Certified Financial Management Professional Sample Material

1. OVERVIEW

1.1. Introduction to Financial Management

Finance is defined as the provision of money at the time when it is required. Every enterprise, whether big, medium, small, needs finance to carry on its operations and to achieve its target. In fact, finance is so indispensable today that it is rightly said to be the blood of an enterprise. Without adequate finance, no enterprise can possibly accomplish its objectives.

✓ **Meaning of Financial Management:** Financial management refers to that part of the management activity, which is concerned with the planning, & controlling of firm's financial resources. It deals with finding out various sources for raising funds for the firm. Financial management is practiced by many corporate firms and can be called Corporation finance or Business Finance.

✓ **According to Guttmann and Doug all:** "Business finance can be broadly defined as the activity concerned with the planning, raising controlling and administrating the funds used in the business."

✓ **According to Joseph & Massie:** "Financial Management is the operational activity of a business that is responsible for obtaining and effectively utilizing the funds necessary for efficient operations" Financial Management is the application of the general management principles in the area of financial decision-making, namely in the areas of investment of funds, financing various activities, and disposal of profits.

Financial management is the art of planning; organizing, directing and controlling of the procurement and utilization of the funds and safe disposal of profits to the end those individual, organizational and social objectives are accomplished.
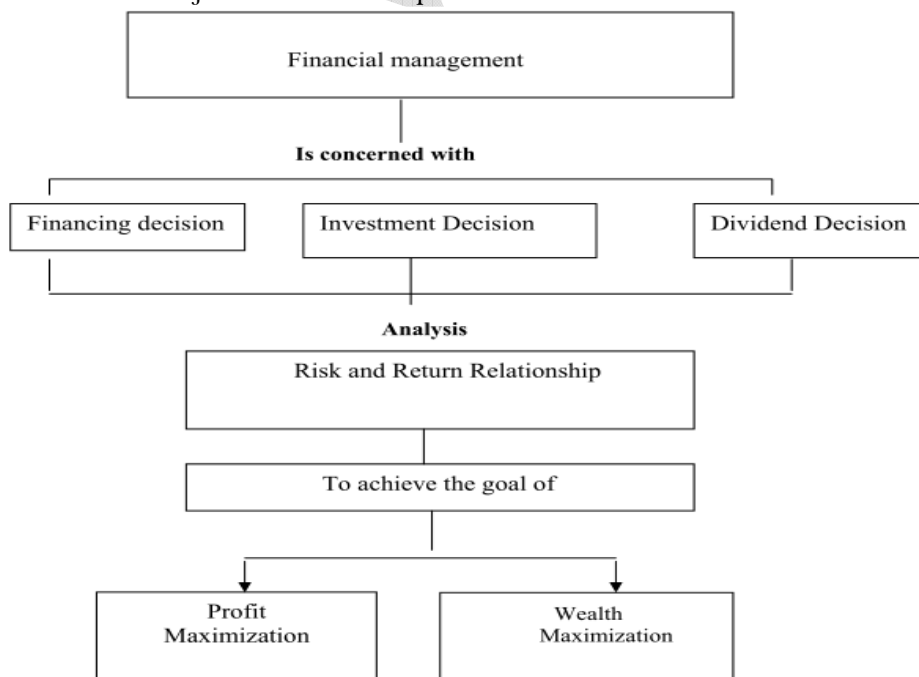

Figure: 1.1 Financial Management Interrelationships

Functions of Financial Management

A financial manager has to concentrate on the following areas of the finance function.
- ✓ **Estimating Financial Requirements:** The first task of the financial manager is to estimate short term and long-term financial requirement of his business. For this purpose, he will prepare a financial plan for present as well as future. The amount required for purchasing fixed assets as well as the needs of funds for working capital has to be ascertained. The estimation should be based on the sound financial principles so that neither there are inadequate or excess funds with the concern. The inadequacy will affect the working of the concern and excess funds may tempt a management to indulge in extravagant spending.
- ✓ **Deciding Capital Structure:** The capital structure refers to the kind and proportion of the different securities for raising funds. After deciding about the quantum of funds required it should be decided which type of security should be raised. It may be wise to finance fixed securities through long term debts. Long-term funds should be employed to finance working capital also. Decision about various sources of funds should be linked to cost of raising funds. If cost of rising funds is high, then such sources may not be useful. A decision about the kind of the securities to be employed and the proportion in which these should be used is an important decision which influences the short term and the long term planning of the enterprise.
- ✓ **Selecting a Source of Finance:** After preparing a capital structure, an appropriate source of finance is selected. Various sources from which finance may be raised, includes share capital, debentures, financial deposits etc. If finance is needed for short periods then banks, public's deposits, financial institutions may be appropriate. If long-term finance is required the share capital, debentures may be useful.
- ✓ **Selecting a Pattern of Investment:** When fund have been procured then a decision about investment pattern is to be taken. The selection of investment pattern is related to the use of the funds. A decision has to be taken as to which assets are to be purchased? The fund will have to be spent first. Fixed asset and the appropriate portion will be retained for the working capital. The decision making techniques such as capital Budgeting, opportunity cost analysis may be applied in making decision about capital expenditures. While spending in various assets, the principles of safety, profitability, and liquidity should not be ignored.
- ✓ **Proper Cash Management:** Cash management is an important task of financial manager. He has to assess the various cash needs at different times and then make arrangements for arranging cash. Cash may be required to make payments to creditors, purchasing raw material, meet wage bills, and meet day to day expenses. The sources of cash may be Cash sales, Collection of debts, Short-term arrangement with the banks. The cash management should be such that neither there is shortage of it and nor it is idle. Any shortage of cash will damage the creditworthiness of the enterprise. The idle cash with the business mean that it is nit properly used. Through Cash Flow Statement one is able to find out various sources and applications of cash.

- ✓ **Implementing Financial Controls:** An efficient system of financial management necessitates the use of various control devices. Financial control device generally used are;
  - ✓ Return Investment
  - ✓ Ratio analysis
  - ✓ Break even analysis
  - ✓ Cost control
  - ✓ Cost and internal audit.

- ✓ **The use of various control techniques:** This will help the financial manager in evaluating the performance in various Areas and take corrective measures whenever needed.
- ✓ **Proper use of Surpluses:** The utilization of profits or surpluses as also an important factor in financial management. A judicious use of surpluses is essential for the expansion and diversification plans and also protecting the interest of the shareholders. The ploughing back of profit is the best policy of further financing. A balance should be struck in using the funds for paying dividends and retaining earnings for financing expansion plans.

Objectives of the Financial Management

The main objective of a business is to maximize the owner's economic welfare. Financial management provides a framework for selecting a proper course of action and deciding a commercial strategy.

The objectives can be achieved by:
- ✓ Profit maximization
- ✓ Wealth maximization

Profit Maximization: Profit earning is the main aim of every economic activity. A business being an economic institution must earn profit to cover its cists and provide funds for growth. No business ca survives without earning profit. Profit is a measure of efficiency of a business enterprise. Profit also serves as a protection against risks which cannot be ensured.

Arguments in favor of Profit Maximization
- ✓ When profit earning is the aim of the business then the profit maximization should be the obvious objective.
- ✓ Profitability is the barometer for measuring the efficiency and economic prosperity of a business enterprise, thus profit maximization is justified on the ground of the rationality.
- ✓ Profits are the main source of finance for the growth of the business. So a business should aim at maximization of the profits for enabling its growth and development. =
- ✓ Profitability is essential for fulfilling the social goals also. A firm by pursuing the objectives of profits maximization also maximizes the socio economic welfare.
- ✓ A business may be able to survive under unfavorable condition only if it had some past earnings to rely upon.

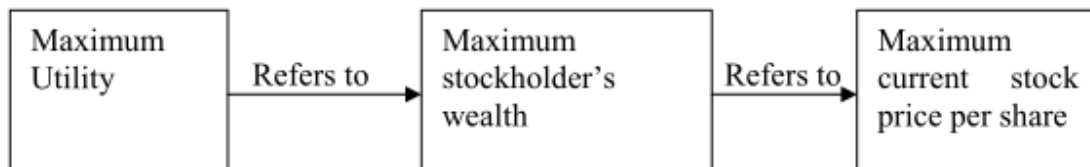### Arguments against of Profit Maximization
- ✓ It is precisely defined. It means different things for different people. The term 'Profit' is vague and it cannot be precisely defined. It means different things for different people. Should we mean (i) Short term profit or long term profit? (ii) Total profit or earning per share? (iii) Profit before tax or after tax? (iv)Operating profit or profit available for the shareholders?
- ✓ It ignores the time value of money and does not consider the magnitude and the timing of earnings. It treats all the earnings as equal though they occur in different time periods. It ignores the fact that the cash received today is more important than the same amount if cash received after, say, three years.
- ✓ It does not take into consideration the risk of the prospective earning stream. Some projects are more risky than others. Two firms may have same expected earnings per share, but if the earning stream in one is more risky the market share of its share will be comparatively less.

✓ The effect of the dividend policy on the market price of the shares is also not considered in the objective of the profit maximization. In case, earnings per share is the only objective then the enterprise may not think of paying dividends at all because it retains profits in the business or investing them in the market may satisfy this aim.
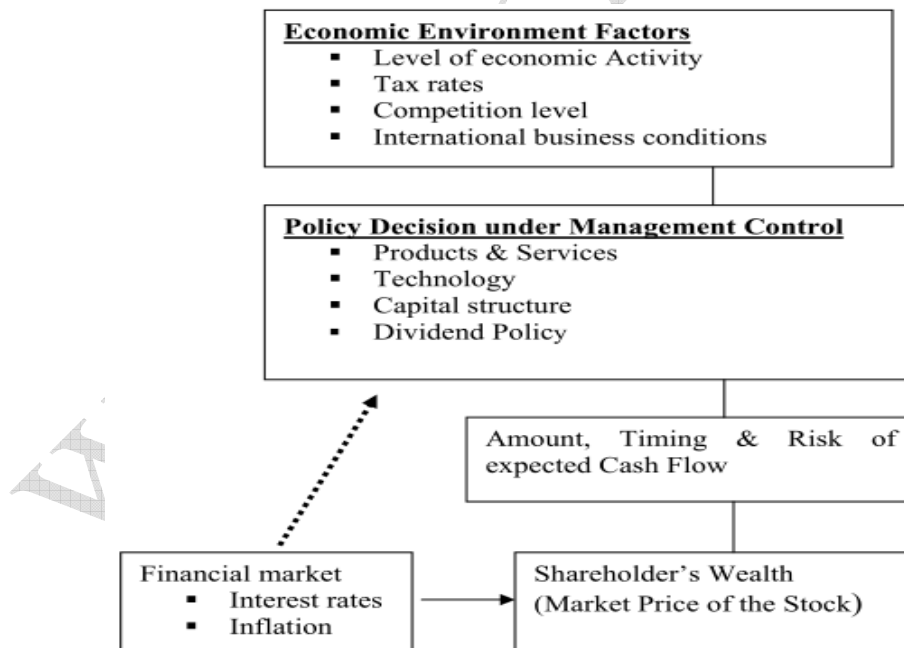
Wealth Maximization: Financial theory asserts that the wealth maximization is the single substitute for a stake holder's utility. When the firm maximizes the shareholder's wealth, the individual stakeholders can use this wealth to maximize his individual utility. It means that by maximizing stakeholder's wealth the firm is operating consistently toward maximizing stakeholder's utility. A stake solder's wealth in the firm is the product of the numbers of the shares owned, multiplied within the current stock price per share.

Stockholder's current wealth in the firm = (No. Of shares owned) * (Current stock price per share)
Higher the stock price per share, the greater will be the shareholder's wealth. Thus a firm should aim at maximizing its current stock price, which helps in increasing the value of shares in the market.

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┌──────────────┐           ┌──────────────┐           ┌──────────────┐
│ Maximum      │  Refers to│ Maximum      │  Refers to│ Maximum      │
│ Utility      │──────────▶│ stockholder's│──────────▶│ current  stock│
│              │           │ wealth       │           │ price per share│
└──────────────┘           └──────────────┘           └──────────────┘
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FACTORS AFFECTING THE STOCK PRICES

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┌─────────────────────────────────────────┐
│ Economic Environment Factors             │
│   ▪ Level of economic Activity           │
│   ▪ Tax rates                            │
│   ▪ Competition level                    │
│   ▪ International business conditions     │
└─────────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────────┐
│ Policy Decision under Management Control  │
│   ▪ Products & Services                  │
│   ▪ Technology                           │
│   ▪ Capital structure                    │
│   ▪ Dividend Policy                      │
└─────────────────────────────────────────┘
                    │
                    ▼
          ┌──────────────────────────┐
          │ Amount, Timing & Risk of  │
          │ expected Cash Flow        │
          └──────────────────────────┘
                    │
┌──────────────────┐     ▼
│ Financial market │   ┌──────────────────────────┐
│   ▪ Interest rates│──▶│ Shareholder's Wealth      │
│   ▪ Inflation    │   │ (Market Price of the Stock)│
└──────────────────┘   └──────────────────────────┘
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Implication of the wealth maximization:
✓ The Concept of wealth maximization is universally accepted, because it takes care of interest of financial institution, owners, employees and society at large.
✓ Wealth maximization guides the management in framing the consistent strong dividend policy to reach maximum returns to the equity holders.

✓ Wealth maximization objective not only serves the interest of the shareholder's by increasing the value of their holdings but also ensures the security to the lenders.

Criticism of wealth maximization:
✓ It is a prescriptive idea. The objective is not descriptive of what the firm actually does.
✓ The objective of wealth maximization is not necessarily socially desirable.
✓ There is some controversy as to whether the objective is to maximize the stockholder's wealth or the wealth of the firm, which includes other financial claimholder's such as debenture holders, preference shareholders.
✓ The objective of wealth maximization may also face difficulties when ownership and management are separated, as is the case in most of the corporate form of organizations. When managers act as the agents of the real owner, there is the possibility for a conflict of interest between shareholders and the managerial interests.

1.2. Financial Instruments: Equity Shares, Preference Shares, Right Issue

Why there is a need for Finance
Every business needs funds both for short term and long term. They may need working capital, or, fixed capital. The finance may be obtained from the varied sources and through various instruments. The various sources of finance include shareholders, financial instruments, and financial institutions and so on. The funds can be collected through various instruments such as equity shares, convertible bonds, non- convertible debentures, fixed deposits, loan agreements, and so on. The finance is needed at various stages and for various purposes like promoting a business, smooth conduct of business activities.

Methods of Raising Finance

✓ **Public Issue of Shares:** The Company can raise a substantial amount of fixed capital by issue of shares- equity and preference. In India, however, equity shares are more popular as compared to preference shares. The issue of shares requires a number of formalities to be completed such as approval of prospectus by S.E.B.I., appointment of underwriters, bankers, and registrars to the issue, filing of the prospectus with the registrar of companies, and so on.
✓ **Rights Issue of Shares:** A Right issue is issue of shares to the existing shareholders of the company through a Letter of Offer made in first instance to the existing shareholders on pro data basis. The shareholders have a choice to forfeit this right partially or fully. The company, then issue this additional capital to public. This is an inexpensive method as underwriting commission, brokerage are very small. Rights issue prevents dilution of control but it may conflict with the broader objective of wider diffusion of share capital.
✓ **Private Placement of Shares:** This is a method of raising funds from a group of financial institutions and others who are ready to invest in the company.
✓ **Issue of Debentures:** There are companies who collect long term funds by issuing debentures-convertible, or, non convertible. Convertible debentures are very popular in the Indian market.
✓ **Long Term Loans:** The Company may also obtain long term loans from banks and financial institutions like I.D.B.I., I.C.I.C.I., and so on. The funding of term loans by financial institutions often acts as an inducement for the investors to sub- scribe for the shares of the company. This is, because, the financial institutions study the project report of the company

before sanctioning loans. This creates confidence in the investors, and they too, lend money to the company in form of shares, debentures, fixed deposits, and so on.

✓ **Accumulated Earnings (Reserves):** The Company often resorts to ploughing back of profits that, is, retaining a part of profits instead of distributing the entire amount to shareholders by way of dividend. Such accumulated earnings are very useful at the time of replacements, or, purchases of additional fixed assets.

We will discuss rights issue in detail.

✓ **Rights Issue:** Rights issue is an invitation to the existing shareholders to subscribe for further shares to be issued by a company. A right simply means an option to buy certain securities at a certain privileged price within a certain specified period. The Company Act, 1956 lays down the manner in which further issue of shares, whether equity or preference, is to be made so as to ensure equitable distribution of shares without disturbing the established equilibrium of shareholding in the company. According to Section 81 of the Companies Act, whenever a public limited company proposes to increase its subscribed capital by the allotment of further shares, after the expiry of two years from the formation of the company or the expiry of one year from the first allotment of shares in the company, whichever is earlier, the following conditions or procedure must be followed:

✓ Such shares must be offered to holders of equity shares in proportion, as nearly as circumstances admit, to the capital paid-up on those share.
✓ The offer must be made by giving a notice specifying the number of shares offered.
✓ The offer must be made to accept the shares within a period specified in the notice being not than 15 days.
✓ Unless the articles of association of the company provide otherwise, the notice must also state that the shareholder has the right to renounce all or any of the shares offered to him in favor of his nominees.

Shares so offered to existing shareholders are called **Right Shares** as the existing equity shareholders of the public company have a first right of allotment of further shares. The offer of such shares to the existing equity shareholder is known as **Privileged Subscription or Right Issue.** The prior right of the shareholders is also known as pre-emptive right. After expiry of the time specified in the notice or on receipt of earlier information from the shareholder declining to accept the shares offered, the Board of Directors may dispose them off in such a manner as they think most beneficial to the company.

Advantages of Rights Issue
✓ It ensures that the control of the company is preserved in the hands of the existing shareholders.
✓ The expenses to be incurred, otherwise if shares are offered to the public, are avoided
✓ There is more certainty of the shares being sold to the existing shareholders.
✓ It betters the image of the company and stimulates enthusiastic response from shareholders and the investment market.
✓ It ensures that the directors do not misuse the opportunity of issuing new shares to their relatives and friends at lower prices on the one hand and on the other get more controlling rights in the company.

- **Financial Instruments:** The capital of a joint stock company can be divided into "Owned capital" and "Borrowed capital". Owned capital means the capital of the owners which comprises of shares, both preference and equity and borrowed capital comprises of debentures, fixed deposits and bonds.
- **Shares:** A share can be defined as "A fraction part of the capital of the company which forms the basis of ownership and interest of a subscriber in the company". Precisely, a share is a small part of the total capital. When the owned capital is divided into a number of equal parts, then, each part is called as a share. A person who contributes for a share is called as a share-holder.
- **Types of shares:** Shares can be broadly divided into equity shares and preference shares
- **Equity Shares:** Shares which enjoy dividend and right to participate in the management of Joint Stock Company are called equity shares, or, ordinary shares. They are the owners and real risk bearers of the company. Equity shares can be defined as per as our Indian Companies Act (1956) as, "Shares which are not preference shares are equity shares, or, ordinary shares". Equity shareholders are the real owners of the company and, therefore, they are eligible to share the profits of the company. The share given to equity shareholders in profits is called "Dividend". At the time of winding of company, the capital is paid back last to them after all other claims have been paid in full.

Advantages of Equity Shares:
- The company has no immediate liability to pay it.
- No fixed dividend obligation.
- Increases creditworthiness of business, ceteris paribus.
- No charge created on assets of the business.
- Shareholders control the company.
- Limited liability of the investors
- High dividends
- No collateral security needed.
- Increases firm credibility.

Disadvantages of Equity Shares:
- Equity dividend not tax- deductible
- High cost of equity issue
- Gradual dilution of shareholder's control over business
- Manipulation by a few shareholders
- Dividend at the discretion of the Directors
- Very risky investment
- Residual claim on investments

Preference Share: Shares which enjoy preference as regards dividend payment and capital repayment are called "Preference Shares". They get dividend before equity holders. They get back their capital before equity holders in the event of winding up of the company. The owners of these shares have a preference for dividend and a first claim for return of capital; when the company is closed down. But, their dividend rate is fixed. Preference share can be of following types:

- **Cumulative Preference Shares:** Such shareholders have a right to claim the dividend. If, dividend is not paid to them, then, such dividend gets accumulated, and, therefore, they are called as "Cumulative Preference shares".

✓ **Non-** Cumulative Preference Shares: They are exactly opposite to cumulative preference shares. Their right to get dividend lapses if, they are not paid dividend and it does not get accumulated. Thus, their right to claim dividend for the past years will lapse and will not be accumulated.

✓ **Participating Preference Shares:** Such shareholders have a right to participate in the excess profits of the company, in addition to their usual dividend. Thus, if, there are excess profits and huge dividends, are declared in the equity shares, the holders of these all shares get a second round of dividend along with equity shareholders; after a dividend at a certain rate has been paid to equity shareholders.

✓ **Non- Participating Preference Shares:** Such shareholders do not have any right to share excess profits. They get only fixed dividend.

✓ **Convertible Preference Shares:** Such shares can be converted into equity shares, at the option of the company.

✓ **Redeemable Preference Shares:** Such shares are to be redeemed, or, paid back in cash to the holders after a period of time.

✓ **Non- Redeemable Preference Shares:** Such shares are not paid in cash during the life of the company.

Merits of Preference Shares
✓ Fixed dividend
✓ First claim on company assets
✓ Cost of capital is low
✓ No dilution over control
✓ No dividend obligation
✓ No redemption liability.

Demerits of Preference Shares:
✓ Not a very high dividend rate.
✓ No voting rights.
✓ Dividends paid are not tax- deductible.
✓ Non payment of dividend affects firm.

1.3. Debts: Debentures, Types of Debentures

DEBENTURES: When borrowed capital is divided into equal parts, then, each part is called as a debenture. Debenture represents debt, for such debts company pays interest at regular intervals. It represents borrowed capital and a debenture holder is the creditor of the company.

Debenture holder provides loan to the company and he has nothing to do with the management of the company.

Kinds of Debentures: A company can issue different kinds of debentures.

✓ **Registered and Bearer Debentures:** This classification of debentures is made on the basis of transferability of debentures. Registered debentures are those in respect of which the names, addresses, and particulars of the holdings of debenture holders are entered in a register kept by the company. The transfer of ownership of such debentures is possible through a regular

instrument of transfer which is duly signed by the transferee and the transferor. However, the transfers are freely allowed through the execution of a regular Transfer Deed. Only formal approval of the Board is necessary. Interest on such debentures is paid through interest warrants. Bearer debentures are transferable by mere delivery. They are freely negotiable instruments. The company keeps no records of the debenture- holders in the case of bearer debentures. Such debentures are similar to Share Warrants; the interest on them is paid by means of attached coupons which en-cashed by the holder are as and when cash falls due. On maturity, the principal sum of Bearer Debenture is paid back to the holder.

✓ **Secured and Unsecured Debentures:** This classification is made on the basis of security offered to debenture-holders. Secured debentures are those which are secured by some safe charge on the property of the company. The charge or, mortgage may be "Fixed", or, "Floating", and thus, there may be "Fixed Mortgage Debentures", or, "Floating Mortgage Debentures" depending upon the nature of charge under the category of Secured Debentures. Unsecured, or, Naked Debentures are those that, are secured by any charge on the assets of the company. The holders of such debentures are like ordinary creditors of the company. The general solvency of the company is the only security available to unsecured or, naked debentures.

✓ **Redeemable And Irredeemable Debentures:** This classification is made on the basis of terms of repayment. Redeemable Debentures are for fixed period and they provide for payment of the principal sum on specified date, or, on demand, or, notice. Irredeemable Debentures are not issued for a fixed period. The issuing company does not fix any date by which the principal would be paid back. The holders of such debentures cannot demand payment from the company so long as it is a going concern. Such debentures are perpetual in nature as they are payable after a long time, or, on winding up of the company.

✓ **Convertible And Non- Convertible Debentures:** This classification is made on the convertibility of the debentures. Convertible Debentures are those which are convertible into Equity Shares on maturity as per the terms of issue. Convertible Debentures are those which are convertible into equity shares on maturity as per the terms of issue. Convertible debentures are now popular in our India and many companies issue convertible debentures which are automatically converted into shares after a fixed period, or, date (usually, after three years). The rate of exchange of debentures into shares is also decided at the time of issue of debentures. Interest is paid on such debentures till conversion. Such debentures are popular with the investing class. Non- Convertible Debentures are not convertible into Equity Shares after some period, or, on maturity. Prior approval of the shareholders is necessary for the issue of convertible debentures. It also requires sanction of the central government. The conversion of debentures into shares particularly of profitable companies is always advantageous to debenture holders as well as to the company.

Demerits of Debentures
✓ Interest obligatory
✓ High liability
✓ Charged against assets
✓ Not meant for weak firms.

Merits of Debentures
- ✓ Issuing is cheap
- ✓ No dilution of control
- ✓ Best for depression periods

1.4. Indian Financial System

Savings mobilization and promotion of investment are functions of the stock and capital markets, which are a part of the organized financial system in India. The objective of all economic activity is to promote the well being and standard of living of the people, which depends on the income and distribution of income in terms of real goods and services in the economy. The production of output, which is vital to the growth process in the economy, is a function of the many inputs used in the productive process. These inputs are material inputs (in the form of physical materials, viz., raw materials, plant, machinery, etc.), human inputs (in the form of labor and enterprise) and financial inputs (in the form of capital, cash and credit). The easy availability of financial inputs promotes the growth process through proper coordination between human and material inputs.

The financial inputs emanate from the financial system, while real goods and services are part of the real system. The interaction between the real system (goods and services) and the financial system (money and capital) is necessary for the productive process. Trading in money and monetary assets constitute the activity in the financial markets and are referred to as the financial system.

Financial System: The term "liquidity" is used to refer to cash, money and nearness to cash. Money and monetary assets are traded in the financial system. Thus, provision of liquidity and trading in liquidity are the major functions of the financial system. While cash creation is the function of the RBI, banks do credit creation and financial institutions including the RBI, banks and term-leading institutions, deal in claims on money or monetary assets.

These institutions are all a part of the financial system. Sector-wise, government and business sectors are the major borrowers whose investment is always greater than savings. On the other hand, in India the household and foreign sectors are the net savers, with savings exceeding investment. The financial system provides the intermediation between investors and helps the process of specialization and sophistication in the financial infrastructure, leading to greater financial development that is prerequisite for faster economic development.

Functions of Financial Markets

The primary function of the financial markets is to facilitate the transfer of funds from surplus sectors (lenders) to deficit sectors (borrowers). Normally, households have excess of funds or savings, which they lend to borrowers in the corporate and public sectors whose requirement of funds, exceed their savings. A financial market consists of investors or buyers, 'sellers, dealers and brokers and does not refer to a physical location. Formal trading rules and communication networks for originating and trading financial securities link the participants in the market. The primary market in which public issue of securities is made through a prospectus is a retail market and there is no physical location. The investors are reached by direct mailing. On the other hand, the secondary market or stock exchange where existing securities are traded is an auction market and may have a physical location such as the rotunda of the Bombay Stock Exchange or\the

trading floor of Delhi, Ahmedabad and other exchanges where the exchange members meet to trade securities face-to-face. In the Over-The-Counter (OTCEI) market and National Stock Exchange, trading in securities is screen-based. The Bombay Stock Exchange (BOLT) now introduces on-line trading, and other exchanges are in the process of introducing the same that is screen-based.

Financial markets trade in money and their price is the rate of return the buyer expects the financial asset to yield. The value of financial assets changes with the investors' expectations on earning or interest rates. Investors seek the highest return for a given level of risk (by paying the lowest price) and users of funds attempt to borrow at the lowest rate possible. The aggressive interaction, of investors and users of funds in a properly functioning capital market ensures the flow of capital to the best user. Investors receive the highest return and the users obtain funds at the lowest cost.

The three important functions of financial markets are:

✓ **Financial Markets Facilitate Price Discovery:** Financial markets help in establishing the prices of financial assets. Well organized financial markets seem to be remarkably in the rate of return and other incentives, funds flow from less efficient in price discovery. That is why financial economists productive to more productive activities. The efficient functioning say: "If you want to know what is the value of a financial asset simply look at its price in the financial market"

✓ **Financial Markets Provide Liquidity to Financial Assets.** Investors can readily sell their financial assets through the mechanism of financial markets. In the absence of financial markets, which provide such liquidity, the motivation of investors to hold financial assets will be considerably diminished. Thanks to negotiability and transferability of securities through the financial markets, it is possible for companies (and other entities) to raise long-term funds from investors with short-term and medium-term horizons. While one investor is substituted by another when a security is transacted, the company is assured of long-term availability of funds.

✓ **Financial Markets Considerably Reduce the Cost of Transacting:** The two major costs associated with transacting are search costs and information costs. Search costs comprise explicit costs such as the expenses incurred on advertising when one wants to buy or sell an asset and implicit costs such as the effort and time one has to put in to locate a customer. Information costs refer to costs incurred in evaluating the investment merits of financial assets.

Classification of Financial Markets

Financial markets can be classified in various types based on the different characteristics.

✓ One way is to classify financial markets by the type of financial claim. The debt market is the financial market for fixed claims (debt instruments) and the equity market is the financial market for residual claims (equity instruments).

✓ A second way is to classify financial markets by the maturity of claims. The market for short-term financial claims is referred to as the money market and the market for Long-term financial cli.1ims is called the capital market traditionally the cut-off between short-term and long-term financial claims has been one year-though this dividing line is arbitrary, it is widely accepted. Since short-term financial claims are almost invariably debt claims, the money market is the market for short-term debt instruments. The capital market is the market for long-term debt instruments and equity instruments.

✓ A third way to classify financial markets is based on whether the claims represent new issues or outstanding issues. The market where issuers sell new claims is referred to as the primary

market and the market where investors trade outstanding securities is called the secondary market

✓ A fourth way to classify financial markets is by the timing of delivery. A cash or spot market is one where the delivery occurs immediately and a forward or futures market is one where the delivery occurs at a pre-determined time in future

✓ A fifth way to classify financial markets is by the nature of its organizational structure. An exchange-traded market is characterized by a centralized organization with standardized procedures. An over-the counter market is a decentralized market with customized procedures.

We will concentrate on classification as per seasoning of claims:
✓ Primary market
✓ Secondary market

Both primary market and secondary market are parts of Capital market. The capital market is a financial relationship created by a number of institutions and arrangements that allows suppliers and demanders of long term funds to make transactions. It is a market for long term funds. The backbone of the capital market is formed by various securities exchanges that provide a forum for equity (equity market) transactions.

Primary Market / New Issue Market / Initial Public Offering Markets: The primary market deals with the issue of new securities , that is, securities which are not previously available, It provides additional funds to the issuing companies either for starting a new enterprise or for the expansion or diversification of the existing one and, therefore its contribution to company financing is direct. The primary market is not rooted in any particular spot and has no geographical existence. It is recognized only by the services it renders to lenders and borrowers of capital funds at the time of a particular operation.

Functions of primary market

The general function of primary market, namely, channelizing of investible funds in to industrial enterprises, can be spilt in to three services, which are as follows:

✓ **Origination:** The term origination refers to the work of investigation and analysis and processing of new proposals. These functions are performed by specialist agencies which act as sponsors of the issue. The preliminary investigation entails careful study of technical, economical, financial, and legal aspects of the issuing companies. This is to ensure that it warrants the backing of the issue houses in the sense of lending their name to the - company and, thus, ‚give the issue the stamp of respectability, to satisfy themselves that the company is strongly based, has good market prospects, is well-managed and ;is worthy of stock exchange quotation. In the process of origination the sponsoring institutions render, as a second function, some service of an advisory nature which goes to improve the quality of capital issues. These services include advice on such aspects of capital issues as: (i) determination of the class of securities to be issued and price of the issues in the light of market conditions" (ii) the timing and magnitude e of issues, (iii) methods of flotation, and (iv) technique of selling, and so on market.

✓ **Underwriting:** To ensure success of an issue, the second specialist service underwriting provided by the institutional setup of the NIM takes the form of a guarantee that the issues would be sold by eliminating the risk arising from uncertainty of public response. That adequate

institutional arrangement for the provision of underwriting' is of crucial significance both to the issuing companies as well as the investing public cannot be overstressed.

✓ **Distribution:** The, sale of securities to the ultimate investors is referred to as distribution; It is a specialist job which can best be performed by brokers and dealers in securities, who maintain regular and direct contact with the ultimate investors.

Secondary Market/ Stock exchange / Security Market

The secondary market deals in to old securities, which may be defined as securities which have been issued already and listed on a stock exchange. The stock exchanges, therefore, provide regular and continuous market for buying and selling of securities and to that extent, lend liquidity and marketability play an important part in the process. Their role regarding supply of capital is indirect. The secondary markets can in no circumstance supply additional funds since the company is not involved in the transaction. The stock exchanges have physical existence and located in particular geographical areas.

Functions of secondary markets: Stock exchanges discharge following three vital functions in the orderly growth of capital formation:

✓ **Nexus between savings and investments:** First and foremost, they are the nexus between the savings and the investment of the community. The savings of the community are mobilized and channeled by stock exchanges for investment in to those sectors and units which are favored by the community at large, on the basis of such criteria as good return, appreciation of capital, and so on. It is the preference of investors for individual units a well as industry groups, which is reflected in the share price, that decides the mode of investment. Stock exchanges render this service by arranging for the preliminary distribution of new issues of capital, offered through prospectus, as also offers for sale of existing securities, in an orderly and systematic manner. They themselves administrator the same, by ensuring that the various requisites of listing are duly complied with Members of stock exchanges also assist in the flotation of new issues by acting (i) as brokers, in which capacity they, inter alia, try to procure subscription from investors spread all over the country, and (ii) as underwriters.

✓ **Market Place:** They provide a market place for the purchase and sale of securities, thereby enabling their free transferability through several successive stages from the original subscriber to the never-ending stream of buyers, who may be buying them today to sell them at a later date for a variety of considerations like meeting their own needs of liquidity, shuffling their investment portfolios to gear up for the ever-changing market situations, and so on. Since the point of aggregate sale and purchase is centralized, with a multiplicity of buyers and sellers at any point of time, by and large, a seller has a ready purchaser and a purchaser has a ready seller at a price which can be said to be competitive. This guarantees sales ability to one who has already invested and surety of purchase to the other who desires to invest.

✓ **Continuous Price Formation:** The third major function, discharged by the stock exchanges is the process of continuous price formation. The collective judgment of many people operating simultaneously in the market, resulting in the emergence of a large number of buyers and sellers at any point of time, has the effect of bringing about changes in the levels of security prices in small graduations, thereby evening out wide swings in prices. The ever-changing demand and supply conditions result in a continuous revaluation of assets, with today's prices

being yesterday's prices, altered, corrected, and adjusted, and tomorrows values being again today's values altered, corrected and adjusted. The process is an unending one. Stock exchanges thus act as a barometer of the state of health of the nations economy, by constantly measuring its progress or otherwise. An investor can always have his eyes turned towards the stock exchanges to know, at any point of time, the value of the investments and plan his personal needs accordingly.

Efficiency of Financial System

The real test of development of financial system is its efficiency in operations and functional roles. The operational efficiency is reflected in the costs of intermediation, quality of service and its width. The improved operational efficiency during the nineties is seen from significant reforms in the capital market and stock markets, lowering of costs of credit and greater flow of bank credit into these markets, lowering of costs raising funds from the capital market through the route of book building and private placement. The strengthening of the institutions evidences the Width of Services Structure and increasing the instruments of mobilizing funds, introduction of technological innovations in the Stock and Capital markets and in the banking system, deregulation, privatization and globalization of markets and freer flow of funds into and outside country etc. The reforms in general and increasing role of technology and competitive forces in particular have improved the quality of service. Any financial system can be assessed for its functional efficiency through following criteria in general:

- ✓ Quantity of funds raised through saving for investment and pattern of allocation from less to more productive purposes.
- ✓ Its contribution to economic growth and its impact on real economic variables, reflected in market capitalization as a proportion of GDP and the usual ratios, such as Finance ratio - ratio of total issues to national income; Financial interrelations ratio -ratio of total issues to net domestic capital, formation; and financial intermediation ratio -ratio of secondary issues raised by banks and financial institutions to primary issues in the market
- ✓ Information absorption - whether all information a market and economy are fully reflected in the scrip prices.
- ✓ Fundamental valuation efficiency - whether the company valuation are reflected in scrip prices.

Skeleton of the Financial System

A radical restructuring of the economic system consisting of industrial deregulation, liberalization of policies relating to foreign direct investment, public enterprise reforms, reforms of taxation system, trade liberalization and financial sector reforms have been initiated in 1992-93. Financial sector reforms in the area of commercial banking, capital markets and non-banking finance companies have also been undertaken.

The focus of reforms in the financial markets has been on removing the structural weaknesses and developing the markets on sound lines. The money and foreign exchange market reforms have attempted to broaden and deepen them. Reforms in the government securities market sought to smoothen the maturity structure of debt, raising of debt at close-to-market rates and improving the liquidity of government securities by developing an active secondary market. In the capital market the focus of reforms has been on strengthening the disclosure standards, developing the market infrastructure and strengthening the risk management systems at stock exchanges to protect the integrity and safety of the market. Elements of the structural reforms in various market segments

are introduction of free pricing of financial assets such as interest rate on government securities, pricing of capital issues and exchange rate, the enlargement of the number of participants and introduction of new instruments.

Improving financial soundness and credibility of banks is a part of banking reforms undertaken by the RBI, a regulatory and supervisory agency over commercial banks under the Banking Companies Regulation Act 1949. The improvement of financial health of banks is sought to be achieved by capital adequacy norms in relation to the risks to which banks are exposed, prudential norms for income recognition and provision of bad debts The removal of external constraints in norms of pre-emption of funds benefits and prudential regulation and recapitalization and writing down of capital base are reflected in the relatively clean and healthy balance sheets of banks. The reform process has, however, accentuated the inherent weaknesses of public sector dominated banking systems. There is a need to further improve financial soundness and to measure up to the increasing competition that a fast liberalizing and globalizing economy would bring to the Indian banking system.

In the area of capital market, the Securities and Exchange Board of India (SEBI) was set up in 1992 to protect the interests of investors in securities and to promote development and regulation of the securities market. SEBI has issued guidelines for primary markets, stipulating access to capital market to improve the quality of public issues, allotment of shares, private placement, book building, takeover of companies and venture capital In the area of secondary markets, measures to control volatility and transparency in dealings by modifying the backend system, laying down insider regulations to protect integrity of markets, uniform settlement introduction of screen based online trading, dematerializing shares by setting up depositor and trading in derivative securities (stock index futures). There is a sea change in the institutional and regulatory environment in the capital market area.

In regard to Non-Bank Finance Companies (NBFCs), the Reserve Bank of India has issued several measures aimed at encouraging disciplined NBFCs, which run on sound business principles. The measures seek to protect the interests of depositors and provide more effective, prevision, particularly over those, which accept public deposits. The regulations stipulate upper limit for public deposits, which NBFCs can accept. This limit is linked to credit rating an approved rating agency. An upper limit is also placed on the rate of interest on deposits order to restrain NBFCs from offering incentives and mobilizing excessive deposits, which they may not be able to service. The heterogeneous nature, number, size, functions (deployment funds) and level of managerial competence of the NBFCs affect their effective regulation.

Since the liberalization of the economy in 1992-93 and the initiation of reform measure the financial system is getting market-oriented. Market efficiency would be reflected in the wide dissemination of information, reduction of transaction costs and allocation of capital the most productive users. Further, freeing the financial system from government interference has been an important element of economic reforms.

Interpreting Bond and Stock Price Quotations: The financial manager needs to stay abreast of the marker values of the firm's outstanding bonds and stocks, whether they are traded on an organized exchange, over the counter, or in international markets Similarly, existing and prospective bondholders and stockholders need to monitor the prices of the securities they own. These prices

are important because they represent the current value of their investment. Information on bonds, stocks, and other securities is contained in quotations, which include current price data along with statistics on recent price behavior. Security price quotations are readily available for actively traded bonds and stocks. The most up-to-date '"quotes" can be obtained electronically, via a personal computer Price information is available from stockbrokers and is widely published in news media- both financial and non financial. Popular sources of daily security price quotations are financial newspapers, such as the Economic Times and the Business Standard, or the business sections of daily general newspapers published in most major cities. Important To update yourself on regular basis read financial newspapers on regular basis.

1.5. Time Value of Money

Most financial decisions, such as the purchase of assets or procurement of funds, affect the firm's cash flows in different time periods. For example, if fixed asset are purchased it will require immediate cash outlays sand will generate cash flows during many future periods. Similarly, if firm borrows funds from the bank it receives cash now and commits an obligation to pay interest and repay principal in future periods. Cash flows become logically comparable when they are appropriately adjusted for their differences in time and risk.

The recognition of the time value of money and risk is extremely vital in financial decision-making. If the timing and risk of cash floes is not considered, the firm may make decision, which may allow too its objectives of maximize the owner's welfare. The welfare of the owners would be maximized when net worth or net value is created from making a financial decision. What is Net Present Value? It's a time value concept. Money has time value. A rupee today is more valuable then a rupee a year hence.

Reasons for individual's Time Preference for Money:

✓ **Uncertainty:** An individual is not certain about future cash receipts, he prefers receiving cash now.
✓ **Preference for Consumption:** Most people have subjective preference for present consumption over future consumption of goods and services either because of the urgency of their present wants or because of the risk of not being in a position to enjoy future consumption that may be caused by illness or death. As money is the means by which individuals acquire most goods and services, they may prefer to money have now.
✓ **Investment Opportunities:** Most individuals prefer present cash to future cash because of the available opportunities to which they can put present cash to earn additional cash. For e.g., an individual who is offered Rs. 100 now or Rs 100 one year from now would prefer Rs100 now if he could earn interest of Rs 5 by putting in the saving account in the bank for one year. His total cash in one year from now will be Rs.105.
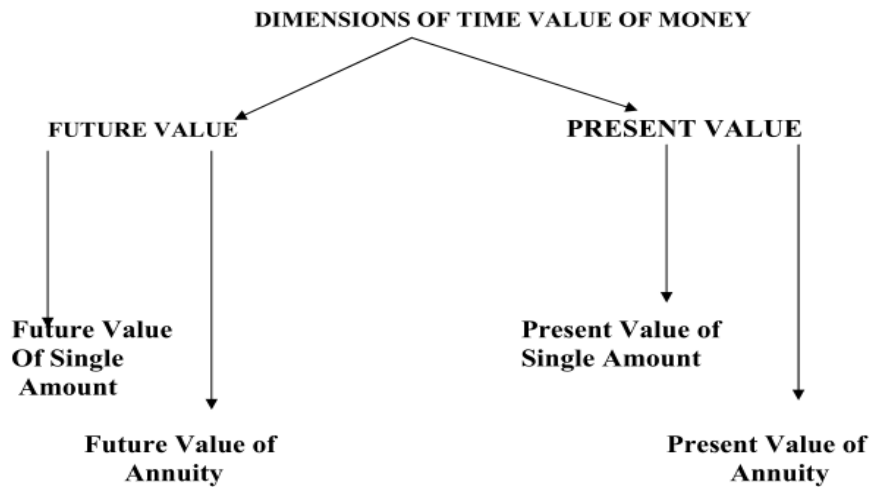
Future Value of a Single Amount: Suppose you have Rs. 1000 today and you deposit it with a financial institution, which pays 10% interest compound annually, for a period of 2 years.

		Rs.
Ist Year	Principal at the beginning	1000
	Interest for the year	100
	Principal at the end	1100
IInd Year	Principal at the beginning	1100
	Interest for the year	110
	Principal at the end	1210

FORMULA:

$FV_n = PV (1+k)^n$

Where FV_n = future value n years hence
   PV = present value
   k = interest rate per year
   n = number of year for which compounding is done.

The factor $(1+k)^n$ is referred to as the compounding factor or the **Future Value Interest Factor (FVIFk,n)**

Illustration 1: If you deposit Rs. 1000 today in a bank which pays 10% interest compounded annually, how much will the deposit grow to after 8 years and 12 years?

Rs. 1000(1.10)⁸ = Rs. 1000(2.144)
      = Rs. 2.144

The future value, 12 years hence will be:
Rs. 1000(1.10)¹² = Rs. 1000(3.318)
      = Rs. 3.318

$$FVn = PV \left(1 + \frac{k}{m}\right)^{m*n}$$

Future Value of Annuity: An annuity is a series of periodic cash flows (payments or receipt\pts) of equal amounts. The premium payment of a life insurance policy, for example, is an annuity.

Illustration 2: Suppose you deposit Rs 1000 annually in a bank for 5 year and your deposits earn a compound interest rate of 10%. What will be the value of series of deposits at the end of 5 years?

Rs 1000(1.10) 4 + Rs 1000(1.10) 3 + Rs1000 (1.10) 2 + Rs 1000(1.10) 2 + 1000 (1.10)
=Rs 6105

$$FVAn = A \left[\frac{(1+k)\,n\ -\ 1}{K}\right]$$

Where FVAn = future value of an annuity which has a duration of n Period
  A = Constant periodic flow
  K = Interest rate per period
  N – Duration of the annuity

The term $\underline{(1+k)\,n\ -\ 1}$ is referred to as the **future value interest factor for an annuity.**
          K
i.e. (FVIFAn)

Present Value of a Single Amount: The present value of a future cash inflows or outflow is the amount of current cash flow that is equivalent desirability, to the decision maker, to a specified amount of cash to be received or paid at the future date. The process of determining the present value of a future payment or a series of future payments is called discounting.

Illustration 3: Suppose someone gives you Rs1000 six year hence. What is the present value of this amount if the interest rate is 10%?

Formula:

$$PV = FVn \left[\frac{1}{1+k}\right]^{n}$$

The factor $\left[\dfrac{1}{1+k}\right]^{n}$ Is called the discounting factor or **(PVIFkn)**

The present value is
 Rs1000 **(PVIF10%, 6)** = Rs 1000 (0.5645) = 564.5

Illustration 4: Find the present value of Rs1000 receivable 20 years hence if the discount rate is 8%.

$$Rs1000 \left(\frac{1}{1.08} \right) 20 = Rs1000 \left(\frac{1}{1.08} \right)^{10} \left(\frac{1}{1.08} \right)^{10}$$

$$= Rs1000 \, (PVIF8\%, 10) \, (PVIF8\%, 10)$$
$$1000(0.463) \, (0.463) = Rs214$$

Present Value of an Annuity

$$PVAn = A \left[\frac{(1+k)^n - 1}{K(1+k)^n} \right]$$

PVAn = Present value of annuity having duration n periods
A = constant periodic flow
K = Discount Rate

Illustration 5: Present value of a 4 year annuity of Rs10000 discounted at 10%

PVA4 = 10000(PVIFA10%,4)
   = 10000(3.170)
   = 31700

1.6. Valuation of Bonds and Shares

Introduction: Valuation is the process that links risk and return to determine the worth of an asset. It can be applied to expected benefits from real/physical as well as financial to determine their worth at a given point of time. We will focus on valuation of two financial assets, namely, bonds/debentures and shares. .the key inputs to valuation process are i) expected returns in terms of cash flows together with their timing and ii) risk in terms of the required return.

The value of an asset depends on the return (cash flow) it is expected to provide over the holding ownership period. The cash flow stream can be (1) annual, (2) intermittent and (3) even one-time. In addition to total cash flow estimates, their timing/pattern (e.g. amount year-wise) is also required to identify the return expected from the bond/share. The required return is used in the valuation process to incorporate risk into the analysis. Risk denotes the chance that an expected cash flow would not be realized. The level of risk associated with a expected cash flow/return has a significant bearing on its value, that is, the greater the risk, the lower the value and vice versa. Higher risk can be incorporated into the valuation analysis by using a higher capitalization/ discount rate to determine the present value.

Valuation of securities will be discussed in following parts:
✓ The basic valuation model
✓ Valuation of Bond / Debenture
   ✓ Basic bond valuation
   ✓ Yield to maturity
   ✓ Semi-annual interest and bond value

- ✓ Valuation of preference shares
- ✓ Valuation of ordinary shares
    - ✓ Zero growth model
    - ✓ Constant growth model / Gordon model
    - ✓ Variable growth model

The Basic Valuation Model: The value of an security is the present value of all future cash flows associated with it over the specified period. The expected returns are discounted, using the required return matching with the risk of asset as the appropriate discount rate. Symbolically,

$$V = \frac{A_1}{(1+k)^1} + \frac{A_2}{(1+k)^2} + - - - - + \frac{A_n}{(1+k)^n}$$

Where V = Value of security at time zero (t = 0)
At = cash flow stream expected at the end of year t
K = appropriate discount rate
Alternatively, where expected cash flows is a mixed stream
V = [(A1 x PVIFk,1) + (A2 x PVIFk,2) +- - - - - + (An x PVIFk,n)

Where'

PVIF1, PVIF2, PVIFn = present value interest factor in different period at discount rate k.

If expected cash flow is an Annuity,

V = A * PVIFA (k,n)

Illustration 6: Assuming a discount rate of 10 percent, and the associated cash flows detailed below. Compute the value of assets X and Y.

Year	Expected cash flow	
	X	Y
1	Rs.10,000	5,000
2	10,000	10,000
3	10,000	15,000

Solution:
Value of asset X = Rs 10,000 x PVIFA (10,3) = Rs 10,000 x 2.4870 = Rs.24,870
Value of asset Y: = [(Rs.5, 000 x PVIF10,1) + (Rs. 10,000 xPVIF10,,2) + (Rs. 15,000 x PVIF10,3)
 = [(Rs.5, 000 x 0.909) + (Rs. 10,000 x 0.826) + (Rs. 15,000 x 0.751)
 = Rs.4545+ RS.8260+Rs.11265 = Rs. 24,070

Valuation of Bonds / Debentures: A bond / debenture are a long term debt instrument used by the government/ business/ enterprises to raise a large sum of money. Most bonds (i) pay interest half yearly at a stated coupon interest rate, (ii) have a maturity of 10-years and (iii) have a par/face value of Rs 1,000 that must be repaid at maturity. Par value is the value on the face of the bond. It represents the amount the entity borrows and promises to repay at the time of maturity. Coupon is

the specified interest rate. The interest payable to the bondholder is equal to par value x coupon rate. Maturity period refers to the number of years after which the par value is payable to the bondholder.

A Basic Bond Valuation: The value of bond is the present value of the contractual payments its issuer is obliged .to make from the beginning till maturity.. The appropriate discount rate would be the required return matching with risk and the prevailing interest rate. Symbolically,

$$B = I \times (PVIFAkdn) + M \times (PVIFkdn)$$

Where,
B = value of the bond at t = 0
I = annual interest paid
n = number of years' to maturity (term of the bond)
M = Par/maturity value
Kd = required return on the bond

Illustration 7: A firm has issued 10%, 10 year bond with a Rs, 1000 par value, that pays interest annually, Compute the value of bond.

Solution:
Bo = [Rs 100 x (PVlFA10, 10) + Rs 1,000 (PVlF 10, 10)]
   = (Rs 100 x 6.145) + (Rs 1,000 x 0.386)
   = Rs 614.5 + Rs 386 = Rs 1,000

Impact of required Return (RR) on Bond Value
✓ When the required Return (RR) is equal to the coupon rate (CR), the bond value equals the par value.
✓ When (RR) is more than (CR) , the bond value would be less than its par value, that is, the bond would sell at a discount equal to (M-B)
✓ When (RR) is less than (CR) , the bond value would be more than its par value, that is, the bond would sell at a premium equals to (B-M)

Illustration 8: Assuming for the facts in illustration 2, the required return is (i) 12% (ii) 8%, Find the value of the bond.

Solution:
(i) B = [Rs 100 x (PVlF12,10) + Rs 1,000 x (PVIF12,10)]
 = [(Rs 100 x 5.650) + (Rs 1,000 x 0.322)
 = Rs 565 + Rs 322 = Rs 887
 The bond would sell at a discount of Rs 113 (Rs 887 - Rs 1,000)
 (ii) B= [Rs 100 x (PVlF8, 10) + Rs 1,000 x (PVIF8, 10)]
   = [(Rs 100 x 6.710) + (Rs 1,000 x 463)
 = Rs 671 + Rs 463 = Rs 1,134

The bond would sell at a premium of Rs 134 (Rs 1,134 - Rs 1,000).
✓ **Impact of Maturity on Bond Value:** When the required return (RR) is different from rate of interest (CR), the time to maturity would affect value of bonds even though RR remains

constant till maturity. The relationship among (i) time to maturity, (ii) the RR and (iii) value are related to (a) constant RR and (b) changing RR.

- ✓ **Constant Required Returns:** In such a situation the value of the bond would approach as the passage of time moves the value of the bond closer to maturity.
- ✓ **Changing Required Returns:** The shorter the time period until a bond's maturity, the less responsive is its market value to a given change in the required return. In other words, short maturities have less "interest rate risk" than do long maturities when all other features, namely, CR, par value, frequency of interest payment, are the same.

For example taking the same facts as in illustration 2 and 3, each of the three required returns (i.e. 12, 10, and 8) is assumed to remain constant over the 10 years to its maturity. In each case, the value ultimately equals the par value of maturity. At the 12 per cent RR, its discount declines with the passage of time as its value increases from Rs 887 to Rs 1,000. When the 10 per cent RR equals the CR, its value remains Rs 1,000. Finally, at the 8 per cent RR, its premium will decline as its value drops fro Rs 1,000. Thus, the value of a bond approaches Rs 1,000 par/maturity value as the time to maturity declines.

Yield to Maturity: The **YTM** is the rate of return that investors earn if they buy a bond at a specific price and hold it until maturity. It assumes that the issuer of the bond makes all due interest payment and repayments of principal as contracted/promised. The YTM on a bond whose price equals its par/face value (i.e. purchase price = maturity value) would always be equal to its coupon interest rate. In case the bond value differs from the par value the YTM would differ from the CR.

Illustration 9: The bonds of the Premier Company Ltd (PCL) are currently selling at Rs.10, 800. Assuming (i) coupon rate of interest, 10 per cent, (ii) par value, Rs 10,000, (iii) maturity 10 years and (iv) annual interest payment, compute the YTM.

Solution: Substituting the values in following Equation

B = I x (PVIFAkdn) + M x

Rs 10,800 = [Rs 1,000 x (PVIFAkd, 10) + Rs 10,000 x (PVIFkd, 10)

If kd= 10 per cent, that is, equal to' the coupon rate, the value of the bond would be Rs 10,000. Since the value of the bond is Rs 10,800, the kd must be less than 10 per cent.

Using 9 per cent discount rate gets
= [Rs 1,000 x (PVIFA9,10) + Rs 10,000 x (PVIF9,10)

= (Rs 1,000 x 6.418) + (Rs 10,000 x 0.422) = Rs 6,418 + Rs 4,220 = Rs 10,638

Since the value of the bond (Rs 10,638) at kd = 9 per cent is less than Rs 10,800 (current market price). Try a lower rate of discount (kd). Using 8 per cent, we get
(Rs 1,000 x 6.710) + (Rs 10,000 x 0.463)
= Rs 6,710 + Rs 4,630 = Rs 11,340

Since the bond value (Rs 11,340) is higher than the current price of Rs 10,800, the kd (YT'M) between 8 and 9 per cent. The exact value can be found by interpolation, which is 8.77%

Semiannual Interest and Bond Values: The procedure to value bonds paying interest semiannually (half-yearly) is similar to that for compounding interest more frequently than annually. However, here we find out the present value. The following steps are involved in computing the value of a bond when interest is paid semiannually.

✓ Convert annual interest, I, to semiannual interest by dividing it by 2.
✓ Convert the number of years to maturity, n, to the number of 6-month periods to maturity multiplying n by 2.
✓ Convert the required stated return for similar-risk bonds that also pay half-yearly interest from an annual rate, Kd, to a semiannual rate by dividing it by 2.

Symbolically,

B = I x (PVIFAkd/2, 2n) + M x (PVIFkd/2, 2n)
  2

Illustration 10: For facts in illustration4, assume (i) the bonds of the firm pay interest semiannually, (ii) the required stated return is 14 per cent for similar-risk bonds that also pays half-yearly interest. Compute the value of bond.

Solution: Substituting the values in following Equation we get

B = I x (PVIFAkd/2, 2n) + M x (PVIFkd/2, 2n)
  2
B = (Rs 1,000 / 2) x [PVlFA14I2 x 2; 10] + Rs 10,000 x [PVlF14I2 x 2; 10]
 = (Rs 1,000 / 2) x [PVlFA7, 20] + Rs 10,000 x [PVlF7, 20]
 = (Rs 500 x 10.594) + (Rs 1,000 x 0.258)
 = Rs 5,297 + Rs 2,580 = Rs 7,877

Valuation of Preference Shares: Preference shares like debentures are usually subject to fixed rate of return/dividend. In case of no stated maturity, their valuation is similar to perpetual bonds. Symbolically,

$$V = \frac{Dp}{Kp}$$

The valuation of redeemable preference shares is given by following equation
= Dp(PVIFAkp,n) + MV(PVIFpv,n)

Valuation of Ordinary Shares: The ordinary / Equity shareholders buy / hold shares in expectation of periodic cash dividends and increasing share value. They would buy a share' when it is undervalued (i.e. its true value is more than its market price) and sell it when its market price is more than its true value (i.e. it is overvalued). The value of a share is equal to the present value of all future dividends it is expected to provide over an infinite time horizon. Symbolically,

$$P = \frac{D1}{(1+K_e)^1} + \frac{D2}{(1+K_e)^2} + \cdots\cdots + \frac{D\infty}{(1+K_e)^\infty}$$

Where , P = Value of shares
Dt = per share dividend expected at the end of year, t
Ke = required return on share

The equation is designed to compute the value of shares with reference to the expected growth pattern of future dividends and the appropriate discount rate. We illustrate below the computation reference to (i) zero growth, (ii) constant growth and (iii) variable growth.

Zero Growth Model: This approach to dividend valuation assumes a constant non-growing dividend stream. With zero growth in dividends, the value of share would equal the present value of a perpetuity of dividends (D1) discounted at Ke. Symbolically,

$$P = D_1 (PVIFAK_e{}^\infty) = \frac{D_1}{Ke}$$

Where D_1 = constant dividend per share
Ke = required return of investors

Illustration 11: The per share dividend of Premier Instruments Ltd (PIL) remains constant indefinitely at Rs 10. Assuming a required rate of return of 16 per cent, compute the value of the PIL's shares.

$$P = \frac{D_1}{Ke} = \frac{Rs.\ 10}{0.16} = Rs.\ 62.5$$

Solution:

Constant Growth Model/ Gordon Model: According to this approach, dividends are assumed to grow at a constant rate which is less than the required rate. This model is primarily known as the Gordon Model the value of a share is given by following Equation

Illustration 12: The Premier Instruments Ltd (PIL) had paid the following dividends per share.

Year	Dividend per share	year	Dividend per share
6	2.80	3	2.24
5	2.58	2	2.10
4	2.40	1	2.00

Assuming a 16 per cent required return and Rs 3 per share dividend in year 7 (D1) compute the value of the shares of PIL.

Solution:

$$P = \frac{D_1}{Ke - g}$$

$$= \frac{Rs.\ 3}{(0.16 - 0.07)} = Rs.33.3 \text{ per share}$$

Variable Growth Model: As a dividend valuation approach, this model incorporates a change in the dividend growth rate. Assuming g1 = initial growth rate and g2 = the subsequent growth rate occurs at the end of year N, the value of the shares can be determined as follows:

Step 1: Compute the value of cash dividends at the end of each year (Dt) during the initial growth period (years 1 - N). Symbolically,

Dt = Do x (l + g1) t = Do x PVIF g1, t

Step 2: Compute the present value of the dividends expected during the initial growth period. Symbolically,

= (Dt x PVIFke,t)

Step 3: Find the value of the share at the end of the initial growth year, PN = (DN + 1) / (Ke – g2). This is the present value of all dividends expected from year N + 1 onwards assuming a constant dividend growth rate, g2. The present value of PN would represent the value today of all dividends expected to be received from year N + 1 to infinity. Symbolically,

$$\frac{1}{(1 + Ke)^N} \quad x \quad \frac{D_N + 1}{Ke - g_2}$$

Step 4: Add the present value components found in Step 2 and 3 to find the value of share.