like statutory company, government company, foreign company, subsidiary company, holding company, private company, public company, listed company.

★ Share capital is the amount of money contributed by owners/shareholders for the furtherance of objectives of the company for which it was created.

★ A share is a fraction of the share capital and forms the basis of ownership interest in a company. The persons who contribute money through shares are referred to as shareholders.

- ★ Preference shares are the shares which carry a preferential right to dividend and to the repayment of capital on the winding up of the company, before anything is paid to equity shareholders.
- ★ Equity shares are the shares that entitle their holder to the whole of the profits earned by the company, after a fixed dividend on preference shares has been paid by it. Equity shareholders are the real owners of the companies.
- ★ The company issue shares to investor and raise long-term funds. The shares of a company can be issued for cash or for consideration other than cash.
- ★ Bonus share is an equity share issued to current shareholders in a company free of cost, based upon the number of shares that the shareholder already owns. Such issue will increase company's equity shares.
- ★ Right shares are those shares which are offered to the existing shareholders, usually at a discount to market price.
- ★ Sweat equity shares are the equity shares issued by the company to employees or directors at a discount or for consideration other than cash for providing know-how or for making available intellectual property rights provided that not less than one year has elapsed since the date of commencement of business.
- ★ Employee Stock Option Plans (ESOPs) is a choice given to whole time directors, officers, and employees, whereby they have the right to purchase or subscribe at a future date the securities offered by the company at a pre-determined price.
- ★ When a company issues its securities at a price that exceeds the face value, it is said to be an issue at premium.
- ★ There are instances when the shares of a company can also be issued at a discount, i.e. at an amount less than the nominal or par value of shares.
- · IPO/FPO is a sale of shares by a company to public. FPO is used by existing companies to raise capital and IPO by new company to become listed company. IPO/FPO market is known as primary market.
- ★ Issue of shares can be collected in instalments, i.e. on application, on allotment and on calls.
- ★ It may happen that certain shareholders fail to pay one or more instalments. In such circumstances, the company can forfeit their shares by giving due notice and following the procedure specified in the Articles of Association in this behalf.
- ★ Buyback of sharesimplies the act of purchasing its own shares by a company either from free reserve, securities premium, or proceeds of any shares or securities.

- A debenture/bond is an instrument of acknowledgement of debt. A debenture is issued by a company as an evidence of its debt or loan. Debentures are freely transferable and can be listed and traded in stock exchanges.
- Dividend refers to that part of profits which is distributed among its shareholders.

7.9 Key Terms

- Equity shares: Shares that entitle their holder to the whole of the profits earned by the company, after a fixed dividend on preference shares that has been paid by it, are equity shares. Equity shareholders are the real owners of the companies.
- Preference shares are the shares that carry a preferential right to dividend and to the repayment of capital on the winding up of the company, before anything is paid to the equity shareholders. Preference shares carry with them a right to receive a fixed percentage of dividends.
- Debenture/Bond: A debenture/bond is an instrument of acknowledgement of debt. A debenture is issued by a company as an evidence of its debt or loan. Debentures are freely transferable and can be listed and traded on stock exchanges.
- Dividends:Dividend refers to that part of profits which is distributed among its shareholders. However, sometime bonus share is referred to as "Stock Dividend".
- Right Shares: "Right shares" are those shares which are offered to the existing shareholders, usually at a discount to market price.

7.10 Questions and Exercises

7.10.1 Multiple Choice Questions

Q.1. The liability of every shareholder is

a) Unlimited

b) Limited to unpaid amount of face value of shares allotted

c) To the extent of company liability

d) None of the above

Q.2. The control and management of the company is in the hands of

a) Board of Directors

b) Shareholders

c) Debenture holders

d) Promoters

Q.3. Which of the following is document of charter to company

a) Memorandum of association

b) Articles of association

c) Prospectus

d) Share certificates

Q.4. All companies that operate under a special act passed by the state legislature or parliament, such as the Reserve Bank of India, are known as

a) Statutory companies

b) Government companies

c) Public companies

d) Banking companies

Q.5. A company is deemed to be subsidiary of another company

a. That other company controls the composition of its board of directors.

b. That other company holds more than half in its nominal value of its equity share capital; or

c. That other company is a subsidiary of any company, which is a subsidiary of the parent company

d. All the above

e. None of the above

Q.6. The maximum amount of share capital which company can raise is called as

a) Authorized capital

b) Issued capital

c) Subscribed capital

d) Paid up capital

Q.7. Preference shares are the shares

a) which carry a preferential right to dividend and to the repayment of capital on the winding up of the companyover equity share holder

b) which carry a preferential right to dividend and to the repayment of capital on the winding up of the companyover debenture holders

c) which carry a preferential right to dividend and to the repayment of capital on the winding up of the companyover debenture holders and equity shareholders both

d) none of the above

Q.8. Right shares are those shares which are offered to

a) Existing shareholders

b) Public

c) Institutional investors

d) Foreign investors

Q.9. The equity shares issued by the company to employees or directors at a discount or for consideration other than cash are called as

a) Right shares

b) Bonus shares

c) Sweat equity shares

d) Ordinary shares

Q.10 Existing Company's shares can be issued

a) For cash only

b) For cash or consideration other than cash

c) Only at premium

d) None of the above

Q.11 Employee Stock Option Plans (ESOPs) are offered to

a) Employees

b) Directors

c) Officers

d) All of above

Q.12 A company can buy its own shares from the

a) Existing equity shareholders on a proportionate basis,

b) Open market

c) Either a) or b)

d) Neither a) or b)

Q.13 Which of the following is an instrument of acknowledgment of debt?

a) Debentures

b) Bonds

c) Preference Shareholders

d) Both a) and b)

Q.14 Shares can be forfeited:

a) for non-payment of call money

b) for failure to attend meetings

c) for failure to repay the loan to the bank for which shares are pledged as a security.

d) None of the above

Q.15 Balance of share forfeiture account is transferred to

a) Capital reserve

b) General reserve

c) Statutory reserve

d) Profit and loss account

7.10.2 Theory Questions

1. What is company? Explain its characterists.
2. What are different types of companies?
3. Explain different types of shares.
4. What procedure is to be followed for issue of shares by company?
5. Define debentures and explain different types of debentures.

7.10.3 Practical Problems

Exercise 1

High Light India Ltd. invited applications for 30,000 Shares of Rs. 100 each at a premium of Rs. 20 per share payable as follows :

On Application Rs. 40 (including Rs.10 premium)

On Allotment Rs. 30 (including Rs.10 premium)

On First Call Rs. 30

On Second & Final Call Rs. 20

Applications were received for 40,000 shares and pro-rata allotment was made on the application for 35,000 share. Excess application money is to be utilised towards allotment. Rohan to whom 600 Shares allotted failed to pay the allotment money and his shares were forfeited after allotment. Aman who applied for 1,050 shares failed to pay first call and his share were forfeited after Ist Call. Second and final call was made. All the money due on IInd call have been received. Of the shares forfeited, 1,000 share were reissued as fully paid-up for Rs. 80 per share, which included the whole of Aman's shares. Record necessary journal entries in the books of High Light India Ltd.

Exercise 2

On January 1, 2012, the director of Navjeevan Biotech Ltd. issued for public subscription 50,000 equity shares of Rs. 10 each at Rs. 12 per share payable as to Rs. 5 on application (including premium), Rs. 4 on allotment and the balance on call in May 01,2012. The lists were closed on February 10, 2012 by which date applications for 70,000 were received. Of the cash received Rs. 40,000 was returned and Rs.60,000 was applied to the amount due on allotment, the balance of which was paid on February 16, 2012. All the shareholders paid the call due on May 01, 2012 with the exception ofan allottee of 500 shares.

These shares were forfeited on September 29, 2012 and reissued us fully paid at Rs. 8 per share on November 01, 2012. The company, as a matter of policy, does not maintain a Calls-in-Arrears Account. Give journal entries to record these share capital transactions in the books of NavJeevan Biotech Ltd.

7.11 Further Reading and References

NOTES

★ Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education

★ "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi

UNIT 8 COMPANY ACCOUNTS : FINANCIAL STATEMENTS

NOTES

Structure

8.0 Introduction

Financial statements are the basic and formal annual reports through which the corporate management communicates financial information to its owners and various other external parties which include– investors, tax authorities, government, employees, etc. Every company registered under the Companies Act is required to prepare its Balance Sheet, Statement of Profit and Loss and notes thereto in accordance with the manner prescribed in Schedule VI to the Companies Act, 1956.

Check Your Progress
Explain different statements required to be prepared by companies registered in India.

8.1 Unit objectives

After studying this unit, you should be able to

- ★ Explain the nature and objectives of financial statements of a company
- ★ Prepare income statements
- ★ Prepare balance sheet of a company

Followings are the important objectives of financial statements

1. To provide information about economic resources and obligations of a business: They are prepared to provide adequate, reliable andperiodical information about economic resources and obligations of abusiness firm to investors and other external parties who have limited authority, ability or resources to obtain information.
2. To provide information about the earning capacity of the business: They are to provide useful financial information which can gainfullybe utilised to predict, compare, and evaluate the business firm's earning capacity.
3. To provide information about cash flows: They are to provide information useful to investors and creditors for predicting, comparing and evaluating, potential cash flows in terms of amount, timing and related uncertainties.
4. To judge effectiveness of management: They supply information useful for

judging management's ability to utilise the resources of a business effectively.

5. Disclosing Accounting Policies: Financial statements disclose accounting policies that are followed while preparing statements. This enables uniformity and comparison of different statements.

NOTES

8.2 Income statement/ Profit and Loss Account

Income statement has been discussed in detail in chapter no. 4. However in case of companies is to be prepared in format as per revised schedule VI of Companies Act 1956 which is applicable for accounts closing on 31st March, 2012 although there was no specific format for period prior to 31st March 2012.

Income statement is to be prepared in following format (Exhibit 1. 1) as per revised schedule VI of Companies Act 1956 which is applicable for accounts closing on 31st March, 2012.

Exhibit 1.1 Format of Income Statement

(Rupees in________)

	Particulars	Year Ended	Year Ended
		31st March, 2011	31st March, 2010
I.	Revenue from Operations	-	-
II.	Other Incomes	-	-
III.	Total Revenue (I + II)	-	-
IV.	Expenses:		
	Manufacturing Expenses		
	Cost of Materials Consumed	-	-
	Purchases of Stock-in-Trade	-	-
	Changes in Inventories of Finished Goods,		
	Work-in-Progress and Stock-in-Trade	-	-
	Other Manufacturing Expenses	-	-
	Administrative & Selling Expenses		
	Employee Benefit Expenses	-	-
	Other Administrative and Selling Expenses	-	-
	Other Expenses	-	-
	Finance Costs	-	-
	Depreciation and Amortization Expense	-	-
	Total Expenses	-	-

NOTES

V.	Profit before Exceptional and Extraordinary	-	-
	Items and Tax (III - IV)		
VI.	Exceptional Items	-	-
VII.	Profit before Extraordinary Items and Tax (V-VI)	-	-
VIII.	Extra Ordinary Items	-	-
IX.	Profit before Tax (VII - VIII)	-	-
X.	Tax Expense:		
	(1) Current tax	-	-
	(2) Deferred Tax	-	-
XI.	Profit/ (Loss) for the period from Continuing-	-	
	Operations (IX - X)		
XII.	Profit/Loss from Discontinuing Operations	-	-
XIII.	Tax Expense of Discontinuing Operations	-	-
XIV.	Profit/ (Loss) from Discontinuing Operations (after Tax) (XII - XIII)	-	-
XV.	Profit/ (Loss) for the Period (XI + XIV)	-	-

Following exhibit 1.2 shows Income Statement of ONGC Ltd.

Statement of Profit & Loss for the year ended 31 st March 2012

	Particulars	2011-12	2010-11
I	REVENUE		
	Revenue from operations (Gross)	768,870.59	686,488.01
	Less: Excise Duty	3,719.65	3,098.80
	Revenue from operations (Net)	765,150.94	683,389.21
	Other Income	44,529.77	34,068.46
	Total Revenue	809,680.71	717,457.67
II	EXPENSE		
	(Increase)/ Decrease in inventories	(913.44)	(129.11)
	Purchases of Stock-in-Trade	24.82	138.35

NOTES

Production, Transportation, Selling and Distribution Expenditure	303,906.04	275,326.61
Exploration Costs written off		
-Survey Costs	12,409.39	16,674.39
-Exploratory well Costs	80,924.97	65,815.26
Depreciation, Depletion, Amortisation and Impairment	74,959.15	76,766.88
Financing Costs	348.3	251.07
Provisions and Write-offs	3,096.76	6,114.27
Adjustments relating to Prior Period (Net)	(95.48)	336.25
Total Expense	474,660.51	441,293.97
Profit before Exceptional, Extraordinary items and Tax	335,020.20	276,163.70
Exceptional items	31,405.47	-
Profit before Extraordinary items and Tax	366,425.67	276,163.70
Extraordinary items	-	-
Profit before Tax	366,425.67	276,163.70
Tax Expense		
- Current Tax	108,950.00	81,200.00
- Earlier years	(6,174.20)	(4,517.94)
- Deferred Tax	12,474.74	10,321.82
- Fringe Benefit Tax	(54.09)	(80.2)
Profit after Tax	251,229.22	189,240.02
Earning per Equity Share - Basic and Diluted (Rs) (Face Value Rs 5/-Per Share)	29.36	22.12

Source: Annual Report ONGC ltd. 2011-12

There is a format prescribed under US GAAP for income statement. Following Exhibit 1.3 is the Income Statement of General Motors as per US – GAAP.

Exhibit 1.4 Income Statement of General Motors

Period Ending	Dec 31, 2010	Dec 31, 2009
Total Revenue	135,592,000	104,589,000
Cost of Revenue	118,944,000	112,195,000
Gross Profit	16,648,000	(7,606,000)
Operating Expenses		
Research Development	-	-
Selling General and Administrative	11,564,000	13,417,000

NOTES

Non Recurring	-	-
Others	-	-
Total Operating Expenses	-	-
Operating Income or Loss	5,084,000	(21,023,000)
Income from Continuing Operations		
Total Other Income/Expenses Net	1,751,000	129,638,000
Earnings Before Interest And Taxes	6,639,000	109,804,000
Interest Expense	1,098,000	6,122,000
Income Before Tax	5,541,000	103,682,000
Income Tax Expense	672,000	(2,166,000)
Minority Interest	(331,000)	(396,000)
Net Income From Continuing Ops	6,172,000	104,821,000
Non-recurring Events		
Discontinued Operations	-	-
Extraordinary Items	-	-
Effect Of Accounting Changes	-	-
Other Items	-	-
Net Income	6,172,000	104,821,000
Preferred Stock And Other Adjustments	(1,504,000)	(131,000)
Net Income Applicable To Common Shares	4,668,000	104,690,000

Source: http://finance.yahoo.com/q/is?s=GM+Income+Statement&annual

Peculiar items in Profit and Loss Account

1. Dividends: Dividend refers to that part of profits which is distributed among its shareholders. However sometime bonus share is referred as Stock Dividend. The general practice is to declare the dividend for an accounting year at the annual general meeting of the company while presenting the Annual Report (including Financial Statements) for approval, and it is shown as proposed dividend in the appropriation part of the profit and loss account (debit side) and so also in the balance sheet on the liabilities side under the heading 'Current Liabilities and Provisions'. Sometimes, the companies also declare and pay some dividend during the course of an accounting year in anticipation of profits.

Journal entries for dividend payment are as follows.

(1) P & L / Reserves ………………………………Dr. XXXX

To Dividend A/c XXXX

(2) Dividend A/c …………………………….Dr. XXXX

To Bank A/c XXXX

2. This is known as interim dividend and since the same stands paid, it is simply shown in the appropriation part of the Profit and Loss Account (debit side). In such a situation, the dividend declared in addition to the interim dividend at the time of presenting the Annual Report is termed as final dividend which is treated in the same manner in accounts as the proposed dividend. It may be noted that no dividend is payable on the calls-in-arrears. Any amount of dividend, interim or final, which remains unclaimed (unpaid) is shown as unclaimed dividend under the heading current liabilities. In this context, there is another important aspect to be kept in view namely, 'Dividend Tax' payable by the company. While dividends are tax free in the hands of shareholders, the company has to pay tax on dividends declared at the prescribed rate which is termed as 'Dividend Distribution Tax' and a provision has to be made thereof. The is shown along with dividends in the appropriation part of the profit and loss account on the debit side, and so also in balance sheet under current liabilities and provisions.
3. Transfer to Reserves: Invariably, the companies transfer a part of their profits to reserves. The amount transferred to general reserve or any specific reserve is shown in the appropriation part of the profit and loss account and added to the concerned reserve shown under the heading 'Reserves and Surplus' in the balance sheet.

8.3 Balance Sheet

The registered companies are required to follow Part I of Schedule VI of The Companies Act for recording assets and liabilities in the balance sheet. According to section 211(i) of The Companies Act, the balance sheet shall be prepared in a prescribed format, depict true and fair view of financial position and follow general instructions for preparation of balance sheet under the given headings with notes at the end. This format is not applicable to banking and insurance companies which have to follow the formats prescribed by their respective legislations.

Balance sheet is prepared in following format (Exhibit 1.5) as per Schedule VI of Companies Act 1956 which is applicable for accounts closing on or before 31st March, 2011.

NOTES

Check Your Progress

Explain important components of income statement.

NOTES

Exhibit 1.5 Balance sheet format on or before 31st March, 2011

	Particulars	Schedule Number	Figures as at the end of current financial year	Figures as at the end of previous financial year
I.	Source of Funds:			
	1. Shareholder's Funds:			
	(a) Share Capital			
	(b) Reserves and Surplus			
	2. Loan Funds:			
	(a) Secured loans			
	(b) Unsecured loans			
	Total (Capital Employed)			
II.	Application of Funds			
	1. Fixed Assets:			
	(a) Gross block			
	(b) Less : depreciation			
	(c) Net block			
	(d) Capital work-in-progress			
	2. Investments:			
	3. Current Assets, Loans and Advances:			
	(a) Inventories			
	(b) Sundry Debtors			
	(c) Cash and Bank Balances			
	(d) Other Current Assets			
	(e) Loans and Advances			
	Less: Current Liabilities and Provisions:			
	Current liabilities			
	Provisions			
	Net Current Assets			
	4. (a) Miscellaneous expenditure to the extent not written-off or adjusted.			
	(b) Profit and Loss account (debit balance, if any)			
	TOTAL			

Note: A footnote to the Balance Sheet may be added to show the contingent liabilities.

Balance sheet is prepared in following format as per revised Schedule VI of Companies Act 1956 which is applicable for accounts closing on 31st March, 2012.

Exhibit 1.6 Balance sheet format on or after 31st March, 2012

(Rupees in________)

	Particulars 31st March, 2011	As at 31st March, 2010	As at
I.	EQUITY AND LIABILITIES		
	(1) Shareholder's Funds		
	(a) Share Capital	-	-
	(b) Reserves and Surplus	-	-
	(c) Money received against Share Warrants	-	-
	(2) Share Application Money pending allotment	-	-
	(3) Non-Current Liabilities		
	(a) Long-Term Borrowings	-	-
	(b) Deferred Tax Liabilities (Net)	-	-
	(c) Other Long Term Liabilities	-	-
	(d) Long-Term Provisions	-	-
	(4) Current Liabilities		
	(a) Short-Term Borrowings	-	-
	(b) Trade Payables	-	-
	(c) Other Current Liabilities	-	-
	(d) Short-Term Provisions	-	-
	TOTAL	-	-
II.	ASSETS		
	(1) Non-Current Assets		
	(a) Fixed Assets		
	(i) Tangible Assets	-	-
	(ii) Intangible Assets	-	-
	(iii) Capital work-in-progress	-	-
	(iv) Intangible assets under development	-	-
	(b) Non-Current Investments	-	-
	(c) Deferred Tax Assets (Net)	-	-
	(d) Long-Term Loans and Advances	-	-
	(e) Other Non-Current Assets	-	-
	(2) Current Assets		
	(a) Current Investments	-	-
	(b) Inventories	-	-

NOTES

NOTES

	(c) Trade Receivables	-	-
	(d) Cash and Cash Equivalents	-	-
	(e) Short-Term Loans and Advances	-	-
	(f) Other Current Assets	-	-
	TOTAL	-	-

Note: A footnote to the Balance Sheet may be added to show the contingent liabilities.

Following is theBalance Sheet of ONGC ltd. For the year ended 31st March 2013.(As per Revised schedule VI of Companies Act)

Balance Sheet as at 31st March, 2012

Particular	As at 31st March, 2012	As at 31st March, 2011
EQUITY AND LIABILITIES		
Shareholders' funds		
(a) Share capital	42,777.60	42,777.60
(b) Reserves and surplus	1,086,789.71	932,266.72
Non-current liabilities		
(a) Deferred tax liabilities (Net)	111,978.68	99,503.94
(b) Other Long term liabilities	5,619.92	5,824.62
(c) Long-term provisions	213,130.60	208,235.09
Current liabilities		
(a) Short-term borrowings	45,000.00	-
(b) Trade payables	52,612.42	52,252.96
(c) Other current liabilities	136,941.19	130,055.33
(d) Short-term provisions	22,425.93	9,257.83
TOTAL	1,717,276.05	1,480,174.09
ASSETS		
Non-current assets		
(a) Fixed assets		
(i) Tangible assets	215,678.15	184,816.68
(ii) Producing Properties	463,768.28	435,756.57
(iii) Intangible assets	1,123.28	1,578.77
(iv) Capital work-in-progress	182,980.56	139,769.02
(v) Exploratory/Development Wells in Progress	85,812.34	77,472.12
(b) Non-current investments	43,643.37	51,827.45
(c) Long-term loans and advances	254,498.08	239,938.54

(d) Deposit under Site Restoration Fund Scheme	91,825.72	81,155.06
(e) Other non-current assets	12,102.14	8,624.34
Current assets		
(a) Current investments	8,519.07	0.5
(b) Inventories	51,654.35	41,189.84
(c) Trade receivables	61,948.16	39,946.79
(d) Cash and Cash Equivalents	201,245.65	144,810.89
(e) Short-term loans and advances	31,237.08	26,733.86
(f) Other current assets	11,239.82	6,553.66
TOTAL	1,717,276.05	1,480,174.09

NOTES

Following Exhibit 1.7 shows balance sheet of General Motors.

Exhibit 1.7 balance sheet of General Motors

	Sep 30, 2011	Jun 30, 2011	Mar 31, 2011	Dec 31, 2010
Assets				
Current Assets				
Cash And Cash Equivalents	20,297,000	20,471,000	20,975,000	22,301,000
Short Term Investments	11,680,000	12,298,000	8,618,000	5,555,000
Net Receivables	10,512,000	11,789,000	12,990,000	10,504,000
Inventory	15,220,000	14,105,000	13,991,000	12,125,000
Other Current Assets	6,301,000	7,321,000	6,375,000	2,568,000
Total Current Assets	64,010,000	65,984,000	62,949,000	53,053,000
Long Term Investments	16,452,000	15,747,000	15,213,000	8,197,000
Property Plant and Equipment	21,556,000	20,989,000	19,944,000	19,235,000
Goodwill	29,883,000	30,046,000	30,017,000	31,778,000
Intangible Assets	10,498,000	11,083,000	11,488,000	11,882,000
Accumulated Amortization	-	-	-	-
Other Assets	6,098,000	6,566,000	6,235,000	14,445,000
Deferred Long Term Asset Charges	-	-	-	308,000
Total Assets	148,497,000	150,415,000	145,846,000	138,898,000
Liabilities				
Current Liabilities				
Accounts Payable	50,205,000	51,821,000	49,939,000	45,541,000
Short/Current Long Term Debt	1,543,000	2,027,000	1,743,000	1,616,000
Other Current Liabilities	-	-	-	-
Total Current Liabilities	51,748,000	53,848,000	51,682,000	47,157,000
Long Term Debt	9,569,000	9,571,000	9,329,000	9,142,000
Other Liabilities	41,011,000	44,541,000	44,337,000	31,587,000

NOTES

Deferred Long Term Liability Charges	-	-	-	13,021,000
Minority Interest	872,000	914,000	888,000	979,000
Negative Goodwill	-	-	-	-
Total Liabilities	103,753,000	109,297,000	107,648,000	102,718,000
Stockholders' Equity				
Misc Stocks Options Warrants	-	-	-	-
Redeemable Preferred Stock	-	-	-	-
Preferred Stock	10,391,000	10,391,000	10,391,000	10,391,000
Common Stock	16,000	15,000	15,000	15,000
Retained Earnings	6,595,000	4,729,000	1,951,000	266,000
Treasury Stock	-	-	-	-
Capital Surplus	26,330,000	24,412,000	24,347,000	24,257,000
Other Stockholder Equity	1,412,000	1,571,000	1,494,000	1,251,000
Total Stockholder Equity	44,744,000	41,118,000	38,198,000	36,180,000
Net Tangible Assets	4,363,000	(11,000)	(3,307,000)	(7,480,000)

Source: http://finance.yahoo.com/q/bs?s=GM+Balance+Sheet&annual

Contents of Balance Sheet

Followings are some of the important contents in corporate balance sheet.

4. Share Capital: It is the first item on the liabilities side of the balance sheet the company is required to give schedule of share capital separately containing details of authorized capital and issued and paid-up capital in terms of the number and amount of each type of share, and so also the amounts of calls in arrears and the forfeited shares.
5. Reserves and Surplus: This item includes various reserves such as capital reserves, capital redemption reserves, balance of securities premium account which are indivisible and general reserve, credit balance of profit and loss account which are divisible. The nature of each reserve and the amount in respect thereof including the additions during the current year has to be specified.
6. Secured Loans: Long-term loans, which are taken against some security, are included under this head. Debentures and secured loans and advances from banks, subsidiary companies, etc., are fall under this category and are shown separately under this head.
7. Unsecured Loans: Loans and advances for which no security is given are shown under this heading. This item includes public deposits, unsecured loans and advances from subsidiary companies, short-term loans and advances and other loans and advances from banks.
8. Current Liabilities and Provisions: Current liabilities refer to such liabilities, which mature within a period of one year. They include sundry creditors, advance payments, un-expired discounts, unclaimed dividends, interest

accrued but not paid, and other short term liabilities. Provisions refer to the amounts set aside out of revenue profits for some specific liabilities payable within a period of one year. Those include provision for taxation, proposed dividends, provision for contingencies, provision for provident fund, provision for insurance, pension and similar staff benefit schemes, etc.

9. Fixed assets: The expenditure incurred on various fixed are to be shown separately for various fixed assets which include goodwill, land, buildings, leaseholds, plant and machinery, railway sidings, furniture and fittings, patents, livestock, vehicles, etc. These assets are shown at cost less depreciation till the date.
10. Investments: Under this head, various investments made such as investment in government securities or trust securities; investment in shares, debentures, and bonds of other companies, immovable properties, etc., are to be shown separately in the balance sheet.
11. Current Assets, Loans and Advances: Current assets include interest accrued on investments, inventories, sundry debtors, bills receivables, cash and bank balances, and other advances like prepaid expenses, etc.
12. Miscellaneous Expenditure: The expenditure which has not been written of fully its balance is shown under this heading. These expenses include preliminary expenses, advertisement expenditure, discount on issue of shares and debentures, share issue expenses, etc.
13. Profit and Loss Account: When the Profit and Loss account shows a debit balance, i.e., loss which could not be adjusted against general reserves, the same is shown as a last item on the asset side.
14. Preliminary expenses: This refers to the expenses that are incurred in connection with the formation of a company which include items like cost of printing various documents, fees paid to the lawyers for drafting of such documents, stamp duty, registration and filing fees paid at the time of registration of the company, etc. The amount spent on these items is put under one head called ‘preliminary expenses’ which is written-off over a period of 3 to 5 years. The amount to be written-off annually is debited to the profit and loss account, and the balance is shown under the heading ‘Miscellaneous expenditure’ on the assets side of the balance sheet.
15. Provision for Taxation: This refers to the provision for income tax (corporation tax) chargeable on profits, and it is made by debiting the profit and loss account and crediting the provision for taxation account which is shown on the liabilities side under the heading ‘Current liabilities and Provisions’ in the balance sheet.

NOTES

Illustration 1

Mr. Confused is the Accountant of M/s. Ultimate Confusion Ltd. He presents to you the following Trial Balance as on 31st March 2012.

Particulars	Rs.	Particulars	Rs.
Bank Balance	72,900	Subscribed Capital	4,00,000
Calls in Arrears	7,500	6% Debentures	3,00,000
Land & Building	3,00,000	Profit & Loss Account (Cr.)	13,625
Machinery	2,97,000	Sundry, Debtors	87,000
Interim Dividend Paid	37,500	Sales	4,15,000
Stock (1.4.2011)	75,000	Preliminary Expenses	5,000
Sundry Creditors	40,000	Sinking Fund	75,000
Bills Payable	38,000		
Furniture	7,200		
Purchases	1,85,000		
Provision for Bad Debts	4,375		
Investments	75,000		
Salaries & Wages	1,03,600		
Fuel	13,200		
Rent, Rates & Taxes	3,800		
Discounts Allowed	6,400		
Directors Fees	5,700		
Bad Debts	2,100		
Debenture Interest paid	9,000		
Sundry Expenses	2,350		
Deposits from Public	10,000		
	12,95,625		12,95,625

After locating the mistakes and making the following adjustments, prepare Trading and Profit and Loss Account for the year ended 31st March, 2012 and Balance Sheet as on the date in a vertical form. Ignore previous year's figures.

Additional information

1. Authorised capital of the company is 60,000 equity shares of Rs. 10 each. The calls in arrears are @ Rs.5 per share.
2. Stock 31st March, 2012 was Rs.1, 37,120.
3. Write off 1/5th of the preliminary expenses.

NOTES

4. The cash in hand on 31st March, 2012 is Rs.750.
5. Provision for bad debts is no longer required.
6. The details of fixed assets are as under:

	Original . Cost Rs	Depreciation till 31.03.2012 Rs.	Rate of Depreciation
Land & Building	3,50,000	50,000	5%
Machinery	4,00,000	1,03,000	20%
Furniture	10,000	2,800	10%

The depreciation during the year is to be charged on W.D.V. as at the beginning of the year. There were no additions or deductions during the year.

Solution:

Ultimate ConfusionLtd.

Balance SheetAs at 31st March,2012

		Scheduled No.	Rs.	Rs.	Rs.
I.	Sources of Funds:				
	1. Shareholders Funds				
	a) Capital	1		3,92,500	
	b) Reserve and Surplus	2		1,16,350	5,08,850
	2. Loan Funds				
	a) Secured Loans	3		3,09,000	
	b) Unsecured Loans	4		10,000	3,19,000
II.	Application of Funds:				8,27,850
	1. Fixed Assets	5			
	a) Gross Block			7,60,000	
	b) Less: Depreciation			2,30,920	
	c) Net Block			5,29,080	
	d) Capital Work-In-Progress			Nil	5,29,080
	2. Investments	6			75,000
	3. Current Assets, Loans and Advances.	7			
	a) Inventories		1,37,120		
	b) Sundry Debtors		87,000		
	c) Cash and Bank Balances		73,650		
	d) Other Current Assets		Nil		

NOTES

	e) Loans and Advances		Nil	2,97,770	
	Less: Current liabilities and Provisions	8			
	a) Current Liabilities		78,000		
	b) Provisions		Nil	78,000	
	Net Current Assets				2,19,770
4.	Miscellaneous Expenditure				
	(Not Written off/Adjusted)	9			4,000
	Total				8,27,850

Profit & Loss A/cFor the year ended 31st March,2012

		Scheduled No.	Rs.	Rs.	Rs.
I	Income:				
	1. Sales				4,15,000
	Other Income (Excess Provision for Bad Debts)				
	Bad Debts		2,100		
	Less: RDD		4,375		2,275
	Total Income				4,17,275
	II Expenses:				
	1. Cost of Goods Sold				
	Opening Stock		75,000		
	Add: Purchases		1,85,000		
			2,60,000		
	Less: Closing Stock		1,37,120	1,22,880	
	2. Salaries & Wages			1,03,600	
	3. Fuel			13,200	
	4. Rent, Rates & Taxes			3,800	
	5. Discount Allowed			6,400	
	6. Directors Fees			5,700	
	7. Debenture Interest		9,000		
	Add: Interest Accrued & Due		9,000	18,000	
	8. Sundry Expenses			2,350	
	9. Preliminary Expenses w/off			1,000	

NOTES

	10. Depreciation:				
	Land & Building		15,000		
	Machinery		58,400		
	Furniture		720	75,120	
	Total Expenses				3,52,050
	Net profit before Tax				65,225
	Less: Provision for Tax				Nil
	Net profit after Tax				65,225
	Add: Balance b/f from last year	13,625			
					78,850
	III Appropriations				
	Interim dividend				37,500
	Balance c/d to Balance Sheet				41,350

Schedules to Balance Sheet

Schedule :1 **Capital**		**Rs.**
Authorized		
60,000 Equity Shares of Rs.10 each		6,00,000
Issued, Subscribed & Paid –up:		
40,000 Equity Shares of Rs. 10 each, fully paid		
Fully called up	4,00,000	
Less: Call in Arrears (1,500 X Rs.5)	7,500	3,92,500
Total	3,92,500	

Schedule 2: **Reserve and Surplus**		**Rs.**
Sinking fund	75,000	
Profit & Loss Appropriation Account	41,350	1,16,350
Total	1,16,350	

Schedule 3: **Secured Loans**		**Rs.**
6% Debentures	3,00,000	
Add: Interest Accrued and Due	9,000	3,09,000
Total	3,09,000	

NOTES

Schedule 4: **Unsecured Loans** **Rs.**

Deposits from Public		10,000
		-
Total		10,000

Schedule 5 : **Fixed Assets**

Particulars	Gross Block			Depreciation			Net Block	
	Opening . Rs	Additions Rs.	Closing Rs.	Opening Rs.	During . Year Rs	Closing Rs.	Opening Rs.	Closing Rs.
Land and Building	3,50,000	-	3,50,000	50,000	15,000	65,000	3,00,000	2,85,000
Machinery	4,00,000	-	4,00,000	1,03,000	59,400	1,62,400	2,97,000	2,37,600
Furniture	10,000	-	10,000	2,800	720	3,520	7,200	6,480
Total	7,60,000	-	7,60,000	1,55,800	75,120	2,30,920	6,04,200	5,29,080

Schedule 6: **Investments** **Rs.**

Investments		75,000

Schedule 7: **Current Assets: Loans & Advances** **Rs.**

1. Inventories		
Closing Stock		1,37,120
2. Sundry Debtors		
Due for more than 6 months	-	
Other Debtors	-	87,000
3. Cash and Bank Balances		
Cash	750	
Bank	72,900	73,650
4. Other Current Assets		Nil
Total current Assets		2,97,770
Loans and Advances (Unsecured, Considered Good)		Nil
Total Current Assets, Loans & Advances		2,97,770

NOTES

Schedule 8: Current Liabilities & Provisions		Rs.
1. Current Liabilities		
Sundry Creditors	40,000	
Bills Payable	38,000	
		78,000
2. Provisions		Nil
Total current Liabilities 7 Provision		78,000

Schedule 9: Miscellaneous Expenditure (not written off)		Rs.
Preliminary Expenses	5,000	
Less: Written off (1/5)	1,000	4,000
Total		4,000

Note: the accountant has prepared a Trial Balance wrongly. However, the Trial Balance has agreed by coincidence while preparing final accounts the balance on the account should be placed correctly. There is no need to prepare a Revise Trial Balance.

Illustration 2

Following is the balance sheet of Wipro ltd. as on 31st March 2010 and 31st March 2011. You are required to rearrange as per revised format as applicable from 31st March 2012.

Balance Sheet of Wipro Ltd.

Rs. In CR.

	Mar '11	Mar '10
Sources Of Funds		
Equity Share Capital	490.8	293.6
Share Application Money	0.7	1.8
Preference Share Capital	0	0
Reserves	20,829.40	17,396.80
Revaluation Reserves	0	0
Networth	21,320.90	17,692.20
Secured Loans	0	0
Unsecured Loans	4,744.10	5,530.20
Total Debt	4,744.10	5,530.20
Total Liabilities	26,065.00	23,222.40

NOTES

Application Of Funds		
Gross Block	7,779.30	6,761.30
Less: Accum. Depreciation	3,542.30	3,105.00
Net Block	4,237.00	3,656.30
Capital Work in Progress	603.1	991.1
Investments	10,813.40	8,966.50
Inventories	724.9	606.9
Sundry Debtors	5,781.30	5,016.40
Cash and Bank Balance	2,334.20	1,938.30
Total Current Assets	8,840.40	7,561.60
Loans and Advances	6,756.80	5,425.90
Fixed Deposits	2,869.10	3,726.00
Total CA, Loans & Advances	18,466.30	16,713.50
Deffered Credit	0	0
Current Liabilities	5,290.00	4,874.20
Provisions	2,764.80	2,230.80
Total CL & Provisions	8,054.80	7,105.00
Net Current Assets	10,411.50	9,608.50
Miscellaneous Expenses	0	0
Total Assets	26,065.00	23,222.40

Solution:

Balance sheet of Wipro ltd.

(Rupees in___)

	Particulars	As at 31st March, 2011	As at 31st March, 2010
I.	EQUITY AND LIABILITIES		
1	Shareholder's Funds		
	(a) Share Capital	490.8	293.6
	(b) Reserves and Surplus	20,829.40	17,396.80
	(c) Money received against Share Warrants		
2	Share Application Money pending allotment	0.7	1.8

3	Non-Current Liabilities		
	(a) Long-Term Borrowings	4,744.10	5,530.20
	(b) Deferred Tax Liabilities (Net)		
	(c) Other Long Term Liabilities		
	(d) Long-Term Provisions		
4	Current Liabilities		
	(a) Short-Term Borrowings		
	(b) Trade Payables		
	(c) Other Current Liabilities	5,290.00	4,874.20
	(d) Short-Term Provisions	2,764.80	2,230.80
	TOTAL	34119.8	30327.4
II.	ASSETS		
1	Non-Current Assets		
	(a) Fixed Assets		
	(i) Tangible Assets	4,237.00	3,656.30
	(ii) Intangible Assets		
	(iii) Capital work-in-progress	603.1	991.1
	(iv) Intangible assets under development		
	(b) Non-Current Investments		
	(c) Deferred Tax Assets (Net)		
	(d) Long-Term Loans and Advances	10,813.40	8,966.50
	(e) Other Non-Current Assets		
2	Current Assets		
	(a) Current Investments		
	(b) Inventories	724.9	606.9
	(c) Trade Receivables	5,781.30	5,016.40
	(d) Cash and Cash Equivalents	2,334.20	1,938.30
	(e) Short-Term Loans and Advances	6,756.80	5,425.90
	(f) Other Current Assets	2,869.10	3,726.00
	TOTAL	34,119.80	30,327.40

NOTES

NOTES

Illustration 3

Given is the Trial Balance of Manoj Limited as on 31st March, 2012. You are require to prepare the Profit and loss Account and Balance Sheet on 31st March, 2012

	Dr.	Cr.
Authorised Share capital divided into 8,000,		
6% preference shares of Rs.100 each and 20,000		
equity shares of Rs.100 each		28,00,000
Subscribed Capital		
5,000 6% preference shares of Rs.100 each		5,00,000
Equity Share Capital		8,00,000
Capital Reserve		5,000
Purchases		
- Coco, Tea, Coffee	58,800	
- Bakery products	36,200	
Wages and Salary	15,300	
Rent, Rates and Taxes	8,900	
Laundry	750	
Sales	-	
Coco, Tea and Coffee		82,000
Bakery products		44,000
Coal and Firewood	3,290	
Carriage	810	
Sundry Expenses	5,840	
Advertising	8,360	
Repair	4,250	
Rent of Rooms		48,000
Receipt from Billiards		5,700
Miscellaneous Receipts		2,800
Discount Received		3,300
Transfer Fee	700	
Freehold Land and Building	8,50,000	
Furniture and Fittings	86,300	

Stock on hand, 1st April, 2011		
Coco, Tea, Coffee	12,800	
Bakery products	5,260	
Cash in Hand		2,200
Cash with Bank	76,380	
Preliminary and Formation Expenses	8,000	
2000, 8% debentures of Rs.100 each		2,00,000
Profit and Loss Account		41,500
Sundry Creditors		42,000
Sundry Debtors	19,260	
Investment	2,72,300	
Goodwill at Cost	5,00,000	
General Reserve		2,00,000
	19,75,000	19,75,000

NOTES

Additional Information:

— Wages and Salaries outstanding 4,280

— Stock as on 31st march, 2012

— Coco, Tea, Coffee 22,500

— Bakery Products 16,400

— Provide 5% depreciation on Furniture and Fittings and 2% on Land and Building.

The equity capital on 1st April, 2011 stood at Rs.7, 20,000, that is 6,000 shares fully paid and 2,000 shares of Rs.60 paid. The directors made a call of Rs. 40 per share on 1st October, 2011. A shareholder could not pay the call on 100 shares and his shares were then forfeited and reissued at Rs.90 per share as fully paid. The director proposes a dividend of 8% on equity shares, transferring any amount that may be required from general reserve. Ignore taxation.

NOTES

Solution:

Profit and Loss Account of Manoj and Limited
for the year ended on 31st March, 2012

Particulars	Notes	Amount (Rs.)
Revenue from Operations	10	1,79,700
Other Receipts	11	6,800
Total Revenue (I + II)		1,86,500
Expenses		
Purchase of Stock in Trade	12	95,000
Change in Inventories of Finished Goods	13	(20,840)
Employee Benefit Expenses	14	19,580
Other Operating Expenses	15	23,840
Selling and Administrative Expenses	16	8,360
Finance Costs	17	16,000
Depreciation and Amortization Expenses	18	21,315
Total expenses		1,63,255
Profit(Loss) for the period (III-IV)		23,245
Balance from Previous Years		41,500
Transfer from General Reserve		29,255
Less: Proposed Dividend		
Preference Share Capital @6%		30,000
- Equity Share Capital @ 8%		64,000
Profit (Loss) carried to Balance Sheet		0

Balance Sheet of Manoj Limited
as on 31st March, 2012

Particulars	Notes	Amount (Rs.)
I Equity and Liabilities		
1. Shareholders' Fund		
(a) Share Capital	1	13,00,000
(b) Reserve and Surplus	2	1,75,745
2. Non-current liabilities		
(a) Long term liabilities	3	2,00,000
3. Current liabilities		
(a) Trade Payables	4	46,280
(b) Short Term Provisions	5	1,10,000
TOTAL		18,32,025

10. Assets		
Non-Current Assets		
Fixed assets		
(i) Tangible Fixed Assets	6	9,14,985
(ii) Intangible Assets (Goodwill)		5,00,000
(b) Non – Current Investments		2,72,300
2. Current Assets		
(a) Inventories	7	38,900
(b) Trade Receivables		19,260
(c) Cash and Cash Equivalents	8	78,580
(d) Other Current Assets	9	8,000
TOTAL		18,32,025

NOTES

Notes to the Financial Statements

1. Share Capital		
Equity Share Capital		
- Authorised Equity Share Capital : 20,000 Equity Shares		
of Rs.100 each	20,00,000	
- Issued and Subscribed		
8,000 Equity Shares of Rs.100 each	8,00,000	
Preference share capital		
Authorised Preference Share Capital		
- 8,000, 6% Preference Shares of Rs.100 each	8,00,000	
- Issued and Subscribed		
5,000 6% Preference Shares of Rs.100 each	5,00,000	13,00,000
2. Reserve and Surplus		
- Capital Reserve		5,000
- General Reserve	2,00,000	
Less : Amount used to pay dividend on Equity		
and Preference Share Capital	29,255	1,70,745
		1,75,745
3. Long Term Borrowings		
- 2000, 8% Debentures of Rs.100 each		2,00,000
4. Trade Payables		
- Sundry Creditors		42,000
- Wages and Salaries Outstanding		4,280
		46,280
5. Short term Provisions		
- Interest on Debentures		16,000
- Proposed Preference Dividend		30,000

NOTES

	- Proposed Equity Dividend		64,000
			1,10,000
6.	Tangible Assets		
	- Freehold Land and Building	8,50,000	
	Less : Depreciation @2%	17,000	8,33,000
	- Furniture and Fitting	86,300	
	Less : Depreciation @5%	4,315	81,985
			9,14,985
7.	Inventories		
	- Coco, Tea, Coffee		22,500
	- Bakery Products		16,400
			38,900
8.	Cash and Cash Equivalents		
	- Cash at Bank		76,380
	- Cash in Hand		2,200
			78,580
9.	Other Current Assets		
	- Preliminary and Formation Expenses		8,000
10.	Revenue from Operations		
	Sale of products		
	- Coco, Tea and Coffee	82,000	
	- Bakery Products	44,000	1,26,000
	Sale of services		
	- Rent of Rooms	48,000	
	- Receipt from Billiards	5,700	53,700
			1,79,700
11.	Other Receipts		
	- Miscellaneous Receipts	2,800	
	- Discount Received	3,300	
	- Transfer Fee	700	
			6,800
12.	Purchases of Stock in Trade		
	- Coco, Tea and Coffee	58,800	
	- Bakery Products	36,200	95,000
13.	Change in Inventories of Finished Goods		
	- Coco, Tea, Coffee		
	Opening Stock	12,800	
	Less: Closing Stock	22,500	(9,700)
	- Bakery Products		
	Opening Stock	5,260	

NOTES

Less : Closing Stock	16,400	(11,140)
		(20,840)
14. Employee Benefit Expenses		
Wages and Salaries	15,300	
Add: Outstanding Wages and Salaries	4,280	
		19,580
15. Other Operating Expenses		
- Rent Rates and Taxes		8,900
- Coal and Firewood		3,290
- Laundry		750
- Carriage		810
- Repair		4,250
- Sundry Expenses		5,840
		23,840
16. Selling and Distribution Expenses		
- Advertising	8,360	
17. Finance Cost		
- Interest on Debentures	16,000	
18. Depreciation and Amortization Expenses		
- Land and Building	17,000	
- Furniture and Fittings	4,315	
		21,315

Illustration 4

You are required to prepare financial statements from the following trial balance of Rahul Company Ltd. for the year ended 31st March, 2012

Rahul Company Ltd.

Trial Balance as at 31st March, 2012

Particulars	Rs.	Particulars	Rs.
Stock	68,000	Equity Shares Capital	
		(Shares of Rs.10 each)	2,50,000
Furniture & Fixtures	50,000	11% Debentures	50,000
Discount	4,000	Bank Loans	64,500
Loan to Directors	8,000	Bills Payable	12,500
Advertisement	2,000	Creditors	15,600
Bad Debts	3,500	Sales	4,26,800
Commission	12,000	Rent Received	4,600
Purchases	231,900	Transfer Fees	1,000
Plant and Machinery	86,000	Profit & Loss Appropriation Account	13,900
Rentals	2,500	Provision for Depreciation on	
		Plant & Machinery	14,600

NOTES

Current Account	4,500	
Cash	800	
Interest on Bank Loan	11,600	
Preliminary Expenses	1,000	
Wages	90,000	
Consumables	8,400	
Freehold Land	1,54,600	
Tools and Equipments	24,500	
Goodwill	26,500	
Debtors	28,700	
Bills Receivables	15,300	
Dealer Aids	2,100	
Transit Insurance	3,000	
Trade Expenses	7,200	
Distribution Freight	5,400	
Debentures Interest	2,000	
	8,53,500	8,53,500

Additional Information :

- Closing stock as on 31st march, 2012, Rs. 82,300
- Depreciation on furniture & fixtures @5%, Freehold land @2% and Tools and Equipment @5% to be provided.

Solution

Profit and Loss Account of Rahul Company Ltd. for the year ended on 31st March, 2012

	Particulars	Notes	Amount (Rs.)
I	Revenue from Operations		4,26,800
II	Other Receipts	8	5,600
III	Total Revenue (I + II)		4,32,400
IV	Expenses		
	Purchase of Stock in Trade	9	2,31,900
	Change in Inventories of Finished Goods	10	(14,300)
	Employee Benefit Expenses	11	90,000
	Other Operating Expenses	12	48,100
	Selling and Administrative Expenses	13	2,000
	Finance Costs	14	13,600
	Depreciation and Amortization Expenses	15	6,817
	Total Expenses		3,78,117

V	Profit (Loss) for the Period (III-IV)		54,283
	Balance from Previous Years		13,900
	Profit (Loss) carried to Balance Sheet		68,183

Balance Sheet of Mehul Company Ltd. as on 31st March, 2012

	Particulars	Notes	Amount (Rs.)
I	Equity and Liabilities		
	1. Shareholders' Fund		
	(a) Share Capital	1	2,50,000
	(b) Reserve and Surplus	2	68,183
	2. Non-Current Liabilities		
	(a) Long Term Liabilities	3	1,14,500
	3. Current liabilities		
	(a) Trade Payables	4	28,100
	TOTAL		**4,60,783**
II	Assets		
	1. Non-Current Assets		
	(a) Fixed Assets		
	(i) Tangible Fixed Assets	5	2,93,683
	(ii) Intangible Assets (Goodwill)		26,500
	2. Current Assets		
	(a) Inventories		82,300
	(b) Trade Receivables		28,700
	(c) Cash and Cash Equivalents	6	5,300
	(d) Short Term Loan and Advances	7	23,300
	(e) Other Current Assets		1,000
	TOTAL		**4,60,783**

Notes to the Financial Statements

1. Share Capital

- Equity Share Capital	
Authorised Share Capital	
25,000 equity shares of Rs.10 each	2,50,000
Issued and Subscribed	
25,000 equity shares of Rs.10 each	2,50,000
	2,50,000

2. Reserve and Surplus

- Balance as per last Balance Sheet	13,900
Add : Balance in Current Year Profit	54,283
	68,183

NOTES

NOTES

3. Long Term Borrowings

11% Debentures of Rs.100 each	50,000
Bank Loan	64,500
	1,14,500

4. Trade Payables

Sundry Creditors	15,600
Bills Payables	12,500
	28,100

5. Tangible Assets

	Book Value	Depreciation	Net value
Freehold Land and Building	1,54,600	3,092	1,51,508
Furniture and Fixtures	50,000	2,500	47,500
Plant and Machinery	86,000	14,600	71,400
Tools and Equipments	24,500	1,225	23,275
Total	3,15,100	14,600	2,93,683

6. Cash and Cash Equivalents

Cash at Bank	4,500
Cash in Hand	800
	5,300

7. Short Term Loans and Advances

Loan to Directors	8,000
Bills Receivables	15,300
	23,300

8. Other Income

Rent Received	4,600
Transfer Fee	1,000
	5,600

9. Purchase of Stock in Trade

Purchases	2,31,900

10. Change in Inventories of Finished Goods

Closing Stock	82,300
Less : Opening Stock	68,000
	14,300

11. Employee Benefit Expenses

Wages	90,000

12. Other Operating Expenses

Consumables	8,400
Bad Debts	3,500
Discount	4,000
Rentals	2,500
Commissions	12,000

Dealer's Aid	2,100	
Transit Insurance	3,000	
Trade Expenses	7,200	
Distribution Freight	5,400	
	48,100	
13. Selling and Administrative Expenses		
Advertisements	2,000	
14. Finance Costs		
Interest on Bank Charges	11,600	
Debenture Interest	2,000	13,600
15. Depreciation and Amortization Expenses		
Freehold Land and Building	3,092	
Furniture and Fixtures	2,500	
Tools and Equipments	1,225	6,817

NOTES

Check Your Progress

Explain important components of balance sheet.

8.4 Company Annual Report

Every company is required to make Annual Report. Annual Report is a publically available document which describes companies' performance along with financial statements.

Followings are the general contents of company's annual report.

★ Notice of AGM

★ Attendance Slip & Proxy

★ Contents

General Contents

★ Corporate Objectives

★ Reference Information

★ Year at a glance

★ Letter to Shareholders/ Chairman speech

★ Achievements & Accolades

★ Graphs & Station-wise generation

★ Directors' Profile

★ Senior Management Team

★ Directors' Report

★ Management Discussion and Analysis

★ Report on Corporate Governance

★ Annexure to Directors' Report

★ Comments of the Comptroller and Auditor General of India (for public sector company)

★ Employee Cost Summary and Revenue Expenditure on Social Overheads

NOTES

Check Your Progress

Collect annual report of TCS ltd. and analyze the components.

- ★ Annual report of Subsidiary Companies

Financial contents

- ★ Accounting Policies
- ★ Selected Financial Information
- ★ Balance Sheet
- ★ Profit & Loss Account
- ★ Cash Flow Statement
- ★ Schedules for Balance sheet and Profit & Loss Account
- ★ Auditors' Report
- ★ Consolidated Financial Statements
- ★ Segmental accounting

8.5 Summary

- ★ Financial statements are the basic and formal annual reports through which the corporate management communicates financial information to its owners and various other external parties which include– investors, tax authorities, government, employees, etc.
- ★ Every company registered under the Companies Act is required to prepare its Balance Sheet, Statement of Profit and Loss and notes thereto in accordance with the manner prescribed in Schedule VI to the Companies Act, 1956.

Theory questions

- ★ Which statements are required as per companies act for listed companies?
- ★ Write a note on Income statements.
- ★ Enumerate important components of balance sheet.

8.6 Key Terms

- ★ Financial statements are the basic and formal annual reports through which the corporate management communicates financial information to its owners and various other external parties which include– investors, tax authorities, government, employees, etc.

8.7 Questions and Exercises

Exercise 1

Following are the Trial Balance, Schedule of fixed assets and the additional

NOTES

information of Satyam Ltd. as on 31st March,2012.

Particulars	Dr. Rs.	Cr. Rs.
Equity Share Capital		
(99,000 Equity Shares of Rs. 10 each fully paid)		9,90,000
10% Cumulative Preference Share Capital		
(4,000 Preference Shares of Rs. 100 each)		4,00,000
Profit & Loss Account (31st March,2012)	4,09,000	
Preliminary Expenses	14,000	
Prepaid Expenses	9,000	
Underwriting Commission	7,500	
Forfeited Shares Account		6,000
Fixed Assets (Net Block)	4,85,000	
Sundry Creditors		1,85,000
Sundry Debtors	3,45,000	
Loan from Bank of India (Secured against Machinery)		3,15,000
Interest accrued but not due on loan		31,500
12% Deposits from public		2,00,000
Deposits from Customers		35,000
Cash in hand	3,85,000	
Cash at Bank (Bank of India – Current Account)	1,65,000	
Interest accrued and due on deposits from public		24,000
Outstanding Expenses		17,500
Stock in Trade (31st March,2012)	3,84,500	
	22,04,000	22,04,000

Schedule of Fixed AssetsAs on 31st March,2012

Assets	Cost				Provision for Depreciation				Net Block	
	Opening 01.04.2011	Additions	Deductions	Clothing 31.3.2012	Opening 01.04.2011	additions	Deductions	Closing 31.03.2012	Opening 01.04.2011	Closing 31.03.2012
Land	?	-	-	?	-	-	-	-	?	50,000
Building	1,50,000	-	?	?	18,750	2,500	6,250	15,000	?	85,000
Plant & Machinery	7,00,000	-	-	?	2,80,000	70,000	-	?	?	?
	9,00,000	-	50,000	8,50,000	2,98,750	72,500	6,250	3,65,000	?	?

NOTES

Additional Information:

1. Authorised share capital of the company consists of 1,50,000 equity shares of Rs. 10 each and 5,000 10% cumulative preference shares Rs.100 each.
2. Out of the above equity share capital 10,000 equity shares of Rs. 10 each fully paid have been allotted for consideration other the cash.
3. dividend on preference shares is in arrears for 3 years (including current years)
4. Of the sundry debtors Rs. 1, 36,949 are due for more than six months.
5. Sundry debtors and advances are unsecured but considered good.
6. Bills receivable of Rs. 25,000 maturing on 31st May, 2012 has been discounted with the Bank.
7. Ignore previous year's figures.

Complete the above Schedule of Fixed Assets and prepare Balance Sheet of Satyam Ltd. as on 31st March, 2012 as per the requirements of Schedule VI of the Companies Act, 1956 (in vertical form).

Exercise 2

Following balances are extracted from the books of Sure Success Co. Ltd. as on 31st December, 2012.

	Rs.		Rs.
Freehold Factory Premises	6,00,000	2,00,000 Equity Shares of	
Leasehold Office Premises	5,00,000	Rs.10 each	20,00,000
Bank Balance	60,500	5,000 6% Debenture of	
Vehicles	3,15,000	Rs.100 each	5,00,000
Pant and Machinery	8,30,000	General Reserves	75,000
Sundry Debtors	2,40,000	Accumulated	
Computer	30,000	Depreciation	15,000
Goodwill	2,00,000	Profit & Loss A/c	
Stock	1,30,000	Balance b/d 47,450	
Cash in Hand	1,950	+ Net Profit	
Advance Income Tax:		After tax 2,90,000	
[Accounting year 2010]	1,45,000	3,37,450	
[Accounting year 2011]	1,75,000	- Debenture	
		Interest 30,000	3,07,450

		Provision for tax	
		(Accounting Year 2010)	1,50,000
		Provision for Tax	
		(Accounting Year 2011)	1,80,000
	32,27,450		32,27,450

NOTES

Adjustments:

1) During the current year, Income tax assessment for the accounting year 2011 is completed with a gross demand of Rs. 135,000 but no effect of the same is given in the accounts of the current year.

2) The Board of Directors decided to provide:

   i. 20% bonus on the year's salary Rs. 1, 00,000.

   ii. 10% Depreciation on leasehold premises.

   iii. Rs.5, 000 as Director's fees.

   iv. 5% dividend for the year to the shareholders.

   v. Transfer Rs. 50,000 to General Reserves.

Considering the above trial Balance and the adjustments and assuming that there will be no change in the provision for tax of the accounting year 2012 on account of changes if any, prepare Profit & Loss Account for the year ended 31st December, 2012 and Balance Sheet as on that date in a vertical from keeping in mind the prescribed formats and applicable accounting standards. Ignore previous year's figures.

8.8 Further Reading and References

- ★ Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education
- ★ "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi

UNIT 9 CASH FLOW STATEMENT

NOTES

Structure

9.0 Introduction to Cash Flow Statement

9.0.1. Concept and Definition

Cash flow statement is a financial report that describes the sources of cash and how it was spent over a specified time period. Cash flow statement, also known as statement of cash flows is a financial statement that shows how changes in balance sheet and income affect cash flows. The statement captures both the current operating results and the accompanying changes in the balance sheet. Cash flow statement classifies the cash receipts and payments according to whether they stem from operating, investing, or financing activities.

Essentially, the cash flow statement is concerned with the flow of cash in and cash out of an organization. Because of the accrual accounting method and a variety of assumptions companies may employ, it is possible for a company to show profits while not having enough cash to sustain operations. A cash flow statement neutralizes the impact of the accrual adjustments in the financial statements. It also classifies the sources and uses of cash to provide an understanding of the amount of cash generated and used in business operations, as opposed to the amount of cash provided by sources outside the company, such as borrowed funds or funds from stockholders. The cash flow statement also mentions as to how much money was spent for items that do not appear on the income statement, such as loan repayments and for long-term asset purchases.

NOTES

The statement of cash flows reports a firm's major cash inflows and outflows for a period. It provides useful information about a firm's ability to generate cash from operations, maintain and expand its operating capacity, meet its financial obligations, and pay dividends.

Cash flow statement is a financial statement that describes the sources and application of cash from various activities over a specified time period.

9.0.2 Importance of Cash Flow Statement

It is useful to managers in evaluating past operations and in planning future investing and financing activities. It is useful to investors, creditors, and others in assessing a firm's profit potential. In addition, it is a basis for assessing the firm's ability to pay its maturing debt. As an analytical tool, the statement of cash flows is useful in determining the short-term viability of a company. People and groups interested in cash flow statements include:

1. Accounting personnel, who need to know whether the organization will be able to cover expenses
2. Board of Directors, managers (i.e. management of company)
3. Employees, who need to know whether the company will be able to afford compensation
4. Contractors and service providers who need to judge capacity to pay short-term obligations
5. Shareholders and potential investors, who need to evaluate operating and financial performance
6. Existing and Potential lenders, who want a clear picture of a company's ability to repay

Check Your Progress

Explain cash flow statement and its importance

9.1 Unit Objectives

After studying this unit, you should be able to

- ★ Understand cash flow statements and realize its importance
- ★ Classify inflows and outflows into operating, investing and financing activities
- ★ Understand Free Cash Flows
- ★ Analyze Cash Flow Statement

★ Prepare a statement of Cash Flow from a comparative balance sheet and income statement.

NOTES

9.2 Cash and Cash Equivalents

Cash and cash equivalents are the most liquid assets amongst the assets. Cash comprises cash on hand and demand deposit with bank. Cash equivalents are assets that are readily convertible into cash, such as money market holdings, short-term government bonds or Treasury bills, marketable securities and commercial paper. Cash equivalents are distinguished from other investments because of their liquidity; they are due to mature within 3 months whereas short-term investments are due to mature within 12 months, and long-term investments are due to mature beyond 12 months. Another important condition a cash equivalent needs to satisfy is that the investment should have less risk of change in value; thus, equity shares cannot be considered a cash equivalent though they may be highly liquid.

Check Your Progress

Write a note on cash and cash equivalent

Cash and Cash equivalents comprise cash on hand and demand deposits with banks and short term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to less risk of changes in value.

9.3 How Cash Flow Statement looks like?

Cash flow statement consists of three activities i.e. Operating, Financing and Investing. The cash flows from operating activities section always appears first, followed by the investing section.

EXHIBIT 1.1 FORMAT OF CASH FLOW

CASH FLOW STATEMENT FOR THE YEAR ENDING 31/03/XXXX

Particulars	Rs.	Rs.
Cash Flow from Operating Activities		
Net Profit Before Tax	XXX	
Adjust Non Cash Items	XXX	
Adjust Non Operating Items	XXX	
Fund From Operations		XXX
Changes in Working Capital		XXX
Net Cash flow from Operating Activities		XXXX
Cash flow from Investing Activities		
Sale of Investments	XXX	
Purchases of Fixed Assets	(XXX)	

NOTES

Net Cash flow from Investing Activities		XXXX
Cash flow from Financing Activities		
Issue of Equity Share Capital	XXX	
Repayment of Unsecured Loan	(XXX)	
Dividend Paid	(XXX)	
Net Cash flow from Financing Activities		XXXX
Net Increase in Cash		XXXX
Cash balance at the beginning of the year		XXXX
Cash balance at the end of the year		XXXX

Detail cash Flow statement: Real life example

Exhibit 1.2 depicts cash flow a statement of Reliance Industries Ltd. for the year 2008-09 and 2009-10. It shows how a real life cash flow statement looks like with a variety of details.

EXHIBIT 1.2 Cash Flow Statement for the year 2008-09 & 2009-10
[Reliance Industries Limited]

	Rs. Crores 2009-10		Rs. Crores 2008-09	
CASH FLOW FROM OPERATING ACTIVITIES				
Net Profit before tax as per Profit and Loss Account		20547.44		18433.23
Net Prior Year Adjustments	1.35		2.14	
Diminution in the value of investment	0.15		3.44	
Investment written off (net)	18.38		—	
Loss on Sale / Discarding of Fixed Assets (net)	0.60		7.08	
Depreciation	13477.01		7182.43	
Transferred from Revaluation Reserve	(2980.48)		(1987.14)	
Effect of Exchange Rate Change	(1837.42)		575.57	
Profit on Sale of Current Investments (net)	(238.43)		(425.40)	
Dividend Income	(2.41)		(29.81)	
Interest / Other Income	(2108.41)		(1564.97)	
Interest and Finance Charges	1997.21	8327.55	1745.23	5508.57
Operating Profit before Working Capital Changes	28874.99		23941.80	
Adjusted for:				

NOTES

Trade and Other Receivables	(7379.98)		(109.91)	
Inventories	(12144.90)		159.01	
Trade Payables	14223.40 (5301.48)		(3847.36) (3798.26)	
Cash Generated from Operations	23573.51		20143.54	
Net Prior Year Adjustments	(1.35)		(2.14)	
Tax paid	(3081.94)		(1895.54)	
Net Cash from Operating Activities	20490.22		18245.86	
CASH FLOW FROM INVESTING ACTIVITIES:				
Purchase of Fixed Assets	(21942.67)		(24712.78)	
Sale of Fixed Assets	113.19		48.35	
Purchase of Investments	(1,98,866.1)		(1,08,573.9)	
Sale of Investments	1,97,660.74		1,10,986.78	
Movement in Loans and Advances	2626.01		(3452.11)	
Interest Income	2201.93		1589.66	
Dividend Income	2.41		29.81	
Net Cash used in Investing Activities	(18204.50)		(24084.20)	
CASH FLOW FROM FINANCING ACTIVITIES				
Proceeds from Issue of Share Capital/Warrants	53.54		15164.79	
Proceeds from Long Term Borrowings		6530.64		20690.86
Repayment of Long Term Borrowings		(11598.22)		(3382.93)
Short Term Loans		(234.86)		(2238.39)
Dividends Paid (including dividend distribution tax)		(2219.45)		(1908.47)
Interest Paid		(3531.25)		(4593.28)
Net Cash (used in) / from Financing Activities		(10999.60)		23732.58
Net (Decrease) / Increase in Cash and Cash Equivalents		(8713.88)		17894.24
Opening Balance of Cash and Cash Equivalents	22176.53		4280.05	
Add: On Amalgamation	0.00		2.24	
		22176.53		4282.29
Closing Balance of Cash and Cash Equivalents		13462.65		22176.53

Note :

Loans / Deposit given to Subsidiaries / Associate aggregating to Rs. 196.86 cr. (Previous Year Rs. 5,380.04 cr.) have been converted into investments in Preference Shares.

Source: Annual Reports, Reliance Industries Ltd.

NOTES

9.4 Cash Flow Activities

The cash flow statement is divided into 3 activities: cash flow resulting from operating activities, cash flow resulting from investing activities, and cash flow resulting from financing activities.

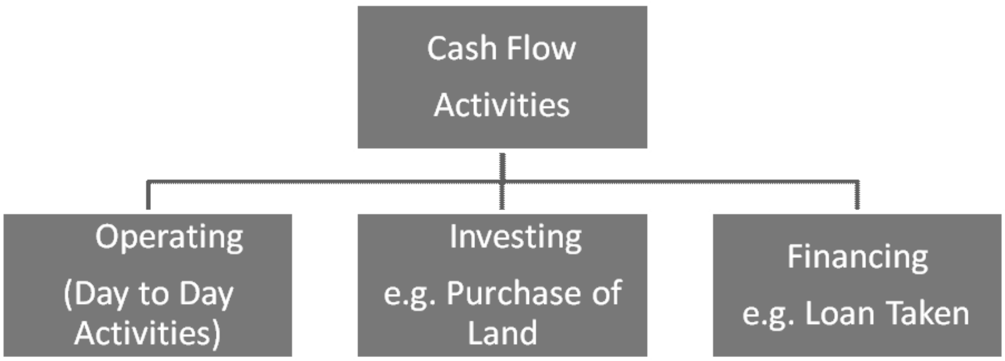

Chart 1: Cash Flow Activities

9.4.1 Operating Activities

Cash flows from operating activities are cash flows derived from the principal revenue-producing activities of the enterprise. Therefore, they generally result from the transactions and other events that enter into the determination of net profit or loss. Operating activities include the production, sales and delivery of the product, collecting payment from customers, purchasing raw materials, advertising, and other day to day expenses.

Operating cash flows include:

- ★ Receipts from the sale of goods or services
- ★ Payments to suppliers for goods and services
- ★ Payments to employees or on behalf of employees

Cash flows from operating activities are cash flows derived from the principal revenue-producing activities of the enterprise.

Methods for Reporting Cash Flow from Operating Activities

There are two alternative methods for reporting cash flows from operating activities in the statement of cash flows. These methods are (1) the direct method and (2) the indirect method.

(1) Direct Method

The direct method reports the sources of operating cash and the uses of operating cash. The major source of operating cash is cash received from customers. The major uses of operating cash include cash paid suppliers for merchandise and services and cash paid to employees. The difference between these operating cash receipts and cash payments is the net cash flow from operating activities. The primary advantage of the direct method is that it reports the actual sources and uses of cash in the statement of cash flows. Its primary disadvantage is that the necessary data may not be readily available.

NOTES

Exhibit 1.3 Calculation of Operating Cash Flow through Direct Method
Cash flow from Operating Activities for the year ended 31/03/XXXX:

Cash receipts from customers	xxxxx	
Cash Sales	xxxxx	
Total Cash Received		xxxxx
Less:		
Cash paid to suppliers	xxxxx	
Cash paid to employees	xxxxx	
Cash paid for other operating expenses	xxxxx	
Income taxes paid	xxxxx	
Total Cash Paid		xxxxx
Net cash from operating activities	xxxxx	

(2) Indirect Method

The indirect method reports the operating cash flows by beginning with net income and adjusting it for revenues and expenses that do not involve the receipt or payment of cash. In other words, net income on accrual basis is adjusted to determine the amount of cash generated from operating activities.

A major advantage of the indirect method is that it focuses on the difference between net income and cash flow from operations. In this sense, it shows the relationship between the income statement, the balance sheet, and the statement of cash flows. Because the data are readily available, the indirect method is normally easier to use than the direct method. The Accounting Standard (AS 3) makes it mandatory to use indirect method. Most firms use the indirect method to report cash flows from operations.

Exhibit 1.4 Calculation of Operating Cash Flow through Indirect Method
Cash Flow from Operating Activities for the year ended 31/03/XXXX:

Increase in Reserve		XX
Add: Dividend declared		XX
Net Profit After Tax as per Profit and Loss A/c		XX
Add: Provision for Tax		XX
Net Profit Before Tax as per Profit and Loss A/c		XX

Adjust Non-Cash Expenses		
Depreciation on Fixed Asset	XX	
Amortisation of Goodwill	XX	XX
Adjust Non-operating Items		
Loss/Profit on sale of fixed asset	XX	
Interest/ Dividend Received	(XX)	XX
Funds from Operation		XX
Adjust Working Capital Changes		
Add: Decrease in Current Asset	XX	
Add: Increase in Current Liabilities	XX	
Less: Increase in Current Asset	(XX)	
Less: Decrease in Current Liabilities	(XX)	
Cash generated from operation		XX
Income Tax Paid		(XX)
Net Cash Flow from Operating Activities		XX

NOTES

Illustration 1.1

From the following profit and loss account of M/s. Krishna Damodaram, calculate the amount of cash flow form operating activities.

M/s. Krishna Damodaram

Profit and Loss Account for year ending 31 March 2011

Particulars	Amount	Particulars	Amount
To Salary	20000	By Gross Profit	370000
To Depreciation	28470	By Profit on Sale of Land	60000
To Losses on sale of Machinery	48000	By Interest	68700
To General Expenses	58000	By Dividend	8000
To Net Profit	352230		
	506700		506700

NOTES

Solution 1

M/s. Krishna Damodaram

Cash flow from Operating Activities for the year ended 31/03/2010

Particulars		Amount
Net Profit As per Profit and Loss Account		352230
Add:	Depreciation (Non cash Expenses)	28470
Add:	Non-operating Expenses	
	Losses on Sale of Machinery	48000
		428700
Less:	Non-operating Income	
	Profit on Sale of Land	60000
	Interest	68700
	Dividend	8000
	Cash flow from Operating Activities	292000

Note: It is assumed that there are no working capital changes.

Illustration 2

Calculate the amount of cash flow from operational activities of the S.T. International Ltd.

S.T. International Ltd.

Profit and Loss Account for year ending 31 March 2010

Particulars	Amount	Particulars	Amount
To Administration Expenses	25000	By Sales	215000
To Depreciation	30500	By Interest	8000
To Goodwill written off	5000		
To Discount on issue of shares	35000		
To Selling Expenses	17900		
To Net Profit	109600		
	223000		223000
Following additional information provided:			
Particulars	31.03.2009	31.03.2010	
Debtors	25000	30000	
Cash	2800	1900	
Creditors	58000	51000	

Solution 2

S.T. International Ltd.

Statement of Operating Cash flow year ended 31 March 2010

Particulars		Amount
Net Profit As per Profit and Loss Account		109600
Add:	Depreciation (Non cash Expenses)	30500
Add:	Amortisation of Goodwill	5000
Add:	Non-operating Expenses	
	Discount on issue of shares	35000
		180100
Less:	Non-operating Income	
	Interest Received	8000
	Funds from Operation	172100
	Adjust Working Capital Changes	
	Less: Decrease in Creditors	(7000)
	Less: Increase in Debtors	(5000)
	Cash Flow from Operating Activities	160100

NOTES

9.4.2 Investing Activities

Cash inflows from investing activities normally arise from selling fixed assets, investments, and intangible assets. Cash outflows normally include payments to acquire fixed assets and investments. Investing activities are the activities related to acquisition and disposal of long term assets and investments. However purchase or sale of investment included in cash equivalent is not considered as investing activity.

If the inflows are greater than the outflows, net cash flow provided by investing activities is reported. If the inflows are less than the outflows, net cash flow used for investing activities is reported.

Examples of cash flow from investing activities

★ Payments for acquisition of fixed assets including intangibles.

★ Receipts from disposal of fixed assets.

★ Payments to acquire shares, warrants or debt instruments of other enterprises and interests in joint venture. This does not include an item covered in cash equivalents and items held for dealing or trading purposes.

★ Receipts from disposal of shares, warrants or debit instruments of other enterprises and interest in joint venture. This does not include an item covered in cash equivalents and items held for dealing or trading purposes.

★ Cash advances and loans made to third parties. This does not include loans and advances made by financial enterprises as these fall under operating

NOTES

cash flow.

★ Receipts from repayments of advances and loans made to third parties. This does include loans and advances made by financial institutions as these fall under operating cash flow.

★ Receipts from or payments for future, forward, option and swap contracts. This does not include contracts held for dealing or trading purposes or contracts which are classified as financing activities.· Interest and dividend received from investment like loan, debt instrument and shares. However interest / dividend received on investment covered in cash equivalent and on investments held for trading purposes is considered as operating cash flows. Similarly interest / dividend received by financial enterprises are considered as operating flows.

Investing activities are related to the acquisition and disposal of long term assets and investments.

Exhibit 1.5 Calculating Cash Flow from investing Activities

Cash flows from Investing Activities	
Purchase of fixed assets	(XXX)
Proceeds from sale of equipment	XXX
Purchase of Shares	(XXX)
Interest received	XXX
Dividends received	XXX

Net cash from Investing Activities

9.4.3 Financing Activities

Financing activities are the activities which affect the long-term funds used by the entity like capital and debt. Cash inflows from financing activities include proceeds of shares or debentures issue. Cash outflows from financing activities include payments for buyback of shares, repayment of loans, redemption of debentures and payment of interest and cash dividend.

If the inflows are greater than the outflows, net cash flow provided by financing activities is reported. If the inflows are less than the outflows, net cash flow used for financing activities is reported.

Examples of cash flow from financing activities

★ Receipts from issuing shares or other equity instruments, face value plus premium

★ Payments to owners redeem the enterprise's shares (i.e. buyback of shares)

★ Proceeds from issuing debentures, loans, notes, bounds, mortgages, and other short term and long term borrowings.

★ Re-payments of loans

- ★ Payment for redemption of debentures and bonds
- ★ Repayments by a lease for the reduction of the outstanding liability relating to a finance lease

NOTES

Cash inflows financing activities normally arise from issuing debt or equity securities. Cash outflows from financing activities include paying cash dividends, repaying debt, and interest payment.

Exhibit 1.6 Calculating Cash Flow from Financing Activities

Cash flows from financing activities	
Proceeds from issuance of share capital	XXX
Proceeds from long-term borrowings	XXX
Repayment of long-term borrowings	(XXX)
Interest paid	(XXX)
Dividends paid	(XXX)
Net cash used in financing activities	

9.5 Some Special Items

9.5.1 Interest and Dividends

Cash flows from interest and dividends received and paid should each be disclosed separately. In the case of non-financial enterprises, cash flows arising from interest paid should be classified as cash flows from financing activities while interest and dividends received should be classified as cash flows from investing activities. Dividends paid should be classified as cash flows from financing activities. Cash flows arising from interest paid and interest and dividends received in the case of a financial enterprise should be classified as cash flows arising from operating activities.

Interest paid and interest and dividends received are usually classified as operating cash flows for a financial enterprise. However, there is no consensus on the classification of these cash flows for other enterprises. Some argue that interest paid and interest and dividends received may be classified as operating cash flows because they enter into the determination of net profit or loss. However, it is more appropriate that interest paid and interest and dividends received are classified as financing cash flows and investing cash flows respectively, because they are cost of obtaining financial resources or returns on investments.

Some argue that dividends paid may be classified as a component of cash flows from operating activities in order to assist users to determine the ability of an enterprise to pay dividends out of operating cash flows. However, it is considered more appropriate that dividends paid should be classified as cash flows from financing activities because they are cost of obtaining financial resources.

Check Your Progress

Explain difference between operating, investing and financing activities.

NOTES

9.6 Non-cash Transactions

Investing and financing transactions that do not require the use of cash or cash equivalents should be excluded from a cash flow statement. Such transactions should be disclosed elsewhere in the financial statements in a way that provides all the relevant information about these investing and financing activities.

A business may enter into investing and financing activities that do not directly involve cash. For example, it may issue shares to retire long-term debt. Such a transaction does not have a direct effect on cash. However, the transaction does eliminate the need for future cash payments to pay interest and retire the bonds. Thus, because of their future effect on cash flows, such transactions should be reported to readers of the financial statements.

Check Your Progress

Give examples of non-cash transactions in the business

Other examples of non-cash investing and financing transactions include acquiring fixed assets by issuing bonds or shares and issuing equity shares in exchange for convertible preference shares, taking over another concern by share swap.

9.7 Free cash flow

Free cash flow is the cash that a company is left with after it pays out interest and dividends to its investors and pays for the capital expenditures it needs to maintain its productive capacity. This cash can be used for expansion, reducing debt, or other purposes. Free cash flow depends primarily on the company's capacity to generate cash from operations, which in turn is heavily influenced by the company's net income. Free cash flows can be computed by using following formula.

Free Cash Flow = Cash Flow From Operating Activities- Capital Expenses to keep current level of operation – Interest - Dividends

The presence of free cash flow indicates that a company has cash to expand, develop new products, buy back stock or reduce its debt. High or rising free cash flow is often a sign of a healthy company that is thriving in its current environment. Furthermore, since FCF has a direct impact on the worth of a company, investors often hunt for companies that have high or improving free cash flow but undervalued share prices — the disparity often indicates that share price will soon increase.

Free cash flow measures a company's ability to generate cash, which is a fundamental basis for stock pricing. This is why some people value free cash flow more than just about any other financial measure out there, including earnings per share.

There are alternate views on calculation of Free Cash Flows. Some of the experts calculate Free Cash Flows by the following formule.

Free Cash Flows to the Firm (FCFF) = Cash Flow from Operating Activities- Capital Expenses to keep current level of operation

Free Cash Flows to the equity (FCFE) = Cash Flow from Operating Activities - Capital Expenses to keep current level of operation + Net borrowing - Net debt repayment

Illustration 3

Ambika Sugers Ltd. had cash flow from operating activities of Rs. 1,400,000. They invested Rs.450,000 in fixed assets to maintain productive capacity, and another Rs.300,000 to expand capacity. Dividends were Rs.100, 000. Calculate free cash flow during the same period

Solution 3

Computation of Free Cash Flow	Rs.	Rs.
Cash flow from operating activities		1,400,000
Less: Cash invested in fixed assets to maintain productive capacity	450,000	
Dividend paid	100,000	550,000
Free cash flow		850,000

NOTES

Check Your Progress
Explain the concept of free cash flow statement

9.8 Fund flow Statement

The fund-flow statement is 'a statement which summarizes the sources from which funds were obtained and the specific uses to which the funds were put.' Profit and Loss A/c shows book profits for specific period of time and Balance sheet shows the financial position of the concern at particular point of time. Both these statements do not show the flow of funds of concern during a particular period. Hence a separate fund flow statement is very useful.

It is a statement which shows the sources of funds i.e. it shows how the activities of a business are financed in a particular period. Further, it shows how the financial resources have been used during a same period.

Preparation of Fund Flow statement requires analysis of financial statement. Analysis of balance sheet is done to ascertain the changes in working capital and other sources of finance and where these funds are employed. Profit and loss A/c is analyzed to ascertain the funds from operating activities.

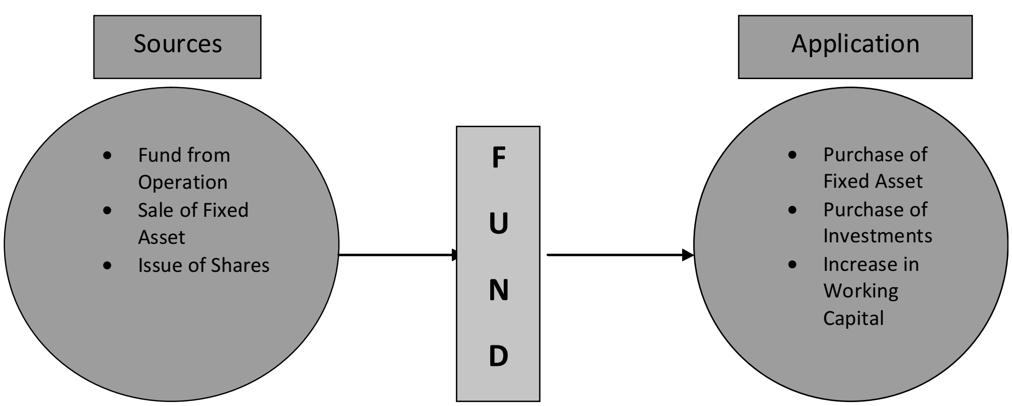

Chart 2: Sources and Application of Fund

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Exhibit 1.7 Format of Fund Flow statement

Sources	**Rs.**	**Application**	**Rs.**
Funds from operation	XX	Loss from operations	XX
Decrease in Working Capital	XX	Increase in Working Capital	XX
Sale of Fixed Assets	XX	Purchase of Fixed Assets	XX
Sale of Investment	XX	Purchase of Investment	XX
Issue of Shares/ Debentures	XX	Redemption of Shares/Debentures	XX
Non operating income	XX	Non operating Expenses	XX
Loan Taken	XX	Dividend Paid	XX
Loan Repayment	XX		
Total	XX	Total	XX

Illustration 4

Prepare Fund flow statement

Balance Sheet of Suzlon Energy

	Mar ‘08 12 mths	Mar ‘09 12 mths
Sources Of Funds		
Total Share Capital	299	300
Equity Share Capital	299	395
Reserves	6648	6686
Net worth	6948	6581
Secured Loans	672	3506
Unsecured Loans	2412	3323
Total Debt	3085	6829
Total Liabilities	10031	13910
Application Of Funds		
Gross Block	778	916
Less: Accum. Depreciation	267	364
Net Block	511	552
Capital Work in Progress	135	287

Investments	4919	7128
Inventories	1483	1384
Sundry Debtors	3307	4745
Cash and Bank Balance	204	71
Total Current Assets	4994	6200
Loans and Advances	1383	3273
Fixed Deposits	672	141
Total CA, Loans & Advances	7048	9615
Current Liabilities	1947	3302
Provisions	636	369
Total CL & Provisions	2582	3671
Net Current Assets	4466	5944
Total Assets	10031	13910

NOTES

Solution 4:

Fund Flow Statement for the year ended 31 March 2009

Sources	Rs.	Application	Rs.
Funds from operation	135	Increase in Working Capital	1477
Issue of Shares/ Debentures	96	Purchase of Fixed Assets	138
Secured Loan Taken	2834	Expenditure on Capital Work in Progress	152
Unsecured Loan Taken	911	Purchase of Investment	2209
Total	3976	Total	3976

Workings:

Calculation of funds from operations

Retained Earnings [6686-6648]	38
Add: Depreciation [364-267]	97
	135

NOTES

Computation of increase/ decrease in working capital

Particular	Mar '08	Mar '09	Increase/ Decrease
Inventories	1483	1384	-99
Sundry Debtors	3307	4745	1438
Cash and Bank Balance	204	71	-133
Loans and Advances	1383	3273	1890
Fixed Deposits	672	141	-531
Current Liabilities	1947	3302	-1355
Provisions	636	369	267
Increase in Working Capital			1477

9.9 Analysis of Cash Flow Statement

In addition to the classification of cash flow in three different activities i.e. operating, investing and financing, cash flow statement can also be analyzed through following techniques.

9.9.1 Cash Realization Ratios

Cash realization ratio is calculated by taking cash generated from operations as a proportion of net income. The ratio shows the relationship between cash generation and earnings. The ratio is considered to signal quality of earnings and is sometimes called the quality of the earnings ratio. It should be used with caution since cash management tactics, such as a slowdown in paying account payables, can increase the numerator and the ratio.

Cash Realization Ratio = Cash generated by operation /Profit After Tax

9.9.2 Coverage Ratio

Coverage Ratios are those ratios which are used to test the adequacy of cash flows generated through earnings for purposes of meeting debt and lease obligations, including the interest coverage ratio and the fixed-charge coverage ratio.

A company's ability to pay interest due to its creditors is often measured using interest cover. However interest cover is calculated using accounting profits, which may not accurately reflect the actual amount of cash inflows a company, makes its interest payments out of.

Cash interest cover uses operating cash flow rather than EBIT, and net interest paid (interest paid minus interest received) as shown by the cash flow statement instead of interest payable. It is:

Cash interest cover = Operating cash flow ÷ Interest paid

Fixed-Charge Coverage Ratio

A measure of a company's ability to pay its fixed expenses, such as rent and interest, on debt without resorting to more debt. A ratio over 1 indicates that the company is able to pay its fixed charges, while a ratio below one indicates the opposite.

Fixed-charge coverage ratio = (EBIT + fixed charges before tax +depreciation) / (fixed charged before tax + interest)

NOTES

9.9.3 Sources and usage percentage

In this technique, all inflows and outflows are listed separately and then the sum of all the outflows and inflows is obtained. Considering total inflows and outflows to be 100, percentage is obtained for each inflows and outflows as shown below:

Exhibit 1.8 Calculation of Sources and usage percentage

Sources	Rs. ('1000s)	%	Application	Rs. ('1000s)	%
Funds from operation	150	60	increase in working capital	130	52
Sale of Fixed Assets	50	20	Purchase of Fixed Assets	100	40
Sale of Investment	10	4	Purchase of Investment	10	4
Issue of Shares/ Debentures	30	12	Redemption of Shares/Debentures	10	4
Loan Taken	10	4			
Total	250	100	Total	250	100

The above table shows that 60% of the inflow is from Funds from operations, 20% from sale of assets, 12% from issue of shares/debentures and 4% each from sale of investment and borrowings.

Similarly in the case of outflow 52% is due to increase in working capital, 40% is due to purchase of fixed assets and 4% each due to purchase of investment and redemption of shares/debentures.

9.10 Preparation of Cash Flow Statement

Unlike the Balance Sheet and Income Statement, which are prepared directly from the firm's accounts, the cash flow statement is derived analytically from those accounts. This statement explains the changes in the cash and cash equivalents accounts between the beginning and ending the Balance Sheets of the period. Since it is impractical to analyze every transaction recorded in those accounts, we analyze the changes in all other assets accounts, as well as liabilities and owners' equity, to determine their effect during all the period. Therefore, a logical way to prepare cash flow statement is to identify and analyze the causes of the differences between account amounts in the beginning and ending the Balance Sheets. The process is explained in following steps through illustration 5.

NOTES

Illustration 5

Form the following information, prepare cash flow statement

Balance sheet		(Rs crore)
	Mar ' 09	Mar ' 10
Sources of funds		
Owner's fund		
Equity share capital	728	731
Reserves & surplus	13368	21097
Borrowed Funds		
Secured loans	3759	3521
Unsecured loans	5886	14501
Total 23741	39850	
Application of funds		
Fixed assets		
Gross block	16,029	16,480
Less : Accumulated depreciation	7,486	8,223
Net block	8,543	8,256
Capital work-in-progress	2,497	4,367
Investments	6,106	4,103
Working Capital		
Current assets, loans & advances		
Debtors 8,380	17,970	
Inventory	1,715	9,020
Cash and Bank Balance	4,780	5,890
Less : Current liabilities & provisions		
Creditors	7,756	7,167
Outstanding Expenses	524	2,589
Total net current assets	6,595	23,124
Total 23,741	39,850	

Other Information		(Rs crore)
Mar ‘ 09	Mar ‘ 10	
Interest Paid	251	929
Rent Paid	600	900
Salary Paid	1169	2087

NOTES

Solution to illustration 5

The above illustration is solved by explaining the procedure to prepare Cash Flow Statement.

Step 1: calculate changes in Beginning and Ending balances

In this step it is required to calculate difference between Ending (Mar 10) and Beginning (Mar 09) balance which is explained below:

Balance sheet			(Rs crore)
	Mar ‘ 09	Mar ‘ 10	Changes
Sources of funds			
Owner’s fund			
Equity share capital	728	731	3
Reserves & surplus	13368	21097	7729
Borrowed Funds			
Secured loans	3759	3522	-237
Unsecured loans	5886	14501	8615
Total 23741	39851		
Application of funds			
Fixed assets			
Gross block	16,029	16,480	451
Less : Accumulated depreciation	7,486	8,223	737
Net block	8,543	8,257	-286
Capital work-in-progress	2,497	4,367	1870
Investments	6,106	4,103	-2003
Working Capital			
Current assets, loans & advances			
Debtors 8,380	17,970	9590	
Inventory	1,715	9,020	7305
Cash and Bank Balance	4,780	5,890	1110

NOTES

Less : Current liabilities & provisions

Creditors	7,756	7,167	-589
Outstanding Expenses	524	2,589	2065
Total net current assets	6,595	23,124	16529
Total 23,741	39,851		

Other Information			(Rs crore)
Mar ‘ 09	Mar ‘ 10		
Interest Paid	251	929	678
Rent Paid	600	900	300
Salary Paid	1169	2087	918

Step 2: identify the concerned cash flow activities

After calculating changes it is needed to identify the nature of cash flow activities and whether it is an inflow or outflow as explained as under:

We may use:

F = Financing Activity

O= Operating Activity

I= Investing Activity

XXX= no activity only information

Balance sheet (RsCrore)

	Mar ‘09	Mar ‘10	Changes		
Sources of funds					
Owner’s fund					
Equity share capital	728	731	3	F	Inflow
Reserves & surplus	13368	21097	7729	O	
Borrowed Funds					
Secured loans	3759	3522	-237	F	Outflow
Unsecured loans	5886	14501	8615	F	Inflow
Total	23741	39851			
Application of funds					
Fixed assets					
Gross block	16,029	16,480	451	I	Outflow
Less : Accumulated depreciation	7,486	8,223	737	O	

Net block	8,543	8,257	-286	XXX	
Capital work-in-progress	2,497	4,367	1870	I	Outflow
Investments	6,106	4,103	-2003	I	Inflow
Working Capital					
Current assets, loans & advances					
Debtors	8,380	17,970	9590	O	
Inventory	1,715	9,020	7305	O	
Cash and Bank Balance	4,780	5,890	1110		
Less : Current liabilities & provisions				XXX	
Creditors	7,756	7,167	-589	O	
Outstanding Expenses	524	2,589	2065	O	
Total net current assets	6,595	23,124	16529	XXX	
Total	23,741	39,850			

NOTES

Other Information (Rs crore)

	Mar '09	Mar '10		
Interest Paid	251	929	F - O	Outflow
Rent Paid	600	900	XXX	
Salary Paid	1169	2087	XXX	

Step 3: Cash flow statement preparation

Cash Flow statement for year ended 31 March 2010

Cash Flows from Operating Activities	Rs.	Rs.
Increase in Reserve	7729	
Add Depreciation	737	
Add Interest Paid	929	
Funds From Operations	9,395	
Adj. for Working capital items		
Less: Increase in Debtors	(9590)	
Less: Increase in Inventory	(7305)	
Less: Decrease in Creditors	(589)	
Add: Increase in Outstanding Exp	2065	
	(15419)	

NOTES

Net Cash Flows from Operating Activities	(6,024)	
Cash Flows from Investing Activities		
Fixed Assets Purchased	(451)	
Capital Work in Progress	(1,870)	
(FA under construction)		
Investments	2,003	(318)
Cash Flows from Financing Activities		
Equity share capital Issued	3	
Secured Loans Repaid	(237)	
Unsecured Loans Taken	8,615	
Interest Paid	(929)	
	7,452	
Net Increase in cash		1,110
Cash and Cash Equivalents at the Beginning		4,780
Cash and Cash Equivalents at the End		5890

Illustration 6

From the following information prepare Cash flow statement of Raman Enterprise Ltd. for year ended 31 March 2010.

Balance Sheet of Raman Enterprise Ltd.

Liabilities	08-09	09-10	Assets	08-09	09-10
Equity Share Capital	200000	200000	Fixed Assets	600000	500000
15% Preference Shares	100000	100000	Cash in hand	15000	5000
Profit and Loss A/c	239800	170000	Bank Balance	5800	9050
General Reserve	25000	50000	Closing Stock	70000	80750
Bank Loan	50000	20000	Bills Receivables	58000	43000
Creditors	39000	22800	Short Term Investments	30000	15000
Proposed Dividend	150000	100000	Goodwill	25000	10000
803800	662800		803800	662800	

Additional information:

- ★ On first day of the accounting year Fixed assets sold at Rs. 150000 having WDV 200000. Depreciation charged during year is Rs. 75000.
- ★ Preference dividend is paid on 31.3.2010.

NOTES

Solution 6

Cash Flow Statement of Raman Enterprise Ltd. for year ending 31 March 2010

Particulars	**Rs.**	**Rs.**
Cash flow from operating Activities		
Difference in Profit and Loss Account	(69,800)	
Proposed Equity Dividend	100,000	
Preference Dividend	15,000	
Transfer to General Reserve	25,000	
Net profit as per Profit And Loss A/c	70,200	
Depreciation	75,000	
Loss on sale of Fixed Assets	50,000	
Goodwill written off	15,000	
	210,200	
Changes in Working Capital		
Decrease in Bills Receivables	15,000	
Increase in Closing Stock	(10,750)	
Decrease in Creditors	(16,200)	
	(11,950)	
Net Cash flow from Operating Activities		198,250
Cash flow from Investment Activities		
Purchases of Fixed Assets	(175,000)	
Sale of Fixed Assets	150,000	
Net Cash flow from Investment Activities		(25,000)
Cash flow from Financial Activities		
Repayment of Bank Loan	(30,000)	
Equity dividend of 2008-09	(150,000)	
Preference dividend of 2009-10	(15,000)	
Net Cash flow from Financial Activities	(195,000)	

NOTES

Net Decrease in Cash		(21,750)
Cash balance at the beginning of month		50,800
Cash balance at the end of month		29,050

Cash and Cash equivalents	Opening Balance	Closing Balance
Cash 15000	5000	
Bank 5800	9050	
Short Term Investments	30000	15000
	50800	29050

Workings

Fixed Asset A/c

Particulars	Rs.	Particulars	Rs.
Balance B/d	600000	Bank A/c (Sale value)	150000
Purchase of Fixed Assets *	175000	Loss on sale of Fixed Assets	50000
Depreciation	75000		
Balance C/d	500000		
	775000		775000

9.11 Solved Illustration

Illustration 7

Calculate cash from operations from the following figures:

Particulars	2009 Rs.	2010 Rs.
Profit and Loss A/C (Balance)	60000	65000
Debtors 87000	50000	
Bills Receivables	62000	103000
General reserves	202000	237000
Salary outstanding	30000	12000
Wages prepaid	5000	7000
Machinery	80000	75000
Goodwill	80000	70000

1. Mach has been depreciated and G/W has been w/Off during the year.
2. Dividend received on shares held as investments Rs.25500.

Solution:

NOTES

Particulars	2009	2010	
	Rs	Rs	Change
Profit and Loss A/C (Balance)	60,000	65,000	5,000
Debtors 87,000	50,000	-37,000	
Bills Receivables	62,000	103000	41,000
General Reserves	202000	237000	35,000
Salary Outstanding	30,000	12,000	-18,000
Wages Prepaid	5,000	7,000	2,000
Machinery	80,000	75,000	-5,000
Goodwill	80,000	70,000	-10,000
P & L A/c	65,000		
Add: Dep.	5,000		
Goodwill W/off	10,000		
Transfer to reserve	35,000		
Less: Dividend on investment	-25,500		
	89,500		
Changes in Working Capital			
Add			
Decrease in Debtors	37000		
less			
Increase in B/R	41000		
Decrease in Sal. Out.	18000		
Increase in Prepaid Wages	2000		
Cash from Operations	65,500		

NOTES

Illustration 8

Calculate cash from investing activities from the following figures:

Assets	Purchased Rs.	Sold	Sold	Sold
		Cost	WDV	Sale proceeds
Equipments	770000	150000	96800	87500
Investments	315000	115250		175000
Goodwill	350000			
Patents	175000			

Other information :

1. Interest received on debentures held as investment Rs.10500
2. Dividend received on shares held as investments Rs.17500.
3. Interest paid Rs.12500
4. Dividend paid on shares Rs.14500

Solution :

Cash flow from Investment Activities	Rs.
Purchases of Equipment	-770000.00
Sale of Equipment	87500.00
Sale of Investments	175000.00
Purchase of Investments	-315000.00
Purchase of Goodwill	-350000.00
Sale of Patents	-175000.00
interest and Dividend	28000.00
	-1319500.00

Illustration 9

From the following information calculate cash from financing activities:

Balance Sheet (Extract)

Liabilities	2011 Rs.	2012 Rs.	Assets	2011 Rs.	2012 Rs.
Equity Share Capital	1200000	1600000	Discount on issue of debentures	10000	12000
11% Preference share capital	800000	400000	Underwriting commission on issue of		20000
Securities Premium	200000	260000			
12 % Debentures	400000	600000			

NOTES

Other information:

1. Interest received on debentures held as investment Rs.50500
2. Dividend received on shares held as investments Rs.34500.
3. Debentures are issued on 31.12.2012
4. Dividend paid on shares Rs. 184500

Solution:

Cash Flow from Financing Activity

Issue of Shares

Equity shares	400000	
Premium	60000	
Less: Underwriting Commission	-20000	
		440000
Issue of Debentures		
12 % Debentures	200000	
Discount on Issue of Debentures	-2000	
		198000
Redemption of Preference Shares		-400000
Dividend paid		-184500
Interest paid		-48000
Cash Outflow		-48000

Illustration 10

ABC and Associates is the partnership firm. Following is the last two years financial statements of the firm.

Particulars	Year 2011	Year 2012
Liabilities		
Capital Accounts		
A 25,000	25,000	
B 25,000	25,000	
C 10,000	25,000	
Loan from State Bank of India	50,000	40,000
Bills Payable	10,000	33,000
	120,000	148,000

Assets

NOTES

Fixed Assets	50,000	40,000
Land	20,000	25,000
Debtors	38,000	10,000
Inventory	10,000	70,000
Bank	2,000	3,000
	120,000	148,000

Profit and Loss A/c for year ended 31.3.2012

Particulars	Rs.	Rs.
Sale	255,000	
Opening Stock	10,000	
Purchases	200,000	
Closing stock	(70,000)	
Wages	20,000	
Direct Expenses	10,000	170,000
Gross Profit		85,000
Depreciation	10,000	
Office Expenses	20,000	
Bad Debts	50,000	
Interest Paid	5,000	
	85,000	
Net Profit		-

Solution:

Cash flow statement of ABC and Associates for year ending 31 March 2010

Particulars	Rs.	Rs.
Cash flow from operating Activities		
Net Profit	-	
Depreciation	10000.00	
Interest Paid	5000.00	15000.00
Changes in Working Capital		
Decrease in Debtors	28000.00	
Increase in Inventory	(60000.00)	
Increase in Bills payable	23000.00	(9000.00)

Net Cash flow from Operating Activities		6000.00
Cash flow from Investment Activities		
Purchases of Land	(5000.00)	
Net Cash flow from Investment Activities		(5000.00)
Cash flow from Financial Activities		
Repayment of Bank Loan	(10000.00)	
Interest payment	(5000.00)	
C capital	15000.00	
Net Cash flow from Financial Activities		-
Net Increase in Cash		1000.00
Cash balance at the beginning of month		2000.00
Cash balance at the end of month		3000.00

NOTES

Illustration 11

Prepare cash flow statement for Naman Ltd.

Balance Sheet

Liabilities	2010-11	2011-12	Assets	2010-11	2011-12
Equity Share capital	300000	400000	Machinery	400000	375000
Debenture	100000	40000	Land	200000	250000
Profit and Loss A/c	200000	225000	Cash	5000	8000
Bank Loan	90000	65000	Debtors	85000	87000
Creditors	10000	15000	Closing Stock	10000	25000
	700000	745000		700000	745000

Profit and Loss A/c

Particulars	2011-12	Particulars	2011-12
Cost of Goods Sold	75000	Sales	200000
Depreciation	25000	Interest Received	50000
General Expenses	15000	Dividend Income	35000
Debenture Interest	7000		
Income Tax	38000		
Interim Equity Dividend	100000		
Net Profit	25000		
	285000		285000

NOTES

Solution:

Cash flow statement of Naman Ltd. for year ending 31 March 2010

Particulars	Rs.	Rs.
Cash flow from operating Activities		
Retained Profit	25000.00	
Interim Equity Dividend	100000.00	
Net Profit as per Profit and Loss A/c	125000.00	
Depreciation	25000.00	
Debenture Interest	7000.00	
Income Tax	38000.00	
Interest Received	(50000.00)	
Dividend Income	(35000.00)	110000.00
Changes in Working Capital		
Increase in Debtors	(2000.00)	
Increase in Inventory	(15000.00)	
Increase in Creditors	5000.00	(12000.00)
Tax Paid		(38000.00)
Net Cash flow from Operating Activities		60000.00
Cash flow from Investment Activities		
Interest Received	50000.00	
Dividend Income	35000.00	
Purchases of Land	(50000.00)	
Net Cash flow from Investment Activities		35000.00
Cash flow from Financial Activities		
Repayment of Bank Loan	(25000.00)	
Interest payment	(7000.00)	
Redemption of Debenture	(60000.00)	
Interim Equity Dividend	(100000.00)	
Issue of Equity Share Capital	100000.00	
Net Cash flow from Financial Activities		(92000.00)
Net Increase in Cash		3000.00
Cash balance at the beginning of month		5000.00
Cash balance at the end of month		8000.00

Illustration 12

From the following information, prepare a Cash Flow Statement.

		(Rs.'000)
Assets	2012	2011
Cash on Hand and balances with Bank	400	50
Marketable Securities (having one month maturity)	1340	270
Sundry Debtors	3400	2400
Interest Receivable	200	-
Inventories	1800	3900
Investments	5000	5000
Fixed Assets at cost	4360	3820
Accumulated Depreciation	(2900)	(2120)
Fixed Assets (net)	1460	1700
Total Assets	13600	13320
Liabilities		
Sundry Creditors	300	3780
Interest Payable	460	200
Income Tax Payable	800	2,000
Long-term Debt	2220	2,080
Total liabilities	3780	8,060
Shareholders' Fund		
Share Capital	3000	2500
Reserves	6820	2760
Total shareholders' Fund	9820	5260
Total Liabilities and Shareholders' Fund	13600	13320

NOTES

Statement of Profit or Loss for the year ended March 31, 2012

	(Rs.'000)
Sales	61300
Cost of sales	(52,000)
Gross profit	9300
Depreciation	(900)
Administrative and selling expenses	(1820)
Interest expense	(800)
Interest income	600
Dividend income	400
Net profit before taxation and extraordinary items	6780

NOTES

Extraordinary items:

Insurance proceeds from earthquake disaster settlement	280
Net profit after Extraordinary Items	7060
Income tax	(600)
Net Profit	6460

Additional Information: (Rs.'000)

a. An amount of Rs. 500 was raised from the issue of share capital and a further Rs. 500 was raised from long-term borrowings.

b. Interest expense was Rs. 800 of which Rs. 340 was paid during the period. Rs. 200 relating to interest expense of the prior period was also paid during the period.

c. Dividends paid were Rs. 2400.

d. Tax deducted at source on dividends received (included in the tax expense of Rs. 600 for the year) amounted to Rs. 80.

e. During the period, the enterprise acquired Fixed Assets for Rs. 700. The payment was made in cash.

f. Plant with original cost of Rs. 160 and accumulated depreciation of Rs. 120 was sold for Rs. 40.

g. Sundry Debtors and Sundry Creditors include amounts relating to credit sales and credit purchases only.

Solution:

Cash flow Statement of for year ending 31 March 2012		Rs.
Cash Flows from Operating Activities		
Net Profit before Taxation and Extraordinary Item		6780
Adjustments for:		
Depreciation		900
Interest Income		-600
Dividend Income		-400
Interest Expense		800
Operating Profit before working capital charges		7480
Increase in Sundry Debtors		-1000
Decrease in Inventories		2100
Decrease in Sundry Creditors		-3480
Cash generated from Operations		5100
Income Tax paid		-1720
Cash flow before Extraordinary Items		3380

Proceeds from earthquake disaster settlement		280
Net cash from Operating Activities	A	3660
Cash Flows from Investing Activities		
Purchase of Fixed Assets		-700
Proceeds from Sale of Equipment		40
Interest Received		400
Dividends Received (net of TDS)		320
Net cash from Investing Activities	B	60
Cash flows from Financing Activities		
Proceeds from issuance of Share Capital		500
Proceeds from Long-term Borrowings		500
Repayment of Long-term Borrowings		-360
Interest Paid		-540
Dividends Paid		-2400
Net Cash used in Financing Activities	C	-2300
Net Increase in Cash and Cash Equivalents		1420
Cash and Cash Equivalents at the beginning of the period		320
Cash and Cash Equivalents at the end of the period		1740

NOTES

9.12 Summary

- ★ The purpose of a statement of cash flows is to provide information about the cash receipts and cash payments of the entity, and how they relate to the entity's operating, investing, and financing activities. Readers of financial statements use this information to assess the solvency of a business and to evaluate its ability to generate positive cash flows in future periods, pay dividends, and finance growth.
- ★ Cash flows are classified as (1) operating activities, (2) investing activities, or (3) financing activities. Receipts and payments of interest are classified as operating activities.
- ★ The major operating cash flows are (1) cash received from customers, (2) cash paid to suppliers and employees, (3) interest and dividends received, (4) interest paid, and (5) income taxes paid. These cash flows are computed by converting the income statement amounts for revenue, cost of goods sold, and expenses from the accrual basis to the cash basis. This is done by adjusting the income statement amounts for changes occurring over the period in related balance sheet accounts.

NOTES

- The direct and indirect methods are alternative formats for reporting net cash flows from operating activities. The direct method shows the specific cash inflows and outflows comprising the operating activities of the business. Under the indirect method, the computation begins with accrual-based net income and then shows adjustments necessary to arrive at net cash flows from operating activities. Both methods result in the same amount of net cash flows from operating activities.
- Cash flows from investing and financing activities are determined by examining the entries in the related asset and liability accounts, along with any related gains or losses shown in the income statement. Debit entries in asset accounts represent purchases of assets (an investing activity). Credit entries in asset accounts represent the cost of assets sold. The amount of these credit entries must be adjusted by any gains or losses recognized on these sales transactions.
- Debit entries to liability accounts represent repayment of debt, while credit entries represent borrowing. Both types of transactions are classified as financing activities. Other financing activities include the issue of shares (indicated by credits to the paid-in capital accounts) and payment of dividends (indicated by a debit change in the Retained Earnings account).

9.13 Key Terms

- Cash flow statement: It is a financial report that describes the sources of cash and how it was spent over a specified time period. Cash flow statement, also known as statement of cash flows is a financial statement that shows how changes in balance sheet and income affect cash flows.
- Operating Activities: Cash flows from operating activities are cash flows derived from the principal revenue-producing activities of the enterprise. Therefore, they generally result from the transactions and other events that enter into the determination of net profit or loss. Operating activities include the production, sales and delivery of the product, collecting payment from customers, purchasing raw materials, advertising and other day-to-day expenses.
- Investing Activities: Cash inflows from investing activities normally arise from selling fixed assets, investments and intangible assets. Cash outflows normally include payments to acquire fixed assets and investments.Investing activities are the activities related to acquisition and disposal of long-term assets and investments. However, purchase or sale of investment included in cash equivalent is not considered as investing activity.
- Financing Activities: Financing activities are the activities which affect the long-term funds used by the entity like capital and debt. Cash inflows from financing activities include proceeds of shares or debentures issue. Cash outflows from financing activities include payments for buyback of shares, repayment of loans, redemption of debentures and payment of interest and cash dividend.

9.14 Questions and Exercises

NOTES

9.14.1 Multiple Choices Questions

Select the best alternative for the given statement.

1. In the statement of cash flows an "increase (decrease) in cash and cash equivalents" appears as
   a) cash flow from investing activities
   b) cash flow from financing activities
   c) cash flow from operating activities
   d) none of the above
2. Uses of funds include a (an):
   a) Decrease in cash.
   b) Increase in any liability.
   c) Tax refund.
   d) Increase in fixed assets.
3. Which of the following is NOT a cash outflow for the firm?
   a) Depreciation
   b) Dividends.
   c) Interest payments.
   d) Taxes.
4. For a profitable firm, total sources of funds will always   total uses of funds.
   a) be equal to
   b) be greater than
   c) be less than
   d) have no consistent relationship to
5. If the following are balance sheet changes:

   Rs.5,005 decrease in accounts receivable

   Rs.7,000 decrease in cash

   Rs.12,012 decrease in outstanding expenses

   Rs.10,001 increase in accounts payable

   out flow would be due to:
   a. Rs.7, 000 decrease in cash.
   b. Rs.5, 005 decrease in accounts receivable.
   c. Rs.10, 001 increase in accounts payable.
   d. Rs.12, 012 decrease in outstanding expenses.
6. An example of a cash flow from an operating activity is:
   a) a) Receipt of cash from the sale of shares
   b) b) Receipt of cash from the sale of bonds
   c) Payment of cash for dividends
   d) Receipt of cash from customers on account
7. An example of a cash flow from an investing activity is:

a) Receipt of cash from the sale of equipment

b) Receipt of cash from the sale of stock

c) Payment of cash for dividends

d) Payment of cash to acquire treasury stock

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8. An example of a cash flow from a financing activity is:

a) Receipt of cash from customers on account

b) Receipt of cash from the sale of equipment

c) Payment of cash for dividends

d) Payment of cash to acquire land9. The acquisition and disposal of long term assets and investments is: a) Investing Activity b) Operating Activity c) Financing Activity

10. Acquiring and selling of a subsidiary is:

a) Investing Activity

b) Operating Activity

c) Financing Activity

11. The activity resulting in changes in the size and composition of the owner's capital and borrowing of the enterprise

a) Investing Activity

b) Operating Activity

c) Financing Activity

12. Redemption of debentures by converting them into equity shares of Rs. 40000 will result into

a) Cash inflow

b) Cash outflow

c) None of the above

13. If the net profits earned during the year is Rs. 50,000 and the amount of debtors in the beginning and the end of the year is Rs. 10,000 and Rs. 20,000 respectively, then the cash from operating activities will be equal to Rs. ______________

a) Rs.50000

b) Rs.40000

c) Rs.60000

d) Rs.80000

14. If the net profits made during the year are Rs. 50,000 and the bills receivables have decreased by Rs. 10,000 during the year then the cash flow from operating activities will be equal to Rs.__________

a) Rs.50000

b) Rs.40000

c) Rs.60000

d) Rs.80000

9.14.2 Theory Questions

1. What is Cash Flow Statement? Explain its importance.
2. Define cash and cash equivalents. Give some examples.

3. Explain cash from operating activities with suitable examples.
4. Distinguish between cash from investing and financing activities.
5. Explain the concept of Free Cash Flow statement.
6. Distinguish between Cash Flow Statement and Fund Flow Statement.
7. What are Non-cash items?

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9.14.3 Practical Problems

Exercise 1

Ashish Ltd. made a profit of Rs.2,00,000 after charging depreciation of Rs.40,000 on assets and a transfer to general reserve of Rs.60,000. The goodwill written-off was Rs.14,000 and gain on sale of machinery was Rs.6,000. Other information available to you (charges in the value of current assets and current liabilities) are debtors showed an increase of Rs,12,000; creditors an increase of Rs.20,000; prepaid expenses an increase of Rs.400; bills receivables a decrease of Rs.6,000; bills payables a decrease of Rs.8,000 and outstanding expenses a decrease of Rs. 4,000. Ascertain cash flow from operating activities.

Exercise 2

Bharat Ltd. has given you the following information:

	(Rs.)
Machinery as on April 01, 2012	25,000
Machinery as on March 31, 2013	30,000
Accumulated Depreciation on April 01, 2012	7,500
Accumulated Depreciation on March 31, 2013	12,500

During the year, a Machine costing Rs. 12,500 with Accumulated Depreciation of Rs. 7,500 was sold for Rs. 6,500.

Calculate cash flow from Investing Activities on the basis of the above information.

Exercise 3

From the following information calculate cash flow from investing activity.

Particulars	Purchase (Rs.)	Sales (Rs.)
Plant 8,80,000	1,00,000	
Investments	3,60,000	2,00,000
Goodwill	4,00,000	-
Patents -	2,00,000	

Interest received on shares and debentures held as investment is Rs. 20,000 and Rs.1,20,000 respectively. A plot of land has been purchased for investment purpose has been let out for commercial use and rent received Rs.60,000.

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Exercise 4

From the following information, prepare Cash Flow Statement for Digvijay Ltd.

Liabilities	2011-12	2012-13	Assets	2011-12	2012-13
Equity Share capital	1000000	1400000	Patents	200000	190000
Profit and Loss A/c	400000	700000	Equipments	400000	460000
Bank Loan	200000	100000	Furniture	600000	540000
proposed dividend	100000	140000	investments		200000
provision for tax	60000	100000	Debtors	160000	240000
Creditors	100000	90000	Stock	100000	260000
outstanding rent	10000	14000	cash	10000	54000
			bank	400000	600000
	1870000	2544000		1870000	2544000

During the year, equipment costing Rs.1, 60,000 was purchased. Loss on sale of equipment amounted to Rs.10, 000. Depreciation of Rs.30, 000 and Rs.6, 000 was provided for equipments and furniture. respectively.

Exercise 5

Rukmini, the CEO of Kausalya Ltd. was finding cash management to be a tough job as the company was having a cash crunch in spite of net profit of Rs. 20 crore. So she decided to request an accountant to prepare detailed cash flow statement.

Following information is available (In Lakhs)

Particulars	2010-11	2011-12
Sundry Creditors	300	200
Outstanding salaries	50	30
Closing Stock	50	180
Prepaid Expenses	30	20
Debtors 200	350	

During year following transactions took place:

1. Bank account was overdrawn by Rs. 50 Lakhs at the beginning of year.
2. The bank loan of Rs. 600 Lakhs was repaid.
3. The annual depreciation on Machinery is Rs. 10 Lakhs.
4. Sale of investments of Rs. 250 Lakhs costing Rs. 150 Lakhs.
5. The purchases of Fixed Assets of Rs. 1500 Lakhs.
6. Payment of cash dividends of Rs. 150 Lakhs.
7. Interest paid to debenture holders Rs. 500 Lakhs.

9.14.4 Business Cases

Case Study 1 (Apollo Tyres Ltd.)

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Apollo Tyres Ltd is a high-performance company and the leading Indian tyre manufacturer. Head quartered in Gurgaon, a corporate-hub in the National Capital Region of India, Apollo is a young, ambitious and dynamic organisation, which takes pride in its unique identity. Registered as a company in 1976, Apollo is built around the core principles of creating stakeholder value through reliability in its products and dependability in its relationships.

Apollo's present strength and market dynamism steps from its early years of strife in establishing itself as a tyre manufacturer within the closed Indian economy. Over two decades, Apollo worked on a portfolio of products, tuned to customer needs and an array of innovative marketing initiatives to establish itself as a leader in its home market. Some of these include segmenting customers by their load and mileage requirements, running tyre loyalty programmes, establishing customer contact programmes which resulted in better health and driving habits, introducing India's first farm radials and India's first range of high-speed tubeless passenger car tyres.

For the first time, in 2006 Apollo ventured outside India in its quest to test itself outside its home comforts. Apollo acquired Dunlop Tyres International Pvt. Ltd. in South Africa (since renamed as Apollo Tyres South Africa Pty Ltd) and Zimbabwe, taking on southern Africa as the second domestic market. The company holds brand rights for the Dunlop brand across 30 African countries.

In 2009, Apollo acquired Vredestein Banden B V in the Netherlands, and thereby adding Europe as its third crucial market.

The company currently produces the entire range of automotive tyres for ultra and high speed passenger cars, truck and bus, farm, Off-The-Road, industrial and specialty applications like mining, retreaded tyres and retreading material. These are produced across Apollo's eight manufacturing locations in India, Netherlands and Southern Africa. A ninth facility is currently under construction in southern India, and is expected to commence production towards the end of 2009. The major brands produced across these locations are: Apollo, Dunlop, Kaizen, Maloya, Regal and Vredestein.

In the three domestic markets of India, Southern Africa and Europe, Apollo operates through a network of branded, exclusive or multi-product outlets. In South Africa the branded outlets are called Dunlop Zones, while in India they are variously named Apollo Tyre World (for commercial vehicles) and Apollo Radial World (for passenger cars). Exports out of these three key manufacturing locations reach over 70 destinations across the world, with key comprising Europe, Africa, the Middle East and South-East Asia. The Company manufactures automobile tires and tubes, camel back/retreading materials and rubber conveyor belts. The financial growth of company has been excellent.

The management of company is discussing the possibility of expansion. Some of the directors are suggesting financing through internal accruals whereas some are advising to go for external financing.

As a CFO you are assigned the job of explaining the Board of cash movement during the financial year.

From the following information prepare cash flow statement for year ended 31.03.2010.

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Balance Sheet of Apollo Tyres Ltd. Rs. Cr.

	Mar '09	Mar '10
Sources Of Funds		
Equity Share Capital	49	50
Reserves	1181	1302
Revaluation Reserves	3	3
Secured Loans	223	462
Unsecured Loans	238	233
Total	1694	2050
Application Of Funds		
Gross Block	1,570	1,838
Less: Accumulated Depreciation	599	695
Net Block	971	1,143
Capital Work in Progress	94	281
Investments	303	297
Inventories	513	417
Sundry Debtors	155	87
Cash and Bank Balance	156	176
Loans and Advances	539	591
Fixed Deposits	110	165
Total CA, Loans & Advances	1,473	1,436
Current Liabilities	718	627
Provisions	429	480
Total CL & Provisions	1,147	1,107
Net Current Assets	326	329
Total Assets	1,694	2,050
other information		

Net Sales	3,706	4,091
Employee Cost	227	208
Equity Dividend	25	25

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9.15 Further Reading and References

- ★ Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education
- ★ "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi

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UNIT 10 FINANCIAL STATEMENT ANALYSIS

Structure

10.0 Introduction

Financial statement analysis refers to detailed study of financial statements. Financial statement analysis may be defined as the process of identifying financial strengths and weaknesses of the firm by establishing relationship between the items of financial statements. Financial statements include:

- ★ Balance sheet
- ★ Income statement
- ★ Cash flow statement

The objective of financial statements is to provide data about the financial position, performance and cash flows of an enterprise. Financial statement analysis uses this data to generate information about relative performance and its trends.

10.1 Unit Objectives

The chapter intends to:

- ★ Understand Financial Statement Analysis (FSA) and its techniques

- ★ Conduct horizontal FSA
- ★ Conduct vertical FSA
- ★ Learn calculating ratios
- ★ Analyze stock and debtors
- ★ Know working capital management
- ★ Discuss about relation between stock prices and financial data

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10.2 Techniques for Financial Statement Analysis

Financial statements are prepared for disclosure of financial data. They provide vital information to a variety of stakeholders. However, the information provided by the financial statements cannot be used to draw meaningful conclusions unless it has been properly analyzed and interpreted. Analysis of financial statements can be carried out by using various techniques. These techniques are to be used concurrently, and are not substitute of each other.

★ **Horizontal analysis : Comparative statement and Trend statement**

Comparison of two or more year's financial data of same entity is known as horizontal analysis. It is conducted by preparing comparative statement or trend statement.

Comparative statement compares financial data for different periods of time. The comparative statement is usually prepared to compare the figures in income statement or balance sheet of the current year with the corresponding figures of previous year. In comparative statements changes are shown in absolute and percentage terms.

Trend statements are prepared to analyze long term movement in financial figures. In trend statements initial year is taken as base (100) and percentage is calculated for the following years. It enables an analysis of performance of same company for many years.

★ **Vertical analysis: Common size statement**

It is useful in comparing the performance and financial position of two or more companies. Comparison of companies in the same industry makes more sense. Since different companies are of different size, absolute figures cannot be compared. Comparison is possible by preparing common size statement. It is carried out to study changes in asset-liability mix in case of balance sheet and proportion of different expenses with respect to sales in case of income statement.

★ **Ratio analysis**

It is necessary to analyze financial statements, for the purpose of understanding the financial characteristics like, liquidity, profitability, solvency, turnover and cost. The most important technique of financial statement analysis is financial ratios. Ratio is relationship between the items. Financial ratios are either expressed in number or in percentage.

If we are given profit figure of Company X 20 cr. and Company Y 60 cr. And

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asked which is more profitable company, our immediate answer is Company Y due to higher profit. But if we are also told that turnover of Company X is 200 cr. and that of Company Y is 1000 cr. Then we can use ratio to calculate percentage of profit as under:

	Company X	Company Y
Profit (in Rs. Cr.)	20	60
Sales (in Rs. Cr.)	200	1000
Profit Ratio (Profit/sales)	10%	6%

Now for the same question our answer is Company X since Profit ratio is higher.

Advantages

1. Absolute figures are useful but they do not convey much meaning. Ratio analysis relationship between related figures which make them meaningful.
2. Accounting ratios give a better understanding of the financial condition and performance of an organization.
3. Inter-company and intra company comparison of financial performance is possible with the help of ratio analysis.
4. Analyst can use financial ratios as a tool to identify financial position with respect to liquidity, solvency, efficiency etc.

Disadvantages

1. Ratios are calculated from financial statements and hence its accuracy depends upon financial statements. Therefore if data in financial statements is incorrect then ratios also will not give effective results.
2. Financial statements may be prepared by following different accounting policies. If different companies following different accounting policies are compared through ratios, it may not give appropriate conclusions.

Now we will illustrate various techniques using financial statements of TCS ltd. These are given in Exhibit 1.1.

Exhibit 1.1 TCS Ltd. Balance Sheet , 2008-09 to 2009-10

		Rs. Cr.
	Mar '09	**Mar '10**
Sources of Funds		
Equity Share Capital	98	196
Preference Share Capital	100	100
Total Share Capital	198	296
Reserves	13248	14821
Secured Loans	33	29
Unsecured Loans	8	6
Total	**13487**	**15152**

Application of Funds	Mar '09	Mar '10
Gross Block	4359	4871
Less: Accum. Depreciation	1690	2111
Net Block	2669	2761
Capital Work in Progress	685	941
Investments	5936	7893
Inventories	17	7
Sundry Debtors	3718	3332
Cash and Bank Balance	480	212
Total Current Assets	4215	3551
Loans and Advances	3911	4102
Fixed Deposits	1125	3184
Current Liabilities	3604	3353
Provisions	1450	3927
Total	**13487**	**15152**
Contingent Liabilities	2924	3293
Total Assets	18541	22432
Market Price per share	270	780
Book Value per share	136	77
Dividend Per Share	14	20

Profit & Loss Account Extract, 2008-09 to 2009-10

	Mar '09	**Mar '10**
Income		
Net Sales	22402	23044
Other Income	-456	182
Total Income	21946	23227
Expenditure		
Raw Materials	54	24
Power & Fuel Cost	164	184
Employee Cost	7370	7882
Other Manufacturing Expenses	6948	6447

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Check Your Progress
Explain different techniques to analyze financial statements

Selling and Admin Expenses	1218	1268
Miscellaneous Expenses	629	571
Total Expenses	16383	16376
Profit Before Interest and Tax (PBIT)	5563	6851
Interest	7	10
PBT	5556	6841
Tax	340	738
Profit After Tax (PAT)	5216	6103

10.3 Horizontal Analysis: Comparative and Trend Statements

Comparative statement compares financial data for different periods of time. Following steps are taken while preparing comparative statement.

Step 1: Arrange the given statement in proper format i.e. rearrange to show owners fund and borrowed funds on the liability side and Fixed assets, Investments and Working capital (Current assets minus Current liabilities) on the assets side. This is done for current year as well as previous year.

Step 2: Calculate increase/decrease in absolute term for each items.

Step 3: Calculate percentage increase/decrease for each item.

Illustration 1 Prepare Comparative balance sheet and income statement of TCS Ltd. using data from Exhibit 1.1 and offer your comments.

Solution 1

Comparative balance sheet of TCS ltd. 2008-09 to 2009-10

	Rs. Cr.	**Rs. Cr.**	**Rs. Cr.**	
Sources of Funds	**Mar '09**	**Mar '10**	**Change**	**% Change**
Total Share Capital	198	296	98	49%
Equity Share Capital	98	196	98	100%
Preference Share Capital	100	100	0	0%
Reserves	13248	14821	1573	12%
Net worth	13446	15117	1670	12%
Secured Loans	33	29	-3	-10%
Unsecured Loans	8	6	-1	-16%
Total Debt	41	35	-6	-15%
Total Liabilities	13487	15152	1666	12%

Application of Funds	Mar '09	Mar '10		
Gross Block	4359	4871	512	12%
Less: Accumulated Depreciation	1690	2111	421	25%
Net Block	2669	2761	91	3%
Capital Work in Progress	685	941	256	37%
Investments	5936	7893	1957	33%
Inventories	17	7	-10	-60%
Sundry Debtors	3718	3332	-385	-10%
Cash and Bank Balance	480	212	-268	-56%
Total Current Assets	4215	3551	-663	-16%
Loans and Advances	3911	4102	191	5%
Fixed Deposits	1125	3184	2059	183%
Total CA, Loans & Advances	9251	10837	1586	17%
Current Liabilities	3604	3353	-251	-7%
Provisions	1450	3927	2476	171%
Total CL & Provisions	5054	7279	2225	44%
Net Current Assets	4196	3558	-639	-15%
Total Assets	13487	15152	1666	12%
contingent liabilities	2,924.33	3,292.50	368	13%

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Comments

1. The company is having an healthy growth in their assets and liabilities by 12%
2. There has been an issue of shares which has resulted in doubling of equity share capital. The increase has probably happened due to issue of bonus shares.
3. There is decrease of cash balance (-56%) and significant increase of fixed deposits (183%).
4. Provisions have increased substantially (171%).
5. Fixed deposits increases substantially (183%), and cash/bank by 56%, which implies that surplus cash is invested for short term.

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Comparative Income Statement for TCS Ltd.

Profit & Loss Account Extract	**Rs. Cr.**	**Rs. Cr.**	**Rs. Cr.**	
	Mar '09	**Mar '10**	**Change**	**% Change**
Incomes				
Net Sales	22402	23044	643	3%
Other Income	-456	182	638	-140%
Total Income	21946	23227	1281	6%
Expenditures				
Raw Materials	54	24	-30	-56%
Power & Fuel Cost	164	184	19	12%
Employee Cost	7370	7882	512	7%
Other Manufacturing Expenses	6948	6447	-501	-7%
Selling and Admin Expenses	1218	1268	50	4%
Miscellaneous Expenses	629	571	-58	-9%
Total Expenses	16383	16376	-7	0%
PBIT 6021	6667	646	11%	
Interest 7	10	2	28%	
PBT 5037	6356	1320	26%	
Tax 340 738	398	117%		
PAT 4696	5619	922	20%	

Comments

1. The growth in sales seems to have stagnated (3%).
2. Other income was -456, has now become +182. The change has lead to increase profit by 638. However this increase may not be recurring.
3. Income tax expense has increased considerably (117%).
4. PAT shows healthy growth (20%).

Trend statement is prepared for several years. While preparing trend statement earlier year is considered as Base year and all the items in the base year is considered as 100. For all the other year percentage are considered with respect to the base year.

Illustration 2 Prepare trend statement of Reliance Industries Ltd. using their income statement for last 5 years provided in exhibit 1.2 as under.

Exhibit 1.2 Reliance Industries Ltd. Income Statements 2006-07 to 2009-10

	Mar '06	Mar '07	Mar '08	Mar '09	Mar '10
Income					
Total Turnover	83556	112591	138534	143651	199128
Expenditure					
Raw Materials	59739	80792	98832	109284	153689
Power & Fuel Cost	1146	2262	2053	3356	2707
Employee Cost	978	2094	2119	2398	2331
Other Manufacturing Expenses	668	1112	715	1163	2154
Selling and Admin Expenses	5872	5478	5549	4737	5756
Miscellaneous Expenses/ Adjustments	146	210	237	-2703	-566
Total Cash Expenses	68550	91948	109506	118234	166071
PBDIT	15006	20643	29028	25416	33057
Interest	894	1299	1163	1774	2000
PBDT	14112	19344	27865	23642	31057
Depreciation	3401	4815	4847	5195	10497
Profit Before Tax (PBT)	10711	14529	23018	18447	20561
Tax	1643	2585	3560	3137	4325
Net After Profit (PAT)	9068	11943	19458	15309	16236
Equity Dividend	1394	1440	1631	1897	2085
Corporate Dividend Tax	195	202	277	322	346
Per share data (annualized)					
Shares in issue (lakhs)	13935	13935	14536	15738	32704
Earnings Per Share (Rs)	65	86	134	97	50

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Solution 2

Trend Statement of RIL income statement

	Mar '06	Mar '07	Mar '08	Mar '09	Mar '10	Mar '06	Mar '07	Mar '08	Mar '09	Mar '10
Income										
Total Turnover	83556	112591	138534	143651	199128	100	134.75	165.80	171.92	238.32
Expenditure										
Raw Materials	59739	80792	98832	109284	153689	100	135.24	165.44	182.94	257.27
Power & Fuel Cost	1146	2262	2053	3356	2707	100	197.31	179.09	292.78	236.13
Employee Cost	978	2094	2119	2398	2331	100	214.02	216.60	245.03	238.22
Other Manufacturing Expenses	668	1112	715	1163	2154	100	166.42	107.01	174.02	322.26
Selling and Admin Expenses	5872	5478	5549	4737	5756	100	93.29	94.50	80.66	98.03
Miscellaneous Expenses/ Adj	146	210	237	-2703	-566	100	144.25	162.91	-1856.61	-388.71
Total Cash Expenses	68550	91948	109506	118234	166071	100	134.13	159.75	172.48	242.26
PBDIT	15006	20643	29028	25416	33057	100	137.57	193.45	169.38	220.30
Interest	894	1299	1163	1774	2000	100	145.35	130.14	198.57	223.81
PBDT	14112	19344	27865	23642	31057	100	137.07	197.46	167.53	220.08
Depreciation	3401	4815	4847	5195	10497	100	141.58	142.52	152.76	308.64
Profit Before Tax (PBT)	10711	14529	23018	18447	20561	100	135.64	214.90	172.22	191.96
Tax	1643	2585	3560	3137	4325	100	157.38	216.70	190.98	263.28
Net After Profit (PAT)	9068	11943	19458	15309	16236	100	131.70	214.57	168.82	179.03
Equity Dividend	1394	1440	1631	1897	2085	100	103.37	117.06	136.14	149.60
Corporate Dividend Tax	195	202	277	322	346	100	103.37	141.85	164.96	177.16
Per share data (annualised)										
Shares in issue (lakhs)	13935	13935	14536	15738	32704	100	100.00	104.32	112.94	234.69
Earning Per Share (Rs)	65	86	134	97	50	100	131.70	205.69	149.48	76.28

Comments

1. Company has shown steady growth trend in sales over a period of 5 years (138%).
2. Raw material cost, power and fuel and employee coat have increased in tandem in with sales (+157%, +136%, + 138%), while other manufacturing expenses have increased faster (+222%).
3. Selling and distribution expenses have been in control and it has been over the

years, at same absolute value (-2%).

4. It is observed that increase in profits is not keeping pace with increase in sales (PBT +92%, PAT +79%).

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10.4 Vertical Analysis: Common Size

Common size statement compares financial data for different periods of time. Following steps are taken while preparing common size statement.

Step 1: Arrange the given statement in proper format i.e. rearrange to show owners fund and borrowed funds on the liability side and Fixed assets, Investments and Working capital (Current assets minus Current liabilities) on the assets side. This is done for current year as well as previous year.

Step 2: In case of balance sheet total of sources/application of fund should be taken as 100 and all other related items should be calculated as a proportion to sources/ application.

Similarly in case of income statement turnover is taken as 100 and all other items are calculated in proportion to turnover.

Illustration 3

Using the information provided in Exhibit 1.1 prepare common size income statement.

Solution 3

Profit & Loss account Extract **Rs. Cr.**

	Mar '09	Mar '10	Mar '09	Mar '10
Income				
Net Sales	22,401.92	23,044.45	102%	99%
Other Income	-456.24	182.10	-2%	1%
Total Income	21945.68	23226.55	100	100
Expenditures				
Raw Materials	53.67	23.75	0%	0%
Power & Fuel Cost	164.34	183.62	1%	1%
Employee Cost	7,370.09	7,882.43	32%	34%
Other Manufacturing Expenses	6,947.60	6,446.99	30%	28%
Selling and Admin Expenses	1,218.41	1,268.03	5%	5%
Miscellaneous Expenses	628.71	571.08	3%	2%
Total Expenses	16,382.82	16,375.90	71%	71%

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Operating Profit	6,020.83	6,667.17	26%	29%
Interest	7.44	9.54	0%	0%
PBT	5,036.58	6,356.40	22%	27%
Tax	340.37	737.89	1%	3%
PAT	4,696.21	5,618.51	20%	24%

Comments

- Profit after tax has increased from 20% to 24%
- Total expenses have remained same during both the period.

Illustration 4. Using the following data of TCS, Infosys and Wipro, prepare common size income statement.

Particulars	**TCS**	**Infosys**	**Wipro**
Income	Rs. In cr.	Rs. In cr.	Rs. in cr.
Net Sales	23044	21140	22,922
Other Income	182	967	875
Total Income	23227	22107	23797
Expenditure			
Raw Materials	24	22	4,140
Power & Fuel Cost	184	122	141
Employee Cost	7882	10356	9,063
Other Manufacturing Expenses	6447	1993	2,072
Selling and Admin Expenses	1268	992	1,475
Miscellaneous Expenses	571	293	640
total expenses	16376	13778	17532
PBDIT	6851	8329	6266
Interest	10	2	108
PBDT	6841	8327	6158
Depreciation	469	807	580
Profit Before Tax	6372	7520	5578
Tax	738	1717	790
PAT	5634	5803	4788

Solution 4

Common Size Income Statement For the year ended 31/03/2010

	TCS		Infosys		Wipro	
Income	**Rs.**	**%**	**Rs.**	**%**	**Rs.**	**%**
Net Sales	23044	99%	21140	91%	22,922.00	99%
Other Income	182	1%	967	4%	875	4%
Total Income	23227	100%	22107	100%	23797	100%
Expenditure						
Raw Materials	24	0%	22	0%	4,140	18%
Power & Fuel Cost	184	1%	122	1%	141	1%
Employee Cost	7882	34%	10356	45%	9,063	39%
Other Manufacturing Expenses	6447	28%	1993	9%	2,072	9%
Selling and Admin Expenses	1268	5%	992	4%	1,475	6%
Miscellaneous Expenses	571	2%	293	1%	640	3%
Total Expenses	16376	71%	13778	59%	17532	75%
PBDIT	6851	29%	8329	36%	6266	27%
Interest	10	0%	2	0%	108	0%
PBDT	6841	29%	8327	36%	6158	27%
Depreciation	469	2%	807	3%	580	2%
Profit Before Tax	6372	27%	7520	32%	5578	24%
Tax	738	3%	1717	7%	790	3%
PAT	5634	24%	5803	25%	4788	21%

NOTES

10.5 Liquidity ratios: Current and Quick Ratio

'Liquidity' means ability of the entity to pay its liabilities in the short run. This is also called "short-term solvency". The popularly used liquidity ratios are Current ratio and Quick ratio.

10.5.1 Current Ratio/Working Capital Ratio

Current ratio is given by:

Current Assets

Current Liabilities

Current Assets includes inventories, debtors, prepayments, cash and bank balances, current investments (which are intended to be held for a short period, say not more than one year, and which are readily convertible into cash), short-term loans and advances and advance tax.

CA = Inventory+ Debtors+ Prepaid expense+ cash and bank

NOTES

Current Liabilities includes sundry creditors, outstanding expenses and wages, short-term secured and unsecured loans, bank overdrafts, installments of long-term loans which are due or will be due within one year, tax provision and proposed dividend.

CL = Creditors+ Outstanding expenses+ Bank O/D + short term loans

The ratio indicates company's ability to pay its short-term liabilities (payables) with its short-term assets (cash, inventory, receivables). The higher the current ratio, the more capable the company is of paying its current obligations. However high current ratio also indicates a large portion of working capital, which may reduce firm's profitability. Hence the ratio should be neither too high nor too low.

By thumb rule 2:1 is considered as appropriate current ratio; however it differs from industry to industry.

10.5.2 Quick Ratio/Liquid Ratio/Acid Test Ratio

Quick ratio is given by:

Quick Assets or Liquid Assets

Quick Liabilities Liquid Liabilities

Quick assets are those current assets which are converted into cash easily. It includes debtors, cash and bank, current investments. It is usually calculated as current assets minus inventory and prepayments. Inventories cannot be termed as liquid assets because it cannot be converted into cash immediately. Prepaid expenses are also excluded from current assets because they are not expected to be converted into cash.

QA= Cash+ Debtors+ Current Investments

Quick liabilities include those current liabilities which are immediately payable i.e., sundry creditors, bills payable, outstanding expenses, short term advances. Bank overdraft may not be included in quick liabilities as it usually sanctioned for about a year.

QL = Creditors+ Outstanding expenses+ short term advances

However many analyst consider all current liabilities to be quick liabilities. Quick ratio alternatively can be calculated as

Quick Assets

Current Liabilities

The quick ratio is also called as acid test ratio. It is very useful in measuring the liquidity position of a firm. It measures the firm's capacity to pay off current obligations immediately and is more rigorous test of liquidity than the current ratio.

10.5.3 Cash Ratio

Cash ratio is calculated to determine availability of cash and bank balance to make payment of current liabilities.

Cash Ratio= Cash + cash equivalents/Current Liabilities

Illustration 5

Using the data of TCS ltd. available in exhibit 1.1 calculate Current Ratio, quick Ratio and Cash Ratio

NOTES

Solution 5

Current Ratio= C.A/C.L.

For 2009 C.R. = 9250/5054 = 1.83024

For 2010 C.R. = 10837/7279 = 1.48874

It can be observed that current ratio has decreased which indicated that liquidity position of company has deteriorated in 2010 compared to 2009.

Quick Ratio= Q.A/Q.L.

Quick Assets	**2009**	**2010**
Sundry Debtors	3,717.73	3,332.30
Cash and Bank Balance	479.93	212.31
Fixed Deposits	1,125.33	3,183.85
Total	5322.39	6728.46
Quick Liabilities	2009	2010
Current Liabilities	3,604.18	3,352.74
Provisions	1,450.23	3,926.61
Total	5,054.41	7,279.35

For 2009 Q.R. = 5322.39/5054.41 = 1.053

For 2010 Q.R. = 6728.46/7279.35 = 0.92434

It can be observed that quick ratio is marginally decreasing and therefore immediate liquidity position of a company is has slightly deteriorated in 2010 comparing to 2009.

Cash ratio is calculated as follows:

In 2009 Cash Ratio = 479.93/5054.41=0.09495

In 2010 Cash Ratio = 212.31/7279.31=0.02917

From the calculation it can be observed that cash availability has declined in 2010 as compared to 2009.

NOTES

> **Check Your Progress**
> Which ratios are useful to assess the liquidity position of a firm.

Exhibit 1.2 given below provides summary of Liquidity Ratios.

Ratio	Formula	Location of items	Explanation
Current Ratio	Current Asset Current Liabilities	B.S. Asset portion B.S. Liability portion	Indicates the ability to meet currently maturing obligations
Quick Test	Quick Asset Quick Liabilities	B.S. Asset portion B.S. Liability portion	Indicates the ability to meet immediately maturing obligations
Cash Ratio	Cash + Cash Equivalents Current Liabilities	B.S. Cur. Asset B.S. Liability portion	Indicates the proportion of current obligations which can be met with cash or cash equivalents

10.6 Solvency ratios: D/E, Interest Coverage

'Solvency' refers to long-term solvency. It indicates whether the entity will be able to continue in the long run.

10.6.1 Debt Equity Ratio (D/E Ratio): It is given by

$$\frac{\text{Debt}}{\text{Equity}} = \frac{\text{Borrowers' fund}}{\text{Owners' fund}}$$

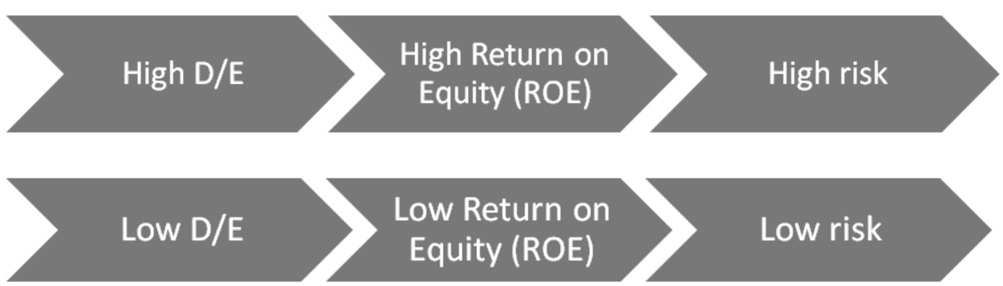
OR

$$\frac{\text{Debt}}{\text{Debt + Equity}} = \frac{\text{Borrowers' fund}}{\text{Total funds}}$$

Debt means long-term loan funds; both secured and unsecured. Equity means share capital and free reserves net of any loss and preliminary expenses and other fictitious assets. Debt usually has lower cost and hence it is used to improve ROE.

Raising finance through debt increases fixed liability in terms of payment of interest. It adds to financial risk. Such liability has to be met with even if business is not performing well. Entity may suffer loss if ROI is lower than cost of debt (interest); therefore D/E ratio should be reasonable.

The ratio is important as it indicates about risk level of company as follows:



Let us calculate D/E ratio for Videocon Industries using following information provided in Exhibit 1.4:

NOTES

Exhibit 1.4 Extracts from Balance sheet of Videocon Industries.

		Rs. In Cr.
Sources of Funds	Sep-08	Sep-09
Equity Share Capital	229.3	324.41
Preference Share Capital	46.01	46.01
Reserves	6,538.49	6,929.63
Net worth/Owners' Fund	6813.8	7300.05
Secured Loans	4,401.25	6,735.04
Unsecured Loans	3,604.34	2,349.51
Total Debt / Borrowers' Fund	8,005.59	9,084.55
Total Liabilities	14,819.39	16,384.60

D/E ratio = Debt/Equity

For 2008 = 8005.59/6813.8= 1.174

For 2009= 9084.55/7300 = 1.244

D/E ratio = Debt/ (Debt + Equity)

For 2008 = 8005.59/14819.39 = .54 = 54%

For 2009 = 9084.55/16384.6 = .55 = 55%

It can be observed that Debt Equity ratio is almost same. There is higher proportion of debt compared to equity. This shows that company has high level of financial risk.

10.6.2 Interest coverage: It is calculated as

$$\frac{\text{Profits Before Interest and Tax (PBIT)}}{\text{Interest}}$$

The lower the interest coverage ratio, the higher the company's debt burden and the high the possibility of default. The ratio determines how easily company can make payment of interest on outstanding loan. Higher interest coverage ratio indicates strength of company to make payment of interest.

Let us calculate Interest coverage ratio of Videocon Industries using exhibit 1.5

Exhibit 1.5 Income Statement of Videocon Industries Rs. In Cr.

	Sep '08	**Sep '09**
Income		
Net Sales	9,753.66	9,163.04
Other Income	-133.22	-52.73
Total Income	9,620.44	9,110.31

NOTES

Expenditure		
Raw Materials	5,293.35	5,626.84
Power & Fuel Cost	86.77	80.84
Employee Cost	115.82	126.42
Other Manufacturing Expenses	1,199.08	692.9
Selling and Admin Expenses	638.09	692.21
Miscellaneous Expenses	30.59	82.3
Total Expenses	7,363.70	7,301.51
PBDIT 2,256.74	1,808.80	
Depreciation	660.21	577.15
PBIT/ Operating Profit	1,827.18	1,155.50
Interest 431.00	665.00	
PBT 1,167.69	652.03	
Tax 312.67	177.68	
PAT 982.11	400.66	

Interest coverage Ratio = PBIT/Interest

In 2008 Interest coverage ratio = 1827/431 = 4.23

In 2009 Interest coverage ratio = 1156/665= 1.73

Interest coverage ratio implies that interest burden has increased while PBIT has decreased. This has increased possibility of default.

10.6.3 Proprietary Fund Ratio

'Proprietary Funds' means equity, i.e. share capital and free reserve net of losses and fictitious assets like preliminary expenses. It is given by

Proprietary Fund = Net Worth or Proprietors' Fund

Total Assets Total Assets Total Fund

Total assets exclude fictitious assets. This ratio explains the proportion of total assets financed out of proprietary funds. Higher the ratio, lower is the dependence on outside funds- and more stable is the position of the company in the long run.

In case of Exhibit 1.1

In 2009 Proprietary Fund Ratio = 13,446.25/13,486.62= 0.99701

In 2010 Proprietary Fund Ratio = 13,486.62/15,152.36= 0.99764

Proprietary ratio is very high as most of the assets are financed by proprietors.

Exhibit 1.3 provides summary of solvency ratios.

Leverage Ratios

Ratio	Formula	Location	Explanation
Debt - Equity Ratio	Borrowed Fund Owners' Fund	Balance Sheet Balance Sheet	Indicates the proportion of funds provided by lenders/ creditors versus the funds by owners
Proprietary Fund Ratio (%)	Net worth Total assets	Balance Sheet Balance Sheet	Indicates the proportion of funds provided by proprietors to Total Assets
Interest Coverage Ratio	Profit Before Interest and Tax (PBIT) Interest Charges	Income Statement Income Statement	Indicates the ability of the company to meet its interest obligations

NOTES

Check Your Progress

Explain solvency ratios in brief.

10.7 Profitability ratios: GP, NP, EBIT, EBDITA, EPS

Profitability implies ability to generate earnings particularly with respect to turnover. Followings are important profitability ratios.

7.1 Gross Profit Ratio (GPR): Gross profit is calculated as the difference between Sales and Cost of Goods Sold (COGS). Gross profit ratio is the ratio of gross profit to net sales expressed as a percentage. It is given as follows.

$$\frac{(\text{Sales - COGS}) \quad \text{X } 100}{\text{Sales}}$$

It reflects the gross margin earned by the firm through manufacturing or trading as a proportion to sales. The gross profit earned should be sufficient to recover all operating expenses and to build up reserves after paying all fixed interest charges and dividends.

Illustration 6

Calculate gross profit ratio from the following data.

Sales Rs.10,00,000

COGS Rs. 6,00,000

Solution:

G.P. ratio = (Sales - COGS)/Sales

= (10,00,000 – 6,00,000)/ 10,00,000

= 40%

10.7.2 Operating Profit Ratio

Operating Profit is the excess of sales over the COGS and operating expenses. Operating profit is earned from normal business operations of the concern.

Operating profit is usually same as PBIT i.e. Profit Before Interest and Taxes.

It is calculated as:

NOTES

Operating Profit X100
Sales

This ratio shows the profit generating ability of the business from its core activities.

Let us calculate Operating Profit ratio for Videocon Industries from Exhibit 1.5

In 2008 Operating Profit Ratio = PBIT/Sales = 1827/9754 = 18.74%

In 2009 Operating Profit Ratio = PBIT/Sales = 1159/9163 = 12.61%

It can be observed that Operating Profit has decreased substantially which shows deteriorating profitability position of the company.

10.7.3 EBIDTA/PBDIT ratio

Earnings Before Interest, Depreciation, Tax and Amortization (EBDITA) or Profit Before Depreciation, Interest and Tax (PBDIT) ratio indicates cash profit earned from operating activities. PBDIT = PBIT + Depreciation

PBDIT ratio = PBDIT X 100
Sales

PBDIT Ratio for Videocon Industries can be calculated as follows:

In 2008 PBDIT Ratio = 2256/9753 = 23%

In 2009 PBDIT Ratio = 1808/9163= 19%

PBDIT ratio which shows cash profit has declined substantially.

7.3 Net Profit Ratio (NPR): Net profit after tax is obtained after deducting all expenses, interest and tax from sales. Net profit ratio is the ratio of net profit after taxes to net sales. It expressed as:

Net Profit after Tax X100
Sales

NP ratio is used to measure the overall profitability and hence it is very useful to owners. High NP ratio will lead to higher returns.

In case of TCS Net Profit ratio is as follows.

In 2009 NP Ratio= 4649/22401=21%

In 2010 NP Ratio= 5619/23041=24%

The above calculation shows increase in profitability.

10.7.4 EPS (Earnings Per Share)

It indicates profit available for each equity shares. This ratio plays very important role for the investors to take investments decisions. It is expressed as

EPS = Profit available for Equity shareholder/ No. of Equity shares

Profit available to equity shareholder is calculated after deducting all other charges like interest, tax and dividend to preference shareholders from the operating profit i.e. EBIT.

In 2009 EPS=4696/97.86=48

In 2010 EPS=5619/195.72=29

The above analysis shows that there has been decline in the EPS which shows lower profit per share for shareholders.

As per IAS 33, Diluted EPS is a reduction in earnings per share or an increase in loss per share resulting from the assumption that convertible instruments are converted, that options or warrants are exercised, or that ordinary shares are issued upon the satisfaction of specified conditions.

NOTES

Table 1.4 provides summary of Profitability Ratios

Ratio	Formula	Location	Explanation
EBIDTA(%)	EBITDA*100 Sales	Income Statement Income Statement	Indicates the EBITDA as percentage of Sales
EBIT(%)	EBIT*100 Sales	Income Statement Income Statement	Indicates the EBIT as percentage of Sales
Net Profit Margin NPM(%)	PAT*100 Sales	Income Statement Income Statement	Indicates the profit after tax PAT as percentage of Sales
Earnings per Share EPS (Rs.)	PAT Attributable to Shareholders Average Number of Equity Shares	(Income Statement) B.S. (sometimes)	Indicates the profit available per equity share.

Check Your Progress

Explain profitability ratios in detail.

10.8 Return Ratios: ROI, ROE

Return ratios indicates the rate at which company has generated return over its capital employed in the business.

10.8.1 Return on Capital Employed (ROCE)/Return on Investments (ROI)

It is expressed as the amount of EBIT (Earnings Before Interest and Tax) earned as a percentage to capital employed in the business.

ROCE = EBIT/Capital employed

EBIT is operating profit which is calculated by deducting all operating expenses from gross profit. Capital employed is the total amount of owners and borrowed fund which is employed in the business.

For exhibit 1.1 TCS Ltd. ROCE is as follows

In 2009 ROCE=5044/13486=37%

In 2010 ROCE=6365.94/15152=42%

The above analysis shows that ROCE has increased which shows improvement in return over capital employed.

10.8.2 Return on Equity (ROE)

ROE is expressed as the amount of net profit earned as a percentage of shareholders equity. Return on equity measures a company's profitability by calculating how much profit a company generates with the money shareholders have invested.

NOTES

ROE is expressed as a percentage and calculated as:

Return on Equity = Net Income available to shareholders /Shareholder's Equity

= (PAT- Preference Dividend)/(Equity share Capital+ Reserves)

= PAT/Net worth

Shareholder's equity includes Share capital, Reserves and surplus and excludes miscellaneous expenses not written off. This is also known as "Net worth".

Net income available to shareholder is reported net profit which is after deducting interest and tax from EBIT.

For exhibit 1.1 of TCS Ltd.

In 2009 ROE=4696/13446=35%

In 2010 ROE=5619/15116=37%

Profit available to equity shareholders has increased which shows ability of company to generate return over its equity fund has also improved.

10.8.3 Return on Total Assets (ROTA)

It indicates profit earned on assets used. Total assets include fixed assets, Capital work in progress, investments and total current assets, loans and advances.

It is calculated as:

ROTA = Profit after tax/ Total assets

In case of exhibit 1.1 of TCS Ltd. ROTA is calculated as follows

In 2009 ROTA=4696/18541=25%

In 2010 ROTA=5619/22431=25%

There is no change in return on total assets.

Exhibit 1.5 provides summary of return ratios.

Return on Capital Employed/Return on Investment ROCE(%)	EBIT Capital Employed	Income Statement Balance sheet	Indicates the return earned on Capital Employed/ Invested
Return on Total Assets ROTA(%)	Profit After taxes x Assets ROTA(%)	Income Statement Balance sheet	Indicates the profit earned on Assets used
Return on Equity ROE(%)	Profit After taxes Equity	Income Statement Balance sheet	Indicates the return earned on Owners Funds

Check Your Progress

Explain ROA and ROE. How do they differ?

10.9 Turnover ratios

Turnover ratios indicate efficiency in asset use. Some popularly used turnover ratios are:

NOTES

10.9.1 Assets turnover:

This ratio explains sales generating capacity of trading concern. It is calculated as-

Sales

Total Assets

In case of exhibit 1.1 of TCS Ltd.

In 2009 Assets turnover ratio= 22401.92/18541.03=1.21

In 2010 Assets turnover ratio=23044/22431.71=1.03

There is decline in assets turnover ratio from 2009 to 2010.

10.9.2 Fixed Assets Turnover

This ratio explains sales generating capacity of trading concern with respect to fixed assets employed. It is calculated as

Sales

Fixed Assets

In case of exhibit 1.1 of TCS Ltd.

In 2009 Assets turnover ratio= 22401.92/2669=8.39

In 2010 Assets turnover ratio=23044/2761=8.34

There is decline in assets turnover ratio from 2009 to 2010.

10.9.3 Working Capital Turnover

This ratio explains how quickly working capital (i.e. Net current assets) rotates. Higher the turnover better is the working capital utilization. Net current assets are calculated as current assets minus current liabilities. The ratio is given by:

Sales

Net Current Assets

CA	9,250.79	10,837.08
CL	5,054.41	7,279.35
Working capital/ Net CA	4196.38	3557.73

In 2009 Working Capital Turnover=22401.9/4196.38=5.33839

In 2010 Working Capital Turnover=23044.45/2760.52=6.47729

10.9.4 Creditors Turnover:

This ratio indicates movement of creditors. It is calculated with reference to credit purchases. The ratio is given by:

Credit Purchases
Average Payable OR

Credit Purchases
Closing Payable

Payables include Creditors and bills payables.

To assess the efficiency in the management of Accounts payable, payable period

NOTES

can be calculated by using following formula:

Accounts Payable

Purchases for Year/365(Daily Purchases)

Exhibit 1.6 provides summary of turnover ratios

Ratio	Formula	Location	Explanation
Asset Turnover	Sales Total Assets	Income Statement Balance sheet	To assess the utilization of Total Assets for generating sales
Fixed Asset Turnover	Sales Fixed Assets	Income Statement Balance sheet	To assess the utilization of Fixed Assets for generating sales
Working Capital Turnover	Net Sales Working Capital	Income Statement Balance sheet	To assess the utilization of Working Capital
Creditors Turnover	Credit purchase Accounts Payable	Work sheet Balance Sheet	To assess the efficiency in the management/payment of Accounts payable
Average Payment Period (days)	Accounts Payable Credit Purchases /365	Balance Sheet Income Statement	To assess the efficiency in the management/Payment of Accounts payable

Check Your Progress

Explain turnover ratios.

10.10 Analysis of Stock and Debtors

10.1 Inventories turnover

Inventory turnover ratio explains movement of inventories in relation to sales. Lower ratio indicates slow movement of inventories.

This ratio is given by:

Sales

Average Inventories

10.2 Debtors turnover:

This ratio indicates movement of debtors. It is calculated with reference to credit sales. The ratio is given by:

Credit Sales

Average Receivable

Receivable includes debtors and bills receivable.

To assess the efficiency in the management/collection of Accounts receivable, collection period can be calculated by using following formula:

Accounts Receivable

Sales for Year/365(Daily Sales)

NOTES

For exhibit 1.1

In 2009 Debtors Turnover=22401.9/3717.73=6.0257

In 2010 Debtors Turnover= 23044.45/3332.30=6.915479

In 2009 Collection period=365/6.0257= 61 days

In 2010 Collection Period=365/6.9154= 53 days

There is decrease in collection period which shows efficiency in collection.

Exhibit 1.7 provides ratios to analyze stock and debtors.

Ratio	Formula	Location	Explanation
Inventory Turnover	Sales Inventory	Income Statement Balance sheet	To assess the efficiency in the management of Inventory
Days of Inventory (days)	Inventory COGS/365	Balance sheet Income Statement	To assess the efficiency in the management of Inventory
Accounts Receivable Turnover	Credit Sales Accounts Receivable	Work sheet Balance Sheet	To assess the efficiency in the management/collection of Accounts receivable
Average Collection Period (days)	Accounts Receivable Credit Sales /365	Balance Sheet Income Statement	To assess the efficiency in the management/collection of Accounts receivable

10.11 Working Capital Management

Working capital is difference between current assets and current liabilities. It includes items which are continuously circulating in the cycle of business operations. Cash is starting point of the circulation as it is used to buy raw materials. It results in production of goods which in turn results in cash when sold to customers. Ultimately all current assets are converted into cash and current liabilities are paid in cash.

Operating cycle begins from the date of purchase of raw materials and ends when it is converted into cash. The period between this duration is operating cycle which is calculated in no. of days.

NOTES

Illustration 7

Calculate working capital cycle from the following information.

Particulars	No.of Days
Raw material storage	30
Processing period	25
Finished goods storage	30
Debtors collection period	35
Creditors payment period	40

Solution

Working Capital Cycle is calculate as under:

Particulars	No.of Days	No.of Days
Raw material storage	30	
Processing period	25	
Finished goods storage	30	
Debtors collection period	35	
Total		120
Less: Creditors payment period	40	(40)
Working capital/ operating cycle		80

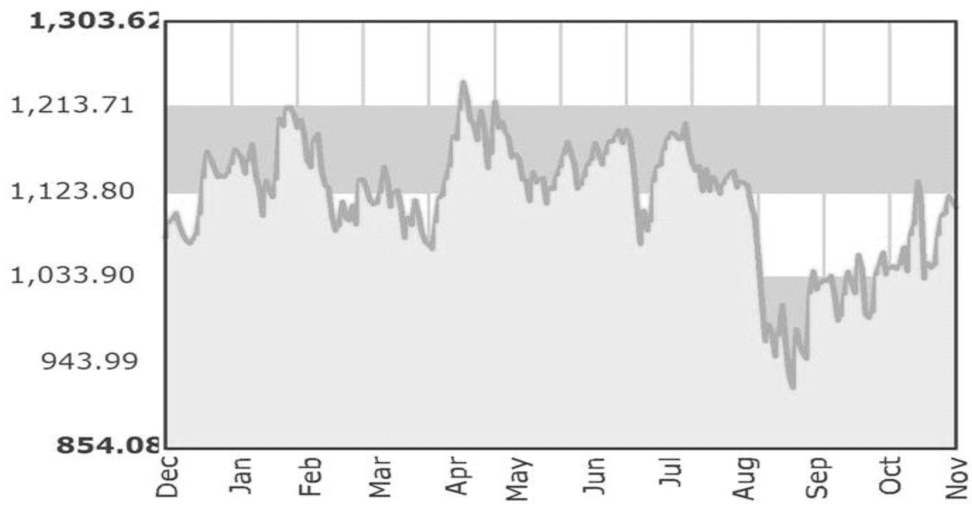
Check Your Progress

What do you mean by working capital?

10.12 Stock prices and financial data: P/E

Share price of a company in the secondary market is determined by the demand and supply for the same. Expectations of the buyers and sellers work in opposite direction and the market mechanism leads to discovery of the stock price. Finance theory considers that market is supreme and it discounts everything (socio-economic, political, technological and other related factors). It presumes the value of the asset is based on future expectations. Hence, with every new information, the expectation of the market is liable to change and consequently the share prices. As the new information is erratic in nature so it influences the price in a random way. Stock prices are set by a combination of factors that no analyst can consistently understand or predict.

Following is the share price fluctuation chart of TCS for 2010-11.



Source: www.money.rediff.com

NOTES

10.12.1 Price to Earnings ratio (P/E ratio)

This ratio assesses the amount that investors are willing to pay for each rupee of earnings. It is expressed as:

$$\frac{\text{Market Price per Share}}{\text{Earnings per Share}}$$

Market price per share is obtained from stock market reports and it changes frequently.

Earnings per share is Amount of profit available to each equity shareholder after payment of all other expenses.

This ratio is useful to potential investors for investment decisions.

In case of exhibit 1.1

In 2009 P/E Ratio=270/48=5.625

In 2010 P/E Ratio=780/29=26.89

10.12.2 Market Price/ Book Value Ratio

This ratio compares market price of the stock with its book value. It is calculated by dividing the current market price of the stock by the book value per share. It is expressed as:

$$\text{MP/BV Ratio} = \frac{\text{Market Price}}{\text{Book Value per Share}}$$

Book value is the value at which an asset is carried on a balance sheet.

A lower P/B ratio could mean that the stock is undervalued.

For TCS, MP/BV ratio is as follows:

For 2008-09 MP/BV ratio = 270/136 = 1.98

For 2009-10 MP/BV ratio = 780/77 = 10.12

Price to Book value ratio has increased 10 times which shows that the stock price has recovered heavily in the current year.

NOTES

10.12.3 Dividend Yield Ratio

A financial ratio that shows how much a company pays out in dividends each year relative to its share price. It is expressed as:

$$\text{Dividend Yield} = \frac{\text{Dividend Per Share (DPS)}}{\text{Earnings Per Share (EPS)}}$$

Let us calculate Dividend Yield for TCS Ltd.

In 2008-09 Dividend Yield = 14/48 = 29%

In 2009-10 Dividend Yield = 20/29 = 69%

In current year Dividend yield has increased by 40% which has generated higher return for the investors.

10.12.4 Earnings Yield ratio

Earning yield ratio implies earning generated per share with respect to current market price. It is just inverse of P/E ratio. It is expressed as:

$$\text{Earning Yield} = \frac{\text{Earnings Per Share (EPS)}}{\text{Market Price}} \quad \text{Or} \quad \frac{1}{\text{P/E Ratio}}$$

Check Your Progress

Explain P/E ratio/

In case of TCS ltd. Earning Yield ratio is calculated as:

In 2008-09 Earning Yield = 48/270 = 17.77%

In 2009-10 Earning Yield = 29/780 = 3.71%

Earnings yield has decreased substantially.

10.13 Solved Illustration

Illustration 1

Calculate current ratio from the following information:

Stock Rs .60,000 ; Cash 40,000; Debtors 40,000; Creditors 50,000

Bills Receivable 20,000; Bills Payable 30,000; Advance Tax 4,000

Bank Overdraft 4,000; Debentures Rs. 2,00,000; Accrued interest Rs. 4,000.

Solution

Current Assets= Rs.60,000 + Rs.40,000 + Rs.40,000 + Rs.20,000 + Rs.4,000 + Rs.4,000

= Rs.1,68,000

Current Liabilities = Rs.50,000 + Rs.30,000 + Rs.4,000 = Rs. 84,000

Current Ratio = Rs.1,68,000 : Rs.84,000 = 2 : 1.

Illustration 2

Current Assets of a company are Rs. 10,00,000 and current liabilities are Rs. 6,00,000. The management is interested in making the ratio 2:1 by making payment of certain current liabilities. Advise the management as to how much of current liabilities should be paid to attain the desired ratio.

Solution

Let the current liabilities to be paid = x

10,00,000-x = 2

6,00,000-x

10,00,000-x = 2(6,00,000-x)

10,00,000-x = 12,00,000-2x

x = 2,00,000

NOTES

Illustration 3

Calculate Debt Equity , from the following information:

10,000 preference share of Rs. 10 each	Rs. 1,00,000
5,000 equity shares of Rs. 20 each	Rs. 1,00,000
Creditors	Rs. 45,000
Debentures	Rs. 2,20,000
Profit and Loss accounts(Cr.)	Rs. 70,000

Solution

Debt = Debentures = Rs. 2,20,000

Equity = Equity share capital + Preferences Share Capital + profit and Loss accounts

= Rs. 1,00,000 + Rs. 1,00,000 + Rs. 70,000

= Rs. 2,70,000

Debt Equity Ratio = Long term debt/ shareholders' funds

= Rs. 2,20,000 / Rs. 2,70,000

= 0.81:1

Illustration 4

From the following information, calculate Debt Equity Ratio, Debt Ratio,Proprietary Ratio and Ratio of Total Assets to Debt.

Balance Sheet as on December 31, 2012

Equity share Capital	3,00,000	Fixed Assets	4,50,000
Preference Share Capital	1,00,000	Current Assets	3,50,000
Reserves	50,000	Preliminary Expenses	15,000
Profit & loss A/C	65,000		
11 % Mortgage Loan	1,80,000		
Current liabilities	1,20,000		
	8,15,000		8,15,000

Solution

Shareholders Funds = Equity Shares capital + Preference Shares capital + Reserves + profit % loss A/C - Preliminary Expenses

= Rs. 3,00,000 + Rs. 1,00,000 + Rs.50,000 + Rs. 65,000- Rs. 15,000

= Rs. 5,00,000

Debt Equity Ratio = Debt / Equity

NOTES

= Rs. 1,80,000/Rs. 5,00,000 = 0.36: 1

Proprietary Ratio = Proprietary funds / Total Assets

= Rs. 5,00,000/Rs. 8,00,000

= 0.625:1

Total Assets to Debt Ratio = Total Assets / Debt

= Rs. 8,00,000/Rs. 1,80,000

= 4.44:1

Illustartion 5

Calculate the Debtors Turnover Ratio and debt collection period (in months) from the following information:

Total sales = Rs. 2,00,000

Cash sales = Rs. 40,000

Debtors at the beginning of the year = Rs. 20,000

Debtors at the end of the year = Rs. 60,000

Solution

Average Debtors = (Rs. 20,000 + Rs. 60,000)/2 = Rs. 40,000

Net credit sales = Total sales - Cash sales

= Rs.2,00,000 - Rs.40,000

= Rs. 1,60,000

Debtors Turnover Ratio = Net Credit sales/Average Debtors

= Rs. 1,60,000/Rs. 40,000

= 4 Times.

Debt collection period = 12 months/52 weeks/365 days

Debtors' turnover

= 12/4

= 3 months

Illustartion6

Cash purchased ratio Rs. 1,00,000; cost of goods sold Rs. 3,00,000; opening stock Rs. 1,00,000 and closing stock Rs. 2,00,000. Creditors turnover ratio 3 times. Calculate the opening and closing creditors if the creditors at the end were 3 times more than the creditors at the beginning.

Solution

Total Purchase = Cost of goods sold + closing stock - opening stock

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

= Rs. 4,00,000

Credit purchases = Total Purchase - cash purchase

= Rs. 4,00,000- Rs. 1,00,000

= Rs. 3,00,000

Creditor Turnover Ratio = Net Credit Purchase / Average Creditor

Average Creditor = Rs. 3,00,000/ 3

= Rs. 1,00,000

(openingCreditor + Closing Creditor)/2 = Rs. 1,00,000

openingCreditor + Closing Creditor = Rs. 2,00,000

openingCreditor + (opening Creditor + 3opening Creditor) = Rs. 2,00,000

openingCreditor = Rs. 40,000

Closing Creditor = Rs. 40,000 +(3 X Rs. 40,000)

= Rs. 1,60,000

NOTES

Illustartion7

Following information is available for the year 2006, calculate gross profit ratio:

Sales Rs. 1,20,000

Gross Profit Rs. 60,000

Return inwards Rs 20,000

Solution

Net Sales = Sales - Return inwards

= Rs. 1,20,000- 20,000

= Rs. 1,00,000

Gross Profit Ratio = Gross Profit/Net Sales × 100

= Rs.60,000/Rs.1,00,000 × 100

= 60%.

Illustartion8

Sales Rs. 6,30,000; sales Returns Rs. 30,000; Indirect expenses Rs. 50,000; cost of goods sold Rs.2,50,000. Calculate Net Profit Ratio.

Solution

Net Sales = Total Sales - sales Returns

= Rs. 6,30,000 - Rs. 30,000

= Rs.6,00,000

Gross Profit = Net Sales - Cost of goods sold

= Rs. 6,30,000 - Rs.2,50,000

= Rs. 3,50,000

Net Profit = Gross Profit - Indirect expenses

= Rs. 3,50,000 - Rs. 50,000

= Rs. 3,00,000

Net Profit Ratio= Net Profit

Net sale

= Rs. 3,00,000X 100

Rs. 6,00,000

= 50 %

NOTES

10.14 Summary

- Financial statement analysis refers to detailed study of financial statements. Financial statement analysis may be defined as the process of identifying financial strengths and weaknesses of the firm by establishing relationship between the items of financial statements.
- Ratio is relationship between the items.Financial ratios are either expressed in number or in percentage.
- 'Liquidity' means ability of the entity to pay its liabilities in the short run. This is also called "short-term solvency". The popularly used liquidity ratios are Current ratio and Quick ratio.
- 'Solvency' refers to long-term solvency. It indicates whether the entity will be able to continue in the long run.
- Profitability implies ability to generate earnings particularly with respect to turnover.
- Return ratios indicates the rate at which company has generated return over its capital employed in the business.
- Turnover ratios indicate efficiency in asset use.
- Working capital is difference between current assets and current liabilities. It includes items which are continuously circulating in the cycle of business operations. Cash is starting point of the circulation as it is used to buy raw materials. It results in production of goods which in turn results in cash when sold to customers. Ultimately all current assets are converted into cash and current liabilities are paid in cash.

10.15 Key Terms

- Ratio analysis: It is necessary to analyse financial statements, for the purpose of understanding the financial characteristics like, liquidity, profitability, solvency, turnover and cost. The most important technique of financial statement analysis is financial ratios. Ratio is relationship between the items. Financial ratios are either expressed in number or in percentage
- Coverage ratios: Ratioswhich are used to test the adequacy of cash flows generated through earnings for purposes of meeting debt and leaseobligations, including the interest coverage ratio and the fixed-charge coverage ratio.
- Return ratios: These ratios indicate the rate at which company has generated return over its capital employed in the business.
- Earnings Per Share(EPS):It indicates profit available for each equity share. This ratio plays a very important role for the investors to take decision on

investments. It is expressed as:EPS = Profit Available for Equity Shareholder/ No of Equity Shares

★ Market Price/Book Value Ratio: This ratio compares market price of the stock with its book value. It is calculated by dividing the current market price of the stock by the book value per share

★ Price to Earnings Ratio (P/E Ratio): This ratio assesses the amount that investors are willing to pay for each rupee of earnings.

NOTES

10.16 Exercises

10.16.1 Multiple Choice Questions

1. A concern as an operating Ratio higher than the industry's standard ratio. This shows-

   a. Optimum level of production

   b. Low efficiency in managing the operations of the concerns

   c. Purchases made at low prices

   d. Good inventory management

2. A concern has a net profit Ratio lower than the industry's standard ratio. This shows –

   a. Unusual gains e.g. recovery of bad debts written off

   b. Great efficiency in managing all its activities

   c. Low increase in the proprietor's funds

   d. Very good control over all costs

3. Operating cycle

   a. Is equal to Stock Velocity + Debtors Velocity –Creditors

   b. Is equal to Stock Velocity - Debtors Velocity +Creditors

   c. Is equal to Stock Velocity + Debtors Velocity +Creditors

   d. None of the above

4. Debtors' turnover ratio shows the number of days taken by the company to collect money from __________

   a. Accounts receivable

   b. Accounts payables.

   c. Bills payable

   d. None of the above.

5. Which of the following indicates the Debt- Service Coverage Ratio (DSCR) OF

NOTES

1.5 of a firm?

a. The total obligations are 1.5 times its PAT

b. The post –tax cash earnings are 1.5 times its obligations.

c. The post-tax earnings after depreciation are 1.5 times its obligations.

d. The total obligations are 1.5 times the equity earnings.

6. If the debt equity ratio of a company is 2: 1 that it can be understood that for every

   a. 2 rupees of equity there is 1 rupee of debt.

   b. 2 rupees of total of total assets there is 1 rupee of equity

   c. 3 rupee of total assets there is one rupee of debt

   d. 3 rupees of total long terms funds there are 2 rupees of debt.

7. Return On Investment (ROI) and Return On Equity(ROE)are exactly 0.25. this indicates that

   a. ROE has been calculated wrongly

   b. ROI pertains to the previous year

   c. The firm has no debts in their capital structure

   d. None of the above

8. Interest coverage ratio of 6 indicates

   a. Sales are 6 times of interest

   b. Profit after tax is 6 times of interest

   c. Profit before tax 6 times of interest

   d. Earnings before interest and taxes is 6 times of interest

9. The current ratio and quick ratio of BCC Ltd are nearly the same. This suggests that

   a. The company has a large investment in inventory

   b. The company has a low investment in inventory

   c. The quick assts of the company are low

   d. The company is highly profitable

10. In which of the following cases, prices earnings ratio is applied?

    a. To determine the financial risk of a business entity

    b. To determine the expected market value of the shares of a company

    c. To access the earning potential of a company in the near future

    d. To examine the operational efficiency of a company

11. If the current assets and current liabilities are Rs 2000 lakh and Rs 1200 lakh

respectively. How much amount can be borrowed on a short – term basis without reducing current ratio below 1.5?

a. Rs. 400 lakh

b. Rs. 1000 lakh

c. Rs. 1200 lakh

d. Rs. 1400 lakh

NOTES

12. Balance Sheet of a company indicates that its current ratio is 1.5. Company 's net working capital is Rs. 1 crore. The Current Assets would amount to _________

a. Rs.3 Cr.

b. Rs. 2 Cr.

c. Rs. 1.5 Cr.

d. Rs. 0.5 Cr.

13. Earning after Interest and tax is Rs. 20 crore, interest is Rs. 4 crore, Income Tax is RS. 16 crore Interest Coverage Ratio would be

a. 10

b. 5

c. 9

d. 6

14. The financial statements of a business enterprise include

a. Balance sheet

b. Profit and loss account

c. Cash flow statement

d. All the above

15. The most commonly used tools for financial analysis are:

a. Horizontal analysis

b. Vertical analysis

c. Ratio analysis

d. All the above

16. Comparative statement are also known as:

a. Dynamic analysis

b. Horizontal analysis

c. Vertical analysis

d. External analysis

NOTES

17. Common size statement are also known as:

    e. Dynamic analysis

    f. Horizontal analysis

    g. Vertical analysis

    h. External analysis

Using the following information answer Q.18 and Q.19

Particulars	**Rs.**	**Particulars**	**Rs.**
Stock	50000	Cash	30000
Debtors	40000	Creditor	60000
Bills receivables	10000	Bank overdraft	40000
Advance tax	4000	Bills payable	4000

18. Current ratio is

    a. 1.29:1

    b. 1.25:1

    c. 1:1

    d. 1.2:1

19. Liquid ratio is

    a. 0.77:1

    b. 1:1

    c. 0.96:1

    d. 1.25:

20. X ltd. has a current ratio of 3.5:1 and quick ratio of 2:1. If excess of current assets over quick assets represented by stock is Rs.24000. current assets and current liabilities are

    a. Rs. 56000 and Rs.16000

    b. Rs.32000 and Rs. 16000

    c. Rs. 24000 and Rs. 16000

    d. Rs. 40000 and Rs. 24000

21. Current liabilities of a company are Rs. 5, 60,000, current ratio is 5:2 and quick ratio is 2:1. Find the value of the stock.

    a. Rs.2,80,000

    b. Rs.3,60,000

    c. Rs. 3,00,000

    d. Rs. 5,60,000

22. The _________ ratios are primarily measures of return.
    a. liquidity
    b. activity
    c. debt
    d. profitability
23. The _________ of a business firm is measured by its ability to satisfy its short term obligations as they come due.
    a. activity
    b. liquidity
    c. debt
    d. profitability
24. The two basic measures of liquidity are
    a. inventory turnover and current ratio
    b. current ratio and liquid ratio
    c. gross profit margin and operating ratio
    d. current ratio and average collection period
25. The _________ is useful in evaluating credit and collection policies.
    a. average payment period
    b. current ratio
    c. average collection period
    d. current asset turnover
26. The __________ ratios provide the information critical to the long-run operation of the firm
    a. liquidity
    b. activity
    c. solvency
    d. profitability

NOTES

10.16.2 Theory Questions

1. What is Financial Statement Analysis? Explain various techniques to conduct Financial Statement Analysis.
2. What is ratio analysis? Explain its advantages and disadvantages.
3. What do you mean by liquidity ratios? How do they differ from solvency ratios?
4. Write a note on:
    a) Profitability ratios
    b) Turnover ratios
    c) Return ratios

5. Which ratios are used by shareholders and potential investors? Explain them in detail.

6. What is working capital management? Also explain convergence cycle.

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10.16.3 Practical Problems for Practice

Exercise 1

Following figures have been extracted from the books of Elite.

Net sales Rs.30,00,000; Cost of Goods Sold Rs.20,00,000; Net Profit Rs. 3,00,000; Current Assets Rs. 6,00,000; Stock Rs 2,00,000; Current Liabilities Rs 2,00,000; Trade Debtors Rs 1,00,000; Paid up Share Capital Rs 5,00,000; Debentures Rs 2,50,000.

Calculate

i. Gross profit ratio

ii. Net profit Ratio

iii. Debt – equity ratio

iv. Current ratio

v. Quick ratio

Exercise 2

From the following information calculate Gross Profit Ratio, Stock Turnover Ratio and Debtors Turnover Ratio.

Sales	Rs. 6, 00,000
Cost of Gods Sold	Rs. 4, 80,000
Closing Stock	Rs. 1, 24,000
Gross Profit	Rs. 1, 20,000
Opening Stock	Rs. 1, 16,000
Debtors	Rs. 64,000

Exercise 3

Calculate Stock Turnover Ratio from the data given below:

Stock at the beginning of the year Rs. 10,000

Stock at the end of the year Rs. 5,000

Carriage Rs. 2,500

Sales Rs. 50,000

Purchases Rs. 25,000

Exercise 4

From the following, calculate (a) Debt Equity Ratio (b) Total Assets to Debt Ratio (c) Proprietary Ratio.

Equity Share Capital Rs. 75,000

Preference Share Capital Rs. 25,000

General Reserve Rs. 50,000

Accumulated Profits Rs. 30,000

Debentures Rs. 75,000

Sundry Creditors Rs. 40,000

Outstanding Expenses Rs. 10,000

Preliminary Expenses to be written-off Rs. 5,000

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Exercise 5

You are able to collect the following information about a company for two years

	2012	2013
Book Debts on Apr. 01	Rs. 4,00,000	Rs. 5,00,000
Book Debts on Mar. 30		Rs. 5,60,000
Stock in trade on Mar. 31	Rs. 6,00,000	Rs. 9,00,000
Sales (at gross profit of 25%)	Rs. 3,00,000	Rs. 24,00,000

Calculate Stock Turnover Ratio and Debtor Turnover Ratio if in the year 2013 stock in trade increased by Rs. 2, 00,000.

Exercise 6

From the following information calculate:

(i) Gross Profit Ratio (ii) Inventory Turnover Ratio (iii) Current Ratio (iv) Liquid Ratio (v) Net Profit Ratio (vi) Working capital Ratio:

Sales Rs. 25, 20,000

Net Profit Rs. 3, 60,000

Cast of Sales Rs. 19, 20,000

Long-term Debt Rs. 9, 00,000

Creditors Rs. 2, 00,000

Average Inventory Rs. 8, 00,000

Current Assets Rs. 7, 60,000

Fixed Assets Rs. 14, 40,000

Current Liabilities Rs. 6, 00,000

Net Profit before Interest and Tax Rs. 8, 00,000

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Exercise 7

	Mar '08	Mar '09
	12 mths	12 mths
Sources Of Funds		
Equity Share Capital	58	117
Reserves	9471	12318
Revaluation Reserves	26	25
Networth	9555	12460
Secured Loans	309	1102
Unsecured Loans	3275	5454
Total Debt	3584	6556
Total Liabilities	13139	19016

Application Of Funds		
Gross Block	4,189	5,575
Less: Accum. Depreciation	1,242	1,421
Net Block	2,946	4,154
Capital Work in Progress	699	1,041
Investments	6,922	8,264
Inventories	4,306	5,805
Sundry Debtors	7,365	10,056
Fixed Deposits	185	82
Cash and Bank Balance	780	693
Loans and Advances	3,861	7,199
Total CA, Loans & Advances	16,496	23,835
Current Liabilities	11,893	15,211
Provisions	2,035	3,067
Total CL & Provisions	13,928	18,278
Net Current Assets	2,568	5,557
Miscellaneous Expenses	3	0
Total Assets	13,139	19,016

Contingent Liabilities	1014	1372
Book Value	326	212
Market Price	2000	1649.3
Sales Turnover	25,280	34,250
Operating Profit	3,239	4,142
Interest	502	770
PBT	2,737	3,372
Tax	982	1,176
Reported Net Profit	1,755	2,196

Calculate following ratios

1. Solvency Ratio
2. Profitability Ratio
3. Turnover Ratio

Exercise 8

Following is the balance sheet of India Cements ltd.

Balance Sheet of India Cements

	Mar ‘11	Mar ‘10
Sources Of Funds		
Total Share Capital	307.18	307.17
Equity Share Capital	307.18	307.17
Share Application Money	0	0
Preference Share Capital	0	0
Reserves	3,232.48	3,221.09
Revaluation Reserves	550.1	607.56
Networth	4,089.76	4,135.82
Secured Loans	1,177.86	866.64
Unsecured Loans	1,278.21	1,266.09
Total Debt	2,456.07	2,132.73
Total Liabilities	6,545.83	6,268.55
Application Of Funds		
Gross Block	5,925.99	5,710.20
Less: Accum. Depreciation	2,091.51	1,791.59

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Net Block	3,834.48	3,918.61
Capital Work in Progress	1,039.83	702.89
Investments	160.31	313.97
Inventories	517.73	468.19
Sundry Debtors	254.4	485.26
Cash and Bank Balance	32.33	2.62
Total Current Assets	804.46	956.07
Loans and Advances	2,116.78	1,889.82
Fixed Deposits	0.76	51.19
Total CA, Loans & Advances	2,922.00	2,897.08
Deffered Credit	0	0
Current Liabilities	1,335.08	1,454.10
Provisions	75.71	109.91
Total CL & Provisions	1,410.79	1,564.01
Net Current Assets	1,511.21	1,333.07
Miscellaneous Expenses	0	0
Total assets	6,545.83	6,268.54
Contingent Liabilities	525.28	532.04
Book Value (Rs)	115.23	114.86

Following is the income statement of India Cements Ltd.

Profit & Loss account of India Cements

	Mar '11	Mar '10
	Rs. In cr.	Rs. In cr.
Income		
Sales Turnover	3,888.07	4,100.70
Excise Duty	474.78	413.64
Net Sales	3,413.29	3,687.06
Other Income	125.32	163.34
Stock Adjustments	11.4	15.24
Total Income	3,550.01	3,865.64

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Expenditure		
Raw Materials	565.84	540.62
Power & Fuel Cost	1,020.08	999.85
Employee Cost	265.44	276.81
Other Manufacturing Expenses	56.07	47.18
Selling and Admin Expenses	1,022.47	953.3
Miscellaneous Expenses	144.48	127.07
Preoperative Exp Capitalised	0	0
Total Expenses	3,074.38	2,944.83
Operating Profit	350.31	757.47
PBDIT	475.63	920.81
Interest	141.72	142.64
PBDT	333.91	778.17
Depreciation	244.03	233.12
Other Written Off	0	13.74
Profit Before Tax	89.88	531.31
Extra-ordinary items	0	0
PBT (Post Extra-ord Items)	89.88	531.31
Tax	21.77	176.98
Reported Net Profit	68.1	354.34
Total Value Addition	2,508.55	2,404.21
Preference Dividend	0	0
Equity Dividend	46.08	61.43
Corporate Dividend Tax	7.65	10.2
Per share data (annualised)		
Shares in issue (lakhs)	3,071.77	3,071.76
Earning Per Share (Rs)	2.22	11.54
Equity Dividend (%)	15	20
Book Value (Rs)	115.23	114.86

Calculate following ratios:

1. Solvency Ratio
2. Profitability Ratio
3. Turnover Ratio

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Exercise 9

Balance Sheet

Liabilities	**Rs.**	**Assets**	**Rs.**
Equity capital	4000000	Fixed assets (net)	2800000
Reserves and surplus	600000	Preliminary Exp	50000
Sundry creditors	1250000	Cash	240000
Loan 11%	200000	Debtors	1860000
		Inventories	1100000
	6050000		6050000
Other information: Sales			7500000
Less: Cost of Production of goods sold			4600000
			2900000
Less: Selling and administration			1250000
Net Operating Profit			1650000

The current industry average of a few important ratios is given below:

Current ratio	1.4
ROI	24
FA turnover	9
ROE	42
Liquid ratio	1.2
Debtors turnover	8
Inventory turnover	10.2
GP Ratio	25
Debt Equity	0.54
Operating Ratio	85
NP Ratio	14
Asset TO Ratio	2.7

Calculate the above ratios, compare the same with the industry average and comment briefly.

Exercise 10

Patni Computer Systems Ltd.

		Cr.
	Dec '09	Dec '10
Sources of Funds		
Equity Share Capital	26	38
Reserves	2490	3166
Networth	2516	3204
Secured Loans	2	1
Total Debt	2	1
total	2518	3205
Application of Funds		
Gross Block	946	1085
Less: Accum. Depreciation	419	477
Net Block	527	607
Capital Work in Progress	247	134
Investments	1652	2267
Inventories	0	0
Sundry Debtors	559	340
Cash and Bank Balance	97	104
Loans and Advances	175	239
Total CA, Loans & Advances	832	683
Current Liabilities	535	281
Provisions	205	205
Total CL & Provisions	740	486
Net Current Assets	92	196
Total	2518	3205
Contingent Liability	492.51	506.81
Share price	484	450

Compute the following Ratios for both the years. Also state whether the change indicates positive performance for the company

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Solution	Dec '09	Dec '10	Positive/ Negative
Current Ratio			
Quick Test			
EBIT(%)			
Net Profit Margin NPM(%)			
Return on Capital Employed/Return on Investment ROCE(%)			
Return on Total Assets ROTA(%)			
Return on Equity ROE(%)			
Earnings per Share EPS '			
Asset Turnover			
Accounts Receivable Turnover			
Average Collection Period (days)			
Debt - Equity Ratio			
Price/Earnings PE Ratio			

10.16.4 Business Cases

Case 1

Hindustan Unilever Limited

Hindustan Unilever Limited (HUL) is India's largest Fast Moving Consumer Goods Company; its journey began 75 years ago, in 1933, when the company was first incorporated. HUL was formed in 1933 as Lever Brothers India Limited and came into being in 1956 as Hindustan Lever Limited through a merger of Lever Brothers, Hindustan Vanaspati Mfg. Co. Ltd. and United Traders Ltd. It is headquartered in Mumbai, India and has an employee strength of over 15,000 employees and contributes to indirect employment of over 52,000 people. The company was renamed in June 2007 as "Hindustan Unilever Limited".

The company affects the lives of two out of three Indians with over 20 distinct categories in Home & Personal Care Products and Foods & Beverages. It is also one of the country's largest exporters.

The company has a distribution channel of 6.3 million outlets and owns 35 major Indian brands.

HUL's brands like Lifebuoy, Lux, Surf Excel, Rin, Wheel, Fair & Lovely, Pond's, Sunsilk, Clinic, Pepsodent, Close-up, Lakme, Brooke Bond, Kissan, Knorr-Annapurna, Kwality Wall's - are household names across the country and span many categories - soaps, detergents, personal products, tea, coffee, branded staples, ice cream and culinary products. They are manufactured in over 40 factories across India.

Sixteen of HUL's brands featured in the ACNielsen Brand Equity list of 100 Most Trusted Brands Annual Survey (2008). According to Brand Equity, HUL has the largest number of brands in the Most Trusted Brands List. It has consistently had the largest number of brands in the Top 50, and in the Top 10 (with 4 brands).

Industry and economic conditions

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FMCG sector companies have shown strong sales growth despite high inflation in general and higher food inflation in particular in the quarter ended March 2011 (Q4 FY11). The aggregate standalone net sales of the 9 BSE FMCG Index companies grew by 20% for the quarter ended March 2011. The growth was mostly volume driven with small price hike, as most of the players were cautious on raising prices to pass on the input cost hike due to competition scenario. Due to this the gross margins have been under pressure, as a result the companies had reduced their ad spends to maintain operating margins.

The raw material cost grew by 27.8 percent, due to rise in the price of palm oil, tea and coffee. Although the companies raised their prices, they are unable to pass on the entire burden of the rise in input price to the end users. Besides this, rising power costs, and advertising costs, saw the operating margin contract by 170 basis points to 16.2 percent the previous quarter.

The robust growth in consumer demand for beauty and personal care products and the low penetration of most products in rural areas spurred companies to aggressively expand their product portfolios, distribution networks and marketing activities. Also the sector has seen a large number of new players, both domestic and international, entering the market and existing players expanding their brand and product ranges, leading to intense competition. Despite tough competition from major players, Reckitt Benckiser and Dabur India, increased their market share by benefitting from their association with niche brands like Dettol and herbal products.

The FMCG industry as a whole saw low double digit volume growth in Q4 FY11. Meanwhile, Input cost pressure will be there despite fall in palm and crude oil prices. Prices of key inputs including edible oils, Linear Alkyl Benzene, packaging etc have been easing in the recent times, which can facilitate savings in costs, and boost margins. Thus, robust revenue growth of past quarters is unlikely to continue if input costs continue to rise. And rising of margin pressure across companies looks a more probable scenario. In this context, a good South West Monsoons 2011 can not only bring down the cost of inputs, but also boost rural income, and facilitate good volume growth and recovery in pricing power. As a result, the industry can restore strong volume growth, and improve its margins too.

Although the industry's sales are expected to grow by 11.8 percent backed by higher volumes, its total expenses corresponding to sales are expected to increase by a faster 12 percent as compared to growth in sales.

Performance of HUL

While HUL controlled over one third of beauty and personal care sales in India, its market share recently started slipping. Domestic players like Dabur India Ltd and Emami Ltd have benefitted from their focus on developing products with traditional and ayurvedic ingredients and expanding their distribution networks in rural India.

HUL's drop in market share towards the end of the period, resulted in the company

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undertaking several measures to consolidate its market position, including massive expenditure on mass media advertisements, rationalization of non performing brands and new product launches.

Harish Manwani, Chairman commented: "'Our performance has been strong and consistent through the year, driven by our strategy of growing the core and leading market development of the segments and categories of the future. Input costs remain high with the added challenge of volatility, while the competitive environment has further intensified. In this context, we will continue to focus on the best value for our consumers and customers through innovations and strong cost efficiency programmes. The business is being managed even more dynamically to deliver long-term competitive, profitable and sustainable growth.'

Being the largest company by market capitalization in the sectoral index, HUL recorded a 12.8% increase in its share price.

HUL has the highest credit quality rating of AAA. These ratings indicate the lowest expectation of credit risk. They are assigned only in case of exceptionally strong capacity for timely payment of financial commitments. This capacity is unlikely to be adversely affected by foreseeable events.

Mr. Murlidhar, working as a financial analyst tracking HUL needs to provide a detailed analysis about the financial position of the company and also its future outlook. Murlidhar's company needs to be able to quantify the various aspects of the business as well as diagnose the financial health of HUL so that they can make decisions about investments in HUL shares.

Key Data

Income Statement

Year	Mar 11	Mar 10	Mar 09
INCOME :			
Sales Turnover	20,285.44	18,198.15	21,615.31
Excise Duty	904.43	696.47	1,410.18
Net Sales	19,381.01	17,501.68	20,205.13
Other Income	826.86	666.42	812.94
Stock Adjustments	290.53	22.72	421.56
Total Income	20,498.40	18,190.82	21,439.63
EXPENDITURE :			
Raw Materials	8,682.29	7,544.00	9,542.44
Power & Fuel Cost	274.74	244.34	301.37
Employee Cost	947.86	1,094.75	1,205.84
Other Manufacturing Expenses	2,115.12	1,728.97	2,130.93
Selling and Administration Expenses	4,625.72	3,898.69	3,859.62

Miscellaneous Expenses	694.59	669.55	1,178.29
Less: Pre-operative Expenses Capitalised	0	0	0
Total Expenditure	17,340.32	15,180.30	18,218.49
Operating Profit	3,158.08	3,010.52	3,221.14
Interest 0.24	6.98	25.32	
Gross Profit	3157.84	3003.54	3195.82
Depreciation	220.83	184.03	195.3
Profit Before Tax	2,937.01	2,819.51	3,000.52
Tax 591.88	611.46	509.46	
Fringe Benefit tax	0	0	37.06
Deferred Tax	39.16	6.02	-42.45
Reported Net Profit	2,305.97	2,202.03	2,496.45
Extraordinary Items	210.09	96.09	16.45
Adjusted Net Profit	2,095.88	2,105.94	2,480.00
Adjst. below Net Profit	0	-55.33	0
P & L Balance brought forward	802.19	531.66	197.5
Statutory Appropriations	0	0	0
Appropriations	1,872.56	1,876.17	2,162.29
P & L Balance carried down	1,235.60	802.19	531.66
Dividend	1,410.60	1,417.94	1,634.51
Preference Dividend	0	0	0
Equity Dividend %	650	650	750
Earnings Per Share-Unit Curr	9.61	9	8.14
Earnings Per Share(Adj)-Unit Curr			
Book Value-Unit Curr	12.19	11.84	9.45
Balance Sheet			
Year	Mar 11	Mar 10	Mar 09
SOURCES OF FUNDS :			
Share Capital	215.95	218.17	217.99
Reserves Total	2,417.97	2,365.35	1,843.52
Equity Share Warrants	0	0	0

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Equity Application Money	0	0	0
Total Shareholders Funds	2,633.92	2,583.52	2,061.51
Secured Loans	0	0	144.65
Unsecured Loans	0	0	277.29
Total Debt	0	0	421.94
Total Liabilities	2,633.92	2,583.52	2,483.45
APPLICATION OF FUNDS :			
Gross Block	3,759.62	3,581.96	2,881.73
Less : Accumulated Depreciation	1,590.46	1,419.85	1,274.95
Less:Impairment of Assets	0	0	0
Net Block	2,169.16	2,162.11	1,606.78
Lease Adjustment	0	0	0
Capital Work in Progress	299.08	273.96	472.06
Investments	1,260.68	1,264.08	332.62
Current Assets, Loans & Advances			
Inventories	2,811.26	2,179.93	2,528.86
Sundry Debtors	943.2	671.6	536.89
Cash and Bank	1,640.01	1,892.21	1,777.35
Loans and Advances	700.72	624.02	757.86
Total Current Assets	6,095.19	5,367.76	5,600.96
Less : Current Liabilities and Provisions			
Current Liabilities	6,074.87	5,291.66	4,255.82
Provisions	1,324.98	1,441.55	1,527.98
Total Current Liabilities	7,399.85	6,733.21	5,783.80
Net Current Assets	-1,304.66	-1,365.45	-182.84
Miscellaneous Expenses not written off	0	0	0
Deferred Tax Assets	399	451.13	439.09
Deferred Tax Liability	189.34	202.31	184.26
Net Deferred Tax	209.66	248.82	254.83
Total Assets	2,633.92	2,583.52	2,483.45
Contingent Liabilities	663	468.49	473.72

10.17 Further Reading and References

- Accounting: Text & Cases by Anthony, Hawkins & Merchant, 13th Edition, McGraw Hill Higher Education
- "Financial Accounting - A Managerial Perspective", by VaradrajBapat and MehulRaithatha published by Tata McGraw Hills Publishing, Delhi

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UNIT 11 COST ACCOUNTING : CONCEPTS AND METHODS

Structure

11.0 Introduction to Cost and Cost Accounting

Cost means the amount of expenditure (actual or notional) incurred on, or attributable to a thing.Cost is measured by the sacrifices made in terms of resources or price paid to acquire goods and services. Costing is a process of ascertaining cost.

Cost Accounting is a term broader than Costing. It covers Costing plus the Reporting and Control of Costs.

The Institute of Cost and Management Accountant, England (ICMA) has defined Cost Accounting as-"the process of accounting for the costs from the point at which expenditure is incurred, to the establishment of its ultimate relationship with cost centers and cost units. In its widest sense, it embraces the preparation of statistical data, the application of cost control methods and the ascertainment of the profitability of activities carried out or planned".

Wheldon has defined Cost Accounting as "Classifying, recording and appropriate allocation of expenditure for determination of costs of products or services and for the presentation of suitably arranged data for the purpose of control and guidance of management".

Cost Accounting is a term broader than Costing. It covers Costing plus the Reporting and Control of Costs. In simple words, Cost Accounting can be defined as the technique of Recording, Classification, Allocation, Reporting and Control of Costs.

Scope and use of cost accounting

A company having a proper cost accounting system will help the management to:

- Analyse profitability of individual products, services or jobs and different departments or operations.
- Determine cost behaviour of various items of expenditure in the organisation. This will help in future cost estimation with reasonable accuracies.
- Carry out cost ascertainment, allocation, distribution efficiently.
- Prepare budgets for future forecasting and decision making.

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11.1 Unit Objectives

After studying this unit, you should be able to:

- Understand cost and cost accounting
- Classify costs
- Know different methods of costing
- Prepare contract account
- Prepare process accounts
- Prepare cost sheet

11.2 Cost Centre and Cost Unit

11.2.1 Cost Centre

Cost centre is a location, person or item of equipment for which cost may be ascertained and used for the purpose of cost control.

CIMA defines cost centre as "a production or service, function, activity or item of equipment whose cost may be attributed to cost units. A cost centre is the smallest organisational sub unit for which separate cost allocation is attempted."

From the functional point of view, a cost centre may be relatively easy to establish, because a cost centre is any unit of the organisation to which cost can be separately attributed. A cost centre is an individual activity or a group of similar activities for which cost are accumulated. For example, in production departments, a machine or a group of machines within a department or a work group is considered as cost centre.

The procedure of allocation of overheads involves identification of cost centres and allocation of Costs to the cost centres.

Types of cost centres

The cost centres are classified into the following

a. Personal and Impersonal Cost Centres

A cost centre which consists of a person or a group of persons is called Personal Cost Centres e.g. Purchase Manager, Sales Manager etc.

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An Impersonal Cost Centre consists of a location or item of equipment, production department, a machine or a group of machines.

b. Production and Services Cost Centres

Production cost centres are engaged in production activity by conversion activity of raw material into finished production.

Service Cost Centres are those which are ancillary to and render services to other production and service cost centres.

c. Process Cost Centres

A cost centre in which a specific process or a continuous sequence of operation is carried out is called process cost centres.

11.2.2 Cost Unit

A cost unit is a unit of product or a unit of service to which cost are ascertained by means of allocation, apportionment and absorption.

CIMA defines Cost Unit as "a quantitative unit of product of product or service in relation to which costs are ascertained".

It is a unit of quantity of product, service or time or a combination of these in relation to which costs are expressed or ascertained. For example, specific job, contract, unit of product like Fabrication Job, Road Construction Contract, an Automobile Truck, a table 1000 Bricks etc.

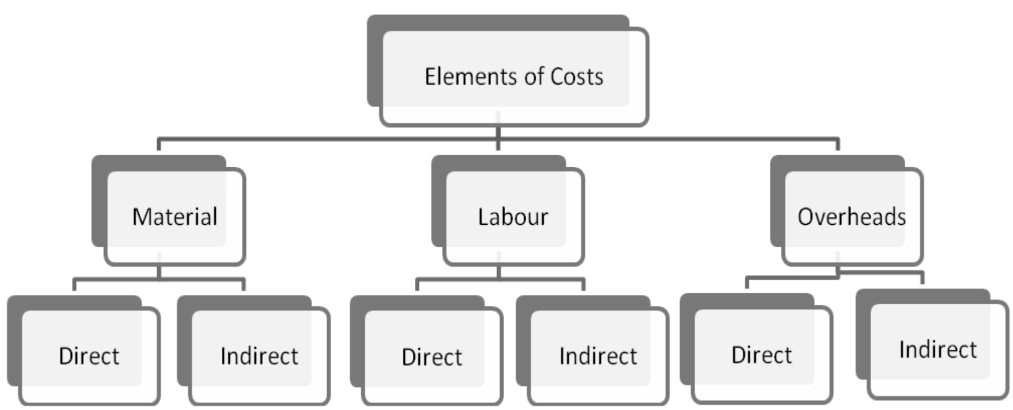
The relation between cost centre and cost unit is that the cost of a function or activity are classified to the cost centre. The cost units which pass through the cost centre, the direct and indirect costs of the cost centre are charged to the units of production by means of an absorption rate. The unit of output in relation to which the cost incurred by a cost centre is expressed is called cost unit. It is useful measurement of costs for comparative purposes.

Check Your Progress

Explain cost center and cost unit in brief.

11.3 Elements of Costs

There are broadly three elements of costs.



1. Material

The substance from which the product is made is known as material. It may be in a raw or a manufactured state. It can be direct as well as indirect.

Direct Materials: All material which becomes an integral part of the finished product and which can be conveniently assigned to specific physical units is termed as 'Direct Material'. All material or components specifically purchased, produced or requisitioned

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from stores.

Indirect Material: All material which is used for purposes ancillary to the business and which cannot conveniently be assigned to specific physical units, is termed as 'indirect material'. Consumable stores, oil and waste, printing and stationary material, etc., are a few examples of indirect material.

2. Labour

For conversion of materials into finished goods, human effort is needed, such human. effort is called labour. Labour can be direct as well as indirect.

Direct Labour: Labour which takes an active and direct part in the production of a particular commodity is called direct labour. Direct labour costs are, therefore, specifically and conveniently traceable to specific products.

Indirect Labour: Labour employed for the purpose of carrying but tasks incidental to goods produced or services provided is indirect labour. Such labour does not alter the construction, composition or condition of the product. It cannot be practically traced to specific units of output. Wages of store-keepers, foremen, time-keepers, salaries of salesmen are all examples of indirect labour costs.

3. Overheads/Expenses

Expenses may be direct or indirect.

Direct Expenses: These are expenses which can be directly, conveniently and wholly allocated to specific cost centres or cost units. Examples of such expenses are: hire of some special machinery required for a particular contract, cost of defective work incurred in connection with a particular job or contract etc.

Indirect Expenses: These are expenses which cannot be directly, conveniently and wholly allocated to cost centres or cost units. Example of such expenses are rent, lighting, insurance charges; etc.

11.4 Classification of Overheads

The term overhead includes indirect material, indirect labour and indirect expenses. Overheads may be incurred in the factory or office or selling and distribution divisions. Thus, overheads may be of three types.

Factory Overheads: They include

a. Indirect material used in the factory such as lubricants,-oil, consumable stores, etc.

b. Indirect labour such as gate-keeper's salary, time-keeper's salary, manager's salary, etc.

c. Indirect expenses such as factory rent, factory insurance, factory lighting, etc.

Office and Administration Overheads: They include

a. Indirect material used in the office such as printing and stationery material, rooms and dusters, etc.

b. Indirect labour such as salaries payable to office manager, office accountant, clerks, etc.

c. Indirect expenses such as rent, insurance, lighting of the office.

Selling and Distribution Overheads: They include

a. Indirect material used such as packing material, printing and stationery material, etc:

b. Indirect labour such as salaries of salesmen and sales manager, etc.

c. Indirect expenses such as rent, insurance, advertising expenses, etc.

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Check Your Progress

How do you classify different overheads.

11.5. Classification of Costs

a. Product and period costs

The product cost is aggregate of costs that are associated with a unit of a product. Product costs are related to goods produced or purchased for resale and are initially identifiable as part of inventory. These products or inventory costs become expenses in the form of cost of goods sold only when the inventory is sold.

The product costs is a cost that tends to be unaffected by changes in level of activity during a given period of time. Period cost is associated with a time period rather than manufacturing activity and these costs are deducted as expenses during the current period without previously classified as product as product costs.

b. Controllable and non-Controllable costs

The Controllable cost is a cost chargeable to a budget or cost centre, which can be influenced by the actions of the person. It is always not possible to predetermine responsibility, because the reason for deviation from expected performance may only become evident later. For example excessive scrap may arise from inadequate supervision or from latent defect in purchased material. The controllable cost is a cost that can be influenced and regulated during a given time span by the actions of a particular individual within an organisation.

The distinctions between controllable and uncontrollable costs are not very sharp and may be left to individual judgement. Some expenditure which may be uncontrollable on the short term basis can be controllable on long- term basis.

c. Replacement and Historical costs

The replacement cost is a cost of replacing assets at any given point of time either at present or the future.

The Historical cost is the actual cost, determined after the event. Historical cost valuation states costs of plant and materials, for example, at the price originally paid for them whereas replacements cost valuation states the costs at prices that would have to be paid currently, Costs reported by conventional financial accounts are based on historical valuations.

d. Imputed and Sunk costs

The Imputed cost is a cost which does not involve actual cost outlay and which is used only for the purpose of decision making and performance evaluation. Imputed cost is a hypothetical cost from the point of view of financial accounting. Interest on capital is common type of Imputed cost. No actual payments of interest are made but the basic concept is that, had the funds been invested elsewhere they would have earned interest.

The sunk costs are those costs that have been invested in a project and which will not be recovered if the project is terminated. The sunk cost is one for which the expenditure has taken place in the past. This cost is not affected by particular decision under consideration. Sunk costs are always results of decision taken in the past. This cost cannot be changed be any decision in future.

e. Fixed, Variable and Semi-variable Costs

Fixed Costs are the costs which remain constant irrespective of the quantum of output within and up to the capacity that has been built up. Examples of such costs are: rent, insurance charges, management salary, etc.

Variable Costs are the costs which vary in direct proportion to output. They increase or decrease in the same proportion in which the output increases or decreases. The examples of such costs are direct material, direct labour, power, etc.

Semi-variable Costs are the costs which do vary but not in direct proportion to output. They are made up of both fixed and variable cost elements such as depreciation, repairs, light, heat, telephone, etc.

f. Opportunity Costs

Opportunity cost refers to the advantage, in measurable terms; which has been foregone on account of not using the facilities in the manner originally planned. For example, if an owned building is proposed to be utilised for housing a new project plant, the likely revenue which the building could fetch, if rented out, is the opportunity cost which should be taken into account while evaluating the profit-ability of the project.

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Check Your Progress

Explain different classification of costs.

11.6. Methods of Costing

Over many years, various cost accounting methods have evolved to record the manufacturing costs to suit particular industries, and it is the need for the organisation to establish a suitable cost accounting system for their business to facilitate the recording and collection of costs; allocation; apportionment and absorption into products and services; and analysis and control of costs etc. But whatever the costing method is used, the basic costing principles relating to collection, analysis, allocation, apportionment, and absorption is used. The costing methods are broadly categorised into two (1) Specific Order Costing (2) Continuous Operation Costing.

11.6.1 Specific Order Costing

Specific Order Costing methods are used by business organisation which involve in make/ assemble/ construct Jobs or Products to individual customers' specific orders

CIMA defines Specific Order Costing as "the basic costing method applicable where the work consists of Separate Contracts, Jobs or Batches, each of which is authorised by a special order or contract"

The specific order costing is further classified into (i) Job Costing (ii) Batch Costing and (iii) Contract Costing.

11.6.1.1 Job Costing

This costing method is used in firms which work on the basis of job work. There are some manufacturing units which undertake job work and are called as job order units. The main feature of these organizations is that they produce according to the requirements and specifications of the consumers. Each job may be different from the other one. Production is only on specific order and there is no pre demand production. Because of this situation, it is necessary to compute the cost of each job and hence job costing system is used. In this system, each job is treated separately and a job cost sheet

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is prepared to find out the cost of the job. The job cost sheet helps to compute the cost of the job in a phased manner and finally arrives the total cost of production.

The following are the features of job costing

It is a specific order costing

- ★ A job is carried out or a product is produced is produced to meet the specific requirements of the order.
- ★ While computing the cost, direct costs are charged to the job directly as they are traceable to the job. Indirect expenses i.e. overheads are charged to the job on some suitable basis.
- ★ Each job completed may be different from other jobs and hence it is difficult to have standardization of controls and therefore more detailed supervision and control is necessary.
- ★ At the end of the accounting period, work in progress may or may not exist.

Merits of Job Costing

The following are the advantages of job costing

- ★ Accurate information is available regarding the cost of the job completed and the profits generated from the same.
- ★ Proper records are maintained regarding the material, labour and overheads so that a costing system is built up
- ★ Performance analysis with other jobs is possible by comparing the data of various jobs.

Limitations of Job Costing

Job costing suffers from certain limitations. These are as follows.

- ★ It is said that it is too time consuming and requires detailed record keeping. This makes the method more expensive.
- ★ Record keeping for different jobs may prove complicated.
- ★ Inefficiencies of the organization may be charged to a job though it may not be responsible for the same.

11.6.1.2. Batch Costing

In the job costing, we have seen that the production is as per the orders of the customers and according to the specifications mentioned by them. On the other hand, batch costing is used where units of a product are manufactured in batches and used in the assembly of the final product. Thus components of products like television, radio sets, air conditioners and other consumer goods are manufactured in batches to maintain uniformity in all respects. It is not possible here to manufacture as per the requirements of customers and hence rather than manufacturing a single unit, several units of the component are manufactured. For example, rather than manufacturing a single unit, it will be always beneficial to manufacture say 75, 000 units of the component as it will reduce the cost of production substantially and also bring standardization in the quality and other aspects of the product. The finished units are held in stock and normal inventory control techniques are used for controlling the inventory. Batch number is given to each batch manufactured and accordingly the cost is worked out.

Costing procedure in batch costing is more or less similar to the job costing in the sense that cost is worked out for each batch rather than job.

11.6.1.3 Contract Costing

This method of costing is used in construction industry to work out the cost of contract undertaken. For example, cost of constructing a bridge, commercial complex, residential complex, highways etc is worked out by use of this method of costing. Contract costing is actually similar to job costing, the only difference being that in contract costing, one construction job may take several months or even years before they are complete while in job costing, each job may be of a short duration. One of the important features of contract costing is that most of the expenses can be traced to a particular contract. Those expenses that cannot be traced to a particular contract are apportioned to the contract on some suitable basis. The cost computation in case of a contract is done on the following basis.

One of the important features of contract costing is that most of the expenses can be traced to a particular contract. Those expenses that cannot be traced to a particular contract are apportioned to the contract on some suitable basis. The cost computation in case of a contract is done on the following basis.

A. Material Cost: Direct Material required for a particular contract is debited to the Contract Account. There may be some quantity of material which is returned back to the store. In such cases, material returned note is prepared and is either credited to the Contract Account or deducted from the material debited to the Contract Account. Similar treatment is given to the material transferred from one contract to another one. Material Transfer Note is prepared to record these transactions of transfer. Material remaining at the site at the end of a particular accounting period is shown as closing stock after valuation of the same and carried forward to the next period.

B. Labour Cost: Wages paid to the workers engaged on a particular contract should be charged to that contract irrespective of the work performed by them. If there are common workers on more than one contract and/or if the workers are transferred from one contract to the other contract, time sheets must be maintained and wages may be distributed on the basis of time spent on each contract. Some of the workers may be working in the central office or central stores, their wages can be apportioned to a particular contract on suitable basis like time spent etc.

C. Expenses: All expenses incurred for a particular contract should be charged to that contract. In case of any indirect expenses incurred for the organization as a whole, they should be charged to the contract on some suitable basis. Direct expenses can be charged directly to the contract.

D. Plant and Machinery: Depreciation on the plant and machinery used for the contract is to be charged to the contract account. The depreciation may be charged on any of the following basis.

- ★ If a plant is specially purchased for a particular contract and is expected to be used for the contract for long time, thus being exhausted at site, the total cost of the plant will be debited to the contract account. After the completion of the contract, if it is no longer required, it will be sold at the site itself and the sale proceeds are credited to the contract account. If it is not sold, the contract is credited with the depreciated [revalued amount value]. Thus the amount of depreciation is debited to the contract account. The main drawback of this

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method is that the debit side of the contract account is unnecessarily inflated with the cost of the plant value and thus the cost of contract is shown very high. For removing this drawback, the difference between the original cost at the commencement of the contract and the depreciated value at the end of the period is worked out and charged to the contract account as depreciation.

- ★ If a plant is used for a contract for a short period, there is no need of debiting the cost of the plant to the contract account. The amount of depreciation is worked out on the basis of per hour and charged to the contract on that basis. The hourly rate is calculated by dividing the depreciation and other operating expenses of the plant by the total estimated working hours of the plant.
- ★ Sometimes plants may be taken on hire for a particular contract. In such cases the amount of rent paid should be debited to the contract account.

V. Subcontract: Sometimes due to certain situations, a sub contractor is appointed to carry out certain special work for the main contract. This special work done by the sub contractor becomes a direct charge to the main contract and accordingly debited to the contract account. The payments made to the sub contractor are charged to the main contract as direct expenses and no detailed break up of the same is required. Material supplied to the sub contractor without any charge, is debited to the contract account as direct material and machinery, tools etc supplied to him on rent should be depreciated on appropriate basis and debited to the contract account. Rent received for the use of such tools and machines should be credited to the contract account or deducted from the final bill of the sub contractor.

VI. Additional Work: Sometimes additional work may be necessary in addition to the work originally contracted for. This forms a separate charge and if the amount involved is large, a subsidiary contract is generally entered into with the contract.

VII. Special Aspects of Contract Account: There are certain special aspects of contract accounts. These are discussed below.

- ★ Certified Work: In contracts which are expected to continue for a long period of time, it is a normal practice that the contractor obtains certain sums from the contractee from time to time. This is done on the value of contract completed and certified by the architect/surveyor appointed by the contractee. The amount received by the contractor is not 100% of the value of the work certified but is less than the same, as the balance amount is kept as retention money. For recording this transaction, any of the following two methods may be used.

I. In the first method, the contract account is credited with the value mentioned in the certificate and personal account of the contractee is debited. Cash received is credited with the contractee's account and the balance is shown as a debtor representing the retention money.

II. In the second method, the contract account is credited with the value of the certificate and the contractee's account is debited with amount payable immediately and a special retention money account is debited with the amount so retained.

- ★ Treatment of Profit on incomplete Profit: Several contracts take more time than one financial year before they are complete. The questions arises as to whether the profits on such contracts should be taken into consideration after the completion of the contract or whether a portion of the same should be taken into accounts every year on certain basis. If profit is taken into consideration after the completion of contracts and if in a single year several contracts are completed, the profits shown will be very high while in another year, if none of the contracts are completed, amount of profits shown will be very low. Thus there will be distortions in the amount of profits. Therefore it becomes necessary to compute the amount of profit on partly completed contracts and take credit of appropriate amount in the profit and loss account by using the following guidelines.

★ Value of certified work only should be taken into consideration while determining the profit. Value of work not certified should not be taken into consideration.

★ In case of contracts which are less than 25% complete, no profits should be taken into consideration and consequently no credit should be taken to Profit and Loss Account.

★ In case of contracts which are more than 25% complete, but less than 50% complete, the following method should be used for computing the profit to be credited to the Profit and Loss Account.

o 1/3 x Notional Profit/ Cash Received/Work Certified. Notional profit is the difference between the value of work certified and cost of work certified. It is computed in the following manner.

Notional Profit = Value of work certified – [cost of work to date – cost of work completed but not certified]

★ In case of contracts complete between 50% and 90% [more than 50% but less than 90%] the following method is used for computing the profit to be credited to the Profit and Loss Account.

2/3 x Notional Profit X Cash Received/Work Certified

★ In case of contracts completed 90% or more than that, it is considered to be almost complete. In such cases, the estimated total profit is first determined by deducting the total costs to date and additional expenditure necessary to complete the contract from the contract price. The portion of profit so arrived is credited to the Profit and Loss Account by using the following formula.

Method I:- Estimated Profit x Work Certified /Contract Price

Method II:- Estimated Profit x Work Certified /Contract Price x Cash Received/ Work Certified or Estimated Profit x Cash Received/Work Certified. The method II is preferable to the first one. In case, additional expenditure to complete the contract not mentioned, the amount of profit to be transferred to the Profit and Loss Account is determined using the following formula.

Notional Profit x Work Certified/Contract Price

★ If there is a loss, the total amount of loss should be transferred to the Profit and Loss Account by crediting the contract account.

★ It will be observed that in case of incomplete contract, amount of profit credited to the Profit and Loss Account is reduced proportionate to the work certified and cash received. The reason is that this being unrealized profits should not be used for distribution of dividend. Similarly, the principle of conservatism should also be applied in computing and crediting the profits.

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Illustration 1

M/s New Century Builders have entered into a contract to build an office building complex for Rs.480 lakhs. The work started in April 1997 and it is estimated that the contract will take 15 months to be completed. Work has progressed as per schedule and the actual costs charged till March 1998 was as follows.

Particulars	**Amount Rs.in lakhs**
Materials	112.20
Labor	162.00
Hire charges for equipment and other expenses	36.00
Establishment charges	32.40

The following information are available:

Particulars	**Amount Rs. in lakhs**
Material in hand 31st March 1998	10.50
Work certified [of which Rs.324 lakhs have been paid] as on 31st March 1998	400.00
Work not certified as on 31st March 1998	7.50

As per Management estimates, the following further expenditure will be incurred to complete the work.

Materials: Rs.10.50 lakhs Labor: Rs.16.00 lakhs

Sub-contractor: Rs.20.00 lakhs

Equipments hire and other charges: Rs.3.00 lakhs Establishment charges: Rs.6.90 lakhs

You are required to compute the value of work-in-progress as on March 31st, 1998 after considering a reasonable margin of profit and show the appropriate accounts. Make a provision for contingencies amounting to 5% of the total costs.

Solution

The following accounts are prepared.

Dr. Contract A/c Cr

Particulars	**Amount Rs.**	**Particulars**	**Amount Rs.**
To Materials	1,12,20,000	By Stock of materials	6,60,000
To Labor	1,62,00,000	By Work-in-progress 4,00,00,000 Work certified: Work uncertified: 7,50,000	4,07,50,000
To Hire charges	36,00,000		
To Establishment charges	32,40,000		

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To Profit c/d	71,50,000		
Total	4,14,10,000	Total	4,14,10,000
To Profit & Loss A/c *	50,00,000	By Profit b/d	71,50,000
To Reserve [Transfer]	21,50,000		
Total	71,50,000	Total	71,50,000

Dr. Contractee's A/c Cr

Particulars	Amount Rs.	Particulars	Amount Rs
To Contract A/c	4,00,00,000	By Bank A/c	3,24,00,000
		By Balance c/d	76,00,000
Total	4,00,00,000	Total	4,00,00,000

*Amount of profit to be taken to the Profit and Loss A/c has been computed as shown below.

Particulars	Amount Rs.	Amount Rs.
Expenditure up to 31st March 1998 Rs. 3,42,60,000 [Total of debit side] – Rs.6,60,000		3,36,00,000
Add: Estimated expenditure to complete Materials: 10,50,000 + Closing stock Rs.6,60,000	17,10,000	
Labor	16,00,000	
Sub-contractor	20,00,000	
Hire charges on equipment	3,00,000	
Establishment charges	6,90,000	
Total		63,00,000
Add: 5% on total cost for contingencies, i.e. Rs.3,99,00,000 X 5/95		21,00,000
Total cost - estimated		4,20,00,000
Total profit - estimated		60,00,000
Contract price		4,80,00,000

Profit to be taken to the Profit and Loss A/c = Total Estimated Profits x Work Certified/Contract Price

Rs.60,00,000 x Rs.4,00,00,000 /Rs.4,80,00,000 = Rs.50,00,000

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Illustration 2

A company undertook a contract for construction of a large building complex. The construction work commenced on 1st April 2005 and the following data are available for the year ended on 31st March 2006.

Particulars	**Amount Rs.000s**
Contract price	35,000
Work certified	20,000
Progress payment received	15,000
Materials issued to site	7,500
Planning and estimating costs	1,000
Direct wages paid	4,000
Materials returned from site	250
Plant hire charges	1,750
Wages related costs	500
Site office costs	678
Head office expenses apportioned	375
Direct expenses incurred	902
Work not certified	149

The contractors own a plant which originally cost Rs.20 lakhs has been continuously in use in this contract throughout the year. The residual value of the plant after 5 years of life is expected to be Rs.5 lakhs. Straight-line method of depreciation is in use. As on 31st March 2006, the direct wages due and payable amounted to Rs.2, 70, 000 and the materials at site were estimated at Rs.2, 00,000.

Required

[a] Prepare the contract account for the year ended 31st March 2006

[b] Show the calculation of profits to be taken to the Profit and Loss A/c of the year

Solution

Dr. Contract A/c for the Year Ended 31st March 2006 Cr.

Particulars	**Amount Rs. 000s**	**Particulars**	**Amount Rs.000s**
To Materials issued	7,500	By Materials returned to site	250
To Direct wages paid	4,000	By Material at site	200
To Wages related costs	500	By Work-in-progress Work certified: 20,000 Work uncertified: 149	20,149

NOTES

To Direct expenses	902		
To Plant hire charges	1, 750		
To Planning and	1, 000		
Estimation Costs			
To Site office costs	678		
To Head Office expenses apportioned	375		
To Depreciation of Plant *	300		
To Direct wages accrued	270		
To Notional profit c/d	3, 324		
Total	20, 599	Total	20, 599

Dr. Contract A/c [Continued From Previous Page] Cr

Particulars	**Amount Rs.000s**	**Particulars**	**Amount Rs.000s**
To Profit and Loss A/c – Transfer #	1,662	By Notional Profit b/d	3,324
To Work-in-progress - Reserve	1,662		
Total	3,324	Total	3,324
1-4-2006 To Work-in-progress b/dWork certified: 20, 000Work uncertified:149	20,149	1-4-2006By Work-in-progress A/c	1,662
To Materials on site	200		

Balance Sheet as on 31st March 2006 [Extracts Only]

Liabilities	Amount Rs.000s	Assets	Amount Rs.000s
Profit and Loss A/c	1, 662	Plant at site: 2,000 Less: Depreciation: 300	1, 700
Wages accrued	270	Material at site: Work-in-progress: 20, 149 Less: Reserve: 1,662 18,487 Less: Cash received: 15, 000	3, 487 3,487

NOTES

* Depreciation on plant is on straight- line method. The cost of plant is Rs.20 lakhs and the expected life is 5 years with a residual value of Rs.5 lakhs. Hence the amount of depreciation will be Rs.20 lakhs – Rs.5 lakhs divided by 5 years which comes to Rs.3 lakhs per year.

Since the contract completion is between 50% and 90%, 2/3rd of the notional profit subject to the proportion of cash received and work certified will be taken into consideration with the help of the following formula.

Notional Profit x 2/3 x Cash Received/Work Certified Rs.3, 324 x 2/3 x Rs.15, 000/Rs.20, 000 = Rs.1, 662

11.6.2 Continuous Operation Costing

Where organisation which involve in mass production of products, through continuous operations, which will then be sold from stock and will not be produced to the specific requirements of the customers.

CIMA defines Continuous Operation Costing as “the basic costing method applicable where goods or services result from a series of continuous or repetitive operations or processes to which costs are charged before being averaged over the units produced during the period.”

The important feature of continuous operation is that, the process involve in production of identical units of output and total costs are divided by number of units produced to give the average cost per unit. The Continuous Operation Costing is classified into the following:

i. Process costing (including Process of Joint Products and By- Products)
ii. Operating costing

11.6.2.1 Process Costing

Process Costing is also a method of costing which is used in those industries where the production is in continuous process, i.e. the output of one process becomes the input of the subsequent process and so on. Examples of such industries are, paint works, chemical plants, food manufacturing, oil refining, paper mill, textile mills, sugar factories, fruit canning, dairy and so on. In such industries, the input is put in the first process and the output of each process becomes the input of the subsequent process till the final product emerges from the last process.

The objective of process costing is to find out the cost of each process by identifying the direct costs with the particular process and apportioning the indirect costs i.e. overheads to each process on some suitable basis. The units coming out the process as the finished output are uniform in all the respects and hence the cost per unit is computed by dividing the total cost by the total production units. In case, some units are incomplete at the end of a particular period, equivalent units are worked out of such incomplete units and then the cost per unit is computed. The features of process costing are discussed in the following paragraphs.

1) The production is in continuous flow and is uniform. All units coming out as finished products are uniform with each other in all respects.

2) The product is manufactured in a continuous flow and hence individual units lose their identity.

3) The unit cost is obtained by dividing the total cost for a particular period by the total output. This is the average cost of the product units.

4) Cost per process is ascertained and cost of each process is transferred to the subsequent process until the finished product emerges.

5) In a particular process normal and abnormal losses emerge. Normal loss is a loss, which is inevitable in any process and thus cannot be avoided or controlled. Any loss, which, is over and above, the normal loss is called as abnormal loss and is to be accounted for separately. For example, if 1000 units are put in Process 1 and it is anticipated that there will be a normal loss of 1% in the process, the output expected is 1,000 – 1% of 1,000 that is 990. If actual production is 980, there is an abnormal loss of 10 units. On the other hand if the production is 995, there is an abnormal gain of 5 units. Abnormal gain and abnormal loss are to be accounted for in the process cost accounts.

Pro Forma of Process Account [Without normal/abnormal loss/gain]: A simple process account is prepared in the following manner.

Process I Account

Debit Credit

Particulars	Qty	Rate Rs.	Amount Rs.	Particulars	Qty	Rate Rs.	Amount Rs.
Direct Materials				OutputTransferred To Process II			
Direct Labour							
Direct Expenses							
Production Overheads							
Total				Total			

Note: Process II and subsequent Process Accounts will be prepared in the same fashion. In the final process, the cost and output will be transferred to the finished goods stock account.

Illustration 3

Product A is a product produced after three distinct processes. The following information is obtained from the accounts of the company for a particular period.

Particulars	Total AmountRs.	Process IRs	Process IIRs	Process IIIRs
Direct Material	2,200	1,800	300	100
Direct Labor	400	100	200	100
Direct Expenses	500	300	—	200

Production overheads are incurred Rs.800 and is recovered at 200% of direct wages.

NOTES

Production during the period was 100 kg. There was no opening or closing stock. Prepare Process Accounts assuming that there is no process loss.

Solution

Process I Account Output: 100 kg

Debit Credit

Particulars	Qty Kg	Rate . Rs	Amount Rs.	Particulars	Qty Kg	Rate Rs.	Amount Rs.
Direct Materials	100	18.00	1,800	Output Transferred to Process II	100	24	2,400
Direct Labor		1.00	100				
Direct Expenses		3.00	300				
Production Overheads 200% of direct labor		2.00	200				
Total	100	24.00	2,400	Total	100	24	2,400

Process II Account Output: 100 kg

Debit Credit

Particulars	QtyKg	Rate Rs.	Amount Rs.	Particulars	QtyKg	Rate Rs.	Amount Rs.
Transferred From Process I	100	24.00	2,400	Output Transferred to Process Process III	100	33	3,300
Direct Materials		3.00	300				
Direct Labor		2.00	200				
Direct Expenses		—	—				
Production Overheads 200% of direct labor		4.00	400				
Total	100	33.00	3,300	Total	100	33	3,300

Process I Account Output: 100 kg

Debit Credit

Particulars	QtyKg	Rate Rs.	Amount Rs.	Particulars	QtyKg	Rate Rs.	Amount Rs.
Transferred From Process II	100	33.00	3,300	Output Transferred to Finished Stock	100	39	3,900
Direct Materials		1.00	100				

Direct Labor		1.00	100				
Direct Expenses		2.00	200				
Production Overheads 200% of direct labor		2.00	200				
Total	100	39.00	3,900	Total	100	39	3,900

NOTES

In the above illustration, the assumption was that there is neither normal loss or abnormal loss/gain. However there can be normal and/or abnormal loss/gain and hence the treatment of such losses should be understood properly. The treatment of such losses is given below.

★ Normal Loss: The fundamental principle of costing is that the good units should bear the amount of normal loss. Normal loss is anticipated and in a process it is inevitable. The cost of normal loss is therefore not worked out. The number of units of normal loss is credited to the Process Account and if they have some scrap value or realizable value the amount is also credited to the process account. If there is no scrap value or realizable value, only the units are credited to the process account.

★ Abnormal Loss: If the units lost in the production process are more than the normal loss, the difference between the two is the abnormal loss. The relevant process of account is credited and abnormal loss account is debited with the abnormal loss valued at full cost of finished output. The amount realized from sale of scrap of abnormal loss units is credited to the abnormal loss account and the balance in the abnormal loss account is transferred to the Costing Profit and Loss Account.

★ Abnormal Gain: If the actual production units are more than the anticipated units after deducting the normal loss, the difference between the two is known as abnormal gain. The valuation of abnormal gain is done in the same manner like that of the abnormal gain. The units and the amount is debited to the relevant Process Account and credited to the Abnormal Gain Account.

Illustration 4

Product B is obtained after it passes through three distinct processes. The following information is obtained from the accounts for the week ending on 31st March 2006.

Particulars	Total Amount	Process I	Process II	Process III
Direct material	Rs. 7,542	Rs. 2,600	Rs. 1,980	Rs. 2,962
Direct wages	Rs. 9,000	Rs. 2,000	Rs. 3,000	Rs. 4,000
Production overheads	Rs.9,000			

1,000 units @ Rs. 3 each were introduced in Process I. There was no stock of materials or work in progress at the beginning or at the end of the period. The output of each process passes direct to next process and finally to finished store. Production overheads are recovered on 100% of direct wages. The following additional data are obtained.

NOTES

Particulars	Output during the week	% of normalloss to input	Value of scrapper unit
Process I	950 units	5%	Rs. 2
Process II	840 units	10%	Rs. 4
Process III	750 units	15%	Rs. 5

Prepare Process Cost Accounts and Abnormal Loss and Abnormal Gain Account.

Solution

Process I Account

Debit Credit

Particulars	Units	Rate Per Unit Rs.	Amount Rs.	Particulars	Units	Rate Per Unit Rs.	Amount
Units introduced	1,000	3	3,000	Normal loss	50 *	2	100
Direct materials	—	—	2,600	Transferred to Process II	950	10	9,500
Direct wages	—	—	2,000				
Production overheads	—	—	2,000				
Total	1,000		9,600	Total	1000		9,600

* Normal loss is 5% of the units introduced i.e. 5% of 1000 units = 50 units.

The scrap value is given Rs.2 per unit and hence Rs.100 are credited to the Process I Account.

Process II Account

Debit Credit

Particulars	Units	Rate Per Unit Rs.	Amount Rs.	Particulars	Units	Rate Per Unit Rs.	Amount
Transfer from Process I	950	10	9,500	Normal loss	95 *	4	380
Direct materials	—	—	1,980	Abnormal loss	15 **	20	300
Direct wages	—	—	3,000	Transferred to Process III	840	20	16,800
Production overheads	—	—	3,000				
Total	950		17,480	Total	950		17,480

* Normal loss is 10% of the input i.e. 950 units = 95 units. The scrap value of the same is credited to the Process II Account.

** Abnormal loss is computed in the following manner.

+ Units introduced – Normal loss = 950 – 95 = 855 units = normal production

+ Actual production = 840 units, therefore abnormal loss = 15 units

+ Valuation of abnormal loss = Cost – Scrap/Normal production

•• Therefore Rs. 17,480 – Rs. 300/855 units = Rs. 20 per unit. (approx)

NOTES

Process III Account

Debit							Credit
Particulars	Units	Rate Per Unit Rs.	Amount Rs.	Particulars	Units	Rate Per Unit Rs.	Amount
Transfer from Process II	840	20	16,800	Normal loss	126 *	5	630
Direct materials	—	—	2,962	Transferred to Finished Stock	750	38	28,500
Direct wages	—	—	4,000				
Production overheads	—	—	4,000				
Abnormal gain **	36	38	1,368				
Total	876		29,130		876		29,130

* Normal loss is 15% of input i.e. 15% of 840 units which is 96 units

** Abnormal gain is computed as shown below.

+ Units introduced – normal loss = normal production = 840 – 126 = 714 units

+ Actual production is 750 units

+ Abnormal gain is 750 units – 714 units = 36 units

+ Valuation of abnormal gain = Cost – Scrap/Normal production

+ Rs. 27,132 – Rs. 630/714 units = Rs. 38 (approx)

Abnormal Loss Account

Debit							Credit
Particulars	Units	Rate Per Unit Rs.	Amount Rs.	Particulars	Units	Rate Per Unit Rs.	Amount
Process II	15	20	300	Debtor[Sale of scrap] Transfer to Costing Profit and Loss Account	15	4	60 240
Total	15	20	300	Total	15		300

Abnormal Gain Account

Debit							Credit
Particulars	Units	RateRs.	AmountRs.	Particulars	Units	RateRs.	AmountRs.
Process III [Scrap]	36	5	180	Process III	36	38	1,368
				Transfer to Costing Profit and Loss A/c			1,188
Total	36		1,368	Total	36		1,368

Joint Products and By-Products

Joint products can be defined as distinctly different major products that are inevitably produced simultaneously from common inputs or by common processing. Some of joint products may require further processing or may be sold directly. Joint products are commonly produced in industries like, chemicals, oil refining, mining, meat- packing, automobile etc. In oil refining, fuel, oil, petrol, diesel, kerosene, lubricating oil are few examples of the joint products.

The term 'by-products' is sometimes used synonymously with the term 'minor products'. The by-product is a secondary product, which incidentally results from the manufacture of a main product. By–products are also produced from the same raw material and same process operations but they are secondary results of operation. The main difference between the joint product and by-product is that there is no intention to produce the by-product while the joint products are produced intentionally. E.g. in cotton textile, the cotton-seed, which is taken out before the manufacturing process, is a by-product.

11.6.2.2 Operating Costing

Cost Accounting has been traditionally associated with manufacturing companies. However in the modern competitive market, cost accounting has been increasingly applied in service industries like banks, insurance companies, transportation organizations, electricity generating companies, hospitals, passenger transport and railways, hotels, road maintenance, educational institutions, road lighting, canteens, port trusts and several other service organizations. The costing method applied in these industries is known as 'Operating Costing'. According to the Institute of Cost and Management Accountants [UK] operating costing is, 'that form of operating costing which applies where standardized services are provided either by an undertaking or by a service cost center within an undertaking'. The main objective of operating costing is to compute the cost of the services offered by the organization. For doing this, it is necessary to decide the unit of cost in such cases. The cost units vary from industry to industry. For example, in goods transport industry, cost per ton kilometer is to be ascertained while in case of passenger transport, cost per passenger kilometer is to be computed.

11.7 Cost Sheet

The elements/ components of total cost can be presented in the form of a statement, popularly known as 'Cost Sheet'. The cost sheet may be prepared separately for each cost centre. It may have columns to show total cost, cost per unit, together with the relevant figures of the previous period.

Particulars	Amount	Amount
Opening Stock of Raw Material	***	
Add: Purchase of Raw materials	***	
Add: Purchase Expenses	***	
Less: Closing stock of Raw Materials	***	
Raw Materials Consumed	***	

Direct Wages (Labour)	***	
Direct Charges	***	
Prime cost		***
Add :- Factory Over Heads:		
Factory Rent	***	
Factory Power	***	
Indirect Material	***	
Indirect Wages	***	
Drawing Office Salary	***	
Factory Insurance	***	
Factory Asset Depreciation	***	
Supervisor’s salary		***
Add: Opening Stock of WIP	***	
Less: Closing Stock of WIP	***	
Works cost/Factory Cost		***
Add:- Administration Over Heads:-		
Office Rent	***	
Asset Depreciation	***	
General Charges	***	
Audit Fees	***	
Bank Charges	***	
Other Office Expenses	***	
Cost of Production		***
Add: Opening stock of Finished Goods	***	
Less: Closing stock of Finished Goods	***	
Cost of Goods Sold		***
Add:- Selling and Distribution OH:-		
Sales man Commission	***	
Salesman salary	***	
Traveling Expenses	***	
Advertisement	***	
Delivery man expenses	***	
Sales Tax	***	
Bad Debts	***	
Cost of Sales	***	
Profit		***
Sales		***

NOTES

11.8. Solved Illustration

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Illustration 5

Calculate prime cost from the following information.

Particulars	**Rs.**
Direct Material	40000
Direct labour	24000
Direct expenses	12000
Indirect Material	20000
Indirect expenses	6000
Indirect labour	12000
Carriage Inwards	2000
Carriage Outwards	1000

Solution

Particulars	
Direct Material	40000
Direct labour	24000
Direct expenses	12000
Carriage Inwards	2000
Prime Cost.	78000

Illustration 6: Prepare Cost Sheet from the following information.

Particulars	**Rs.**
Opening stock of material	84000
Purchase	192000
Closing stock of material	36400
Direct labour	52000
Direct expenses	36000
Unproductive Wages	29200
Factory overheads	25800
Office overheads	17400
Selling overheads	13500
Sales	692000

NOTES

Solution:

Particulars		
Raw Material consumed		
Opening stock	84000	
Add purchases	192000	
	276000	
Less: closing stock	36400	239600
Direct labour		52000
Direct expenses		36000
Prime Cost		326000
Add: factory overheads	25800	
Unproductive wages	29200	55000
Works Cost		382600
Add: office overheads		17400
Cost of production		400000
Add: Selling overheads		13500
Cost of Sales		413500
Profit		278500
Sales		692000

Illustration 7: A manufacturer presents the following details about the various expenses incurred in manufacturing

Particulars	Rs.
Raw Material consumed	70000
Carriage inwards	2000
Factory rent	2400
Bad Debts	440
Printing and Stationary	620
Legal expenses	350
Carriage inwards	1540
Indirect material	560
Power	4600
Depreciation on furniture	160
Postage expenses	465

NOTES

Repairs to plant and machinery	1200	
Salesmen's expense	3400	
Advertisement	500	
Direct wages	85000	
General manager's salary	36000	
Factory manager's salary	18000	
Depreciation on plant and machinery	1240	
Audit fees	350	

Using the above information prepare the statement of costs.

Solution:

Particulars	**Rs.**	**Rs.**
Raw material		70000
Carriage inwards		2000
Direct wages		85000
Prime Cost		157000
Add: Factory overheads		
Factory rent	2400	
Indirect material	560	
Power	4600	
Repairs to plant and machinery	1200	
Factory and managers salary	18000	
Depreciation on plant	1240	28000
Works cost		185000
Add: Administrative overheads		
Printing	620	
Legal expenses	350	
Postage	465	
Depreciation on furniture	160	
General manager's salary	36000	
Audit fees	350	37945
Cost of Production		222945
Add: Selling overheads		
Bad debts	440	

NOTES

Carriage outwards	1540	
Salesman expenses	3400	
Advertisement	500	5880
Total cost/ cost of sales		2288825

Illustration 8

The following data were collected related to the manufacture of a standard product during the month of April 2012:

Raw Material	80000
Direct Wages	48000
Machine hours worked	8000 hours
Machine hour rate	Rs.4
Administration overheads	10% of works cost
Selling overheads	Rs. 1.50 per unit
Units produced	4000
Units sold	3000
Selling price	Rs.50 per unit

You are required to prepare a cost sheet in respect of the aforementioned data showing

(a) Cost per unit and

(b) Profit for the month of April 2012.

Solution: Statement of cost and Profit:

Particulars	**Cost per unit (Rs.)**	**Total (Rs)**
Raw Materials	20	800 00
Direct Wages	12	48000
Prime Cost	32	128000
Add: Factory overheads (Machine hour* rate per hour)	8	32000
Works Cost	40	160000
Administration overheads	4	16000
Cost of Production	44	176000
Less: Closing Stock of finished goods	-	44000
Cost of goods Sold	44	132000
Add: Selling overheads	1.50	4500
Cost of Sales	45.50	136500

Profit	4.50	13500
Sales	50	1500000

NOTES

Hint: Closing Stock = produced – sold = 4000 -3000 = 1000.

Illustration 9:

Prepare cost sheet for the year 2012 from the following showing the total cost and cost per unit. Number of units produced is 2000.

Particulars	**Rs.**
Opening stock of raw material	10000
Purchases	180000
Direct wages	56000
Indirect wages	48000
Closing Stock of raw material	12000
WIP on 1 january 1986	5000
WIP on 31 December 1986	6000
Factory overheads	26000
Office overheads	45000
Selling overheads	16000
Opening Stock of finished goods(100 units)	20000

The closing stock of finished goods is 120 units. Profit is 10% on sales.

During the year 2013, it was decided to increase the production to 2000 units. It was anticipated that

a. Material prices would increase by 10%.

b. Wages would reduce by 20%.

c. Other expenses would remain constant per unit.

d. Expected profit would become 20% sales.

Prepare cost sheet and ascertain selling price to be fixed per unit.

Solution: cost sheet for the year 2012 (output 2000 units)

Particulars	**Rs.**	**Rs.**
Raw materials:		
Opening stock	100000	
Add: purchases	180000	
	190000	
Less: closing stock	12000	178000
Direct wages		56000
Prime cost		234000
Add: factory overheads		26000
Gross works cost		260000

Add: opening WIP		5000
		265000
Less: closing WIP		6000
		259000
Add: indirect wages		48000
Net works cost		307000
Add: office overheads		45000
Cost of production		352000
Add: opening stock of finished goods		20000
Total		372000
Less: closing stock of finished goods(352000/2000*150)	21120	
Cost of goods sold		350880
Add: selling overheads		16000
Cost of sales		366880
Profit (1/9 on cost)		40764
Sales		407644

Estimated cost statement of the year and 2013 [output is 2400 units]:

Particulars	CPU	Rs.
raw material	97.9	234960
Direct wages	22.4	53760
Prime cost		288720
Add: factory overheads	13	31200
Indirect wages	24	57600
Works cost		377520
Add: office overheads	22.5	54000
Cost of production		431520
Add: selling overheads (16000/2000+100-120)	8.081	19394
		450914
Profit (1/4 on cost)		112729
Sales		563643

11.9 Summary

- Cost: The amount of expenditure (actual or notional) incurred on or attributable to a given thing.
- Controllable Cost: Costs chargeable to a job or cost centre which can be influenced by the actions of the persons in whom the control of such a centre is vested.
- Fixed Cost: The cost which remains fixed irrespective of the quantum of output over a certain capacity of the organisation.

NOTES

NOTES

- ★ Opportunity Cost: The value of the benefit sacrificed in favour of choosing a particular alternative or action.
- ★ Uncontrollable Cost: The costs chargeable to a job or cost centre which cannot be influenced by the action of the person in whom the control of the centre vests.
- ★ Variable Cost: The cost which tends to vary in direct proportion to changes in the volume of output or turnover.
- ★ Job Costing This method is also called as job order costing. This costing method is used in firms which work on the basis of job work. There are some manufacturing units which undertake job work and are called as job order units.
- ★ Batch Costing This method of costing is used in those firms where production is made on continuous basis. Each unit coming out is uniform in all respects and production is made prior to the demand, i.e. in anticipation of demand.
- ★ Process Costing Some of the products like sugar, chemicals etc involve continuous production process and hence process costing method is used to work out the cost of production.
- ★ Operating Costing This type of costing method is used in service sector to work out the cost of services offered to the consumers.
- ★ Contract Costing This method of costing is used in construction industry to work out the cost of contract undertaken.

11.10 Key Terms

- ★ Cost means the amount of expenditure (actual or notional) incurred on, or attributable to a thing.Cost is measured by the sacrifices made in terms of resources or price paid to acquire goods and services. Costing is a process of ascertaining cost.
- ★ Cost Accounting is a term broader than Costing. It covers Costing plus the Reporting and Control of Costs.
- ★ Cost centre is a location, person or item of equipment for which cost may be ascertained and used for the purpose of cost control.
- ★ A cost unit is a unit of product or a unit of service to which cost are ascertained by means of allocation, apportionment and absorption.
- ★ Fixed Costs are the costs which remain constant irrespective of the quantum of output within and up to the capacity that has been built up. Examples of such costs are: rent, insurance charges, management salary, etc.
- ★ Variable Costs are the costs which vary in direct proportion to output. They increase or decrease in the same proportion in which the output increases or decreases. The examples of such costs are direct material, direct labour, power, etc.

11.11 Questions and Exercises

NOTES

11.11.1 Theory Questions

1. What do you understand by cost accounting? State its objectives.
2. What do you understand by cost? Explain its different elements.
3. "Fixed costs are variable per unit, while variable costs are fixed per units". Comment.
4. Discuss the importance of estimating in job costing.
5. What do you understand by 'Batch' type of industries? What are the basic principles of batch costing?
6. Discuss the nature of contract costing and explain the procedure of recording costs in contract costing.
7. Discuss the distinguishing features of process costing.
8. What do you understand by 'normal loss' and 'abnormal loss'? How would you treat them in process cost accounts?

11.11.2 Practical Problems

Exercise 1

Prepare a cost sheet from the following details:

Raw Materials : Opening stock Purchases Closing 20,000 1,00,000 40,000

Direct wages	40,000
Chargeable Expenses	8,000
Machine hours worked	16,000
Machine hour rate	Rs. 2
Office overheads	10% of works cost
Selling Overheads	Rs. 1.50 per unit
Cash discount allowed	1,000
Interest on capital	2,000
Units produced	4,000
Units sold	3,600 @ Rs. 50 each

(Hint: Cash discount and interest on capital are to be excluded from costs).

Exercise 2

Prepare a cost sheet from the following details:

Opening Stock:	**Rs.**
Raw materials	10,000
Finished goods	8,000
Closing stock	8,000
Raw materials	10,000

NOTES

Finished goods	0
Raw materials purchased	80,000
Octroi paid on raw materials	8,000
Carriage inward	12,000
Direct wages paid	40,000
Direct expenses	4,000
Rent, rats and taxes	10,000
Power	4,000
Factory heating and lighting	4,000
Factory insurance	2,000
Experimental expenses	1000
Office management salaries	8,000
Office printing and stationary	4,000
Salary of salesman	1200
Advertising	600
Carriage outwards	200
Sales	2,00,000

11.12 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press
2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

UNIT 12 MARGINAL COSTING AND CVP ANALYSIS

NOTES

Structure

12.0 Introduction

Marginal Cost is defined as, 'the change in aggregate costs due to change in the volume of production by one unit'. For example, if the total number of units produced are 800 and the total cost of production is Rs.10, 000, if one unit is additionally produced the total cost of production may become Rs.10, 010 and if the production quantity is decreased by one unit, the total cost may come down to Rs.9, 990. Thus the change in the total cost is by Rs.10 and hence the marginal cost is Rs.10. The increase or decrease in the total cost is by the same amount because the variable cost always remains constant on per unit basis.

Marginal Costing has been defined as, 'Ascertainment of cost and measuring the impact on profits of the change in the volume of output or type of output. This is subject to one assumption and that is the fixed cost will remain unchanged irrespective of the change.' Thus the marginal costing involves firstly the ascertainment of the marginal cost and measuring the impact on profit of alterations made in the production volume and type.

It is in fact a technique of costing in which only variable manufacturing costs are considered while determining the cost of goods sold and also for valuation of inventories. In fact this technique is based on the fundamental principle that the total costs can be divided into fixed and variable. While the total fixed costs remain constant at all levels of production, the variable costs go on changing with the production level. It will increase if the production increases and will decrease if the production decreases. The technique of marginal costing helps in supplying the relevant information to the management to enable them to take decisions in several areas.

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12.1 Unit Objectives

After studying this unit, you should be able to:

- ★ Understand marginal cost and marginal costing
- ★ Distinguish between absorption and marginal costing
- ★ Carry out cost-volume-profit analysis
- ★ Understand practical application of marginal costing
- ★ Solve short term decision making problems

12.2 Absorption costing and Marginal Costing

Absorption costing technique is also termed as Traditional or Full Cost Method. According to this method, the cost of a product is determined after considering both fixed and variable costs. The variable costs, such as those of direct materials, direct labour, etc. are directly charged to the products, while the fixed costs are apportioned on a suitable basis over different products manufactured during a period. Thus, in case of Absorption Costing all costs are identified with the manufactured products.

The technique of Marginal Costing is a definite improvement over the technique of Absorption Costing. According to this technique, only the variable costs are considered in calculating the cost of the product, while fixed costs are charged against the revenue of the period. The revenue arising from the excess of sales over variable costs is technically known as Contribution under Marginal Costing.

Absorption Costing	**Marginal Costing**
1. Costs are classified as direct and indirect, direct costs are identifiable with a particular product and hence charged directly. Indirect costs i.e. overheads are first identified apportioned to the cost centres and finally absorbed in the product units on some suitable basis.	1. Costs are classified as fixed and variable. While direct costs are mostly variable, indirect costs, i.e. overheads may be semi variable. The variable portion in the total overhead cost is identified and thus the total variable costs are computed. Only variable costs are charged to the product while the fixed costs are not absorbed in the product units.
2. The year-end inventory of finished goods under absorption costing is valued at total cost, i.e. fixed and variable.	2. The year-end inventory is valued at variable cost only. Fixed costs are not taken into consideration while valuing inventory, as they are not absorbed in the product units.

3 The fixed overhead absorption may create some problems like over/ under absorption. This happens because of the overhead absorption rate which is pre determined.	3. The fixed overheads are charged directly to the Costing Profit and Loss Account and not absorbed in the product units. Therefore there is no question of under/over absorption of overheads.
4. Due to the inventory valuation, which is done at the full cost, the costs relating to the current period are carried forward to the subsequent period. This will distort the cost of production.	4. Fixed costs are not taken into consideration while valuing the inventory and hence there is no distortion of profits.
5. The total cost of production is charged to the product without distinguishing between the fixed and variable components. The selling price is thus fixed on the basis of total costs.	5. Only variable costs are charged to the cost of production and therefore the selling price is also based on only variable costs. This will result in fixation of selling price below the total costs. There is a possibility of starting a price war in such situations, which will be harmful to all the companies in the industry.

Illustration 1

From the following data compute the profit under a] Marginal costing and b] Absorption costing and reconcile the difference in profits.

Selling price per unit: Rs.8 Variable cost per unit: Rs.4

Fixed cost per unit: Rs.2

Normal volume of production is 26 000 units per quarter.

The opening and closing stocks consisting of both finished goods and equivalent units of work in progress are as follows:

Particulars	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Opening stock [Units]	—	—	6,000	2,000	—
Production [Units]	26, 000	30, 000	24, 000	30, 000	1, 10,000
Sales [Units]	26, 000	24, 000	28, 000	32, 000	1, 10,000
Closing stock [Units]	—	6, 000	2, 000	—	—

Solution: The following statements are prepared to show profits under marginal costing and absorption costing.

I] Statement Showing Profit/Loss Under Marginal Costing

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Particulars	Quarter I Rs	Quarter II Rs	Quarter III Rs	Quarter IV Rs	Total Rs
A) Sales @ Rs.8	2, 08,000	1, 92,000	2,24,000	2, 56,000	8, 80,000
B) Marginal costs					
Opening Stock @ Rs. 4	—	—	24,000	8, 000	
Production @ Rs.4	1,04,000	1, 20,000	96,000	1, 20,000	4, 40,000
Total [Opening Production]	1,04,000	1, 20,000	1,20,000	1, 28,000	4, 40,000
Less: Closing Stock @ Rs.4	—	24,000	8,000		
Cost of goods	1,04, 000	96, 000	1,12,000	1, 28, 000	4, 40, 000
C) Contribution [A – B]	1,04,000	96,000	1,12,000	1,28,000	4,40,000
D) Fixed Cost	52,000	52,000	52,000	52,000	2,08,000
E) Profit [C – D]	52,000	44,000	60,000	76,000	2,32,000

Sales value is computed by multiplying the number of units sold in each quarter by the selling price per unit of Rs.8

II] Statement of Profit Under Absorption Costing

Particulars	Quarter I Rs	Quarter II Rs	Quarter III Rs	Quarter IV Rs	Total Rs
A) Sales @ Rs.8	2,08,000	1,92,000	2,24,000	2,56,000	8,80,000
B) Opening Stock @ Rs.6	—	—	36,000	12,000	
C) Cost of Production @ Rs.6 *	1,56,000	1,80,000	1,44,000	1,80,000	6,60,000
D) A + C	1,56,000	1,80,000	1,80,000	1,92,000	6,60,000
E) Closing Stock @ Rs.6	—	36,000	12,000	—	—
F) Cost of Sales [Actual] D - E	1,56,000	1,44,000	1,68,000	1,92,000	6,60,000
G) Profit before adjustment of under or over absorbed fixed cost [A – F]	52,000	48,000	56,000	64,000	2,20,000
Add: Over absorbed fixed overheads **	—	8,000	—	8,000	16,000
Less: Under absorbed fixed overheads ***	—	—	4,000	—	4,000
Profit	52,000	56,000	52,000	72,000	2,32,000

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* The total cost of production is Rs.6, which, consists of Rs.4 variable cost, and Rs.2 as fixed cost per unit at the normal volume of production. The opening stock cost of production and closing stock values are computed by taking these figures.

** Over absorption of fixed overheads is computed by multiplying the excess production than the normal volume by the fixed overheads per unit i.e. Rs.2

*** Under absorption of overheads is computed by multiplying the units produced below the normal volume of production by the fixed overheads per unit i.e. Rs.2.

III] Reconciliation of Profit

Particulars	Quarter I Rs	Quarter II Rs	Quarter III Rs	Quarter IV Rs	Total Rs
Profit as per absorption costing	52,000	56,000	52,000	72,000	2,32,000
Less: Higher fixed cost in closing stock [6000 x Rs.2]		12,000	—	—	12,000
Add: Higher fixed cost in opening stock *			8,000	4,000	12,000
Profit as per marginal costing	52,000	44,000	60,000	76,000	2,32,000

* In quarter III: [6000 – 2000] x Rs.2 = Rs.8, 000, Quarter IV = 2, 000 x Rs.2 = Rs.4, 000

Check Your Progress

Explain difference between absorption and marginal costing.

12.3 Applications of Marginal Costing

Marginal costing is a very useful technique of costing and has great potential for management in various managerial tasks and decision- making process. The applications of marginal costing are discussed as follows.

Cost Control: One of the important challenges in front of the management is the control of cost. Cost control aims at not allowing the cost to rise beyond the present level. Marginal costing technique helps in this task by segregating the costs between variable and fixed. While fixed costs remain unchanged irrespective of the production volume, variable costs vary according to the production volume. Since the segregation of costs between fixed and variable is done in the marginal costing, concentration can be made on variable costs rather than fixed cost and in this way unnecessary efforts to control fixed costs can be avoided.

Profit Planning: Another important application of marginal costing is the area of profit planning. The marginal costing technique helps to generate data required for profit planning and decision-making. For example, computation of profit if there is a change in the product mix, impact on profit if there is a change in the selling price, change in profit if one of the product is discontinued or if there is a introduction of new product, decision regarding the change in the sales mix are some of the areas of profit planning in which necessary information can be generated by marginal costing for decision making.

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12.4 Segregation of Semi-Variable Costs

Marginal Costing Method requires segregation of all costs into two parts-fixed and variable. This means that the semi-variable costs will have to be segregated into fixed and variable elements.

This may be done by using the following methods :

- ★ Levels of output compared to levels of expenses method: According to this method, the difference in output at two different points of time is compared with the corresponding difference in expenses. Since the fixed portion of expenses remains constant, any increase or decrease in total semi-variable expenses must be attributed to the variable portion. The variable cost per unit can be derived by dividing the difference in (total) semi-variable expenses with the difference in the level of output at two points of time.
- ★ High-low method: Under this method, we calculate total sale and total cost at highest level of production. Then we calculate total sale and total cost at lowest level of production. Because, semi variable cost have both variable and fixed cost. We first calculate variable rate with following formula :

= Excess of total cost / Excess Sale X 100

This rate shows variable cost of sale value. By using this rate, we also calculate variable cost of sale at highest level. Now, same variable cost will be deducted from total cost at the highest level of production. Reminder will be fixed cost.

For example

Sale at highest highest level of production 140000

Sale at lowest level of production 80000

Excess sale = 60000

Total cost at highest level of production 72000

Total cost at lowest level of production 60000

Excess cost = 12000

Variable cost rate = 12000/60000 X 100 = 20% of sale

Variable cost at highest level of production = 140000 X 20% = 28000

Fixed cost = Rs. 72000 - Rs. 28000 = Rs.44000

Check Your Progress

Explain techniques to segregate semi variable cost into fixed and variable cost.

12.5 Marginal Cost Statement

A marginal cost statement allows us to calculate the contribution per unit and net profit or loss over the accounting period. Following is the format to prepare marginal cost statement.

Particulars	Rs.
Sales	Xxx
Less: Variable Cost	Xxx
Contribution	Xxx
Less: Fixed Cost	Xxx
Profit	Xxx

`Contribution' is difference between selling price and variable cost (i.e. the marginal cost). It can be expressed by following formula.

Contribution = Selling Price-Variable Cost or

= Fixed Cost + Profit

This also helps us to compute Profit Volume (P/V) ratio as follows.

P/V ratio = Contribution

Sales X 100 or

Sales- variable cost

Sales x 100

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Check Your Progress

What is contribution? How do you arrive at the same?

12.6 Break Even Analysis

The term 'Break-even Analysis refers to a system of determination of that level of activity where total cost equals total selling price. However, in the broader sense, it refers to that system of analysis which determines the probable profit at any level of activity. The relationship between cost of production, volume of production, profit and sales value is established by break-even analysis. The analysis is also known as `Cost-Volume-Profit analysis.

Break-even analysis is useful for a manager in the following ways:

- It helps him in forecasting the profit fairly accurately.
- It assists in performance evaluation for purposes of management control.
- It helps in formulating price policy by projecting the effect which different price structures will have on costs and profits.
- It helps in determining the amount of overhead cost to be charged at various levels of operations, since overhead rates are generally pre-determined on the basis of a selected volume of production.

Thus, cost-volume-profit analysis is an important medium through which one can have an insight into effects on profit due to variations in costs (both fixed and variable and sales (both volume and value). This enables us to take appropriate decisions.

The Break Even Point (BEP) is a level of production where the total costs are equal to the total revenue, i.e. sales. Thus at the break-even level, there is neither profit nor loss. Production level below the break-even-point will result into loss while production

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above break-even point will result in profits. This concept can be better understood with the help of the following table.

Suppose, the selling price of a product is Rs.20 per unit, variable cost Rs.12 per unit and fixed cost Rs.1,00, 000, the break-even level can be found out with the help of the following table.

Number of Units	Sales Value [Rs.20 per unit] Rs.	Variable Cost [Rs.12 per unit] Rs.	Fixed Cost [Rs.100000] Rs.	Total Cost [Variable + Fixed] Rs.	Profit/ Loss [Sales value– total cost] Rs.
5000	100000	60000	100000	160000	-60000
7500	150000	90000	100000	190000	-40000
10000	200000	120000	100000	220000	-20000
12500	250000	150000	100000	250000	0
15000	300000	180000	100000	280000	20000

The above table shows that at the production level of 12500 units, the total costs are equal to the total revenue and hence it is the break-even level. Production and sales level below the break-even level results into loss as shown in the table while above the break-even level will result in profits.

If the above table is analyzed, it will be seen that, when the production level was 5000, the revenue from sales was not sufficient to cover the total cost i.e. variable + fixed. When the production level starts rising, the sales level starts rising but the total cost does not rise in the proportion as the fixed cost remain the same. Consequently the amount of loss starts decreasing and the trend continues till the break-even level is reached. After the break-even level is crossed, the sales revenue exceeds the total costs and hence it results in profits.

Break even level can also be worked out with the help of the following formulae.

Break even point [in units] = Fixed Cost / Contribution per Unit

Break even point [in Rs.] = Fixed Cost / Profit Volume [P/V] Ratio

Break even point can also be shown on the graph paper as follows:

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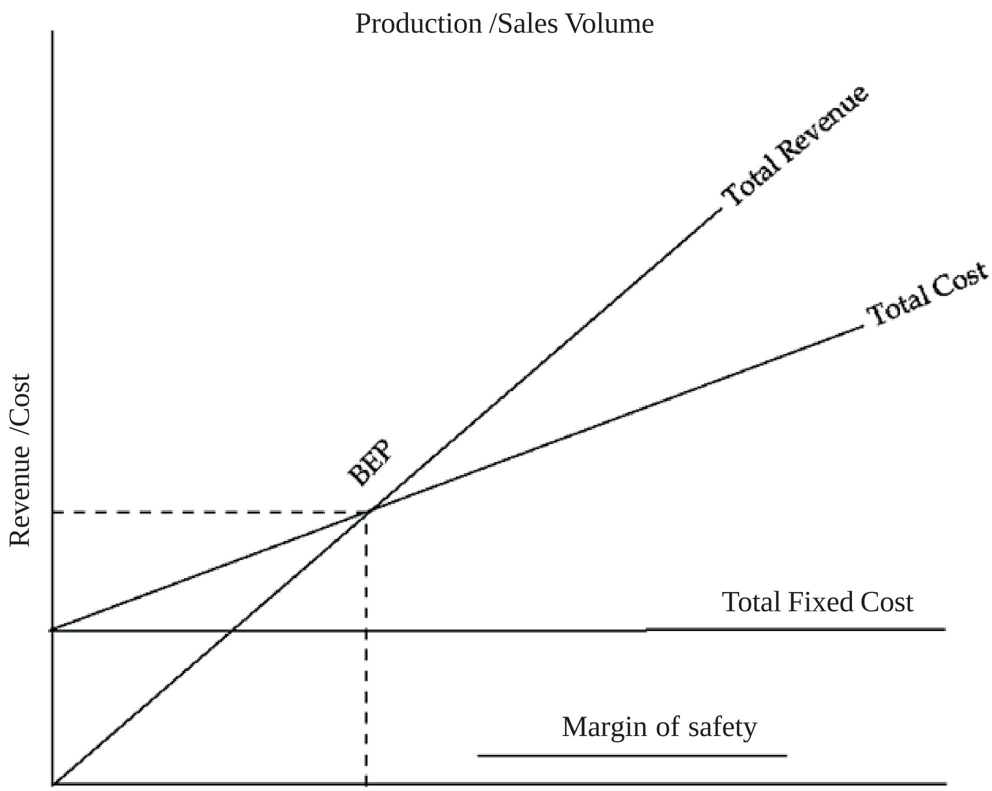

Explanation: On horizontal axis, production and sales volume is shown while on the vertical axis, sales and costs in amount are shown.

Assumptions of Break Even Point: The concept of break-even point is based on the following assumptions.

Production and sales are the same, which means that as much as is produced is sold out in the market. Thus there is no inventory remaining at the end.

Fixed cost remains same irrespective of the production volume.

Variable cost varies with the production. It changes in the same proportion that of the production. Hence it has a linear relationship with the production. In other words, variable cost per unit remains the same.

Selling price per unit remains same irrespective of the quantity sold.

Limitations of Break-even Point: Break-even point is extremely useful in decision-making regarding the production level. It indicates the level of production where there is neither any profit nor loss. However this is based on the assumption that the variable cost per unit, sales price per unit and the fixed cost remains the same. If there is any change in these variables, the break-even point will give misleading results.

Margin of Safety: Margin of Safety is the difference between the actual sales and the break even sales. As we have discussed, at the break-even point there is neither any profit nor loss. Hence any firm will always be interested in being as much above the break-even level as possible. Margin of safety explains precisely this thing and the higher the safety margin the better it is. Margin of safety is computed as follows

Margin of Safety = Actual Sales – Break Even Sales.

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Check Your Progress
Explain the concept of break-even analysis

Summary of Formulae

1) Sales = Total cost + Profit = Variable cost + Fixed cost + Profit
2) Total Cost = Variable cost + Fixed cost
3) Variable cost = It changes directly in proportion with volume
4) Variable cost Ratio = {Variable cost / Sales} x 100
5) Sales – Variable cost = Fixed cost + Profit
6) Contribution = Sales x P/V Ratio
7) Profit Volume Ratio:
   - {Contribution / Sales} x 100
   - {Contribution per unit / Sales per unit} x 100
   - {Change in profit / Change in sales} x 100
   - {Change in contribution / Change in sales} x 100
8) Break Even Point [BEP]:-
   - Fixed cost / Contribution per unit [in units]
   - Fixed cost / P/V Ratio [in value]
9) Margin of safety [MOs]
   - Actual sales – Break even sales
   - Net profit / P/V Ratio
   - Profit / Contribution per unit [In units]
10) Sales unit at Desired profit = {Fixed cost + Desired profit} / Cont. per unit
11) Sales value for Desired Profit = {Fixed cost + Desired profit} / P/V Ratio
12) At BEP Contribution = Fixed cost

12.7 Solved Illustration

Illustration 3

Company budgets for a production of 150000 units. The variable cost per unit is Rs.14 and fixed cost per unit is Rs.2 per unit. The company fixes the selling price to fetch a profit of 15% on cost. Required,

A] What is the break- even point?

B] What is the profit/volume ratio?

C] If the selling price is reduced by 5%, how does the revised selling price affects the Break Even Point and the Profit/Volume Ratio?

D] If profit increase of 10% is desired more than the budget, what should be the sales at the reduced price?

Solution:

Break Even Point = Fixed Cost /Contribution Per unit

= Rs.2 x 1 50 000 units = Rs.3, 00, 000 /Rs.18.40 – Rs.14.00

= Rs.3, 00, 000 / Rs.4.40 = 68, 182 units.

Note: Contribution per unit is computed as shown below.

> Selling Price per unit = Total Cost + 15% Profit on cost = Rs.16 [Rs.14 variable cost + Rs.2 fixed cost] + Rs.2.40 [15% of Rs.16] = Rs.18.40

> Contribution = Selling Price – Variable Cost = Rs.18.40 – Rs.14 = Rs.4.40

Profit/Volume Ratio: Contribution Per Unit/Selling Price Per Unit x 100 Rs.4.40 / Rs.18.40 x 100 = 23.91%

Reduction in selling price by 5%: Reduced selling price = Rs.18.40 – 5% of Rs.18.40 = Rs.17.48, revised contribution = Rs.17.48 – Rs.14.00 = Rs.3.48

Break Even Point = Fixed Cost /Contribution Per Unit = Rs.3, 00, 000 /Rs.3.48

= 86, 207 units

Desired profit = Rs.2.40 + 10% of Rs.2.40 = Rs.2.64 per unit

Total Profits = Rs.2.64 x 1 50 000 units = Rs.3, 96, 000

+ Total Fixed Costs = Rs.3, 00, 000

Total Contribution = Rs.6, 96, 000

Quantity to be sold = Total Contribution + Revised Contribution Per Unit

Rs.6, 96, 000 / Rs.3.48 = 2, 00, 000 units

Sales Value = 2 00 000 units x Rs.17.48 = Rs.34, 96, 000

Illustration 4

The following figures are available from the records of Venus Traders as on 31st March

Figures: In Lakhs of Rs.

Particulars	2006	2007
Sales	150	200
Profits	30	50

Calculate:

a) Profit/Volume ratio and total fixed expenses

b) Break Even sales

c) Sales required to earn a profit of Rs.90 lakhs

d) Profit/Loss that would arise if the sales were Rs.280 lakhs

Solution:

The first step in the problem is to work out the profit/volume ratio. The following formula will have to be used for the computation of this ratio.

a) Profit / Volume Ratio = Change in profit/Change in sales x 100

= Rs.20/Rs.50 X 100 = 40%

Fixed Expenses: We can take the sales of any one year, suppose we take the sales of the year ended on 31st March 2006, the amount is Rs.150 lakhs

The profit/volume ratio is 40% which means that contribution is 40% of sales i.e. 40% of Rs.150 lakhs which comes to Rs.60 lakhs. The amount of profit is Rs.30 lakhs.

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Contribution – Fixed Cost = Profit, i.e. Rs.60 lakhs – Fixed Cost = Rs.30 lakhs, therefore fixed cost is Rs.30 lakhs

b) Break Even Sales = Fixed Cost / Profit/Volume Ratio = Rs.30 lakhs/40% = Rs.75 lakhs

c) Sales required to earn a profit of Rs.90 lakhs:

> Sales = Fixed Cost + Profit /P/V Ratio = Sales = Rs.30 lakhs + Rs.90 lakhs / 40% > Sales = Rs.120 lakhs/40% = Rs.3, 00, 00, 000 i.e. Rs.300 lakhs

d) Profit / loss if sales are Rs.280 lakhs, Sales = Fixed Cost + Profit /P/V Ratio > Rs.280 lakhs = Rs.30 lakhs + Profit /40% = Rs.82 lakhs

Illustration 5

The budgeted sales of the products of a company are as follows :

Products

	X	**Y**	**Z**
Budgeted sales in Units	10000	15000	20000
Budgeted selling price per unit	4	4	4
Budgeted variable cost per unit	2.5	3	3.5
Budgeted Fixed expenses	12000	9000	7500

From the above information, you are required to compute the following for each product:

a) The Budgeted Profit

b) The Budgeted break even sales

c) The Budgeted margin of safety in terms of sales value

Solution

Statement showing the total budgeted net profit, break-even point and Margin of safety for each product.

Particulars	**X**	**Y**	**Z**
Budgeted Sales	40,000	60,000	80,000
(-) Budgeted Variable cost	(25,000)	45,000	70,000
Budgeted contribution	15,000	15,000	10,000
(-) Budgeted Fixed cost	(12,000)	9,000	7,500
Budgeted Net Profit	3.000	6,000	2,500
BEP (sales) (12,000*40/15)	32,000	36,000	60,000
Margin of Safety	8,000	24,000	20,000

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Illustration 6

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.
Direct material	8,280
Direct labour	11,160
Variable manufacturing expenses	3,960
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 21,000Units
	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 7

Quality products Ltd. manufactures and markets a single product. The following data is available.

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	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.

By reducing the sale price by 5%.

By increasing the dealer's margin by 25% over the existing rates.

Which of these suggestions would you recommend?

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
Marginal Costing –Accept or Reject Decisions 465		

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.

12.8 Summary

NOTES

- ★ Marginal Costing and Absorption Costing are the two techniques which can be used for ascertaining the cost of a product, job or a process.
- ★ Marginal Costing is a technique where only the variable costs are considered while computing the cost of products. The fixed costs are met against the total contribution of all the products taken together.
- ★ The technique of Marginal costing greatly helps the management in taking appropriate managerial decisions, viz., dropping a product line, making or buying a component, shut-down or continuation of operations in periods of trade depression, fixation of minimum selling price of a product, etc.
- ★ Cost volume profit analysis provides a framework within which the impact of volume changes in the short-run may be examined on profit.
- ★ Break Even Point of a point of no profit no loss and at this point revenue equals cost.
- ★ Margin of safety is the excess of sales, budgeted or actual, over the break-even sales volume. It shows the amount by which sales may decrease before losses occur.

12.9 Key Terms

- ★ Marginal Cost is defined as, 'the change in aggregate costs due to change in the volume of production by one unit'
- ★ Marginal Costing has been defined as, 'Ascertainment of cost and measuring the impact on profits of the change in the volume of output or type of output. This is subject to one assumption and that is the fixed cost will remain unchanged irrespective of the change.'
- ★ Absorption costing technique is also termed as Traditional or Full Cost Method. According to this method, the cost of a product is determined after considering both fixed and variable costs. The variable costs, such as those of direct materials, direct labour, etc. are directly charged to the products, while the fixed costs are apportioned on a suitable basis over different products manufactured during a period.
- ★ The term 'Break-even Analysis refers to a system of determination of that level of activity where total cost equals total selling price.
- ★ Margin of Safety: Margin of Safety is the difference between the actual sales and the break even sales.

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12.10 Questions and Exercises

12.10.1 Multiple Choice Questions

1. The break even point is the point at which,

   There is no profit, no loss

   Contribution margin is equal to total fixed cost

   Total fixed cost is equal to total revenue

   All of the above.

2. A large margin of safety indicates

   Over capitalization

   The soundness of business

   Overproduction

   None of these

3. The selling price is Rs.20 per unit, variable cost Rs.12 per unit, and fixed cost Rs.16, 000, the break?

   even-point in units will be,

   800 units

   2000 units

   3000 units

   None of these

4. The P/V ratio of a product is 0.4 and the selling price is Rs.40 per unit. The marginal cost of the

   product would be,

   Rs.8

   Rs.24

   Rs.20

   Rs.25

5. Under the marginal costing system, the contribution margin discloses the excess of,

   Revenue over fixed cost

   Projected revenue over the break-even-point

   Revenues over variable costs

   Variable costs over fixed costs.

6. Cost volume-profit analysis allows management to determine the relative profitability of a product by,

Highlighting potential bottlenecks in the production process

Keeping fixed costs to an obsolete minimum

Determine contribution margin per unit and projected profits at various levels of production

Assigning costs to a product in a manner that maximizes the contribution margin.

7. If the ratio of variable costs to sales of a firm is 30% and its fixed expenses are Rs. 63,000, the break-even point would be

   a) Rs. 90,000

   b) Rs. 18,900

   c) Rs. 71,100

   d) Rs. 81,900

   e) None of the above

8. An increase in variable costs

   a) reduces the contribution

   b) increases the P/V ratio

   c) increases the margin of safety

   d) increases the new profit

   e) none of above

12.10.2 Theory Questions

1. Define 'Marginal Cost' and 'Marginal Costing'. How variable and fixed costs are treated in marginal costing?
2. Discuss the differences between the marginal costing and absorption costing.
3. What is CVP analysis? Does it differ from break-even analysis?
4. How do you compute the break-even point?
5. What are the different methods available for segregation of semi variable expenses? Explain with examples.

12.10.3 Exercises

Exercise 1

Your company has a production capacity of 2,00,000 units per year. Normal capacity utilization is reckoned as 90%. Standard variable production costs are Rs.11 per unit. The Fixed costs are budgeted at Rs 3,60,000/- per year. Variable selling costs are Rs.3 per unit and fixed selling costs are Rs.2,70,000 per year. The unit selling price is Rs.20. In the year just ended on 30th June, 2002, the production was 1,60,000 units and sales were 1,50,000 units. The closing inventory on 30.6.2002 was 20,000 units. The actual variable production costs for the year were Rs.35,000 higher than the standard. The actual fixed production over heads incurred were Rs.3,80,000/- for the year.

i) Calculate the profit for the year

   a) by absorption costing method, and

b) by marginal costing method.

ii) Explain the difference in the profits

Exercise 2

NOTES

X Ltd. Is a recently formed company manufacturing vehicles. Its cost structure is such that on sale of every Rs.2,000, it spends Rs.1400/-. In 2002, when the total sales revenue was Rs.10,00,000/-, it sustained loss of Rs. 2,00,000/-

You are required to compute the break even point. If the minimum net profit to be earned is Rs.2,00,000/- in order to justify the survival, what must be sales revenue ?

Exercise 3

Ever Forward Ltd is manufacturing and selling two products, Splash and Flash at selling prices of Rs.3 and Rs.4 respectively. The following sales strategy has been outlined for the year 2003 :

(i) Sales planned for the year will be Rs.7.20 lakhs in the case of Splash and Rs.3.50 Lakhs in the case of Flash

(ii) To meet the competition, the selling price of Splash will be reduced by 20% and that of Flash by 12.5%

(iii) Break-even is planned at 60% of the total sales of each product

(iv) Profit for the year to be achieved is planned as Rs.69,120 in the case of Splash and

Rs.17,500 in the case of Flash. This would be possible by lauching a cost reduction programme and reducing the present annual fixed expenses of Rs.1,35,000 allocated at Rs.1,08,000 to Splash and Rs.27,000 to Flash.

You are required to present the proposal in financial terms giving clearly the following information:

(a) Number of units to be sold of Splash and Flash to break even as well as the total number of units of Splash and Flash to be sold during the year.

(b) Reduction in fixed expenses, product wise, that is envisaged by the Cost Reduction Programme.

12.11 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press

2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

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UNIT 13 STANDARD COSTING AND VARIANCE ANALYSIS

Structure

13.0 Introduction

Standard Cost is defined as, 'a pre-determined cost which is calculated from management's standard of efficient operation and the relevant necessary expenditure. It may be used as a basis for price fixation and for cost control through variance analysis.' [CIMA – UK] Standard Costing is defined as, 'preparation and use of standard costs, their comparison with actual costs and analysis of variances into their causes and points of incidences.' [CIMA – UK] From the definitions given above, the following features of standard cost and standard costing emerge.

Features of Standard Cost and Standard Costing. The following are the features of standard cost :

★ Standard cost is a pre planned or pre-determined cost. This means that the standard cost is determined even before the commencement of production. For example, if a firm is planning to launch a product in the year 2009, the standard cost of the same will be determined in the year 2008.

★ Standard cost is not an estimated cost. There is a difference between saying what would be the cost and what should be the cost. Standard cost is a planned cost and it is a cost that should be the actual cost of production.

★ It is calculated after taking into consideration the management's standard of efficient operation. Thus standard cost fixed on the assumption of 80%

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efficiency will be different from what it will be if the assumption is of 90% efficiency.

★ Standard cost can be used as a basis for price fixation as well as for exercising control over the cost.

Standard Costing is a technique of costing rather than a method and has the following features:

★ Standard costing involves setting of standards for various elements of cost. Thus standards are set for material costs, labour costs and overhead costs. Setting of standard is the heart of standard costing and so this work is done very carefully.

★ Setting of wrong standards will defeat the very purpose of standard costing. Standards are not only set for costs, but also for sales and profits. The objective behind setting of standards is to have a basis for comparison between the standard performance and the actual performance.

★ Another feature of standard costing is to continuously record the actual performance against the standards so that comparison between the two can be done easily.

★ Standard costing ensures that there is a constant comparison between the standards and actual and the difference between the two is worked out. The difference is known as 'variance' and it is to be analysed further to find out the reasons behind the same.

★ After the ascertaining of the variances, analyzing them to find out the reasons for the variances and taking corrective action in order to ensure that the variances are not repeated, are the two important actions of management. Thus standard costing helps immensely in evaluation of performance of the organization.

The process of standard costing is carried out in four stages:

★ Fixing standard for each element of cost, namely materials, labour, and overheads.

★ Comparing actual performance with set standards

★ Analysing variances as to their location and cause and

★ Timely reporting the findings to management for corrective action.

The management would like to measure the extent of the differences before tracing out the area and causes of such discrepancies. From the absolute differences it would not be possible to measure the variation in terms of monetary value. Hence, the analyst has to use a few formulae and reduce the differences to monetary terms for easy comparison. This process is known as variance analysis.

13.1 Unit Objectives

After learning this unit you will be able to

★ Understand standard costing

★ Learn variance analysis

★ Compute different variances

13.2 Variance Analysis

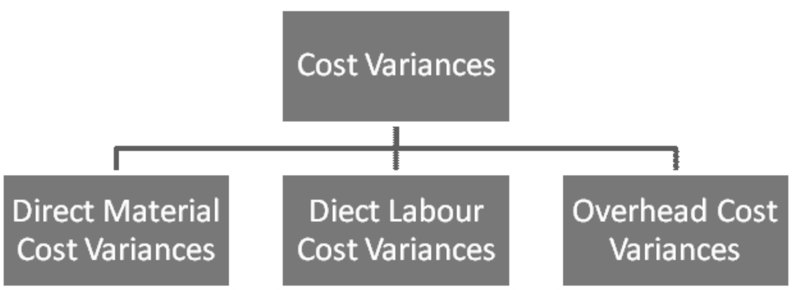
NOTES

Variance is the difference between budgeted and the actual level of activity. Profitability of a business depends both on costs and sales, it will be Cost variance is the difference between ‘ what should have been the cost’ (popularly termed as standard cost) and ‘what has been the cost ‘ (i.e. actual cost). In case the actual cost is less than the standard cost, the variance is termed as ‘favourable’. However, if the actual cost is more than the standard costs, variance is termed as ‘adverse’ or ‘unfavourable’.

Sales variance is the difference between ‘what should have been the sales’ (popularly) termed as Budgeted sales) and ‘what have been the sales ‘ (i.e. the actual sales). In case the amount of actual sales is more than the budgeted sales, the variance is termed as ‘favourable’. However, if the amount of actual sales is less than the budgeted sales, the variance is termed as ‘adverse’ or ‘unfavourable’.

13.3 Cost Variances

Cost variances are classified as follows:



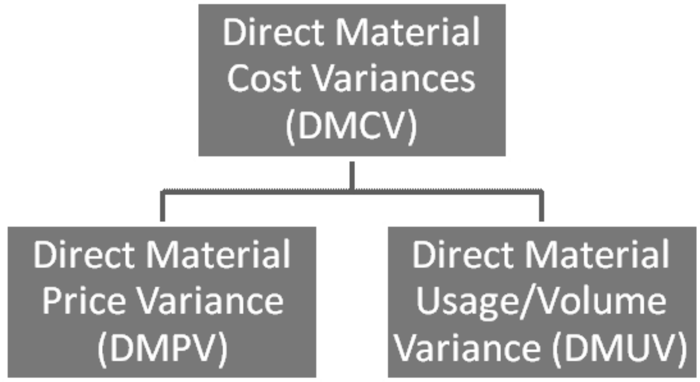
13.3.1 Direct Material Variances

Three types of direct material variances are explained here. The first one is Direct Material Cost Variance (DMCV) which is equal to the difference between the standard cost of direct materials specified for the output achieved and the actual cost of direct materials used. The standard cost of materials is computed by multiplying the standard price with the standard quantity for actual output, and the actual cost is computed by multiplying actual price with the actual quantity.

Direct Material Cost Variance = Total Standard Cost for Actual Output- Total Actual Cost

= (Standard Price x Std. Qty. for Actual Output) - (Actual Price x Actual Quantity)

If the actual cost is more than the standard cost, it would result in an adverse variance and vice-versa. The material cost variance may arise either on account of change in price or change in quantity or both. Thus, material cost variance may be further analysed as ‘material price variance’ and ‘material usage variance’



Direct Material Price Variance (DMPV)

DMPV is concerned with that portion of the direct material cost variance which is due to the difference between the standard price specified and the actual price paid.

Direct Material Price Variance = Actual Quantity [Standard Price – Actual Price]

If the actual price is more than the standard price, the variance would be adverse and in case the standard price is more than the actual price, it would result in a favourable variance. The price variance may be due to fluctuations in market prices, high or low transportation charges, discount policy etc.

Direct Material Usage Variance (DMUV)

This variance measures the difference between the standard quantity of material consumed for actual production and the actual quantity consumed and the same is multiplied by standard price. The computation is as shown below.

DMUV = Standard Price [Standard Quantity – Actual Quantity]

The reasons for usage variance could be unskilled labour, improper maintenance of machines, improper supervision etc.

Illustration 1

Using the following information compute material variances.

Standard output 800 units

Actual output 1,000 units

Std. qty. per unit 1 kg

Total actual qty. used 1,200 kg.

Std. rate per unit Rs.4 per kg

Actual rate per unit Rs. 5 per kg.

Solution:

DMCV = Standard Cost for actual output - Actual Cost

= (1,000 x 1 x 4)-(1,200 x 5)

= Rs. 4,000 - Rs. 6,000

= Rs. 2,000 (Adverse)

DMPV = Actual Quantity [Standard Price – Actual Price]

= 1,200 x (4 - 5)

= Rs. 1,200 (Adverse)

DMUV = Standard Price [Standard Quantity – Actual Quantity]

= 4 X (1,000-1,200)

= Rs. 800 (Adverse)

Material Cost Variance = Material Price Variance + Material Quantity Variance

Rs. 2,000 (Adverse) = Rs. 1,200 (Adverse) + Rs. 800 (Adverse)

NOTES

Check Your Progress

What are the different types of material variances?

13.3.2 Direct Material Labour Variances

The deviations in cost of direct labour may occur because of two main factors: (1) difference in actual rates and standard rates of labour, and (ii) the variation in actual time taken by workers and the standard item prescribed for performing a job or an operation.

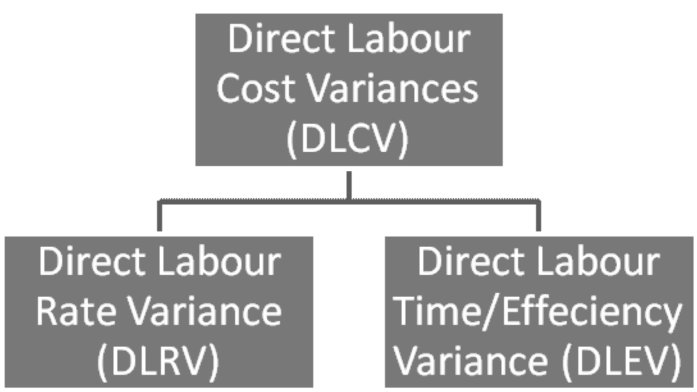
Labour variances are very much similar to material variances and they can be very easily calculated by applying the same techniques as used in calculation of variances.

Direct Labour Cost Variance is the difference between the standard direct wages specified for the activity achieved and the actual direct wages paid.

Direct Labour Cost Variance = Total Standard Cost for Actual Output- Total Actual Cost

= (Standard Rate x Std. Hrs. for Actual Output) - (Actual Rate x Actual Hrs.)

The direct labour cost variance may arise on account of difference in either rate of wages or time. Thus, it may be further analysed as (i) Rate variance, and (ii) Time or Efficiency variance.



Direct Labour (Wages) Rate Variance

It is that portion of direct labour (wages) variance which is due to the difference between the standard or specified rate of pay and actual rate paid.

Direct Labour Rate Variance (DLRV) = Actual time x (Standard Rate - Actual

Rate)

If the actual rate is higher than the standard rate, it shall result in an unfavourable variance and vice versa.

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The reasons for direct labour rate variance may be as under:

- ★ Deployment of more efficient and skilled workers giving rise to higher payment.
- ★ Higher payment due to shortage of availability of labour.
- ★ Lesser payment due to abundant availability of labour or high competition among them for employment.
- ★ Employment of unskilled labourers causing lower actual rates of pay.

Direct Labour Efficiency (Time) Variance

It is that portion of the direct labour variance which is due to the difference between the standard labour hours specified for the activity achieved and the actual labour hours expended.

Labour Efficiency Variance (for actual output) = Standard Rates x Standard time _ Actual time

Labour efficiency variance may be caused by the following:

- ★ Defective or bad materials
- ★ Breakdown of plant and machinery
- ★ Failure of power
- ★ Efficient working by the labourers and fuller utilisation of time due to incentives given.
- ★ Loss of time due to delayed instructions from management or delay in receipt pf raw materials.
- ★ Alteration in the method of production.

Illustration 2

Using the following information compute Labour variances.

Standard output 200 units

Standard time per unit 2 hours

Standard rate per hour Rs. 3

Actual output 160 units

Total actual time taken 300 hours

Actual rate per hour Rs.3.50

Solution

DLCV = (Standard Rate x Std. Hrs. for Actual Output) - (Actual Rate x Actual Hrs.

= (Rs. 3 x 160 x 2) – (Rs. 3.50 x 300)

= Rs. 960 - 1,050 = Rs. 90 (Adverse)

DLRV = Actual time x (Standard Rate - Actual Rate)

= 300 hrs x (Rs. 3 - Rs. 3.50) = Rs.150 (Adverse)

Labour Efficiency Variance = Standard Rates x (Standard time - Actual time)

= Rs. 3 x (320 hrs -300 hrs). = Rs.60 (Favourable)

DLCV = Labour Rate Variance + Labour Efficiency Variance

= Rs. 150 (A) + 60 (F)

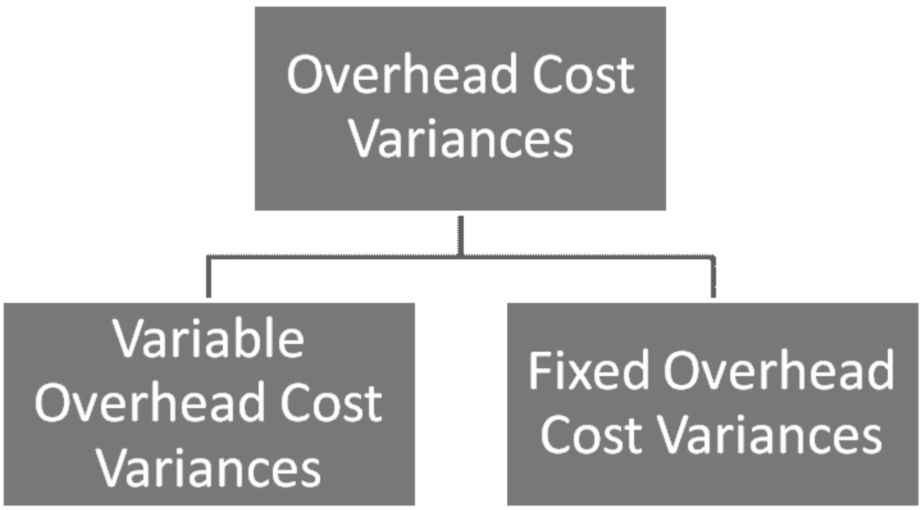
= Rs. 90 (Adverse)

NOTES

Check Your Progress
Explain factors responsible for labour variances

13.3.3 Overhead Variances

The term overhead includes indirect material, indirect labour and indirect expenses. Overheads may relate to factory, office, or selling and distribution departments. However, for the purposes of variance analysis, we can broadly divide the overhead cost variance into two categories as shown below:



Check Your Progress
Explain different overhead variances.

13.3.3.1 Variable Overhead Cost Variances

The following variances are computed in case of variable overheads.

A Variable Overhead Cost Variance: This variance indicates the difference between the standard variable overheads for actual overheads and the actual overheads. The difference between the two arises due to the variation between the budgeted and actual quantity. The formula for the computation of this variance is as follows:

Variable Overhead Cost Variance = Standard Variable Overheads for Actual Production – Actual Variable Overheads.

B Variable Overheads Expenditure Variance: This variance indicates the difference between the standard variable overheads to be charged to the standard production and the actual variable overheads. If the actual overheads are less than the standard variable overheads, the variance is favourable, otherwise it is adverse. The formula for the computation is as follows:

Variable Overhead Expenditure Variance = Standard Variable Overheads for Standard Production – Actual Variable Overheads.

C Variable Overheads Efficiency Variance: It indicates the efficiency by comparing between the output actually achieved and the output that should have been achieved in the actual hours worked. [Standard Production] This variance will be favourable if the actual output achieved is more than the standard output. The formula for computation is given below:

Variable Overheads Efficiency Variance: Standard Rate [Standard Quantity – Actual Quantity]

Important note: All the formulae mentioned above are with reference to the quantity. All overhead variances can also be computed with relation to number of hours.

13.3.3.2 Fixed Overhead Cost Variances

The following variances are computed in case of fixed overheads.

A. Fixed Overhead Cost Variance: This variance indicates the difference between the standard fixed overheads for actual production and the actual fixed overheads incurred. Actually this variance indicates the under/over absorbed fixed overheads. If the actual overheads incurred are more than the standard fixed overheads, it indicates the under absorption of fixed overheads and the variance is favourable. On the other hand, if the actual overheads incurred are more than the standard fixed overheads, it indicates the over absorption of fixed overheads and the variance is adverse. The following formula is used for computation of this variance.

Fixed Overhead Cost Variance: Standard Fixed Overheads for Actual Production – Actual Fixed Overheads.

B. Fixed Overhead Expenditure/Budget Variance: This variance indicates the difference between the budgeted fixed overheads and the actual fixed overhead expenses. If the actual fixed overheads are more than the budgeted fixed overheads, it is an adverse variance as it means overspending as compared to the budgeted amount. On the other hand, if the actual fixed overheads are less than the budgeted fixed overheads, it is a favourable variance. This variance is computed with the help of the following formula.

Fixed Overhead Expenditure Variance: Budgeted Fixed Overheads – Actual Fixed Overheads

C. Fixed Overheads Volume Variance: This variance indicates the under/over absorption of fixed overheads due to the difference in the budgeted quantity of production and actual quantity of production. If the actual quantity produced is more than the budgeted one, this variance will be favourable but it will indicate over absorption of fixed overheads. On the other hand, if the actual quantity produced is less than the budgeted one, it indicates adverse variance and there will be under absorption of overheads. The formula for computation of this variance is as shown below:

Fixed Overhead Volume Variance: Standard Rate [Budgeted Quantity – Actual Quantity]

Fixed Overhead Cost Variance = Expenditure Variance + Volume Variance

Illustration 3

From the following information extracted from the books of a manufacturing company, calculate Fixed and Variable Overhead Variances.

Particulars	Budgeted	Actual
Production – Units	22, 000	24, 000
Fixed Overheads	Rs.44, 000	Rs.49, 000
Variable Overheads	Rs.33, 000	Rs.39, 000
Number of Days	25	26
Number of man hours	25, 000	27, 000

Solution

A] Fixed Overhead Variances :

1. Fixed Overhead Cost Variance: Standard Fixed Overheads for Actual Production – Actual Fixed Overheads = Rs.48, 000 – Rs.49, 000 = Rs.1, 000 [A]

   a. Note: Standard fixed overheads for actual production = Actual Production 24, 000 X standard rate Rs.2 [Rs.44, 000 budgeted fixed overheads / 22, 000 budgeted production = Rs.2]

2. Fixed Overhead Expenditure Variance: Budgeted Fixed Overheads – Actual Fixed Overheads = Rs.44, 000 – Rs.49, 000 = Rs.5, 000 [A]

3. Fixed Overhead Volume Variance: Standard Rate [Budgeted Quantity – Actual Quantity] = Rs.2 [22, 000 – 24, 000] = Rs.4, 000 [F]

   a. The variance is favourable as the actual quantity produced is more than the budgeted quantity.

Cost Variance = Expenditure Variance + Volume Variance

Rs.1, 000 [A] = Rs.5, 000 [A] + Rs.4, 000 [F]

B] Variable Overheads Variance :

1. Cost Variance: Standard Variable Overheads for Actual Production – Actual Variable Overheads: Rs.36, 000 – Rs.39, 000 = Rs.3, 000 [A]

   a. Note: Standard Variable Overheads for Actual Production = Standard Rate Per Unit X Actual Production Units = Rs.1.5 [Budgeted variable overheads Rs.33, 000 /Budgeted production units 22, 000 = Rs.1.5] X 24, 000 units = Rs.36, 000

2. Expenditure Variance: Standard Variable Overheads for Standard Production – Actual Variable Overheads: Rs.1.5 X 23, 760 – Rs.39, 000 = Rs.3360 [A]

3. Efficiency Variance: Standard Rate [Standard Quantity – Actual Quantity] Rs.1.5 [23, 760 – 24, 000] = Rs.360 [F]

   Cost Variance = Expenditure Variance + Efficiency variance

   Rs.3, 000 [A] = Rs.3360 [A] + Rs.360 [F]

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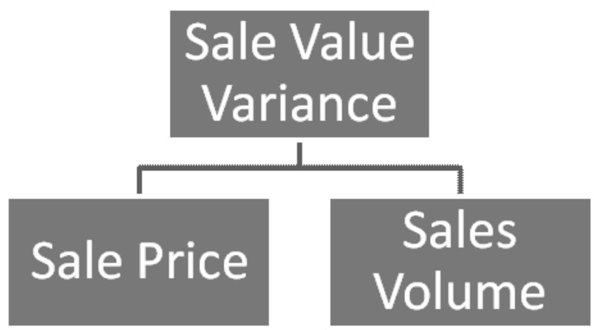
13.4 Sales Variances

Sales are affected by two factors (i) the selling price and (ii) the quantum of sales the variations in the standards set and actual for the purpose may be mainly due to change in market trends. Normally, if the selling price increases, the volume of sales will be lower than the standard. It may result in a favourable variance as to price and unfavourable variance as to quantity. It is to be borne in mind that higher price here is to be viewed as a favourable variance (higher price paid for material, it will be recalled, causes an adverse variance) and lower volume of sales is to be viewed a unfavourable (in case of materials, it is the other way around, i.e. lower usage of materials than the standard causes a favourable variance).

It is well known that demand and supply position in the market decides the quantity of sales as well as the selling price. The variations may be on account of control lab: as well as non-controllable factors. Changes in market conditions and demand by customers are, of course, beyond the control of management, but certain factors like urn ably high prices are controllable, and an effort should be made to check adverse variations due to these factors.

It can be classified as follows:



Sales Value Variance

The difference between budgeted sales and actual sales results in Sales Value variance. The Formula is:

Sales Value Variance = Budgeted Sales - Actual Sales

If actual sales are more than the budgeted sales, a favourable variance would ‘ reported and vice versa.

The difference in value may be on account of difference in price or volume of ales which is therefore analysed further.

Sales Price Variance

It can be calculated like material price variance. It is on account of the difference in actual selling price and the standard selling price for actual quantity of sales. The formula is:

Actual quantity sold X (Standard Price - Actual Price) OR

Price Variance = Standard Sales - Actual Sales

Sales Volume Variance

It can be calculated like material usage variance. Budgeted sales may be different from the standard sales. In other words, budgeted quantity of sales at standard price may vary from the actual quantity of sales at standard prices. Thus, the variance is a result of difference in budgeted and actual quantities of goods sold. The formula is:

Standard Price X (Budgeted Quantity - Actual Quantity)

OR

Volume Variance = Budgeted Sales - Standard Sales

If the standard sales are more than the budgeted sales, it would cause a favourable variance and vice versa?

The total of price and volume variances would be equal to sales value variance.

Illustration 4

The details about budgeted and actual sales of a firm are as under:

Budgeted sales 10000 units @ Rs.6 per unit

Actual sales 5000 units @ Rs. 4 per unit

8000 units @ Rs. 5 per unit

You are required to calculate Sales Price, Sales Volume and Sales Value Variance.

Solution:

Price Variance = Standard Sales - Actual Sales

= (13000 (8000+5000) x 6) – ((5000x4) + (8000x5))

= 78000-60000

= Rs.18000 (Adverse)

Volume Variance = Budgeted Sales - Standard Sales

= (10000x6) - (13000 (8000+5000) x 6)

= 60000- 78000

= 18000 (Favourable)

Sales Value Variance = Budgeted Sales - Actual Sales

= (10000x6) - ((5000x4) + (8000x5))

= 60000 -60000

= 0

Sales value variance = Sales Price Variance + Sales Volume Variance

= 18,000 (A) + 18,000 (F)

= Nil

Check Your Progress

Define sales variance.

13.5. Solved Illustration

Illustration 5

Calculate Material Variances from the following details.

Standard quantity of materials for producing 1 unit of finished product 'P' is 5 kg. The standard price is Rs.6 per kg. During a particular period, 500 units of 'P' were produced. Actual material consumed was 2700 kg at a cost of Rs.16, 200.

Solution:

1. Material Cost Variance = Standard Cost of Materials – Actual Cost
   = 500 units x 5 kg x Rs.6 – Rs.16, 200
   = Rs.15, 000 – Rs.16, 200 = Rs.1, 200 [A]
2. Material Price Variance = Actual Quantity [Standard Price – Actual Price]
   = 2, 700 [Rs.6 – Rs.6] = Nil
3. Material Quantity Variance = Standard Price [Std. Qty – Actual Qty]
   = Rs.6 [2500 – 2700] = Rs.1, 200 [A]

Reconciliation

Material Cost Variance = Material Price Variance + Material Quantity Variance. Rs.1200 [A] = Rs. Nil + Rs.1, 200 [A]

Illustration 6

S.V. Ltd. manufactures a single product, the standard mix of which are as follows: Material A 60% at Rs.20 per kg

Material B 40% at Rs.10 per kg

Normal loss in the production is 20% of input. Due to shortage of material A, the standard mix was changed and the actual mix was as follows:

Material A 105 kg at Rs.20 per kg Material B 95 kg at Rs.9 per kg

Actual loss was 35 kg, while the actual output was 165 kg

Calculate all material variances.

Solution

The following table is prepared for computation of variances in this example.

Material	Standard Quantity kg	Standard Price Rs.	Standard Cost Rs.	Actual Quantity kg	Actual Price Rs.	Actual Cost Rs.
A	60	20	1200	105	20	2100
B	40	10	400	95	9	855
Total	100		1600	200		2955
Normal Loss	20			35[Actual Loss]		
Standard Output	80		1600	165 Actual Output		2955

1. Material Cost Variance: Standard Cost for Actual Production – Actual Cost

   Rs.3, 300 – Rs.2955 = Rs.345 [F]

Note: Standard cost for actual production is computed as shown below:

For 80 kg, the standard cost is Rs.1, 600, so for actual production of 165 kg, the standard cost is 165/80 X 1600 = Rs.3, 300

2. Material Price Variance: Actual Quantity [Standard Price – Actual Price]

- ★ Material A = 105 [Rs.20 – Rs.20] = Nil
- ★ Material B = 95 [Rs.10 – Rs.9] = Rs.95 [F]
- ★ Total Material Price Variance = Rs.95 [F]
- ★ 3. Material Quantity Variance: Standard Price [Std. Quantity – Actual Quantity]
- ★ Material A = Rs.20 [124 – 105] = Rs.380 [F]
- ★ Material B = Rs.10 [83 – 95] = Rs.120 [A]
- ★ Total Material Quantity Variance = Rs.260 [F]
- ★ Note: Standard quantity for actual production is computed as shown below
- ★ Material A = 165/80 X 60 = 123.75 or 124
- ★ Material B = 165/80 X 40 = 82.5 or 83

Illustration 7

Standard hours for manufacturing two products, M and N are 15 hours per unit and 20 hours per unit respectively. Both products require identical kind of labour and the standard wage rate per hour is Rs.5. In a particular year, 10, 000 units of M and 15, 000 units of N were produced. The total labour hours worked were 4, 50, 000 and the actual wage bill came to Rs.23, 00,000. This includes 12, 000 hours paid for @ Rs.7 per hour and 9400 hours paid for @ Rs.7.50 per hour, the balance having been paid at Rs.5 per hour. You are required to calculate labour variances.

Solution:

I] Labour Cost Variance: Standard Labour Cost for Actual Production – Actual Labour Cost

Rs.22, 50, 000 – Rs.23, 00, 000 = Rs.50, 000 [A]

Note: Standard Labour Cost for Actual Production is computed as under,

Product M: 10, 000 units x 15 hrs per unit x Rs.5 per hour = Rs.7, 50, 000

Product N: 15, 000 units x 20 hrs per unit x Rs.5 per hour = Rs.15, 00, 000

Total standard labour cost for actual production = Rs.22, 50, 000

II Labour Rate Variance: Actual Hours [Standard Rate – Actual Rate]

12, 000 [Rs.5 – Rs.7] = Rs.24, 000 [A]

9, 400 [Rs.5 – Rs.7.50] = Rs.23, 500 [A]

4, 29, 100 [Rs.5 – Rs.5] = Nil

Total Labour Rate Variance = Rs.47, 500 [A]

II Labour Efficiency Variance = Standard Rate [Standard Time – Actual Time] Rs.5

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[4, 50, 000 – 4, 50, 500] = Rs.2500 [A] Reconciliation:

Labour Cost Variance = Labour Rate Variance + Labour Efficiency Variance Rs.50, 000 [A] = Rs.47, 500 [A] + Rs.2500 [A]

Illustration 8

From the following information extracted from the books of a manufacturing company, calculate Fixed and Variable Overhead Variances.

Particulars	Budgeted	Actual
Production – Units	22, 000	24, 000
Fixed Overheads	Rs.44, 000	Rs.49, 000
Variable Overheads	Rs.33, 000	Rs.39, 000
Number of Days	25	26
Number of man hours	25, 000	27, 000

Solution

A] Fixed Overhead Variances:

I Fixed Overhead Cost Variance: Standard Fixed Overheads for Actual Production – Actual Fixed Overheads = Rs.48, 000 – Rs.49, 000 = Rs.1, 000 [A]

Note: Standard fixed overheads for actual production = Actual Production 24, 000 X standard rate Rs.2 [Rs.44, 000 budgeted fixed overheads / 22, 000 budgeted production = Rs.2]

I Fixed Overhead Expenditure Variance: Budgeted Fixed Overheads – Actual Fixed Overheads = Rs.44, 000 – Rs.49, 000 = Rs.5, 000 [A]

II Fixed Overhead Volume Variance: Standard Rate [Budgeted Quantity – Actual Quantity] = Rs.2 [22, 000 – 24, 000] = Rs.4, 000 [F]

The variance is favourable as the actual quantity produced is more than the budgeted quantity.

Cost Variance = Expenditure Variance + Volume Variance

Rs.1, 000 [A] = Rs.5, 000 [A] + Rs.4, 000 [F]

B] Variable Overheads Variance:

1. Cost Variance: Standard Variable Overheads for Actual Production – Actual Variable Overheads: Rs.36, 000 – Rs.39, 000 = Rs.3, 000 [A]

   Note: Standard Variable Overheads for Actual Production = Standard Rate Per Unit X Actual Production Units = Rs.1.5 [Budgeted variable overheads Rs.33, 000 /Budgeted production units 22, 000 = Rs.1.5] X 24, 000 units = Rs.36, 000

2. Expenditure Variance: Standard Variable Overheads for Standard Production – Actual Variable Overheads: Rs.1.5 X 23, 760 – Rs.39, 000 = Rs.3360 [A]

3. Efficiency Variance: Standard Rate [Standard Quantity Actual Quantity] Rs.1.5 [23, 760 – 24, 000] = Rs.360 [F]

Illustration 9

Calculate Material Cost Variances from the following:

Standards	Actual
Material A – 20% @ Rs.2 per kg	Material A – 8 kg @ Rs.3 per kg
Material B – 80% @ Rs.8 per kg	Material B – 4 kg @ Rs.7 per kg

There is no process loss.

Solution – The following statement will have to be prepared for computation of variances.

Standards	Actual
Material A – 2 kg @ Rs.2 per kg = Rs.4	Material A – 8 kg @ Rs.3 per kg = Rs.24
Material B - 8 kg @ Rs.8 per kg = Rs.64	Material B – 4 kg @ Rs.7 per kg = Rs.28

Material Cost Variance = Standard Cost – Actual Cost = Rs.68 – Rs.52 = Rs.16[F]

Illustration 10

The standard cost of a certain chemical mixture is as follows:

40% of Material A @ Rs.200 per ton

60% of Material B @ Rs.300 per ton

A standard loss of 10% is expected in the production. During a particular period materials used are,

90 tons Material A @ Rs.180 per ton

110 tons Material B @ Rs.340 per ton

Actual production produced was 182 tons of the finished goods.

Calculate Material Price Variance and Material Usage Variance.

Solution

Standards		Actuals	
Material A 40 tons @ Rs.200 = Rs.8,000 Material B 60 tons @ Rs.300 = Rs.18,000		90 tons @ Rs.180 per ton = Rs.16,200	
110 tons @ Rs.340 per ton = Rs.37,400			
Total 100 tons =	Rs.26,000	200 tons = Rs.53,600	
Less: 10% Std. Loss	10 tons	Less: Actual loss	18 tons
Standard Production 90 tons = Rs.26,000		182 tons = Rs.53, 600	

I Material Price Variance - AQ [SP – AP] = Material A = 90[200-180]= Rs.1,8 00 [F] Material B =110[300-340]= Rs.4,4 00[A] Total Price Variance = Rs.2,6 00 [A]

II Material Usage Variance SP [SQ – AQ]- Material A = 200[81-90]= Rs.1,8 00[A] Material B = 300[121-110]= Rs.3,3 00[F] Total Usage Variance = 1,500 [F]

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Illustration 11

From the following information, calculate the following sales variances

I. Total Sales Variance

II. Sales Price Variance

III. Sales Volume Variance

Product	Number ofUnits	Standard Rate Per UnitRs.	Amount Rs.	Actual of Units	Actual Rate PerUnit Rs.	Amount Rs.
A	5000	5	25, 000	6000	6	36, 000
B	4000	6	24, 000	5000	5	25, 000
C	3000	7	21, 000	4000	8	32, 000

Solution

I Total Sales Variance = Actual Sales – Standard Sales Rs.93, 000 – Rs.70, 000 = Rs.23, 000 [F]

II Sales Price Variance = Actual Quantity [Actual Price – Standard Price]

+ Product A = 6000 [Rs.6 – Rs.5] = Rs.6000 [F]

+ Product B = 5000 [Rs.5 – Rs.6] = Rs.5000 [A]

+ Product C = 4000 [Rs.8 –Rs.7] = Rs.4000 [F]

+ Total Sales Price Variance = Rs.5000 [F]

I Sales Volume Variance: Standard Price [Actual Quantity – Standard Quantity]

+ Product A = Rs.5 [6000 – 5000] = Rs.5000 [F] + Product B = Rs.6 [5000 – 4000] = Rs.6000 [F] + Product C = Rs.7 [4000 – 3000] = Rs.7000 [F] + Total Sales Volume Variance = Rs.18, 000 [F]

Illustration 12

Gemini Chemical Industries provide the following information from their records:-

For making 10 kg of Gemco, the standard material requirement is

Material	Quantity	Rate per kg. Rs.
A	8	6.00
B	4	4.00

During April, 1999 1000 kgs. Of Gemco were produced. The actual consumption of materials is as under:-

Material	Quantity	Rate per kg. Rs.
A 750	7.00	
B 500	5.00	

Calculate:

a) Material Cost Variance

b) Material Price Variance

c) Material Usage Variance

Solution:

Basic Calculation

Standard and Actual cost of 1000 kgs. Of Actual output of Gemco during April, 1999.

Particulars	Materials	Quantity	Rate	Amount
Standard cost	A	800	6	4800
	B	400	4	1600
				6400
Actual cost	A	750	7	5250
	B	500	5	2500
				7750

Calculation of Material variances

a) Material Cost Variance

= Std. cost – Actual Cost

= 6400 – 7750

= Rs. 1350 (A).

b) Material price Variance

= Actual Quantity – (Std Price – Actual Price)

= [750(6-7)] + [500(4-5)]

= Rs. 750(A) + Rs.500 (A)

= Rs. 1250 (A)

c) Material Usage Variance

= Std price (std. Quantity – Actual quantity)

= [6(800 - 750)] + [4(400 + 500)]

= Rs. 300 (F) + Rs. 400 (A)

= Rs. 100 (A)

Summary of Material Variances

Price Variance 1250 (A)

Usage Variance 100 (A)

Material Cost Variance 1350 (A)

Illustration 13

From the following data of A and Co. Ltd. relating to budgeted and actual performance for the month of March, 1999, compute the Direct Material and Direct Labour Cost Variances.

Budgeted Data for March

Units to be manufactured 150000

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Units of direct Material required (based on std. rates) 495000

Planned Purchase of Raw Material (units) 540000

Average unit Cost of Direct Material Rs. 8

Direct labour Hours per unit of finished goods ¾ hr.

Direct labour Cost (total) Rs. 2992500

Actual data at the end of March:

Units actually manufactured 160000

Direct Material Cost (purchase cost based on units actually issued) Rs. 4341900

Direct Material Cost (purchase cost based on units actually purchased) Rs. 4510000

Average unit cost of Direct Material Rs. 8.20

Total Direct Labour hours for March 125000

Total Direct Labour Cost for March Rs. 3375000.

Working Notes:

Calculation of Direct Material variance

a) Standard units of direct material required per unit of output

= 495000/150000

=3.30 units.

b) Total Actual Quantity of direct Material used

=4341900 / 8.20

= 529500

1. Direct Material Cost Variance

Std. cost of actual output – Actual Cost

= (160000 * 3.3 * 8) – 4341900

= 4224000 – 4341900

= Rs. 117900 (A)

2. Direct material Price variance

= Actual Qty. (Std. rate – Actual Rate)

= 529500 – (8 – 8.20)

= Rs. 105900 (A)

3. Direct Material Usage Variance

= Std Qty. for actual output – Actual Qty

= 8(160000 * 3.30 – 529500)

= 8 (528000 – 529500)

= Rs. 12000 (A).

Summary of Material Variance

Price Variance	105900 (A)
Usage Variance	12000 (A)
Direct Material Cost Variance	117900 (A)

Calculation of Direct Labour variance

Working Notes:

a) Standard Direct Labour Cost per hour

= 2992500 / 150000 * ¾

= 299250 / 112500

= Rs. 26.60.

b) Actual Direct Labour Cost per unit

= 3375000 / 125000

= Rs.27.

1. Direct Labour Cost Variance

= Std. cost for actual output – Actual cost

= [160000 * ¾ * 26.60] – 3375000

= 3192000 – 3375000

= Rs. 183000 (A)

2. Actual Labour Rate Variance

Actual Time (Std rate – Actual Cost)

= 125000 (26.60 – 27)

= Rs. 50000 (A)

3. Direct Labour Expenditure Variance

= Std. rate (Std. time for actual output – Actual Time)

= 26.60(160000 * ¾ - 125000)

= 26.60 (120000 – 125000)

= Rs. 133000 (A)

Summary of Direct Labour Variance

Rate Variance	50000 (A)
Expenditure Variance	133000 (A)
Direct Labour Cost Variance	183000 (A)

Illustration 14

Standcost Corporation produces three products: A, B and C. The master budget called for the sale of 10000 units of A at Rs. 12; 6000 units of B at Rs. 15 and 8000 units of C at Rs.9.in addition, the standard variable cost for each product was Rs. 7 for A, Rs.9 for 9 and Rs. 6 for C. In fact, the firm actually produced and sold 11000 units of A at Rs. 11.50 5000 units of B at Rs. 15.10 and 9000 units of C at Rs. 8.55

Calculate Sales Value Variances

Solution:

Computation of Sales Variances

Product	Budgeted Sales			Actual Sales			Std. Sales (Actual Qty. * Std. Rate)
	units	Rs.	Rs.	units	Rs.	Rs.	
A	10000	12	120000	11000	11.50	126500	132000
B	6000	15	90000	5000	15.10	75500	75000
C	8000	9	72000	9000	8.55	76950	81000
Total	24000		282000	25000		278950	288000

Computation of Variances

1. Sales Value Variances = Budgeted Sales – Actual Sales

   = Rs. 282000 – Rs. 278950

   = Rs. 3050(A)

2. Sales price Variance = Actual Qty * (Standard Price – Actual Price)

   = Standard Sales – Actual Sales

   = Rs.288000 – 278950

   = Rs.9050 (A)

3. Sales Qty. or Volume Variance = Std. Rate * (budgeted Qty. – Actual Qty)

   = Budgeted Sales – Standard Sales

   = 282000- 288000

   = Rs. 6000 (F)

13.6 Summary

- ★ Standard Cost is defined as, 'a pre-determined cost which is calculated from management's standard of efficient operation and the relevant necessary expenditure.
- ★ Variance is the difference between budgeted and the actual level of activity.
- ★ Profitability of a business depends both on costs and sales.
- ★ Cost variance is the difference between ` what should have been the cost' (popularly termed as standard cost) and `what has been the cost ` (i.e. actual cost). In case the actual cost is less than the standard cost, the variance is termed as `favourable'. However, if the actual cost is more than the standard costs, variance is termed as `adverse' or `unfavourable'.
- ★ Sales variance is the difference between `what should have been the sales' (popularly) termed as Budgeted sales) and `what have been the sales ` (i.e. the actual sales). In case the amount of actual sales is more than the budgeted sales, the variance is termed as 'favourable'. However, if the amount of actual

sales is less than the budgeted sales, the variance is termed as `adverse' or `unfavourable'.

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13.7 Key Terms

- ★ Standard Cost is defined as, 'a pre-determined cost which is calculated from management's standard of efficient operation and the relevant necessary expenditure. It may be used as a basis for price fixation and for cost control through variance analysis.'
- ★ Standard Costing is defined as, 'preparation and use of standard costs, their comparison with actual costs and analysis of variances into their causes and points of incidences.'
- ★ Variance is the difference between budgeted and the actual level of activity.

13.8 Questions and Exercises

13.8.1 Theory Questions

1. Define ‘Standard Cost’ and ‘Standard Costing’. In which type of industries standard costing can be employed?
2. Define and explain briefly the following terms:

   > Material price variance

   > Material usage variance
3. Define and explain the sales variances based on a] profits and b] turnover.
4. Explain the meaning, causes and disposal of labour variances.

13.8.2 Practical Problems

Exercise 1

The standard material cost to produce a ton of chemical X is given below:

300 kg of material A @ Rs.10 per kg

400 kg of material B @ Rs.5 per kg

500 kg of material C @ Rs.6 per kg

During a particular period, 100 tons of mixture X was produced from the usage of

35 tons of material A @ Rs.9, 000 per ton

42 tons of material B @ Rs.6, 000 per ton

53 tons of material C @ Rs.7, 000 per ton

Calculate material cost, price, and usage variances.

Exercise 2

The standard output of production EXE is 25 units per hour in a manufacturing department of a company employing 100 workers. The standard wage rate per labour hour is Rs.6.

In a 42 hours week, the department produced 1040 units of the product despite 5% of the time paid were lost due to an abnormal reason. The hourly wage rate actually paid were Rs.6.20, Rs.6 and Rs.5.70 respectively to 10, 30 and 60 of the workers.

Compute various relevant labour variances.

Exercise 3

Mixers Ltd. is engaged in producing a standard mix using 60 kg of chemical X and 40 kg of chemical Y. The standard loss of production is 30%. The standard price of X is Rs.5 per kg and of Y is Rs.10 per kg. The actual mixture and yield were as follows:

X – 80 kg @ Rs.4.50 per kg

Y – 70 kg @ Rs.8.00 per kg

Actual yield 115 kg.

Calculate all Material Variances

13.9 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press
2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

UNIT 14 BUDGETARY CONTROL

NOTES

Structure

14.0. Introduction to Budgeting

A budget is a plan expressed in quantitative, usually monetary terms, covering a specific period of time, usually one year. In other words, a budget is a systematic plan for the utilisation of manpower and material resources. In a business organisation a budget represents an estimate of future costs and revenues. Budget is prepared either in quantitative details or monetary details or both.

Objectives of Budgeting

An effective budgeting system plays a crucial role in the success of a business organization. The budgeting system has the following objectives, which are of paramount importance in the overall efficiency and effectiveness of the business organization. These objectives are discussed below.

Planning: A well- prepared plan helps the organization to use the scarce resources in an efficient manner and thus achieving the pre- determined targets becomes easy. A budget is prepared for future period and it lays down targets regarding various aspects like purchase, production, sales, manpower planning etc.

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Co-ordination: For achieving the predetermined objectives, apart from planning, coordinated efforts are required. Budgeting facilitates coordination in the sense that budgets cannot be developed in isolation. For example, while developing the production budget, the production manager will have to consult the sales manager for sales forecast and purchase manager for the availability of the raw material.

Control:Planning is looking ahead while controlling is looking back. Preparation of budgets involves detailed planning about various activities like purchase, sales, production, and other functions like marketing, sales promotion, manpower planning. But planning alone is not sufficient. There should be a proper system of controlling which will ensure that the work is progressing as per the plan. Budgets provide the basis for such controlling in the sense that the actual performance can be compared with the budgeted performance. Any deviation between the two can be found out and analyzed to ascertain.

Benefits of Budgeting

Budgeting plays an important role in planning and controlling. It helps in directing the scarce resources to the most productive use and thus ensures overall efficiency in the organization. The benefits derived by an organization from an effective system of budgeting can be summarized as given below.

a) Budgeting facilitates planning of various activities and ensures that the working of the organization is systematic and smooth.

b) Budgeting is a coordinated exercise and hence combines the ideas of different levels of management in preparation of the same.

c) Any budget cannot be prepared in isolation and therefore coordination among various departments is facilitated automatically.

d) Budgeting helps planning and controlling income and expenditure so as to achieve higher profitability and also act as a guide for various management decisions.

e) It is extremely necessary to evaluate the actual performance with predetermined parameters. Budgeting ensures that there are well-defined parameters and thus the performance is evaluated against these parameters.

f) As the resources are directed to the most productive use, budgeting helps in reducing the wastages and losses.

14.1 Unit Objectives

After learning this unit you will be able to:

★ To understand the basic concepts of Budgets and Budgetary Control

★ To prepare various types of budgets

★ To learn concept of zero Based Budgeting

14.2 Budgetary Control

A budgetary control is extremely useful for planning and controlling, however, for getting these benefits, sufficient preparation should be made. For complete success, a solid foundation should be laid down and in view of this the following aspects are of crucial importance.Following steps may be taken for installing an effective system of budgetary control in an organisation.

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Organisation for Budgeting

The setting up of a definite plan of organisation is the first step towards installing budgetary control system in an organisation. A, Budget Manual should be prepared giving details of the powers, duties, responsibilities and areas of operation of each executive in the organisation.

Responsibility for Budgeting

The responsibility for preparation and implementation of the budgets may be fixed as under:

Budget Controller

Although the Chief Executive is finally responsible for the budget programme, it is better if a large part of the supervisory responsibility is delegated to an official designated as Budget Controller or Budget Director. Such a person should have knowledge of the technical details of the business and should report directly to the President of the Chief Executive of the organisation.

Budget Committee

The Budget Controller is assisted in his work by the Budget Committee. The Committee may consist of Heads of various departments, viz., Production, Sales Finance, Personnel, Purchase, etc. with the Budget Controller as its Chairman. It is generally the responsibility of the Budget Committee to submit, discuss and finally approve the budget figures. Each head of the department should have his own Sub-committee with executives working under him as its members.

Fixation of the Budget Period

'Budget period' means the period for which a budget is prepared and employed. The budget period depends upon the nature of the business and the control techniques. For example, a seasonal industry will budget for each season, while an industry requiring long periods to complete work will budget for four, five or even larger number of years. However, it is necessary for control purposes to prepare budgets both for long as well as short periods.

Budget Procedures

Having established the budget organisation and fixed the budget period, the actual work or budgetary control can be taken upon the following pattern:

Key Factor

It is also termed as limiting factor. The extent of influence of this factor must first be assessed in order to ensure that the budget targets are met. It would be desirable to prepare first the budget relating to this particular factor, and then prepare the other budgets. We are giving below an illustrative list of key factors in certain industries.

Industry	**Key factor**
Motor Car	Sales demand
Aluminium	Power
Petroleum Refinery	Supply of crude oil
Electro-optics	Skilled technicians

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Making a Forecast

A forecast is an estimate of the future financial conditions or operating results. Any estimation is based on consideration of probabilities. An estimate differs from a budget in that the latter embodies an operating plan of an organisation.

A budget envisages a commitment to certain objectives or targets, which the management seeks to attain on the basis of the forecasts prepared. A forecast on the other hand is an estimate based on probabilities of an event. A forecast may be prepared in financial or physical terms for sales, production cost, or other resources required for business. Instead of just one forecast a number of alternative forecasts may be considered with a view to obtaining the most realistic, overall plan.

Preparing Budgets

After the forecasts have been finalised the preparation of budgets follows. The budget activity starts with the preparation of the sales budget. Then production budget is prepared on the basis of sales budget and the production capacity avail-able. Financial budget (i.e. cash or working capital budget) will be prepared on the basis of sales forecast and production budget. All these budgets are combined and coordinated into a master budget. The budgets may be revised in the course of the financial period if it becomes necessary to do so, in view of the unexpected developments, which have already taken place or are likely to take place.

Check Your Progress

How budgets are useful to the organization?

14.3 Types of Budgets

As budgets serve different purposes, different types of budgets have been developed. The followingare the different classification of budgets developed on the basis of time, functions, and flexibility orcapacity.

Classifcation on the basis of Time	I Long-Term Budgets I Short-Term Budgets I Current Budgets
Classifcation according to Functions	I Functional or Subsidiary Budgets I Master Budgets
Classifcation on the basis of Capacity	I Fixed Budgets I Flexible Budgets

Classification on the basis of Time

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1. Long-Term Budgets: Long-term budgets are prepared for a longer period varies between five toten years. It is usually developed by the top level management. These budgets summarise the general planof operations and its expected consequences. Long-Term Budgets are prepared for important activities likecomposition of its capital expenditure, new product development and research, long-term finance etc.
2. Short-Term Budgets: These budgets are usually prepared for a period of one year. Sometimesthey may be prepared for shorter period as for quarterly or half yearly. The scope of budgeting activity mayvary considerably among different organization.
3. Current Budgets: Current budgets are prepared for the current operations of the business. Theplanning period of a budget generally in months or weeks. As per ICMA London, "Current budget is abudget which is established for use over a short period of time and related to current conditions."

Classification according to Functions

1. Functional Budget: The functional budget is one which relates to any of the functions of an organization. The number of functional budgets depends upon the size and nature of business. The following are the commonly used:
   (1) Sales Budget
   (2) Purchase Budget
   (3) Production Budget
   (4) Selling and Distribution Cost Budget
   (5) Labour Cost Budget
   (6) Cash Budget
   (7) Capital Expenditure Budget
2. Master Budget: The Master Budget is a summary budget. This budget encompasses all the functional activities into one harmonious unit. The ICMA England defines a Master Budget as the summary budget incorporating its functional budgets, which is finally approved, adopted and employed.

Classification on the Basis of Capacity

1. Fixed Budget: A fixed budget is designed to remain unchanged irrespective of the level of activity actually attained.
2. Flexible Budget: A flexible budget is a budget which is designed to change in accordance with the various level of activity actually attained. The flexible budget also called as Variable Budget or Sliding Scale Budget, takes both fixed, variable and semi fixed manufacturing costs into account.

Check Your Progress

What are the different types of budgets?

14.4 Preparation of Budgets

14.4.1 Sales Budget

A Sales Budget shows forecast of expected sales in the future period [the period

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is well- defined] and expressed in quantity of the product to be sold as well as the monetary value of the same. A Sales Budget may be prepared product wise, territories/ area/country wise, customer group wise, salesmen wise as well as time wise like quarter wise, month wise, weekly etc. The following factors are taken into consideration while preparing a sales budget.

- ★ Analysis of past sales
- ★ Estimates given by the sales staff
- ★ Market Potential Analysis
- ★ Dependent Factor

Illustration 1

A company manufactures two products, A and B. Its sales department has three area divisions, North, East and South. Preliminary sales budgets for the year ending 31st March 2012, based on the assessment of the divisional managers were as follows.

Product A: North 2,00,000 units, South 5,50,000 units and East1,00,000 units

Product B: North 3,00,000 units, South 4,00,000 units and East Nil

Sale price: A Rs.4 and B Rs.3 in all areas.

Arrangements are made for the extensive advertising of Products A and B and it is estimated that the North division sales will increase by 1,00,000 units. Arrangements are also made to advertise and distribute product in Eastern area in the second half of the year 2006-07 when sales are expected to be 5,00,000 units.

Prepare a revised sales budget for the year ended 31st March after taking into consideration the above mentioned adjustments.

Solution:

Product A				**Product B**			
Division	Quantity	Price.Rs.	ValueRs.	Division	Quantity	Price.	Value
North	3, 00, 000	4	12,00,000	North	4, 00, 000	3	12, 00, 000
South	5, 50, 000	4	22,00,000	South	4, 40, 000	3	13, 20, 000
East	1, 00, 000	4	4,00,000	East	5, 00, 000	3	15, 00, 000
Total	9, 50, 000		38,00,000	Total	13, 40, 000		40, 20, 000

14.4.2 Production budget

Production budget is usually prepared on the basis of sales budget. But it also takes into account the stock levels desired to be maintained. The estimated output of business firm during a budget period will be forecast in production budget. The production budget determines the level of activity of the produce business and facilities planning of production so as to maximum efficiency. While preparing the production budget, the factors like estimated sales, availability of raw materials, plant capacity, availability of labour, budgeted stock requirements etc. are carefully considered.

Illustration 2

From the following particular, you are required to prepare production budget of Mrs. V. G. P. Ltd. a manufacturing organization that has three products X, Y and Z.

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Product	Estimated stock at the beginning (units)	Estimated stock at the end(units)	Estimated sales as per sales budget(units)
X	5000	6400	21600
Y	4000	3850	19200
z	6000	7800	23100

Solution

Particulars	X	Y	Z
Expected sales	21600	19200	23100
Add: closing stock	6400	3850	7800
	28000	23050	30900
Less: opening stock	5000	4000	6000
Budgeted production	23000	19050	24900

14.4.3 Material Purchase Budget

This budget shows the quantity of materials to be purchased during the coming year. For the preparation of this budget, production budget is the starting point if it is the key factor. If the raw material availability is the key factor, it becomes the starting point. The desired closing inventory of the raw materials is added to the requirement as per the production budget and the opening inventory is subtracted from the gross requirements. This budget is prepared in quantity as well as in the monetary terms and helps immensely in planning of the purchases of raw materials.

Illustration 3

Draw up a material purchase budget from the following information:

Estimated sales of a product is 30,000 units. Two kinds of raw materials A and B are required for manufacturing the product. Each unit of the product requires 3 units of A and 4 units of B. The estimated opening balance in the beginning of the next year: finished goods 5,000 units; A, 6,000 units; B, 10,000 units. The desirable closing balance at the end of the next year: finished product, 8,000 units; A, 10,000 units; B 12,000 units.

Solution

Estimated Production = Expected Sales + Desired Closing Stock of Finished Good - Estimated Opening Stock of Finished Goods

= 30,000 + 8,000 - 5,000

= 33,000 units

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	Material A	Material B
Material Required to meet Production Target		
Material A - 33,000 x 3	99000	
Material B - 33,000 x 4		132000
Add : Desired closing stock at the end of next year	10000	12000
	109000	144000
Less : Expected stock at the commencement of next year (opening balance)	6000	10000
Quantity of Materials to be purchased	134000	103000

14.4.4 Cash Budget

This budget represents the anticipated receipts and payment of cash during the budget period. The cash budget also called as Functional Budget. Cash budget is the most important of the entire functional budget because; cash is required for the purpose to meeting its current cash obligations. If at any time, a concern fails to meet its obligations, it will be technically insolvent. Therefore, this budget is prepared on the basis of detailed cash receipts and cash payments. The estimated Cash Receipts include:

(1) Cash Sales

(2) Credit Sales

(3) Collection from Sundry Debtors

(4) Bills Receivable

(5) Interest Received

(6) Income from Sale of Investment

(7) Commission Received

(8) Dividend Received

The estimated Cash Payments include the following:

(1) Cash Purchase

(2) Payment to Creditors

(3) Payment of Wages

(4) Payments relate to Production Expenses

(5) Payments relate to Office and Administrative Expenses

(6) Payments relate to Selling and Distribution Expenses

(7) Any other payments relate to Revenue and Capital Expenditure

(8) Income Tax Payable, Dividend Payable etc.

Illustration 4

ABC Co. wished to arrange overdraft facilities with its bankers during the period April 2012 to June 2012 when it will be manufacturing mostly for the stock. Prepare a Cash Budget for the above period from the following data, indicating the extent of the bank facilities the company will require at the end of each month.

Particulars	Sales	Purchases	Wages
February 2008	Rs.1, 80,000	Rs.1, 24,800	Rs.12, 000
March	1, 92,000	1, 44,000	14, 000
April	1, 08,000	2, 43,000	11, 000
May	1, 74,000	2, 46,000	10, 000
June	1, 26,000	2, 68,000	15, 000

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Additional Information:

1) 50% of the credit sales are realized in the month following the sales and remaining 50% in the secondmonth following. Creditors are paid in the month following the month of purchases. There are nocash sales or cash purchases
2) Cash at bank [overdraft] estimated on 1st April 2012 is Rs.25.

Solution

Cash Budget April – June 2012

Particulars	April Rs.	May Rs.	June Rs.
A] Opening Balance [Overdraft]	25, 000	56, 000	[47, 000]
B] Expected Receipts Collections from debtors	1, 86,000	1, 50,000	1, 41,000
C] Total Cash Available [A + B]	2, 11,000	2, 06,000	94,000
D] Expected Payments Payment to creditors Wages	 1, 44,000 11,000	 2, 43,000 10,000	 2, 46,000 15,000
E] Total Payments	1, 55,000	2, 53,000	2, 61,000
F] Closing Balance [C – E]	56,000	[47,000]	[1, 67,000]

Collection from debtors:

+ April:

+ 50% of sales of February Rs.90, 000} Total Rs.1, 86,000

+ 50% of sales of March Rs.96, 000}

+ May

+ 50% of sales of March Rs.96, 000} Total Rs.1, 50,000

+ 50% of sales of April Rs.54, 000}

+ June

+ 50% of sales of April Rs.54, 000} Total Rs.1, 41,000

+ 50% of sales of May Rs.87, 000}

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14.4.5 Other functional budget

Direct Labour Budget: The labour budget estimates the labour required for smooth and uninterrupted production. The labour budget shows the number of each type or grade of workers required in each period to achieve the budgeted output, budgeted cost of such labour, period wise and period of training necessary for different types of labour.

Factory Overhead Budget: This budget is prepared for planning of the factory overheads to be incurred during the budget period. In this budget the overheads should be shown department wise so that responsibility can be fixed on proper persons. Classification of factory overheads into fixed and variable components should also be shown in this budget.

Administrative Overhead Budget: This budget covers the administrative costs for non-manufacturing business activities. The administrative overheads include expenses like office expenses, office salaries, directors' remuneration, legal expenses, audit fees, rent, interest, property taxes, postage, telephone, telegraph etc. These expenses should be classified properly under different headings to determine the responsibilities regarding cost control and reduction.

Capital Expenditure Budget: Capital expenditure is incurred with a long - term perspective and with the objective of augmenting the earning capacity of the firm in the long run. Capital expenditure results in either acquisition of fixed asset or permanent improvement in the existing fixed assets.

Manpower Planning Budget: This budget shows the requirement of manpower in the budget period. The categories in which manpower is required are also shown in this budget. The requirement of manpower depends on the expansion plans of the organization and also on the expected separations during the budget period.

Research and Development Cost Budget: This budget is one of the important tools for planning and controlling research and development costs. It helps management in planning the research and development activities well in advance and also about the fairness of the expenditure. Research and development is one of the important activities of any firm and hence proper planning and coordination is required for effectiveness of the same. This budget also helps to plan the requirement of necessary staff for carrying out research and development.

14.4.6 Master Budget

The Master or final budget is a summary budget, which incorporates all functional budgets in a capsule form. It sets out the plan of operations for all departments in considerable detail for the budget period. A Master Budget which is also called as 'Comprehensive Budget' is a consolidation of all the functional budgets. It shows the projected Profit and Loss Account and Balance Sheet of the business organization.

14.4.7 Fixed and Flexible budgets

Fixed Budgets: When a budget is prepared by assuming a fixed percentage of capacity utilization, it is called as a fixed budget. For example, a firm may decide to operate at 90% of its total capacity and prepare a budget showing the projected profit or loss at that capacity. This budget is defined by The Institute of Cost and Management Accountants [U.K.] as ' the budget which is designed to remain unchanged irrespective of the level of activity actually attained. It is based on a single level of activity.' For preparation of this budget, sales forecast will have to be prepared along with the cost estimates.

Flexible Budgets: A flexible budget is a budget that is prepared for different levels of capacity utilization. It can be called as a series of fixed budgets prepared for different levels of activity. For example, a budget can be prepared for capacity utilization levels of 50%, 60%, 70%, 80%, 90% and 100%. While preparing flexible budget, it is necessary to study the behavior of costs and divide them in fixed, variable and semi variable. After doing this, the costs can be estimated for a given level of activity. It is also necessary to plan the range of activity. A firm may decide to develop flexible budget for activity level starting from 50% to 100% with an interval of 10% in between. It is necessary to estimate the costs and associate them with the chosen level of activity. Finally the profit or loss at different levels of activity will be computed by comparing the costs with the revenues.

Illustration 5

A factory engaged in manufacturing plastic toys is working at 40% capacity and produces 10000 toys per month. The present cost break up for one toy is as under.

Material: Rs.10

Labour: Rs.3

Overheads: Rs.5 [60% fixed]

The selling price is Rs.20 per toy. If it is decided to work the factory at 50% capacity, the selling price falls by 3%. At 90% capacity, the selling price falls by 5% accompanied by a similar fall in the price of material. You are required to prepare a statement showing the profits/losses at 40%, 50% and 90% capacity utilizations.

Solution

Flexible Budget

At 40%, 50% and 90% Capacity Utilization

Particulars	40% Capacity Utilization	50% Capacity Utilization	90% Capacity Utilization
Production – Units	10, 000	12, 500	22, 500
Selling Price Per Unit	Rs.20	Rs.19.40	Rs.19
Sales Value [units X selling price per unit]	Rs.2, 00,000	Rs.2, 42, 500	27, 500
Variable Costs:			
Material Rs.10 per unit	Rs.1, 00,000	Rs.1, 21, 500 *	Rs.2, 13, 750 **

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Check Your Progress
Explain the difference between fixed and flexible budgeting

Labor Rs.3 per unit	Rs.30, 000	Rs.37, 500	Rs.67, 500
Overheads Rs.2 per unit	Rs.20, 000	Rs.25, 000	Rs.45, 000
Total Variable Costs	Rs.1, 50, 000	Rs.184000	Rs.3, 26, 250
Fixed Costs	Rs.30, 000	Rs.30, 000	Rs.30, 000
Total Costs			
[Variable Cost + Fixed Cost]	Rs.1, 80, 000	Rs.214000	Rs. 356, 250
Profit/Loss			
[Sales – Total Costs]	Rs.20, 000	Rs.27, 500	Rs.71, 250

14.5. Zero Based Budgeting

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. Zero based budgeting [also known as priority based budgeting] actually emerged in the late 1960s as an attempt to overcome the limitations of incremental budgeting. This approach requires that all activities are justified and prioritized before decisions are taken relating to the amount of resources allocated to each activity. in Zero Based Budgeting, the beginning is made from scratch and each activity and function is reviewed thoroughly before sanctioning the same and all expenditures are analyzed and sanctioned only if they are justified.

Besides adopting a 'Zero Based' approach, the Zero Based Budgeting also focuses on programs or activities instead of functional departments based on line items, which is a feature of traditional budgeting.

Benefits of Zero Based Budgeting

★ ZBB facilitates review of various activities right from the scratch and a detailed cost benefit study is conducted for each activity. Thus an activity is continued only if the cost benefit study is favourable. This ensures that an activity will not be continued merely because it was conducted in the previous year.

★ A detailed cost benefit analysis results in efficient allocation of resources and consequently wastages and obsolescence is eliminated.

★ A lot of brainstorming is required for evaluating cost and benefits arising from an activity and this result into generation of new ideas and also a sense of involvement of the staff.

★ ZBB facilitates improvement in communication and co-ordination amongst the staff.

★ Awareness amongst the managers about the input costs is created which helps the organization to become cost conscious.

- An exhaustive documentation is necessary for the implementation of this system and it automatically leads to record building.

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Limitations of Zero Based Budgeting: The following are the limitations of Zero Based Budgeting.

- It is a very detailed procedure and naturally if time consuming and lot of paper work is involved in the same.
- Cost involved in preparation and implementation of this system is very high.
- Morale of staff may be very low as they might feel threatened if a particular activity is discontinued.
- Ranking of activities and decision-making may become subjective at times.
- It may not advisable to apply this method when there are non financial considerations, such as ethical and social responsibility because this will dictate rejecting a budget claim on low ranking projects.

Check Your Progress

Write a note on Zero base budgeting

14.6. Solved illustration

Illustration 6

Speciality Auto follows a policy of manufacture of auto spares evenly throughout the year @ 100000 units per month for utilizing its labour force properly. However, demands in different months are not uniform. The company follows a policy of maintaining 2 weeks raw Materials in stock to facilitate smooth production process production process. It pays to supplier within 1 month of purchase and collects from customers within one month of sale. Cost estimates of the company are as follows:

Raw Materials Rs. 10 per unit

Wages Rs. 3 per unit

Direct expense Rs. 2 per unit

Factory overhead- Fixed Rs. 200000 per month, Variable Re. 1 per unit of output

Administrative Overhead Fixed Rs. 250000 per month

Selling & Distribution Overhead – Fixed Rs. 80000 per month, Variable Rs. 2 per unit sold.

Selling price Rs. 25.8 per unit

Output- Input ratio 90%

Opening Stock of finished Goods at the beginning of Jan – 40000 units @ Rs. 15

Sales Forecast:

	Dec (A)	Jan	Feb	Mar	Apr	May	Jun
Sales (Units)	95000	97000	90000	85000	90000	95000	100000

You may help the company in preparing:

(1) Sales Budget (2) Purchase Budget (3) Production Cost Budget (4) Inventory Analysis (5)Cash Flow Budget (6) Budgeted Profit and Loss Account

NOTES

The company is currently running on the basis of working capital loan computed applying operating cycle concept. Bank loan is to the extent of 75% of net working capital set in the month of January on the basis of average production. What will be the difficultly in the present method of working capital financing? How should cash budget is expected to overcome the problem?

Solution

Sales Budget- You can prepare sales budget taking monthly sales forecast multiplied by selling price.

	Dec(A)	Jan	Feb	Mar	Apr	May	Jun
Sales (units)	95000	97000	90000	85000	90000	95000	100000
Selling Price (Rs.)	25.8	25.8	25.8	25.8	25.8	25.8	25.8
Selling Budget (Rs.)	2451000	2502600	2322000	2193000	2322000	2451000	2580000

Production Budget- Adjust with sales opening and closing stock to get production budget. Since Speciality Auto follows a policy of fixed units of production per month, and in this example closing stock is derived using-

Production + Opening Stock – Sales= Closing Stock.

	Jan	Feb	Mar	Apr	May	Jun
Production budget	100000	100000	100000	100000	100000	100000
Opening Stock	40000	43000	53000	68000	78000	83000
Sales	97000	90000	85000	90000	95000	100000
Closing Stock	43000	53000	68000	78000	83000	83000

Material Requirement Budget

You need to study the company's Raw Material holding policy and output- input Ratio.

Raw Material inventory Policy: the company follows a policy of maintaining 2 weeks raw Materials in stock to facilitate smooth production process.

Output – Input Ratio 90%

So 50% of the material requirement of a month should be the opening Stock and 50% of next month's requirement should be the closing Stock.

Since production per month is fixed, opening and closing stock are the same.

Therefore, material requirement and purchases also remain constant.

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Material Requirement Budget

	Jan	Feb	Mar	Apr	May	Jun
For production						
Opening Stock	55556	55556	55556	55556	55556	55556
Closing Stock	55556	55556	55556	55556	55556	55556
Purchase	111111	111111	111111	111111	111111	111111
Purchase Budget	1111111	1111111	1111111	1111111	1111111	1111111

Production Cost Budget – Various Components of production cost budget are presented below:

Production Cost Budget

	Jan	Feb	Mar	Apr	May	Jun
Direct labour	1111111	1111111	1111111	1111111	1111111	1111111
Direct labour	300000	300000	300000	300000	300000	300000
Direct Expense	200000	200000	200000	200000	200000	200000
Prime cost	1611111	1611111	1611111	1611111	1611111	1611111
Fixed OH	300000	300000	300000	300000	300000	300000
Factory cost	1911111	1911111	1911111	1911111	1911111	1911111
Add: Opening Cost	600000	771270	994169	1291369	1486804	1584421
	2511111	2682381	2905280	3202347	3397915	3495532
Less: Closing Stock	771270	994169	1291236	1486804	1584421	1585405
COGS	1739841	1688212	1614045	1715543	1813494	1910127
Admin OH	200000	200001	200002	200003	200004	200005
S&D OH	274000	260000	250000	260000	270000	280000
Cost of Sales	2213841	2148413	2064047	2283496	2283498	2390132
profit	288759	173787	128953	146454	167502	189868

Calculation of closing stock

COP	2511111	2682381	2905280	3202347	3397915	3495532
Production + opening stock units	140000	143000	153000	168000	178000	183000
Weighted average cost per unit (Rs.)	17.94	18.76	18.99	19.06	19.09	19.10

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Notes:

i. Direct material = Material requirement* Per unit material cost
ii. Direct labour = Production units* Labour cost unit of production
iii. Direct expense = Production units * Expense per unit of production
iv. Factory overheads = Rs. 200000 Fixed plus Re. 1 * production units
v. Administrative overhead is fixed Rs. 200000
vi. Selling distribution overhead = Rs. 80000 + Rs. 2 per unit sold
vii. Closing stock of finished goods is valued at weighted average cost.

Financial Budgets: Financial Budgets include—

★ Budgeted profit and loss account;

  This has already been presented along with production cost budget.

★ Budgeted balance sheet;

  This is estimated cash flow report against which actual cash flow is compared.

★ Cash budget;

  Cash budget reflects the cash inflows and outflows arising out of operations, investment and financing activities. We have already learnt the technique of preparation of historical cash flows. In this paragraph, let us learn the technique of preparation of budget. Cash budget is projected cash flows. Cash budget is generally prepared on monthly basis. For the purpose of our example, we shall prepare cash budget on monthly basis. For the purpose of our example, we shall prepare cash budget on monthly basis.

★ Working capital budget

  Different components of working capital are- Raw material stock, finished goods stock, Debtors

CASH BUDGET

	Jan	Feb	Mar	Apl	May	Jun
Cash Budget						
Payments to Suppliers	1111111	1111111	1111111	1111111	1111111	1111111
Direct labour	300000	300000	300000	300000	300000	300000
Direct Expense	200000	200000	200000	200000	200000	200000
Fixed OH	300000	300000	300000	300000	300000	300000
Admin OH	200000	200000	200000	200000	200000	200000
S&D OH	274000	260000	250000	260000	270000	280000
Cash outflows	2385111	2371111	2361111	2371111	2381111	2391111
Collection from Drs.	24510000	2502600	2322000	2193000	2322000	2451000

Net cash flows	65889	131489	-39111	-178111	-59111	59889
Opening balance		65889	131489	-39111	-178111	-59111
Closing balance		197378	92378	-217222	-237222	778

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WORKING CAPITAL BUDGET

	Jan	Feb	Mar	Apr	May	Jun
Working capital						
Raw material inventory	555556	555556	555556	555556	555556	555556
Finished goods inventory	771270	994169	1291236	1486804	1584421	1585405
Debtors	2502600	2322000	2193000	2322000	2451000	2580000
Gross WC	3829425	3871725	4039791	43643590	4590977	4720961
Less Crs.	-1111111	-1111111	-1111111	-1111111	-1111111	-1111111
Net WC	2718314	2760614	2928680	3253248	3479865	3609850

Illustration 7

On the basis of the following information prepare flexible budget.

Capacity (%)	50	60	70	80	90	100
Sales Units	5000	6000	7000	8000	9000	10000
Selling price p u (Rs.)	40	40	40	39.5	39	38.5
Variable cost p u (Rs.)	22	22	22	22	22	22
Direct material p u (Rs.)	10	10	10	10	10	10
Direct wages p u (Rs.)	8	8	8	8	8	8
Direct expenses p u (Rs.)	2	2	2	2	2	2
Variable overheads p u (Rs.)	2	2	2	2	2	2
Contribution per unit (Rs.)	18	18	18	17.5	17	16.5
P/V Ratio	45	45	-45	44.30	43.59	42.86
Fixed cost (Rs.)	90000	91800	93600	95400	97200	99000

Solution:

Sales (Rs.)	200000	240000	280000	316000	351000	385000
Variable cost (Rs.)	110000	132000	154000	176000	198000	220000

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Direct material	50000	60000	70000	80000	90000	100000
Direct wages	40000	48000	56000	64000	72000	80000
Direct expenses	10000	12000	14000	16000	18000	20000
Variable overheads	10000	12000	14000	16000	18000	20000
Contribution (Rs.)	90000	108000	126000	140000	153000	165000
Fixed cost (Rs.)	90000	91800	93600	95400	97200	99000
BEP (Rs.)	200000	204000	208000	215331.4	222988	231000
Margin of Safety (Rs.)	0	36000	72000	100668.6	128012	154000
Profit (Rs.)	0	16200	32400	44600	55800	66000

Notes:

1) Sales are adjusted at various capacity levels with reference to 100% capacity.
2) At a higher level of capacity utilisation it is possible to reduce the selling price.
3) Per unit variable cost is a constant.
4) Fixed cost increases @ 2% on the original level of fixed cost for every range of 10% capacity.

14.7 Summary

★ Budget is a statement in financial terms, prepared prior to a defined period of time.

★ Budgetary Control is the establishment of budgets relating to the responsibilities of executives to the requirements of a policy, and the continuous comparison of actual with budgeted results, either to secure by individual action the objective of that policy or to provide a basis for its revision.

★ Flexible Budget is a budget designed to change in accordance with the level of activity actually attained.

★ Fixed Budget is a budget designed to remain unchanged irrespective of the level of activity actually attained.

★ Master Budget is summary budget, incorporating all functional budgets, which are finally approved, adopted and employed.

★ Budget Manual is a document, which sets out, inter alia, the responsibilities of the persons engaged in the routine of and the forms and records required for budgetary control.

★ Zero Based Budgeting is an operating planning and budgeting process which required each manager to justify his entire budget in detail from scratch.

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14.7 Key Terms

- ★ A budget is a plan expressed in quantitative, usually monetary terms, covering a specific period of time, usually one year. In other words, a budget is a systematic plan for the utilisation of manpower and material resources.
- ★ The Master or final budget is a summary budget, which incorporates all functional budgets in a capsule form. It sets out the plan of operations for all departments in considerable detail for the budget period. A Master Budget which is also called as 'Comprehensive Budget' is a consolidation of all the functional budgets. It shows the projected Profit and Loss Account and Balance Sheet of the business organization.
- ★ Fixed Budgets: When a budget is prepared by assuming a fixed percentage of capacity utilization, it is called as a fixed budget. For example, a firm may decide to operate at 90% of its total capacity and prepare a budget showing the projected profit or loss at that capacity. This budget is defined by The Institute of Cost and Management Accountants [U.K.] as ' the budget which is designed to remain unchanged irrespective of the level of activity actually attained. It is based on a single level of activity.' For preparation of this budget, sales forecast will have to be prepared along with the cost estimates.
- ★ Flexible Budgets: A flexible budget is a budget that is prepared for different levels of capacity utilization. It can be called as a series of fixed budgets prepared for different levels of activity.
- ★ 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.

14.9 Questions and Exercises

14.9.1 Multiple Choice Questions

1) A budget is

A] an aid to management

B] a post mortem analysis

C] a substitute of management.

2) The principal budget factor for consumer goods manufacturer is normally

A] sales demand

B] labor supply

C] both sales and labor

3) The budgeted standard hours of a factory is 12, 000. The capacity utilization ratio for April 2007 stood at 90% while the efficiency ratio for the month came to 120%. The actual production in standard hours for April 2007 was

A] 10, 800

B] 12, 960

C] 14, 400

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D] 12, 800

4) A budget is a projected plan of action in

A] physical units

B] monetary terms

C] physical units and monetary units.

5) The document which describes the budgeting organizations, procedures etc is known as

A] Budget centre

B] Principal Budget Factor

C] Budget Manual

6) Flexible budgets are useful for

A] Planning purpose only

B] Planning, performance evaluation and feedback control

C] Control of performance only

7) The scarce factor of production is known as,

A] Key factor

B] Linking factor

C] Critical factor

D] Production factor.

14.9.2 Theory Questions

1. What do you mean by a budget?
2. What do you understand by budgetary control?
3. What are the advantages of budgetary control?
4. Briefly explain the different types of budgets.
5. What do you understand by Cash Budget? Discuss the procedure for preparing the cost budget.
6. What are the differences between fixed budget and flexible budget?

14.9.3 Exercises

Exercise 1

A manufacturing company is currently working at 50% capacity and produces 10, 000 units at a cost of Rs.180 per unit as per the following details.

Materials: Rs.100

Labor: Rs.30

Factory Overheads: Rs.30 [40% fixed]

Administrative Overheads: Rs.20 [50% fixed] Total Cost Per Unit: Rs.180

The selling price per unit at present is Rs.200. At 60% working, material cost per unit increases by 2% and selling price per unit falls by 2%. At 80% working, material cost per unit increases by 5% and selling price per unit falls by 5%.

Prepare a Flexible Budget to show the profits/losses at 50%, 60% and 80% capacity utilization.

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Exercise 2

Prepare a Cash Budget from the following information for ABC Ltd.

Particulars	1st Quarter [Rs.]	IInd Quarter [Rs.]	III rd Quarter [Rs.]	IVth Quarter [Rs.]
Opening Cash	10,000			
Collections from	1,25,000	1,50,000	1,60,000	2,21,000
Payments:				
Purchase of Materials	20,000	35,000	35,000	54,200
Other expenses	25,000	20,000	20,000	17,000
Salaries and wages	90,000	95,000	95,000	1,09,200
Particulars	1st Quarter [Rs.]	IInd Quarter [Rs.]	III rd Quarter [Rs.]	IVth Quarter [Rs.]
Income tax	5, 000			
Machinery Purchase				20, 000

The company desires to maintain a cash balance of Rs.15, 000 at the end of each quarter. Cash can be borrowed or repaid in multiples of Rs.500 at an interest rate of 10% p.a. Management does not want to borrow cash more than what is necessary and wants to repay as early as possible. In any event, loans cannot be extended beyond a quarter. Interest is computed and paid when principal is repaid. Assume that borrowing takes place at the beginning and repayments are made at the end of the quarter.

[ICWAI Intermediate]

Exercise 3

From the following data, prepare a Production Budget for XYZ Ltd for a period of 6 months ending 30th June.

Product	Opening Stock 1st January 2008	Closing Stock 30th June 2008 - units	Sales Forecast Units	Normal Loss in Production [%] Units
A	8,000	10,000	60,000	4
B	9,000	50,000	50,000	2
C	12,000	14,000	80,000	6

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Exercise 4

Zenith Ltd. has prepared the following Sales Budget for the first five months of 2008

Month	Sales Budget [units]
January	10,800
February	15,600
March	12,200
April	10,400
May	9,800

Inventory of finished goods at the end of every month is to be equal to 25% of sales estimate for the next month. On 1st January 2008, there were 2,700 units of product on hand. There is no work in progress at the end of any month.

Every unit of product requires two types of materials in the following quantities. Material A: 4 kg

Material B: 5 kg

Materials equal to one half of the requirements of the next month's production are to be in hand at the end of every month. This requirement was met on 1st January 2008.

Prepare the following budgets for the quarter ending on 31st March 2008

I) Production Budget – Quantity Wise

II) Materials Purchase Budget – Quantity Wise.

14.10 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press

2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

UNIT 15 INTRODUCTION TO FINANCIAL MANAGEMENT

NOTES

Structure

15.0 Introduction

Finance is called “The science of money”. It studies the principles and the methods of obtaining control of money from those who have saved it, and of administering it by those into whose control it passes. Howard and Uptron in his book Introduction to Business Finance defined Finance, “as that administrative area or set of administrative function in an organization which relate with the arrangement of cash and credit so that the organization may have the means to carry out its objectives as satisfactorily as possible”.

In simple terms finance is defined as the activity concerned with the planning, raising, con-trolling and administering of the funds used in the business. Thus, finance is the activity concerned with the raising and administering of funds used in business.

Financial management is managerial activity which is concerned with the planning and controlling of the firm’s financial resources.

Definitions

Howard and Uptron define financial management “as an application of general managerial principles to the area of financial decision-making”.

Weston and Brighem define financial management “as an area of financial decision making, harmonizing individual motives and enterprise goal”.

15.1 Unit Objectives

After studying this unit you will be able to:

- ★ Know finance and financial management

★ Understand scope of financial management
★ Specify role and functions of financial management

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15.2 Finance and other Discipline

Financial management, is an integral part of the overall management, on other disciplines and fields of study like economics, accounting, production, marketing, personnel and quantitative methods. The relationship of financial management with other fields of study is explained as under:

Finance and Economics

Finance is a branch of economics. Economics deals with supply and demand, costs and prof-its, production and consumption and so on. The relevance of economics to financial manage-ment can be described in two broad areas of economics i.e., micro economics and macro eco-nomics.

Micro economics deals with the economic decisions of individuals and firms. It concerns itself with the determination of optimal operating strategies of a business firm. This strategy includes profit maximization strategies, product pricing strategies, strategies for valuation of firm and assets etc. So, every financial manager must be familiar with the basic concepts of micro economics.

Macro economics deals with the aggregates of the economy in which the firm operates. Macro economics is concerned with the institutional structure of the banking system, money and capital markets, monetary, credit and fiscal policies etc. So, the financial manager must be aware of the broad economic environment and their impact on the decision making areas of the business firm.

Finance and Accounting

Accounting and finance are closely related. Accounting is an important input in financial decision making process. Accounting is concerned with recording of business transactions. It generates information relating to business transactions and reporting them to the concerned parties. The end product of accounting is financial statements namely profit and loss account, balance sheet and the statements of changes in financial position. The information contained in these statements assists the financial managers in evaluating the past performance and fu-ture direction of the firm (decisions) in meeting certain obligations like payment of taxes and so on.

Finance and Production

Finance and production are also functionally related. Any changes in production process may necessitate additional funds which the financial managers must evaluate and finance. Thus, the production processes, capacity of the firm are closely related to finance.

Finance and Marketing

Marketing and finance are functionally related. New product development, sales promotion plans, new channels of distribution, advertising campaign etc. in the area of marketing will require additional funds and have an impact on the expected cash flows of the business firm. Thus, the financial manager must be familiar with the basic concept of ideas of marketing.

Finance and Law

A sound knowledge of legal environment, corporate laws, business laws, Import Export guidelines, international laws, trade and patent laws, commercial contracts, etc. are again important for a finance executive in a globalized business scenario. For example the guidelines of Securities and Exchange Board of India [SEBI] for raising money from the capital markets. Similarly, now many Indian corporate are sourcing from international capital markets and get their shares listed in the international exchanges. This calls for sound knowledge of Securities Exchange Commission guidelines, dealing in the listing requirements of various international stock exchanges operating in different countries.

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Check Your Progress

Explain how finance is connected with other discipline.

15.3 Nature and Scope of Financial Management

The term financial management has emerged from the generic discipline of management. In order to understand financial management, it is better to start with an understanding of the term management. Management, simply put, is all about securing the optimal use of the resources at the disposal of a firm towards the attainment of some predetermined goals. These resources are of many kinds such as human capital, production machines, distribution channels, and etc. Resources are put under the charge of their respective departments that are responsible for their management and control.

Financial management is concerned with the management of financial resources of the organisation. Many terms such as capital, funds, cash flows, money, etc. are used synonymously and interchangeably to describe financial resources. The finance department of the organisation is responsible for the financial management of the firm, which it does through the means of financial decision making.

Financial management performs facilitation, reconciliation, and control functions in an organisation. The sourcing of finances needed functions in an organisation. The sourcing of finances needed by various departments and its rational allocation for various activities is done by the finance department.

Check Your Progress

Explain nature and scope of financial management

15.4 Functions of Financial Management

The modern approach to the financial management is concerned with the solution of major problems like investment financing and dividend decisions of the financial operations of a business enterprise. Thus, the functions of financial management can be broadly classified into major decisions as under:

Investment Decisions

Investment decisions involve putting the resources in avenues that give a return that is in excess of the cost incurred on procuring such resources. This maximises the wealth of the shareholders. These decisions are alternatively referred to as vital budgeting decisions. Basic issues involved in investment decisions are:

★ Evaluation of alternate investment avenues so as to select the best

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option; and

- Implementation and monitoring of the selected investment option.

Financial Decisions

The second question that finance managers face is how to fund the investments Financing decisions relate to the procurement of required amount of funds, as and when needed, at the lowest possible cost and on most convenient terms. These decisions are mainly concerned with the identification of potential sources of funds and taping of these sources as per the funding requirement of the firm. Often these decisions are loosely referred to as capital structure decisions. Although capital structure or debt – equity structure is of prime importance, there are other issues as well that are covered under the rubric of financing decisions in addition to the capital structure. The main issues involved in such decisions are:

- Where from to procure the requisite capital?
- What should be the optimal mix of various sources of capital?
- How much should be the proportions of short – term and long term capital?
- How do the expectations of providers of each source of capital change with alteration in the capital mix?

Dividend Decision

Coupled with capital structure decisions is the dividend decision. The dividend decisions focuses upon identifying what portion of residual profits to distribute to shareholders as dividends and how much to plough back for future financing needs of the business. Having generated cash, the firm must decide whether to retain or distribute the cash to the providers of capital. The providers of equity capital, who opted to link their fortunes with that of the firm and did not explicitly demand their investment back or return thereon, have to make a choice of retention or distribution of cash once it becomes available. Such a decision depends upon the trade off between future financing sectors with a high – growth rate follow a policy of high retention and low payout. This is to plan for the future financing requirements in view of the high rate of projected growth and expansion for such firms. Firms that are in the sectors, which have matured and where the growth has been stabilized, normally follow a policy of high payout. In the absence of strong financing requirements, such firms, by having a high payout ratio, pass on the earnings to the shareholders in the form of dividends and enable them to make a choice to consume the income or invest in the firms/sectors that give them a better growth and a higher return on investment.

Working Capital Decisions

Besides long term assets, the firm also requires short term assets known as current assets. These assets comprise of cash and bank balances, account receivable and stock of finished goods, work in progress, and raw material. These assets are required for day to day functioning of the firm. Basics issues in working capital decisions are: determining the optimal level of current assets and deciding the most suitable sources of their financing. Questions such as what level of inventory should be maintained and for how long the credit should be given to the customers are of significant importance for any business as they affect the profitability- liquidity position of the business.

Check Your Progress

What are the functions of financial management

15.5 Role of Finance Manager

The traditional role of the finance manager is to confine to the raising of funds in order to meet operating requirements of the business. There was a change from traditional approach to the modern concept of finance function since the mid-1950s. The industrialization, technological innovations and inventions and a change in economic and environment factors since the mid-1950s necessitated the efficient and effective utilization of financial resources. Since then, finance has been viewed as an integral part of the management. The finance manager is, therefore, concerned with all financial activities of planning, raising, allocating and controlling the funds in an efficient manner. In addition, profit planning is another important function of the finance manager. This can be done by decision making in respect of the following areas:

1. Investment Decisions for obtaining maximum profitability after taking the time value of the money into account.
2. Financing decisions through a balanced capital structure of Debt-Equity ratio, sources of finance, EBIT/EPS computations and interest coverage ratio etc.
3. Dividend decisions, issue of Bonus Shares and retention of profits with objec-tive of maximization of market value of the equity share.
4. Best utilization of fixed assets.
5. Efficient working capital management (inventory, debtors, cash marketable securi-ties and current liabilities).

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Check Your Progress

What is the role of finance manager in an organization?

15.6 Objectives of the firm

It is generally agreed that the financial objective of the firm should be the maximisation of owners' economic welfare. The two well known and widely discussed criteria in this respect are:

A. Profit Maximisation

According to this concept, actions that increase the firm's profit are undertaken while those that decrease profit are avoided. The profit can be maximised either by increasing output for a given set of scarce input or by reducing the cost of production for a given output. The modern economics states that the profit maximisation is nothing but a criterion for economic efficiency as profits provide a yardstick by which economic performances can be judged under condition of perfect competition. Besides, under perfect competition, profit maximisation behaviour by firms leads to an efficient allocation of resources with maximum social welfare. Since, the capital is a scarce material, the financial manager should use these capital funds in the most efficient manner for achieving the profit maximisation. It is, therefore, argued that profitability maximisation should serve as the basic criterion for the ultimate financial management decisions.

B. Wealth Maximisation

The most widely accepted objective of the firm is to maximise the value of the firm

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Check Your Progress

What are the important objectives of the firm?

for its owners. The wealth maximisation goal states that the management should seek to maximise the present value of the expected returns of the firm. The present value of future benefits is calculated by using its discount rate (cost of capital) that reflects both time and risk. The discount rate (capitalisation rate) that is applied is, therefore, the rate that reflects the time and risk preferences of the suppliers of capital.

The next feature of wealth maximisation criterion is that it takes; both the quantity and quality dimensions of benefits along with the time value of money. Other things being equal, income with certainty are valued more than the uncertain ones. Similarly, the benefits received in earlier period should be valued more than the benefits received in later period, in this criterion. Thus, the objective of wealth maximisation has a number of distinct merits.

It is quite clear that the wealth maximisation is, no doubt, superior to the profit maximisation objective. The wealth maximisation objective involves a comparison of present value of future benefits to the cash outflow.

15.7 Summary

- In simple terms finance is defined as the activity concerned with the planning, raising, con-trolling and administering of the funds used in the business.
- Financial management is managerial activity which is concerned with the planning and controlling of the firm's financial resources.
- Financial management is an integral part of the overall management, on other disciplines and fields of study like economics, accounting, production, marketing, personnel and quantitative methods.
- Financial decisions includes investment, working capital, capital budgeting .

15.8 Key Terms

- Financial management is an application of general managerial principles to the area of financial decision-making.
- Profit Maximisation:According to this concept, actions that increase the firm's profit are undertaken while those that decrease profit are avoided. The profit can be maximised either by increasing output for a given set of scarce input or by reducing the cost of production for a given output.
- Wealth Maximisation:The most widely accepted objective of the firm is to maximise the value of the firm for its owners. The wealth maximisation goal states that the management should seek to maximise the present value of the expected returns of the firm. The present value of future benefits is calculated by using its discount rate (cost of capital) that reflects both time and risk.

15.8 Theory Questions

NOTES

1. Write in brief about Financial Management and discuss the scope and functions of Financial Management.
2. Distinguish between Profit Maximisation and Wealth Maximisation objectives of the firm?
3. In what ways is the role of a finance manager different from that of an accountant?
4. What are the important decisions of finance functions? Explain their importance and relevance in Financial Management.

15.10 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press
2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

UNIT 16 FINANCIAL MARKETS AND SOURCES OF FINANCE

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Structure

16.0 Introduction

Financial market is a place or a system where financial assets or instruments are created and exchanged by market participants. Financial markets play a significant role in performing the resource management in an economy. They help capital creation by acting as a bridge between the savers and the spenders through various financial instruments like equity, debt or a mix of both. In the process it facilitates price discovery and providing liquidity for financial assets.

The economic development of a nation is reflected by the progress of the various economic units, broadly classified into corporate sector, government and household sector. While performing their activities these units will be placed in a surplus/deficit/balanced budgetary situations. There are areas or people with surplus funds and there are those with a deficit. A financial system or financial sector functions as an intermediary and facilitates the flow of funds from the areas of surplus to the areas of deficit. A Financial System is a composition of various institutions, markets, regulations and laws, practices, money manager, analysts, transactions and claims and liabilities.

The Indian financial sector has two broad segments –Organized and Unorganized. The organized segment includes commercial banks, development financial institutions, insurance companies and other non-banking financial institutions including mutual funds, unit trusts, etc. The unorganized sector of the Indian financial market consists mainly of Indigenous bankers, money lenders, Nidhi’s and chit funds.

16.1 Unit Objectives

After studying this unit you will be able to:

- ★ Understand financial markets
- ★ Know different sources of finance

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16.2 Financial Markets

A Financial Market can be defined as the market in which financial assets are created or transferred. As against a real transaction that involves exchange of money for real goods or services, a financial transaction involves creation or transfer of a financial asset. Financial Assets or Financial Instruments represents a claim to the payment of a sum of money sometime in the future and /or periodic payment in the form of interest or dividend. Financial markets act as conduit through which the funds are channelized from the units whose current income exceeds their current consumption needs (referred to as surplus units) to the units whose investment needs exceed their present and past savings (referred to as deficit units). Such firms are dependent on outside sources to finance their present and future investment needs.

Money Market- The money market acts as a wholesale debt market for low-risk, highly-liquid, short-term instrument. Funds are available in this market for periods ranging from a single day up to a year. This market is dominated mostly by government, banks and financial institutions.

Capital Market - The capital market is designed to finance the long-term investments. The transactions taking place in this market will be for periods over a year.

Forex Market - The Forex market deals with the multicurrency requirements, which are met by the exchange of currencies. Depending on the exchange rate that is applicable, the transfer of funds takes place in this market. This is one of the most developed and integrated market across the globe.

Credit Market- Credit market is a place where banks, FIs and NBFCs purvey short, medium and long-term loans to corporate and individuals.

Check Your Progress

Explain different types of financial markets

16.3 Money Market Instruments

Some of the important money market instruments are briefly discussed below;

1. Call /Notice-Money Market

Call/Notice money is the money borrowed or lent on demand for a very short period. When money is borrowed or lent for a day, it is known as Call (Overnight) Money. Intervening holidays and/or Sunday are excluded for this purpose. Thus money, borrowed on a day and repaid on the next working day, (irrespective of the number of intervening holidays) is “Call Money”. When money is borrowed or lent for more than a day and up to 14 days, it is “Notice Money”. No collateral security is required to cover these transactions.

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2. Inter-Bank Term Money

Inter-bank market for deposits of maturity beyond 14 days is referred to as the term money market. The entry restrictions are the same as those for Call/Notice Money except that, as per existing regulations, the specified entities are not allowed to lend beyond 14 days.

3. Treasury Bills.

Treasury Bills are short term (up to one year) borrowing instruments of the union government. It is an IOU of the Government. It is a promise by the Government to pay a stated sum after expiry of the stated period from the date of issue (14/91/182/364 days i.e. less than one year). They are issued at a discount to the face value, and on maturity the face value is paid to the holder. The rate of discount and the corresponding issue price are determined at each auction.

4. Certificate of Deposits

Certificates of Deposit (CDs) is a negotiable money market instrument issued in dematerialised form or as a Usuance Promissory Note, for funds deposited at a bank or other eligible financial institution for a specified time period. Guidelines for issue of CDs are presently governed by various directives issued by the Reserve Bank of India, as amended from time to time. CDs can be issued by (i) scheduled commercial banks excluding Regional Rural Banks (RRBs) and Local Area Banks (LABs); and (ii) select all-India Financial Institutions that have been permitted by RBI to raise short-term resources within the umbrella limit fixed by RBI. Banks have the freedom to issue CDs depending on their requirements. An FI may issue CDs within the overall umbrella limit fixed by RBI, i.e., issue of CD together with other instruments viz., term money, term deposits, commercial papers and inter corporate deposits should not exceed 100 per cent of its net owned funds, as per the latest audited balance sheet.

5. Commercial Paper

CP is a note in evidence of the debt obligation of the issuer. On issuing commercial paper the debt obligation is transformed into an instrument. CP is thus an unsecured promissory note privately placed with investors at a discount rate to face value determined by market forces.

CP is freely negotiable by endorsement and delivery. A company shall be eligible to issue CP provided - (a) the tangible net worth of the company, as per the latest audited balance sheet, is not less than Rs. 4 crore; (b) the working capital (fund-based) limit of the company from the banking system is not less than Rs.4 crore and (c) the borrowed account of the company is classified as a Standard Asset by the financing bank/s. The minimum maturity period of CP is 7 days.

Check Your Progress

Which instruments are traded in money market? Explain them in brief.

16.4 Capital Market

The capital market is generally for more than one year period and consists of financial instruments; in the equity segment Equity shares, preference shares, convertible preference shares, non-convertible preference shares etc and in the debt segment debentures, zero coupon bonds, deep discount bonds etc. The Indian capital market, like elsewhere, constitutes of Primary market and Secondary market of equity and debt instruments.

Primary market is the market for the issues of securities (both equity and debt), as distinguished from the secondary market, are bought and sold. The proceeds from the issues of securities in the primary markets go to the firms issuing them. Unlike the secondary markets, the primary markets should not be looked at as a physical entity or a geographical location but rather should connote a composition of players, instruments, and regulators who are involved in the process of new issue of long term debt or equity.

Secondary market is the market where securities are traded after they are initially offered in the primary market. Stock exchanges are known as secondary markets. Secondary markets provide exit routes to the investors in the primary markets.

Check Your Progress

Explain the concept of capital market in detail.

16.5 Sources of Finance

16.5.1 Long Term Sources

Equity Capital

Share Capital, referred as equity, is one such source and instrument to provide capital on a continuing basis. A firm needing fund mobilizes the required amount of equity capital from public at large by inviting subscriptions based on projected financial performance of the project. Financial markets classify the equity broadly on the basis of –

a) Geographical domain such as domestic and international capital markets and/ or

b) Nature of offering, i.e. Initial Public Offer (IPO) (also called as primary markets) or Follow – on Public Offer (FPO) (also referred to as secondary markets)

The classification of equity capital based on geographically domain is due to the substantially varying regulatory environments prevailing in different nations with respect to reporting, governance and disclosure requirements on art of the issuing firm. Further, the business ethics, practises, culture and norms too vary significantly from country to country, thereby making the process of mobilization of equity different in each country and region. Some of these factors also influence the valuation of equity as the levels of awareness of investors about equity investment and associated risk perceptions are different.

Preference share capital

Preference shareholders have preferential rights in respect of assets and dividends. In the event of winding up the preference shareholders have a claim on available assets before the ordinary shareholders. In addition, preference shareholders get their stated dividend before equity shareholders can receive any dividends. The dividends on preference shares are fixed and they must be declared before a legal obligation exists to pay them. The fixed nature of dividend is similar to that of interest on debentures and bonds. The declaration feature is similar to that of equity shareholders dividends.

Debentures

A bond or a debenture is the basic debt instrument which may be issued by a borrowing com-pany for a price which may be less than, equal to or more than the face value. A debenture also carries a promise by the company to make interest payments to the debenture-holders of speci-fied amount, at specified time and also to repay the principal amount at the end of a specified period. Since the debt instruments are issued keeping in view the need and cash flow profile of the company as well as the investor, there have been a variety of debt instruments being issued by companies in practice.

Lease and Hire Purchase

Instead of procuring funds, and purchasing the equipment, a firm can acquire the asset itself on lease. In this case, the asset is financed by the lessor but the lessee gets the asset for use. In case of hire purchase, the assets are acquired on credit and payments are made as per terms and conditions.

Term Loans

This is also an important source of long-term financing. There are different financial institu-tions (National level as well as State level) which provide financial assistance for taking up projects.

16.5.2 Short Term Sources

Apart from money market instruments following are short term sources which are generally used for financing working capital.

Inter-corporate Deposits (ICDs)

Sometimes, the companies borrow funds for a short-term period, say up to six months, from other companies which have surplus liquidity for the time being. The ICDs are generally unse-cured and are arranged by a financier. The ICDs are very common and popular in practice as these are not marred by the legal hassles.

Bank Credit

Credit facility provided by commercial banks to meet the short-term and working capital requirements has been important short term sources of finance in India. The bank credit, in general, is a short, term financing, say, for a year or so.

In India, banks may give financial assistance in different shapes and forms. The usual form of bank credit is as follows:

A. Overdraft— It is the simplest of different forms of bank credit. In this case, the borrowing firm which already has a current account with the bank is allowed to withdraw more (up to a specified limit) over and above the balance in the current account. The firm is not required to seek approval of the bank authority every time it is overdrawing.

B. Cash Credit— The credit facility under the cash credit is similar to the over draft. Under the cash credit, a loan limit is sanctioned by the bank and the borrowing firm can withdraw any amount at any time, within that limit. The interest is charged at the specified rate on the amount withdrawn and for the relevant period. The bank may or may not charge any minimum commitment fee.

C. Bills Purchased and Bills Discounting— Commercial banks also provide short-term credit by discounting the bill of exchange emerging out of commercial transactions of sale and purchase. In the normal course of credit sales, the seller of the goods may draw a bill on the buyer of the goods who accepts the bill and there by promises to pay the bill as per terms and conditions mentioned in the bill.

D. Letter of Credit— A letter of credit is a guarantee provided by the buyer's banker to the seller that in case of default or failure of the buyer, the bank shall make the payment to the seller.

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16.5.3 International Sources

A. Depository Receipts (DR)

A DR means any instrument in the form of a depository receipt or certificate created by the Overseas Depository Bank outside India and issued to the non-resident investors against the issue of ordinary shares. A Depository Receipt is a negotiable instrument evidencing a fixed number of equity shares of the issuing company generally denominated in US dollars. DRs are commonly used by those companies which sell their securities in international market and expand their shareholdings abroad. These securities are listed and traded in International Stock Exchanges. These can be either American Depository Receipt (ADR) or Global Depository Receipt (GDR). ADRs are issued in case the funds are raised through retail market in United States. In case of GDR issue, the invitation to participate in the issue cannot be extended to retail US investors. As the DRs are issued in overseas capital markets, the funds to the issuer are available in foreign currency, generally in US $.

B. Foreign Currency Convertible Bonds (FCCBs)

The FCCB means bonds issued in accordance with the relevant scheme and subscribed by a non-resident in foreign currency and convertible into ordinary shares of the issuing company in any manner, either in whole or in part, on the basis of any equity related warrants attached to debt instruments. The FCCBs are unsecured, carry a fixed rate of interest and an option for conversion into a fixed number of equity shares of the issuer company. Interest and redemption price (if conversion option is not exercised) is payable in dollars. Interest rates are very low by Indian domestic standards. FCCBs are denominated in any freely convertible foreign currency.

C. External Commercial Borrowings (ECB)

Indian promoters can also borrow directly from foreign institutions, foreign development bank, World Bank, etc. It is also known as Foreign Currency Term loans. Foreign institutions provide foreign currency loans and financial assistance towards import of plants and equip-ments. The interest on these loans is payable in foreign currency. On the payment date, interest amount is converted into domestic currency at the prevailing foreign exchange rate. The borrowings, repayment and interest payments can be tailor-made in view of the cash flow position of the project.

Check Your Progress

Which are different sources of finance used to finance business?

NOTES

16.6 Summary

- ★ Financial market is a place or a system where financial assets or instruments are created and exchanged by market participants.
- ★ The Indian financial sector has two broad segments –Organized and Unorganized. The organized segment includes commercial banks, development financial institutions, insurance companies and other non-banking financial institutions including mutual funds, unit trusts, etc. The unorganized sector of the Indian financial market consists mainly of Indigenous bankers, money lenders, Nidhi's and chit funds.
- ★ The money market acts as a wholesale debt market for low-risk, highly-liquid, short-term instrument. Funds are available in this market for periods ranging from a single day up to a year. This market is dominated mostly by government, banks and financial institutions.
- ★ The capital market is designed to finance the long-term investments. The transactions taking place in this market will be for periods over a year.
- ★ The Forex market deals with the multicurrency requirements, which are met by the exchange of currencies. Depending on the exchange rate that is applicable, the transfer of funds takes place in this market. This is one of the most developed and integrated market across the globe.
- ★ Credit market is a place where banks, FIs and NBFCs purvey short, medium and long-term loans to corporate and individuals.
- ★ Sources of finance can be long term like equity, preference, bank loans etc. or short term like bank credit, inter-company deposits etc.

16.7 Key Terms

- ★ A Financial Market can be defined as the market in which financial assets are created or transferred. As against a real transaction that involves exchange of money for real goods or services, a financial transaction involves creation or transfer of a financial asset.
- ★ Money Market- The money market acts as a wholesale debt market for low-risk, highly-liquid, short-term instrument. Funds are available in this market for periods ranging from a single day up to a year.
- ★ Capital Market - The capital market is designed to finance the long-term investments. The transactions taking place in this market will be for periods over a year.
- ★ Forex Market - The Forex market deals with the multicurrency requirements, which are met by the exchange of currencies

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- Credit Market- Credit market is a place where banks, FIs and NBFCs purvey short, medium and long-term loans to corporate and individuals.

16.7 Questions and Exercises

1. Write a note on financial markets.
2. Explain various money market instruments in detail.
3. Write a note on Equity capital financing.
4. Explain short term sources of financing.
5. What are depository receipts? Explain GDRs and ADRs.

16.8 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press
2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

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UNIT 17 COST OF CAPITAL AND CAPITAL STRUCTURE

Structure

17.1 Introduction

Finance is an important input for any type of business and is needed for working capital and for permanent investment. The total funds employed in a business are obtained from various sources. A part of the funds are brought in by the owners and the rest is borrowed from others-individuals and institutions. While some of the funds are permanently held in business, such as share capital and reserves (owned funds), some others are held for a long period such as long-term borrowings or debentures, and still some other funds are in the nature of short-term borrowings: The entire composition of these funds constitute the overall financial structure of the firm. The firm has to follow a flexible approach. A more definite policy is often laid down for the composition of long-term funds, known as capital structure. Before learning capital structure we need to understand cost of capital. The term cost of capital refers to the minimum rate of return a firm must earn on its invest¬ments. This is in consonance with the firm's overall object of wealth maximization. Cost of capital is a complex, controversial but significant concept in financial management.

17.1 Unit objectives

After learning this chapter you will be able to

- ★ Know cost of capital
- ★ Compute cost of debt, equity and preference shares
- ★ Understand capital structure
- ★ Learn different theories of capital structure

17.2 Cost of capital

The term cost of capital refers to the minimum rate of return a firm must earn on its investments. This is in consonance with the firm's overall object of wealth maximization. Cost of capital is a complex, controversial but significant concept in financial management.

The followings are some important definitions.

Hamption J.: The cost of capital may be defined as "the rate of return the firm requires from investment in order to increase the value of the firm in the market place".

Soloman Ezra: "Cost of Capital is the minimum required rate of earnings or the cut-off rate of capital expenditure".

Importance of Cost of Capital

The cost of capital is very important in financial management and plays a crucial role in the following areas:

i) Capital budgeting decisions: The cost of capital is used for discounting cash flows under Net Present Value method for investment proposals. So, it is very useful in capital budgeting decisions.

ii) Capital structure decisions: An optimal capital structure is that structure at which the value of the firm is maximum and cost of capital is the lowest. So, cost of capital is crucial in designing optimal capital structure.

iii) Evaluation of financial performance: Cost of capital is used to evaluate the finan-cial performance of top management. The actual profitabily is com-pared to the expected and actual cost of capital of funds and if profit is greater than the cost of capital the performance nay be said to be satisfactory.

iv) Other financial decisions: Cost of capital is also useful in making such other finan¬cial decisions as dividend policy, capitalization of profits, making the rights issue, etc.

17.2.1 Cost of Debt

In case of debt fund the supplier (lender) wants fixed return. So, in general we can say the interest paid to the lender is cost of capital. However, in some cases this may be different. The rate of interest is expressed in percentage term.

Cost of Capital = Rate of Interest

Debt may be perpetual or redeemable debt. Moreover, it may be issued at par, at premium or discount. The computation of cost of debt in each is explained below.

Perpetual / irredeemable debt:

Kd = Cost of debt before tax =I/Po

Kd = Cost of debt; I= interest; Po = net proceeds

Net proceed is considered after deducting expenses incurred in the process of borrowing.

Illustration 1

Let us assume that in order to borrow Rs. 1,00,000 the borrower has to spend Rs. 5,000 on the transport, documentations or as processing fees. Calculate the rate of return and cost of capital if the rate of interest is 12% p.a.

Solution

The Net receipt of borrower = Borrowed amount – Incidental charges

$$= 1{,}00{,}000 - 5{,}000 = 95{,}000$$

$$k_d = \frac{\text{Interest Amount X 100}}{\text{Borrowed Amount or Net Receipt of Borrower}}$$

$$k_d = \frac{12{,}000 \text{ X } 100}{95{,}000}$$

= 12.63%

However, cost of capital is always affected by rate of tax. Following is the formula to compute cost of capital after tax.

kd(after-tax) = I/P(1-t)

Where t = tax rate

Illustration 2

In case of illustration 1 if the rate of tax is 30% find out cost of capital.

Solution

kd(after-tax) = I/P(1-t)

= 12000 (1-30%)/95000

= 8.842%

In case of redeemable debentures where the time period of redemption is defined following formula is used.

$$k_d = \frac{I(1-t)+(F+D+P_r-P_i)/n}{(R_v+S_v)/2}$$

Where,

I = Interest

t = Tax Rate

F = Flotation Cost or Issue Exp.

D = Discount on Issue

Pr = Premium on redemption

Pi = Premium on issue

n = No. of year

Rv= Net redemption value

Sv = Net Sale Value (Net receipt of Loan)

Illustration 3

- A company makes an issue of 12% coupon bonds for Rs. 1,00,000.
- The issue exp. Rs. 6,000 while the issue is made at discount of 2%.
- The bond will be redeemed after 5 year at a premium of 5%.
- Find out the after tax cost of Capital if the rate of tax is 30%.

Solution

$$k_d = \frac{12{,}000(1\text{-}.3) + (6{,}000 + 2{,}000 + 5{,}000)\,/\,5}{(1{,}05{,}000 + 92{,}000)/2}$$

$$k_d = \frac{12{,}000(.7) + (13{,}000)\,/\,5}{(1{,}97{,}000)/2}$$

$$k_d = \frac{8{,}400 + 2{,}600}{98500}$$

$$k_d = \frac{11{,}000}{98500}$$

= .1117or 11.17 %

17.2.2 Cost of Preference shares

Preference shares are those shares, which have preference in payment over equity shares in respect of following two-

- Regarding payment of dividend
- Regarding payment of principal amount at the time of winding up of a company.

However, when the preference share holders get above two privileges, then they have to forego the voting right in the company's management and they are not entitled to receive excess dividend over the predetermined rate of dividend. They get only fixed return on their capital contribution.

In case of irredeemable Preference share the cost of capital can be calculated as follows.

$$k_p = \frac{d}{\text{Amount of Issue} - (\text{F} + \text{D} - \text{P}_\text{i})}$$

NOTES

d = Amount of dividend

F= Flotation Exp.

D = Discount on Issue

Pi = Premium on Issue

In case of redeemable preference share the cost of capital can be calculate through the following formula-

$$k_p = \frac{\text{d} + (\text{F} + \text{D} + \text{P}_\text{r} - \text{P}_\text{i}) / \text{n}}{(\text{R}_\text{v} + \text{S}_\text{v})/2}$$

d = Dividend

F = Flotation Cost or Issue Exp.

D = Discount on Issue

Pr = Premium on redemption

Pi = Premium on issue

N = No. of years.

Rv= Net redemption value

Sv = Net Sale Value (Net receipt of Capital)

Illustration 3

A company issues 10% irredeemable preference shares. The face value per share is Rs. 100, but the issue price is Rs. 95. What is the cost of a preference shares? What is the cost if the issue price is Rs.105?

Solution

We can compute cost of a preference share as follows:

kp = D / Net Sale Proceed

= 10/95 = 0.1053 or 10.53%.

When the issue price is Rs. 105, cost of preference share as follows:

kp = D / Net Sale Proceed

= 10/105 = 0.0952 or 9.52%.

What can be observed is that when SP is at premium cost of preference share goes down.

17.2.3 Cost of Equity Capital

Cost of Equity is the expected rate of return by the equity shareholders. Some argue that, as there is no legal compulsion for payment, equity capital does not involve any cost. But it is not correct. Equity shareholders normally expect some dividend from the company while making investment in shares. Thus, the rate of return expected by them becomes the cost of equity. Conceptually, cost of equity share capital may be defined as the minimum rate of return that a firm must earn on the equity part of total investment in a project in order to leave unchanged the market price of such shares. For the determination of cost of equity capital it may be divided into two categories:

i) External equity or new issue of equity shares.

ii) Retained earnings.

The cost of external equity can be computed as per the following approaches :

Dividend Yield / Dividend Price Approach : According to this approach, the cost of equity will be that rate of expected dividends which will maintain the present market price of eq-uity shares. It is calculated with the following formula :

Ke = D/NP (for new equity shares)

Or

Ke = D/MP (for existing shares)

Where,

Ke = Cost of equity

D = Expected dividend per share

NP = Net proceeds per share

MP = Market price per share

This approach rightly recognizes the importance of dividends. However, it ignores the importance of retained earnings on the market price of equity shares. This method is suitable only when the company has stable earnings and stable dividend policy over a period of time.

Illustration 4

A company issues, 10,000 equity shares of Rs. 100 each at a premium of 10%. The company has been paying 20% dividend to equity shareholders for the past five years and expected to maintain the same in the future also. Compute cost of equity capital.

Solution

Ke = D/NP

= 20/110

= 0.1818 or 18.18%

Earnings Yield Method - According to this approach, the cost of equity is the discount rate that capitalizes a stream of future earnings to evaluate the shareholdings. It is computed by taking earnings per share (EPS) into consideration. It is calculated as:

i) Ke = Earnings per share / Net proceeds = EPS / NP [For new share]

ii) Ke = EPS / MP [For existing equity]

Illustration 5

XYZ Ltd is planning for an expenditure of Rs. 120 lakhs for its expansion programme.

Number of existing equity shares are 20 lakhs and the market value of equity shares is Rs. 60. It has net earnings of Rs. 180 lakhs.

Compute the cost of existing equity share and the cost of new equity capital assuming that new share will be issued at a price of Rs. 52 per share and the costs of new issue will be Rs. 2 per share.

Solution

For exiting equity

Ke = EPS / MP

= 9/60

= 0.15 or 15%

Where, EPS = Rs. 180 lakhs/ 20 lakhs = Rs.9

For New equity share

Ke = Earnings per share / Net proceeds = EPS / NP

= 9/ 50 (52-2)

= 0.18 or 18%

Dividend yield plus Growth in dividend methods- According to this method, the cost of equity is determined on the basis of the expected dividend rate plus the rate of growth in dividend. This method is used when dividends are expected to grow at a constant rate.

Cost of equity is calculated as :

Ke = D1 /NP +g (for new equity issue)

Where,

D1 = expected dividend per share at the end of the year. [D1 = Do(1+g)]

NP = net proceeds per share

g = growth in dividend for existing share is calculated as:

D1 / MP + g

Where,

MP = market price per share.

Illustration 6

ABC Ltd plans to issue 1,00,000 new equity share of Rs. 10 each at par. The floatation costs are expected to be 5% of the share price. The company pays a dividend of Rs. 1 per share and the growth rate in dividend is expected to be 5%. Compute the cost of new equity share. If the current market price is Rs. 15, compute the cost of existing equity share.

Solution:

Cost of new equity shares = (Ke) = D/NP +g

$$K_e = 1 / (10-0.5) + 0.05 = 1 / 9.5 + 0.05$$

$= 0.01053 + 0.05$

$= 0.1553$ or 15.53%

Cost of existing equity share: ke = D / MP + g

Ke = 1/ Rs. 15 + 0.05 = 0.0667 or 11.67 %

Cost of Retained Earnings (Kr)

Retained earnings refer to undistributed profits of a firm. Out of the total earnings, firms generally distribute only part of them in the form of dividends and the rest will be retained within the firms. Since no dividend is required to paid on retained earnings, it is stated that 'retained earnings carry no cost'. But this approach is not appropriate. Retained earnings have the opportunity cost of dividends in alternative investment, which becomes cost of retained earnings. Hence, shareholders expect a return on retained earnings at least equity.

$$K_r = K_e = D/NP+g$$

However, while calculating cost of retained earnings, two adjustments should be made:

a) Income-tax adjustment as the shareholders are to pay some income tax out of dividends, and b) adjustment for brokerage cost as the shareholders should incur some brokerage cost while invest dividend income. Therefore, after these adjustments, cost of retained earnings is calculated as :

K= Ke (1-t)(1-b)

Check Your Progress

Define cost of capital and explain cost of debt and equity.

17.3. Weighted Average Cost of Capital (WACC)

It is the average of the costs of various sources of financing. It is also known as composite or overall or average cost of capital. After computing the cost of individual sources of finance, the weighted average cost of capi¬tal is calculated by putting weights in the proportion of the various sources of funds to the total funds.

Following formula is used for calculation of WACC.

WACC= (kd X wd) + (kp X wp) + (ke X we) +(kr X wr)

kd = Cost of Capital of Debt

kp= Cost of Preference Share

ke = Cost of Equity Share

kr=Cost of Retained Earning

wd = Weight of Debt

wp= Weight of Preference Share

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we = Weight of Equity Share

wr= Weight of Retained Earning

Weights are computed either with the help of market value or book value.

Illustration 7

The Capital Structure of All-Good Ltd is —

Equity Capital Rs. 5 Lakhs;

Reserves and Surplus Rs. 2 Lakhs and

Debentures Rs. 3 Lakhs.

The Cost of Capital before Tax is – (a) Equity – 18% and (b) Debentures – 10%.

You are required to compute the Weighted Cost of Capital, assuming a tax rate of 35%.

Solution

WACC of All Good Ltd

Component	Amount	%	Individual Cost in %	WACC
Debentures	3,00,000	30%	Kd= Interest ×(100%- Tax Rate)	1.95%
			=10% × (100% - 35%) = 6.5%	
Equity	5,00,000	50%	K= 18%	9.00%
Reserves	2,00,000	20%	K= K= 18%	3.60%
Total	10,00,000		Ko =	14.55%

Note: Reserves are taken at same rate as Equity.

Check Your Progress

What is WACC? Explain steps to calculate WACC.

17.4 Capital Structure

The capital structure of a company refers to a combination of the long-term finances used by the firm. The theory of capital structure is closely related to the firm's cost of capital. The decision regarding the capital structure or the financial leverage or the financing is based on the objective of achieving the maximization of shareholders wealth.

To design capital structure, we should consider the following two propositions:

(i) Wealth maximization is attained.

(ii) Best approximation to the optimal capital structure. Factors Determining Capital Structure

(1) Minimization of Risk: (a) Capital structure must be consistent with business risk. (b) It should result in a certain level of financial risk.

(2) Control: It should reflect the management's philosophy of control over the firm.

(3) Flexibility: It refers to the ability of the firm to meet the requirements of the changing situations.

(4) Profitability: It should be profitable from the equity shareholders point of view.

(5) Solvency: The use of excessive debt may threaten the solvency of the company.

NOTES

Equity and debt capital are the two major sources of long-term funds for a firm. The theories of capital structure suggests the proportion of equity and debt in the capital structure.

Assumptions

- Firms use only two sources of funds – equity & debt.
- No change in investment decisions of the firm, i.e. no change in total assets.
- 100 % dividend payout ratio, i.e. no retained earnings.
- Business risk of firm is not affected by the financing mix.
- No corporate or personal taxation.
- Investors expect future profitability of the firm.

Followings are the important capital structure theories.

17.4.1 Net Income Approach (NI)

Net Income approach proposes that there is a definite relationship between capital structure and value of the firm. The capital structure of a firm influences its cost of capital (WACC), and thus directly affects the value of the firm.

NI approach assumptions –

- o NI approach assumes that a continuous increase in debt does not affect the risk perception of investors.
- o Cost of debt (Kd) is less than cost of equity (Ke) [i.e. Kd < Ke]
- o Corporate income taxes do not exist.

As per NI approach, higher use of debt capital will result in reduction of WACC. As a consequence, value of firm will be increased.

Value of firm = Earnings

WACC

Earnings (EBIT) being constant and WACC is reduced, the value of a firm will always increase. Thus, as per NI approach, a firm will have maximum value at a point where WACC is minimum, i.e. when the firm is almost debt-financed. As the proportion of debt (Kd) in capital structure increases, the WACC (Ko) reduces as explained in the following diagram.

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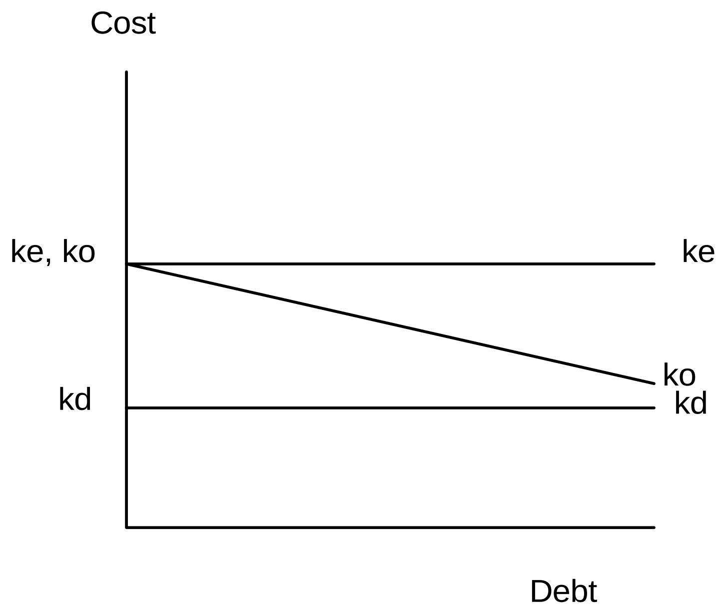


Illustration 8

Calculate the value of Firm and WACC for the following capital structures			
EBIT of a firm Rs. 200,000.	Ke = 10%	Kd = 6%	
Case 1 : Debt capital Rs. 500,000	Case 2: Debt = Rs. 700,000	Case 3: Debt = Rs. 200,000	

Solution

Particulars	case 1		case 2		case 3
EBIT	2,00,000		2,00,000		2,00,000
(-) Interest	30,000		42,000		12,000
EBT	1,70,000		1,58,000		1,88,000
Ke	10%		10%		10%
Value of Equity	17,00,000		15,80,000		18,80,000
(EBT / Ke)					
Value of Debt	5,00,000		7,00,000		2,00,000
Total Value of Firm	22,00,000		22,80,000		20,80,000
WACC	9.09%		8.77%		9.62%
(EBIT / Value) * 100					

17.4.2 Net Operating Income (NOI)

Net Operating Income (NOI) approach is the exact opposite of the Net Income (NI) approach. As per NOI approach, value of a firm is not dependent upon its capital structure.

Assumptions –

- ★ WACC is always constant, and it depends on the business risk.
- ★ Value of the firm is calculated using the overall cost of capital i.e. the WACC only.

★ The cost of debt (Kd) is constant.

★ Corporate income taxes do not exist.

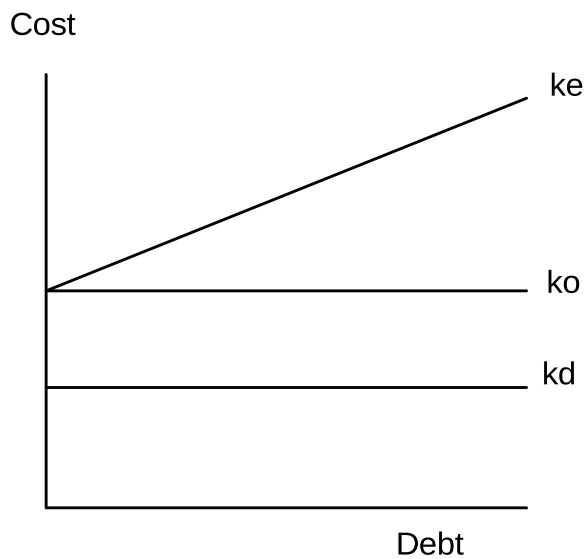
NOI propositions –

★ The use of higher debt component (borrowing) in the capital structure increases the risk of shareholders.

★ Increase in shareholders' risk causes the equity capitalization rate to increase, i.e. higher cost of equity (Ke)

★ A higher cost of equity (Ke) nullifies the advantages gained due to cheaper cost of debt (Kd)

★ In other words, the finance mix is irrelevant and does not affect the value of the firm.



From the above diagram it can be observed that :

- Cost of capital (Ko) is constant.
- As the proportion of debt increases, (Ke) increases.
- No effect on total cost of capital (WACC)

Illustration 9

Calculate the value of firm and cost of equity for the following capital structure -				
EBIT = Rs. 200,000.	WACC (Ko) = 10%	Kd = 6%		
Debt = Rs. 300,000, Rs. 400,000, Rs. 500,000	(under 3 options)			

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Solution

Particulars	Option I		Option II		Option III
EBIT	2,00,000		2,00,000		2,00,000
WACC (Ko)	10%		10%		10%
Value of the firm	20,00,000		20,00,000		20,00,000
Value of Debt @ 6 %	3,00,000		4,00,000		5,00,000
Value of Equity (bal. fig)	17,00,000		16,00,000		15,00,000
Interest @ 6 %	18,000		24,000		30,000
EBT (EBIT - interest)	1,82,000		1,76,000		1,70,000
Hence, Cost of Equity (Ke)	10.71%		11.00%		11.33%

17.4.3 Modigliani – Miller Model (MM)

MM approach supports the NOI approach, i.e. the capital structure (debt-equity mix) has no effect on value of a firm. Further, the MM model adds a behavioral justification in favour of the NOI approach (personal leverage)

Assumptions –

- ★ Capital markets are perfect and investors are free to buy, sell, & switch between securities. Securities are infinitely divisible.
- ★ Investors can borrow without restrictions at par with the firms.
- ★ Investors are rational & informed of risk-return of all securities
- ★ No corporate income tax, and no transaction costs.
- ★ 100 % dividend payout ratio, i.e. no profits retention

MM Model proposition –

- ★ Value of a firm is independent of the capital structure.
- ★ Value of firm is equal to the capitalized value of operating income (i.e. EBIT) by the appropriate rate (i.e. WACC).
- ★ Value of Firm = Mkt. Value of Equity + Mkt. Value of Debt

= Expected EBIT

Expected WACC

- ★ As per MM, identical firms (except capital structure) will have the same level of earnings.
- ★ As per MM approach, if market values of identical firms are different, 'arbitrage process' will take place.
- ★ In this process, investors will switch their securities between identical firms (from levered firms to un-levered firms) and receive the same returns from both firms.

17.4.4 Traditional Approach

The NI approach and NOI approach hold extreme views on the relationship between capital structure, cost of capital and the value of a firm. Traditional approach ('intermediate approach') is a compromise between these two extreme approaches. Traditional approach confirms the existence of an optimal capital structure; where WACC is minimum and value is the firm is maximum. As per this approach, a best possible mix of debt and equity will maximize the value of the firm.

The approach works in 3 stages –

1) Value of the firm increases with an increase in borrowings (since Kd < Ke). As a result, the WACC reduces gradually. This phenomenon is up to a certain point.
2) At the end of this phenomenon, reduction in WACC ceases and it tends to stabilize. Further increase in borrowings will not affect WACC and the value of firm will also stagnate.
3) Increase in debt beyond this point increases shareholders' risk (financial risk) and hence Ke increases. Kd also rises due to higher debt, WACC increases & value of firm decreases.

From the diagram we understand that:

★ Cost of capital (Ko) is reduces initially.

★ At a point, it settles

★ But after this point, (Ko) increases, due to increase in the cost of equity. (Ke)

Illustration 10

EBIT = Rs. 150,000, presently 100% equity finance with Ke = 16%. Introduction of debt to
the extent of Rs. 300,000 @ 10% interest rate or Rs. 500,000 @ 12%.
For case I, Ke = 17% and for case II, Ke = 20%. **Find the value of firm and the WACC**

Solution

Particulars	Presently		case I		case II
Debt component	-		3,00,000		5,00,000
Rate of interest	0%		10%		12%
EBIT	1,50,000		1,50,000		1,50,000
(-) Interest	-		30,000		60,000
EBT	1,50,000		1,20,000		90,000
Cost of equity (Ke)	16%		17%		20%
Value of Equity (EBT / Ke)	9,37,500		7,05,882		4,50,000
Total Value of Firm (Db + Eq)	9,37,500		10,05,882		9,50,000
WACC (EBIT / Value) * 100	16.00%		14.91%		15.79%

Check Your Progress

What is capital structure? Explain different theories of determining capital structure.

NOTES

17.5 Solved Illustrations

Illustration 11

The following information has been extracted from the Balance Sheet of ABC Ltd.as on 31st March -

Component of capital Equity Share Capital	12% Debentures	18%Term Loan	Total
Amount Rs. In Lakhs 400	400	1,200	2,000

Determine the WACC of the Company. It had been paying dividends at a consistent rate of 20% per annum.

Solution

1. Computation of WACC (based on Book Value Proportions and ignoring Tax)

Component (a)	Proporation (b)	Indivitual Cost (c)	WACC (d)=(b)x(c)
Equity Share Capital	4/20	Ke=20% (Dividend Approach)	4.00%
12% Debentures	4/20	Kd=12%	2.40%
18% Term Loan	12/20	Kd=18%	10.80%
		WACC=Ko=	17.20%

Note :1. Ke = Dividend per Share Equals Market Price per share = Rs.20.

2. Book Value Proportions have been considered in Column (b) above.

17.6 Summary

- The term cost of capital refers to the minimum rate of return a firm must earn on its investments.
- In case of debt fund the supplier (lender) wants fixed return. So, in general we can say the interest paid to the lender is cost of capital.
- Cost of Equity is the expected rate of return by the equity shareholders.
- In Dividend Yield / Dividend Price approach, the cost of equity is that rate of expected dividends which will maintain the present market price of eq¬uity shares.
- Under Earnings Yield Method the cost of equity is the discount rate that capitalizes a stream of future earnings to evaluate the shareholdings.
- Dividend yield plus Growth in dividend methods is the method in which the cost of equity is determined on the basis of the expected dividend rate plus the rate of growth in dividend.

- WACC is the average of the costs of various sources of financing. It is also known as composite or overall or average cost of capital.

17.7 Key Terms

- The term cost of capital refers to the minimum rate of return a firm must earn on its invest-ments.
- Weighted Average Cost of Capital (WACC): It is the average of the costs of various sources of financing. It is also known as composite or overall or average cost of capital. After computing the cost of individual sources of finance, the weighted average cost of capital is calculated by putting weights in the proportion of the various sources of funds to the total funds.

17.8 Questions and Exercises

17.7.1 Theory Questions

1. What is cost of capital? What does it implies?
2. Write a note on Cost of Debt?
3. Explain cost of preferences and equity shares.
4. What do you mean by capital structures?
5. Explain net income and net operating income approach to capital structure.
6. Explain Modigliani Miller approach to capital structure.
7. Write a note on traditional approach.

17.7.2 Practical Problems

Exercise 1

A firm has an EBIT of Rs. 5,00,000 and belongs to a risk class of 10%. What is the cost of Equity if it employs 6% debt to the extent of 30%, 40% or 50% of the total capital fund of Rs. 20,00,000 ?

Exercise 2

The following data relates to four Firms—

Firm	A	B	C	D
EBIT in Rs.	2,00,000	3,00,000	5,00,000	6,00,000
Interest in Rs.	20,000	60,000	2,00,000	2,40,000
Equity Capitalization Rate	12%	16%	15%	18%

Assuming that there are no taxes and rate of debt is 10%, determine the value of each firm using the Net Income approach. Also determine the Overall Cost of Capital of each firm.

NOTES

17.9 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press
2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

UNIT 18 LEVERAGE ANALYSIS

NOTES

Structure

18.0 Introduction

'Leverage' is the action of a lever or the mechanical advantage gained by it; it also means `effectiveness' or `power'. . In financial management, it is used to describe the firm's ability to use fixed assets costs funds to satisfy to magnify the returns of its owners. "Leverage is the ratio of the net rate of return on shareholder's equity and net rate of return on total capitalization."Leverage provides the framework for financing decisions of a firm. It may be defined as the employment of an asset or source of funds for which the firm has to pay a fixed cost, or fixed return.The best mixture of source of funds decides about the capital structure of the firm. The desired structure of the funds influences the shareholder's return and risk. Leverage analysis is the technique used by business firms to quantify a risk-return relationship of different alternative capital structure.

There are two main types of risks that a company faces

Business risk **-** the variability in a firm's EBIT. This type of risk is a function of the firm's regulatory environment, labor relations, competitive position, etc. Note that business risk is, to a large degree, outside of the control of managers

Financial risk **-** the variability of the firm's earnings before taxes (or earnings per share). This type of risk is a direct result of management decisions regarding the relative amounts of debt and equity in the capital structure

To understand the concept of leverage, it is imperative to understand the three measures of leverage

(i) Operating Leverage

(ii) Financial Leverage

(iii) Combined Leverage

18.1 Unit Objectives

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After learning this unit you will be able to:

- ★ Acquire an understanding of leverage ratios
- ★ Examine the consequences of financial leverage for a business firm
- ★ Trace relationship between financial and operating leverages, and
- ★ Assess the risk implications of financial leverage.

18.2 Operating Leverage

It is important to know how the operating leverage is measured, but equally essential is to understand its nature in financial analysis.Operating leverage reflects the impact of change in sales on the level of operating profits of the firm. It helps in determining business risk faced by a firm. This may be obtained by using the following formula when information is available for 2 years:

Degree of operating leverage (DOL) =

$$\frac{\%\ \text{change in EBIT}}{\%\ \text{change in sales}}$$

Operating Leverage examines the effect of the change in the quantity produced on the EBIT of the Company.

When an analysis for one year is to be done following formula is to be used.

DOL =

$$\frac{\text{Contribution}}{\text{EBIT}}$$

Operating Leverage occurs – when a firm has fixed costs, which must be met regardless of volume of sales. It tells the impact of changes in sales on operating Income. A concern having higher D.O.L. can experience a magnified effect on EBIT, for even a small change in Sales level can dramatically change operating profit. If operating leverage is high, it means that break -even point will be reached at a higher level of sales and the margin safety is low.

Check Your Progress

Explain operating leverage in brief.

18.3 Financial Leverage

Financial leverage is also known as "Trading on Equity". Financial leverage refers to a firm's use of fixed-charge securities like debentures and preference shares (though the latter is not always included in debt) in its plan of financing the assets.It helps in determining financial risk of a firm.

The degree of financial leverage is a measure of the % changes in EBT that result from changes in EBIT, it is calculated as

Degree of finance leverage (DFL) =

$$\frac{\%\text{ change in EBT}}{\%\text{ change in EBIT}}$$

We can also calculate DFL with one income statement:

DOL =

$$\frac{\text{EBIT}}{\text{EBT}}$$

Other things remaining constant, higher the DFL, higher will be the change in EPS forsame change in EBIT. In other words, if firm K has higher DFL than firm L, EPS of firm K increases at faster rate than that of firm L for same increase in EBIT. However, EPS of firm K falls at a faster rate than that of firm K for same fall in EBIT. This means, higher the DFL more is the risk.Higher the interest burden, higher is the DFL, which means more a firm borrows more is its risk.

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Check Your Progress

How financial leverage helps the businessmen?

18.4 Combined Leverage

The operating leverage explains the business risk of the firm whereas the financial leverage deals with the financial risk of the firm. But a firm has to look into the overall risk or total risk of the firm, which is business risk plus the financial risk.

The degree of combined leverage is a measure of the total leverage (both operating and financial leverage) that a company is using:

Degree of combined leverage (DCL) =

$$\frac{\%\text{ change in EBT}}{\%\text{ change in Sales}}$$

We can also calculate DCL with one income statement:

DCL =

$$\frac{\text{Contribution}}{\text{EBT}}$$

A high Operating and Financial Leverage Combination is very risky. If the company is producing and selling at a high level, it will make extremely high profit for it and shareholders. But even a small fall in the level of operation would result in tremendous fall in EPS. Proper Balance should be maintained.

Check Your Progress

Write a note on combined leverage.

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18.5 Summary

- ★ Financial Leverage refers to the use of debt in the financing of a firm. It denotes the presence of fixed-return securities in the capital structure of the firm.
- ★ Operating Leverage is the use of fixed costs in operations. A high operating leverage factor indicates the presence of automated production processes.
- ★ Risk includes both operating risk (as given by the degree of operating leverage) and financial risk (as reflected by the degree of financial leverage).

18.6 Key Terms

- ★ Operating leverage reflects the impact of change in sales on the level of operating profits of the firm. It helps in determining business risk faced by a firm.
- ★ Financial leverage is also known as "Trading on Equity". Financial leverage refers to a firm's use of fixed-charge securities like debentures and preference shares (though the latter is not always included in debt) in its plan of financing the assets.

18.7 Solved illustration

Illustration 1

A firm has Sales of Rs. 40 lakhs; Variable cost of Rs. 25 lakhs; Fixed Costs of Rs. 6 lakhs; 10% debts of Rs. 30 lakhs; and Equity Capital of Rs. 45 lakhs.

Required:

Calculate operating and financial leverage

Solution

Calculation of operating and Financial Leverage

	Rs.
Sales	40,00,000
Less : Variable cost	25,00,000
Contribution (C)	15,00,000
Less: Fixed Cost	6,00,000
EBIT	9,00,000
Less: Interest	3,00,000
EBT	6,00,000

Operating leverage = C ¸EBIT = 15,00,000¸9,00,000 = 1.67

Financial leverage = EBIT ¸EBT = 9,00,000¸6,00,000 = 1.50

Illustration 2

The data relating to two companies are as given below

	Company A	**Company B**
Equity Capital	Rs. 6,00,000	Rs. 3,50,000
12% Debentures	Rs. 4,00,000	Rs.6,50,000
Output (units) per annum	60,000	15,000
Selling price per unit	Rs. 30	Rs. 250
Fixed cost per annum	Rs.7,00,000	Rs.14,00,000
Variable cost per unit	Rs. 10	Rs.75

You are required to calculate the operating leverage, financial leverage and combined leverage of two companies.

Solution

Computation of degree of Operating leverage, Financial leverage

and Combined leverage of two companies

	Company A	**Company B**
Output units per annum	60,000	15,000
Rs.	Rs.	
Selling price / unit	30	250
Sales revenue	18,00,000	37,50,000
(60,000 units ´ Rs.30) (15,000 units ´ Rs.250)		
Less: Variable costs	6,00,000	11,25,000
(60,000 units ´ Rs.10) (15,000 units ´ Rs.75)		
Contribution (C)	12,00,000	26,25,000
Less: Fixed costs	7,00,000	14,00,000
EBIT	5,00,000	12,25,000
Less: Interest @ 12% on debentures	48,000	78,000
PBT	4,52,000	11,47,000
$DOL = \frac{C}{EBIT}$	2.4 (Rs. 12,00,000 / Rs. 5,00,000)	2.14 (Rs.26,25,000 / Rs.12,25,000)
	1.11	1.7

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$DFL = \dfrac{EBIT}{PBT}$	(Rs.5,00,000 / Rs.4,52,000)	(Rs.12,25,000 / Rs.11,47,000)
DCL = DOLx DFL	2.66	2.29
	(2.4x1.11)	(2.14x1.07)

Illustration 3

A Company had the following Balance Sheet as on March 31, 2006:

Liabilities and Equity	Rs. (in crores)	Assets	Rs. (in crores)
Equity Share Capital (one crore shares of Rs. 10 each)	10	Fixed Assets (Net) Current Assets	25 15
Reserves and Surplus	2		
15% Debentures	20		
Current Liabilities	8		___
	40		40

The additional information given is as under:

Fixed Costs per annum (excluding interest) : Rs. 8 crores

Variable operating costs ratio : 65%

Total Assets turnover ratio : 2.5

Income-tax rate : 40%

Required:

Calculate the following and comment:

(i) Earnings per share

(ii) Operating Leverage

(iii) Financial Leverage

(iv) Combined Leverage. (PE-II-Nov. 2006)

Solution

Total Assets = Rs. 40 crores

Total Asset Turnover Ratio = 2.5

Hence, Total Sales = 40 ´ 2.5 = Rs. 100 crores

Computation of Profits after Tax (PAT) (Rs. in crores)

Sales	100
Less: Variable operating cost @ 65%	65
Contribution	35

Less: Fixed cost (other than Interest)	8
EBIT	27
Less: Interest on debentures (15% ´ 20)	3
PBT	24
Less: Tax 40%	9.6
PAT	14.4

NOTES

(i) Earnings per share

$$\therefore \text{EPS} = \frac{\text{Rs. 14.4 crores}}{\text{1 crore equity shares}} \quad = \text{Rs. } 14.40$$

(ii) Operating Leverage

$$\text{Operating leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{35}{27} = 1.296$$

It indicates the choice of technology and fixed cost in cost structure. It is level specific. When firm operates beyond operating break-even level, then operating leverage is low. It indicates sensitivity of earnings before interest and tax (EBIT) to change in sales at a particular level.

(iii) Financial Leverage

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{PBT}} = \frac{27}{24} = 1.125$$

The financial leverage is very comfortable since the debt service obligation is small vis-à-vis EBIT.

(iv) Combined Leverage

$$\text{Combined Leverage} = \frac{\text{Contribution}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{PBT}}$$

= 1.296 ´ 1.125

= 1.458

The combined leverage studies the choice of fixed cost in cost structure and choice of debt in capital structure. It studies how sensitive the change in EPS is vis-à-vis change in sales.

The leverages - operating, financial and combined are measures of risk

Illustration 4

The selected financial data for A, B and C companies for the year ended March, 2009 are as follows :

NOTES

	A	B	C
Variable expenses as a % Sales	66.67	75	50
Interest	Rs. 200	Rs. 300	Rs. 1,000
Degree of Operating leverage	5 : 1	6 : 1	2 : 1
Degree of Financial leverage	3 : 1	4 : 1	2 : 1
Income tax rate	50%	50%	50%

Prepare Income Statements for A, B and C companies.

Solution

The information regarding the operating leverage and financial leverage may be interpreted as follows–For Company A, the DFL is 3 : 1 (i.e., EBIT : PBT) and it means that out of EBIT of 3, the PBT is 1 and the remaining 2 is the interest component. Or, in other words, the EBIT : Interest is 3 : 2. Similarly, for the operating leverage of 6 : 1 (i.e., Contribution- EBIT) for Company B, it means that out of Contribution of 6, the EBIT is 1 and the balance 5 is fixed costs. In other words, the Fixed costs : EBIT is 5 : 1. This information may be used to

draw the statement of sales and profit for all the three firms as follows:

Statement of Operating Profit and Sales

Particulars	**A**	**B**	**C**
Financial leverage = (EBIT/PBT) =	3:1	4:1	2:1
Interest	Rs. 200	Rs. 300	Rs. 1,000
EBIT	200×3/2	300×4/3	1,000×2/1
	= 300	= 400	= 2,000
Operating leverage = (Cont./EBIT)	= 5 : 1	6 : 1	2 : 1
i.e., Fixed Exp./EBIT	= 4 : 1	5 : 1	1 : 1
Variable Exp. to Sales	66.67%	75%	50%
Contribution to Sales	33.33%	25%	50%
Fixed costs	300×4/1	400×5/1	2,000×1/1
	= 1,200	= 2,000	= 2,000
Sales	4,500	9,600	
Contribution = (Fixed cost + EBIT)	1,500	2,400	8,000

Particulars	**A**	**B**	**C**
Sales	Rs. 4,500	Rs. 9,600	Rs. 8,000
Variable cost	3,000	7,200	4,000
Contribution	1,500	2,400	4,000
Fixed Costs	1,200	2,000	2,000
EBIT	300	400	2,000
Interest	200	300	1,000
PBT	100	100	1,000

Tax at 50%	50	50	500
Profit after Tax (PAT)	50	50	500
Operating leverage (Cont./EBIT) =	5	6	2
Financial leverage (EBIT/PBT) =	3	4	2
Combined leverage	15	24	4

NOTES

18.8 Questions and Exercise

18.8.1 Theory Questions

1. What is operating leverage? How is it computed?
2. In what way is financial leverage related, to operating leverage? Discuss with an example.
3. 'Risk increases proportionately with financial leverage'. Refute this statement with reasons.
4. Explain combined leverage and its importance.

18.8.2 Exercises

Exercise 1

Calculate the degree of operating leverage (DOL), degree of financial leverage (DFL) and the degree of combined leverage (DCL) for the following firms and interpret the results.

	Firm K	Firm L	Firm M
1. Output (Units)	60,000	15,000	1,00,000
2. Fixed costs (Rs.)	7,000	14,000	1,500
3. Variable cost per unit (Rs.)	0.20	1.50	0.02
4. Interest on borrowed funds (Rs.)	4,000	8,000	—
5. Selling price per unit (Rs.)	0.60	5.00	0.10

Exercise 2

From the following, prepare Income Statements of A, B and C. Briefly comment on each firm's performance:

	Firm A	Firm B	Firm C
Financial Leverage	3 : 1	4 : 1	2 : 1
Interest	Rs. 200	Rs. 300	Rs. 1,000
Operating Leverage	4 : 1	5 : 1	3 : 1
Variable cost as a % of sales	66.67%	75%	50%
Income-tax Rate	45%	45%	45%

NOTES

Exercise 3

A simplified income statement of RAKESH LTD. is given below:

Zenith Limited

Income Statement for the year ended 31st March 1998:

Particulars	Rs.
Sales	10, 50,000
Variable Cost	7, 67,000
Fixed Cost	75,000
EBIT	2, 08,000
Interest	1, 10,000
Taxes (30%)	29,400
Net Income	68,600

Calculate and interpret the following:

Degree of operating leverage; Degree of financial leverage; Degree of combined leverage.

18.9 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press
2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

UNIT 19 CAPITAL BUDGETING

NOTES

Structure

19.0 Introduction

One of the aspects of financial management is proper decision-making in respect of investment of funds. Successful operation of any business depends upon the investment of resources in such a way as to bring in benefits or best possible returns from any investment. An investment can be simply defined as expenditure in cash or its equivalent during one or more time periods in anticipation of enjoying a net inflow of cash or its equivalent in some future time period or periods.

Capital Budgeting is the art of finding assets that are worth more than they cost to achieve a predetermined goal i.e., ‘optimising the wealth of a business enterprise’.

Capital investment involves a cash outflow in the immediate future in anticipation of returns at a future date.

A capital investment decision involves a largely irreversible commitment of resources that is generally subject to significant degree of risk. Such decisions have for reading efforts on an enterprise’s profitability and flexibility over the long-term. Acceptance of non-viable proposals acts as a drag on the resources of an enterprise and may eventually lead to bankruptcy.

For making a rational decision regarding the capital investment proposals, the decision maker needs some techniques to convert the cash outflows and cash inflows of a project into meaningful yardsticks which can measure the economic worthiness of projects.

Thus all proposals or projects involving investment of funds for a period of ten years or more will fall in the category of investment proposals. Long-term investment of funds may be generally needed for the following purposes.

Expansion

A manufacturing unit, for example, is presently producing one-lakh units per year. If it intends to double the production this will obviously increase the need for funds. The variable cost in aggregate will increase. Accordingly, the current assets will increase. Thus the financial resources required for working capital will have to be increased. In case the production carried so far was less than the capacity, no additional investment of funds is needed for long term. In case the existing infrastructure-plant, machinery and other permanent or fixed assets-is inadequate, the proposal for doubling the production will involve additional investment of funds for long term. It must, however, be noted that the financial needs for such a project will include not only expenditure on fixed assets but also an increase in working capital.

Diversification

The management of an enterprise such as the Indian Tobacco Company (ITC), as it happened, decided to diversify its production into other lines by adding to its original business a new area of hoteliering. Philips, famous for radio and electric bulbs etc., diversified into production of other electrical appliances and television sets. This process of diversification would involve use of large financial resources for long-term investment.

Replacement

Machines used in production may either wear out or may be rendered obsolete on account of new technology. The productive capacity of the enterprise and its competitive ability may be adversely affected. Some funds may be needed for modernisation of a certain class of machines or for renovation of the entire plant or building etc. To make them more efficient and productive. Modernisation and renovation will be a substitute for total replacement. Funds will obviously be invested for long-term. Where renovation/ modernisation is not desirable or feasible, funds (obviously larger amounts) will be needed for replacement.

Research and Development

There has been a growing realisation that the efficiency of production and the total operations can be improved by application of new and more sophisticated techniques of production and management. New technology can be borrowed or developed. There is a greater realisation that investment of funds (obviously long term and large amounts) in constant research is very useful. Productive and ultimately profitable though there may be no immediate benefits or returns from such investments.

19.1 Unit Objectives

After learning this unit you will be able to:

- ★ Understand capital budgeting

- ★ Know time value of money
- ★ Learn techniques of investment appraisal
- ★ Solve decision making problems based on investment appraisal techniques

NOTES

19.2 Time Value of Money

We know that Rs. 100 in hand today is more valuable than Rs. 100 receivable after a year. We will not part with Rs. 100 now if the same sum is repaid after a year. But we might part with Rs. 100 now if we are assured that Rs. 110 will be paid at the end of the first year. This "additional Compensation" required for parting Rs. 100 today, is called "interest" or "the time value of money". It is expressed in terms of percentage per annum.

Money should have time value for the following reasons:

(a) Money can be employed productively to generate real returns;

(b) In an inflationary period, a rupee today has higher purchasing power than a rupee in the future;

(c) Due to uncertainties in the future, current consumption is preferred to future consumption.

(d) The three determinants combined together can be expressed to determine the rate of interest as follows:

Nominal or market interest rate = Real rate of interest or return (+) Expected rate of inflation (+) Risk premiums to compensate for uncertainty.

Methods of Time Value of Money

(1) Compounding: We find the Future Values (FV) of all the cash flows at the end of the time period at a given rate of interest as follows:

$FV_n = PV\ (1+i)^n$

Illustration 1

The fixed deposit scheme of Punjab National Bank offers the following interest rates :

Period of Deposit	Rate Per Annum
46 days to 179 days	5.0
180 days < 1 year	5.5
1 year and above	6.0

What will be the compounded value of an amount of Rs. 15,000 invested today for 3 years?

Solution:

An amount of Rs. 15,000 invested today for 3 years will be compounded to :

$FV_n = PV\ (1+i)^n$

$= PV \times (1.06)^3$

$= 15{,}000\ (1.191)$

= Rs. 17,865

(2) Discounting: We determine the Time Value of Money at Time "O" by comparing the initial outflow with the sum of the Present Values (PV) of the future inflows at a given rate of interest. PV is computed by using following formula:

$PV_0 = FV_n / (1+i)^n$

NOTES

Illustration 2

Jasmin wants to know how large of a deposit to make so that the money will grow to Rs. 10,000 in 5 years at a discount rate of 10%.

Check Your Progress
Explain the concept of time value of money.

Solution

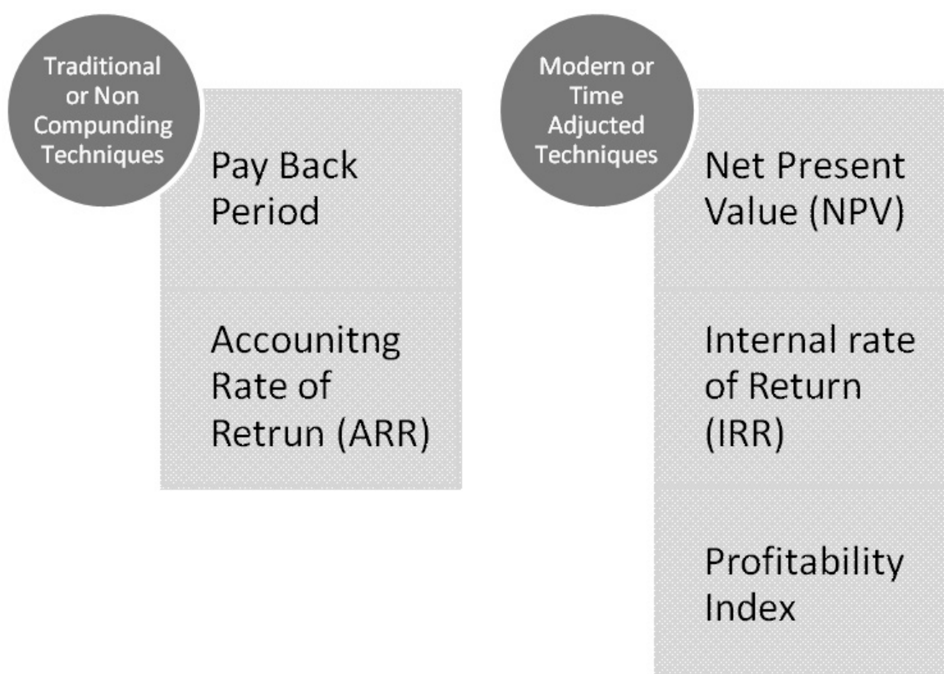
$PV_0 = FV_n / (1+i)^n$

$PV_0 = \text{Rs. } 10{,}000 / (1+ 0.10)^5 = \text{Rs.}6209.21$

19.3 Investment Appraisal techniques

An appraisal of any investment proposal is necessary to ensure that the investment of resources will bring in desired benefits in future. If the financial resources were in abundance, it would be possible to accept several investment proposals, which satisfy the norms of approval or acceptability. Since resources are limited, a choice has to be made among the various investment proposals by evaluating their comparative merit.

Followings are the techniques of evaluating financial investment proposals.



Check Your Progress
Explain different investment appraisal techniques.

19.3.1 Pay Back Period

In simple terms it means the total period within which the total amount invested will be recovered throughout net cash flow (after tax). This technique estimates the time required by the project to recover the firms' initial outlay, through cash inflows.

- The payback period for each investment proposal is compared with the maximum period acceptable to management and
- Proposals are then selected in order of those having minimum payout period.

NOTES

If annual cash inflow is same payback period is computed as follows.

$$\text{Payback period} = \frac{\text{cost of project or initial investment}}{\text{Annual cash inflow}}$$

E.g. If we invest Rs. 100000 and get Rs. 10000 as return every year then our Pay Back Period is simply 1,00,000/10,000 = 10 Years

Illustration 3

Suppose a project costs Rs. 20,00,000 and yields annually a profit of Rs. 3,00,000 after depreciation @ 12.5% (straight line method) but before tax 50%. The first step would be to calculate the cash inflow from this project.

Solution:

Profit before tax	3,00,000
Less : Tax @ 50%	1,50,000
Profit after tax	1,50,000
Add : Depreciation written off	2,50,000
Total cash inflow	4,00,000

While calculating cash inflow, depreciation is added back to profit after tax since it does not cash outflow. The cash generated from a project therefore is equal to profit after tax plus depreciation.

$$\text{Payback period} = \frac{\text{Rs.}2000000}{\text{Rs. }400000} = 5 \text{ Years}$$

However if cash inflows are different payback period is calculated as explained in Illustration 3 below:

Illustration 4

If the project needs an initial investment of Rs.2500000 and the annual cash inflow for five years are as follows:

Year 1 Rs. 6 00000,

Year 2 Rs 9 00000,

Year 3 Rs 7 00000,

Year 4 Rs 6 00000,

Year 5 Rs 4 00000

You are required to calculate pay back period.

NOTES

Solution:

Year	Cash Inflow	Cumulative Cash flow
1	6 00000	6 00000
2	9 00000	15 00000
3	7 00000	22 00000
4	6 00000	28 00000
5	4 00000	32 00000

It is evident from the above table that in 3 years Rs. 22 00000 has been recovered and Rs. 300000 is left of initial investment of Rs. 25 00000. It indicates that payback period is between 3 to 4 years calculated as follows:

Payback period: 3 years + $\frac{3\text{ L}}{6\text{ L}}$ =3.5 years

Merits

- ★ It is easy to compute and to understand as it provides a quick estimate of the time needed for the organization to recoup the cash invested.
- ★ The length of the payback period can also serve as an estimate of a project's risk; the longer the payback period, the riskier the project as long-term predictions are less reliable.
- ★ The payback period technique focuses on quick payoffs. In some industries with high obsolescence risk or in situations where an organization is short on cash, short payback periods often become the determining factor for investments.

Demerits

- ★ The major limitation of the payback period technique is that it ignores the time value of money.
- ★ As long as the payback periods for two projects are the same, the payback period technique considers them equal as investments, even if one project generates most of its net cash inflows in the early years of the project while the other project generates most of its net cash inflows in the latter years of the payback period.
- ★ It only considers cash flows from the initiation of the project until its payback period and ignores cash flows after the payback period.
- ★ Use of the payback period technique may cause organizations to place too much emphasis on short payback periods thereby ignoring the need to invest in long-term projects that would enhance its competitive position.

Check Your Progress

Define pay-back period.

19.3.2 Accounting Rate of Return (ARR)

The accounting rate of return of an investment measures the average annual net income of the project (incremental income) as a percentage of the investment.

ARR in original investment:

$$= \frac{\text{Average Net earnings after depreciation and taxes}}{\text{Original investment (average investment)}}$$

NOTES

The numerator is the average annual net income generated by the project over its useful life. The denominator can be either the initial investment or the average investment over the useful life of the project. Some organizations prefer the initial investment because it is objectively determined and is not influenced by either the choice of the depreciation method or the estimation of the salvage value. Either of these amounts is used in practice but it is important that the same method be used for all investments under consideration.

Decision Rule: Accept the proposal if ARR > minimum rate of return (cut off rate) Reject the proposal if ARR < Minimum rate of return (cut off rate)

Illustration 5

A project costing Rs. 10 lacs. EBITD (Earnings before Depreciation, Interest and Taxes) during the five years is expected to be Rs. 2,50,000; Rs. 3,00,000; Rs. 3,50,000; Rs. 4,00,000 and Rs. 5,00,000. Assume 35% tax and 20% depreciation on Straight Line Method. Compute ARR.

Solution

Computation of Average ARR

Particulars	Yr 1	Yr 2	Yr3	Yr 4	Yr 5
	Rs.	Rs.	Rs.	Rs.	Rs.
EBITD	250000.00	300000.00	350000.00	400000.00	500000.00
Less : Depreciation	200000	200000	200000	200000	200000
EBIT	50,000	100,000	150,000	200,000	300,000
Less : Tax @ 35%	17500	35000	52500	70000	105000
EAT	32,500	65,000	97,500	130,000	195,000

$$\text{Avg. EAT} = \frac{32500+65000+97500+130000+195000}{5}$$

$$= 104000$$

Avg. Investment = 1000000/2 = 500000

ARR = Avg. EAT / Avg. Investment = 104000/500000 = 20.8%

Merits

(1) This method considers all the years in the life of the project.

(2) It is based upon profits and not concerned with cash flows.

(3) Quick decision can be taken when a number of capital investment proposals are being considered.

Demerits

(1) Time Value of Money is not considered.

(2) It is biased against short-term projects.

(3) The ARR is not an indicator of acceptance or rejection, unless the rates are compared with the arbitrary management target.

Check Your Progress

What is ARR? Explain merits and demerits.

(4) It fails to measure the rate of return on a project even if there are uniform cash flows

19.3.3 Net Present Value (NPV)

NOTES

The net present value technique is a discounted cash flow method that considers the time value of money in evaluating capital investments. An investment has cash flows throughout its life, and it is assumed that a rupee of cash flow in the early years of an investment is worth more than a rupee of cash flow in a later year. The net present value method uses a specified discount rate to bring all subsequent net cash inflows after the initial investment to their present values (the time of the initial investment or year 0).

Net present value = Present value of net cash Inflow - Total net initial investment

The steps to calculating net present value are

(1) Determine the net cash inflow in each year of the investment,

(2) select the desired rate of return,

(3) Find the discount factor for each year based on the desired rate of return selected,

(4) determine the present values of the net cash flows by multiplying the cash flows by the discount factors,

(5) Total the amounts for all years in the life of the project, and

(6) Subtract the total net initial investment.

Illustration 6

Compute the net present value for a project with a net investment of Rs. 1, 00,000 and the following cash flows if the company‘s cost of capital is 10%? Net cash flows for year one is Rs. 55,000; for year two is Rs. 80,000 and for year three is Rs. 15,000.

[PVIF @ 10% for three years are 0.909, 0.826 and 0.751]

Solution:

Year	Net Cash Flows	PVIF @ 10%	Discounted Cash Flows
1	55,000	0.909	49,995
2	80,000	0.826	66,080
3	15,000	0.751	11,265
			1,27,340

Total Discounted Cash Flows 1,27,340

Less: Net Investment 1,00,000

Net Present Value 27,340

Since the net present value of the project is positive, the company should accept the project.

Decision Rule: If NPV > Zero : Accept the project

NPV < Zero: Reject the project

NPV = Zero: Firm is indifferent to accept or reject the project.

Merits

(1) It recognises the Time Value of Money.

(2) It considers total benefits during the entire life of the Project.

(3) This is applicable in case of mutually exclusive Projects.

(4) Since it is based on the assumptions of cash flows, it helps in determining Shareholders Wealth

Demerits

(1) This is not an absolute measure.

(2) Desired rate of return may vary from time to time due to changes in cost of capital.

(3) This Method is not effective when there is disparity in economic life of the projects.

(4) More emphasis on net present values. Initial investment is not given due importance.

NOTES

Check Your Progress

Explain the process to calculate NPV.

19.3.4 Internal Rate of Return

Internal Rate of Return is a percentage discount rate applied in capital investment desions which brings the cost of a project and its expected future cash flows into equality, i.e., NPV is zero. IRR is defined as the break even financing rate for the project.

Illustration 7

Project Cost Rs. 1,10,000

Cash Inflows:

Year 1	Rs. 60,000
2	Rs. 20,000
3	Rs. 10,000
4	Rs. 50,000

Calculate the Internal Rate of Return.

Solution:

Internal Rate of Return will be calculated by the trial and error method. The cash flow is not uniform. Let us apply 10% and 12% discounting rate:

Year	Cash Inflows (Rs.)	P.V. @ 10%	DCFAT (Rs.)	P.V. @ 12%	DCFAT (Rs.)
1	60,000	0.909	54,540	0.893	53,580
2	20,000	0.826	16,520	0.797	15,940
3	10,000	0.751	7,510	0.712	7,120
4	50,000	0.683	34,150	0.636	31,800
		P.V. of Inflows	1,12,720		1,08,440

Less : Initial Investment	1,10,000	1,10,000
NPV	2,720	(1,560)

NOTES

Since at IRR Net Present Value is Nil, we need discounting rate between 10% and 12% so as to get NPV as Nil. To compute this we need to use following method,

$$\text{IRR} = \text{NPV at Lower Rate} + \frac{\text{PV of inflows Lower Rate} - \text{Initial Investment}}{\text{PV of Inflows at Lower Rate} - \text{NPV at higher rate}} \times (\text{Higher rate} - \text{Lower Rate})$$

$= 10 + (112720-110000)/(112720-108440) \times (12-10)$

$= 10 + 1.06$

$= 11.06\%$

The decision rule for the internal rate of retern is to invest in a project if its rate of return is greater than its cost of capital.

For independent projects and situations involving no capital rationing, then :

Situation	Signifies	Decision
IRR = Cost of Capital	The investment is expected not to change shareholder wealth	Indifferent between Accepting & Rejecting
IRR > Cost of Capital	The investment is expected to increase shareholders wealth	Accept
IRR < Cost of Capital	The investment is expected to decrease shareholders wealth	Reject

Merits

(i) The Time Value of Money is considered.

(ii) All cash flows in the project are considered.

Check Your Progress

Explain IRR. How does it differ from NPV? Which technique is better?

Demerits

(i) Possibility of multiple IRR, interpretation may be difficult.

(ii) If two projects with different inflow/outflow patterns are compared, IRR will lead to peculiar situations.

19.3.5 Profitability Index

Profitability index is ratio of Present Value of Cash Inflow to Cash Outflow. The PI signifies present value of inflow per rupee of outflow. It helps to compare projects involving different amounts of initial investments.

If	P.I > 1,	project is accepted
	P.I < 1,	project is rejected

Illustration 8

Using information in illustration 6 calculate profitability index.

Solution

PI = PV of inflow/ Initial investment

= Rs. 1, 27,340/ Rs. 1, 00,000

= 1.27

Project is accepted as PI is more then 1.

NOTES

Check Your Progress

Explain Profitability index method to evaluate a project.

19.4 Solved Illustrations

Illustration 9

Zenith Industrial Ltd. are thinking of investing in a project costing Rs. 20 lakhs. The life of the project is five years and the estimated salvage value of the project is zero. Straight line method of charging depreciation is followed. The tax rate is 50%. The expected cash flows before tax are as follows :

Year	1	2	3	4	5
Estimated Cash flow before depreciation and tax (Rs. lakhs)	4	6	8	8	10

You are required to determine the : (i) Payback Period for the investment, (ii) Average Rate of Return on the investment, (iii) Net Present Value at 10% Cost of Capital (iv) Profitability Index. Followings are the discounting factor @ 10%

Discount factor @ 10%

0.909

0.826

0.751

0.683

0.621

Solution

Calculation of Annual Cash Inflow After Tax **(Rs. lakhs)**

Particulars	1 year	2 year	3 year	4 year	5 year
Cash inflow before depreciation and tax	4	6	8	8	10
Less: Depreciation	4	4	4	4	4
EBT –	2	4	4	6	
Less: Tax @ 50%	–	1	2	2	3
EAT –	1	2	2	3	
Add: Depreciation	4	4	4	4	4
Cash inflow after tax	4	5	6	6	7

NOTES

(i) Pay Back Period

Year	Cash inflow after tax	Cumulative cash inflow after tax
1	4	4
2	5	9
3	6	15
4	6	21
5	7	28

Pay Back Period = 3 Years + 5 (20-15)/6

= 3 Years + .83333 x 12 months

= 3 years 10 months

(ii) Average Rate of Return

Average return = Rs. 8 lakhs/5 years = Rs. 1.6 lakhs

Average investment = Rs. 20 lakhs/2 = Rs. 10 lakhs

Average rate of return = 1.6/10 = 16%

(iii) Net Present Value at 10% Cost of Capital (Rs. lakhs)

Year	Cash inflow after tax	Discount factor @ 10%	Present Value
1	4	0.909	3.636
2	5	0.826	4.130
3	6	0.751	4.506
4	6	0.683	4.098
5	7	0.621	4.347
		P.V. of cash inflows	20.717
		Less: Initial investment	20.00
		NPV	0.717

(iv) Profitability Index

PI = PV of Inflows/ Initial investment = 20.717/20= 1.0085

Illustration 10

A company is contemplating to purchase a machine. Two machine A and B are available, each costing Rs. 5 lakhs. In comparing the profitability of the machines, a discounting rate of 10% is to be used and machine is to be written off in five years by straight line method of depreciation with nil residual value. Cash inflows after tax are expected as follows :

NOTES

Year	Machine A	(Rs. in lakhs) Machine B
1	1.5	0.5
2	2.0	1.5
3	2.5	2.0
4	1.5	3.0
5	1.0	2.0

Indicate which machine would be profitable using the following methods of ranking investment proposals:

(i) Pay back method: (ii) Net present value method and (iii) Profitability index method

The discounting factors at 10% are

Year	1	2	3	4	5
Discount factors	.909	.826	.751	.683	.621

Solution

Calculation of Payback Period :

Machine A (Rs. lakhs)

Year	Cash inflows		Payback years required
	Total	Needed	
1	1.50	1.50	1 year
2	2.00	2.001.50	1 year
3	2.50	1.50	7.2 (1.50 x12) = months
			2.50

Payback Period for Machine A = 2 years 7.2 months.

Machine B (Rs. lakhs)

Year	Cash inflows		Payback years required
	Total	Needed	
1	0.50	0.50	1 year
2	1.50	1.50	1 year
3	2.00	2.00	1year
4	3.00	1.00	(1/3 × 12) = 4 months
		5.00	

Payback period for Machine B = 3 years 4 months.

Rank : Machine-A-I, Machine-B-II; Machine A is more profitable.

NOTES

(ii) Calculation of Net Present Value of cash inflows for Machine A & Machine B.

Years	Cash Inflows		Discount	P. V. of cash inflows	
	Machine A	Machine B	Factor @ 10%	Machine A	Machine B
1	1.5	0.5	.909	1.36	0.45
2	2.0	1.5	.826	1.65	1.24
3	2.5	2.0	.751	1.88	1.50
4	1.5	3.0	.683	1.02	2.05
5	1.0	2.0	.621	0.62	1.24
				6.53	6.48
			Total P.V.	6.53	6.48
			Initial Investment	5.00	5.00
			Net Present Value (NPV)	1.53	1.48

Rank : Machine-A - I, Machine-B - II

Since Machine A has greater NPV compared to Machine B, Machine A is more profitable.

(iii) Calculation of Profitability Index

PI = PV of inflows/Initial Investment

Machine A = 6.53/5 = 1.306

Machine B = 6.48/5 = 1.296

19.5 Summary

- ★ Accounting Rate of Return (ARR): A measure of rate of return for evaluating capital investment proposals, derived from accrual accounting. methods for income determination.
- ★ Internal Rate of Return (IRR): That rate which equates the present value of the future cash inflows with the cost of the investment which produces them.
- ★ Net Present Value (NPV): A technique of discounted cash flow for capital expenditure evaluation which seeks to determine whether the present value of estimated future cash inflows at management's desired rate of return is greater or less than the cost of the proposal.
- ★ Payback Period: The length of time required to equate cash return with the initial cost of capital investment, which is determined by dividing the original investment by the annual cash inflows (cash savings after taxes).
- ★ Present Value: The amount of money which, if invested immediately at a stated rate, would yield one or more future payments reflecting the increased value of the invest-ment in accordance with the time value of money. Con-

versely, it may be considered the value of a future stream of payments discounted at a given rate to the present time.

- ★ Profitability Index: The present value of future cash inflows divided by the present value of the initial outlay, also known as benefit-cost ratio.

NOTES

19.6 Key Terms

- ★ Capital Budgeting is the art of finding assets that are worth more than they cost to achieve a predetermined goal i.e., 'optimising the wealth of a business enterprise'.
- ★ Pay-back period: In simple terms it means the total period within which the total amount invested will be recovered throughout net cash flow (after tax). This technique estimates the time required by the project to recover the firms' initial outlay, through cash inflows.
- ★ Accounting Rate of Return (ARR): The accounting rate of return of an investment measures the average annual net income of the project (incremental income) as a percentage of the investment.
- ★ Net present value: The net present value technique is a discounted cash flow method that considers the time value of money in evaluating capital investments. An investment has cash flows throughout its life, and it is assumed that a rupee of cash flow in the early years of an investment is worth more than a rupee of cash flow in a later year.
- ★ Internal Rate of Return is a percentage discount rate applied in capital investment desions which brings the cost of a project and its expected future cash flows into equality, i.e., NPV is zero. IRR is defined as the break even financing rate for the project.
- ★ Profitability index is ratio of Present Value of Cash Inflow to Cash Outflow. The PI signifies present value of inflow per rupee of outflow. It helps to compare projects involving different amounts of initial investments.

19.7 Exercises

19.7.1 Theory Questions

1. Explain the concept of payback period. Why does this method enjoy a good deal of popularity among businessmen? What are its limitations?
2. Explain Accounting Rate of Return and discuss its limitation?

3. What is the meaning of Internal Rate of Return? Are Internal Rate and Pay-back related? Explain?
4. What is meant by Net Present Value? Why Profitability Index is considered useful?

NOTES

19.7.2 Practical Problems

Exercise 1

ABC Ltd is a small company that is currently analysing capital expenditure proposals for the purchase of equipment; the company uses the net present value technique to evaluate projects. The capital budget is limited to 500,000 which ABC Ltd believes is the maximum capital it can raise. The initial investment and projected net cash flows for each project are shown below. The cost of capital of ABC Ltd is 10%.

	Project A	Project B	Project C	Project D
Initial Investment	200,000	190,000	250,000	210,000
Project Cash Inflows				
Year 1	50,000	40,000	75,000	75,000
2	50,000	50,000	75,000	75,000
3	50,000	70,000	60,000	60,000
4	50,000	75,000	80,000	40,000
5	50,000	75,000	100,000	20,000

Year	1	2	3	4	5
Discount factors	.909	.826	.751	.683	.621

You are required to compute the NPV of the different projects.

19.8 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press
2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill

UNIT 20 WORKING CAPITAL MANAGEMENT

Structure

20.0 Introduction

The term working capital is commonly used for the capital required for day-to-day working in a business concern, such as for purchasing raw material, for meeting day-to-day expenditure on salaries, wages, rents rates, advertising etc.

According to Weston & Brigham - "Working capital refers to a firm's investment in short term assets, such as cash amounts receivables, inventories etc."

Working capital is also defined as "the excess of current assets over current liabilities and provisions" The term "working capital" is often referred to "circulating capital" which is frequently used to denote those assets which are changed with relative speed from one form to another i.e., starting from cash, changing to raw materials, converting into work-in-progress and finished products, sale of finished products and ending with realization of cash from debtors.

20.1 Unit Objectives

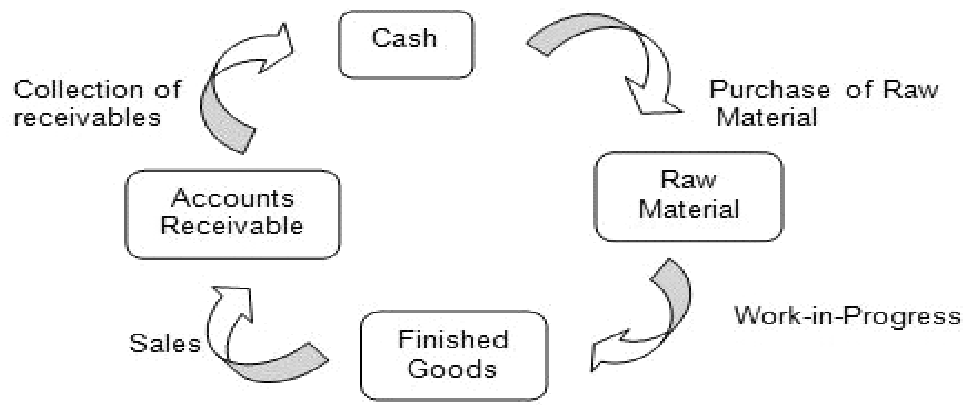
After studying this unit you will be able to:

- ★ Understand concepts and components of working capital
- ★ Know need for working capital Management
- ★ To determine the amount of working capital required

20.2 Operating Cycle

NOTES

The time between purchase of inventory items (raw material or merchandise) and their conversion into cash is known as operating cycle or working capital cycle. The successive events which are typically involved in an operating cycle are shown in following figure.



A perusal of the operating cycle would reveal that the funds invested in operations are re-cycled back into cash. The longer the period of this conversion the longer is the operating cycle. A standard operating cycle may be for any time period but does not generally exceed a financial year. Obviously, the shorter the operating cycle, the larger will be the turnover of funds invested for various purposes. The channels of the investment are called current assets. Sometimes the available funds may be in excess of the needs for investment in these assets, e.g., inventory, receivables and minimum essential cash balance. Any surplus may be invested in government securities rather than being retained as idle cash balance.

Check Your Progress

Write a note on operating cycle.

20.3 Determinants of Working Capital

The corporate management has to consider a number of factors to determine the level of working capital. The amount of working capital that a firm would need is affected not only by the factors associated with the firm itself but is also affected by economic, monetary and general business environment. Among the various factors the following are important ones.

Nature and Size of Business

The working capital needs of a firm are basically influenced by the nature of its business. Trading and financial firms generally have a low investment in fixed assets, but require a large investment in working capital. Some manufacturing businesses' like tobacco, and construction firms also have to invest substantially in working capital but only a nominal amount in fixed assets. Thus, the amount of funds tied up with debtors or in stocks is either nil or very small. The size of business also has an important impact on its working capital needs. Size may be measured in terms of the scale of operations. A firm with larger scale of operations will need more working capital than a small firm. The hazards and contingencies inherent in a particular type of business also have an influence in deciding the magnitude of working capital in terms of keeping liquid resources.

Manufacturing Cycle

NOTES

The manufacturing cycle starts with the purchase of raw materials and is completed with the production of finished goods. If the manufacturing cycle involves a longer period the need for working capital will be more, because an extended manufacturing time span means a larger tie-up of funds in inventories.

Business Fluctuations

Seasonal and cyclical fluctuations in demand for a product affect the working capital requirement considerably, especially the temporary working capital requirements of the firm. An upward swing in the economy leads to increased sales, resulting in an increase in the firm's investment in inventory and receivables or book debts. On the other hand, a decline in the economy may register a fall in sales and, consequently, a fall in the levels of stocks and book debts.

Operating efficiency of the firm

Operating efficiency means the optimum utilisation of a firm's resources at minimum cost. If a firm successfully controls operating cost, it will be able to improve net profit margin which, will, in turn, release greater funds for working capital purposes.

Changes in the technology

The technological changes and developments in the area of production can have immediate effects on the need for working capital. If the firm wish to install a new machine in the place of old system, the new system can utilise less expensive raw materials, the inventory needs may be reduced there by working capital needs.

Taxation policy

The tax policies of the Government will influence the working capital decisions. If the Government follow regressive taxation policy, i.e. imposing heavy tax burdens on business firms, they are left with very little profits for distribution and retention purpose. Consequently the firm has to borrow additional funds to meet their increased working capital needs.

Check Your Progress

Explain factors determining working capital.

20.4 Types of Working Capital

Gross Working Capital and Net Working Capital

Gross working capital refers to the firm's investment in current assets. The amount of current liabilities is not deducted from the total of current assets. This concept views Working Capital and aggregate of Current Assets as two inter-changeable terms. This concept is also referred to as 'Current Capital' or 'Circulating Capital'.

The net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year and include creditors' dues, bills payable, bank overdraft and outstanding expenses. Net working capital can be positive or negative. A negative net working capital occurs when current liabilities are in excess of current assets.

Permanent and Temporary working capital

NOTES

Fixed, Regular or Permanent Working Capital refers to that minimum amount of investment in all current assets which is required at all times to carry out minimum level of business activities. In other words, it represents the current assets required on a continuing basis over the entire year. Permanent working capital is permanently needed for the business and therefore it should be financed out of long-term funds.

Temporary Working Capital is the amount of such working capital keeps on fluctuating from time to time on the basis of business activities. In other words, it represents additional current assets required at different times during the operating year. For example, extra inventory has to be maintained to support sales during peak sales period.

Check Your Progress

What are the different types of working capital

20.5 Importance of Working Capital

Because of its close relationship with day-to-day operations of a business, a study of working capital and its management is of major importance to internal, as well as external analysts. It is being increasingly realised that inadequacy or mismanagement of working capital is the leading cause of business failures. Neglect of management of working capital may result in technical insolvency and even liquidation of a business unit. With receivables and inventories tending to grow and with increasing demand for bank credit in the wake of strict regulation of credit in India by the Central Bank, managers need to develop a long-term perspective for managing working capital. Inefficient working capital management may cause either inadequate or excessive working capital, which is dangerous.

A firm may have to face the following adverse consequences from inadequate working capital:

1. Implementation of operating plans may become difficult and consequently the firm's profit goals may not be achieved.
2. Growth may be stunted. It may become difficult for the firm to undertake profitable projects due to non-availability of funds.
3. Fixed assets may not be efficiently utilised due to lack of working funds, thus lowering the rate of return on investments in the process.
4. Attractive credit opportunities may have to be lost due to paucity of working capital.
5. The firm loses its reputation when it is not in a position to honour its short-term obligations. As a result, the firm is likely to face tight credit terms.

Check Your Progress

Explain importance of working capital

On the other hand, excessive working capital may pose the following dangers:

1 Excess of working capital may result in unnecessary accumulation of inventories, increasing the chances of inventory mishandling, waste, and theft.

2 It may provide an undue incentive for adopting too liberal a credit policy and

slackening of collection of receivables, causing a higher incidence of bad debts. This has an adverse effect on profits.

3 Excessive working capital may make management complacent, leading eventually to managerial inefficiency.

4 It may encourage the tendency to accumulate inventories for making speculative profits, causing a liberal dividend policy, which becomes difficult to maintain when the firm is unable to make speculative profits.

20.6 Components of Working Capital

Working capital has two components: Current assets and Current liabilities. Current assets comprise several items. The typical items are:

1. Cash to meet expenses as and when they occur.
2. Accounts Receivables or sundry trade debtors
3. Inventory of:
   i. Raw materials, stores, supplies and spares,
   ii. Work-in-process, and
   iii. Finished goods
   iv. Advance payments towards expenses or purchases, and other short-term advances which are recoverable.
   v. Temporary investment of surplus funds which could be converted into cash whenever needed.

A part of the need for funds to finance the current assets may be met from supply of . goods on credit, and deferment, on account of custom, usage or arrangement, of payment for expenses.. The remaining part of the need for working capital may be met from short-term borrowing from financiers like banks. These items are collectively called current liabilities. Typical items of current liabilities are:

1. Goods purchased on credit
2. Expenses incurred in the course of the business of the organisation (e.g., wages or salaries, rent electricity bills, interest etc.) which are not yet paid for.
3. Temporary or short term borrowings from banks, financial institutions or other parties
4. Advances received from parties against goods to be sold or delivered, or as short term deposits.
5. Other current liabilities such as tax and dividends payable.

20.7 Measuring Working Capital Requirement

The working capital estimation as per the method of operating cycle, is the most systematic and logical approach. In this case, the working caital estimation is made on the basis of analysis of each and every component of the working capital individually. As

NOTES

already discussed, the working capital, required to sustain the level of planned operations, is determined by calculating all the individual components of curent assets and current liabilities. The calculation of net working capital may also be shown as follows;

Working Capital = Current Assets – Current Liabilitie

= (Raw Materials Stock + Work-in-progress Stock + Finished Goods Stock + Debtors + Cash Balance) – (Creditors + Outstanding Wages + Outstanding Overheads).

Where,

Raw Materias = Cost (Average) of Materials in Stock.

Work-in-progress Stock = Cost of Materials + Wages +Overhead of Work-in-progress.

Finished Goods Stock = Cost of Materials + Wages +Overhead of Finished Goods.

Creditors for Material = Cost of Average Outstanding Creditors.

Creditors for Wages = Averages Wages Outstanding.

Creditors for Overhead = Average Overheads Outstanding.

The work sheet for estimation of working capital requirements under the operating cycle method may be presented as follows:

Estimation of Working Capital Requirements

		Amount	Amount	Amount
I	Current Assets:			
	Minimum Cash Balance	****		
	Inventories:			
	Raw Materials	****		
	Work-in-progress	****		
	Finished Goods	****	***	
	Receivables:			
	Debtors	****		
	Bills	****	****	
	Gross Working Capital (CA)	****	****	
II	Current Liabilities:			
	Creditors for Purchases	****		
	Creditors for Wages	****		
	Creditors for Overheads	****	****	
	Total Current Liabilities (CL)	****	****	
	Excess of CA over CL	****		
	+ Safety Margin	****		
	Net Working Capital	****		

20.8 Summary

- ★ Operating Cycle in a manufacturing firm is the time gap between purchase of raw material and sale of finished products.
- ★ Gross Current Assets means the aggregate of all current assets including cash.
- ★ Net Current Assets means the aggregate of all current assets (including cash) less current liabilities. It is the same as working capital.
- ★ Fixed Working Capital is the amount that remains more or less permanently invested as working capital in business.
- ★ Fluctuating Working Capital is the amount of working capital over and above the fixed minimum amount of working capital. It may keep on fluctuating from period to period depending upon several factors.

20.9 Key Terms

- ★ The term working capital is commonly used for the capital required for day-to-day working in a business concern, such as for purchasing raw material, for meeting day-to-day expenditure on salaries, wages, rents rates, advertising etc.
- ★ The time between purchase of inventory items (raw material or merchandise) and their conversion into cash is known as operating cycle or working capital cycle.

20.10 Solved Illustration

Illustration 1

A newly formed company has applied to the Commercial Bank for the first time for financing its working capital requirements. The following information is available about the projections for the current year:

Elements of cost:	**Per unit (Rs.)**
Raw material	40
Direct labour	15
Overhead	30
Total cost	85
Profit	15
Sales	100

NOTES

Other information

Raw material in stock: average 4 weeks consumption, Work – in progress (completion stage, 50 per cent), on an average half a month. Finished goods in stock: on an average, one month.

Credit allowed by suppliers is one month.

Credit allowed to debtors is two months.

Average time lag in payment of wages is 11/2 weeks and 4 weeks in overhead expenses.

Cash in hand and at bank is desired to be maintained at Rs. 50,000.

All Sales are on credit basis only.

Required:

(i) Prepare statement showing estimate of working capital needed to finance an activity level of 96,000 units of production. Assume that production is carried on evenly throughout the year, and wages and overhead accrue similarly. For the calculation purpose 4 weeks may be taken as equivalent to a month and 52 weeks in a year 7.2

(PCC-Nov. 2007)

Answer

Calculation of Working Capital Requirement

(A) Current Assets

			Rs.
	Stock of material for 4 weeks (96,000 x 40 x 4/52)		
	Work in progress for 1/2 month or 2 weeks		Rs.2,95,385
	Material (96,000 x 40 x 2/52) .50	73,846	
	Labour (96,000 x 15 x 2/52) .50	27,692	
	Overhead (96,000 x 30 x 2/52) .50	55,385	1,56,923
(i)	Finished stock (96,000 x 85 x 4/52)	6,27,692	
(i)	Debtors for 2 months (96,000 x 100x 8/52)	14,76,923	
	Cash in hand or at bank	50,000	
	Investment in Current Assets	26,06,923	
(B)	Current Liabilities		
(i)	Creditors for one month (96,000 x 40 x 4/52)		2,95,385
(i)	Average lag in payment of expenses		
	Overheads (96,000 x 30 x 4/52)	2,21,538	
	Labour (96,000 x 15 x 3/104)	41,538	2,63,076
	Current Liabilities	5,58,461	
	Net working capital (A – B)	20,48,462	

Illustration 2

MN Ltd. is commencing a new project for manufacture of electric toys. The folowing cost information has been ascertained for annual production of 60,000 units at full capacity:

Amount per unit Rs.

Raw materials 20

Direct labour 15

Manufacturing overheads:

Rs.

Variable 15

Fixed 10 25

Selling and Distribution overheads:

Rs.

Variable 3

Fixed 1 4

Total cost 64

Profit 16

Selling price 80

In the first year of operations expected production and sales are 40,000 units and 35,000 units respectively. To assess the need of working capital, the following additional information is available:

(i) Stock of Raw materials ...3 months consumption.

(ii) Credit allowable for debtors .....1% months.

(iii) Credit allowable by creditors 4 months.

(iv) Lag in payment of wages ..1 month.

(v) Lag in payment of overheads ..0.5 month.

(vi) Cash in hand and Bank is expected to be Rs. 60,000.

(vii) Provision for contingencies is required @ 10% of working capital requirement including that provision.

You are required to prepare a projected statement of working capital requirement for the first

year of operations. Debtors are taken at cost. (PCC-Nov. 2008)(9 marks)

Answer

Statement Showing Cost and Sales for the First Year

Annual Production Capacity	60,000 units
Production	40,000 units
Sales	35,000 units

NOTES

Particulars	Rs.	
Sales Revenue (Rs. 80 x 35,000)	28,00,000	
Cost of Production:		
Materials @ Rs. 20 per unit	8,00,000	
Direct Labour @ Rs. 15 per unit	6,00,000	
Manufacturing Overheads		
Variable @ Rs. 15 per unit	6,00,000	
Fixed (based on production capacity 60,000 units x Rs. 10)	6,00,000	
Cost of Production	26,00,000	
Less: Closing Stock (40,000 – 35,000 = 5,000 units)		
(26,00,000	ö	
ç Rs.	x 5,000 units ÷	3,25,000
è	40,000	ø
Cost of Goods Sold	22,75,000	
Add: Selling & Distribution Overheads		
Variable @ Rs. 3 x 35,000 units = 1,05,000		
Fixed (Re. 1 x 60,000 units) = 60,000	1,65,000	
Cost of Sales	24,40,000	
Profit	3,60,000	

Statement Showing Working Capital Requirement

A.	Current Assets	Rs.
Stock of Raw Materials (Rs. 8,00,000 x 3/12)	2,00,000	
Stock of Finished Goods	3,25,000	
Debtors at Cost	(Rs. 24,40,000 x 3/24)	3,05,000
Cash and Bank	60,000	
Total (A)	8,90,000	
A.	Current Liabilities	
Creditors for Materials(Rs. 10,00,000 x 4/12)	3,33,333	
Creditors for Expenses (Rs. 13,65,000 x 1/24)	56,875	
Outstanding Wages	(Rs. 6,00,000 x 1/12)	50,000
Total (B)	4,40,208	
Working Capital Requirement before Contingencies (A – B)	4,49,792	
Add: Provision for Contingencies (Rs. 4,49,792 x 1/9)	49,977	

Estimated Working Capital Requirement	4,99,769

Workings Notes:

Purchase of Raw Material during the first year	Rs.
Raw Material consumed during the year	8,00,000
Add: Closing Stock of Raw Materials (3 months consumption)	2,00,000
10,00,000	
Less: Opening Stock of Raw Material	Nil
Purchases during the year	10,00,000

Illustration 3

The cost sheet of POR Ltd. provides the following data:

Cost per unit	
Raw materials	Rs. 50
Direct Labor	20
Overheads (including depreciation of Rs. 10)	40
Total cost	110
Profits	20
Selling price	130

Average raw material in stock is for one month. Average materials in work-in-progress is for half month. Credit allowed by suppliers; one month; credit allowed to debtors; one month. Average time lag in payment of wages; 10 days; average time lag in payment of overheads

30 days. 25% of the sales are on cash basis. Cash balance expected to be Rs. 1,00,000. Finished goods lie in the warehouse for one month.

You are required to prepare a statement of the working capital needed to finance a level of the acitivity of 54,000 units of output. Production is carried on evenly throughout the year and wages and overheads accrue similarly. Debtors are to be valued at cost.

Solution:

As the annual level of acitivity is given at 54,000 units, it means that the monthly turnover would be 54,000/12=4,500 units. The working capital requirement for this monthly turnover can now be estimated as follows:

Estimation of Working Capital Requirements

I Current Assets:	Amount (Rs.)	Amount (Rs.)
Minimum Cash Balance		1,00,000
Inventories:		
Raw Materials (4,500xRs. 50)		2,25,000

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Work-in-progress:		
Materials (4,500xRs. 50)/2	1,12,500	
Wages 50% of (4,500xRs. 20)/2	22,500	
Overheads 50% of (4,500xRs. 30)/2	33,750	
Finished Goods (4,500xRs. 100)	4,50,000	
Debtors (4,500xRs. 100x75%)	3,37,500	
Gross Working Capital	12,81,250	12,81,250
II Current Liabilities:		
Creditors for Materials (4,500xRs. 50)	2,25,000	
Creditors for Wages (4,500xRs. 20)/3	30,000	
Creditors for Overheads (4,500xRs. 30)	1,35,000	
Total Current Liabilities	3,90,000	3,90,000
Net Working Capital	8,91,250	

Working Notes:

1. The Overheads of Rs. 40 per unit include a depreciation of Rs. 10 per unit, which is a non-cash item. This depreciation cost has been ignored for valuation of work-in-progress, finished goods and debtors. The overhead cost, therefore, has been taken only at Rs. 30 per unit.
2. In the valuation of work-in-progress, the raw materials have been taken at full requirements for 15 days; but the wages and overheads have been taken only at 50% on the assumption that on an average all units in work-in-progress are 50% complete.
3. Since, the wages are paid with a time lag of 10 days, the working capital provided by wages has been taken by dividing the monthly wages by 3 (assuming a month to consist of 30 days).

20.11 Questions and Exercises

20.11.1 Theory Questions

1. Discuss the concept of working capital. Are the gross and net concepts of working capital? Explain.
2. Distinguish between fixed and fluctuating working capitals. What is the significance of such distinction in financing working needs of an enterprise?
3. Discuss the significance of working capital management in a business enterprise. What shall be the repercussions if a firm has (a) shortage of working capital and (b) excess working capital?
4. A firm desires to finance its current assets entirely with short-term loans. Do you think this pattern of financing would be in the interest of the firm? Support your answer with cogent arguments.

5. What factors a financial manager would ordinarily take into consideration while estimating working capital needs of his firm?
6. What is an operating cycle and how a close study of the operating cycle is helpful?

20.11.2 Practical Problems

Exercise 1

Prepare a working capital forecast from the following information:

Production during the previous year was 10,00,000 units. The same level of activity is intended to be maintained during the current year.

The expected ratios of cost to selling price are:

Raw material	40%
Direct Wages	20%
Overheads	20%

The raw materials ordinarily remian in stores for 3 months before production. Every unit of production remains in the process for 2 months and is assumed to be consisting of 100% raw material, wages and overheads. Finished goods remain in the warehouse for 3 months. Credit allowed by creditors is 4 months from the date of the delivery of raw material and credit given to debtors is 3 months from the date of dispatch.

The estimated balance of cash to be held Rs. 2,00,000

Lag in payment of wages 1/2 month

Lag in payment of expenses 1/2 month

Selling price is Rs. 8 per unit. Both production and sales are in a regular cycle. Relevant assumptions may be made.

Exercise 2

Prepare an estimate of net working capital requirement for the WCM Ltd. adding 10% for contingencies from the information given below:

Estimated cost per unit of production Rs. 170 includes raw materials Rs. 80, direct labour Rs. 30 and overheads (exclusive of depreciation) Rs. 60. Selling price is Rs. 200 per unit. Level of activity per annum 1,04,000 units. Raw materials in stock: average 4 weeks; work-in-progress (assume 50% completion stages) : average 2 weeks; finished goods in stock : average 4 weeks; credit allowed by suppliers ; average 4 weeks; credit allowed to debtors : average 8 weeks; lag in payment of wages : average 1.5 weeks, and cash at bank is expected to be Rs. 25,000. You may assume that production is carried on evenly throughout the year (52 weeks) and wages and overheads accrue similarly. All sales are on credit basis only. You may state your assumptions, if any.

Exercise 3

X Ltd. sells goods at a gross profit of 20%. It includes depreciation as part of cost of production. The following figures for the 12 months ending 31st Dec. 2008 are given to enable you to ascertain the requirement of working capital of the company on a cash

NOTES

cost basis.

In your working, you are required to assume that:

(i) a sefety margin of 15% will be maintained;

(ii) cash is to be held to the extent of 50% of current liabilities.

(iii) there will be no work-in-progress;

(iv) tax is to be ignored.

Stocks of raw materials and finished goods are kept at one month's requirements. All working notes are to form part of your answer.

Sales at 2 months credit	Rs. 27,00,000
Materials consumed (suppliers credit is for 2 months)	6,75,000
Total wages (paid at the beginning of the next month)	5,40,000
Manufacturing expenses outstanding at the end of the year	60,000
(These expenses are paid one month in arrears)	
Total administrative expenses (paid as above)	1,80,000
Sales promotion expenses paid quarterly and in advance	90,000

20.12 Further Reading and References

1. Accounting, Costing and Management By Raid Izhar and Janet Hontoir, Oxford University Press

2. Managerial Accounting By: Ray Garrison,EricNoreen,Peter Brewer, Tata McGraw Hill