CHAPTER-1
INTRODUCTION

1.1 INTRODUCTION

This research work is designed to examine the tools and techniques of technical and fundamental analyses which are helpful to understand the nature of stock market and individual stocks and applicable to decision-making about buying and selling of securities in the Indian capital market. The report of the study has been divided into seven chapters. The present chapter by way of introduction is devoted to the discussion of the research problem, the delineation of the concepts of investment, investment process, security analysis, fundamental analysis, technical analysis, risk return analysis and efficient market theory and other concepts related to the stock market and etc.

Investing in various types of financial assets is an interesting activity that attracts people from all walks of life irrespective of their occupation, economic status, education and family background. When a person has more money than he requires for current consumption, he would be coined as a potential investor. The investor who is having extra cash could invest it in securities or in any other assets like gold, silver, or real estate or could simply deposit it in his bank account. The companies that have extra income may like to invest their money in the extension of existing firm or undertake new venture. All of other activities in a broader sense mean investment. Investment is the employment of the funds on assets with the aim of earning income or capital appreciation. Investment has two attributes namely time and risk. Present consumption is sacrificed to get a return in the future. The sacrifice that has to be born is certain but the return in the future may be uncertain. This attribute of investment indicates that risk factor. The risk is undertaken with a view to reap some return from the investment. For a layman, investment means some monetary commitment.

- A person’s commitment to buy a flat or house or car for his personal use may be an investment from his point of view.
- To the economist, investment is the net addition made to the nation’s capital stock that consists of goods and services used in the production process.
• Financial investment is the allocation of money to assets that are expected to yield some gain over a period of time. It is an exchange of financial claims such as stocks and bond for money.

“In very simple words, when an individual, a company, any institution or a group of these park money to earn yield in future it is called investment.”

1.2 CLASSIFICATION OF INVESTMENT

An investment is classified into three categories:

(a) Investment in Real Assets,
(b) Investment in Financial Assets,
(c) Investment in Commodity Assets.

Investment in Real Assets: - Real assets refer to tangible assets, which are in the form of land, building, furniture, gold, silver, diamonds etc. These assets have a physical value appearance. They may be marketable or non-marketable. They may also have the feature of being movable or non-movable. These assets are used to produce goods and services.

Investment in Financial Assets: - Shares, bonds, bills, debentures, derivatives are some of the financial assets. These assets represent acclaim on the income generated by real assets of some other parties. These can be easily traded, as they are marketable and transferable. These are popularly called paper securities.

Investment in Commodity Assets: - Commodities are new form of investment in India. Commodity assets consist of wheat, sugar, potatoes, rubber, coffee, and other grains. Importers and exporters invest in commodities to diversify their portfolios. Traders hedge or transact in commodities to make gains. A National Commodity and Derivatives Exchange Ltd. (NCDEX) has been set up in India in 2003 as a public limited company to transact in commodities.

1.3 INVESTMENT PROCESS:

Investment process involves a series of activities leading to purchase securities or other investment alternatives. Investment process is generally described in five stages. These stages are investment policy, security analysis, valuation of securities, construction of portfolio and, evaluation.
1. **Investment Policy:** The investor before proceeding into investment formulates the policy for the systematic functioning. The essential ingredients of the policy are:

(a) Investible Fund  
(b) Investment Objectives  
(c) Knowledge about the alternatives and markets

2. **Security Analysis:** The process of analyzing the individual securities and market as a whole and estimating the risk and return expected from each of the investments with a view to indentifying undervalued securities for buying and overvalued securities for selling is both an art and a science and is what is called security analysis. After formulating the investment policy, the securities to be bought have to scrutinize through:

(a) Fundamental Analysis  
(b) Technical Analysis  
(c) Risk and Return Analysis  
(d) Efficient Market Hypothesis

3. **Valuation of Securities:** The third step is perhaps much consideration of the valuation of investments. Investment value, in general, is taken to be the present worth to the owners of benefits from investments. The investor has to bear in mind the value of these investments. An appropriate set of weights has to be applied with use of forecasted benefits to estimate the value of the investment assets. Comparison of the value with the current market price of the assets allows a determination of the relative attractiveness of the asset. Each asset must be valued on its individual merit.

4. **Construction of Portfolio:** A portfolio is a combination of securities. The portfolio is constructed in such a manner as to meet the investor’s goals and objectives. The investors should decide how best to reach the goals with the securities available. The investors try to attain maximum return with minimum risk. Towards this end he diversifies his portfolio and allocates funds among the securities.
5. **Valuation:** The portfolio has to be managed efficiently. The efficient management calls for evaluation of the portfolio. This process consists of appraisal and revision.

1.4 **SECURITY ANALYSIS**

Security analysis refers to the analysis of trading securities. It analyses the share price returns and the risk involved in the investment. Every investment involves the risk and the expected return is related to the risk. The security analysis will help in understanding the behavior of security prices and the market.

Security analysis refers to the analysis of securities from the point of view of their prices, returns and risks. The analysis of risk and return related to the securities will help in understanding the behavior of security prices, market and decision making for investment. If the analysis includes scrip it is called microanalysis of a company. If it is an analysis of a market with various securities it is known as macro picture of the behavior of the market. The entire process of estimating return and risk of a security is known as security analysis.

The traditional investment analysis when applied to securities emphasizes the projection of prices and dividends are known as security analysis. It involves the potential price of a share and dividend stream is forecasted, then discounted back to the present value. Such value is called as “Intrinsic Value”. Then the intrinsic value is compared with the securities market price. If the current market price is lower than the intrinsic value, then purchase is recommended. Alternatively, if the current market price is higher than the intrinsic value, a sale is recommended. Further, the security analysis is built around the idea that investors are concerned with two principal properties inherent in securities, the return that can be expected from holding a security and risk that the return achieved will be less than the return that was expected.

Generally, the investors are interested primarily in selling a security for more than they pay for it. The investor hopes to achieve a higher reward than simply placing the money in a savings account. An investor who seeks reward that exceeds those available on savings account forces the real risk. There is no return without risk. The process of estimating return and risk for individual securities is known as “Security
Analysis”. Security analysis is the essence of the valuation of financial instruments. The value of financial asset depends upon return and risk. The universal fact is that everyone must recognize the risk component in investment decision.

1.4.1 OBJECTIVES OF SECURITY ANALYSIS

The following are the objectives of Security Analysis:

(i) To estimate the risk and return related to a security

(ii) To find out the intrinsic value of the security with a view to make a buy/sell decision.

(iii) To identify the undervalued securities to buy or overvalued securities to sell.

(iv) To analyze the stock market trends to understand the market pattern and behavior.

(v) To forecast the future earnings and dividends along with the price of the securities.

(vi) To find out the key determinants of intrinsic value.

(vii) To analyze and point out the position of economy industry and the company with a view to select the best possible company for investment.

1.4.2 APPROACHES TO SECURITIES ANALYSIS

The Security analysis aims at identifying undervalued securities to buy and overvalued securities to sell. It involves the entire process of estimating return and risk for an individual security.

It is deeply rooted in fundamental concepts to measure the risk and return of a security. It emphasizes on the return and risk estimates rather than mere price and dividend estimates. However, the return and risk estimates are depended on share prices and accompanying dividend stream.

Any forecast of security must necessarily consider the prospects of the economy. The economic sets greatly influence the prospects of certain industries as well as the psychological aspect of the investing public.
The approaches for securities analysis are broadly grouped into the following categories.

(i) Fundamental Analysis.

(ii) Technical Analysis.

(iii) Risk and Return.

(iv) Efficient market hypothesis.

1.5 FUNDAMENTAL ANALYSIS

A fundamental analysis is a time honored, value based approach depending upon a careful assessment of the fundamentals of an economy, industry and company. The fundamental analysis studies the general economic situation, makes an evaluation of an industry and finally does an in depth analysis, both financial and non-financial of the company. In the fundamental analysis an attempt is made to analyse various fundamentals or basic factors that affect the risk-return of the securities.

In the fundamental analysis the security analyst or prospective investor is primarily interested in analysing factors such as economic influences, industry factors and pertinent company information -such as product demand, earnings, dividends and management in order to calculate an intrinsic value for the firm’s securities. The investor makes an investment by comparing the intrinsic value with the current market price of a security.

The intrinsic value is the present value of future dividends and capital appreciation computed at an appropriate discount rate to reflect the riskiness of the share. The intrinsic value is also known as the fundamental value. Based on the fundamental value the investor will make a decision to buy or sell a share, by comparing the market price of the shares. If the intrinsic value of a share is higher than- the market price the share is to be bought before the market corrects its mistake by increasing the price of the security On the other hand, if the market price is higher than the intrinsic value, sell that security This is because the price may be reduced once investors realize and start selling such share.
PHASES OF FUNDAMENTAL ANALYSIS

1.5.1 ECONOMIC ANALYSIS

Economic factors play a major role in any investment decision, which is made for making a gain and better return. Economic analysis and forecasting company performance and return is necessary for making investments. In the economic analysis the investor has to analyze economic factors to forecast of the economy in order to identify the likely growth of the economy and its trend. Further, the investors will identify those industry groups which will be in the coming years and he will be selecting such industry in order to choose the companies in such an industrial group. The economic analysis enables the investor to develop a sound economic understanding and to be able to interpret the impact of the important economic indicators on stock markets. The economic analysis helps to understand the state of the economy of the country at macro level. The analysis of the state of the economy at macro level incorporates how the economy has performed in the past and how it is performing in the present and how it is expected to perform in the future.

The performance of a company depends on the state of the economy. If the economy is in recession the performance of companies will be bad. If the economy is booming, incomes are rising and demand is increasing, the company’s performance in general may be prosperous. The Indian economy is depending upon the agriculture. Agriculture is the profession for 70% of the population and it contributes nearly 35% of the output to the economy Therefore it is most important for the assessment and forecast of industrial performance. If the monsoon is favourable and agricultural income is good the demand for industrial goods and services will be favourable and industry may get increased sales revenue and profits.

India has mixed economy. The public sector plays a vital role in the economy. The central government is the biggest investor and spender. The investment made in the public sector and expenditure level is the performance of the Indian economy. The Indian economy has been influenced by many factors such as government budgets, taxation external debt of the government etc. These factors will influence increased demand and income levels of the public. The changes in taxation policies have an impact on the industry and the corporate sector.
The monetary policy of the government depends on the government’s budget policy. The central government borrows money from the public; credit policy of the RBI shows a major impact on the industrial growth. The growth of the industry mainly depends upon the demand and supply for goods in the country. The monetary and budget policy will influence the price level and interest rates. The interest rates in the free market and the degree of inflation do have a major influence on the economy and the performance of tire industries. A low level of inflation is very useful for business sector but higher degree of inflation will dismantle the business plans, lead to escalations and squeeze profit margins. All these factors adversely affect the performance of industry and companies.

The general level of business conditions influences the demand for industrial products and the performance of the industry. The business cycles in the economy may cause fluctuations depending upon the state of the economy. Performance of agriculture sector, availability of energy and other infrastructure outputs, imported inputs and other factors do influence the costs and profit margins of the corporate sector.

The economic policies of the government is the most important factor for the Indian economy. The stability of the policies, good performance of the economy in general will influence the company’s performance in particular. The stability of the government is the basic foundation for economic policies of the country. The uncertainties in the political system of the country will show greater impact on the economic system. The political uncertainties will show adverse changes in the government policy and also affect the industrial development. The central government policies relating to various projects, foreign direct investment foreign collaborations; foreign investment, price and controls, listing requirements on stock exchanges and other factors do affect the performance of companies. The balance of payment position, the, foreign exchange rate may show an impact on the economy and the securities market. All the above factors may influence the economy, which in turn show impact on the corporate sector’s performance.

The economic analysis involves the analysing of the following factors:

1. Economic growth
2. Population
3. Monsoon and agricultural production
4. Industrial production
5. Natural resources and availability of raw material
6. Inflation
7. Interest rate
8. Foreign exchange reserves
9. Balance of payment position
10. Budgetary deficit
11. Public debt and foreign debt
12. Domestic savings and capital output rate
13. Employment
14. Taxation policy
15. Infrastructure facilities
16. Government policy
17. Political stability
18. International development
19. Capital formation
20. Savings pattern
21. Research and technological development
22. Economic indicators
23. Economic reforms
24. Foreign direct investment

1.5.2 INDUSTRY ANALYSIS
The second phase of fundament analysis consists of a detailed analysis of specific industry; its characteristics, past record, present state and future prospects. The purpose of the industry analysis is to identify the industries with a potential for future growth and to invest in equity share of companies selected from such industries. An industry is a homogeneous group of companies. Industry broadly covers all the economic activities happening in a country. A broad concept of industry would include factors of production, transportation, trading activity and public utilities.
The industrial growth of the nation leads to the development of a nation. Industries are to be considered as community interest. Industry consisting of products on process oriented units. There are a number of industries. The industries can be divided according to the nature of their function. For ex. Automobile industry, steel industry etc.

The production of commodity is known as manufacturing sector. The manufacturing sector competes with the agriculture transportation and public utilities. A combination of different industries output, a service sector output is known as Gross National Product (GNP). Each industry is broken down into its logical product classes. The growth of an industry begins with a major technological change. The change in technology results in rapid industrial growth.

The growth of many industries tends to reduce the impact of cost reduction. The cost reduction tends to limit the continued growth of a market. The technological innovation can reduce cost of production substantially. An industry growing at a rapid rate, faster than the national economy will eventually have its growth dampened. A decrease in population growth may lead to a decrease in the rate of growth of industrial sector.

The growth of many industries is divided into 3 stages. They are as follows:

(I) The pioneering stage

(II) The expansion stage

(III) The stagnation stage

1.5.3 COMPANY ANALYSIS

Company analysis is a study of the variables that influence the future of a firm both quantitatively and qualitatively. It is a method of assessing the competitive position of a firm, its earnings and profitability, the efficiency with which it operates it financial and its future earnings per share. The basic purpose of the company analysis is to know the intrinsic value of a share of a company which depends on the financial performance of a company over a period of time. The terms which are in the same industry are compared to one another to find out which one is the best performer to identify the potential company for investment based on its financial position. The company analysis is the most important factor for investment and
entering into the stock market. The following factors will help in analysis of particular scrip.

a) Marketability

b) Accounting system

c) Profitability

d) Dividend policy

e) Capital structure

f) Financial analysis

g) Operating efficiency

h) Management capability.

(a) The most important factor for selection of a particular company’s share is its marketability. The earnings of the company influence the marketability. The share of the company in the industry, growth and stability of its sales determine the earnings. Company, which has a strong competitive position, will provide more earnings. The sales are also dependent on two other major factors such as the operating efficiency of the company and the input costs.

(b) Accounting system is another important element in analysis of the company’s financial position. There is a chance of faulty interpretation of company earnings due to inconsistent accounting policies. The accounting variations are observed for recording costs, expenses and other items, which may change the earnings to a great extent. The accounting policies may also highly influence the inventory pricing, methods of changing depreciation, tax and non-operating income. All these factors show an impact on corporate earnings.

(c) Profitability is the barometer for measuring a company’s performance. Investing in a company’s security indicates the right to future earnings of that company. Therefore the investor is interested in earnings stability of the company. Generally, the investors select those companies that have stable and growing sales. There is a strong relationship between sales and earnings. The profitability of the company can be analysed with the help of gross profit margin, net profit margin, earning power, return on equity and earning per share ratios. The increasing trend in
gross profit margin will indicate the increase in operating income due to a reduction in operating expenses. Net profit margin is the most powerful tool in selecting a particular company’s scrip. It is the net profit after tax as percentage of sales. The reduction in corporate tax will enhance the net profit margin and this in turn will influence the intrinsic value of a share. The earning power is the net profit to total assets. Return on equity is the important ratio to determine the per share return. Earnings per share are the ratio of profit after taxes to number of equity shares. It gives the per share earning available to the equity shareholders. Earning per share indicates the amount of surpluses and reserves that the company has generated and retained from its profits over the years.

(d) Dividend policy of the company also influences the value of a share. Some companies will have a stable dividend policy with higher rate of dividend in the future.

(e) Capital structure is another important factor in determining the value of a share. The return on the equity holder’s investment can be influenced by financial leverage. The company can use debt funds instead of using total equity funds. The debt equity ratio can be used to analyse the leverage position. A high proportion of preference share capital in the capital structure tends to create thick equity position. The preference shares should be utilized only when it enhances the financial strength and earnings of the company. The debt component in capital structure of the company plays an important role in long-term financing. The debt funds will have lower rate of cost of financing: The interest paid on debt funds is deductible from the profit and reduces the tax liabilities. The use of debt funds due to leverage effect, the equity shareholders earnings may be maximized.

(f) Financial solvency will examine solvency and the liquidity position of the company. The analysis contains a number of parameters. It will enable the company to know about the performance and efficiency of the company in various aspects.

(g) Operating efficiency will reflect the growth of sales volume and increased operating profits. The operating efficiency can be determined from the utilisation of the plant capacity. If the operating efficiency is higher then there will be an increase in earnings per share. The future earnings of a company depend upon the ability of
the management to invest its funds wisely. The capital expenditure of a company will increase the production capacity and in turn the sales.

(h) Management capability is the most important factor in determining the future of the company. The company management should have dynamism, abilities, competency, talent, skills, courage and leadership qualities. Excellent management is paramount to investment success. The quality of the management is the key for successful performance. The ability of the management is the most important element. The management shall have managerial and technical capabilities to run the enterprise efficiently. The management must have the financial 9 for the smooth functioning of the production.

Financial Ratios: - A ratio is an arithmetical relationship between two figures. Financial ratio analysis is a study of ratios between various items in financial statements. Financial ratios have been classified in several ways. Financial ratios are calculated from the balance sheet and profit and loss account. Ratios summarize the data for easy understanding, comparison and interpretation. For our purpose, we divide them into five broad categories as follows:

1. Liquidity Ratios: - Liquidity refers to the ability of a firm to meet its obligations in the short run, usually one year. Liquidity ratios are generally based on the relationship between current assets and current liabilities. The important liquidity ratios are:
   (a) Current Ratio
   (b) Acid-test Ratio
   (c) Cash Ratio

2. Leverage Ratios: - Financial leverage refers to the use of debt finance. While debt capital is a cheaper source of finance, it is also a riskier source of finance. Leverage ratios help in assessing the risk arising from use of debt capital. The important leverage ratios are:
   (a) Debt-equity Ratio
   (b) Debt-asset Ratio
   (c) Interest Coverage Ratio
(d) Fixed Charges Coverage Ratio

(e) Debt Services Coverage Ratio

3. Turnover Ratios: - Turnover ratios, also referred to as activity ratios or assets management ratios, measure how efficiently the assets are employed by a firm. These ratios are based on the relationship between the level of activity, represented by sales or cost of goods sold, and the level of various assets.

(a) Inventory Turnover

(b) Debtors Turnover

(c) Average Collection Period

(d) Creditor Turnover

(e) Average Payment Period

(f) Fixed Assets Turnover

(g) Total Assets Turnover

4. Profitability Ratios: - Profitability reflects the final result of business operations. There are two types of profitability ratios: profit margin ratios and rate of return ratios. Profit margin ratios show relationship between profit and sales. Since profit can be measured at different stages, there are several measures of profit margin. Rate of return ratios reflect the relationship between profit and investment.

(a) Gross Profit Margin Ratio:- The gross profit margin ratio is defined as:

\[ \text{Gross profit margin ratio} = \frac{\text{Gross profit}}{\text{Net sale}} \times 100 \]

Gross profit is defined as the difference between net sales and cost of goods sold. This ratio shows the margin left after meeting manufacturing costs. It measures the efficiency of production as well as pricing.

(b) Net Profit Margin Ratio:- The net profit margin ratio is defined as:

\[ \text{Net profit margin ratio} = \frac{\text{Net profit}}{\text{Net sale}} \times 100 \]
This ratio shows the earnings left for shareholders (both equity and preference) as a percentage of net sales. It measures the overall efficiency of production, administration, selling, financing, pricing, and tax management.

(c) **Return on Assets:** The return on assets (ROA) is defined as:

\[
ROA = \frac{\text{Profit after tax}}{\text{Average total assets}} \times 100
\]

ROA is an odd measure because its numerator measures the return to shareholders (equity and preference) whereas its denominator represents the contribution of all investors (shareholders as well as lenders).

(d) **Return on Capital Employment:** the return on capital employment is defined as:

\[
ROCE = \frac{\text{Profit before interest and tax}}{\text{Average capital employed}} \times 100
\]

ROCE is the post-tax version of earning power. It considers the effect of taxation, but not the capital structure. It is internally consistent. Its merit is that it is defined in such a way that it can be compared directly with post-tax weighted average cost of capital of the firm.

(e) **Return of Equity (Return on Net Worth):** A measure of great interest to equity shareholders, the return on equity is defined as:

\[
= \frac{\text{Equity earning}}{\text{Net worth}} \times 100
\]

The numerator of this ratio is equal to profit after tax less preference dividends. The denominator includes all contributions made by equity shareholders (paid-up capital + reserve and surplus).

The return on equity measures the profitability of equity funds invested in the firm. It is regarded as a very important measure because it reflects the productivity of the ownership capital employment in the firm.

(f) **Earnings Per Share (EPS):** this ratio measures the earnings per share available to ordinary shareholders. Equity shareholders have the right to all profits left after payment of taxes and preference dividend.
This ratio is quite significant. EPS affects the market value of shares. It is an indicator of dividend paying capacity of the firm.

(g) Dividend Per Share (DPS): All the profits after tax and preference dividend available for equity shareholders are not distributed among them as dividend. Rather a part of it is related in business.

\[
\text{DPS} = \frac{\text{Profit distributed to equity shareholders}}{\text{Number of equity shares}}
\]

5. Valuation Ratios: - Valuation ratios indicate how the equity stock of the company is assessed in the capital market. Since the market value of equity reflects the combined influence of risk and return, valuation ratios are the most comprehensive measures of a firm’s performance. The important valuation ratios are:

(a) Price-to-Earning RATIO (PER):- indicates how much are investors willing to pay per a monetary unit of earnings. Perhaps the most popular financial statistic in stock market discussion, the P/E ratio is defined as:

\[
\text{PER} = \frac{\text{MPS}}{\text{EPS}}
\]

The PER indicator estimate the number of years during which the investment can be recovered assuming that the entire profit is distributed as dividend. The P/E ratio is a summary measure which primarily reflect the following factors; growth prospectus, shareholder orientation, corporate image, and degree of liquidity.

Investors can do the interpretation of the PER indicator as follows:

- A relatively low PER indicates a cheap share, therefore adequate to be purchased.
- A relatively high PER indicates an expensive share that can also be overvalued.

(b) Market Value to Book Value Ratio (P/B Ratio):- Is the ratio of the company’s current share price compared to the book value per share. It is another important
ratio because it indicates the value conferred by financial markets to a company’s management. It is calculated with the formula:

\[
\frac{\text{Market Value per Share}}{\text{Book Value per Share}}
\]

- If PBR is less than one, it reflects a safe investment in the company, because it says that the book value is a “support” level of the market price.
- If PBR is above one, i.e. the book value is lower than the market price, it might be an indication that the shares are overvalued.

1.6 TECHNICAL ANALYSIS

The word “Technical” implies a study of market itself and not of the various external factors which affect the market. According to technical analysis, all relevant factors, whatever that may be, get reflected in the volume of the stock exchange transaction and the level of share prices, or more generally by the market. Technical analysis is the study of market information.

Technical analysis attempts to predict future stock prices by analysing past stock prices. In effect, it asserts that tomorrow’s stock prices are influenced by today’s price. Technical analysis is very appealing ascertain, because it eliminates the need to perform fundamental analysis.

It is the analysis of share prices and the traded volume to predict the near future price movement. It is 90 percent psychological and 10 percent logical, which means market is driven by psychology of investors in 90 percent times and, 10 percent of the times logical factors affect the market. Technical analysis is based on the belief that history repeats itself, which means price patterns and traded volume again and again over a period of time. This repetition of price and volume helps in predicting near future price movements.

Technical analysis refers the process of identifying trend reversals at an earlier stage to formulate the buying and selling strategy. With the help of several indicators they analyse the relationship between price volume and supply demand for the overall market and the individual stock. Volume is favorable on the upswing i.e. the number
Of shares traded is greater than before and on the downside the number of shares traded dwindles. If it is the other way round, trend reversals can be expected.

1.6.1 ASSUMPTIONS OF TECHNICAL ANALYSIS

The technical analysis is based on the following assumptions:

i. The individual scrip act likes a barometer. A small event is usually discounted in advance with price movements.

ii. The market price is determined mainly by interaction of demand and supply of security.

iii. There are both rational and irrational factors, which surround the share supply and demand.

iv. Change in trends is caused by shifts in the demand and supply position shares.

v. An upward trend in prices of scrip denotes a balance buying, a downward trend is an indicative of extreme supply, and analysis is the technician’s main challenge.

vi. The upward or downward trend of prices of stocks in the market depends up on the sentiment, psychology and emotions of operators or traders.

vii. Some chart patterns trend to repeat them.

viii. The present trends are influenced by the past trends.

1.6.2 TECHNIQUES/TOOLS OR INDICATORS OF TECHNICAL ANALYSIS: Generally, we include following tools and techniques in technical analysis. These indicators analysed the data and provide the trend analysis. The main indicators of ‘Technical Analysis’ are:

1. Dow theory

2. Charts

3. Support and Resistance level

4. Moving Average

5. Odd lot trading.
6. Short selling Theory
7. Volume of trade
8. Fibonacci Number
9. Stochastics
10. Ralph Nelson Elliott Wave Theory
11. Oscillators and etc.

1. DOW THEORY

This theory is developed by Dow to explain the movement of indices of Dow Jones Averages in 1984. He developed the theory on the basis of certain hypothesis which is as follows:

a) No single buyer can affect (influence) the market price behavior. However, a single investor can affect the daily price movement by buying or selling of huge quantum of particular security.

b) The market discounts everything.

c) Dow Theory explain that it is not a tool of beating the market but it is a way of understanding the market.

Explanation of Dow Theory

Dow describes the stock prices as moving in trends like the movement of water. He postulates three types of price movement like:

a) Primary or major Trends (like the tide in ocean)

b) Secondary or Intermediary trends (resemble Waves)

c) Short run movement (like the ripples)

a) Primary Trend

The price trend may be either increasing or decreasing. When a market exhibits the increasing, trend, it is called bull market. The bull market shows the three clear cut peaks. Each peak is higher than previous peak and this price rise is accompanied by heavy trading volume.
b) **Secondary Trend**

Secondary trend moves against the main trend and leads to correction. In the bull market, the secondary trend is result of falling 33% to 66% of earlier rise. Secondary trend carries of earlier rise. Secondary trend carries the price upward and corrects the main trend.

c) **Minor Trends**

Minor trends are just like the small fluctuations (like ripples) in the market. They are simply the daily price fluctuations. Minor trend tries to correct the secondary price movement. It is better for investor to concentrate on primary or secondary trends than minor trends.

2. **CHARTS**

Technical analysis has a huge quantum of information in terms of intraday traded prices and opening and closing day prices, the data is represented mostly in term of charts. Chart plot the price information well and several other observations.

Charts have the strength of condensing information into a pattern that is easy to understand and grasp rather than numbers of statements. Charts patterns provide a framework to analyze the position of the market in terms of single share or a consolidation of the market position. More importantly, chart patterns and hence, Technical analysts can help determine who is dominating the market at a specific time. This information can help investors to understand the market and achieve their investment goals. Chart pattern analysis can be used to make short term or long term forecasts. The data can be intraday, weekly or monthly and the patterns can be as short as one day or as long as many years. The charts also have the following uses:

- Spot the current trends for buying and selling
- Indicate the probable future action of market by projection.
- Shows post historic performance.
- Indicates the important areas of support and resistance.

The most commonly used charts are:

a. Line charts/Line and Volume Charts.

b. Bar Charts.
c. Point and Figure charts
d. Candle stick charts

a) Line chart
The line chart connects the prices over a time period and is more useful for identifying long term trends. It has a line that connects the closing price against time.

b) Bar chart
The bar chart gives the chartist information on price changes at a time. In this, the high, low, open, close share price or index level is plotted against time.

c) Point and figure chart
The point and figure chart shows only the price changes. It eliminates noise of detail, foisting only on trends. The two distinct marks of cross/round indicate respectively a rise/fall in a price range.

d) Candlestick chart
Candlestick charts plot information similar to bar charts but could reveal an extra intuitive interpretation. Candlesticks are shown as a vertical rectangle with wicks at both ends. When the closing price is higher than opening, the rectangle is transparent, and in the reverse case, it is black.

Two basic facts (tenets) of technical analysis are that prices exhibit trends and history repeats themselves. An uptrend (bullish market) indicates that the forces of demand (bulls) are in control, leading to an increase in the share prices and a downtrend (bearish market) indicates that the forces of supply (hears) are in control, causing a decline in the share prices.

3. SUPPORT AND RESISTANCE LEVEL
Anybody who is interested in technical analysis should know the support and resistance level. A support level exists at a price where considerable demand for that stock is expected to prevent further fall in the price level. The fall in the price may be halted for the time being or it may result even in price reversal, at the support level, if the demand for particular scrip is expected.
In the resistance level, the supply of scrip would be greater than the demand and further rise in price is prevented. The selling pressure is greater and the increase in price is halted for the time being.

Support and resistance level usually occur whenever the turnover of a large number of shares tend to be concentrated at several price, levels.

When the stock touches a certain level and then drops, this is called resistance level and if the stock reaches down to certain level and then rises there exists a support.

We can understand it numerically by following example: If a scrip price hovers around Rs. 150 for some weeks then it may rise and reach Rs. 210. The scrip keeps on falling back to around its original price Rs. 150 and halts. Then it moves upward. In this case Rs. 150 becomes the support level. At this point the scrip is cheap and investors buy it and demand makes the price move upward. Whereas Rs, 210 becomes the resistance level, the price is high and there would be selling pressure resulting in the decline of the price.

4. MOVING AVERAGE METHOD

An average is the sum of price of a share over some weekly periods divided by the number of weeks. This point is marked on the latest date for which a price bar has been plotted. This process is repeated for the previous data. The point thus obtained are connected together to give the moving average line. A moving average is a simple presentation of historical data. The data relating is the most important element in moving average. The each data point is the arithmetic average of the previous data. A 15 day’s moving average measures the average over the previous 15 days trading.

5. FIBONACCI NUMBERS:

Leonardo Fibonacci was a mathematician who was born in Italy around the year 1170. Fibonacci while studying the great Pyramid of Gizeh in Egypt discovered the relationship between numbers that are now referred to Fibonacci numbers. Fibonacci numbers are a sequence of numbers in which each successive number is the sum of two previous numbers 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233 etc.
These numbers possess an intriguing number of interrelationships, such as the fact that any given number is approximately 1.618 times the preceding number and any given number is approximately 0.618 times the following number.

There are four popular Fibonacci studies arcs, fans, retracements and time zones,

1. Fibonacci Arcs.
2. Fibonacci Fans.
3. Fibonacci Retrocements.
4. Fibonacci Time Zones.

The interpretation of these studies involves anticipating changes in trends as prices near the lines created by Fibonacci studies. The moving averages are used to study the movement of the market as well as the individual scrip price. The moving average indicates the underlying trend in the scrip. The period of average determines the period of the trend that is being identified. For identifying short term trend, 10 day to 30 day moving averages are used. In the case of medium term trend 50 day to 125 day are adopted. 200 day moving average is used to identify long term trend.

6. ODD LOT TRADING

Shares are generally sold in a lot of hundred. Shares, sold in smaller lots, fewer than 100 are called odd lot. Such buyers and sellers are called odd lotters. Odd lot purchases to odd lot sales (Purchase % Sales) is odd lot index. The increase in odd lot purchase results in an increase in the index. Relatively more selling leads to fall in the index. It is generally considered that the professional investors are more informed and stronger than the odd lotters. When the professional investors dominate the market, the stock market is technically strong. If the odd lotters dominate the market, the market is considered to be technically weak. The notion behind is that odd lot purchase is concentrated at the top of the market cycle and selling at the bottom.

7. VOLUME OF TRADE

Volume of trade is influenced by the behavior of price. Dow gave special emphasis on volume. Volume expands along with the bull market and narrows down in the bear market. If the volume falls with rise in price or vice versa, it is a matter of
concern for the investor and the trend may not persist for a longer time. Technical analyst used volume as an excellent method of confirming the trend. The market is said to be bullish when small volume of trade and large volume of trade follow the fall in price and the rise in price.

Large volume with rise in price leads to bull market. If the volume decline for five consecutive days, then it will continue for another four days and the same is true in increasing volume.

8. SHORT SALES

Short selling is a technical indicator known as short interest. Short sales refer to the selling of shares that are not owned. The bears are the short sellers who sell now in the hope of purchasing at a lower price in the future to make profits. The short sellers have to cover up their positions. Short positions of scrips are published in the business newspapers. When the demand for a particular share increases, the outstanding short positions also increase and it indicates future rise of prices. These indications cannot be exactly correct, but they show the general situations.

\[
\text{Short Interest Ratio} = \frac{\text{Short interest position}}{\text{Average daily trading}}
\]

This interest tells us that the how much period is required to fulfill the short term interest. It is at high level when it crosses the two. Short selling theory is not a certain indicator; it is only a general or normal approach. Technical investor or analyst assumes that it is an unnatural technique which short term investors find impossible to understand.

9. STOCHASTICS

The stochastic process has an indefinite progression of jointly distributed random variables. The stochastic oscillator compares where a share’s price closed relative to its trading range over the last n-time periods.

Basically, it is oversold technical indicator. If a share or index is identified as ‘oversold”, there exists the possibility that buyers will enter the market, driving the price upward. On the other hand, if a share is “Over bought”, the sellers will over power buyers to drive the price lower. In trending markets, stochastic oscillator can stay over bought or oversold. In a strong up trending market the stochastic oscillator
can stay over bought while in a strong down trending market the measure can maintain its oversold condition. From a timing perspective, stochastic oscillator works best in non trending or consolidating market. The stochastic oscillator compares a share’s closing price level to its range over a specified period time. Generally speaking, prices tend to close near their highs in up trending markets and near their lows in down trending markets.

The stochastic indicator is plotted as two lines:

The “Percent D”, % D Line

The “Percent K”, % K Line

The % K is more sensitive of the oscillators, but it is the % D line that carries greater weight and gives major signals. Both these values range from 0 to 100. Values above said are considered strong and suggest prices are closing near their highs. Value below 20 indicate prices are closing their lows and are indicative of weakness.

It is usually estimated that % k will change direction before % D. However, when the % D line changes directions prior to the % K line a slow and steady reversal is often indicated when both % K and % D lines change direction and the faster % K changes direction to retest a crossing of the % D line, but does not cross it, a confirmation of the stability of the prior reversal is made.

Formula of % K parameter of the stochastic or “raw stochastic” is

\[
\% K = 100 \times \frac{\text{closing price} - \text{lowest low \% K periods}}{\text{Highest high \% K periods} - \text{Lowest low \% K periods}}
\]

The formula can be restated as follows % K= 100x[(CL-Ln)/[(Hn-Ln)]

Where CL= The current day’s close

Ln= The lowest point over the past n days

Hn= The highest point over the past n days.

N= the number of days, typically five or more.

A moving average of % K is then calculated using the number of time periods (n days) used in the % K computations. This moving average is called % D. % D represents a smoothing of % K and is an- day moving average of% K.
The formula for % D sometimes can be computed as follows:

\[ \% D = 100 \times \frac{Hn}{Ln} \]

L= The lowest low for the n-day period.

H= The highest high for the same n-day period.

The fast stochastic (% K) and (% D) are plotted on some chart.

10. RALPH NELSON ELLIOTT WAVE THEORY

Technical analysis is based on Ralph Nelson Elliott Wave Theory/Principal. The basis of this theory was developed from the observation that rhythmic regularity had been the law of the nature- whether of tide, whether, of life it has the capacity of repeating itself indefinitely.

The Elliott wave principle is a form of technical analysis that attempts to forecast trends in the financial markets and other collective activities. It is named after (Ralph Nelson Elliott (1871-1948), an accountant who developed the concept in the 1930s: he proposed that market prices unfold in specific patterns.


Ralph Nelson told in the wave theory that there are two forces, one building up and other tearing down, characterized these movements. Elliott noted that market moved forward in five waves and then declined in a series of three waves. These waves depicted in following diagram:

Ralph Nelson Elliott developed the ‘Elliott Wave Principle in 1930s by discovering that stock markets, though to behave in a somewhat chaotic manner, in fact, did not. They did, however, trade in what he called repetitive cycles, which he discovered were the emotions of investors, caused by outside influences or predetermining psychology of the masses at the time.

He had started that the upward and downward swings of mass psychology always showed up in the same repetitive patterns, which were then divided into patterns he termed ‘waves’, The theory, is somewhat based upon the ‘Dow theory’.

Chartists believed that due to this fractal nature of the markets, Elliott was able to breakdown and analyse markets in much greater detail. Fractal has mathematical structures which on an even smaller scale indefinitely repeat themselves.

Price movements can be divided into trends on one hand and corrections on sideways movements on the other hand. Trend shows the main direction of prices, while corrections move against the trend. In Elliott terminology these are called (impulsive waves) and corrective waves.

Elliott’s model says that market prices alternate between five waves and three waves at all degree of trend. As these waves develop, the larger price pattern, unfold in self-similar fractal geometry. Within dominant trend waves 1, 3 and 5 are ‘motive’ waves and each motive wave itself subdivided in five waves. Waves 2 and 4 are corrective waves, and subdivided in three waves. In a bear market the dominant trend is downward, so the pattern is reversed five waves down and three up.

Motive wave always moves with the trend, while corrective waves move against it.

**Degree:** The pattern link to form five and three wave structures of increasing size or “degree” the complete motive pattern includes 89 waves, followed by a completed corrective pattern of 55 waves.

Each degree of the pattern in a financial market has a name. Practitioners use symbols for each wave to indicate both function and degree- numbers for motive waves, letters for corrective waves (shown in the highest of the three idealized cycles) degrees are relative, they are defined by form, not by size duration.

The classification of a wave at any particular degree can vary, though practitioners generally agree on the standard order or degree:-
• Grand Super Cycle : Multi-decade to multi-century.
• Sup Cycle : A few year to few decades
• Cycle : A year to few years
• Primary : A few months to a couple of years
• Intermediate : Weeks to months
• Minor : Weeks
• Minute : Hours
• Sub-Minute : Minutes

Behavioral characteristics and wave “Signature”

Elliott Wave analysts (or Elliotticians) hold that it is not necessary to look at a price chart to judge where a market is in its wave pattern. Each wave has its own “Signature” which often reflects the psychology of the moment. For understanding how and why the waves develop is key to the application of the wave principle - understanding the characteristics of wave pattern:

These wave characteristics assume a bull market in equities. The characteristics apply in reverse in bear market.

FIVE WAVE PATTERN (DOMINANT TREND)

Wave 1: Wave one is rarely obvious at its inception. When the first wave of a new bull market begins, the fundamental news is almost universally negative. The previous trend is considered still strongly in force. Fundamental analysts continue to revise their earnings estimates lower; the economy probably does not look strong. Volume might increase a bit as prices rise, but not enough to alert many technical analysts.

Wave 2: Wave two corrects wave one, but can never extend beyond the starting point of wave one. Typically, the news is still bad. As prices retest the prior low, bearish sentiment quickly builds, and “the crowd” haughtily reminds all that the bear market is still deeply ensconced. Still, some positive signs appear for those who are looking: volume should be lower during wave two then during wave one.
**Wave 3**: wave three is usually the largest and most powerful wave in trend (although some research suggests that in commonality markets, wave five is largest). The news is now positive a fundamental analysts start to raise earnings estimates. Prices rise quickly, corrections are short-lived and shallow.

As wave -3 (three) starts the news is probably still bearish and most market players remain negative; but by wave three’s midpoint, “the crowd” will often join the new bullish trend.

**Wave 4**: - Wave four is typically clearly corrective. Prices may meander sideways for an extended period. This is a good place to buy a pull back if you understand the potential ahead for wave-5. Still, the most distinguishing feature of 4th wave is that they often prove very difficult to count.

**Wave 5**: - Wave five is the final leg in the direction of dominant trend. The news is almost universally positive and everyone is bullish. Unfortunately, this is when many average investors finally buy in, right before the top. Volume is lower in wave five than in wave three (and many momentum indicators start to show divergences (prices reach a new peak) At the end of a major bull market, bears may very well be ridiculed (recall how forecasts for a top in the stock market during 2000 were received).

**THREE WAVE PATTERN (CORRECTIVE TREND)**

**Wave A**: corrections are typically harder to identify than impulse moves. In wave A of a bear market, the fundamental news is usually still positive. Most analysts see the drop as a correction in a still-active bull market. Some technical indicators that accompany wave A include increased volume, rising implied volatility in the options markets, and possibly a turn higher in open interest in related futures markets.

**Wave B**: Prices reverse higher, which many see as a resumption of the now long-gone bull market. Those familiar with classical technical analysis may see the peak as the right shoulder of a head and shoulders reversal pattern. The volume during wave-B is lower than wave A.

**Wave C**: prices move impulsively lower five waves. Volume picks up, and by the third leg of wave-C, almost everyone realizes that a bear market is firmly entrenched. Wave- C is typically at least as large as wave-A.
11. OSCILLATORS

The researcher is taking base ‘Oscillators’ for showing the trends of selected companies. The Oscillators indicate the market momentum or scrip momentum. Oscillator shows the share price movement across a reference point from one extreme to another. The momentum indicates:

- Over bought and oversold conditions of the scrip or the market.
- Signaling the possible trend reversal
- Rise or decline in the momentum.

Oscillation means a movement of certain item again on the same path with the same frequency, like that of a pendulum in a wall clock. Oscillators indicate trend reversals that have to be confirmed with the price movement of the scrip. Changes in the price should be correlated to changes in the momentum, and only buy and sell signals can be generated. Actions have to be taken only when the price and momentum agree with each other. With the daily, weekly or monthly closing prices oscillators are built. For short term trading weekly prices are useful.

These Oscillators are fine tools to predict future movements much before such movement take place, and thus leave a sufficient time gap to take decision on the basis of these.

The prominent oscillators are following trend analysis of selected companies under study with their monthly average closing stock prices.

- Moving Average convergence and divergence (MACD)
- Rate of change (ROC)
- Relative strength Index (RSI)

MOVING AVERAGE CONVERGENCE AND DIVERGENCE (MACD)

It is used to predict movements in the market. An analyst is generally in a dilemma whether to use long term moving average or short term moving average. The solution for such type of dilemma is MACD. MACD is the difference between short term moving average and long term moving average. This difference helps in identifying, whether prices in the recent past have moved upward or downward as
compared to longer period movement. With the help of MACD line various signals can be generated;

MACD = short period moving average - long period moving average

Simple buy and sell signals can be generated with the help of MACD, when MACD is in a positive zone it indicates buying as share prices are likely to move upward in the future.

On the contrary, when MACD is in negative zone it indicates down ward (southward) movement of the market in the near future and one should sell the shares.

**Advanced signals with the help of MACD**

- Whenever the MACD is above zero mark line, it indicates the signal of bullish market for the scrip.
- Whenever the MACD is above zero mark line, but declining it is early warning signal of a bearish market.
- Whenever the MACD is below zero mark line, it indicates the signal of bearish market for the scrip.
- Whenever the MACD is below zero mark line, but rising it is early warning signal of a bullish market ahead.
- Whenever MACD forms a peak at the top it give signals that the market will soon turn bearish, i.e. it represents overbought situation.
- Whenever MACD reaches its bottom it signifies oversold situation i.e. that is the market will start becoming bullish.

**RATE OF CHANGE (ROC)**

Rate of change indicator or the ROC measures the rate of change between the current price and the price ‘n’ number of days in the past. ROC helps to fine out the overbought and oversold positions in scrip. It is also useful in identifying the trend reversal. Closing prices are used to calculate the ROC.

The researcher also takes monthly closing prices for ROC.
\[ \text{ROC} = \frac{\text{Current Price}}{\text{Price n Months ago}} \]

**Advance signals with the help of ROC**

- When ROC is at the peak, it signifies the overbought market.
- When ROC is above ‘one’ mark and increasing, it signifies the bullish trend in the market for the scrip.
- When ROC is above ‘one’ mark and declining, it signifies the bearish trend in the market for the scrip.
- When ROC is at the bottom, it signifies the oversold market.

**RELATIVE STRENGTH INDEX (RSI)**

RSI was developed by Wills Wilder. It is one of the most powerful much before such movement takes place. RSI is an oscillator used to identify the inherent technical strength and weakness of particular scrip of market. Under RSI gains and losses of the prices over the immediate previous days’ price for a certain period is calculated. With the help of the formulae RSI value is calculated and plotted on the graph to identify overbought and oversold market. Market always moves southward after an overbought situation and it moves northward after an oversold situation.

When RSI value is at or above 70 levels and moving upward it indicates that market is likely to reach the peak due to overbought situation. On the contrary to this when RSI value is at or below 30 levels, it indicates an oversold situation and market is likely to bottom out. In between 50 level of RSI is used to generate confirm and safe signals. Market always moves southward after an overbought situation and it moves northward after an oversold situation.

\[ \text{Calculation of } \text{RSI} = 100 - \frac{100}{1 + \text{RS}} \]

Where \( \text{RS} = \frac{\text{Average of n days advance}}{\text{Average of n days declines}} \)

**Signals**

Value 50 is the Benchmark
Value 70 is used to identify overbought market.

Value 30 is used to identify oversold market,

**Generating Signals with the help of RSI**

- When RSI crosses 50 mark it signifies a bullish market ahead for the scrip.
- When RSI crosses 70 mark from downward it signifies the overbought market.
- When RSI declines after touching the peak, it signifies the bearish market ahead.
- When RSI crosses 30 mark from upward it signifies the oversold market.

**1.7 RISK AND RETURN ANALYSIS**

Now we have discussed investment, investment involves risk and return analysis. First we will discuss here what is risk and its measurement after that we shall discuss return on investment.

Security analysis involves valuation of expected risk and return of securities. The first three motives of this is (a) income (b) capital appreciation. (c) a positive hedge against inflation income refers the expected return and last two motives refers the risk involved in investment. These risk are due to uncertainly of returns, regularity of returns, safety of funds, marketability or lack of it, etc.

**Return:** Return is the primary motivating force that drives investment. It represents the reward for undertaking investment. Since the game of investing about returns (after allotting the risk), measurement of realized (historical) returns is necessary to asses how well the investment manager has done. In addition, historical returns are often used as an important input in estimating future (prospective) returns.

The return of an investment consists of two components:

**Current Return:** the first component that often comes to mind when one is thinking about return is the periodic cash flow (income), such as dividend or interest, generated by the investment. Current return is measured as the periodic income in relation to the beginning price of the investment.
**Capital Return:** the second component of return is reflected in the price change called the capital return- it is simply the price appreciation (or depreciation) dividend by the beginning price of the assets. For assets like equity stocks, the capital return is predominant.

**Total Return**: Current Return + Capital Return

The current return can be zero or positive, whereas the capital return can be negative, zero, or positive.

**Risk**

Risk is any investment. This risk may relate to loss or delay in repay of the principal capital or loss on non-payment of interest and variability of returns. Risk may be defined as where future outcomes are known of all alternatives and there is possibility of loss called risk.

Risk may be defined, according to dictionary, “existence of volatility in the occurrences of expected incident is called risk. Higher the unpredictability greater is the risk.”

**Components of Risk**

There are two types of components found of risk:

1. Systematic risk
2. Unsystematic risk

Total Risk = (Systematic risk + Unsystematic risk)

\[ \beta + \alpha \]

**A) Systematic Risk (\( \beta \))**

Systematic risk refers to the portion of the total variability of return caused by common factors affecting the prices of all securities in market like through economic, political and social factors. We can call it non-diversified risk.

**Components of systematic risk**

1. Market Risk: It arises from change in market conditions or market movements.
2. Interest Rate Risk: It arises from change in rate of interest. Interest rate also fluctuates.

3. Purchasing Power Risk (Inflation Risk): Inflation in the economy also influences the risk inherent in investment. The change in inflation rate also change the consumption pattern hence investment returns carry on additional risk.

4. Trade cycle Risk: These types of risk arises or create by the change in trade cycle or phase of trade cycle or business conditions and also change in monsoons for agricultural based economy of India.

5. Political Risk: It can arises due to change in government or its policy shown in fiscal and budgetary aspects etc. through change in tax rates and administration regulations

B) Unsystematic Risk

Unsystematic risk which refers to the portion of the total variability of the return caused due to unique factors relation to that firm and industry through such factors as management failure, labor strikes raw material scarcity etc. These types risks are known as diversified risks. These are explained below:

1) Business risk

The ability of company to earn operational income is represented by the business risk. When a company fails to earn through its operations then we can understand that it is business risk.

2) Financial Risk

It can arise due to heavy interest burden or inefficient capital management.

3) Management Risk

It can arise due to inefficiency of managers etc.

1.8 EFFICIENT MARKET THEORY/EFFICIENT MARKET HYPOTHESIS

Efficient market theory states that the share price fluctuations are random and do not follow any regular pattern. Meanwhile technical analysts see meaningful patterns in
their charts. This raises the question as to whether the intrinsic value of shares has any meanings. Are they related to the security prices? Efficient market theory describes the explanation of above discussed questions.

The basic concepts of efficient market hypothesis are market efficiency, operational efficiency, liquidity traders and information traders. The efficient market theory comprises the random-walk theory. Random-Walk theory was proposed by a France mathematician named Louis Bachelier. He says that security price fluctuations were random. In 1953, Mowrice Kendall in his paper reported that stock price series is a wandering one. They appeared to be random; each successive change is independent of the previous one. In 1970, Fama stated that efficient markets fully reflect the available information. Fama suggested that efficient market hypothesis (EMH) can be divided into three categories. They are ‘Weak Form’, the “Semi-strong for”, and the “Strong form”.

The level of information being considered in the market is the basis for this segregation.

**Weak form of EMH**

The type of information used in weak form of EMH is the historical prices. EMH explains that current prices reflect all information found in the past prices and trade volumes.

Traded volumes, future prices can’t be predicted by analyzing the prices from the past. The weak form of EMH can be understood through ‘filter rule’.

**Semi strong form of EMH**

The semi strong from of the EMI-I states that the security price adjusts rapidly to all publicly available information. In the semi strongly efficient markets, security prices fully reflect all publicly available information. The prices not only reflect the past price data, but also available information regarding the earnings of corporate, dividend, bonus issue, mergers, acquisitions and so on.

**Strong form of EMH**

The strong form of EMH states that all information is fully reflected on security prices. It represents an extreme hypothesis which most observes do not expect it to
be literally true. The strong form of efficient market hypothesis maintains that not only publicly available information is useless to the investor or analyst but all information is useless.

1.9 FINANCIAL MARKET

A market wherein financial instruments such as financial plains, assets and securities are traded is known as a financial market. If an investor wants to invest his money in the financial assets/paper securities, the financial market provides a market to buy and sell paper securities. In other words, financial market is a market for creation and exchange of financial assets. Financial markets play a pivotal role in allocating resources in an economy by performing some important function:

I. Financial markets facilitate price discovery. The continual interaction among numerous buyers and sellers who through financial markets helps in establishing the prices of financial assets. Well organized financial markets seem to be remarkably efficient in price discovery,

II. Financial markets provide liquidity to financial assets,

III. Financial markets considerably reduce the cost of transacting.

Financial market can be classified into two major parts like, *Money market* and *Capital market*.

(A) Money Market:- Money market refers to a market for short-term funds, short-term money and financial assets. It can also be termed as a mechanism or a system from which the borrowers manage to obtain short-term funds and the creditors for their money. The money market is a system for dealing in short-term funds. Short-term refers to the period up to one year. The RBI, commercial banks, financial institutions and the corporate sectors are the players of this market who deals in money and near money items. Still the RBI occupies an important and strategic position as it influences the availability of the credit and decides the cost of the credit.

(B) Capital Market: - Capital Market is the market for borrowing and lending long term capital funds required by business enterprise. It is the market where new securities are created and existing securities are traded for long-term finance. The
market where long-term funds are borrowed and lent is known as a capital market, the primary purpose being directing the flow of savings into long-term investment.

1.9.1 TYPES OF CAPITAL MARKET:

(a) Primary Market (New Issue Market)

(b) Secondary Market (Stock Exchange)

(a) Primary Market (New Issue Market): The primary market deals in new securities, that is, securities which were not previously available and are offered to the investors for first time. Capital formation occurs in the primary market as it supplies additional funds to the corporate directly. The issue may be by new company or existing company. Primary market is the market where securities are issued for first time. It performs triple-function origination, underwriting and distribution of securities to the investors.

(b) Secondary Market (Stock Exchange): The stock exchange is a market for existing securities, that is, those already issued and granted. A stock exchange represents any body of individuals, whether incorporated or not, constituted for the purpose of assisting, regulating for controlling the business of buying, selling or dealing in securities. It serves as a specialist market place for facilitating transactions in existing corporate securities at prices that are “fair and equitable”.

1.10 THE BOMBAY STOCK EXCHANGE

The Indian stock market is one of the oldest markets in Asian Markets. Its history dates back to two centuries when the record of securities dealing in India was meager and obscure. The East India Company was dominant institutions in those days and business in its loan securities was transacted towards the close of the eighteenth century.

By the 1830s, business in corporate stock and share in bank and cotton presses took place in Bombay through the trading list was broader in 1839, there were only half a dozen brokers recognized by bank and merchants.
In 1860-61, the American civil war broke out and cotton supply from the United State of America and Europe was stopped. This resulted in the “share mania” for cotton trading in India. The number of brokers increased to between 200 to 250.

At the same time, broker found a place in Dalal Street, Bombay, where they could conveniently assemble and transact business. In 1875, 318 peoples formally established the “Native Share and Stock Brokers Association”. In 1895, the associations acquired premises in the same street; it was inaugurated in 1899 as the Bombay Stock Exchange.

In 1956, the BSE became the first stock exchange to be recognized by Indian Government under Securities Contracts Regulation Act. The Bombay Stock Exchange developed the BSE SENSEX in 1986, giving the BSE a means to measure overall performance of the exchange. In 2000, the BSE used this index to open its derivatives market, trading Sensex future contacts. The development of Sensex option along with equity derivatives followed in 2001 and 2002, expanding the BSE’s trading platform. Historically an open-cry floor trading exchange, the Bombay Stock Exchange switched to an electronic trading system in 1995.

1.11 THE BSE SENSITIVE INDEX (SENSEX):

Bombay Stock Exchange developed the BSE SENSEX in 1986, giving the BSE a means to measure overall performance of the exchange. The BSE Sensitive Index has long been known as the barometer of the daily temperature of the daily temperature of all Indian bourses. The BSE 30 is stock market index and based on free-float market capitalization weight. Sensex consists 30, well established and financially sound companies listed on Bombay Stock Exchange. Since September 1, 2003, SENSEX is being calculated using a free-float market capitalization methodology. The "free-float market capitalization-weighted" methodology is a widely followed index construction methodology on which majority of global equity indices are based; all major index providers like MSCI, FTSE, STOXX, S&P and Dow Jones use the free-float methodology. The base year of Sensex is 1978-79. The base value of the Sensex is taken 100 on April 1, 1979. In 1978-79 stock market contained only private sector companies and they were mostly geared to commodity production. Hence, a sample of 30 was drawn from them. With the passage of time
more and more companies private as well as public came in to the market. The companies in the basket of Sensex are representative of various industrial sectors of the economy.

1.11.1 SENSEX - SCRIP SELECTION CRITERIA

1. Equities of companies listed on Bombay Stock Exchange Ltd. (excluding companies classified in Z group, listed mutual funds, scrips suspended on the last day of the month prior to review date, scrips objected by the Surveillance department of the Exchange and those that are traded under permitted category) shall be considered eligible.

2. Listing History: The scrip should have a listing history of at least three months at BSE. An exception may be granted to one month, if the average free-float market capitalization of a newly listed company ranks in the top 10 of all companies listed at BSE. In the event that a company is listed on account of a merger / demerger / amalgamation, a minimum listing history is not required.

3. The scrip should have been traded on each and every trading day in the last three months at BSE. Exceptions can be made for extreme reasons like scrip suspension etc.

4. Companies that have reported revenue in the latest four quarters from its core activity are considered eligible.

5. From the list of constituents selected through Steps 1-4, the top 75 companies based on free-float market capitalisation (avg. 3 months) are selected as well as any additional companies that are in the top 75 based on full market capitalization (avg. 3 months).

6. The filtered list of constituents selected through Step 5 (which can be greater than 75 companies) is then ranked on absolute turnover (avg. 3 months).

7. Any company in the filtered, sorted list created in Step 6 that has Cumulative Turnover of >98%, are excluded, so long as the remaining list has more than 30 scrips.
8. The filtered list calculated in Step 7 is then sorted by free float market capitalization. Any company having a weight within this filtered constituent list of <0.50% shall be excluded.

9. All remaining companies will be sorted on sector and sub-sorted in the descending order of rank on free-float market capitalization.

10. Industry/Sector Representation: Scrip selection will generally attempt to maintain index sectoral weights that are broadly in-line with the overall market.

11. Track Record: In the opinion of BSE index committee, all companies included within the Sensex should have an acceptable track record.