

## 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

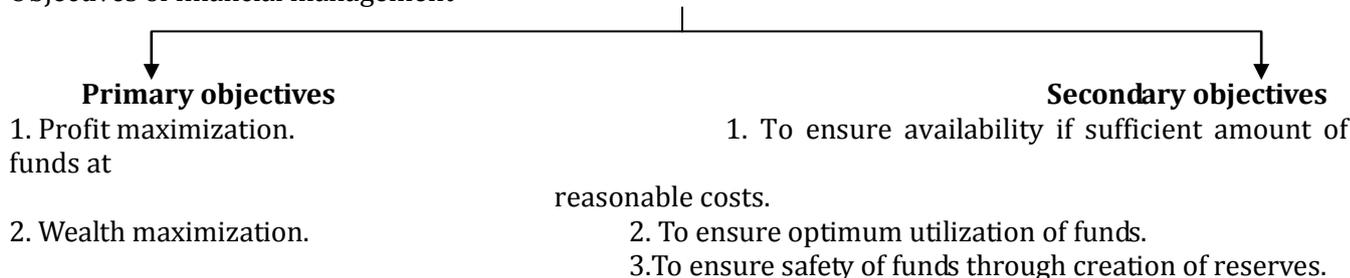
More specifically, Financial Management is concerned with making the following **four decisions**:

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 :**

- a. If completely ignore the decision making to the proper utilization of funds.
- b. If ignores the important issue of working capital finance and management.
- c. If ignore issue of allocation of funds.
- d. 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-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 :**

i. **Seasonal working capital:** It is required to meet seasonal demands.

ii. **Special working capital:** It is required to meet special occasion such as launching of extensive marketing campaign.

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

1. **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.

2. **Credit policy:** Liberal credit policy will require higher and strict dividend policy will require low working capital.

3. **Production cycle:** If length of production cycle is big it will require larger working capital and vice versa.

4. **Seasonal operations:** Larger amounts of working capital is required for seasonal products because they are produced once and sold throughout the year.

5. **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.

6. **Business cycle fluctuations:** During Boom, higher working capital is required and lesser working capital is required during depression.

7. **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

It is estimated that:

- 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:

	<b>Cost per unit</b>
• Raw Materials	20
• Direct Labour	5
• Overheads	<u>15</u>
• Total	40
• Profit	<u>10</u>
• Selling price	<u>50</u>

1. 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.
2. Finished goods remain in warehouse, on an average for a month.
3. Suppliers of materials extend a months credit.
4. Two months credit is allowed to debtors, calculation of debtors may be made at selling price.
5. A minimum cash balance of Rs. 25,000 is expected to be maintained.
6. 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:

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

- (B)** Raw materials are in stock, on average one month.
1. Materials are in process, on average 2 weeks.
  2. Finished goods are in stock, on average one month.
  3. Credit allowed by suppliers, one month.
  4. Time lag in payment of wages 1.5 weeks.

5. Lag in payment of overheads is one month.  
 6. 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 unities of (Rs.)
<b>(A)</b> Raw Materials	180
Direct Labour	80
Overheads	<u>150</u>
Total	<u>410</u>
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.

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

(Cost per unit)

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	1,04,000unit 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.

Alls 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:

	<b>Cost per unit (Rs.)</b>
Raw material	20
Direct labour	5
Overheads (including depreciation of Rs.5 per unit)	15
	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.

**Q.8** The following information has been submitted by a borrower:

(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 Performa cost sheet of a company provides the following particulars:

Elements of cost

Raw Materials	40 %
Labour	10 %
Overheads	30 %

The following further particulars are available:

- 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 programmed formulated to be put into operation will effect from April 2005 .The following percentages which various elements of cost bear to the selling price have been extracted from the Performa 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 say in the warehouse for two months on the average before 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. Prepare a 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

Additional information is as follows:

- 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.

### 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.



**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>
Interest	150	300
Profit before Tax	<u>50</u>	<u>100</u>
	<u>100</u>	<u>200</u>

You are required to:

- (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

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.

<b>Sales</b>	<b>Rs 50 lacs</b>
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%.