



SYLLABUS

Class: - B.B.A. II Semester

Subject: - Financial Management

UNIT – I	Introduction: Concepts, Nature, Scope, Function and Objectives of Financial Management. Basic Financial Decisions: Investment, Financing and Dividend Decisions.
UNIT – II	Analysis and Interpretation of Corporate Final Accounts: Understanding the Parameters of health of Business: Liquidity, Profitability, Solvency and Efficiency through learning computation, analysis and interpretation of various tools of financial analysis Preparation of Cash Flow Statement as per Accounting Standard and its Analysis
UNIT – III	Leverage Analysis: Developing the Concept of Leverage in Finance. Computation and inferences of Degree of Operating Leverage, Financial Leverage and Combined Leverage.
UNIT – IV	Investment Decisions: Analysis of Risk and Uncertainty. Concept and Computation of Time Value of Money, DCF and Non DCF methods of Investment Appraisal. Project selection on the basis of Investment Decisions. Valuating Investment Proposals for Decision Making. Capital Rationing
UNIT – V	Management of Working Capital: Concepts, components, Determinants and need of Working Capital. Computation of Working Capital for a Company.



UNIT-I
MEANING OF FINANCIAL MANAGEMENT (*)**

Financial Management may be defined as Planning, Organizing, Directing and Controlling of financial activities in a business enterprise. More specifically it is concerned with optimal procurement and effective utilization of funds in a manner that the risk, cost and control considerations are properly balanced in a given situation.

Financial management is concerned with efficient acquisition and allocation of funds. In operational terms, it is concerned with management of flow of funds and involves decisions relating to procurement of funds, investment of funds in long term and short term assets and distribution of earnings to owners. In other words, focus of financial management is to address three major financial decision areas namely, investment; financing; and dividend decisions.

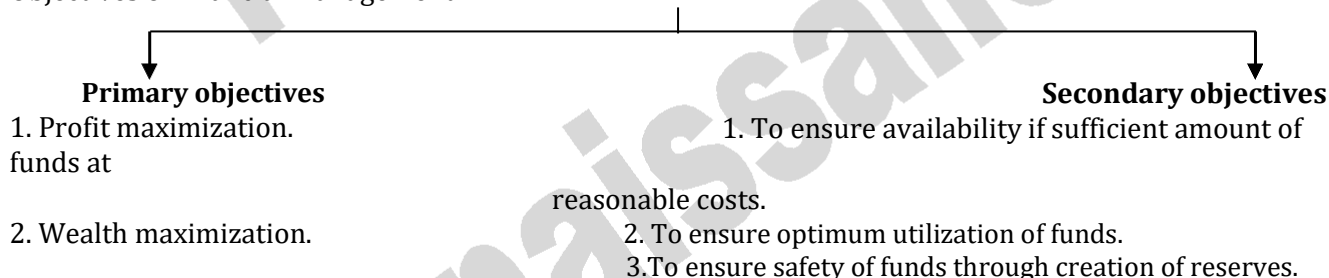
Definition : "The activity which is concerned with acquisition and utilization of all money/ Funds to be used in a corporate (Business) Enterprise." - **Wheeler** More specifically, Financial Management is concerned with making the following **four decisions**:

1. *Investment decision i.e., where and how much to invest in long-term assets and working capital?*
2. *Financing decision i.e., from where to raise funds?*
3. *Dividend decision i.e., how much earnings to be retained and how much to be distributed?*
4. *Liquidity decision i.e., how much cash in hand is to be maintained with the firm.*

OBJECTIVE OF FINANCIAL MANAGEMENT (*)**

The objective of financial management is to maximize the current price of equity shares of the company. However, the current price of equity shares should not be maximized by manipulating the share prices. Rather it should be maximized by making efficient decisions which are desirable for the growth of a company and are valued positively by the investors at large. A decision is considered efficient if it increases the price of share but is considered as inefficient if it results in decline in the share price. In other words, the objective of financial management is to maximize the wealth of the owners of the company, that is the shareholders. Here wealth maximization means the maximization of the market price of the equity shares of the company in the long run by making efficient decisions and not by manipulating the share prices. The financial manager must identify those avenues of investment; modes of financing, ways of handling various components of working capital which ultimately will lead to an increase in the price of equity share. If shareholders are gaining, it implies that all other claimants are also gaining because the equity share holders get paid only after the claims of all other claimants (such as creditors, employees, lenders) have been duly paid.

Objectives of financial management



Nature and Scope of Financial Management : Nature :

1. Management of flow of money.
2. Concept with application of skills in manipulation Use of Control of Money
Determining financial needs and Raising of funds Utilization of funds



1. **Details :** Management of flow money : It refer to Inflow and outflow of money. Inflow of money means Entering of money in business from external source and outflow of money refers to consumption of money. Which gives us the Best output of financial Manager need to concentrate over the inflows as well as outflow of money so that there cannot be shortage and excursiveness of financial resources.

2 **Concerns with application of skills in manipulation, we and control of money :** In an effective financial Management, there is always a process of applying. Manager skills in Manipulate, utilization and control of money. In Financial Management, Controlling of firms financial resources play a vital role that is why a financial manager uses his skills in order to control such activities.

3 **Determining the Financial needs and Raising of Funds :** In financial management, a financial manager, firstly determining the financial needs of an enterprise and then finding out the best suitable sources for raising them. The sources should be commensurate with needs of business. If the funds needed for longer period then long term sources of like share capital, debentures, etc can be raise for short term, period, the short term sources like. Trade Bill, Commercial paper can be.

4. Proper utilization of funds: Though raising funds is important but their effective utilization is also more important. The funds should be used in such a that maximum benefit is derived from them. The retires from their use should be more than their cost. It should be ensured that funds do not remain idle at my point of time. The funds committed to various operations should be effectively utilized. Those projects would be preferred which are beneficial to the business.

Scope of financial Management :

1. Estimating Financial Requirement
2. Deciding Capital Structure
3. Selecting a source of finance
4. Selecting a Pattern of investment.
5. Proper Cash Management
6. Implementing Financial controls
7. Proper uses of surpluses.

1. **Estimating Financial Requirements :** The first task of a financial manager is to estimate short-term and long-term financial requirements of his business. For this purpose, he will prepare a financial plan for present as well as for future. The amount required for purchasing fixed assets as well as needs of funds for working capital will have to be ascertained.

2. **Deciding Capital Structure.** The capital structure refers to the kind and proportion of different securities for raising funds. After deciding about the quantum of funds required it should be decided which type of securities should be raised. Long-term funds should be employed to finance working capital also, if not wholly then partially. A decision about various sources for funds should be linked to the cost of raising funds. If cost of raising funds is very high then such sources may not be useful for long.

3. **Selecting a Source of Finance :** After preparing a capital structure, an appropriate source of finance is selected. Various from which finance may be raised, include : share capital, debentures, financial institutions, commercial banks, public deposits, etc. If finances are needed for short periods then banks, public deposits and financial institutions may be appropriate, on the other hand, if long-term finances are required then share capital ad debentures may be useful.

4. **Selecting a Pattern of Investment** When funds have been procured then a decision about investment pattern is to be taken. The selection of an investment pattern is related to the use of funds. A decision will have to be taken as to which assets are to be purchased? The funds will have to be spent on fixed assets and then an appropriate portion will be retained for working capital.

5. **Proper Cash Management :** Cash management is also an important task of finance manager. He has to access various cash needs at different times and then make arrangements for arranging cash. Cash may



be required to (a) purchase raw materials, (b) make payments to creditors, (c) meet wage bills, (d) meet day to day expenses. The usual sources of cash may be a: (a) cash sales, (b) collection of debts, (c) short term arrangements with bank etc. The cash management should be such that neither there is a shortage of it and nor it is idle. Any shortage of cash will damage the creditworthiness of the enterprise.

6. Implementing Financial Controls: An efficient system of financial Management necessitates the use of various control devices. Financial control devices generally used are : (a) Return on investment, (b) Budgetary Control, (c), Break Even Analysis, (d) Cost Control, (e) Ratio Analysis (f) Cost of Internal Audit return on investment is the best control device to evaluate the performance of various financial policies the higher this percentage, better may be the financial performance.

7. Proper Use of Surpluses. The utilization of profits or surpluses is also an important factor in financial management. A effective use of surplus is essential for expansion and diversification plans and also in protecting the interests of shareholders.

3. Finance Function : Finance function is the most important of all business function. It remains a focus of all the activities it is possible to substitute or eliminate this function because the business will close down in the absence of finance.

Approaches to finance functions -

1. Traditional approaches – According to this approach the finance function was conformed only procurement of funds needed by business on most suitable firms. The utilization of funds was considered beyond the purview of finance function Here, it was felt that decision regarding application of funds are taken same where.

Limitations :

- If completely ignore the decision making to the proper utilization of funds.
- If ignores the important issue of working capital finance and management.
- If ignore issue of allocation of funds.
- If ignore day to day financial problem of organization.

2. Modern Approach : It used in broader firms. It includes both raising and utilisation of funds. The finance function does not stop only by finding out sources of raising enough funds, their proper utilization . According to this approach, it cover financial planning, raising of funds. Allocation of funds and financial control etc.

Aims of Finance Function

1. Acquiring sufficient funds.
2. Proper utilization of funds.
3. Increasing profitability
4. Maximizes firms value.

1. Acquiring Sufficient Funds : The main aim of finance function is to assess the financial needs of an enterprise and then finding out suitable sources for raising them. If funds are needed for longer periods then long-term sources like share capital, debentures, term loans may be explored.

2. Proper Utilization of Funds : Though raising of funds is important but their effective utilization is more important. The funds should be used in such a way that maximum benefit is derived from them. The returns from their use should be more than their cost. It should be ensured that funds do not remain idle at any point of time.

3. Increasing Profitability : The planning and control of finance function aims at increasing profitability of the concern. It is true that money generates money. To increase profitability, sufficient funds will have to nor wastes more funds than required.



4. Maximizing Firm's Value : Finance function also aims at maximizing the value of the firm. It is generally said that a concern's value is linked with its profitability. Besides profit, the type of sources used for raising funds, the cost of funds, the condition of money market, the demand for products are some other considerations which also influence a firm's value.

Sources of Financial information :

1. Banks
2. Financial institution
3. Government agencies
4. Investors
5. Brokers
6. Media
7. Supplier.

Functional Areas Financial Management:

1. Determining financial needs .
2. Selecting the sources of funds.
3. Financial analysis and interpretation
4. Cost volume and profit analysis.
5. Capital Budgeting.
6. Working Capital management
7. Profit Planning and Control.
8. Dividend Policy.

1. Determining financial needs: A finance manager is supposed to meet financial needs of the enterprise. For this purpose, he should determine financial needs of the concern. Funds are needed to meet promotional expenses, fixed and working capital needs.

2. Selecting the Source of Funds: A number of sources may be available for raising funds a concern may resort to issue of share capital and debentures. Financial institutions may be requested to provide long term funds. A finance manager has to be very careful and cautious in approaching different sources. The terms and conditions of banks may not be favourable to the concern.

3. Financial Analysis and Interpretation: The analysis and interpretation of financial statements is an important task of a finance manager. He is expected to know about the profitability, liquidity position, short term and long-term financial position of the concern. For this purpose, a number of ratios have to be calculated. The interpretation of various ratios is also essential to reach certain conclusions. Financial analysis and interpretation has become an important area of financial management.

4. Cost -Volume -Profit Analysis : Cost-volume-profit analysis is an important tool of profit planning. The costs may be subdivided as : fixed costs, variable costs and semi-variable costs. Fixed costs remain constant irrespective of changes in production. An increase or decrease in volume of production will not influence fixed costs. Variable costs, on the other hand, vary in direct proportion to change in production. Semi-variable remain constant for a period and then become variable for a short period.

5. Capital Budgeting : Capital budgeting is the process of making investment decisions in capital expenditures. It is an expenditure the benefits of which are expected to be received over a period of time exceeding one year. Capital budgeting decisions are vital to any organization. An unsound investment decision may prove to be fatal for the very existence of the concern.

6. Working Capital Management : Working capital is the life blood and nerve center of business. Just as circulation of blood is essential in the human body for maintaining life, Working capital is essential to maintain the smooth running of business. No business can run successfully without an adequate amount of working capital. Working capital refers to that part of the firm's capital which is required for financing short term or current assets such as cash, receivables and inventories. It is essential to maintain a proper level of these assets.



7. Profit Planning and Control : Profit planning and control is an important responsibilities of the financial manager. Profit maximization is, generally, considered to be an important objective of a business. Profit is also used as a tool for evaluating the performance of management. Profit is determined by the volume of revenue and expenditure.

8. Dividend Policy : Dividend is the reward of the shareholders for investments made by them in the share of the company. Their investors are interested in earning the maximum return on their investment whereas management wants to retain profits for further financing. The company should distribute a reasonable amount as dividends to its members and retain the rest for its growth and survival.

FINANCIAL PLANNING ()**

MEANING OF FINANCIAL PLANNING

Financing Planning means deciding in advance the requirements as well as sources of funds. Financial Planning is process of estimating the fund requirements of a business and determining the sources of funds. Thus, there are two aspects of financial planning:

1. How much funds are required to finance

(a) current assets (b) Fixed assets and (c) Future expansion project.

2. From where to raise these funds?

(a) Whether funds to be raised through Owners' Funds (equity) or Borrowed Funds (Debt);

(b) How much funds to be raised through Owners' Funds (equity) – Equity share, Preference Shares; reserves & Surplus.

(c) How much funds to be raised through Borrowed Funds (Debt) – Debentures, Long-term loans.

The aforesaid decisions should be taken keeping in mind three factors viz. Cost, risk and control. There should be a proper mix of various sources in such a manner that the funds are procured at optimum cost with the least risk and the least dilution of control of the present owners. .

Financial planning takes into consideration the growth, performance, investments and requirements of funds for the business for a given period of time. The time horizon of financial planning is generally 3-5 years.

Short-term financial plans called budgets are also drawn up\ to show the revenues and expenses relating to specific operation for a specific period of 1 year or less.

IMPORTANCE OF FINANCIAL PLANNING ()**

The importance of financial planning in financial management arises from the following benefit which flow from it:

1. It provides policies and procedures which make possible a closer cooperation between various functions of the business enterprise.

2. It aids the company in preparing for the future.

3. It provides a detailed plan of action for reducing uncertainty and for the proper direction of individual and group efforts.

4. It avoids confusion and waste such as loss of time, goodwill and financial resources.

5. It helps management to avoid waste resulting from complexity of operations.

6. It tends to relieve top management from detailed and time consuming process as the financial units are known to everyone. It communicates expectations to all concerned so that they are properly understood and implemented.

7. The success or failure of production and distribution functions of the business depends on the financial decision.



Unit 2: Analysis and Interpretation of Corporate Final Accounts:

Introduction

It is very important for every business organization to assess and analyze its business operations to understand the efficiency and effectiveness of the overall business management.

To understand the financial management's effectiveness and efficiency there are certain tools available. To judge it one of the major tools available is accounting ratios it is mainly used for financial statement analysis. Another tool of financial statement analysis used is cash flow statement. The tools that are ratio analysis and cash flow statement are the most common and very effective tool for analyzing any business financial statement.

The process of analyzing the financial statement of any business organization is not very easy; it is a technical job and it requires professional expertise.

Meaning of ratio

Relationship between two figures expressed in mathematical terms is called ratio.

Are simply one number Express in terms of another. It is found by dividing one number into another.

Classification of the ratios :-

- 1 Liquidity ratios
- 2 solvency ratios
- 3 activity ratios
- 4 profitability ratios

liquidity ratios

Short term creditors are primarily interested in liquidity ratio for short term solvency of the enterprise since their claims are to be met in the short run. Short term solvency means the ability of the Enterprise to meet short term obligation as and when they become due.

These liquidity ratios show the short term financial solvency of the concern. These ratios measure the concerned ability to meet short term obligations as and when they become due. usually the following two ratios are calculated for this purpose.

- 1. Current ratio
- 2. Quick ratio

Current ratio

The objective of computing this ratio is to measure the ability of the firm to meet its short term obligation and to reflect the short-term financial strength of the firm. In other words the objective is to measure the safety margin available for short term creditors.

The main contents of this ratio is current assets and current liability

$$\text{Current ratio} = \text{current assets} / \text{current liabilities}$$

Quick ratio

The objective of computing this ratio is to measure the ability of the form to meet its short term obligation as and when done without relying upon the realization of the stock.

The components of quick ratio are quick assets and current liabilities.

$$\text{Quick ratio} = \text{quick assets} / \text{current liabilities}$$

Solvency ratios

Long term creditors are primarily interested in long term solvency of the enterprise since their claims are to be met in long run. long term creditors are the liabilities having maturity after one year. long term solvency means the ability of the Enterprise to meet long-term obligations on the due date. long term lenders of funds is basically interested into things:-

- 1. safety of principal which is given by way of loan during the term of loan.**
- 2. Regular servicing of the loan in the form of repayment of installment of loan with interest.**

solvency ratio shows the long term financial solvency and measures the enterprises ability to pay the interest regularly and to repay the principal amount of loan usually the following ratios are calculated to judge the long term financial solvency of the concern.

- **Debt equity ratio**
- **Total asset to debt ratio**
- **Proprietary ratios**

The objective of calculating debt equity ratio used to measure the relative proportion of debt and equity in financing the Assets of the form is basically the ratio which helps in understanding the capital structure of the business.

The main component of the ratios are the long term debts and shareholders fund Debt equity ratio = long term debts/ shareholders fund

It indicates the margin of safety to long-term Creditors; a low debt equity ratio implies the use of more equity and debt which means a larger safety margin for creators.

Total asset to debt ratio

The objective of computing this ratio is to measure the safety margin available to the supplier of long-term that's it measures the extent to which debt is being covered by the assets.

The main components of the ratio are total assets excluding fictitious assets.

The second component is long term whether secured or unsecured.

Total asset to debt ratio= total assets/ long term debts

It indicates the margin of safety to the long-term greater **high total asset to debt ratio implies the use of more equity and debt which means larger safety margin for creditors.**

Proprietary ratio

The objective of computing this ratio is used to measure the proportion of total assets financed by the equity or proprietors fund.

The main components are are shareholders fund and total assets excluding fictitious assets

Proprietary ratio= shareholders fund /Total assets X100 The ratio indicates the extent to which the Assets of the enterprise have been financed out of equity. a high proprietary ratio indicates the largest safety margin for the creator and Enterprise is not taking the benefit much of leverage.

Activity ratios

Activity ratios measure the effectiveness with which a firm uses its available resources. This ratio helps in commenting on the efficiency of the enterprises in managing its assets. These ratios are also called turnover ratios. The activity ratios are calculated in Times

- **Capital turnover ratio**
- **Fixed asset turnover ratio**
- **Current asset turnover ratio**
- **Net working capital turnover ratio**
- **Stock turnover ratio**
- **Debtors turnover ratio**
- **Creditors turnover ratio**

1. The objective of calculating the capital turnover ratio is to find the efficiency with which the capital employed is utilized in the business operation.

capital turnover ratio= net sales/ capital employed

It indicates the firm's ability to generate sales per rupee of the capital employed. Higher the ratio the more efficient the management and utilization of capital employed.

2. Fixed asset turnover ratio The objective of computing this ratio is to determine the efficiency with which the fixed assets are utilized in the process of operation of the business.

Fixed asset turnover ratio = $\frac{\text{net sales}}{\text{net fixed operating assets}}$ The ratio indicates the firm's ability to generate sales per rupee of investment in fixed asset. In general, higher the ratio the more efficient the management and utilization of fixed asset and vice versa.

3 Current asset turnover ratio The main objective of computing this ratio is to determine the efficiency with which the current assets are utilized in the process of generating turnover.

Current asset turnover ratio = $\frac{\text{net sales}}{\text{Current assets}}$

It indicates the Business ability to generate sales per rupee of investment in current asset. Higher is the ratio the more efficient the management and vice versa.

4 working capital turnover ratio The main objective of computing this ratio is to determine the efficiency with which the working capital has been utilized in the business.

Working capital turnover ratio = $\frac{\text{net sales}}{\text{working capital}}$ Working capital turnover ratio indicates the firm's ability to generate sales per rupee of the working capital.

5 Stock turnover ratio calculation of stock turnover ratio helps in understanding the efficiency with which the inventory is converted into sales.

Stock turnover ratio = $\frac{\text{cost of goods sold}}{\text{average inventory}}$

The ratio indicates the speed with which the inventory is converted into sales. In general, higher ratio indicates efficient performance since an improvement in the ratio shows that either the same volume of sales has been maintained with the lower investment in stock or the volume of sales increase without any increase in the amount of stock.

stock velocity This velocity indicates the period for which sales can be generated with the help of an average stock maintained and is expressed in terms of period.

stock velocity= average stock / average cost of goods sold per day

OR 12 months 52 weeks 365 days/ stock turnover ratio

average stock = opening stock + closing stock divided by 2

6 Debtors turnover ratio The ratios objective is to determine the efficiency with which the trade debtors are converted into cash.

Debtors turnover ratio = net credit sales / average debtors

It indicates both the quality of data and the credit collection efforts of the Enterprise. it indicates the speed with which the data are converted into cash each year. hi ratio indicates the shorter collection period and low ratio indicates the longer collection period.

Debtors velocity This shows an average period for which the credit sales remain outstanding for the average credit period actually enjoyed by the Debtors.

Data velocity= average daters / average net credit sales per day

OR 12 months 52 weeks 365 days / Debtors turnover ratio

7 creditors turnover ratio The purpose of computing this ratio is to know the efficiency with which the creators are managed and paid .

Creditors turnover ratio = net credit purchases / average creditors

It indicates the speed with which the creditors turnover on an average each year. a higher ratio indicates a shorter payment period and lower ratio indicates a larger payment period is delay in payments.

Note;- To judge whether the ratios are satisfactory or not it should be compared with its own past ratio or with the ratio of the similar Enterprise in the same industry or with the industry average.

Profitability ratios

Profitability ratios measure management's overall effectiveness as shown by the returns generated on the sales and investment. Profitability ratios are the major

indicator of overall business operation capability and the way business is operated.

These ratios are commonly calculated in terms of percentage. Usually Three Types of Profitability ratios these are as follows:-

1 In relation to sales

2 In relation to Investments

3 In relation to equity shareholders fund

Sales related ratios

1. Gross profit ratio the ratio is computed to determine the efficiency with which production or purchase operations and selling operations are carried on.

Gross profit ratio = $\frac{\text{gross profit}}{\text{Net sales}} \times 100$

The gross profit ratio indicates an average gross margin earned on sales, the limit beyond which the fall in sales prices will definitely result in losses higher the ratio the more efficient the production and purchase management and Vice a versa.

2 Operating profit ratio The main objective of computing this ratio is to determine the operational efficiency of the management and to judge the overall management of the business. It is a relationship between operating profit and net sales.

Operating profit can be understood as excess of gross profit over the operating expenses.

Operating profit ratio = $\frac{\text{operating profit}}{\text{net sales}} \times 100$

The ratio indicates an average operating margin earned on the sales and what portion of sales is left to cover non-operating expenses to pay dividend and to create Reserves. higher the ratio the more efficient is operating management.

Operating profit can be calculated by adding all operating expenses to the cost of goods sold or by indirect method in which we add all non-operating expenses and losses to the net profit and deduct all non-operating Incomes and profits credited to the profit and loss account.

Operating ratio The ratio is determined to know the operational efficiency with which the production and selling operations are carried out; it is the relationship between operating cost and net sales.

Operating ratio = $\frac{\text{operating cost}}{\text{net sales}} \times 100$.

The ratio indicates an average operating cost incurred on sales of goods. lower the ratio greater is the operating profit to cover the non-operating expenses to pay dividend and to create reserves and vice versa.

Operating cost can be calculated by adding all indirect operating expenses to the cost of goods sold that means cost of goods sold plus all indirect operating expenses debited to profit and loss account.

Net profit ratio It is an indicator of overall efficiency of the business net profit ratio better the business. This ratio helps in determining the operational efficiency of the business. net profit ratio establishes

the relationship between net profit and revenue from operation that is net sales. it shows the percentage of net profit earned on Revenue from operation.

Net profit ratio = net profit before interest and tax / Revenue from operation X100

Return on investment(ROI) Return on capital employed ratio shows the relationship of profit with the capital employed, the net result of operations of the business is either profit or loss full stop the funds used by the business to earn this profit is termed as Capital employed.

Return on investment = net profit before interest tax and dividend /capital employed X 100

Capital employed can be calculated by adding shareholder trust fund and borrowed funds formula for calculating the capital employed is net non-current assets net working capital. net Non-current asset means gross block of the Asset minus depreciation and net working capital means current assets minus current liabilities.

The significance of return on investment ratio is to assess the overall performance of the Enterprise. it measures how efficiently the resources of the business are used. Return on investment is a fair measure of profitability of any concern.

Return on shareholders fund Relationship between net profit before interest and tax with shareholder fund it shows how efficiently the concept of leverage is applied to increase the EPS.

ROE = PROFIT AFTER INTEREST AND TAX / SHAREHOLDERS FUND X100.

The objective of calculating this ratio is to understand that whether the shareholders fund have been utilized properly into the business and whether it is able to generate good returns to the owner of the business or not higher the ratio better is the conditions for shareholders.

Earnings per share Earning per share is calculated by dividing the profit after interest and tax and preference dividend by number of equity shares.

Price earning ratio: the ratio shows the relationship between the Earning per share and the market price of the equity share in the market this is a market driven ratio which tells about how many times the Earning per share has been reflected in the market price of the share.

Price earning ratio can be calculated by dividing market price of the equity share Earning per share

CASH FLOW STATEMENT (AS - 3 REVISED)

It is a statement that shows flow of cash and cash equivalent during the period under report cash flow means the inflows and outflows of cash and cash equivalent in a given period of time.

cash and cash equivalents short term highly liquid investments that are readily convertible into known amount of cash and which are subject to INR significant risk of change in the value and investment normally qualifies as cash equivalent only when it has a shorter maturity period of 3 months or less than the date of the acquisition that is purchase.

extraordinary items these are incomes or expenses that arise from events or transactions that are clearly distinct from the ordinary activities of the enterprise and therefore are not expected to recur frequently.

A cash flow statement provides information about the changes in cash and cash equivalents of a business by classifying cash flows into operating, investing and financing activities. It is a key report to be prepared for each accounting period for which financial statements are presented by an enterprise.

Monitoring the cash situation of any business is the key. The income statement would reflect the profits but does not give any indication of the cash components. The important information of what the business has been doing with the cash is provided by the cash flow statement. Like the other financial statements, the cash flow statement is also usually drawn up annually, but can be drawn up more often. It is noteworthy that cash flow statement covers the flows of cash over a period of time (unlike the balance sheet that provides a snapshot of the business at a particular date).

Objectives of preparing Cash Flow Statement

Cash flow statement shows inflow and outflow of cash and cash equivalents from various activities of a company during a specific period under the main heads i.e., operating activities, investing activities and financing activities.

Information through the Cash Flow statement is useful in assessing the ability of any enterprise to generate cash and cash equivalents and the needs of the enterprise to utilize those cash flows.

Taking economic decisions requires an evaluation of the ability of an enterprise to generate cash and cash equivalents, which is provided by the cash flow statement

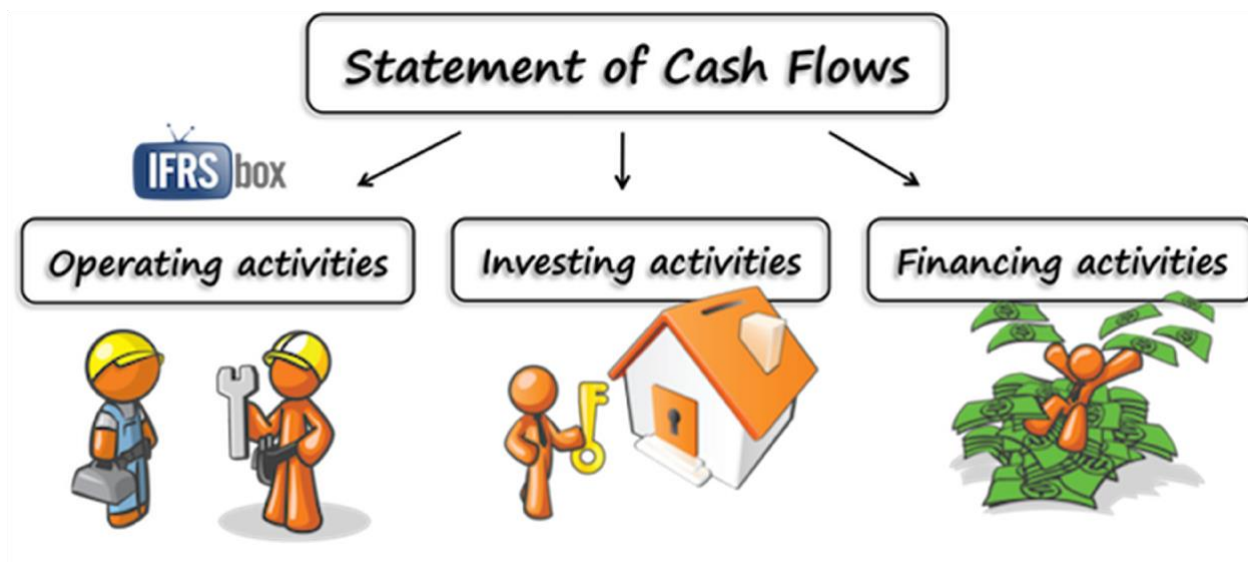
Cash and cash equivalents generally consist of the following:

Cash in hand Cash at bank

Short term investments that are highly liquid Bank overdrafts comprise an integral element of the organization's treasury management

PARTS OF THE CASH FLOW STATEMENT

Cash flow statements classify cash receipts and payments according to whether they stem from operating, investing, or financing activities. A cash flow statement is divided into sections by these same three functional areas within the business'



Cash from Operations—This is cash generated from day-to-day business operations.

Cash from Investing—cash used for investing in assets, as well as the proceeds from the sale of other businesses, equipment, or other long-term assets.

Cash from Financing—cash paid or received from issuing and borrowing of funds. This section also includes dividends paid. (Although it is sometimes listed under cash from operations.)

Net Increase or Decrease in Cash—increases in cash from previous year will be written normally, and decreases in cash are typically written in (brackets)

CLASSIFICATIONS OF CASH RECEIPTS AND PAYMENTS

Cash from Financing

At the beginning of a company's life cycle, a person or group of people come up with an idea for a new company. The initial money comes from the owners or is borrowed by the owners. This is how the new company is "financed." The money that owners put into the company is classified as a financing activity. Generally, any item that would be classified on the balance sheet as either a long-term liability or equity would be a candidate for classification as a financing activity.

Cash from Investing

The owners or managers of the business use the initial funds to buy equipment or other assets they need to run the business. In other words, they invest it. The purchase of property, plant, equipment, and other productive assets is classified as an investing activity. Sometimes a company has enough cash of its own that it can lend money to another enterprise. This, too, would be classified as an investing activity. Generally, any item that would be classified on the balance sheet as a long-term asset would be a candidate for classification as an investing activity.

Cash from Operations

Now the company can start doing business. It has procured the funds and purchased the equipment and other assets it needs to operate. It starts to sell merchandise or services and make payments for rent, supplies, taxes, and all of the other costs of doing business. All of the cash inflows and outflows associated with doing the work for which the company was established would be classified as an operating activity. In general, if an activity appears on the company's income statement, it is a candidate for the operating section of the cash flow statement.

Purpose & Importance of Cash Flow Statements

Statement of cash flows provides important insights about the liquidity and solvency of a company which are vital for survival and growth of any organization.

It enables analysts to use the information about historic cash flows for projections of future cash flows of an entity on which to base their economic decisions.

By summarizing key changes in financial position during a period, cash flow statement serves to highlight priorities of management.

Comparison of cash flows of different entities helps reveal the relative quality of their earnings since cash flow information is more objective as opposed to the financial performance reflected in income statement.

Advantages of Cash Flow Statement

- Cash Flow Statements help in knowing the liquidity / actual cash position of the company which funds flow and P&L are unable to specify.
- As the liquidity position is known, any shortfalls can be arranged for or excess can be used for the growth of the business
- Any discrepancy in the financial reporting can be gauged through the cash flow statement by comparing the cash position of both.
- Cash is the basis of all financial operations. Therefore, a projected cash flow statement will enable the management to plan and control the financial operations properly.
- Cash Flow analysis together with the ratio analysis helps measure the profitability and financial position of business.
- Cash flow statement helps in internal financial management as it is useful in formulation of financial plans.

Disadvantages of Cash Flow Statement

- Through the cash flow statement alone, it is not possible to arrive at actual P&L of the company as it shows only the cash position. It has limited usage and in isolation it is of no use and requires BL, P&L for its projections. Cash flow statement does not disclose net income from operations. Therefore, it cannot be a substitute for income statement
- The cash balance as shown by the cash flow statement may not represent the real liquidity position of the business because it can be easily influenced by postponing the purchases and other payments
- Cash flow statement cannot replace the funds flow statement. Each of the two has a separate function to perform.

UNIT - III

Leverage

In finance, leverage (also known as gearing or leveraging) refers to the use of debit to supplement investment. Companies usually leverage to increase returns to stock, as this practice can maximize gains (and losses). Leverage is the degree to which an investor or business is utilizing borrowed money.

Types of leverage -

- i. **Opening leverage** - The operating leverage is a measure of how revenue growth translates into growth in operating income. It is a measure of leverage and how risky (volatile) a company's operating income is. Operating leverage can also be measured in terms of change in operating income for a given change in sales (revenue). Operating leverage reflects the extent to which fixed assets and associated fixed costs are utilized in the business. Degree of operating leverage (DOL) may be defined as the percentage to leveraging. DOL the Degree of operating leverage (DOL) can be computed in a number of equivalent ways; one way it is defined as the ratio of the percentage change in Operating Income for a given percentage change in Sales.

- ii. **Financial leverage** -

Financial leverage is the ability of the firm to use fixed financial charges to magnify the effects of changes in EBIT on the firm's earnings per share.

In other words, financial leverage may be defined as the payments of fixed rate of interest for the use of fixed interest bearing securities to magnify the rate of return as equity shares.

The use of the fixed-charges sources of funds, such as debt and preference capital along with the owner's equity in the capital structure, is described as financial leverage or gearing or trading on equity.

Degree of financial leverage - Degree of financial leverage (DFL) may be defined as the percentage change in earnings (earnings per share) that occurs as a result of a percentage in earnings before interest and taxes.

1. **Combined leverage** - If both operating and financial leverage allow us to magnify our returns, and then we will get maximum leverage through their combined use in the form of combined leverage. Degree of combined leverage (DTL) uses the entire income statement and shows the impact of a change in sales or volume on bottom-line earnings per share.

FORMAT OF LEVERAGE

Particular	Amount
Sales (In Rs.)	*
(-) Variable Cost	*
= Contribution	*
(-) Fixed Cost	*
= EBIT	*
(-) Interest	*
= EBT	*
(-) Tax	*
= EAT	*
(-) Preference Dividend	*
= Earning after Preference dividend	*
(-) Equity Dividend	*
= Net Profit (Retained Earning)	*

EBIT = Earnings before Income & Tax - EBT = Earnings Before Tax - EAT = Earnings after Tax

Formulae



1. **Operating Leverage** = $\frac{\text{Contribution}}{\text{EBIT}}$ or $\frac{\text{EBIT}}{\text{PAT}}$

2. **Financial leverage** = $\frac{\text{Debt}}{\text{Equity}}$ or $\frac{\text{Debt} + \text{Equity}}{\text{Equity}}$

3. **Combined leverage** = $\frac{\text{Contribution}}{\text{PAT}}$ or $\text{OL} \times \text{FL}$

Other Formulae

1. Earnings per share (EPS) = $\frac{\text{Net Profit}}{\text{Number of Shares}}$

2. Break even Analysis = $\frac{\text{Fixed Cost}}{\text{Contribution per Unit}}$

3. P/V ratio = $\frac{\text{Contribution}}{\text{Sales}} \times 100$

4. ROI = $\frac{\text{Net Profit}}{\text{Capital Employed}} \times 100$

5. Assets turnover = $\frac{\text{Total Sales}}{\text{Average Assets}}$

Some major points taken into consideration

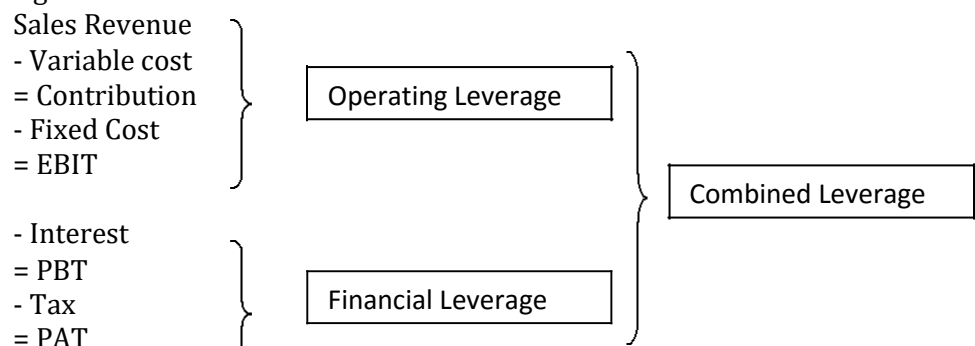
1. Interest in chargeable on debts only
2. Total assets = Debts Assets + Equity Capital

Operating and Financial Leverage

Leverage refers to relationship between two interrelated variables. In financial analysis, leverage reflects the response of one financial variable over some other financial variable.

Leverage are of three types

- (B) Operating leverage
- (C) Financial leverage
- (D) Combined leverage



Operating leverage is the tendency of the operating profits to vary disproportionately with sales.

Operating leverage = $\frac{\text{EBIT}}{\text{PAT}}$ OR $\frac{\text{Contribution}}{\text{EBIT}}$

Financial leverage is related to the changes in operating profit available to equity shareholders on account of changes in EBIT



$$FL = \frac{\text{EBT}}{\text{EBT} - \text{PD}} \text{ or } \frac{\% \nabla}{\% \nabla} \text{ or } \frac{\text{EBT} - \text{PD}}{\text{PD}}$$

Combined leverage – clarifies the combined effect of OL & FL

$$CL = OL \times FL = \frac{\text{EBT}}{\text{EBT} - \text{PD}} \text{ or } \frac{\% \nabla}{\% \nabla}$$

OL explains the business risk while FL deals with the financial risk. The more is leverage the higher is the risk associated.

Other formulae –

Assets turnover ratio = $\frac{\text{Sales}}{\text{Assets}}$

Debt assets ratio = $\frac{\text{Debt}}{\text{Assets}}$

Debt Equity Ratio = $\frac{\text{Debt}}{\text{Equity}}$

Financial Leverage

Financial leverage is synonym of trading on equity

Of course, Financial leverage may be called as refund form of trading on equity financial leverage is related to the change in EBIT. A business concern may increase the profit to equally share holders by increasing the EBIT.

In other words we can say, "When the rate of return available to equally share holders is caused to rise by the use of best and performance share capital, it is termed as FL.

Financial Leverage (FL) =

EBT – It is equal to the amount left after deducting interest on.

1.

DFL = %

Combined leverage – "Who have observed that operating leverage affects the business risk and it is measured in terms of changes in EBIT due to changes in sales. Similarly financial leverage affects financial risk and is measured in terms of percentage change in EBT or EPS relative to percentage change in EBIT. Since both the leverage are closely reputed in ascertaining the ability of the firms to cover fixed charges. The mixture of the two would give combined or total leverage.

Formula –

$$CL = OL \times FL$$

OR

$$CL = \frac{\text{EBT}}{\text{EBT} - \text{PD}} \times \frac{\text{EBT}}{\text{EBT} - \text{PD}}$$

Degree of combined leverage

$$DCL = DOL \times DFL$$

OR

$$DCL = \frac{\text{EBT}}{\text{EBT} - \text{PD}} \times \frac{\text{EBT}}{\text{EBT} - \text{PD}}$$

OR

$$DCL = \frac{\text{EBT}}{\text{EBT} - \text{PD}}$$



UNIT-V

MEANING OF WORKING CAPITAL (***)

Working Capital refers to funds required to be invested in the business for a short period usually upto one year. It is also known as short-term capital or circulating capital or working capital.

Working capital is sometimes known as circulating capital or revolving capital because funds invested in current assets are continuously recovered through the realization of cash and again reinvested in current assets. Thus, the amount keeps on circulating or revolving from cash to current assets and back again to cash.

CONCEPTS / TYPES OF WORKING CAPITAL

- I) On the basis of concept :
 - a. **Gross working capital:** It refers to all the current assets taken together.
 - b. **Net working capital :** It is the surplus of current assets over and above current liabilities.
 - (i) A **positive net working capital** occurs when current assets exceed current liabilities;
 - (ii) A **negative net working capital** occurs when current liabilities exceed current assets. A negative working capital implies -ve liquidity and the company is not likely to be able to payoff even its current liabilities & hence may considerably damage its reputation. A weak liquidity position is perceived as a threat to the solvency of the company
- II) On the basis of time :
 - a. **Permanent capital:**
 - i. **Regular Working capital:** It is the working capital required to ensure circulation of inventories.
 - ii. **Reserve working capital:** It is the excess amount over the requirement of regular working capital which may be provided for contingencies.
 - b. **Temporary working capital :**
 - iii. **Seasonal working capital:** It is required to meet seasonal demands.
 - iv. **Special working capital:** It is required to meet special occasion such as launching of extensive marketing campaign.

Factors affecting working capital requirements (***) CONFIRM QUESTION (***)

- 2. **Nature of business:** There are some business which require higher initial capital and lesser working capital whereas some business require lower initial capital and larger amounts of working capital.
- 3. **Credit policy:** Liberal credit policy will require higher and strict dividend policy will require low working capital.
- 4. **Production cycle:** If length of production cycle is big it will require larger working capital and vice versa.
- 5. **Seasonal operations:** Larger amounts of working capital is required for seasonal products because they are produced once and sold throughout the year.
- 6. **Inventory policy :** If firm wishes to maintain higher stock levels then higher working capital is required and if lesser amount of inventory levels are maintained, it will require lesser working capital.
- 7. **Business cycle fluctuations:** During Boom, higher working capital is required and lesser working capital is required during depression.
- 8. **Working capital cycle :** If the time gap between raw materials purchased and its conversion into cash is big large working capital is required by the firm and vice versa.



Working Capital Management

Q.1 From the following information prepare a statement showing the working capital requirements:

Budgeted sales(In Unit) 2,60,000 p.a

Analysis of one rupee of sales:

• Raw Material	0.30
• Direct Labour	0.40
• Overheads	0.20
• Total cost	0.90
• Profit	0.10
• Sales	1.00

- Raw material s are carried in stock for 3 weeks and finished goods for 2 weeks.
- Factory processing will take 3 weeks. (Raw material @ 100% & 50% for labour & overheads
- Suppliers will give 5 weeks credit.
- Customers will require 8 weeks credit.
- Wages & overhead to be accrued evenly throughout the year.

[Ans: Rs. 51,000]

Q.2 The Management of Vishal Ltd has called for a statement showing the working capital needed to finance a level of activity of 3,00,000 units of output for the year. The cost structure for the company 's product, for the above mentioned activity level is detailed below:

	Cost per unit
• Raw Materials	20
• Direct Labour	5
• Overheads	15
• Total	40
• Profit	10
• Selling price	50

3. Past experience indicates that raw materials are held in stock, on an average for 2 months. Work in process (100% complete in regard to materials and 50% for labour and overheads will approx be to half a month's production.
4. Finished goods remain in warehouse, on an average for a month.
5. Suppliers of materials extend a months credit.
6. Two months credit is allowed to debtors, calculation of debtors may be made at selling price.
7. A minimum cash balance of Rs. 25,000 is expected to be maintained.
8. The production pattern is assumed to be even during the year. Prepare the statement of working capital requirements.

[Ans: Rs. 44,00,000]

Q.3 The Board of directors of Nanak Engineering Company private Ltd requests you to prepare a statement showing the Working Capital Requirements for a level of activity of 1,56,000 units of production. The following information is available for your calculations:

(A)

	Per unit (Rs.)
1. Raw materials	90
2. Direct Labour	40
3. Overheads	75
4. Profit	60
5. Selling price per unit	265

(E) Raw materials are in stock, on average one month.



2. Materials are in process, on average 2 weeks.
3. Finished goods are in stock, on average one month.
4. Credit allowed by suppliers, one month.
5. Time lag in payment of wages 1.5 weeks.
6. Lag in payment of overheads is one month.
7. Debtors are allowed 6 weeks credit

20 % of the output is sold against cash. Cash in hand and at bank is expected to be Rs. 60,000. It is to be assumed that production is carried on evenly throughout the year, wages and overheads accrue similarly and a time period of 4 weeks is equivalent to a month.

Q.4 The Board of Directors of Rich and poor Co. Ltd. requests you to prepare statements showing the working capital requirement for a level of activity at 1,56,000 units of production.

	Per unties of (Rs.)
(A) Raw Materials	180
Direct Labour	80
Overheads	<u>150</u>
Total	410
Profit	<u>120</u>
Selling Price per unit	<u>530</u>

(B)

- (i) Ram materials are in stock, on average one month.
- (ii) Materials are in process, on average 2 weeks.
- (iii) Finished good are in stock, on average one month.
- (iv) Credit allowed by suppliers, one month.
- (v) Time lag in payment from debtors, 2 months.
- (vi) Average time lag in payment of wages, 1.5 weeks.
- (vii) Average time lag in payment of overheads is one month.

20% Of the output is sold against cash. Cash in hand and at bank is expected to be Rs. 1,20,000. It is to be assumed that production is carried on evenly throughout the year, wages, and overheads accrue evenly and a time period of 4 weeks is equivalent to month.

Note: WIP assumed 50% in respect of labour and overheads.

[Ans. 1,25,22,000]

Q.5 The following data is available from the cost sheet of a Company.

	(Cost per unit)
Raw Material	50
Direct Labour	20
Overhead (including depreciation of Rs. 10)	40
Total Cost	110
Profit	20
Selling Price	3130
Additional information.	

Average raw material in stock is for one month. Average material in progress is for half month. Credit allowed by suppliers is one month; credit allowed to debtors is 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 life in the warehouse for one month. You are required to prepare a statement showing the working capital needed to finance a level of the activity of 50,000 units of output. Production is carried out evenly throughout the year ad wages and overheads accrue similarly. State you assumptions is any, clearly.

Q.6 While preparing a project report on behalf of a client you have collected the following facts. Estimate the net working capital required for that project. Add 10% to your computed figure to allow contingencies..



Amount per unit Rs.

Estimated cost per unit of production is:

Raw Materials	80
Director Labour	30
Overhead (exclusive of depreciation)	60
Total Cost	170

Additional Information:

Selling price	Rs. 200 per unit
Level of activity	1,04,000 unit of production per annum.
Raw materials in stock	average 4 weeks
Work in progress (assume 50% completion stage in Respect of conversion costs)	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
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.

[Ans. 49,66,500]

- Q.7** The management of Royal industries has called for a statement showing the working capital to finance a level of activity of 1,80,000 units of output for the year. The cost structure for the company product for the above mentioned activity level in detailed below:

Cost per unit (Rs.)

Raw material	20
Direct labour	5
Overheads (including depreciation of Rs.5 per unit)	15
	<hr/>
	40
Profit	10
Selling Price	50

Additional Information: (a) Minimum desired cash balance is Rs. 20,000.

(b) Raw materials are held in stock on an average, for two months.

(c) Work in progress (assume 50% completion stage) will approximate to half -a- month's production

(d) Finished goods remain in warehouse, on an average, for a month.

(e) Suppliers of materials extend a month's credit and debtors are provided two month's credit cash sales are 25% of total sales.

(f) There is a time - lag in payment of wages of a month and half a month in the case of overheads.

From the above facts you are required to prepare a statement showing working capital requirements.

Note: Depreciation is a non - cash item therefore it has been excluded from total cost as well as working capital provided by overheads. Work in progress has been assumed to be 50% complete in respect of labour and overheads expenses.

(a) Expected level of production 1,20,000 units.

(b) Raw material to remain in stock on average 2 months.

(c) Processing period for each unit of product 1 months.

(d) Finished goods remain in stock on an average 3 months.

(e) Credit allowed to the customers from date of dispatch 3 months.

(f) Selling price per unit Rs. 10.

(g) Expected margin on sale 10%

(h) Expected ratios of cost to selling price:



- (i) Raw materials 60% (ii) Direct wages 10% (iii) Overheads 20%.
You are required to estimate the working capital requirements of the borrower.

Q.9 The management of A Ltd. desires to determine the quantum of working capital needed to finance the programme formulated to be put into operation with effect from April 2000. The following percentages, which various elements of cost bear to the selling price, have been extracted from the Performance cost sheet:

Materials 50%

Labour 20%

Overheads 10%

Production in 1999 was 200,000 units and it is proposed to maintain the same during 2000.

The following particulars are available:

(a) Raw materials are expected to remain in stores for an average period of one month before issue to Production.

Finished goods to stay in the warehouse for two months on the average before being sold out. Each unit of production will be in process for one month on the average.

Credit allowed by the suppliers is one month.

Credit allowed to Debtors is two months.

Selling price is Rs. 9 per unit.

Sales and production follow a consistent pattern.

Prepare an estimate of working capital requirement for A Ltd.

Q.10 A Performance cost sheet of a company provides the following particulars:

Elements of cost

Raw Materials	40 %
Labour	10 %
Overheads	30 %

- Raw Materials are to remain in stores on an average 6 weeks.
- Processing time 4 weeks.
- Finished goods are required to be in stock on an average period of 8 weeks.
- Credit period allowed to debtors, on average 10 weeks.
- Lag in payment of wages 2 weeks.
- Credit period allowed by creditors 4 weeks.
- Selling price Rs. 50 per unit.

You are required to prepare an estimate of working capital requirements adding 10 % margin for contingencies for a level of activity of 1,30,000 units of production.

[Ans: Working Capital required = Rs. 25,02,500]

Q.11 The management of A Ltd. desires to determine the quantum of working capital needed to finance the programme formulated to be put into operation with effect from April 2005. The following percentages which various elements of cost bear to the selling price have been extracted from the Performance cost sheet:

Materials 50%

Labour 20%

Overheads 10%

Production in 1999 was 2,00,000 units and it is proposed to maintain the same during 2005. The following particulars are available:

(a) Raw materials are expected to remain in stores for an average period of one month before issue to production.

(b) Finished goods to stay in the warehouse for two months on the average before being sold out.



- (c) Each unit of production will be in process for one month on the average.
 - (d) Credit allowed by the suppliers in one month.
 - (e) Credit allowed to debtors is two months.
 - (f) Selling price is Rs. 9 per unit.
 - (g) Sales and production follow a consistent pattern.
- Prepare an estimate of working capital requirement for A Ltd.

Q.12 The annual capacity of ABC Ltd. is to produce 1,20,000 units .The selling price is Rs.10 per unit .The ratios of cost to selling price are as follows:

Raw material	-	20%
Direct Wages	-	40%
Overheads	-	30%

Raw material remain in store on an average one month while processing takes two months with full materials and 50% of other expenses, Finished goods remain in warehouse for one month 25% sales is made against cash and rest at 3 months credit .The supplier provides one month credit and wages are paid 15 days in arrear. The company requires a minimum cash balance of Rs. 50,000.Prepara statement of working capital requirement of ABC Ltd. assuming 10% for contingencies.

Q.13. Mfg Company sells goods in the home market and earns a gross profit of 20 % on sales. Its annual figures are as follows:

Sales	3,00,000
Materials used	1,08,000
Wages	96,000
Mfg expenses	1,20,000
Administrative and other expenses	30,000
Selling and Distribution expenses	18,000
Depreciation	12,000
Income Tax payable in 4 installments of which one falls in the next financial year	60,000

- Credit given by suppliers of materials is 2 months.
- Credit allowed to customers is 1 month.
- Wages are paid half a month in arrear.
- Mfg and administrative expenses are paid one month in arrear.
- Selling and distribution expenses are paid quarterly in advance.
- The company wishes to keep one month stock of raw materials and also of finished goods.
- The company believes in keeping cash of Rs. 50,000 including the overdraft limit of Rs. 20,000 not yield utilized by the company.
- You are required to prepare a statement showing the working capital requirements of the company adding 10% margin for contingencies.

[Ans Rs. 53,900: Depreciation and Income Tax have been ignored.]

Q14. 'XYZ' Ltd. sells its products on a gross profit of 20% of sales. The following information is extracted from its annual accounts for the year ending 31st Dec., 1999 :

	Rs
Sales (At 3 months credit)	40,00,000
Raw Materials	12,00,000
Wages (15 Days in Arrears)	9,60,000
Manufacturing and General Expenses (One month in arrear)	12,00,000

Administration. Expenses (One month in arrear)	4,80,000
Sales Promotion Expenses (Payable Half Yearly in Advance)	2,00,000

The company enjoys one months credit from the suppliers of raw material and maintains: two months



stock of raw materials and one and a half month of finished goods. Cash balance is maintained at Rs. 1,00,000 as a precautionary balance. Assuming 10% margin, find out the working capital requirement of XYZ Ltd.

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Leverage

In generic sense leverage means **influence of power** i.e. utilizing the existing resources to attain something else.

In finance it means the influence of independent financial variable on dependent financial variable. It explains how the dependent variable responds to a particular change in the independent variable. If **X** is an independent financial variable and **Y** is dependent financial variable, then the leverage which **y** has with **X** can be assessed by the percentage change in **Y** to a percentage change in **X**. Percentage Change in Y/Percentage Change in X

Measures of Leverage

- Operating leverage
- Financial Leverage
- Combined/Total Leverage

Operating Leverage

Operating leverage examines the effect of the change in the quantity produced on EBIT of the company and is measured by calculating Degree of Operating Leverage (DOL)

DOL = % change in EBIT / % change in SALES

DOL = CONTRIBUTION / EBIT

Inference: If DOL of a company is 3 it means, a 10% increase or decrease in the level of output will increase or decrease the operating income by 30%.

Operating BEP (Q): $F / (S - V)$ or
Fixed cost / Contribution

Financial Leverage

Financial leverage measures the effect of change in EBIT on the EPS of the company. Financial leverage also refers to the mix of debt and equity in the capital structure of the company. Financial leverage specifies

DFL = % change in EPS / % change in EBIT

DFL = EBIT / EBT

Financial Break Even DFL (EBIT amount) = EBIT

Combined / Composite Leverage

Combination of operating and financial leverages is the total combined leverage. Thus the degree of total leverage (DCL) is the measure of the output and the EPS of the company. DTL is the product of DOL and DFL.

DCL = % change in EPS / % change in output

DCL = DOL * DFL

= Contribution / EBT

Overall BEP (Q) = $F + I + D_p / [(1-t) / (S-V)]$

Q1. A company's capital structure consists of Rs. 5, 00,000 (Shares of Rs. 100 each) equity capital and Rs. 2, 00,000 10 % Debentures. The sales increased by 20% from 50,000 units to 60,000 units: the selling price is Rs. 10 per unit; variable cost amount to Rs. 6 per unit and fixed expenses amount to Rs. 1, 00,000. The rate of income tax is assumed to be 50 per cent.

You are required to calculate:

1. The percentage increase in earnings per share.
2. The degree of financial leverage at 50,000 and 60,000 units.
3. The degree of operating leverage at 50,000 units and 60,000 units.

[ANS. 1) 50% 2) 1.25 & 1.17 3) 2 & 1.71]



Q2. Calculate financial leverage and operating leverage under situation A and B and Financial Plans I and II respectively from the following information relating to the operation and capital structure of ABC Ltd.

Installed capacity	1,000 units
Actual production and sales	800 units
Selling price per unit	Rs. 20
Variable cost per unit	Rs. 15
Fixed cost: Situation A	Rs. 800
Situation B	Rs. 1,500
Capital Structure:	Financial Plan
	I II
Equity	Rs. 5,000 Rs. 7,000
10% Debt	Rs. 5,000 Rs. 2,000

How will various calculations be useful to the Financial Manager of the company?

[ANS. FL = 1.19, 1.067, 1.25, 1.087 and OL = 1.25 and 1.60]

Q3. Balance Sheet of X Ltd as on 31-3-2000 is as follows:

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Equity Capital (Rs. 10 per share)	60,000	Net fixed assets	1,50,000
10 % Debentures	80,000	Current assets	50,000
Retained earnings	20,000		
Current liabilities	40,000		
	2,00,000		2,00,000

The company's total assets turnover ratio is 3. Its fixed operating costs are Rs. 1, 00,000 and its variable operating cost ratio is 40%, the income tax rate is 50%.

1. Calculate for the company all the 3 types of leverages.
2. Determine the likely level of EBIT if EPS is Rs. 5.

[ANS. 1) OL = 1.385, FL = 1.0317, CL= 1.429; 2) EBIT = Rs. 68,000]

Q4. Information given below relates to Co. A:

Retained Earnings, Rs. 24,000; Payout Ratio, 60%; Tax Rate, 40%; Financial Leverage 5; Operating Leverage, 4; contribution to Sales, 0.6.

(a) Construct the Income Statement of the Company.

(b) What will be the new operating leverage, financial leverage and retained earnings, if sales increases by 50%, while payout ratio, fixed cost, interest, and contribution to sales remain unchanged.

Q5. The selected financial data for A, B and C companies for the year ended December 31, 2000 are as follows

	A	B	C
Variable expenses as a percentage of sales	66 ² / ₃	75	50
Interest expenses	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	0.50	0.50	0.50

Prepare income statements for A, B and C companies.

[ANS. Profit after tax = Rs. 50, Rs. 50 and Rs. 500]

Q6. A firm has sales of Rs. 10,00,000 variable cost Rs. 7,00,000 and fixed cost Rs. 2,00,000 and debt of Rs. 5,00,000 at rate of interest. What are the operating and financial leverages?



[Ans. = O.L. = 2 F.L. = 2]

Q7. A firm has sales of Rs. 20,00,000 variable cost Rs. 14,00,000 fixed costs of Rs. 4,00,000 and debentures of 10,00,000 in its capital structure obtained @ 10 percent. What are its financial leverage operating leverage combined Leverage?
[Ans. = O.L. = 3;F.L. = 2]

Q8. A firm has sales of Rs. 10,00,000 variable cost Rs. 7,00,000 and Fixed cost Rs. 2,00,000 and debt of Rs. 5,00,000 at 10% rate of interest.
What are he operating and financial leverages?
[Ans. = O.L. =3; F.L. = 2]

Q9. (a) Find the operating leverage from the following:

Sales Rs. 5,00,000
Variable costs Rs. 60%
Fixed costs Rs. 1,20,000

(b) Find the financial leverage from the following data:

Net worth Rs. 50,00,000
Debt/Equity 3/1
Interest rate 12%
Operating profit Rs. 40,00,000

[Ans. = O.L. = 2.5;F.L. = 1.81]

Q10. The following data are available for X Ltd.:

Selling price pre unit = Rs. 120
Variable Cost pre unit = Rs.70
Fixed cost = Rs. 2,00,000

- (i) What is the operating leverage when X Ltd. Produces and sell 6,000 units?
(ii) What is the percentage change that will occur in EBIT of X Ltd. If output Increases by 5%?

[Ans = O.L. = 3 ;(ii) = 15%]

Q11. X Corporation has estimated that for a new product its break – even point is 2000 units, if the item is sold for Rs. 14 per unit. The cost account department has currently identified variable cost of Rs. 9 per unit. Calculate the degree of operating leverage for sales volume of 2,500 units and 3,000 units. What do you infer from the degree of operation leverage at the sales volume of 2,500 units and 3,000 units. And their difference, if any?

[Ans. 5 & 3]

Q12. Calculate degree of operating leverage financial leverage and combined leverage from the following data sales 1,00,000 units @ Rs.2 per unit – Rs. 2,00,000
Variable cost per unit @ Rs. 0.07
Fixed costs – Rs. 1,00,000
Interest charges – Rs. 3,668

[Ans 4.33;1.14;4.94]

Q13. The following financial data have been furnished by A Ltd. And B Ltd for the Year ended 31.3.2003:

	A Ltd.	B Ltd.
Operating	3:1	4:1
Financial leverage	2:1	3:1
Interest charges per annum	Rs. 12 lakhs	Rs. 10 Lakhs
Corporate tax rate	40%	40%
Variable cost as % of sales	60%	50%



Prepare income statement of the two companies.

Q.14 Retained Earning of a firm are Rs. 1,26,000. Its pay – put ratio is 30%. It pays 40% tax on income. It's financial leverage and operating are 4.3 and 1.5 respectively. The variable cost to sales revenue is 40% determine its sales revenue.

Q.15 A company has sales of Rs. 5,00,000 variable costs of Rs. 3,00,000 fixed costs of Rs. 1,00,000 and long term loans of Rs. 4,00,000 at 10% rate of interest. Calculate the composite leverage.

Q.16 The following figures relate to two companies

	P.LTD.	Q.LTD. (In Rs. lakhs)
Sales	500	1000
Variable costs	<u>200</u>	<u>300</u>
Contribution	300	700
Fixed costs	<u>150</u>	<u>400</u>
	150	300
Interest	<u>50</u>	<u>100</u>
Profit before Tax	<u>100</u>	<u>200</u>

- (i) Calculate the operating, financial and combined leverages for the two companies: and
(ii) Comment on the relative risk position of them.

Q.17 A firm has sales of Rs. 20,00,000, variable cost of Rs. 14,00,000 and fixed costs of Rs. 4,00,000 and debt of Rs. 10,00,000 at 10% rate of interest. What are the operating, Financial and combined Leverages? If the wants to double its Earnings before Interest and Tax (DBIT),How much of rise in sales would be needed on a percentage basis?

Q.18 Calculate the operating financial and combined leverage from the following information :

Interest	Rs. 5,000
Sales	Rs. 50,000
Variable Cost	Rs. 25,000
Fixed Costs	Rs. 15,000

[Ans. O.L.=2.5 ,C.L. =5]

ALTERNATE FORMULAE TO

LEVERAGE Q.19 Malhotra Ltd. has following information :

	Rs. In Lakhs
EBIT	1120
PBT	320
Fixed cost	700

Calculate Percentage change in E.P.S, if sales increased by 5%.

Q.20 The following information is available for Vasooli Bhai Ltd.

Sales	Rs 2,00,000
Less : Variable cost	60,000
Contribution	1,40,000
Fixed cost	1,00,000
EBIT	40,000
Less : Interest	5,000



Profit before tax	35,000
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1. Using the concept of financial leverage, by what percentage will the taxable income increase if EBIT increase by 6%
2. Using the concept of operating leverage, by what percentage will EBIT increase if there is 10% increase in sales, and
3. Using the concept of leverage, by what percentage will the taxable income increase if the sales increase by 6%. Also verify in view of the above figures.

Q.21 The following is the income statement of Golmaal Returns Ltd. for the year.

Sales	Rs 50 lacs
Less : variable cost	10 lacs
Contribution	40 lacs
Less : Fixed cost	20 lacs
EBIT	20 lacs
Less : Interest	5 lacs
Profit before tax	15 lacs
Less : Tax at 40%	6 lacs
Profit after tax	9 lacs
Less : Preference dividend	1 lacs
Profit for equity shareholder	8 lacs

The company has 4,00,000 equity shares issued to the shareholders.

- a) Find out the degree of degree of operating, Financial and Combined leverage.
- b) What would be the EPS if the sales level increases by 10%.