

MAFA

Suggestion Most Important For Students Appearing On June09

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I will act now. I will act now. I will act now. Henceforth, I will repeat these words each hour, each day, everyday, until the words become as much a habit as my breathing, and the action which follows becomes as instinctive as the blinking of my eyelids. With these words I can condition my mind to perform every action necessary for my success. I will act now. I will repeat these words again and again and again. I will walk where failures fear to walk. I will work when failures seek rest. I will act now for now is all I have. Tomorrow is the day reserved for the labor of the lazy. I am not lazy. Tomorrow is the day when the failure will succeed. I am not a failure. I will act now. Success will not wait. If I delay, success will become wed to another and lost to me forever. This is the time. This is the place. I am the person.

Important Theory Question

QUESTION NO. 1 Explain briefly Capital Rationing?

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QUESTION NO. 6 Write a short note of "Bridge Finance"?

QUESTION NO. 7 Write a short note on Debt Securitisation? or What are the advantages of Debt Securitisation?OR What is securitisation? What are its various instruments?OR Write a short note on Asset SecuritisationImportant**

QUESTION NO. 8 Write a short note on Systematic and Unsystematic Risk?OR Distinguish between 'Systematic risk' and 'Unsystematic risk'?or Discuss the various kinds of Systematic and Unsystematic Risk ?

QUESTION NO. 9 Explain the terms ESOS and ESPS with reference to the SEBI guidelines for The Employees Stock Option Plans (ESOPs).

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QUESTION NO. 12 State two basic principles for effective Portfolio Management?

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QUESTION NO. 14 Explain the Randon Walk Theory to Portfolio Management?

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QUESTION NO. 16 Write a short note about functions of Merchant Banker ? OR Explain the role of Merchant Bankers in Public issue?

QUESTION NO. 17 What are the Differences between Primary & Secondary Markets?

QUESTION NO. 18 Mention three broad classification of a Mutual Fund Schemes? or What is the difference between Open Ended and Close Ended Funds ?

QUESTION NO. 19 Write short note on NAV (Net Asset Value)?

QUESTION NO. 20 What are important Investor's Righths, Legal limitation,& Obligations under Mutual Fund?

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QUESTION NO. 22 What is the difference between Factoring and Bills Discounting ?

QUESTION NO. 23 Mention various products which are available in the market to cover exchange rate risks?

QUESTION NO. 24 Write a short note on “ Currency Futures”? *****Important[Revised Notes attached]

QUESTION NO. 25 What is the role of Financial Advisor in PSU?

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QUESTION NO. 28 What are the Advantages and Disadvantages of a Depository? or Explain Briefly the advantage of holding security in Demat form ?

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QUESTION NO. 32 Explain the terms ‘Intrinsic Value of an Option’ & the ‘Time Value of an Option’? OR Distinguish between Intrinsic Value & Time Value of an option?

QUESTION NO. 33 Write a Short Notes on BOOK BUILDING*****Important

QUESTION NO. 34 Write a short note on Buy-Back of shares by companies? OR Briefly explain ‘Buy Back of Securities’ and give the management objectives of buying Back Securities?

QUESTION NO.37 Write a short note on

- A. External Commercial Borrowings ****Important
- B. Participatory Notes (PNs)
- C. KIM (Key Information Memorandum)
- D. Call/Notice Money
- E. Treasury Bills (TBs)
- F. Commercial Papers (CP)
- G. Money Market Mutual Funds (MMMFs)
- H. Reverse Mortgage
- I. Index [Sensex and Nifty]

- J. Open Interest
- K. MIBOR
- L. LIBOR
- M. Retail Investors
- N. Short Selling
- O. Systematic Investment Plan (SIP)
- P. Demerger
- Q. Buyouts or Leveraged Buyouts
- R. Forward Rate Agreement (FRAs)

For Theory Solution Refer Aaditya Jain Theory Book Contact Delhi : 9911442626 Kolkata :9339238834

If you don't have a dream, how are you going to make a dream come true? Real difficulties can be overcome; it is only the imaginary ones that are unconquerable. There are two ways of meeting difficulties: you alter the difficulties, or you alter yourself to meet them. You can't fly a kite unless you go against the wind and have a weight to keep it from turning a somersault. The same with man. No man will succeed unless he is ready to face and overcome difficulties and is prepared to assume responsibilities. No matter how difficult the challenge, when we spread our wings of faith and allow the winds of God's spirit to lift us, no obstacle is too great to overcome.

QUESTION NO.1 Write a short note on “ Currency Futures” ?

➔ **Meaning :** A **currency future** is a futures contract to exchange one currency for another at a specified date in the future at a price (exchange rate) that is fixed on the contract date..

Currency futures were first created at the Chicago Mercantile Exchange (CME) in 1972

Currency Futures Market exist for the major currencies of the world - like the Australian dollar, the Canadian Dollar, the British pound, the French franc, the Swiss franc, the Japanese yen etc.

➔ **Exchange Traded :** Contracts are traded on an exchange, & the clearing house of the exchange interacts itself between the buyer and the seller. This means that all transactions are with the clearing house, and not directly between the purchaser and the seller.

➔ **Settlement :** In practice very few contracts involve actual delivery at the specified day. Rather, buyers & sellers of a contract independently take opposite positions to settle down a contract. The seller cancels a contract by buying another contract, the buyer by selling another contract.

➔ **Mark To Market :** Each day, the future contract is marked to market in the sense that it is valued at the closing price. Everyday, there is a winner and loser, depending on the fluctuations in prices. The loser must come up with more margins, while the winner can draw off excess margin.

➔ **Contract Size/Lot Size :** Contract Size is standardized, i.e. Number of units of Foreign Currency per Futures Contract is fixed. If a USD Futures Contract size is 10,000 Units, and a Company wants to sell USD 55,000, it should either sell 5 USD Futures or 6 USD Futures. It cannot sell 5.5 USD Futures.

➔ **Indian Scenario : Currency Future Now In India** Currency Futures are now available in India from 29th August 2008 at the National Stock Exchange (NSE). The much-hyped currency futures debuted with a turnover of nearly Rs 291 crore. The dollar-rupee futures received an overwhelming response from market participants with nearly 70,000 contracts trading on Day 1. The first trade on the exchange was executed by East India Securities Ltd. East India Securities struck the first futures deal buying 50 November contracts at Rs 44.15 a dollar for its client Budge Refineries. HDFC Bank was the first bank to carry out the currency futures transaction. Banks contributed 40% of the total volume. The largest deal of 15,000 contracts which was transacted by Standard Chartered Bank. The most active contract was the September 2008 expiry, trading around 43,000 contracts. The trading limit for individuals is \$5 million and for trading members is \$25 million. Foreign institutional investors are excluded from the market at present. The 12 serial month contracts were available for trading i.e., September 2008 to August 2009

QUESTION NO.2 Write a short note on EXTERNAL COMMERCIAL BORROWINGS ?

➔ The foreign currency borrowings raised by the Indian corporates from confirmed banking sources outside India are called “External Commercial Borrowings” (ECBs).

➔ These Foreign Currency borrowings can be raised within ECB Policy guidelines of Govt. of India/ Reserve Bank of India applicable from time to time.

➔ External Commercial Borrowings (ECB) are defined to include 1. commercial bank loans 2. buyer's credit 3. supplier's credit 4. securitised instruments such as floating rate notes, fixed rate bonds 5. credit from official export credit agencies etc

➔ Multilateral financial institutions like IFC, ADB, AFIC, CDC are providing such facilities.

➔ **Benefits :** The ECBs route is beneficial to the Indian corporates on account of following :-

1. It provides the foreign currency funds which may not be available in India.
2. The cost of funds at times works out to be cheaper as compared to the cost of rupee funds.
3. The availability of the funds from the International market is huge as compared to domestic market and corporates can raise large amount of funds depending on the risk perception of the International market.
4. ECBs provided an additional source of funds to the Indian companies, allowing them to supplement domestically available resources and to take advantage of lower international interest rates.
5. While the ECB policy provides flexibility in borrowing consistent with maintenance of prudential limits for total external borrowings, its guiding principles are to keep borrowing maturities long, costs low and encourage infrastructure/core and export sector financing which are crucial for overall growth of the economy.

➔ **ECB cap** : With a view to manage the country's external debt prudently, the Finance Ministry sets an annual cap on the total ECBs that Indian corporates can access in a year. There have been reports that the Government plans to hike the cap on ECB currently fixed at \$18 billion to about \$22 billion.

➔ The government has been streamlining/liberalising ECB procedures from time to time to enable Indian corporates have greater access to international financial markets.

➔ **Recent Example** : About 812 companies have raised about \$20.24 billion through ECBs in the April 2006-February 2007 period. That would be equivalent to about Rs 88,000 crore. The top fundraiser was Reliance Industries, which raised \$700 million, followed by Reliance Communication, which raised \$500 million. Units in SEZ are permitted to use ECBs under a special window.

QUESTION NO. 3 Explain briefly Capital Rationing?

(May 2004, May 2006)

➔ **Meaning : Capital Rationing** is a situation where a constraint or budget ceiling is placed on the total size of capital expenditures during a particular period.

➔ In other words "Capital Rationing refers to a situation where a company cannot undertake all positive NPV projects it has identified because of shortage of capital".

➔ **Reasons For Capital Rationing :**

External Factors : Under this the firm does not have funds & it also cannot raise them from financial markets. Some reasons can be : (i) imperfections in capital markets (ii) non-availability of market information (iii) investor's attitude (iv) Firm's lack of credibility in market (v) High Flotation costs

Internal Factors : Internal capital rationing arise due to the self-imposed restrictions imposed by management. Under this though the funds can be arranged but firm itself impose restrictions on investment expenditure. Some reasons can be :

(i) not to take additional burden of debt funds (ii) laying down a specified minimum rate of return on each project (iii) No further Equity Issue to prevent dilution of control, (iv) Divisional Budgets used to prevent any inefficiency or wastage of funds by them

➔ **Different Situations of Capital Rationing :**

(i) Single Period Capital Rationing : Funds limitation is there only for one year. Thereafter, no Financial constraints.

(ii) Multi Period Capital Rationing : Funds limitation is there in more than one years.

(iii) Divisible Projects : These are the projects which can be accepted fully as well as in fractions. NPV is also adjusted to the same fraction as cash outflows.

(iv) Indivisible Projects : These are the projects which can only be accepted fully, not in fractions.

➔ **Ways of Resorting Capital Rationing** : There are various ways of resorting to capital rationing, some of which are :

(i) By way of Retained Earnings : A firm may put up a ceiling when it has been financing investment proposals only by way of retained earnings (ploughing back of profits). Since the amount of capital expenditure in that situation cannot exceed the amount of retained earnings, it is said to be an example of capital rationing.

(ii) By way of Responsibility Accounting : Capital Rationing may also be introduced by following the concept of 'responsibility accounting', whereby management may introduce capital rationing by authorising a particular department to make investment only upto a specified limit, beyond which the investment decisions are to be taken by higher-ups.

(iii) By making full utilization of budget as primary consideration : In Capital Rationing it may also be more desirable to accept several small investment proposals than a few large investment proposals so that there may be full utilisation of budgeted amount. This may result in accepting relatively less profitable investment proposals if full utilisation of budget is a primary consideration. Thus Capital Rationing does not always lead to optimum results.

QUESTION NO. 4 What is the Sensitivity Analysis or Scenario Analysis in Capital Budgeting?

(Nov02)

➔ **Meaning : Sensitivity Analysis** enables managers to assess how responsive the NPV is to changes in the variables which are used to calculate it.

➔ **Steps** : Sensitivity Analysis involves three steps

(i) Identification of all those variables having an influence on the project's NPV or IRR.

(ii) Definition of the underlying quantitative relationship among the variables.

(iii) Analysis of the impact of the changes in each of the variables on the NPV of the project.

➔ Sensitivity Analysis answers questions like,

(i) What happens to the present value (or some other criterion of merit) if flows are, say Rs. 50,000 than the expected Rs. 80,000?

(ii) What will happen to NPV if the economic life of the project is only 3 years rather than expected 5 years?

➔ **Importance** : It directs the management to pay maximum attention towards the factor where minimum percentage of adverse change causes maximum adverse effect.

➔ **Only a tool** : However, it should not be viewed as the method to remove the risk or uncertainty, it is only a tool to analyse and measure the risk and uncertainty.

➔ **Assumptions** : In terms of capital budgeting the possible cash flows are based on three assumptions:

(a) Cash flows may be worst (pessimistic) (b) Cash flows may be most likely (c) Cash flows may be most optimistic.

➔ **Computation** : Sensitivity of a variable is calculated by using following relation : $\text{Sensitivity (\%)} = \frac{\text{Change}}{\text{Base}} \times 100$

➔ **Decision** : If NPV were to become 0 with 2% change in fixed costs relative to 10% change in sales, project is said to be more sensitive to fixed costs than to sales. This is because a small change in fixed costs leads to a reversal of investment decision.

➔ **Limitations**: (i) Sensitivity Analysis assumes variables to be completely unrelated / independent to each other, which is generally not the case. (ii) There is no clear roadmap to indicate how the decision-maker will use results of the sensitivity analysis.

➔ In Sensitivity Analysis Finance Manager seeks answer to "What if" Situations.

➔ Some parameters to be used under Sensitivity Analysis are Size of the project, Cash flows, Life of the project, Discount Rate.

➔ Under this analysis each input variable (parameters) is considered separately and all other variables are held constant.

➔ Hence wherever there is an uncertainty, of whatever type, the sensitivity analysis plays a crucial role.

QUESTION NO. 5 Write a short note on SHAREHOLDER VALUE ANALYSIS (SVA) ?

(May 2002)(5 Marks)

➔ **Meaning** : SVA is an approach to Financial Management developed in 1980s. This approach focuses on the creation of economic value for shareholders, as measured by share price performance and flow of funds. SVA is used as a way of linking management strategy and decisions to the creation of value for shareholders.

➔ **Value Drivers** : The factors, called 'value drivers' are identified which will influence the shareholder's value. They may be : growth in sales, improvement in profit margin, capital investment decisions, capital structure decisions etc. The management is required to pay attention to such value drivers while taking investment & finance decisions.

➔ **Benefits** :

(i) SVA helps the management to concentrate on activities which create value to the shareholders rather than on short-term profitability.

(ii) SVA helps to strengthen the competitive position of the firm, by focussing on wealth creation.

(iii) They provide an objective and consistent framework of evaluation and decision making across all functions, departments and units of the company

➔ The shareholders value analysis got recognition only after 1986, when Prof. Rappaport of USA published his book Creating Shareholder Value. As per the concept of Shareholder Value Analysis (SVA), all business activity should aim to maximize the value of company's equity shares in the long run. As per SVA, the primary responsibility of management (not only of the finance manager) is to create value for the shareholders. All the decisions of the management should have only one target and that is value creation for the shareholders.

QUESTION NO. 6 How project appraisal is done under inflationary conditions?

(May 1998, Nov 2003)

➔ It is needless to mention that Inflation is a universal phenomena. In a developing country like India, it has become a part of life.

➔ It is a well known fact that during inflationary conditions, project cost is bound to increase on all heads viz. labour, raw material, fixed assets such as equipments, plant & machinery, building material, remuneration of technicians & managerial personnel etc.

➔ Under such circumstances, project appraisal has to be done generally keeping in view the following guidelines which are usually followed by Government agencies, banks and financial institutions:

(i) It is always advisable to make provisions for **cost escalation** on all heads of cost, keeping in view the rate of inflation during likely period of delay in project implementation.

(ii) The various **sources of finance** should be carefully scrutinised with reference to probable revision in the rate of interest by the lenders and the revision which could be effected in the interest bearing securities to be issued. All these factors will push up the cost of funds for the organisation.

(iii) Adjustments should be made in **profitability and cash flow projections** to take care of the inflationary pressures affecting future projections.

(iv) It is also advisable to examine the **financial viability of the project** at the revised rates and assess the same with reference to economic justification of the project. The rate of return should be acceptable which also accommodates the rate of inflation p.a

(v) In an inflationary situation, projects having early **payback periods** should be preferred because projects with longer payback

period are more risky.

➔ Under conditions of inflation, the project cost estimates that are relevant for a future date will suffer escalation. Either of the following two approaches may be used while appraising projects under such conditions.

(i) Adjustment Of Cash Flows : Projected Cash Flows should be adjusted to an inflation index, recognizing selling price increases and cost increases annually or

(ii) Adjustment Of Cut-Off Rate : "Acceptance Rate " (cut-off) should be adjusted for inflation, retaining cash flows projections at current price levels.

➔ It must be noted that measurement of inflation has no standard approach nor is easy. This makes the job of appraisal a difficult one under such conditions.

QUESTION NO. 7 Write a note on "Credit Rating" in India? (Nov. 2003) OR Briefly explain the meaning and importance of "Credit Rating"? (May 2002, May 2006)

➔ **Meaning** Credit Rating is an act of assigning values to credit instruments by assessing the solvency i.e. the ability of the borrower to repay debt. Thus Credit Rating is:

(1) An expression of opinion of a rating agency. **(2)** The opinion is in regard to a debt instrument. **(3)** The opinion is as on a specific date. **(4)** The opinion is dependent on risk evaluation. **(5)** The opinion depends on the probability of interest and principal obligations being met timely.

➔ **What Credit Rating do not indicate** It may be noted that credit rating is only an opinion and not the guarantee or protection against default. It is not a recommendation to buy, or sell, or hold a security. Thus Credit Rating does not in any way linked with

(1) Performance Evaluation of the rated entity unless called for. **(2)** Investment Recommendation by the rating agency to invest or not in the instrument to be rated. **(3)** Legal Compliance by the issuer-entity through audit. **(4)** Opinion on the holding company, subsidiaries or associates of the issuer entity.

➔ **Credit Rating in India** Credit Rating is a specialised and technical work. There are five Credit Rating agencies in India

(i) CRISIL (Credit Rating & Information Services of India Ltd.) **(ii)** ICRA (Investment Information and Credit Rating Agency of India) **(iii)** CARE (Credit Analysis and Research Limited) **(iv)** DCR (Duffs & Phelps Credit Rating India Ltd) **(v)** ONICRA (Onida Credit Rating Agency Ltd.)

CRISIL was the first credit rating agency in India, incorporated in 1987 jointly by ICICI and the UTI. CRISIL has pioneered the concept of Credit Rating in India.

The first private sector credit rating institution was set up as a joint venture between the JM Financials, Alliance Group and the international rating agency Duffs and Phelps in 1995, known as Duffs & Phelps Credit Rating India Ltd. (DCR).

➔ **Need of Credit Rating :** A firm has to ascertain the credit rating of prospective customers , to ascertain how much and how long can credit be extended. Credit can be granted only to a customer who is reliably sound. This decision would involve analysis of the financial status of the party , his reputation and previous record of meeting commitments.

➔ **How Credit Ratings are Expressed:** Ratings are expressed in alphabetical or alphanumeric symbols like (AAA, BBB, P1, P2).

➔ **Usefulness of Credit Rating** As a fee-based financial advisory service, credit rating is obviously extremely useful to the **Investors, the corporates (borrowers) and banks and financial institutions.**

To the investors (a) It is an indicator expressing the credit quality of the instruments **(b)** Fair and good Credit Rating motivate the public to invest their savings **(c)** It enables the investors to get superior information at low cost.

To the corporate borrowers (a) They can raise funds at a cheaper rate with good rating and enter the capital market confidently. **(b)** It minimize the role of name recognition and less known companies can also approach the market on the basis of their rating.

To banks and other financial institutions The fund ratings are useful to the banks and other financial institutions while deciding lending and investment strategies.

➔ **Steps or Functions involved in Credit Rating :** The steps or functions involved in Credit Rating are :

(i) To gather sufficient information to evaluate the credit risk of the specific issues. The main sources of information to the credit rating agencies are : **(a)** Annual and Interim reports and other published data **(b)** Prospectus, letter of offer etc of particular security **(c)** Industry, Sectoral and Economic data from industry groups **(d)** Reports and data from Government agencies **(ii)** To analyse and come to a conclusion on the appropriate rating **(iii)** To monitor the credit quality of the rated issuer or security over time , deciding on the timely changes in rating if company fundamentals changes and **(iv)** To keep investors and market place informed

Hence we can say that Credit Rating has assumed an important place in the modern and developed financial market like India.

QUESTION NO. 8 Explain the factors/determinants for determining Dividend Policy?

(May 99, Nov 01, Nov 02, May 06)

The factors that affect the dividend policy of a company are as follows :

(i) Legal Considerations : The provisions of the Companies Act, 1956 must be kept in mind since they provide a major dimension to the dividend decision. Section 205 of the Companies Act prescribes the quantum of distributable profits. Further the provisions of the Income-tax Act specially as they relate to closely held companies may also be seen. In 1975, the Company Law Board issued certain rules regarding the payment of dividend out of reserves and the transfer of profits to the reserves over and above a stipulated amount.

All these provisions provide the legal framework within which the dividend policy has to be formulated. Under no circumstances, it is possible to declare a dividend higher than the amount legally permissible.

(ii) Stability of Earnings : A firm having stable income can afford to have higher dividend pay-out ratio as compared to a firm which does not have such stability in its earnings conditions.

(iii) Opportunities for Reinvestment and Growth : A company which sees a high growth potential for itself and, therefore, requires a large amount of funds for financing growth will declare lower dividends to conserve resources and maintain its debt equity ratio at a proper level. If, however, a company does not have immediate requirement for funds, it may decide to declare high dividends.

(iv) Cashflow : From the point of view of financial prudence, a company must consider its cash requirements before declaring a dividend. In case it has a strained liquidity position, it may declare a lower dividend.

(v) Level of Inflation in the Economy : The dividend decision is also linked up with the level of inflation in the economy. If a company declares a higher dividend, than what is warranted by the inflation figure of profits, it will not have enough funds to replace its capital assets and maintain its productivity and profitability. This will be harmful for the company in the long run.

(vi) Effect on Market Prices : Dividend decision is one of the major factors which affect the market price of shares. As per traditional approach the Market Price of the share is considered to be the Present Value of the future dividend.

(vii) Tax Considerations : The tax status of the major shareholders also affects the dividend decision sometimes. For example, if a company is owned by a few shareholders in the high income tax bracket, it would be in their interest not to receive too high an amount of dividends. Such shareholders may be interested in taking their return from the investment in the form of capital gains rather than in the form of dividends.

(viii) Other Factors : There are many other factors such as dividend policy of other firms in the same industry; attitude of management on dilution of existing control; fear of being branded inefficient or conservative etc. which also affect the dividend policy of a company.

QUESTION NO. 9 Write a short note of “Bridge Finance” or “ Bridge Loan” ?

(Nov 1997)

→ **Meaning : Bridge Finance** refers to loans taken by a company normally from commercial banks for a short period, pending disbursement of loans sanctioned by financial institutions.

→ **Why it is Taken :** Normally, it takes time for financial institutions to disburse loans to companies. However, once the loans are approved “in -principle” by the term lending institutions, companies, in order not to lose further time in starting their projects, arrange short term loans from commercial banks. Bridge loans are also provided by financial institutions pending the signing of regular term loan agreement, which may be delayed due to non-compliance of conditions stipulated by the institutions while sanctioning the loan.

→ **Terms :**

(a) Interest : The rate of interest on bridge finance is higher as compared with that on term loans.

(b) Repayment : The bridge loans are repaid/adjusted out of the term loans as and when disbursed by the concerned institutions.

(c) Security : Bridge loans are normally secured by hypothecating movable assets, personal guarantees and promissory notes.

QUESTION NO. 10 What are the methods of Venture Capital Financing?

(May 1999)(May 2008)

→ **Meaning :** The **Venture Capital Financing** refers to financing of new high risky ventures promoted by qualified entrepreneurs who lack experience & funds to give shape to their ideas. In broad sense, under venture capital financing venture capitalist make investment to purchase equity or debt securities from inexperienced entrepreneurs who undertake highly risky ventures with a potential of success.

→ **Methods of Venture Capital Financing :** The venture capitalist generally finance ventures which are in national priority areas such as energy conservation, quality upgradation, etc.,. Some common methods of venture capital financing are as follows:

(i) Equity Financing The venture capital undertakings generally requires funds for a longer period but may not be able to provide

returns to the investors during the initial stages. Therefore, the venture capital finance is generally provided by way of equity share capital. The equity contribution of venture capital firm does not exceed 49% of the total equity capital of venture capital undertakings so that the effective control and ownership remains with the entrepreneur. Hence such a mode is useful since there is no compulsion to pay dividend or interest in initial stages.

(ii) Conditional Loan : A conditional loan is repayable in the form of a royalty after the venture is able to generate sales. No interest is paid on such loans. In India venture capital financiers charge royalty ranging between 2 and 15 per cent; actual rate depends on factors such as gestation period, cash flow patterns, riskiness and any other factors of the enterprise. Some Venture capital financiers give a choice to the enterprise of paying a high rate of interest (which could be well above 20 per cent) instead of royalty on sales once it becomes commercially sounds .

(iii) Income Note : It is a hybrid security which combines the features of both conventional loan and conditional loan. The entrepreneur has to pay both interest and royalty on sales but at substantially low rates. IDBI's VCF(Venture Capital Fund) provides funding equal to 80 -87.5% of the projects cost for commercial application of indigenous technology.

(iv) Participating Debenture : Such security carries charges in three phases - in the start up phase, no interest is charged, next stage a low rate of interest is charged upto a particular level of operations, after that, a high rate of interest is required to be paid.

➔ The following are the **criteria** which may be applied to find out the eligibility of an undertaking for Venture Capital Financing

(i) The venture must be a technically feasible proposition **(ii)** It should be commercially viable **(iii)** The entrepreneurs must be technically competent & having managerial skill **(iv)** The undertaking must have a long run competitive advantage over other units

➔ **Benefits Of Venture Capital Financing :**

(i) This is the only feasible source of funds available for new enterprising projects , since bank loan & public issues are quite difficult at start up stage .

(ii) There is flexibility in structuring the mode of finance i.e debt or equity.

(iii) Tax concessions available for VCF help in promoting and increasing the availability of venture capital .

➔ **Limitations Of Venture Capital Financing :**

(i) Availability of Venture Capital is limited in practice & it depends mostly on the personal contacts of the entrepreneurs.

(ii) It is a very expensive source of finance and also dilutes managerial control of the entrepreneur.

➔ **Example of Indian Venture Capital Funds :** Some of the important Indian venture capital funds are : ICICI Venture Funds Ltd. IFCI Venture Capital Funds Limited (IVCF), SIDBI Venture Capital Limited (SVCL), Gujarat Venture Finance Limited (GVFL), Kerala Venture Capital Fund Pvt. Ltd., Punjab Infotech Venture Fund, Infinity Venture India Fund, Hyderabad Information Technology Venture Enterprises Limited, (HITVEL), Canbank Venture Capital Fund, SBI Capital Markets Limited, IL&FS Trust Company Limited etc. The important overseas venture capital funds operating in India are : Walden International Investment Group, SEAF India Investment & Growth Fund, BTS India Private Equity Fund Limited.

QUESTION NO. 11 Write a short note on Debt Securitisation?(May 2005,May 2004) or What are the advantages of Debt Securitisation?(May 2001) OR What is securitisation? What are its various instruments?(Nov.2005) OR Write a short note on Asset Securitisation (May 2002)

➔ **Meaning : Securitisation** is a process of pooling and repackaging homogeneous illiquid financial assets into marketable securities that can be sold to investors. Securitisation is the process by which financial assets are transformed into securities .Since through Securitisation , the illiquid financial assets or debtors are converted into Securities , it can also be called as “ Debt or Asset Securitisation” .

➔ **Process :** For example a bank lends Rs. 10 lakhs each to 300 borrowers as part of its loan portfolio. The total debt thus on the books of the bank will be Rs. 30 crores. By way of securitisation, the bank can break the entire portfolio of loan/debt of Rs. 30 crores into a paper of Rs. 300 each for instance, and market it in the secondary market to investors.

➔ Debt Securitisation will thus provide liquidity to the instrument.

➔ **Steps involved in a Securitisation Process :**

The basic debt securitisation process can be classified in the following three functions.

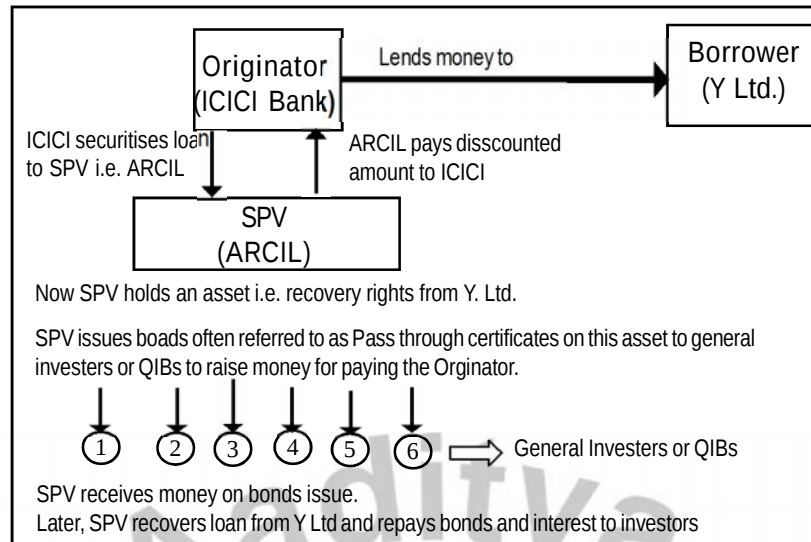
(i) The Origination Function : A borrower seeks a loan from a finance company, bank, housing company or a lease from a leasing company. The creditworthiness of the borrower is evaluated and a contract is entered into with repayment schedule structured over the life of the loan.

(ii) The Pooling Function : Similar loans or receivables are clubbed together to create an underlying pool of assets. This pool is transferred in favour of a SPV - (Special Purpose Vehicle), which acts as a trustee for the investor. Once the assets are transferred, they are held in the originators' portfolios.

(iii) The Securitisation Function : It is the SPV's job now to structure and issue the securities on the basis of the asset pool.

The securities carry a coupon and an expected maturity, which can be asset based or mortgage based. These are generally sold to investors through merchant bankers. The investors interested in this type of securities are generally institutional investors like mutual funds, insurance companies etc. The originator usually keeps the spread available (i.e. difference) between yield from secured assets and interest paid to investors.

The digrame bellow illustrates the process of Scuritisation in India



→ Parties involved in Securitisation Process :

- (i) **The Originator** : This is the entity in whose books the assets , to be securitised , originate.
- (ii) **Special Purpose Vehicle (SPV)** : This is the entity through which the securitisation transaction is actually operated i.e who buys the assets to be securitised & then issues marketable securities backed by those assets.
- (iii) **The Investor** : These are the entities that are looking for investment opportunity for their surplus funds. They buy the securities issued by SPV and get returns in the form of interest and principal repayment as per agreed schedule.
- (iv) **Other Parties** : Obligators, Rating Agencies, Administrator, Agent and Trustee.

→ **Instruments of Securitisation** : Under this process securities issued by SPV are in the form of Pass Through Certificate (PTC), Pay Through Securities (PTS) and Stripped Securities. Securities may be Asset Backed Securities and Mortgage Backed Securities .

- (i) **Asset Backed Securities** : These are securities backed by other assets like credit card receivable , trade receivables etc .
- (ii) **Mortgage Backed Securities** : These are the securities where the assets collateralised are mortgage loans i.e loans secured by a mortgage of specified immovable property .

→ Benefits to the Originator :

1. The assets are shifted off the balance sheet, thus giving the originator recourse to off balance sheet funding.
2. It converts illiquid assets to liquid portfolio.
3. It facilitates better balance sheet management as assets are transferred off balance sheet facilitating satisfaction of capital adequacy norms.
4. The originator's credit rating enhances.

→ Benefits to the Investor :

1. For the investor securitisation opens up new investment avenues.
2. Though the investor bears the credit risk, the securities are tied up to definite assets.
3. Securitisation helps to convert a stream of cash receivables into a source of long-term finance.
4. Securities are rated by Credit Rating Agencies and it becomes easier for an investor to compare risk return profile and make an informed choice.

→ **Recent Scenario** : In Indian context Debt Securitisation has began to take off. The ideal candidates for this are hire purchase and leasing companies, asset finance and real estate finance companies. The first securitisation deal was structured by Citibank in 1991. National Housing Bank, Housing and Urban Development Corporation, LIC Housing and HDFC have emerged as key players in the securitisation market . The experiment has already been initiated in India by the Housing Development Finance Corporation (HDFC) by selling a part of its loan to the Infrastructure Leasing and Financial Services Ltd. (ILFS) and has therefore become a pacesetter for other kinds of debt securitisation as well. The Industrial Credit and Investment Corporation of India (ICICI) as well as other private financial companies have been trying similar deals for lease rentals.

QUESTION NO. 12 Write a short note on Systematic and Unsystematic Risk? (May 1999) OR Distinguish between 'Systematic risk' and 'Unsystematic risk? (Nov 2004) or Discuss the various kinds of Systematic and Unsystematic Risk ? (Nov 2006)

$$\text{Total Risk} = \text{Systematic Risk} + \text{Unsystematic Risk}$$

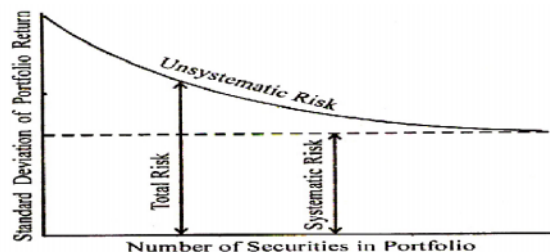
Systematic Risk or Non-Diversifiable Risk or Market Risk

- ➔ This risk affects all companies operating in the market.
- ➔ They are beyond the control by the management of entity.
- ➔ Example : Interest Rate; Inflation ; Taxation; Political Development ; Credit Policy.
- ➔ Systematic Risk is also called non-diversifiable risk as it cannot be reduced with the help of diversification.

Unsystematic Risk or Diversifiable Risk or Specific Risk

- ➔ This risk affects only a particular security / company .
- ➔ They can be controlled by the management of entity.
- ➔ Example : Strikes, change in management, special export order, the research & development expert of company leaves; a formidable competitor enters the market, the company loses a big contract in a bid etc .
- ➔ Unsystematic Risk are also called Diversifiable Risk as they can be eliminated through Diversification.

Relationship of Total, Systematic, and Unsystematic Risk can be shown with the help of the following graph :



Kinds of Systematic and Unsystematic Risk : There are two types of Risk -

Systematic (or non-diversifiable or General Risk) & Unsystematic (or diversifiable or Specific Risk) relevant for investment

Types of Systematic Risk

- (i) **Market Risk :** Even if the earning power of the Corporate sector and the interest rate structure remain more or less uncharged , prices of securities, equity shares in particular, tend to fluctuate. Major cause appears to be the changing psychology of the investors. The irrationality in the security markets may cause losses unrelated to the basic risks. These losses are the result of changes in the general tenor of the market and are called market risks.
- (ii) **Interest Rate Risk :** The change in the interest rate have a bearing on the welfare of the investors. As the interest rate goes up, the market price of existing fixed income securities falls and vice versa. This happens because the buyer of a fixed income security would not buy it at its par value or face value if its fixed interest rate is lower than the prevailing interest rate on a similar security.
- (iii) **Social or Regulatory Risk :** The social or regulatory risk arises, where an otherwise profitable investment is impaired as a result of adverse legislation, harsh regulatory climate, or in extreme. instance nationalization by a socialistic government.
- (iv) **Purchasing Power Risk :** Inflation or rise in prices lead to rise in costs of production, lower margins, wage rises and profit squeezing etc. The return expected by investors will change due to change in real value of returns.

Types of Unsystematic Risk

- (i) **Business Risk :** As a holder of corporate securities (equity shares or debentures) one is exposed to the risk of poor business performance. This may be caused by a variety of factors like heightened competition, emergence of new technologies, development of substitute products, shifts in consumer preferences, inadequate supply of essential inputs. changes in governmental policies and so on. Often of course the principal factor may be inept and incompetent management.
- (ii) **Financial Risk :** This relates to the method of financing. adopted by the company. high leverage leading to larger debt servicing problem or short term liquidity problems due to bad debts , delayed receivables and fall in current assets or rise in current liabilities.
- (iii) **Default Risk :** Default risk refers to the risk accruing from the fact that a borrower may not pay interest and/or principal on time. Except in the case of highly risky debt instrument, investors seem to be more concerned with the perceived risk of default rather than the actual occurrence of default. Even though the actual default may be highly unlikely. they believe that a change in the perceived default risk of a bond would have an immediate impact on its market price.

QUESTION NO. 13 State the Objectives of Portfolio Management?

(Nov 1998, May 2006)

Objectives of Portfolio Management :

- (i) **Security/Safety of Principal** The objective is to keep the capital / principal amount intact, in terms of value and in terms of purchasing power. The capital or the principal amount invested should not erode , either in value or in terms of purchasing power.
- (ii) **Stability of Income** so as to facilitate planning more accurately & systematically the reinvestment or consumption of income.
- (iii) **Capital Growth** which can be attained by reinvesting in growth securities or through purchase of growth securities.
- (iv) **Marketability** i.e. the ease with which a security can be bought or sold. This is essential for providing flexibility to investment portfolio.
- (v) **Liquidity** i.e. nearness to money. It is desirable for the investor so as to take advantage of attractive opportunities upcoming in the market.
- (vi) **Diversification** : The basic objective of building a portfolio is to reduce the risk of loss of capital and income , by investing in various types of securities and over a wide range of industries.
- (vii) **Favourable Tax Status** : The effective yield an investor gets from his investment depends on tax to which it is subject. By minimising the tax burden, yield can be effectively improved.

QUESTION NO. 14 State two basic principles for effective Portfolio Management?*(May 96, Nov 99)*

Basic Principles of Portfolio Management : There are two basic principles for effective portfolio management.

(i) Effective investment planning for the investment in securities by considering the following factors :

- (a) Fiscal, Financial and Monetary Policies of the Government of India and the Reserve Bank of India.
- (b) Industrial and economic environment and its impact on industry prospects in terms of prospective technological changes, competition in the market, capacity utilisation with industry and demand prospects etc.
- (ii) **Constant Review of Investment** : Portfolio managers are required to review their investment in securities and continue selling and purchasing their investment in more profitable avenues. For this purpose they will have to carry the following analysis:
 - (a) Assessment of quality of management of the companies in which investment has already been made or is proposed to be made.
 - (b) Financial & trend analysis of companies balance sheet/profit&loss account to identify sound companies with optimum capital structure & better performance & to disinvest the holding of those companies whose performance is found to be slackening.
 - (c) The analysis of securities market and its trend is to be done on a continuous basis.

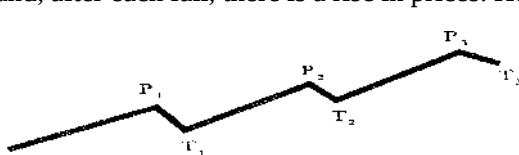
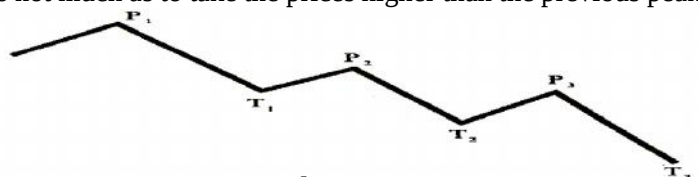
QUESTION NO. 15 What is the Dow Jones Theory to Portfolio Management?

➡ The Dow Jones Theory is probably the most popular theory regarding the behaviour of stock market prices. The theory derives its name from Charles H. Dow, who established the Dow Jones & Co., and was the first editor of the Wall Street Journal- a leading publication on financial and economic matters in the U.S.A.

➡ The Dow Jones theory classifies the movements of the prices on the share market into three major categories:

1. Primary Movements. 2. Secondary Movements. 3. Daily Fluctuations.

1. Primary Movements : They reflect the trend of the stock market & last from one year to three years, or sometimes even more. During a bull phase, the basic trend is that of rise in prices. Graph 1 above shows the behaviour of stock market prices in bull phase. As can be seen from the graph that prices do not rise consistently even in a bull phase. They rise for some time and after each rise, they fall. However, the falls are of a lower magnitude than rise . As a result, prices reach higher levels with each rise. Once the prices have risen very high, the bear phase is bound to start, i.e., price will start falling. Graph 2 shows the typical behaviour of prices on the stock exchange in the case of a bear phase. It would be seen that prices are not falling consistently and, after each fall, there is a rise in prices. However, the rise is not much as to take the prices higher than the previous peak.

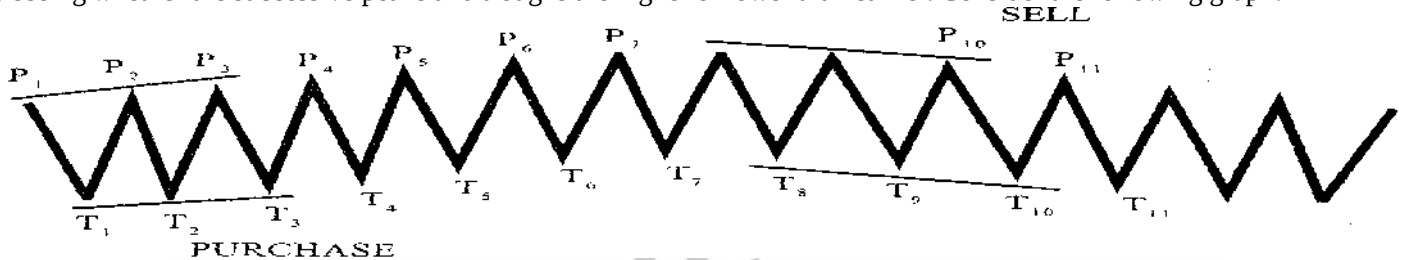
**Bull Phase****Graph 1 .****Bear Phase****Graph 2 .**

2. Secondary Movements : We have seen that even when the primary trend is upward, there are also downward movements of prices. Similarly, even where the primary trend is downward, there is upward movements of prices also. These movements are

known as secondary movements and are shorter in duration and are opposite in direction to the primary movements. These movements normally last from three weeks to three months and ranges from $\frac{1}{3}$ (33%) to $\frac{2}{3}$ (66%) of the previous advance in a bull market or previous fall in the bear market.

3. Daily Movements : There are irregular fluctuations which occur every day in the market. These fluctuations are without any definite trend. Thus if the daily share market price index for a few months is plotted on the graph it will show both upward and downward fluctuations. These fluctuations are the result of speculative factors. An investment manager really is not interested in the short run fluctuations in share prices since he is not a speculator. It may be reiterated that anyone who tries to gain from short run fluctuations in the stock market, can make money only by sheer chance. Speculation is beyond the scope of the job of an investment manager.

Timing of investment decisions on the basis of Dow Jones Theory : Dow Jones theory identifies the turn in the market prices by seeing whether the successive peaks and troughs are higher or lower than earlier. Consider the following graph:



According to the theory, the investment manager should purchase investments when the prices are at T1. At this point, he can ascertain that the bull trend has started, since T2 is higher than T1 and P2 is higher than P1.

Similarly, when prices reach P7 he should make sales. At this point he can ascertain that the bearish trend has started, since P9 is lower than P8 and T8 is lower than T7.

Ideally speaking, the investment manager would like to purchase shares at a time when they have reached the lowest trough and sell them at a time when they reach the highest peak. However, in practice, this seldom happens. Therefore, he has to time his decision in such a manner that he buys the shares when they are on the rise and sells them when they are on the fall. It means that he should be able to identify exactly when the falling or the rising trend has begun.

➔Benefit Of Dow- Jones Theory :

(a) Timings of Investments : Investor can choose the appropriate time for his investment / divestment. Investment should be made in shares when their prices have reached the lowest level, and sell them at a time when they reached the highest peak.

(b) Identification of Trend : Using Dow-Jones theory, the correct and appropriate movement in the Market Prices can be identified, and depending on the investors preference, decisions can be taken.

QUESTION NO. 16 Explain the Random Walk Theory to Portfolio Management?

(Nov 1996)

➔Many investment managers and stock market analysts believe that stock market prices can never be predicted because they are not a result of any underlying factors but are mere statistical ups and downs. ➔This hypothesis is known as Random Walk hypothesis which states that the behaviour of stock market prices is unpredictable and that there is no relationship between the present prices of the shares and their future prices. ➔Proponents of this hypothesis argue that stock market prices are independent. ➔In other words, the fact that there are peaks and troughs in stock exchange prices is a mere statistical happening - successive peaks and troughs are unconnected. ➔In the layman's language it may be said that prices on stock exchange behave exactly the way a drunk would behave while walking in a blind lane, i.e., up and down, with an unsteady way going in any direction he likes, bending on the one side to other side.

The supporters of this theory put out a simple argument. It follows that :

(a) Prices of shares in stock market can never be predicted.

(b) The reason is that the price trends are not the result of any underlying factors, but that they represent a statistical expression of past data.

(c) There may be periodical ups or downs in share prices, but no connection can be established between two successive peaks (high price of stocks) and troughs (low price of stocks).

QUESTION NO. 17 What are the difference between Factoring & Forfeiting?

(Nov 2004)

(a) Extent of Finance : Forfeiter discounts the entire value of the note/bill. In a factoring arrangement the extent of financing available is 75-80%.

(b) Credit Worthiness : The forfaiter's decision to provide financing depends upon the financing standing of the availing bank. On the other hand in a factoring deal the export factor bases his credit decision on the credit standards of the exporter.

(c) Services Provided : Forfaiting is a pure financial agreement while factoring includes ledger administration and collection also.

(d) Maturity : Factoring is a short-term financial deal. Forfaiting spreads over 3-5 years.

(e) Market : Factoring is applicable to domestic receivables. However the forfaiting as a system of financing of receivables arising out of export business or international business.

(f) Recourse : Factoring may be with or without recourse, while forfaiting is always without recourse.

(g) Liquidity : Factoring tends to be a case of sell of debt obligation to the factor, with no secondary market. There exists a secondary market in forfaiting. This adds depth and liquidity to forfaiting.

(h) Cost : The seller (client) bears the cost of factoring. The overseas buyer bears the cost of forfaiting.

QUESTION NO. 18 Write a short note about functions of Merchant Banker (May 2005)(6 Marks)? OR Explain the role of Merchant Bankers in Public issue?(May 2003)(6 Marks)

➔ **Meaning :** In modern times, importance of merchant banker has gained legitimacy because it is the key intermediary between the company and the issue of capital. SEBI Act 1992 defines a Merchant Banker as follows: -

Merchant Banker means a person who is engaged in the business of issue management either by making arrangements regarding selling, buying or subscribing to securities as manager, consultant, advisor or rendering corporate advisory service in relation to such issue management.

➔ The company has to select a Merchant Banker keeping in view the following points:

(a) the support of financial institutions by participating in the issue. **(b)** proposed size of the issue. **(c)** the background, expertise and infrastructure facilities of the Merchant banker. **(d)** the condition of primary and secondary markets.

The Merchant Banker will have to liaison with the company, institutions, bankers, Stock Exchange, underwriters, brokers, registrars to the issue, the printers and establish rapport with all these persons to make the issue a success.

➔ **Activities/Functions of Merchant Banker :** Merchant Banker may undertake the following activities:

(a) Managing of Public Issue of securities. **(b)** Underwriting concerned with the aforesaid Public Issue Management Business. **(c)** Managing & Advising International offerings of Debt, Equity, i.e., GDRs, ADRs, bonds and other instruments. **(d)** Private Placement of securities. **(e)** Primary or Satellite dealership of Government Securities. **(f)** Corporate Advisory Services relating to Securities Market, e.g., takeovers, acquisitions, Disinvestment. **(g)** Stock-broking **(h)** Advisory services for projects **(i)** Syndication of rupee term loans **(j)** International Financial Advisory Services

Other Services which are generally performed by Merchant Bankers in India include :

1. Project promotion services.
2. Project finance.
3. Management and marketing of new issues.
4. Underwriting of new issue.
5. Syndication of credit.
6. Leasing services.
7. Corporate advisory services.
8. Providing venture capital.
9. Operating mutual funds and off shore funds.
10. Investing management of portfolio management services
11. Bought out deals.
12. Providing assistance for technical and financial collaborations and joint ventures.
13. Management of and dealing in commercial papers.
14. Investment services for non-resident Indians.

➔ **Role of Merchant Bankers in Public Issue**

In the present day capital market scenario the merchant bank plays an encouraging and supporting force to the entrepreneurs, corporate sectors and the investors. Several new institutions have appeared in the financial spectrum and merchant bankers have joined to expand the range of financial services. Moreover, the activities of these Merchant Bankers have developed considerably both horizontally and vertically to cope with the changing environment. Merchant Banks help in promoting and sustaining capital markets and money markets, and they provide a variety of financial services to the corporate sector.

Management of the public issues of shares, debentures or even an offer for sales, has been the traditional service rendered by merchant bankers. Some of the services under issue management are:

- (i) Deciding on the size and timing of a public issue in the light of the market conditions.
 - (ii) Preparing the base of successful issue marketing from the initial documentation to the preparation of the actual launch.
 - (iii) Optimum underwriting support.
 - (iv) Appointment of bankers and brokers as well as issue houses.
 - (v) Professional liaison with share market functionaries like brokers, portfolio managers and financial press for pre-selling and media coverage.
 - (vi) Preparation of draft prospectus and other documents.
 - (vii) Wide coverage throughout the country for collection of applications.
 - (viii) Preparation of advertising and promotional material.
- The merchant bankers presence in all the major financial centres as well as his long established relationships with the underwriter and broker fraternities, makes possible the high degree of synchronisation required to ensure the success of an issue.

QUESTION NO. 19 Mention three broad classification of a Mutual Fund Schemes?

Broadly mutual funds can be classified under the following three heads:

1. Open-end Vs. Closed-end Funds 2. Load Funds & no load funds 3. Tax exempt or non tax exempt funds.

1. Open-end Vs. Closed-end Funds

(i) Number Of Units : The number of units outstanding under the schemes of Open Ended Funds keeps on changing . A closed-end mutual fund is a publicly traded investment company with a limited number of units i.e number of units under Close Ended Funds is fixed .

(ii) Maturity Period : Open Ended schemes usually don't have a fixed maturity period whereas Close Ended Schemes have fixed maturity period .

(iii) NAV / Market Price : The price at which an investor buys or sell shares of a Close Ended Fund after the NFO(New Fund Offer) is the market price, as determined by the demand and supply market principles.In contrast, the price at which an investor buys or sells shares of a mutual fund is the NAV of the Mutual Fund at the close of a given business day.

(iv) Sale and Purchase : The Units of Open Ended Funds are available for subscription and redemption on an ongoing basis.An investor is allowed to join or withdraw from the fund at any time by the mutual fund companies at NAV related prices . The Units of Close Ended Funds can be purchased or sold by the investor only from the secondary market i.e stock market after the initial public offerings or there may be periodic repurchase at NAV related price by Mutual Fund itself..

(v) Listing : Open Ended Funds are not listed on any stock exchange . While listing of close ended funds are compulsory on any Stock Exchange .

(vi) Example : The Unit Scheme - 1964 (US- 64) was an open ended mutual fund schme.Recently introduced Reliance Natural Resources Fund was also an Open Ended Mutual Fund . UTI has recently come up with new fund offer (NFO) with name "India Lifestyle Fund". This will be the three year close ended scheme .

2. Load Funds & No Load funds

A Load Fund is one that charges a percentage of NAV for entry or exit. A mutual fund can recover the initial marketing expenses (loads) in any of the following ways:

(a) Entry Load : If the load is charged at the time of his **entry** into the fund it is called as front end or entry load.Entry Load is charged at the time an investor purchases the units of a scheme. The entry load percentage is added to the prevailing NAV at the time of allotment of units.The investors pay more than NAV for purchasing a units .

(b) Deferred Load : If the load amount is charged to scheme over a specified period then it is called as deferred load.

(c) Exit Load : If the load is charged at the time of **exit** into the fund then it is called as back end or exit load.Exit load is charged at the time of redeeming or selling units of Mutual Funds . The exit load percentage is deducted from the NAV at the time of redemption .The investor receive less than NAV while selling the units.

SEBI has fixed the maximum amount of load that could be charged by the fund managers.

A **No Load Funds** is one which does not charge any fees for entry or exit. In case of no load funds, all transactions of sale and repurchase of units are done at NAV. It only means that the fund will not charge any sales expenses. However they charge management fees and other recurring expenses. The investors in a no load fund enters or exits at the net NAV of the fund.

Tax Exempt Vs. Non Tax Exempt Funds

If a Mutual Fund invests in those funds which are exempted from taxes then it is called as Tax Exempt funds .

If a Mutual Fund invests in those funds which are not exempted from taxes then it is called Non Tax Exempt funds .

QUESTION NO. 20 Write short note on NAV (Net Asset Value)?

(May 04, Nov 04)

➔ **Meaning** : It is the amount which a unit holder would receive if the mutual fund were wound up. An investor in mutual fund is a part owner of all its assets and liabilities. It is the basis for assessing the return that an investor has earned.

➔ There are three aspects which need to be highlighted :

(i) It is the net value of all assets less liabilities. NAV represents the market value of total assets of the Fund less total liabilities attributable to those assets.

(ii) NAV changes daily. The value of assets and liabilities changes daily. NAV today will not be NAV tomorrow or day later.

(iii) NAV is computed as a value per unit of holding.

➔ **Asset Values : Valuation Rule**

Nature of Asset

Liquid Assets e.g. cash held
All listed and traded securities
Debentures and Bonds
Illiquid shares or debentures

Valuation Rule

As per books.
Closing Market Price (other than those held as not for sale)
Closing traded price or yield
Last available price or book value whichever is lower.
Estimated Market Price approach to be adopted if suitable benchmark is available.
Current Yield.

Fixed Income Securities

➔ **Netting the Asset Values** : The asset values obtained from above have to be adjusted as follows :

Additions

Dividends and Interest accrued
Other receivables considered good
Other assets (owned assets)

Deductions for Liabilities

Expenses accrued
Liabilities towards unpaid assets
Other short term or long term liabilities

➔ **Computation of NAV** : It is value of net assets of the funds. The investors subscription is treated as the unit capital in the balance sheet of the fund and the investments on their behalf are treated as assets. The funds net assets are defined as the assets less liabilities.

Symbolically : $NAV = \frac{\text{Net asset of the scheme}}{\text{Number of units outstanding}}$

Where net assets of the scheme is defined as below.

Net Assets of the Scheme = Market value of investments + Receivables + Other accrued income + other assets - Accrued Expenses - Other Payables - Other Liabilities

➔ **Example** : If total assets of a scheme are Rs. 200 lacs and liabilities are Rs. 20 lacs and there are 10 lacs unit holders, the NAV per unit is Rs. 18

QUESTION NO. 21 What are important Investor's Rights, Legal limitation, & Obligations under Mutual Fund?

(Nov 2005)

➔ **Investors Rights** The offer documents of a scheme lays down the investors rights. The important rights of the unit holders are

1. unit holders have a **proportionate right in beneficial ownership** of the schemes assets as well as any dividend or income declared under the scheme.

2. they have the **right to information** regarding any adverse happening

3. they are **entitled to receive dividend warrants** within 42 days of the date of dividend declaration.

4. **Right to terminate** : AMC can be terminated by 75% of the unit holders of the scheme present and voting at a special meeting.

5. **Right to inspect** : The holders have the right to inspect major documents of the fund i.e. material contracts, the investment management agreement, the custodian services agreement, registrar and transfer agency agreement, memorandum and articles of association of the AMC, recent audited financial statements and the offer document of the scheme.

6. With the consent of 75% of the unit holders they have the **right to approve** any changes in the close ended scheme.

7. Every unit holder has the **right to receive a copy of the annual statements & periodic statements** regarding his transaction.

➔ **Legal Limitations to Investors' Rights**

1. **No Right to Sue Trust** : Unit holders **cannot sue the trust** but they can initiate proceedings against the trustees, if they feel that they are being cheated.

2. **No Right to Sue for Lower Returns** : Except in certain circumstances AMC **cannot assure a specified level of return** to the investors AMC cannot be sued to make good any shortfall in such schemes.

➔ **Investors' Obligations**

1. **Study Of Risk Factors** : An investor should **carefully study the risk factors** & other information provided in the offer document. Failure to study will not entitle him for any rights thereafter.

2. Monitoring the Scheme : It is the responsibility of investor to **monitor his schemes** by studying the reports & other financial statements of the funds.

QUESTION NO. 22 Write a short note on :

1. KIM (Key Information Memorandum)

→ KIM or Key Information Memorandum provides detailed performance related information on the several schemes of a mutual fund company. → It is like a prospectus for Mutual Fund Investors . → So before we invest in any scheme of Mutual Fund we can have a look at the various scheme performances and take an informed decision from KIM.

2. Systematic Investment Plan (SIP)

→ **Meaning :** Systematic Investment Plan (SIP) is a simple, time-honored strategy designed to help investors accumulate wealth in a disciplined manner over the long-term and plan a better future for them. Systematic Investment Plan—sometimes referred to as a "contractual plan" or "periodic payment plan"—an investor must make a long-term commitment of 10 or 15 years.. The Systematic investment plan allows investors to save a fixed amount of rupees every month or quarter for the purchase of additional units. Instead of investing all your savings in one go, you opt for a SIP where you have to pay very little amount of investment Thus Systematic Investment Plan (SIP), a scheme where you can periodically invest a fixed sum, which could be as low as Rs 500 per month. Thus anyone can enroll for this facility by starting an account with (minimum investment amount) .

→ **SIP** is the best combination of safety and return.

→ **Advantage :** This disciplined approach to investing gives one the following advantages: **1.** Benefit of compounding. **2.** Rupee cost averaging, **3.** Convenience **4.** Build wealth over the long-term, **5.** Make the volatility of the market work in your favour.

→ **Disadvantage :** (i) Systematic investment plans can be expensive over the short term. (ii) Systematic investment plans offer little flexibility. (iii) Systematic investment plans offer limited investment choice.

3. Takeover by Reverse Bid or Reverse Takeover

(Nov 2002, May 2006)

→ **Meaning :** It is the act of a smaller company gaining control over a larger one .In ordinary case, the company taken over is the smaller company; in a 'Reverse Takeover', a smaller company gains control of a larger one. The concept of takeover by reverse bid, or of reverse merger, is thus not the usual case of amalgamation of a sick unit which is non-viable with a healthy or prosperous unit but is a case whereby the entire undertaking of the healthy and prosperous company is to be merged and vested in the sick company which is non viable.

→ **Tests For Identifying Takeover by Reverse Bid :**

The three tests in a takeover by reverse bid that are required to be satisfied are, namely,

(i) the assets of the transferor company are greater than the transferee company,

(ii) equity capital to be issued by the transferee company pursuant to the acquisition exceeds its original issued capital, and

(iii) the change of control in the transferee company through the introduction of a minority holder or group of holders.

Takeover by reverse bid could happen where already a significant percent of the shareholding is held by the transfer company, to exploit economies of scale, to enjoy better trading advantages and other similar reasons.

→ **Application of the concept of 'takeover by reverse bid'** The concept of takeover by reverse bid has been successfully employed in schemes formulated for revival and rehabilitation of sick industrial companies under the Sick Industrial Companies (Special Provisions) Act 1985.

→ **Recent Example:** A recent example of a non-sick unit 'reverse merger' was that of ICICI Bank (smaller unit) merging with ICICI Ltd. (larger unit) to form ICICI Bank Ltd. The aim was to give the company an identity of a 'Universal Banking Company'.

4. Demerger

(Nov 2002)

→ **Meaning :** The expression "demerger" is not expressly defined in the Companies Act, 1956. The word "demerger" is defined under the Income-tax Act, 1961. It refers to a situation where pursuant to a scheme for reconstruction/restructuring, an 'undertaking' is transferred or sold to another purchasing company or entity. In other words it refers to transferring one of the division of the company into separate company.

→ **Status Of the Transferee Company :** The important point is that even after demerger, the transferring company would continue to exist and may do business.

→ **Suitability :** Demerger is used as a suitable scheme in the following cases:

(i) Restructuring of an existing business (ii) Division of family-managed business (iii) Management 'buy-out'

→ **Reasons For Demerger** : There are various reasons for divestment or demerger viz.,

- (i) To pay attention on core areas of business;
- (ii) The Division's/business may not be sufficiently contributing to the revenues;
- (iii) The size of the firm may be too big to handle;
- (iv) The firm may be requiring cash urgently in view of other investment opportunities.

→ **Different ways of demerger** : Different ways of divestment or demerger are as follows:

Sell off: A sell off is the sale of an asset, factory, division, product line or subsidiary by one entity to another for a purchase consideration payable either in cash or in the form of securities.

Spin-off: In this case, a part of the business is separated and created as a separate firm. The existing shareholders of the firm get proportionate ownership. So there is no change in ownership and the same shareholders continue to own the newly created entity in the same proportion as previously in the original firm. The management of spun-off division is however, parted with. Spin-off does not bring fresh cash. The reasons for spin off may be:

- (i) Separate identity to a part/division.
- (ii) To avoid the takeover attempt by a predator by making the firm unattractive to him since a valuable division is spun-off.
- (iii) To create separate Regulated and unregulated lines of business.

Split-up: This involves breaking up of the entire firm into a series of spin off (by creating separate legal entities). The parent firm no longer legally exists and only the newly created entities survive. For instance a corporate firm has 4 divisions namely A, B, C, D. All these 4 division shall be split-up to create 4 new corporate firms with full autonomy and legal status. The original corporate firm is to be wound up. Since de-merged units are relatively smaller in size, they are logistically more convenient and manageable. Therefore, it is understood that spin-off and split-up are likely to enhance shareholders value and bring efficiency and effectiveness.

Carve outs: This is like spin off however, some shares of the new company are sold in the market by making a public offer, so this brings cash. In carve out, the existing company may sell either majority stake or minority stake, depending upon whether the existing management wants to continue to control it or not.

Sale of A Division: In the case of sale of a division, the seller company is demerging its business whereas the buyer company is acquiring a business. For the first time the tax laws in India propose to recognise demergers. The broad principles of the tax principles relating to demerger

→ **Recent example**: Demerger has been realised as "a powerful tool for facilitating business growths. Creating shareholder value through Demerger is the flavour of the month. There are many instances of the recent demergers in Corporate India. Demergers are the in-thing in corporate India at the moment. The recent announcement by **Bajaj Auto** on planned demerger of the company is the latest. **ZEE Telefilms (ZTL)**, the media company, which is one of the largest listed entity with a market capitalisation in excess of Rs 12,000 crore and revenues of about Rs 1,500 crore, has announced that it will hive off operations into four units, each focused on a certain line of business. The another biggest example of demerger in recent times is the division of the **Reliance empire** where the oil and chemical business remained with Mr. Mukesh Ambani, while power, financial services and telecom were hived off to Mr. Anil Ambani.

5. Buyouts (Nov 2003) or Write a short note of Leveraged Buyouts (May 2007)

→ A very important phenomenon witnessed in the Mergers and Acquisitions scene, in recent times is one of buy-outs. A buy-out happens when a person or group of persons gains control of a company by buying all or a majority of its shares.

→ Buyout is the purchase of controlling interest in one corporation by another corporation, in order to takeover assets and/or operations. Buyouts can either be hostile or friendly.

→ Types of Buyout - Leveraged buy-out, Management buy-outs, Management buy-ins

A **Leveraged buy-out (LBO)** is an acquisition of a company in which the acquisition is substantially financed through debt. Typically in the LBO 90% or more of the purchase price is financed with debt.

→ While some leveraged buyouts involve a company in its entirety, most involve a business unit of a company. After the buyout, the company invariably becomes a Private Company.

→ A large part of the borrowings is secured by the firms assets, and the lenders, because of a high risk, take a portion of the firms equity. Junk bonds have been routinely used to raise amounts of debt needed to finance LBO transaction.

→ The success of the entire operation depends on their ability to improve the performance of the unit, contain its business risk, exercise cost controls and liquidate disposable assets. If they fail to do so, the high fixed financial costs can jeopardize the venture.

→ An attractive candidate for acquisition through leveraged buyout should possess three basic attributes :

- (a) It firm have a good position in its industry with a solid profit history and reasonable expectations of growth.
- (b) The firm should have a relatively low level of debt and a high level of bankable assets that can be used as loan collateral.
- (c) It must have a stable and predictable cash flows that are adequate to meet interest and principle payment of the debt and

provide adequate working capital.

The majority of buy-outs are **Management buy-outs** and involve the acquisition by incumbent management of the business where they are employed. Management buy-outs (MBO) is the purchase of a business by its management.

Management buy-ins are a similar form of transaction but differs in that the entrepreneurs leading the transaction come from outside the company.

➔ Internationally, the two most common sources of buy-out operations are divestment of parts of larger groups and family companies facing succession problems. Corporate groups may seek to sell subsidiaries as part of a planned strategic disposal programme or more forced reorganisation in the face of parental financing problems.

➔ In recessionary periods buy-outs can play a big part in restructuring failed or failing businesses. Buy-outs are one of the most common forms of privatisation, offering opportunities for enhancing the performance of parts of the public sector, widening employee ownership and giving managers and employees incentives to make best use of their expertise in particular sectors.

➔ **Recent example:** India has experienced a number of buyouts and leveraged buyouts. A successful example of LBO is the acquisition of Tetley brand, the biggest tea brand of Europe by TATA Tea of India at 271 million pounds. It was one of the biggest cross border acquisition by an Indian Company. Another recent example of a leveraged buyout is **Tata Steel (India)** acquiring **Corus (United Kingdom)** for \$11.3 billion .

6. FUTURE RATE AGREEMENTS (FRAs)

➔ **Meaning :** A **Future Rate Agreement (FRA)** is a contract which fixes the interest cost on a specified date in the future. The principal does not change hands, it is only notional.

➔ **Settlement :** The contract is settled by means of a single payment representing the difference between the rate stated in the contract and the market interest rate specified in the contract.

➔ **Purpose :** FRA's can be used to modify interest rate risk or as a trading instrument to create a position.

➔ **Advantage :** It helps a borrower in elimination interest rate risks associated with borrowing or investing funds. Adverse movements in the interest rates will not affect or alter the interest receipt/liability of the investor/borrower.

7. EXPOSURE NETTING

(Nov 2004)(5 Marks)

➔ **Meaning : Exposure Netting** refers to offsetting exposures in one currency with Exposures in the same or another currency, where exchange rates are expected to move in such a way that losses or gains on the first exposed position should be offset by gains or losses on the second currency exposure.

➔ **Objective :** The objective of the exercise is to offset the likely loss in one exposure by likely gain in another.

➔ **Hedging Tool :** This is a manner of hedging forex exposures though different from forward and option contracts. This method is similar to portfolio approach in handling systematic risk.

➔ **Example :** let us assume that a company has an export receivables of US\$ 10,000 due 3 months hence, if not covered by forward contract, here is a currency exposure to US\$.

Further, the same company imports US\$ 10,000 worth of goods/commodities and therefore also builds up a reverse exposure. The company may strategically decide to leave both exposures open and not covered by forward, it would be doing an exercise in exposure netting.

➔ **Application Of Exposure Netting in Banking Transactions :** For years now, banking transactions have been based on the principle of netting. A Bank generally offsets its position in a currency, by taking a opposite position in the same currency. In banking terms this is known as settlement risk or settlement netting where only the difference of the summed transactions between the parties is actually transferred. In Banking transaction Exposure Netting occurs where outstanding positions are netted against one another in the event of counter party default.

8. MIBOR This is the weighted average of the interest rates at which certain banks/institutions in Mumbai belonging to a representative panel are prepared to lend call money. It is also used as a reference rate in quoting interest rate in India. An acronym for MIBOR is Mumbai Inter Bank Offered Rate.

9. LIBOR : LIBOR is the interest rate that banks charge each other for one-month, three-month, six-month and one-year loans. LIBOR is an acronym for London InterBank Offered Rate. It is the rate which is charged by London banks, and is then published and used as the benchmark for banks rates all over the world. LIBOR is compiled by the British Bankers Association (BBA)

QUESTION NO. 23 Mention various products which are available in the market to cover exchange rate risks?

(Nov 1996)

Various products (tools) which are available in the market to cover exchange rate risks.

- | | | |
|--|------------------------------|---------------------------------|
| (i) Currency & Interest Rate Swaps | (ii) Rupee Forward Contracts | (iii) Rupee Roll-Over Contracts |
| (iv) Cross-Currency Forward Contracts | (v) Currency Futures | (vi) Cross-Currency Options |
| (vii) Cross Currency Roll Over Contracts | (viii) Arbitrage | (ix) Spot Contracts |

QUESTION NO. 24 What is the role of Financial Advisor in PSU?*(May 2001) (May 2007)*

The financial adviser occupies an important position in all public sector undertakings (PSU). He functions as the principal advisor to the chief executive of the enterprise on all financial matters. The committee on public sector undertakings has specified the following functions and responsibilities for a financial adviser:

- (i) Determination of financial needs of the firm and the ways these needs are to be met.
- (ii) Formulation of a programme to provide most effective cost-volume profit relationship.
- (iii) Analysis of financial results of all operations and recommendations concerning future operations.
- (iv) Examination of feasibility studies & detailed project reports from the point of view of overall economic viability of the project.
- (v) Conduct of special studies with a view to reduce costs and improve efficiency and profitability.

QUESTION NO. 25 What are the issues to be considered under Working Capital Management in PSU?*(Nov 1997)*

In the context of Working Capital Management of Public Sector Undertakings, the following points need consideration:

- (i) Public Sector Undertakings are often blamed for over-inventory resulting in blocking capital and space and also sometimes for under-inventory resulting in up-setting production schedule. Both are signs of inefficient inventory management.
- (ii) There is generally no provision for working capital margin at the time of estimating of project. Consequently, there is no provision of long term funds for working capital and the enterprise has to obtain financing for current assets from short term sources.
- (iii) Most of the public sector units are capital intensive hence, ratio of current assets to fixed assets is generally low.
- (iv) Most of the public sector undertakings lack application of working capital management techniques especially relating to debtors like discount rate, credit period and credit standards. The reason being that they sell the bulk of their output to the Government departments.

The various studies conducted by the Bureau of public enterprises have shown that one of the reason of the poor performance of public sector undertakings in our country has been the large amount of funds locked up in working capital. This results in overcapitalisation. Over capitalisation implies that a company has too huge funds for its requirements, resulting in a low rate of return a situation which implies a less than optimal use of resources. A firm has, therefore, to be very careful in estimating its working capital requirements and PSUs are no exception to this.

QUESTION NO. 26 What are the Advantages and Disadvantages of a Depository? (Nov 2001) or Explain Briefly the advantage of holding security in Demat form rather than in physical form ? (Nov 2006)

The Depositories Act, 1996 provides the framework for the establishment and working of depositories enabling transactions in securities in scripless (or demat) form. With the arrival of depositories on the scene, many of the problems previously encountered in the market due to physical handling of securities have been to a great extent minimized. In a broad sense, therefore, it can be said that 'dematting' has helped to broaden the market and make it smoother and more efficient.

Benefits/Advantages of depository system are as follows:

For the Capital Market:

- (i) It helps to eliminates voluminous paperwork, (ii) It eliminates bad delivery (iii) It helps in quick settlement and reduces settlement time, (iv) It facilitates stock lending, (v) It helps to eliminate the problems of odd lot (vi) It is speedier and avoids delay in transfers. (vii) It avoids lot of paper work. (viii) It saves on stamp duty.

For the Investor:

- (i) It reduces risks associated with loss, theft and forgery of physical shares, (ii) It ensures liquidity by speedier settlements of trades, (iii) It makes the investors free from physical holding of shares, (iv) It reduces the transaction costs, (v) It helps investors to get preference in getting loan against securities. (vi) Benefit accruing from issue of bonus shares, consolidation, split or merger is credited without much difficulty.

For the Issuers:

- (i) It provides up-to-date knowledge of shareholder's names and addresses, (ii) It enhances image of the company, (iii) It increases efficiency of registrars and transfer agents, (iv) It reduces the cost of secretarial department, (v) It provides better facilities

of communication with shareholders. (vi) Savings in printing certificates, postage expenses. (vii) Stamp duty waiver. (viii) Easy monitoring of buying/selling patterns in securities, increasing ability to spot takeover attempts & attempts at price rigging.

Disadvantages of Depository are as follows: Risks associated with derivatives are as follows :

1. **Systemic failure** – Input control, process control and output control being parts of computerized environment apply equally to the dematerialization process. Unforeseen failures, intentional or otherwise, on the part of the individuals entrusted with protecting data integrity, could lead to chaos.
2. **Additional record keeping** – In built provisions for rematerialization exist to take care of the needs of individuals who wish to hold securities in physical form. Companies will invariably need to maintain records on a continuous basis for securities held in physical form. Periodical reconciliation between demat segment and physical segment is very much necessary.
3. **Cost of Depository Participant (DP)** – For transacting business, investors have to deal not only with brokers but also with depository participant which acts as an additional tier in the series of intermediaries. A one time fee is levied by the depository participant which small investors consider to be an avoidable cost.
4. **Human Fraud** – Dematerialization is not a remedy for all ills. Unlawful transfers by individuals against whom insolvency proceedings are pending or transfers by attorney holders with specific or limited powers are possible.
5. There is a rare possibility of setting up of a single depository. Multiple Depository system raises the problem of co-ordination between different accounts of a single individual and deduction of TDS and other statutory dues. It may increase the number of frauds

QUESTION NO. 27 Write a short note on

1. ROLLING SETTLEMENT:

➔ **Meaning** : A rolling settlement is that settlement cycle of the stock exchange, where all trades outstanding at end of the day have to be settled, which means that the buyer has to make payments for securities purchased and seller has to deliver the securities sold.

➔ **Example** : Suppose if we have T+2 settlement cycle it means that a transaction entered into on Day 1 has to be settled on the Day 1+2 working days. For example

Jan 1	Jan 2	Jan 3	Jan 4	Jan 5	Jan 6	Jan 7	Jan 8
Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon

Stocks purchased/sold on Jan 1 should be settled on Jan 3. Stocks purchased/sold on Jan 4 should be settled on Jan 8 (Note that Sat & Sun, being holidays are again excluded for the T+2 count).

➔ **Benefits of Rolling Settlement** : (a) In rolling settlements, payments are quicker than in weekly settlements. Thus, investors benefit from increased liquidity. (b) It keeps cash and forward markets separate. (c) Rolling settlements provide for a higher degree of safety. (d) From an investor's perspective, rolling settlement reduces delays. This also reduces the tendency for price trends to get exaggerated. Hence, investors get a better price.

➔ **Indian Scenario** : SEBI introduced a new settlement cycle known as the 'rolling settlement cycle.' Rolling settlement cycles were introduced in both exchanges on January 12, 2000. As per the SEBI's mandate, the Exchanges have since introduced the settlements for all the securities on T+2 basis. A T+2 settlement cycle means that the final settlement of transactions done on T will take place on the second business day after the trade day. The pay-in should be by 11.00 a.m. while the pay-out takes place at 1.30 p.m.

➔ **International Scenario** : Internationally, most developed countries follow the rolling settlement system. For instance, both the US and the UK follow a rolling settlement (T+3) system, while the German stock exchanges follow a T+2 settlement cycle.

2. Types of ORDERS in a Future Market

(RTP Nov 2008)

Customers in futures and option markets are able to submit a complete range of dealing instructions to their brokers. This allows them to give precise instructions as to how their orders will be treated. Generally, following types of orders are issued:

- (i) **Market Order** : When a trader places a buy or sell order at the price which prevails in the futures market at the time the order is given, it is called a market order.
- (ii) **Limit Order** : If the trader specifies a particular price or the price limit within which the order should be executed, such an order is called a limit order.
- (iii) **Market-if-touched (MIT) Order** : If an order is executed at the best available price after a trade occurs at a particular price or at a price more favourable than the specified price, it is called a Market-if-touched order.
- (iv) **Stop Loss Order** : Stop loss orders are normally placed by specifying a range in which the order should be executed instead

of giving a single price order.

(v) Good Till Cancelled (GTC) Order : In terms of National Stock Exchange (NSE) regulations, Good till cancelled orders shall be cancelled at the end of 7 calendar days from the date of entering the order.

Other type of orders include : **(vi)** Guaranteed stop.**(vii)** Spread order.**(viii)** Scale order.**(ix)** Opening order.**(x)** Closing order.**(xi)** Limit or Market on Close order.**(xii)** Stop limit order.**(xiii)** Public limit order.

QUESTION NO.28 Distinguish between Forward Contracts and Futures Contracts? (May 02,Nov02,May 06,Nov08)

Distinction between forward and futures contracts are as follows:

- 1. Trading:** Forward contracts are traded on personal basis or on telephone or otherwise. Futures contracts are traded in a competitive arena
- 2. Size of contract:** Forward contracts are individually tailored and have no standardised size. Futures contracts are standardised in terms of quantity or amount as the case may be.
- 3. Organised exchanges:** Forward contracts are traded in over the counter market. Futures contracts are traded on organised exchanges with a designated physical location for example : Stock Exchange .
- 4. Settlement:** Forward contracts settlement takes place on the date agreed upon between the parties. Futures contracts settlements are made daily via exchange's clearing house.
- 5. Delivery date:** Forward contracts may be delivered on the dates agreed upon and in terms of actual delivery Futures contracts delivery dates are fixed on cyclical basis and hardly takes place. However, it does not mean that there is no actual delivery.
- 6. Transaction costs:** Cost of forward contracts is based on bid-ask spread. Futures contracts entail brokerage fees for buy and sell orders.
- 7. Marking to Market:** Forward contracts are not subject to marking to market. Futures contracts are subject to marking to market in which the loss or profit is debited or credited in the margin account on daily basis due to change in price.
- 8. Margins:** Margins are not required in forward contract. In futures contracts every participant is subject to maintain margin as decided by the exchange authorities.
- 9. Credit Risk:** In forward contracts credit risk is borne by each party and, therefore, every party has to bother for the creditworthiness of the counter-party. In futures contracts the transaction is a two way transaction, hence the parties need not to bother for the creditworthiness of each party.
- 10. Liability extent:** In forward contracts the liability happens to be unlimited because market fluctuation may be wide. In Futures Contract the extent of loss or profit is known every next day and depending on the risk taking capacity of the party, exposure may be limited.
- 11. Liquidity :** Forward contracts is exposed to the problem of liquidity whereas in futures there is no liquidity problem as they are traded in stock exchange.
- 12. Disclosure :** In forward contracts, price are not publicly disclosed whereas in future contracts price is transparent.

QUESTION NO. 29 Explain the terms 'Intrinsic Value of an Option' & the 'Time Value of an Option'? (Nov 2004) OR Distinguish between Intrinsic Value & Time Value of an option? (May 2006)

Option Premium is the component of two parts: Intrinsic value + Time Value of an option

Intrinsic Value → Intrinsic Value is the gross profit that the option buyer would realize upon immediate exercise of the option. → It is defined as the difference between the option's strike price and the stock's actual current price. → Intrinsic Value is the value or profit that any given option would have if it were exercised today. → It can never be negative (always equal to or greater than zero). → Intrinsic Value of Call Option = Maximum of (0, Market Price - Exercise Price); Intrinsic Value of Put Option = Maximum of (0, Exercise Price - Market Price). → An option which is out of the money or at the money has zero intrinsic value. → Example: If Wipro stock is selling at Rs 105, and Call Option on Wipro stock is Rs 100, then Intrinsic Value of Wipro stock is Rs 5 (Rs 105 - 100). Again if Wipro stock is selling at Rs 105 and Put Option on Wipro is Rs 100 then Intrinsic Value will be zero (Rs 100 - Rs 105 = -5) as it cannot be negative.

Time Value of Option: → Time Value of Option is the amount by which the option price exceeds the Intrinsic Value. On the expiration date, the time value of option is zero and the premium is entirely represented by the Intrinsic Value. → If there is At The Money or Out Of The Money position, it means there is no intrinsic value and the entire premium is represented by the time value. → Time Value is basically the risk premium that the seller requires, to provide the option buyer with the right to buy/sell the stock up to the expiration date. This component may be regarded as "insurance premium" of the option. → This is also known as extrinsic value. → Time Value decays over time. In other words, the time value of an option is directly related to how much time an

option has until expiration. i.e. lesser the time, lesser is the time value. ➔ Example: If Wipro stock's current market price is Rs. 20. Exercise Price is Rs. 100. Call Option Premium on Wipro stock is Rs. 25. Then the time value of option in such case will be Rs. 5 (Option Premium Rs. 25 - Intrinsic Value Rs. 20 = Time Value Rs. 5)

QUESTION NO. 30 Write a Short Notes on BOOK BUILDING (May 01, Nov 02, Nov 03) What is the procedure for the book building process ?

➔ The book-building system is part of Initial Public Offer (IPO) of Indian Capital Market. It was introduced by SEBI on recommendations of Mr. Y.H. Malegam in October 1995. It is most practical, fast and efficient management of Mega Issues. Book Building involves sale of securities to the public and the institutional bidders on the basis of predetermined price range.

➔ Book Building is a price discovery mechanism and is becoming increasingly popular as a method of issuing capital. The idea behind this process is to find a better price for the issue.

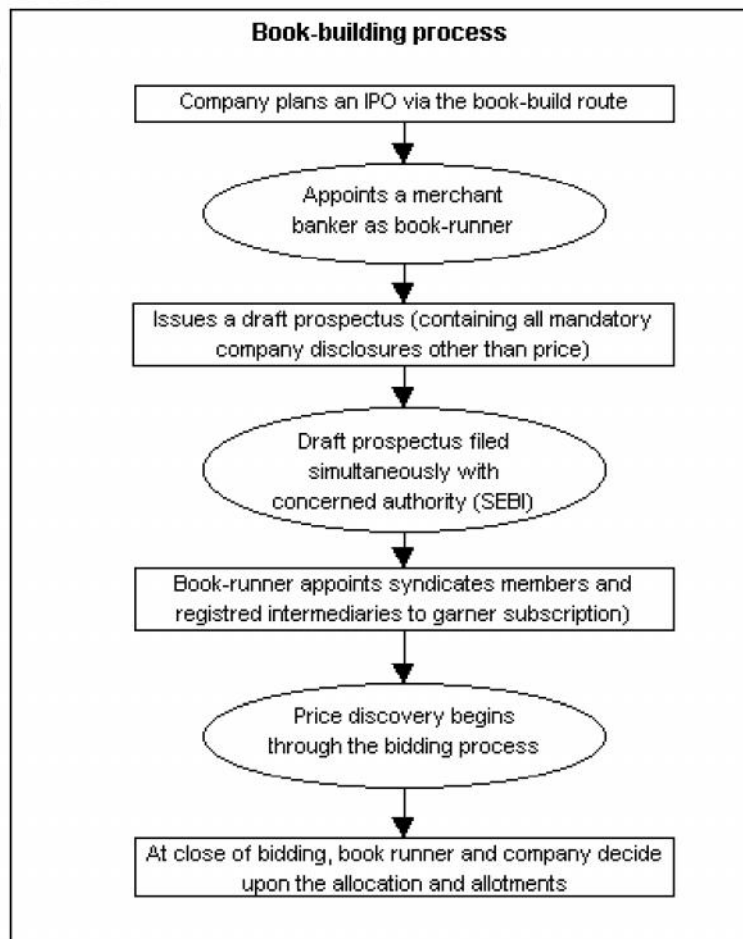
➔ The issue price is not determined in advance. Book Building is a process wherein the issue price of a security is determined by the demand and supply forces in the capital market.

➔ Book building is a process used for marketing a public offer of equity shares of a company and is a common practice in most developed countries.

➔ Book building is called so because it refers to the collection of bids from investors, which is based on an indicative price range. The issue price is fixed after the bid closing date.

➔ Unlike international markets, India has a large number of retail investors who actively participate in Initial Public Offer (IPOs) by companies. Internationally, the most active investors are the mutual funds and other institutional investors, hence the entire issue is book built. But in India, 25 per cent of the issue has to be offered to the general public. Here there are two options with the company.

➔ According to the first option, 25 percent of the issue has to be sold at a fixed price and 75 per cent is through book building. The other option is to split the 25 % on offer to the public (small investors) into a fixed price portion of 10 percent and a reservation in the book built portion amounting to 15 % of the issue size. The rest of the book-built portion is open to any investor.



→ Advantage

- (i) The book building process helps in discovery of price & demand.
- (ii) The costs of the public issue are much reduced.
- (iii) The time taken for the completion of the entire process is much less than that in the normal public issue.
- (iv) In book building, the demand for the share is known before the issue closes. Infact, if there is not much demand, the issue may be deferred.
- (v) It inspires investors confidence leading to a large investor universe.
- (vi) Issuers can choose investors by quality.
- (vii) The issue price is market determined.

→ Disadvantage

- (i) There is a possibility of price rigging on listing as promoters may try to bail out syndicate members.
- (ii) The book building system works very effeciently in matured market conditions. But, such conditions are not commonly found in practice.
- (iii) It is appropriate for the mega issues only.
- (iv) The company should be fundamentally strong & well known to the investors without it book building process will be unsuccessful.

→ Recent Example : Recent example of a book buliding process in Indian context is the IPO of Reliance Power. The issue was made through 100 % book building process .The price band for the the book buliding pocesss was between Rs 405 and Rs 450 with Rs 20 discount for retail investors .

QUESTION NO. 31 : What is GREEN SHOE OPTION (Nov 2003) ? or What is Green Share Option ? Explain the working mechanism ? (Nov 2007)

Green Shoe Option (GSO) means an option available to the company issuing securities to the public to allocate shares in excess of the public issue and operating a post-listing price stabilising mechanism through a stabilising agent. This option acts as a safety net for the investors and is a standard global practice. The name comes from the fact that Green Shoe Company was the first entity to use this option. SEBI inserted a new Chapter No. VIII-A, with effect from August 14, 2003, in the SEBI (Disclosure and Investors Protection) Regulations, 2000 to deal with the GSO. The GSO is available to a company which is issuing equity shares through book-building

mechanism for stabilising the post-listing price of the shares. The following is the mechanism of GSO :

1. The Company shall appoint one of the leading book runners as the Stabilising Agent (SA), who will be responsible for the price stabilising process.
2. 'The promoters of the company will enter into an agreement with SA to lend some of their shares to the latter, not exceeding 15% of the total issue size.
3. The borrowed shares shall be in the dematerialised form. These shares will be kept in a separate GSO Demat A/c.
4. In case of over subscription, the allocation of these share shall be on pro-rata basis to all applicants.
5. The money received from allotment of these shares shall also be kept in a 'GSO Bank A/c', distinct from the issue account , and the amount will be used for buying shares from the market during the stabilization period.
6. The shares bought from the market by SA for stabilization shall be credited to GSO Demat Account.
7. These shares shall be returned to the promoters within 2 days of closure of stabilisation process.
8. In order to stabilise post-listing prices, the SA shall determine the timing and quantity of shares to be bought.
9. If at the expiry of the stabilisation period, the SA does not purchase shares to the extent of over-allocated shares, then shares to the extent of shortfall will be allotted by the company to the GSO Demat A/c multiplied by the issue price. Amount left in the GSO Bank A/c (after meeting expenses of SA), shall be transferred to the Investors Protection Fund.

In April, 2004, the ICICI Bank Ltd. Became the first Indian company to offer GSO.

→ In the Indian context, green shoe option has a limited connotation. SEBI guidelines governing public issues contain appropriate provisions for accepting over-subscriptions, subject to a ceiling, say 15% of the offer made to public. In certain situations, the green-shoe option can even be more than 15%.

Examples of GSO issues in India

→ In April, 2004 the ICICI bank Ltd. became the first Indian company to offer GSO. The ICICI Bank Ltd. offered equity shares of Rs. 3050 crores through 100% book building process to the investors. The issue was over subscribed by 5.14 times.

→ IDBI has also come up with their Flexi Bonds (Series 4 and 5) under GSO.

→ More recently Infosys Technologies has also excercised GSO for its issue. This offer initially involved 5.22 million depository shares, representing 2.61 million domestic equity shares.

QUESTION NO. 32 Write a short note on Buy-Back of shares by companies? (May 2003) OR Briefly explain 'Buy Back of Securities' and give the management objectives of buying Back Securities?(Nov. 2004)

→ The Companies (Amendment) Act gives the power to the corporates to purchase its securities by virtue of Sections 77A, 77AA and 77B.

→ **Meaning :** Buyback is reverse of issue of shares by a company, where it offers to take back its shares owned by the investors at a specified price.

→ **Objectives of Buyback :** The following are the management objectives of buying back securities :

(i) To return excess cash to shareholders, in absence of appropriate investment opportunities.

(ii) To give a signal to the market that shares are undervalued.

(iii) To increase promoters holding, as a percentage of total outstanding shares, without additional investment. Thus, buy back is often used as a defence mechanism against potential takeover.

(iv) To change the capital structure.

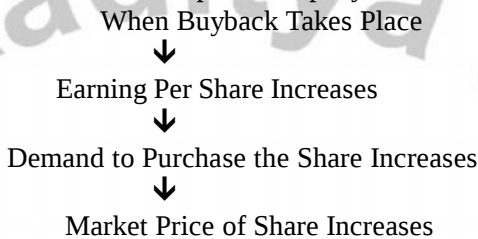
(v) To Increase Earning per share

→ **Resources of Buy Back :** A Company can purchase its own shares from

(i) free reserves; (ii) securities premium account; or (iii) proceeds of any shares or other specified securities. A Company cannot buyback its shares or other specified securities out of the proceeds of an earlier issue of the same kind of shares or specified securities.

→ **Advantages of Buyback :** The Advantages of Buyback of securities to investors, companies and economy are :

(i) **Revival of the Capital Market :** Buyback may flare up the market value of shares in a bearish market. This can be shown with the help of diagram given below. Buyback would also help the company to maintain the market price of its shares and to keep it stable.



(ii) **Liquidity to Dormant Shares :** Most of the shares of the companies which are held by Employees and Executives are usually dormant. By bringing in the buyback option, the company would be able to purchase those shares from the employees & executives. And thus not only increase the liquidity in the market but also would act as an incentive to the worthy employees.

(iii) **Odd Lots :** Odd Lots are generally dormant in nature and buyback could act as a relief to the shareholders by way of selling those shares to the company.

(iv) **Restructuring of capital base by Companies with special reference to public sector units :** It is felt that buyback of shares by Public Sector Undertaking is an attractive option, for two reasons. One it gives PSUs having a bloated equity base an opportunity to restructure their capital and in process add value for the remaining shareholders.

(v) **Increasing the Earnings Per Share (EPS) and at the same time providing higher prices (P/E ratio) to Investors :** The shareholders' money can be maximised by optimising the current earnings on the share and at the same time increasing the market value of the shares by way of capital appreciation.

(vi) **Proper Utilisation of Excess Funds :** Many small and mid range companies in this country sit upon so much cash without having any idea of where to put them in. It would be better for them to return surplus cash to shareholders than go on spending simply for want of alternatives.

(vii) **For ensuring price stability in share prices**

(viii) **For exercising control over the company**

(ix) **For taking tax advantages**

(x) **For saving the company from hostile takeover**

→ **Disadvantages of Buyback :** Some of the disadvantages of Buyback are as follows :

(i) Manipulation of share prices by its promoters (ii) speculation (iii) collusive trading

→ **Conditions of Buy Back :**

(a) The buy-back is authorised by the Articles of Association of the Company;

(b) A special resolution has been passed in the general meeting of the company authorising the buy-back.

(c) The buy-back is of less than twenty-five per cent of the total paid-up capital and free reserves of the company and that the buy-back of equity shares in any financial year shall not exceed twenty-five per cent of its total paid-up equity capital in that financial year;

(d) The ratio of the debt owed by the company is not more than twice the capital and its free reserves after such buy-back;

(e) There has been no default in any of the following :

i. in repayment of deposit or interest payable thereon, ii. redemption of debentures, or preference shares or iii. payment of dividend, if declared, to all shareholders within the stipulated time of 30 days from the date of declaration of dividend or iv. repayment of any term loan or interest payable thereon to any financial institution or bank;

(f) All the shares or other specified securities for buy-back are fully paid-up;

QUESTION NO. 33 What are the Differences between Primary & Secondary Markets?

Difference between Primary and Secondary Market

Basis	Primary Markets	Secondary Markets
(a) Meaning	A primary market refers to the set up which helps the industry to raise funds by issuing different types of securities.	The secondary market is market for subsequent sale/purchase and trading in the securities.
(b) Nature of Securities	It deals with new securities, i.e. securities which were not previously available, and are offered for the first time to the investors.	It is a market for old securities which have been issued already.
(c) Sale/ Purchase	Securities are acquired from issuing Companies themselves.	Securities are purchased and sold by the investors without any involvement of the companies.
(d) Nature of Financing	It provides funds to new enterprises & also for expansion and diversification of the existing one.	It does not supply additional funds to the company since the company is not involved in transaction
(e) Liquidity	It does not lend any liquidity to the securities	The secondary market provides facilities for the continuous purchase and sale of securities, thus lending liquidity and marketability to the securities.
(f) Organisational Difference	It is not rooted in any particular spot and has no geographical existence. It has neither any tangible form nor any administrative organisational set up.	Secondary market has physical existence in the form of stock exchange and are located in a particular geographical area having an administrative organisation set up.

QUESTION NO. 34 Explain the term Insider Trading and why Insider Trading is punishable?

(Nov 2004)

➔ **Meaning** : Insider trading refers to using the unpublished information about the performance or other matters of a company, in dealings with the securities of the company. or

In other words Insider Trading

-is a buying or selling or dealing in securities of a listed company,

-by a director, member of management, an employee or any other person such as internal or statutory auditor, agent, advisor, analyst, consultant etc.

-who have knowledge of material 'inside' information not available to general public

➔ The dealing in securities by an insider is illegal when it is predicated upon utilization of inside information to profit at the expense of other investors who do not have access to such investment information.

➔ The word insider has wide connotation. An outsider may be held to be an insider by virtue of his engaging himself in this practice on the strength of inside information.

➔ **Why Insider Trading is punishable** : Insider trading which is an unethical practice resorted by those in power in corporates has manifested not only in India but elsewhere in the world causing huge losses to common investors thus driving them away from capital market. Therefore, it is punishable.

➔ **Regulatory Regime in India** : It was in the late 70s and thereafter that the insider trading was recognised as an undesirable practice. Sachar Committee (1979), Patel committee (1986), Abid Hussain Committee (1989) have pointed out a need for regulation and control of insider trading. They all recommended that Insider trading be made an offence punishable with civil as well as criminal penalties.

The audit committee of Infosys Technologies' board of directors has imposed a penalty of Rs 5 lakh (Rs 500,000) on Gopalakrishnan and a fine of \$2,000 on Lehman as they failed to comply with the insider trading norms of the company. The company, in perhaps the first instance in India, has fined its CEO Kris Gopalakrishnan for a technical violation of its insider trading rules.

➔ Insider trading is prohibited by the SEBI as (i) it results into unfair gains to insiders and harms the interest of other shareholders, (ii) it downgrades the image of the company, (iii) it drives away the investors from the market, and (iv) it causes unwar-

ranted volatility in the prices of the shares of the company.

Indian capital markets are increasingly becoming global. In this scenario, we must develop legislative and regulatory mechanisms to protect investors and build confidence in capital markets from both domestic and international perspectives. It is very important for the regulator to check the practice of insider trading so as to maintain investor confidence.

QUESTION NO. 35 Write a short note on

1. PARTICIPATORY NOTES (PNs) ?

➔ **Meaning :** PNs are like contract notes issued by foreign institutional investors (FIIs) based in India to overseas investors who may not be eligible to invest in the Indian Stock Markets or who want to trade anonymously (without disclosing their name). "Participatory Notes" (PNs), are the certificates issued for clients with undisclosed names..

➔ **Who Can Issue PNs :** Almost all top FIIs, including Merrill Lynch, Morgan Stanley, Credit Lyonnais, Citigroup and Goldman Sachs, who are registered in India issue Participatory Notes (PN).

➔ **Risk involved PNs :**

(a) **Investor's Identity Not Known:** Since these investment in the funds does not require any stringent requirements, identity of the investor is generally not known.

(b) **Investment Alternative for Illegal Persons / Money:** It service as an attractive investment route for money siphoned off or money belonging to terror groups. It serves as an investments alternative for black-money, whereby such money will yield returns, and will not be idle at all.

➔ **The foreign investors prefer P-Notes route for the following reasons :**

(i) Some investors do not want to reveal their identities P-Notes serve this purpose.

(ii) They can invest in Indian shares without any formalities like registration with SEBI, submitting various reports, etc.

(iii) Savings in cost of investing as no office etc. is to be maintained.

(iv) No Currency conversion.

➔ **P-notes are not preferred by SEBI for the following reasons :**

(i) There is no way of knowing who owns the underlying securities. (It is suspected that terror organizations may be using this route to make money. It is also suspected that Indians holding unaccounted money abroad may be using this route to make money).

(ii) Large funds acting through P-Notes cause volatility in exchanges.

➔ **Measure Taken By SEBI :** It may be noted that the Finance Ministry and the SEBI is contemplating to introduce more transparent mechanism for foreign entities investing through PNs. It is said that the bulk of the outflows in the recent stock meltdown was money coming through PNs and SEBI is examining the role of PNs in the recent market crash. In an attempt to slow FII inflows, capital market regulator Sebi recently proposed a complete ban on the issue of overseas derivatives instruments (ODIs) like participatory notes (PNs) and other papers with immediate effect. P-Notes reflect hot money coming only for short-term fast profits.

2. Call/Notice Money

(May 04)

➔ The core of the Indian money market structure is the interbank call money market which is centralised primarily in Mumbai, but with sub-markets in Delhi, Calcutta, Chennai and Ahmedabad.

➔ **Meaning :** Call money or inter-bank call money is the medium through which the scheduled commercial banks lend, borrow or call at short notice to manage the day-to-day surpluses and deficits in the cash flow. The money that is lent for one day in this market is known as 'call money' and if it exceeds one day (but less than 15 days), it is referred as 'notice money'.

➔ **Participants :** The participants in the markets are commercial banks, cooperative banks and primary dealers who can borrow and lend funds. Large mutual funds promoted by nationalised banks, private sector mutual funds and all India financial institutions can participate in the market as lenders only. Brokers are not permitted in the market.

➔ **Risk Involved :**

(a) Interest rate in the market is market driven and is highly sensitive to the forces of demand and supply. Hence, the participants in the markets are exposed to a high degree of interest rate risk.

(b) The activities in the money market are subjected to fluctuations due to seasonal factors, i.e. busy (November to April) and slack (May to October) seasons.

➔ **Factor Affecting Call Rates :** There are different factors which affect & make the call rates to be volatile. Some of these factors are :

(a) **Liquidity Position:** Call rates depend on the liquidity position of the economy in general and of the banking system in particular

(b) CRR Requirement : A reduction in CRR results in lesser cash balance to be maintained by banks which dampens the demand in call market and thus reducing the call rate.

(c) Volatility in the Foreign Exchange Market : Volatility in the foreign exchange market affects fluctuations in call rates.

(d) Capital Market Conditions : The volatility in call rate is also affected by the capital market conditions.

(e) Level of Competition in the Call Market : The level of competition and the number of participants affect the volatility in the call money market.

➔ **Security** : No collateral security is required to cover these transactions .

➔ **Benefit** :

➔ **Account with RBI** : In view of the short tenure of such transactions , both the Borrowers and the Lenders are required to have current accounts with the Reserve Bank of India .

➔ **Indian Scenario** : The emergence of a purely inter bank call money market is shaping up. In a recent development, Corporates are now not allowed to route call money transactions through primary dealers

➔ **Benefits** :

(a) Even out day to day deficits: Call Market enables Banks and Financial institutions to even out their day-to-day deficits and surplus of money.

(b) Cash Reserve Requirements: Commercial Banks, Co-operative Banks and Primary Dealers are allowed to borrow and lend in this market for adjusting their cash reserve requirements.

(c) Outlet for Deploying Funds: It serves as an outlet for deploying funds on short-term basis to the lenders having steady inflow of funds..

3. INTER-BANK PARTICIPATION CERTIFICATE (IBPC)

(Nov 2006)(May 2008)

➔ **Meaning** : A IBPC is a deed of transfer through which a bank, sells or transfers to a third party (transferee) a part or all of a loan made its clients (borrowers). In other words The Inter Bank Participation Certificates are short term instruments to even out the short term liquidity within the Banking system particularly when there are imbalances affecting the maturity mix of assets in Banking Book.

➔ **Why it is called so ?** : It is called a participation certificate because through it, the PC holder participates in a bank loan, and so also in the interest, the security of the loan, and risk of default on a proportionate basis.

➔ **Objective**: The primary objective is to provide some degree of flexibility in the credit portfolio of banks & to smoothen the consortium arrangements.

➔ **Who can Issue & Subscribe**: The IBPC can be issued by scheduled commercial bank and can be subscribed by any commercial bank.

➔ **Issued against underlying Advance** : The IBPC is issued against an underlying advance, classified standard during the currency of the participation. the aggregate amount of participation should be covered by the outstanding balance in account.

➔ **Types** : The participation can be issued in two types, viz. with and without risk to the lender.

While the participation without risk can be issued for a period not exceeding 90 days. Participation with risk can be issued for a period between 91 days and 180 days. Under 'with risk participation', the issuing bank will reduce the amount of participation from the advances outstanding and participating bank will show the participation as part of its advances. Banks are permitted to issue IBPC under 'with risk' nomenclature classified under Health Code-I status and the aggregate amount of such participation in any account should not exceed 40% of outstanding amount at the time of issue. Under without risk participation, the issuing bank will show the participation as borrowing from banks and participating bank will show it as advances to bank.

➔ **Benefits** : The scheme is beneficial both to the issuing and participating banks. **The issuing bank** can secure funds against advances without actually diluting its asset-mix. A **bank** having the highest loans to total asset ratio and liquidity bind can square the situation by issuing IBPCs. **To the lender**, it provides an opportunity to deploy the short term surplus funds in a secured and profitable manner. The IBPC with risk can also be used for capital adequacy management.

➔ **Interest Rate**: The interest rate on IBPC is freely determined in the market. The certificates are neither transferable nor prematurely redeemable by the issuing bank.

➔ **Current Scenario** : Despite its advantages, the IBPC scheme has not become a popular money market instrument one of the reason for this may be the prohibition against transferability as the participants are not allowed to transfer the certificates. Secondly due to the absence of a ceiling on the interest rate the borrower bank has to pay the issuing bank a rate higher than that agreed with the borrower.

4. TREASURY BILLS (TBs)

(Nov 03)

➔ **Meaning** : T-Bills are short term instruments issued by RBI on behalf of the Government of India to tide over short term liquidity shortfalls.

➔ **Periodicity** : The periodicity of the T-Bills is 14 days, 28 days, 91 days, 182 days & 364 days.

➔ **Issue Price** : Treasury Bills are issued at a discount and redeemed at face value .

➔ **SGL Account** : T-Bills transactions are routed through the Special General Ledger (SGL) Accounts.

➔ **Yield / Return** : The return from T-Bills is in the form of Capital Profit i.e difference between issue price (which is at a discount) & redemption price (at par) . Their yields can be calculated with the help of the following formula :

$$Y = \left[\frac{F - P}{P} \right] \times \frac{365}{M} \times 100 \quad \text{Where } Y = \text{Yield, } F = \text{Face Value, } P = \text{Issue Price/Purchase Price, } M = \text{Maturity}$$

➔ **Features** : (i) Government's contribution to the money market, (ii) Mop-up short-term funds in the money market (iii) Sold through auctions, (iv) Discount rate is market driven (v) Focal Point for monetary policy.

➔ **Advantages to Investor** (i) Manage cash position with minimum balances, (ii) Increased liquidity, (iii) Very little risk, (iv) Market related yield, (v) Eligible for repos, (vi) SLR security, (vii) Two-way quotes by DFHI/Primary Dealers Bank (viii) No capital loss,

➔ **Auction** : T-bills are issued by the RBI through the auction method. There are two types of auctions for T-Bills

(i) Multiple Price Based (ii) Uniform Price Based

In Multiple Price Based all bids equal to or above the cut off price is accepted however, the bidder has to obtain the T-bills at the price quoted by him.

In Uniform Price Based all the bids equal to or above the cut off price are accepted at the cut off level. However unlike the multiple price based model, the bidder obtains the T-Bills at the cut off price and not the price quoted by him.

91 days T-Bills are auctioned under uniform price auction method where as 364 days T- Bills are auctioned on the basis of multiple price auction method .

➔ **RBI Role** : The amount to be accepted at the auctions and the cut-off price are decided by the Reserve Bank of India on the basis of its public debt management policy, the conditions in money market and its monetary policy .

➔ **Participants** : TBs can be purchased by any person, firm, company, corporate body and institutions.

➔ **Lots** : TBs are issued in lots of Rs. 25,000 (14 days and 91 days)/Rs. 1,00,000 (364 days)

➔ **Importance** The treasury bills are extremely important among money market instruments, both for the issuer & investors. Through these instruments, Government can raise funds for short term to meet the temporary mismatches in cash flows & mop up excess liquidity in the system. Thus it have emerged as an effective instrument for dynamic asset-liability management.

5. CERTIFICATE OF DEPOSITS (CDs)

➔ **Meaning** : Certificate of Deposit (CD) is a front ended negotiable instrument, issued at a discount and the face value is payable at maturity by the issuing bank. In short CDs are money market instruments in the form of usance Promissory Notes issued at a discount & are negotiable in character. There is a lock-in-period of 15 days, after which they can be sold.

➔ **History** : The CDs was introduced in June, 1989 with the primary objective of providing a wholesale resource base to banks at market related interest rates.

➔ **Eligible Issuers Of CD** - CDs can be issued only by scheduled commercial banks excluding Regional Rural Banks (RRBs). Recently Financial Institution (FIs) has also been allowed to issue CDs.

➔ **Subscribers/Investors to CDs** : CDs can be issued to individuals, corporations, companies, trusts, funds, association, etc. Non-Resident Indians (NRIs) may also subscribe to CDs, but only on non-repatriable basis which should be clearly stated on the Certificate. Such CDs cannot be endorsed to another NRI in the secondary market.

➔ **Yield** : In the case of CDs effective rate/yield to the bank will be calculated on the basis of the following formula:

$$Y = \left\{ \left(1 + \frac{D}{100 \times M} \right)^M - 1 \right\} \times 100 \quad ; \text{Where } Y = \text{Actual Yield, } D = \text{Discount Rate, } M = \text{Period of discount compounded for one year}$$

(12/Number of months or 365/number of days)

➔ **Minimum size of issue** : CDs can be issued for minimum amount of Rs. 5 lakhs to a single investor. CDs above Rs. 5 lakhs should be in multiples of Rs. 1 lakh. There is however no limit on the total quantum of funds raised through CDs

➔ **Transferability** : CDs are freely transferable by endorsement and delivery but only 15 days after the date of issue.

➔ **Stamp Duty** : CDs are eligible to stamp duty as per provisions of Indian Stamps Act.

➔ **Reserve requirements** : Banks have to maintain CRR and SLR on the issue price of the CDs.

➔ **Loans/buy backs** - Banks cannot grant loans against CDs. Further, they cannot buy-back their own CDs before maturity

➔ **Interest** : The rate of interest is determined by the parties to the transaction freely.

→ **Importance** : The instrument has emerged as effective asset - liability management.

6. COMMERCIAL PAPER (CP)

(May 2003)

→ **Meaning** : CP is an unsecured debt instrument in the form of a promissory note issued by highly rated borrowers for tenors ranging between 15 days to one year for meeting working capital requirement directly from the market instead of borrowing from banks.

→ **Origination** : The concept of CPs was originated in USA in early 19th century when commercial banks monopolised and charged high rate of interest on loans and advances. In India, the CP was introduced in January 1990 on the recommendation of Vaghul Committee.

→ **Conditions under which the CPs can be issued are:**

- (i) the issuer company should have a minimum net worth and fund-based working capital limit of not less than Rs. 4 crores each.
- (ii) the company should obtain a minimum rating as required from CRISIL/ICRA/CARE etc. which should not be more than 2 months old at the time of issue of CPs.
- (iii) the maturity of a CP could be varying between 15 days and less than one year [as per recent RBI guidelines minimum period for which CP can be issued is 7 days]
- (iv) minimum amount of CP issued for a single investor will be Rs. 25 Lakhs in the minimum denomination of Rs. 5 Lakhs,
- (v) CPs can be issued to a maximum of 100% of the fund-based working capital limits of issuer company,
- (vi) the banks can neither extend any stand-by or underwriting facility nor guarantee payment of the instrument on maturity.
- (vii) the CPs are subject to stamp duty. Besides, the issuer has to incur rating agency fee, issuing and paying agents fee, etc.

→ **Denomination and size of CP**

Minimum size of CP issue	Rs. 25 lakhs.
Denomination of CP note	Rs. 5 lacs or multiples thereof.
Maximum size of CP issue	100% of the issuer's working capital

→ **Period of CP**

Minimum currency	15 days from the date of issue. [7 days as per current RBI Guideline]
Maximum currency	360 days from the date of issue.

No grace period for repayment of CP

→ **Mode of CP** CP has to be issued at a discount to face value. Discount rate has to be freely determined by the market.

→ **Negotiability of CP** CP (being usance promissory note) would be freely negotiable by endorsement and delivery.

→ **Stamp Duty** The issue of CP would be subject to payment of stamp duty.

→ **Benefits of CP to the Issuer**

- (i) **Low interest expenses** : The interest cost associated with the issuance of CP is normally expected to be less than the cost of bank financing.
- (ii) **Access to short term funding** : CP issuance provides a company with increased access to short term funding sources.
- (iii) **Flexibility and liquidity** : CP affords the issuer increased flexibility and liquidity in matching the exact amount and maturity of its debt to its current working capital requirement.
- (iv) **Investor recognition** : The issuance of CP provides the issuer with favourable exposure to major institutional investors as well as wider distribution of its debt.
- (v) **Ease and low cost of establishment** : A CP programme can be established with ease at a low cost, once the basic criteria have been satisfied.

→ **Benefits of CP to the Investor**

- (i) **Higher yield** : Higher yields are expected to be generally obtainable on CP than on other short term money market instruments like bank deposits.
- (ii) **Portfolio diversification** : Commercial Paper provides an attractive avenue for short term portfolio diversification.
- (iii) **Flexibility** : CPs can be issued for periods ranging from 15 days to less than one year, thereby affording an opportunity to precisely match cash flow requirements.
- (iv) **Liquidity** : Liquidity in CP is generally provided by a dealer offering to buy it back from an investor prior to maturity, for which a market quote will be available. The investment in CP will therefore be quite liquid.

→ **Principal Parties to a commercial paper Transaction** :

- | | | | |
|----------------|--|-------------------------------------|-------------------|
| (i) The Issuer | (ii) The Head Bank | (iii) The issuing and Paying Agency | (iv) The Investor |
| (v) The Dealer | (vi) Credit Rating Agency, e.g., CRISIL, ICRA etc. | (vii) RBI | |

→ **Governing Authority** : Issue of CP is governed by RBI guidelines as amended from time to time.

→ **Limitation of Commercial Paper** : CP as a source of financing has its own limitations :

- (i) Only highly credit rating firms can use it. New and moderately rated firms generally are not in a position to issue CP

(ii) CP can neither be redeemed before maturity nor can be extended beyond maturity.

7. MONEY MARKET MUTUAL FUNDS (MMMFs)

- ➔ MMMF pools the resources from the investors and invests them in a basket of money market instruments to generate the desired income.
- ➔ The Government of India thought of introducing Money Market Mutual Funds (MMMFs) on Indian financial canvass in 1992.
- ➔ The aim of the Government was to develop the money market and to enable individual investors to gain from money market instruments since it is practically impossible for individuals to invest in instruments like Commercial Papers (CPs), Certificate of deposits (CDs) and Treasury bills (TBs) which require huge investments.
- ➔ The Government constituted a Task Force on MMMFs under the chairmanship of Shri D. Basu.
- ➔ MMMFs operated under the RBI guideline from 1992 till March 2000. When the RBI decided that MMMFs should also be brought within the purview of SEBI to ensure investors protection, particularly after UTI-fiasco. Now after March 2000, SEBI (MF) Regulations 1996 are applicable to the MMMFs as well.
- ➔ Resources mobilised by MMMFs could be invested exclusively in the following money market instruments:
(a) T-Bills (b) Call notice money (c) Commercial Bills (d) Commercial Papers (e) Certificate of deposit
- ➔ Units/shares of MMMFs can be issued only to individuals. Individual who are non-resident Indians may also subscribe subject to the condition that they can only repatriate dividend/income, but not the principal amount of subscription
- ➔ The setting up of a MMMF required the prior authorisation of the RBI.
- ➔ The units issued by the MMMFs are subject to stamp duty. Similarly the units transferred after holding for a lock-in period are also subject to stamp duty.
- ➔ Money Market Mutual Funds (MMMFs) can be set up by the banks and public financial institutions.

8. Reverse Mortgage

(RTP 2007/2008)

➔ **Meaning** : A reverse mortgage is a periodic or lump sum loan against the mortgage of a residence. A reverse mortgage, there, help converting the house equity into cash. Reverse mortgage helps the 'house rich' but 'cash poor' people to have regular cash inflows till they are alive.

➔ **Indian Scenario** : In the Union Budget 2007-08, the Finance Minister proposed in Budget Speech a proposal to introduce 'Reverse Mortgages' as a measure of social security to senior citizens.

➔ **Objective** : To address the financial needs of senior citizens owning self occupied property (house), for leading a decent life.

➔ In the reverse mortgage, senior citizens (borrowers), who own a house property, but do not have regular income, can mortgage the same with the lender (a scheduled bank or a housing finance company). In return, the lender makes periodic payment to the borrowers during their lifetime. In spite of mortgaging the house property, the borrower can continue to stay in it during his entire life span and continue to receive regular flows of income from the lender as well.

➔ The concept of reverse mortgage, although new in India, is very popular in countries like the United States. Recently, National Housing Bank (NHB), a subsidiary of the Reserve Bank of India (RBI), released draft norms of reverse mortgage. Following are some of the key features of the scheme from the draft norms.

1. As per the norms, a house owner who has **crossed 60 years** of age is eligible to seek a **loan of upto 60% of the value of residential property** by mortgaging the same (for the **maximum period of 15 years**) with a bank/housing finance company, while retaining the right to stay in the property. The borrower i.e. house owner is **not required to pay back the loan amount**.
2. In terms of receiving the loan amount, the borrower can opt for **monthly, quarterly, annual or lump sum payments or payments at any other point in time as per his discretion**. Also, a **revaluation** of the property has to be undertaken by the bank/HFC **once every 5 years**. Consequent to the revaluation, necessary changes will be made to the loan amount.
3. The **borrower can use the loan amount for various purposes** like renovation and extension of the residential property, maintenance/insurance of the residential property and family's medical or emergency expenditure, among others. However, the loan amount cannot be used for any speculative or trading purposes.
4. The **interest rate** on the reverse mortgage will be determined by the bank/housing finance company based on the risk perception and loan pricing policy, among others. **Fixed and Floating Rate** of interest may be offered, subject to a transparent disclosure of the terms and conditions to the borrower.
5. The lender will **recover the loan** along with the accumulated interest by selling the house after the death of the borrower or earlier, if the borrower leaves the mortgaged residential property permanently. Any excess amount will be remitted back to the borrower or his heirs. However, before resorting to sale of the house, preference will be given to the owner or his heirs to repay or prepay the loan amount, along with the interest, and to get the mortgaged property released.
6. The amount received through reverse mortgage is considered as loan and not income; hence the same **will not attract any tax liability**.

→ Benefits of a Reverse Mortgage:

- (i) The borrower remains the occupier as well as the owner of the house during his/her life time. There is no risk of being 'vacated'
- (ii) The house property will not necessarily go to the lender. The heirs can repay the loan to keep the property. Else, they will get the residual amount from the sale of the property by the lender.
- (iii) The 'dormant' wealth of the owner can be converted into a regular source of inflow.
- (iv) Proceeds from reverse mortgages are tax-free. Proceeds could be used for: In-home care, Home repairs & improvements, paying off an existing mortgage, Education of grandchildren, Hospital & health care costs, paying off taxes and credit card debt, buying a second home and Travel.
- (v) No loan repayment or payments as long as you live in your home.
- (vi) Reverse mortgage is a measure of social security and is a boon for the retiring people .

9. What is Index ? Or Write a short note on Sensex and Nifty ?

→ An index is basically an indicator. It gives you a general idea about whether most of the stocks have gone up or most of the stocks have gone down. Two major Index of India are Sensex and Nifty. The most important and best known international indices are the S&P 500, the Nikkei 225, the Euro Stoxx 50 and the FTSE 100.

→ The Sensex is an indicator of all the major companies of the BSE (Bombay Stock Exchange). The Nifty is an indicator of all the major companies of the NSE (National Stock Exchange) .

→ **What does it indicate :** If the Sensex goes up, it means that the prices of the stocks of most of the major companies on the BSE have gone up. If the Sensex goes down, this tells you that the stock price of most of the major stocks on the BSE have gone down. The same can be said about Nifty.

→ **Number Of Listed Companies :** Nifty consists of 50 companies and Sensex consists of 30 companies.

→ **Few Common Companies Listed in Sensex and Nifty :** Reliance Industries, ICICI Bank , Infosys Technology, ITC, ONGC, SBI, HDFC Bank, Bajaj Auto, Tata Motors, Wipro, Maruti Udyog , Hero Honda

→ This concept was suggested by Dow Jones (Editor of the Wall Street Journal, USA) in 1900. Dow expressed that the general level and trend of the stock market can be understood with the help of index numbers/averages constructed on the basis of price movements of some important stocks. He believed that the behaviour of these index numbers/averages reflected the hopes and fears of the entire market.

10. Euro Convertible Bonds*(May 1998, May 2003)*

→ **Euro Convertible Bonds** are quasi-debt securities (unsecured) which can be converted into depository receipts or local shares. ECBs offer the investor an option to convert the bond into equity at a fixed price after the minimum lock in period. The price of equity shares at the time of conversion will have a premium element. The bonds carry a fixed rate of interest.

→ These are bearer securities and generally the issue of such bonds may carry two options viz., call option and put option

Call Options : (Issuer's Option) - where the terms of issue of the bonds contain a provision for call option, the issuer company has the option of calling (buying) the bonds for redemption before the date of maturity of the bonds.

Put Options - (Holder's Option) - A provision of put option gives the holder of the bonds a right to put (sell) his bonds back to the issuer company at a pre-determined price and date.

→ **Application of Put Option :** If the market interest rate increases, then the investor will exercise the put option on the Bonds for redemption earlier to the date of maturity.

→ **Application of Call Option :** If the market interest rate decreases, then the company will exercise the call option on the Bonds and re-market it for the remaining maturity period.

→ In case of Euro-convertible bonds, the payment of interest and the redemption of the bonds will be made by the issuer company in US dollars. ECBs issues are listed at London or Luxemburg stock exchange.

→ Indian companies which have opted ECBs issue are Jindal Strips, Reliance, Essar Gujarat, Sterlite etc. Indian companies are increasingly looking at Euro-Convertible bond in place of Global Depository Receipts because GDRs are falling into disfavour among international fund managers.

→ **Prior Government Approval :** Company desirous of issuing ECB , should obtain the prior permission of Ministry of Economic Affairs. Certain restrictions are imposed on the eligibility norms such as good financial track record , nature of industry etc

→ **Application Of Proceeds :** Proceeds of ECBs can be applied only for the following :

- (a) Import of Capital Goods (b) Retiring Foreign Currency Debts (iii) Capitalizing Indian Joint Venture Abroad (iv) Application for Working Capital and Others is restricted to 25 % of total proceeds.

11. NOTE ISSUANCE FACILITY :

1. Meaning: Note-Issuance-Facility (NIF) is a medium-term commitment on the part of underwriting banks which obliges them to purchase any short term notes which the borrower is unable to sell in the market, at an agreed spread over a suitable benchmark. (Example: LIBOR)

2. Advantages:

(a) Reduced Cost of Borrowings: Borrower can sell notes at a spread lower than that at which the underwriters are committed to buy, thereby reducing the cost of borrowings.

(b) Access to Large Number of Investors: Note Issuance Facility is short term facility and therefore, majority of investors, who are not interested in long term investments, would find this as a good short term investment.

12. Short Selling

➔ Short Selling or "shorting" is the practice of selling securities which the seller does not own, in the hope of repurchasing them later at a lower price. Short selling is the selling of a stock that the seller doesn't own.

➔ They do this when they expect the value of the shares to decrease in the market, allowing them to sell shares at today's price and then buy them back when they decrease in value.

➔ This is an advanced trading strategy with many unique risks & pitfalls. Novice/New investors are advised to avoid short sales.

➔ The Securities and Exchange Board of India (SEBI) recently allowed short selling of shares by all classes of investors, both institutional and retail. Short selling had been banned by the regulator in the wake of the Ketan Parekh scam in 2001.

➔ To provide for settlement of shares sold short, SEBI said it was also providing a mechanism of securities lending and borrowing (SLB) for all market participants.

➔ There are two main **motivations** to short: **1.** To speculate **2.** To hedge

➔ **Indian scenario :** Finance minister P. Chidambaram had announced introduction of short selling in the 2007 Budget. SEBI had later formally announced the scheme on December 29, 2007.

13. Short Notes on Secured Premium Notes (SPNs)

(a) Meaning: Secured Premium Notes are debt instruments issued along with a detachable warrant and is redeemable after a specified period (4 to 7 Years).

(b) Option to Convert: SPN's carry an option to convert into Equity Shares, i.e. the detachable warrant can be converted into Equity Shares.

(c) Period for Conversion: Conversion of detachable warrant into Equity Shares should be done within a time period specified by the company.

(d) This was first introduced by TISCO which issued SPNs aggregating Rs. 346.50 crore to existing shareholders on a rights basis.

14. Subprime Rates

➔ Subprime Rates are those rates which are charged when loans are granted to borrowers who do not qualify for the best market interest rates because of their deficient credit history. Subprime Rates are higher than prime rates. It is also known as B - paper or second chance lending.

➔ **Subprime Lenders :** A sub-prime lender is one who lends to borrowers who do not qualify for loans. To access this increasing market, lenders often take on risks associated with lending to people with poor credit ratings.

➔ **Subprime Borrowers :** A subprime borrower is one who cannot qualify for prime financing terms but can qualify for subprime financing terms. Subprime offers an opportunity for borrowers with a less than ideal credit record to gain access to credit.

➔ Subprime lending is risky for both lenders and borrowers due to the combination of high interest rates, poor credit history, and adverse financial situations usually associated with subprime applicants. A subprime loan is offered at a rate higher than A-paper loans due to the increased risk.

15. Subprime Crisis

➔ Subprime Crisis is the crisis which is associated with a situation when risk of defalter in any country increases.

➔ Subprime Crisis is the crisis that Borrower may not be able to pay their loan which may result in default or bankrupt.

➔ Bank generally increases subprime rates when they face with subprime crisis in any country. Recently US Federal Reserve had increased Subprime Rates in USA.

An important aspect in the management of public sector enterprises is the relevance of strategic financial planning technique in dealing with conflicting objectives. It is an effective mode to optimize the flow of funds required by the overall corporate strategy and to make adequate provisions to meet contingencies. This requires: **1.** The development of adequate financial information system. **2.** The existence of clear strategic financial objectives **3.** The co-ordination of plan with the Government's economic, social, fiscal and monetary policies.

In fact, the public sector is set for a major change. It is poised for a major face lift. "The public sector will become selective in the coverage of activities and its investment will be focused on strategic high-tech and essential infrastructure." The Government has also clarified that the public sector has to mend for itself and stop relying on Government's budgetary support.

The term strategic financial planning means long-term planning for survival and to achieve the goals of the organization in the face of external environment (competition). The concept dates all the way to Adam Smith who opined that for survival, a business has to provide a minimum return on all the capital invested in it. PSUs cannot survive on government subsidies for all the time.

On the basis of these guidelines, the strategic financial planning of the public sector may involve the following points

(i) The PSUs are not be run at a loss. Hence, these should be run on such policies that earn minimum return on funds invested. The minimum return should be sufficient for its survival and growth.

(ii) They are meant to provide goods and services to the public, particularly to the poor. Hence, their pricing policy should be such that people get the goods and services at reasonable to the poor. Their pricing policies may be based on cost on the one hand and affordability of the consumer on the other hand.

(iii) They should not follow cut-throat competition with other business houses particularly the smaller ones. They may compete with others in terms hand.

(iv) They should provide depreciation on the basis of replacement cost of the fixed assets. Additional working capital required on account of inflation should be funded out of profits.

(v) Establish sinking funds for replacement of fixed assets and repayment of liabilities.

(vi) They should set financial rules and regulations and see that these are strictly followed.

(vii) Standards of financial efficiencies should be set and met.

(viii) Zero Based Budgeting and performance budgeting must be followed.

QUESTION NO. 37 What is the difference between Capital Market and Money Market?

(Nov 04)(May08)

Basics	Money Market	Capital Market
(i) Tenure	It is a market for lending and borrowing of short term funds, upto one year .	Capital markets deals in long term securities for a period beyond one year.
(ii) Well defined place	It is a not a well-defined market where business is done .	It is a well defined market where business is done e.g. stock exchange.
(iii) Short Term /Long Term	It deals in short term financial assets e.g .interbank call money, treasury bills,commercial paper, etc.	It deals in medium & long term financial assets e.g equity shares, debentures etc.
(iv) Classification	There is no sub-division in money market .	Capital Market is classified between Primary Market and Secondary Market.
(v) Volume of business	The total value of transaction in money market far exceeds the capital market .According to DFHI only in call money market daily leading is Rs. 6000 crores around	Capital market lag behind the total value of transaction done in money market.
(vi) No. of instrument	The number of instruments dealt in money market are various, e.g. (a) Interbank call money (b) Notice money upto 14 days (c) Short term deposits upto 3 months (d) 91 days treasury bill (e) 182 days treasury bill (f) Commercial paper etc.	The number of instruments in capital market are shares and debentures.
(vii) Participants	The participants in money market are Bankers, RBI and Government .	The participants in capital market are general investors, brokers, merchant bankers,registrars to issue, underwriters,corporate investors,Flls & Bankers.
(viii) Liquidity	The important features of money market instrument is that it is liquid.	Whereas Capital market are not as liquid as money market instrument.
(viii) Regulator	It is regulated by the guidelines of RBI	It is regulated by the guidelines of SEBI.

QUESTION NO.38 State the difference between Factoring and Bill Discounting ?*(May 2002) (2 marks)*

	Factoring	Bill Discounting
Basis		
Parties:	In this case, the Parties are: Client, Factor and Debtor	In this case, the parties are: Drawer, Drawee & Payee.
Nature:	It is management of Book debts / Receivables	It is borrowing from commercial banks.
Grace Period :	Grace time is not given	Grace time of 3 days is given
Risk of Bad Debt :	Bad debts may be borne by factor in case of extra commission as agreed	No such provision. The risk of bad debts is still retained by the business.
Act :	There is no specific Act	There is Negotiable Instrument Act.
Service Offered :	It finances and manages the receivables of the client	It does not offer any non-financial services
Basis of Financing :	In factoring the basis of financing is turnover.	Whereas in bill discounting it is the security provision as well as the requirement of finance which determine the amount of financing.
Income To Financier :	Factor earns "Interest" for the financing service, and Commission for other services rendered	Banker earns " Discounting Charges" on the transaction.

QUESTION NO. 39 Explain the terms ESOS and ESPS with reference to the SEBI guidelines for The Employees Stock Option Plans (ESOPs).*(May 2005)*

ESOS	ESPS
1. Meaning : Employee Stock Option Scheme means a scheme under which the company grants options to employees	Employee Stock Purchase Scheme means a scheme under which the company offers shares to employees as a part of public issue.
2. Auditors Certificate : Auditors Certificate to be placed at each AGM stating that the scheme has been implemented as per the guidelines and in accordance with the special resolution passed	No such Certificate is required
3. Transferability : It is not transferable	It is transferable after lock in period
4. Consequences of failure : The amount payable may be forfeited. If the option are not vested due to non-fulfillment of condition relating to vesting of option then the amount may be refunded to the employees	Not applicable
5. Lock in period : Minimum period of 1 year shall be there between the grant and vesting of options. Company is free to specify the lock in period for the shares issued pursuant to exercise of option	One year from the date of allotment. If the ESOS is part of public issue and the shares are issued to employees at the same price as in the public issue, the shares issued to employees pursuant to ESOS shall not be subject to any lock in.

QUESTION NO. 40 Name few types of Credit Instruments used in for effecting foreign remittances?

There are many types of credit instruments used in effecting foreign remittances. They differ in the speed, with which money can be received by the creditor at the other end after it has been paid in by the debtor at his end. The following are some of the international credit instruments in practice for the remittance of funds from one place to another. **(i)** Telegraphic or Cable Transfer **(ii)** Mail Transfer **(iii)** Banker's Draft or Banker's Cheques **(iv)** Personal Cheques **(v)** Bills of Exchange **(vi)** Letter of Credit **(vii)** Other means of foreign payments like **(a)** Currency Notes and Coins **(b)** Bullion **(c)** International Money Order

QUESTION NO. 41 Write a short note on Special features of Financial Management in a PSU? (May 1999) (5 marks) OR What are the factors to be considered at the time of designing capital structure by the PSU?

Special features of Financial Management in a public sector undertaking (PSUs):

- 1. Role of Financial Advisor :** The financial advisor occupies an important position in public sector undertakings. His concurrence is required on all proposals which have financial implications.
- 2. Capital Budgeting Decisions :** The power upto certain limits, in respect of individual capital expenditure items has been delegated to the board of public sector undertakings. For making investments beyond the limit the proposal goes to Public

Investment Board which appraises and recommends projects to the Central Government.

3. Capital Structure Decisions : Such decision involves the identification of different sources of finance. Normally PSUs are financed on the basis of half of their capital being in the shape of equity & the rest in the shape of loans. The funds are also provided to PSUs directly by the government. The following factors are taken into consideration at the time of designing capital structure **(i)** gestation period **(ii)** level of business risk **(iii)** capital intensity of project **(iv)** freedom of pricing.

4. Working Capital Management : The inventory constitutes a major portion of the working capital of public sector undertakings and hence proper inventory management should be given top priority by public sector undertakings.

5. Audit : Public sector undertakings in addition to regular audit conducted by professional accountants, are subject to efficiency-cum- propriety audit by the Comptroller and Auditor General of India whose reports are presented to parliament every year.

6. Annual Report : The annual reports of public sector units though similar to those of private sector units, tend to provide more information.

7. Pricing Policy : The bureau of Public Sector Undertaking has laid down certain guidelines for pricing by PSUs with the objective to serve the overall interest of the community at large.

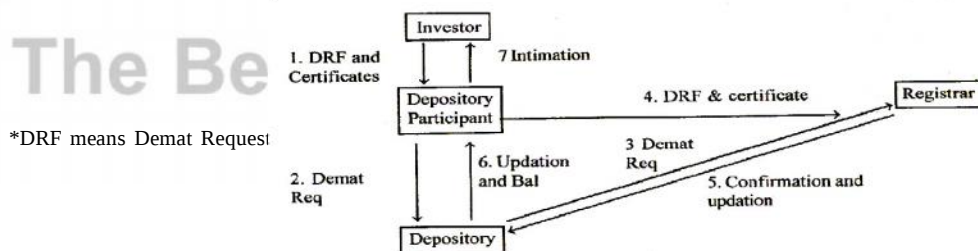
8. Status of Public Sector Undertaking : PSUs are organised mainly as departmental enterprise or statutory corporation or companies.

QUESTION NO. 42 What is Dematerialisation? Explain the complete process of dematerialisation?

Dematerialisation is the process by which an Investor can get physical certificate converted into electronic balances maintained in its account with the participant in the NSDL System. The securities held in dematerialised form are fungible, i.e. they do not bear any distinguishing features.

The complete process of dematerialisation is outlined below:

- (a) Surrender certificates for dematerialisation to your depository participant.
- (b) Depository participant intimates Depository of the request through the system .
- (c) Depository participant submits the certificates to the registrar.
- (d) Registrar confirms the dematerialisation request from depository.
- (e) After dematerialising certificates, Registrar updates accounts and informs depository of the completion of dematerialisations.
- (f) Depository updates its accounts and informs the depository participant.
- (g) Depository participant updates the account and informs the investor



QUESTION NO. 43 What is the purpose of Future Markets?

The purpose of futures market are as follows :

(i) Flexibility : Futures markets provide flexibility to an otherwise rigid spot market because of their very concept which allows a wholistic approach to the price mechanism involved in futures contracts.

(ii) Quick & Low Cost Transactions : Futures contracts can be created quickly at low cost to facilitate exchange of money for goods to be delivered at future date. Since these low cost instruments lead to a specified delivery of goods at a specified price on a specified date, it becomes easy for finance managers to take optimal decisions in regard to production, consumption & inventory.

(iii) Price Discovery Function : The pricing of futures contracts incorporates a set of information based on which the producers and the consumers can get a fair idea of the future demand and supply position of the commodity and consequently the futures spot price. This is known as the 'price discovery' function of futures.

(iv) Advantage to Informed Individuals : Individuals who have superior information in regard to factors like commodity demand or supply, market behaviour, technology changes etc., can operate in futures markets and impart efficiency to the commodity's price determination process. This, in turn, leads to a more efficient allocation of resources.

(v) Hedging Advantage : Adverse price changes which may lead to losses. can be adequately and efficiently hedged against through futures contracts.

(vi) Speculation : Future contracts provide arbitrage opportunity to the speculators

(vii) Integrity : A key element of exchange-traded futures is that parties to the contract are not exposed to the risk of counter party default. Futures exchanges have perfected systems of margins to protect market participants.

Thus, futures markets provide economic as well as social benefits through their functions of risk management & price discovery.

QUESTION NO. 44 What are the factors affecting the price of an option? Also indicate the effect of an increase in each pricing factor on the value of an option

The various factors affecting the price of an option include **(i)** the price of the underlying asset, **(ii)** the strike price of the option, **(iii)** the volatility of the underlying stock, **(iv)** the expiration time and **(v)** interest rate in the country.

Effect of an Increase in each pricing factor on the value of an option, holding other factors constant.

S.No	Pricing Factor	Call Option	Put Option
1.	Stock Price	Increase	Decrease
2	Strike Price	Decrease	Increase
3.	Time to Expiration	Increase	Decrease
4.	Volatility of Scrip	Increase	Decrease
5.	Interest Rate	Increase	Decrease

Thus an investor should consider all the factors while deciding upon the price of an option. He should also bear in mind the net worth of the writer whether he is capable of honouring his commitment or not.

QUESTION NO. 45 Write a short note on Stock Lending Scheme-its meaning, advantages & risk involved?

(May 2004, May 2005)

➔ Stock lending or borrowing of securities is not a new phenomenon for international capital market, but for India, it has recently been introduced. The stock lending began as a means to cover short sales (selling shares without possessing them). SEBI has introduced scheme for securities lending and borrowing in 6th Feb. 1997.

➔ **Meaning** : The Stock Lending involves a lending institution who lends its securities to another party known as borrower who needs the security for delivery to clients or other brokers to avoid a failed delivery .

➔ In stock lending, the legal title of a security is temporarily transferred from a lender to a borrower. The lender retains all the benefits of ownership, other than the voting rights. The borrower is entitled to utilise the securities as required but is liable to the lender for all benefits (e .g. dividends, interest or rights).

➔ **Parties** : The main constituents or parties of the stock lending scheme are : **(a)** Lenders **(b)** Borrowers **(c)** Intermediaries

➔ **Objectives of the Scheme**

(i) To improve the liquidity in the stock market. **(ii)** To facilitate the timely settlement of transaction of the securities. **(iii)** To help in correcting the imbalances in supply and demand in the stock market. **(iv)** To work as hedging strategies **(v)** To avoid delivery defaults

➔ **Advantages of Stock Lending:**

From the point of view Borrowers :

(i) Borrowers use the securities lending programme to avoid settlement failures.

(ii) It creates liquidity to facilitate trading strategies for borrowers.

(iii) Securities lending gives borrowers access to lender portfolios, which provide the flexibility necessary when the borrowing is for strategic positioning and financing inventories.

(iv) Create alternative investment strategies involving Short Sales

(v) It aids in arbitrage strategies such as reverse cash and carry

From the point of view Lenders and Intermediaries :

(i) A securities lending programme is used by the lenders to maximise yields on their portfolio. Hence Securities lending provides income opportunities for security-holders . It facilitate returns on idle securities .

(ii) Securities lending is particularly attractive for large institutional holders of securities, as it is an easy way of generating income to offset custody fees and requires little time.

(iii) Creates another revenue stream for custodian and intermediaries .

From the point of view Market :

It facilitates **(i)** timely settlement, **(ii)** increases the settlements, **(iii)** reduces market volatility , **(iv)** improves liquidity , **(v)** Facilitate Short Selling leading to better price discovery , **(vi)** smooths the spot market settlement process

➔ **Risk Involved** : In case, the borrower fails to return the securities, he will be declared a defaulter and the approved intermediary will liquidate the collateral deposited with it. In the event of default, the approved intermediary is liable for making good the loss

caused to the lender. The borrower cannot discharge his liabilities of returning the equivalent securities through payment in cash or kind.

➔ **Who are the approved intermediaries:** The approved intermediary under the scheme is a person having worth not less than Rs 50 crores & who has been duly registered with SEBI. Till date, four entities are registered with SEBI as approved intermediaries: **(i)** National Securities Clearing Corporation Ltd (NSCCL), **(ii)** Deutsche Bank **(iii)** Stock Holding Corporation of India Ltd (SHCIL), **(iv)** Reliance Capital

➔ **Current Status in India :** National Securities Clearing Corporation Ltd. launched its stock lending operations (known as Automated Lending & Borrowing Mechanism - ALBM) on February 10, 1999. This was the beginning of the first real stock lending operation in the country. Under NSCCL system only dematerialized stocks are eligible. The NSCCL's stock lending system is screen based, thus instantly opening up participation from across the country wherever there is an NSE trading terminal. The transactions are guaranteed by NSCCL and the participating members are the clearing members of NSCCL.

➔ The scheme of stock lending could not gain popularity, because

(i) The lender has to sacrifice the opportunity of selling the securities during the period for which the security has been lent even in case of boom, and

(ii) The cost of borrowing of securities being exorbitantly high.

QUESTION NO. 46 What is Money Market Operations?

➔ The money market is a market for short term financial assets that are close substitutes for money. ➔ The important feature of money market instrument is that it is liquid. ➔ This is market for borrowing and lending Short-term funds. ➔ Money market instrument are those instruments which have a maturity period of less than one year. ➔ It is a collection of markets such as Treasury Bills, Certificate of Deposits, Commercial Paper, Repo etc. ➔ The most important function of the money market is to bridge liquidity gap. Money market brings an equilibrium in demand and supply of short term funds

QUESTION NO. 47 What are the distinct features of Money Market?

The distinct features of money market instruments are as follows :

(i) Collection of Market : It is not one market but collection of markets, such as, call money, notice money, repos, term money, treasury bills, commercial bills, certificate of deposits, commercial papers, inter-corporate deposits etc.

(ii) Liquidity : The chief characteristic of money market instruments is its relative liquidity. All the sub-markets have close inter-relationship and free movement of funds from one sub-market to another.

(iii) Concentration of Market : The activities in the money market tend to concentrate in some centre which serves a region or an area like London and New York which have become world financial centres. With screen-based trading and revolutions in information technology, such markets have rapidly becoming integrated into a national market. In India, Mumbai is emerging as a national market for money market instruments.

(iv) Impersonal Character : The relationship that characterises a money market should be impersonal in character so that competition will be relatively pure.

(v) Price Differentials : In a true money market, price differentials for assets of similar type (counterparty, maturity and liquidity) will tend to be eliminated by the interplay of demand and supply.

(vi) Innovative Techniques : Due to greater flexibility in the regulatory framework, there are constant efforts for introducing new instruments and innovative dealing techniques; and

(vii) Wholesale Market : It is a wholesale market and the volume of funds or financial assets traded in the market are very large.

QUESTION NO. 48 What are the pre-conditions for an efficient Money Market?

A well developed money market-

(i) uses a broad range of financial instruments (treasury bills, bills of exchange etc).

(ii) channelises savings into productive investments (like working capital),

(iii) promote financial mobility in the form of inter sectoral flows of funds and

(iv) facilitate the implementation of monetary policy by way of open market operations.

The development of money market into a sophisticated market depends upon certain critical conditions. They are:

(i) Institutional development, relative political stability and a reasonably well developed banking and financial system.

(ii) Unlike capital market or commodity markets, tradings in money market are concluded over telephone followed by written confirmation from the contracting parties. Hence, integrity is very important. Thus banks and other players in the market may

have to be licensed and effectively supervised by regulators.

(iii) The market should be able to provide an investment outlet for any temporarily surplus funds that may be available. There must also exist a demand for temporarily available cash either by banks or financial institutions for the purpose of adjusting their liquidity position.

(iv) Efficient payment systems for clearing and settlement of transactions. Example : Electronic Funds Transfer (EFT), Depository System, Delivery versus Payment (DVP),

(v) Government/Central Bank intervention to moderate liquidity profile.

(vi) Strong Central Bank to ensure credibility in the system and to supervise the players in the market.

(vii) The market should have varied instruments with distinctive maturity and risk profiles to meet the varied appetite of the players in the market. Multiple instruments add strength and depth to the market;

(viii) Market should be integrated with the rest of the markets in the financial system to ensure perfect equilibrium. The funds should move from one segment of the market to another for exploiting the advantages of arbitrage opportunities.

QUESTION NO. 49 What are the advantages of investing in Mutual Fund?

The major advantages of investing in Mutual Fund are discussed below:

1. Professional Management One of the major advantage of the mutual fund is the availability of low cost highly professional and skilled management services. The managers have sound knowledge and wide experience in investment.

2. Low Cost High Value Portfolio Diversification Market related risk can be reduced by diversification of portfolio. For a small investor appropriate portfolio diversification is not possible due to shortage of minimum required funds. But with investments in mutual funds, portfolio of even a small investor gets automatically diversified.

3. Reduction/Diversification of Risk When an investor invests in a mutual fund he is actually investing in a pool of funds. These funds will in turn be invested in securities. So the individual investor will share the losses with other investors.

4. Reduction in Transaction Cost A mutual fund can offer economies of search & verification due to size & scale of operations.

5. Liquidity Mutual fund invests in a number of securities but not all the securities are easily sellable. When an investor invests in a mutual fund, he can sell his units any time to the fund, in case of open ended schemes or cash his investment by selling in secondary market, in case of close ended schemes, thus mutual fund investments are quite liquid.

6. Tax Benefits There are many tax benefits available under Income Tax Act 1961 for investing in Mutual Fund Schemes.

7. Convenient Administration : Investing in a MF reduces paper work and helps investors to avoid many problems such as bad deliveries, delayed payments and unnecessary follow up with brokers and Companies .

8. Transparency : Investors get regular information on the value of their investment in addition to disclosure on the specific investments made by scheme , the proportion invested in each class of assets and the Fund Manager's investment strategy and outlook.

9. Return Potential : MF has the potential to provide a higher return as they invest in a diversified basket of selected securities.

QUESTION NO. 50 Write a short note on Financial Intermediation ?

It involves financial institutions acquiring funds from the public by issuing their own instruments and then using the funds to buy primary securities. It is a sort of indirect financing in which savers deposit funds with financial institutions rather than directly buying bonds and the financial institutions, in turn, lend to the ultimate borrowers. Financial intermediaries are in a better position than individuals to bear and spread the risks of primary security ownership. Because of their large size, intermediaries can diversify their portfolios and minimize the risk involved in holding any security. They employ skilled portfolio managers, possess expertise in evaluation of borrower credit characteristics and take advantage of economies in large scale buying and selling.

Financial Intermediaries are firms that provide services and products that customers may not be able to get more efficiently by themselves in the financial market. A good example of a financial intermediary is a mutual fund, which pools the financial resources of a number of people and invests in a basket of securities. Financial intermediation is the routing of savings to investments through financial intermediaries. It is a process through which an economy's savings are transformed into capital investments. In this process, three different groups of people are involved savers/ suppliers of funds, those who need money for productive investment, and the financial intermediaries. The savers/suppliers of funds would like to maximize the return while minimizing the risks. Those in need of money would like to have it as cheaply as possible and with as few conditions attached as possible. The financial intermediaries provide their services to both the groups of people for their own (financial intermediaries) profits. Efficient financial intermediation is the key necessity for economic growth and development.

There are two types of Financial Intermediations : (I) Traditional Financial Intermediation; and (II) Contemporary Financial Intermediation.

**" You may have beaten me once; you may have beaten me twice,
But if you beat me a third time, I will be back for a fourth try!"**

" There will be times when you will feel like quitting, giving 99% or less, letting yourself and the team down by holding back. Why? Holding back for what? This is it. You can't go back and do it all over again. When you're in the thick of things, or at the end of a game, things will start to hurt. Your body will say, 'Quit, hold back,' and your mind will want to join in and agree. That is when you have to reach down deep inside, realizing that these moments can never be recaptured or redone. Your body will scream with pain, but you won't listen because you know the pain of the effort is nothing compared to the pain of living with yourself after surrendering.

Set Yourself Free

Set yourself free from anything that might hinder you in becoming the person you want to be. Free yourself from the uncertainties about your abilities or the worth of your dreams, from the fears that you may not be able to achieve them or that they won't be what you wanted.

Set yourself free from the past. The good things from yesterday are still yours in memory; the things you want to forget you will, for tomorrow is only a sunrise away. Free yourself from regret or guilt, and promise to live this day as fully as you can.

Set yourself free from the expectations of others, and never feel guilty or embarrassed if you do not live up to their standards. You are most important to yourself; live by what you feel is best and right for you. Others will come to respect your integrity and honesty.

Set yourself free to simply be yourself, and you will soar higher than you've ever dreamed.

**" Winning isn't everything, neither is losing,
but the only thing is doing your best."**

Wishing You All The Best

*Remember You Can Do Wonders , Nobody Can Stop You From Achieving Success Except You
Get Up and Keep Going , World Is Waiting For You*

- Aaditya Jain

Life in tough, full of ups and downs and bumpy roads ahead but just as long as I have faith in myself and the blessings of My God and parents, I know I can make it. And just as long as my heart is there to hold my hand along the way, together... there will nothing, absolutely nothing that we can't conquer

Everything is always okay in the end. If it is not okay, then it is not the end

Important Practical Questions

Dividend :

QUESTION NO.1 Mr. A is contemplating purchase of 1,000 equity shares of a Company. His expectation of return is 10% before tax by way of dividend with an annual growth of 5%. Company's last dividend was Rs. 2 per share. Even as he is contemplating, Mr. A suddenly finds, due to a budget announcement dividends have been exempted from tax in hands of the recipients. But the imposition of dividend Distribution tax on the Company is likely to lead to a fall in dividend of 20 paise per share. A's marginal tax rate is 30%. Calculate what should be Mr. A's estimates of price per share before and after Budget announcement?

Solution : As per Dividend Growth Model : $P_o = \frac{D_o(1+g)}{K_e - g}$

Now Market Price Per Share (P_o) before Budget announcement as per Mr. A's estimates. $P_o = \frac{2 \times (1 + .05)}{.10 - .05} = \text{Rs. } 42$

and Market Price Per Share (P_o) after Budget announcement as per Mr. A's estimates. $P_o = \frac{1.80 \times (1 + .05)}{.07 - .05} = \text{Rs. } 94.50$

Bond Valuation :

QUESTION NO. 2 John inherited the following securities on his uncle's death:

Type of Security	Nos.	Annual Coupon	Maturity Years	Yield
Bond A (Rs. 1,000)	10	9	3	12
Bond B (Rs. 1,000)	10	10	5	12
Preference Shares C (Rs. 100)	100	11	*	13*
Preference Shares D (Rs. 100)	100	12	*	13*

*likelihood of being called at a premium over par. Compute the current value of his uncle's portfolio.

Solution :

Computation of Current Value of John's Portfolio.

(i) No. of Bond : 10 Name of Bond : Bond A, Face Value : Rs. 1,000 par value, Coupon Rate : 9%, Maturity 3 yrs : Yeild : 12 %
Value Of Bond : $10 \times [90 \times \text{PVAF} (12 \% , 3 \text{ Years }) + 1000 \times \text{PVF} (12 \% , 3 \text{ Years })] = \text{Rs. } 9282$

(ii) No. of Bond : 10 Name of Bond : Bond B, Face Value : Rs. 1,000 par value, Coupon Rate : 10 %, Maturity 5 yrs : Yeild : 12 %
Value Of Bond : $10 \times [10 \times \text{PVAF} (10 \% , 3 \text{ Years }) + 1000 \times \text{PVF} (10 \% , 3 \text{ Years })] = \text{Rs. } 9275$

(iii) No. of Bond : 100 Preference shares C, Face Value : Rs. 100 par value, Coupon Rate : 11% ,Yeild : 13 %

$$\frac{11\% \times 100 \text{ Nos.} \times \text{Rs. } 100}{13\%} = \frac{1,100}{0.13} = 8,462$$

(iv) No. of Bond : 100 Preference shares D, Face Value : Rs. 100 par value, Coupon Rate : 12% ,Yeild : 13 %

$$\frac{12\% \times 100 \text{ Nos.} \times \text{Rs. } 100}{13\%} = \frac{1,200}{0.13} = 9,231$$

Therefore Total current value of his portfolio [(i) + (ii) + (iii) + (iv)] = 36,250

Note : Preference shares are assumed to be irredeemable (i.e. having no maturity period) in the absense of any information.

Question No. 3 Phobis Co has in issue 9% bonds which are redeemable at their par value of \$100 in five years' time. Alternatively, each bond may be converted on that date into 20 ordinary shares of the company. The current ordinary share price of Phobis Co is \$4.45 and this is expected to grow at a rate of 6.5% per year for the foreseeable future. Phobis Co has a cost of debt of 7% per year. **Required :** Calculate the following current values for each \$100 convertible bond :

(i) market value; (ii) floor value; (iii) conversion premium.

Solution :

Calculation of Market Value of each Convertible Bond :

Expected Share price in five years' time = $4.45 \times (1 + .065)^5 = \6.10

Conversion Value = $6.10 \times 20 = \$122$

Compared with redemption at par value of \$100, conversion will be preferred.

The current market value will be the present value of future interest payments, plus the present value of the conversion value, discounted at the cost of debt of 7% per year.

Market value of each convertible bond = $(9 \times 4 \cdot 100) + (122 \times 0 \cdot 713) = \$123 \cdot 89$

Calculation of Floor Value of each Convertible Bond :

The current floor value will be the present value of future interest payments, plus the present value of the redemption value, discounted at the cost of debt of 7% per year.

Floor value of each convertible bond = $(9 \times 4 \cdot 100) + (100 \times 0 \cdot 713) = \$108 \cdot 20$

Calculation of Conversion Premium of each Convertible Bond :

Current conversion value = $4 \cdot 45 \times 20 = \$89 \cdot 00$

Conversion premium = $\$123 \cdot 89 - 89 \cdot 00 = \$34 \cdot 89$

This is often expressed on a per share basis, i.e. $34 \cdot 89/20 = \$1 \cdot 75$ per share

QUESTION NO. 4 M/s. Transindia Ltd. is contemplating calling Rs. 3 crores of 30 years's, Rs. 1,000 bond issued 5 years ago with a coupon interest rate of 14%. The bonds have a call price of Rs. 1,140 and had initially collected proceeds of Rs. 2.91 crores due to a discount of Rs. 30 per bond. The initial floating cost was Rs. 3,60,000. The company intends to sell Rs. 3 crores of 12% coupon rate, 25 years bonds to raise funds for retiring the old bonds. It proposes to sell the new bonds at their par value of Rs. 1,000. The estimated floatation cost is Rs. 4,00,000. The company is paying 40% tax and its after cost of debt is 8%. As the new bonds must first be sold and their proceeds, then used to retire old bonds, the company expects a two months period of overlapping interest during which interest must be paid on both the old and new bonds. What is the feasibility of refunding bonds?

Solution : Net Initial Outflow :

Initial outflow for replacement of old bonds : $= \frac{300,00,000}{1000} \times 1140 = \text{Rs. } 342,00,000$

Initial Inflow on issue of New bonds : Issue Value Less Issue Cost i.e. $3,00,00,000 - 4,00,000 = 296,00,000$

Net Initial Outflow = $[342 \text{ lakhs} - 296 \text{ lakhs}] = 46 \text{ lakhs.}$

Call Premium , Unamortised Issue Cost and Unamortised Discount.

The call premium , unamortised issue cost and unamortised amount of discount on old bonds can be written off as an expense in the year in which the call is made. It is assumed normally that there will be tax benefit available immediately on these three expenses.

Call Premium $[1140 - 1000] \times 30,000 = 42 \text{ lakhs.}$

Unamortised Issue Cost : $\frac{3,60,000}{30} \times 25 = 3 \text{ lakhs.}$

Unamortised Discount on old bonds : $\frac{9,00,000}{30} \times 25 = 7.5 \text{ lakhs}$

Total amount to be written off = 52.5 lakhs.

Tax saving due to above claim : 40% of 52.5 lakhs = 21 lakhs

Annual Cash Outflow :

Existing :

Annual Interest : $14\% \times 300 \text{ lacs} = 42 \text{ lacs}$

Amortisation of issue cost p.a. $= \left[\frac{3.6 \text{ lakhs}}{30} \right] = .12 \text{ lakh}$

Amortisation of discount $= \left[\frac{9 \text{ lakh}}{30} \right] = .30 \text{ lakh}$

Tax saving on above = $40\% (42 \text{ lakhs} + .12 \text{ lakh} + .30 \text{ lakhs}) = 16.968 \text{ Lakhs}$

Net Annual Cash Outflow = $42 - 16.968 = \text{Rs. } 25.032 \text{ Lakhs}$

New Issue

Annual Interest : $12\% \text{ of } 300 \text{ Lacs} = 36 \text{ lacs}$

Amortisation of issue cost p.a. $= \frac{4,00,000}{25} = .16 \text{ lacs}$

Tax Saving on above : 40% (36 + .16) lacs = 14.469.

Net annual cash outflow = (36 – 14.469) = 21.536 lacs.

∴ Annual Saving on Cash Outflow Due To New Issue = (25.032 – 21.536) lacs = 3.496 lacs.

Overlapping Interest Before tax : 300 lacs $\times$ 14% $\times \frac{2}{12}$ = 7,00,000

(—) Tax Saving @ 40% 2,80,000

Net Cost 4,20,000

Calculation of Total Net Savings by Replacing Outstanding Bonds with New Issue of Bonds :

Particulars	Time	PVF @ 8%	Amt. (in lakhs)	PV (in lakhs)
Initial Cash outflows	0	1	46	– 46
Tax saving on call premium unamortised issue cost and discount amount	0	1	21	+21
Overlapping Interest net of tax	0	1	4.2	– 4.20
Annual Savings	1 - 25	10.675	3.496	37.31980
Net Present Value				8.1198

Recommendation : Refunding of bonds is recommended as NPV is positive.

Additional Analysis : Overlapping Interest Net Of Tax has been assumed to pay as on today or immediately or within two months. Accordingly its effect has been taken on Year 0 .

Mutual Fund :

QUESTION NO. 5 Kiran has invested in three mutual fund schemes as per details given below:

Mutual Fund	A	B	C
Date of investment	1.12.03	1.1.04	1.3.04
Amount of investment	Rs. 50000	Rs. 1 lakh	Rs. 50000
NAV at entry date	Rs. 10.50	Rs. 10.00	Rs. 10.00
Dividend received upto 31.3.04	Rs. 950	Rs. 1500	Nil
NAV as on 31.3.2004	Rs. 10.40	Rs. 10.10	Rs. 9.80

Required : What is the effective yield on per annum basis in respect of each of the three schemes to Miss Kiran upto 31.3.04?

Solution :

Return for MF A (Period 1-12-03 to Period 31-03-04) = $\frac{(10.40 - 10.50) + .20}{10.50} = .95\%$ for 4 months .

Return for MF-A for per annum basis (Yield per annum) = $\text{Yield} \times \frac{12}{\text{Months of Investment}} = .95 \times \frac{12}{4} = 2.85\%$

Working Notes :

(a) No. of Units = $\frac{\text{Total Investment}}{\text{NPV at entry date}} = \frac{50,000}{10.50} = 4762$ (b) Dividend Per Unit = $\frac{\text{Total Dividend}}{\text{No. of Units}} = \frac{950}{4762} = .20$

Return for MF B (Period 1 – 04 to 31 – 3 – 04) = $\frac{(10.10 - 10.00) + .15}{10} = 2.5\%$ for 3 months .

Return for MF-B for per annum basis (Yield per annum) = $2.5 \times \frac{12}{3} = 10\%$

Working Notes:

(a) No. of Units = $\frac{\text{Total Investment}}{\text{NPV at entry date}} = \frac{1,00,000}{10} = 10,000$ (b) Dividend Per Unit = $\frac{\text{Total Dividend}}{\text{No. of Units}} = \frac{1500}{10,000} = .15$

Return for MF C : (Period 01 - 03-04 to 31 - 03 - 04) = $\frac{(9.80 - 10.00) + \text{NIL}}{100} = - 2\%$ for 1 months .

Return for MF-C for per annum basis (Yield per annum) = $-2\% \times \frac{12}{1} = -24\%$

Working Notes :

$$(a) \text{ No. of Units} = \frac{\text{Total Investment}}{\text{NPV at entry date}} = \frac{50,000}{10} = 5000 \text{ units} ; \text{Dividend Per Unit} = \frac{\text{Nil}}{\text{No. of Units}} = \frac{\text{Nil}}{5000} = \text{Nil}$$

or no required to calculate as Dividend is NIL as given in question.

QUESTION NO. 6 A Mutual Fund having 300 units has shown in NAV of Rs. 8.75 and Rs. 9.45 at the beginning and at the end of the year respectively. The Mutual Fund has given two options :

- (i) Pay Rs. 0.75 per unit as dividend and Rs. 0.60 per unit as a capital gain, or
- (ii) These distributions are to be reinvested at an average NAV of Rs. 8.65 per unit.

What difference it would make in terms of return available and which option is preferable ?

$$(i) \text{ Option 1 : \% Return} = \frac{(\text{Closing NAV} - \text{Opening NAV}) + \text{Capital Gain Received} + \text{Dividend Income Received}}{\text{Opening NAV}}$$

$$= \frac{(9.45 - 8.75) + .75 + .60}{8.75} = 23.45 \% \text{ or } \frac{(2835 - 2625) + 225 + 180}{2625} = 23.45 \%$$

(ii) Option II : When all dividends and capital gains distributions are re-invested into additional units of the fund @ (Rs.8.65/unit)
 Dividend + Capital Gains per unit = Re. 0.75 + Re. 0.60 = Rs. 1.35
 Total received from 300 units = Rs. 1.35 x 300 = Rs. 405/-.

$$\text{Additional Units Acquired} = \frac{405}{8.65} = 46.82 \text{ units}$$

Total number of units = 300 units + 46.82 units = 346.82 units

Value of 346.82 units held at the end of the year = 346.82 units x Rs. 9.45 = Rs. 3277.45

Price Paid for 300 Units at the beginning of the year = 300 units x Rs. 8.75 = Rs. 2,625.00

$$\text{Holding Period Reward (in \%)} = \frac{\text{Rs } 3277.45 - 2625.00}{\text{Rs. } 2625.00} \times 100 = 24.85\%$$

Conclusion : Since the holding period reward is more in terms of percentage in **option-two** i.e. reinvestment of distributions at an average NAV of Rs. 8.65 per unit, this option is preferable.

QUESTION NO. 7 Mr. X on 1.7.2000, during the initial offer of some Mutual Fund invested in 10,000 units having face value of Rs.10 for each unit. On 31.3.2001 the dividend operated by the MF was 10% and Mr. X found that his annualized yield was 153.33%. On 31.12.2002, 20% dividend was given. On 31.3.2003 Mr. X redeemed all his balance of 11,296.11 units when his annualized yield was 73.52 %. What are the NAVs on 31.3.2001, 31.12.2002 and 31.03.2003 ? Note : Assume dividend is reinvested at the fund's prevailing NAV ?

Solution :

1-7-00	31-3-01	31-12-02	31-3-03
Initial Offer	Dividend Rate = 10 %	Dividend Rate=20%	Redeemed All His Units
10000 Units Taken	Annual Yield = 155.33	NAV = ??	i.e 11296.11 units
Face Value Rs. 10 each	NAV = ??		Annualized Yield 73.52%
			NAV = ??

Note : One thing is clear since units has increased from 10,000 to 11296 ,it means that it is a Dividend Reinvestment Plan.

Calculation Of NAV as on 31-03-01 : For the nine-month period i.e from 1-7-00 to 31-3-01 the annualized return (AR), on the issue price of Rs. 10 is given as 153.33%. It can be presented as follows:

$$\text{Annualised Return (AR)} = \frac{\text{NAV}_1 - \text{NAV}_0}{\text{NAV}_0} \times \frac{12}{9} \times 100 \Rightarrow 153.33 = \frac{\text{NAV}_1 - 10}{10} \times \frac{12}{9} \times 100 \Rightarrow \text{NAV}_1 = \text{Rs. } 21.50$$

Hence NAV as on 31-03-01 was **Rs. 21.50**

Treatment Of 10% Dividend Declared : Dividend @ 10% (i.e.Rs. 10,000) may be assumed to be reinvested at the rate of Rs. 21.50, So, new units recieved are Rs. 10,000 ÷ 21.50 = 465.11 units.Total units on 31-03-01 would be 10,465.11.

Calculation Of NAV As on 31.12.2002 :

No. of units in hand	10,465.11
Dividend @ 20%	Rs. 20,930 [10465.11 × 10 × 20%]
No. of units required (11,296.11 - 10465.11)	831
NAV as on 31.12.2002 (20,930 ÷ 831)	Rs. 25.19

$$\text{Or } 10465.11 + \frac{20930}{\text{NAV}_2} = 11296.11 \Rightarrow \text{NAV}_2 = 25.19$$

Calculation Of NAV As on 31.3.2003 :

$$\text{AR} = \frac{\text{NAV}_1 - \text{NAV}_0}{\text{NAV}_0} \times \frac{12}{3} \times 100 \Rightarrow 73.52 = \frac{\text{NAV}_1 - 25.19}{25.19} \times \frac{12}{3} \times 100 \Rightarrow \text{NAV}_1 = 29.82$$

So, NAV on different rates are **Rs. 21.50**, **Rs. 25.19** and **29.82** respectively.

Note : It has been assumed that the annualised returns are calculated for the relevant period only. Dividend has been assumed to be reinvested under the fund itself.

Question No. 8 Templan Mutual Fund had Rs. 10,00,00,000 as on Jan. 1, 2007. The fund had issued 1,00,00,000 units of Rs.10 each. It made following investments.

	Rs.
5,00,000 Equity Shares of Rs.100 each @ Rs.160/-	8,00,00,000
8% Central Government Securities	80,00,000
9% Debentures (unlisted)	50,00,000
10% Debentures (Listed)	50,00,000
Total	9,80,00,000

During the year, dividends of Rs.120,00,000 were received on equity shares. Interest on all types of debt securities was received as and when due. At the end of the year, the equity shares and 10% debentures are quoted at Rs. 175 and Rs. 90 respectively. Find out the NPV per unit given that operating expenses incurred during the year amounted to Rs.50,00,000. Also find out the NPV, if the mutual fund had distributed a dividend of Rs.0.80 per unit during the year to the unit holders.

Assume that no load was charged.

Solution :

In order to find out the NAV, the cash balance at the end of the year is calculated as follows :

	(Amt. in Rs.)
Cash balance in the beginning (Rs. 10 Crores - Rs. 980 Crore)	20,00,000
Dividend Received	1,20,00,000
Interest on 8% on Government Securities	6,40,000
Interest on 9% on Debentures	4,50,000
Interest on 10% on Debentures	5,00,000
	1,55,90,000
Less: Operating Expenses	50,00,000
	1,05,90,000

Calculation of Net Asset Value [NAV] :

Cash Balance	1,05,90,000
8% Government Securities (at par)	80,00,000
5,00,000 Equity Shares @ Rs. 175	875,00,000
9% Debentures (Unlisted at Cost)	50,00,000
10% Debenture @ Rs. 90	45,00,000
	11,55,90,000
No. of units	1,00,00,000
NAV per unit	11.559

Calculation of Net Asset Value [NAV] , if dividend of Rs. 0.80 is paid

Net Asset (Rs. 11,55,90,000 - 80,00,000)	10,75,90,000
Number of Units	1,00,00,000
NAV	10.759

Portfolio Management :

QUESTION NO. 9 The total market value of the equity share of O.R.E. Company is Rs. 60,00,000 & total value of the debt is Rs. 40,00,000. The treasurer estimate that the beta of the stock (Additional Analysis : Stock means Equity) is currently 1.5 & that the expected risk premium on the market is 10%. The industry bill rate is 8%. **Required:**

- (i) What is the beta of the Company's exiting portfolio of assets?
- (ii) Estimate the Company's Cost of capital and the discount rate for an expansion of the company's present business.

Solution :

(i) Firm Beta or Beta of Company's existing Portfolio of Assets :

$$B_A = \left[B_E \times \frac{E}{D+E} \right] + \left[B_D \times \frac{D}{D+E} \right] = \left[1.5 \times \frac{60}{60+40} \right] + \left[0 \times \frac{40}{60+40} \right] = .9$$

Estimation of Company's Cost of Capital : = Risk Free Return + Beta_{Overall} (R_m - R_f) = 8% + .90 × 10% = 17%

In case of expansion plan, 17% can be used as Discount Rate. Therefore Discount Rate = 17 %

Note : Debt Beta is assumed to be Nil in the absense of any information.

QUESTION NO. 10 X Limited pays no taxes and is entirely financed by equity shares. The company's equity has a beta of 0.6 and is expected to earn 20%. The company has now decided to buy back half of the equity shares by borrowing an equal amount. If the debt yields a risk-free return of 10%. **Calculate:**

- (i) The beta of the equity shares after the buyback.
- (ii) The risk premium on the equity shares before the buyback.
- (iii) The required return and risk premium on equity shares after the buyback
- (iv) The required return on debt.
- (v) The percentage increase in expected earnings per share.
- (vi) The new price-earning multiple.

Solution

(i) **Beta of the Equity Shares After the Buyback :** The company was unlevered before buyback, Leverage after buyback is 50 : 50. Now we know that overall beta never change with the change in capital structure. Therefore overall beta after the buy back will also be .6 since Overall Beta before Buyback was .6 [Remember for all equity firm Equity Beta = Overall Beta]

$$\text{Now, } .6 = \text{Equity Beta} \times \frac{.50}{.50 + .50} + \text{Nil} \Rightarrow \text{Equity Beta (After the buyback)} = 1.2$$

(ii) **Risk Premium on the Equity Shares Before the Buyback :**

$$\text{Required Return before buyback} = 20\% \Rightarrow R_f + \text{Beta} (R_m - R_f) = .20 \Rightarrow .10 + .6 (R_m - .10) = .20 \Rightarrow R_m = 26.67\%$$

$$\text{Market Risk Premium} = R_m - R_f = 26.67\% - 10.00\% = 16.67\% \text{ and}$$

$$\text{Security Risk Premium} = \text{Beta} (R_m - R_f) = .6 (26.67 - 10.00) = 20.00\%$$

(iii) **Required Return After Buyback** := $R_f + \beta \text{eta} (R_m - R_f) = 10\% + 1.20 \times (26.67\% - 10\%) = 30\%$

Now Market Risk Premium = $R_m - R_f = 26.67\% - 10.00\% = 16.67\%$ [will always be same] and

Security Risk Premium (After buyback) = $\text{Beta} (R_m - R_f) = 1.2 (26.67 - 10.00) = 20.00\%$ [Security Risk Premium may change due to change in Security Beta]

(iv) **Required Rate of return on Debt** = $R_f = 10\%$

Additional Analysis: Question has specified that debt yields a risk free rate of 10%. Hence Return on debt is equal to risk free rate.

(v) **Percentage Increase in EPS**

Expected Return on Equity before buyback = 20 % [Given] &

Expected Return on Equity after buyback = 30 % [calculated in (iii)]

$$\text{Hence Percentage increase in EPS} = \frac{30\% - 20\%}{20\%} = 50\%$$

$$\text{(vi) Price-Earning Multiple (P/E Ratio) After Buyback} = \frac{1}{K_e} = \frac{1}{.3} = 3.33$$

Derivatives :

QUESTION NO. 11 Ram buys 10,000 shares of X Ltd. at Rs. 22 and obtains a complete hedge shorting [selling] 400 Nifties at

Rs. 1100 each. He closes out his position at the closing price of the next day at which point, the share of X Ltd. has dropped 2% and the Nifty future has dropped 1.5%. What is the overall profit/loss of this set of transaction?

Solution :

Step 1 Computation of Profit/Loss on Share of X Ltd

Purchase Price : $10,000 \times 22$	– 220000
Sale Price : $10,000 \times (22 - 22 \times 2\%)$	+ 215600
Loss	4400

Step 2 Computation of Profit/Loss on Nifty

Sale Price : 400×1100	+ 440000
Purchase Price : $400 \times (1100 - 1000 \times 1.5\%)$	– 433400
Profit	6600

Step 3 Computation of Overall Profit and Loss in

Profit on Nifty	6600
Loss on X Ltd. Share	4400
Overall Net gain in the set of transaction	2200

QUESTION NO. 12 Which position on the index futures gives a speculator a complete hedge against the following transactions.

(i) The share of Right Ltd. is going to rise. He has a long position on the cash market of Rs. 50 lacs on the Right Ltd. The beta of the Right Ltd. is 1.25.

(ii) The share of Wrong Ltd. is going to depreciate. He has a short position on the cash market of Rs. 25 lacs on the Wrong Ltd. The beta of the Wrong Ltd. is 0.9.

(iii) The share of Fair Ltd. is going to stagnate. He has a short position on the cash market of Rs. 20 lacs of Fair Ltd. The beta of the Fair Ltd. is 0.75.

Solution :

Hedging is taking an equal and opposite position in another market so that loss that may arise in one market would be compensated by a gain in another market. The extent of hedging (sometimes referred to as hedge ratio) is determined by the beta of a security. If the beta is greater than one (i.e. hedge ratio is greater than one) then the position hedged would be higher than the underlying position and vice versa.

(i) Since he has a Long position on the Cash Market and the expectation is that Price is going to Rise
For complete hedge he should take Short Position in the Future Market i.e. he should sell Index in the future market to the tune of $50 \text{ lacs} \times 1.25 = 62.5 \text{ lacs}$

(ii) Since he has a Short Position on the Cash Market and the expectation is that Price is going to Fall
For complete hedge, he should take Long Position in the Future Market i.e. he should buy Index in the future market to the tune of $25 \text{ lacs} \times .90 = 22.5 \text{ lacs}$.

(iii) Since he has Short Position on the Cash Market and the expectation is that price is going to remain stagnate .
In this case the speculator may remain un-hedged. However For complete hedge, he should take Long Position in the Future Market i.e. he should buy Index futures market equivalent to $0.75 \times \text{Rs. } 20 \text{ lacs} = \text{Rs. } 15 \text{ lacs}$. It would protect him from unanticipated losses.

Additional Analysis : The above action would give a speculator a complete hedge whether the price is expected to rise , fall or remain stagnate .

QUESTION NO. 13 Concept Of Open Interest / Open Contracts or Open Commitments :[Important]

➔ **Open Interest** means total number of the contracts still outstanding. It is the sum of all the long positions or equivalently, it is the sum of all the short positions that has not been exercised, closed or expired.

➔ **How to calculate Open Interest**

If both parties to the trade are initiating a new position (one new buyer and one new seller), open interest will increase by one contract. If both traders are closing an existing or old position (one old buyer and one old seller) open interest will decline by one contract. The third and final possibility is one old trader passing off his position to a new trader (one old buyer sells to one new buyer). In this case the open interest will not change.

Increase in open interest : When a new long position (buy) or short position (sell) is created, it means there is a counterparty, who is in the opposite position. A initiates a long position and B takes up the short position. Together this long and short position increase the open interest by one contract.

Decrease in open interest : Open interest decreases with the exercise or squaring up of the contracts. When both the short and the long positions are closed then there is a decrease in the open interest. For instance, in the previous example of A & B, if both A and B close their positions, then A's long position is closed by short position and B's existing short position (sell) by buying a long position (buy). The effective net outstanding for both A and B is zero. Because of this closure, the open interest gets reduced by one contract.

No change in open interest : There is no change in the open interest, if just one position, either long or short is closed. For instance, A initiates a long position and B takes up the short position. After some time, if A closes the long position by a short position (sell) and the buyer (long position) is C. Together this new long position of C and existing short position of B make one open position. Hence there is no change in the open interest.

➔ Open Interest - A confirming indicator

The relationship between the prevailing price trend and open interest can be summarized by the following table.

Price	Open Interest	Interpretation
Rising	Rising	Market is Strong
Rising	Falling	Market is Weakening
Falling	Rising	Market is Weak
Falling	Falling	Market is Strengthening

➔ The following table illustrates the changes in open interest as different trades are executed in the futures market. The transactions are shown one below the other, as they are executed. The different counterparts are shown in columns. Each transaction is assumed to be for 20 contracts.

Trader #1	Trader #2	Trader #3	Trader #4	Trader #5	Open Interest	Remark
long	short	?	?	?	20	Note 1
?	long	short	?	?	20	Note 2
?	?	?	long	short	40	Note 3
?	?	long	short	?	20	Note 4
short	?	?	?	long	0	Note 5

➔ The various possible combinations and their effect on open interest are summarized below.

Long (Buyer) Short (Seller) Open Interest

Initiating	Initiating	Rises
Initiating	Squaring	No Change
Squaring	Initiating	No Change
Squaring	Squaring	Falls

➔ Suppose A, B, C, D & E and F are different investors. + refers to buying a futures contract and a - refers to selling of a futures contract on the same underlying asset.

Case I	Case II	Case III	Case IV	Case V	Case VI
+ A, - B	+ A, - B	+ A, - B	+ A, - B	+ A, - B	+ A, - B
	+ C, - D	+ C, - A	+ B, - A	+ C, - D	+ C, - D
				+ E, - F	+ E, - C
OI = 1	OI = 2	OI = 1	OI = 0	OI = 3	OI = 2

In practice, when trading in particular futures begins, the OI is zero. As time passes and more and more transactions take place, net OI positions fluctuate. As maturity date approaches, most of the parties square off their transaction and the net OI position may become zero.

Time	Trading Activity	Open Interest
Jan 1	A buys 1 option and B sells 1 option contract	1
Jan 2	C buys 5 options and D sells 5 options contracts	6
Jan 3	A sells his 1 option and D buys 1 options contract	5
Jan 4	E buys 5 options from C who sells 5 options contracts	5

QUESTION NO. 14 Concept : How Index is constructed : [Important]

If the market capitalization of 10 securities (considered to be the index) as at the beginning of 01.04.2008 amount to Rs. 5 crores is taken as base and equated to 100 and the day end market capitalization amounts to Rs. 5.50 crores, then the index at the end of 01.04.2008 will be 110 .

$$\text{i.e Opening Index} \times \frac{\text{Closing Market Capitalization}}{\text{Opening Market Capitalization}} = 100 \times \frac{5.50}{5.00} = 110$$

If at the end 02.04.2008 , the market capitalization is Rs. 6.30 crores , then the index value would be 126.

$$\text{Opening Index} \times \frac{\text{Closing Market Capitalization}}{\text{Opening Market Capitalization}} = 100 \times \frac{6.30}{5.50} = 126$$

QUESTION NO. 15 The settlement price of December Nifty futures contract on a particular day was Rs. 1310. The minimum trading lot on Nifty futures is 100. The initial margin is 8% and the maintenance margin is 6%. The index closed at the following levels on the next five days

Day	1	2	3	4	5
Closing Price	1340	1360	1300	1280	1305

1. Calculate the mark to market cash flows and daily closing balances in the a/c of

(i) an investor who has gone long at 1310 and (ii) an investor who has gone short at 1310

2. Calculate the net profit or loss on each of the contracts.

Solution :

Initial Margin (IM) = Rs. 10480 (1310 × 100 × 0.08)

Maintenance Margin (MM) = Rs. 7860 (1310 × 100 × 0.06)

Note : Initial Margin & Maintenance Margin are same for both long & short positions.

1. Status of investor who has gone long:

Day	Settlement Price	Opening Balance	Mark to Market C/F	Deposit	Closing Balance
1	1340	10480	+3000	---	13480
2	1360	13480	+2000	---	15480
3	1300	15480	-6000	---	9480
4	1280	9480	-2000	3000	10480
5	1305	10480	+2500	---	12980

Net profit (loss) on the contract : = + 3000 + 2000 – 6000 – 2000 + 2500 = (500) Or Simply (1305 – 1310) × 100 = –500

Additional Analysis: Why margin call of Rs 3000 at the end of Day 4 :

See at the end of Day 4 our balance falls below maintenance margin of Rs.7860 i.e it falls to 9480-2000 = 7480 . Now we know that whenever balance falls below Maintenance Margin we have to maintain the balance upto the initial margin.Hence we have made a margin call of Rs.3000 (10480-7480).

II Status of the investor who has gone short :

Day	Settlement Price	Opening Balance	Mark to Market C/F	Deposit	Closing Balance
1	1340	10480	-3000	3000	10480
2	1360	10480	-2000	---	8480
3	1300	8480	+6000	---	14480
4	1280	14480	+2000	---	16480
5	1305	16480	-2500	---	13980

Net profit (loss) on the contract: = -3000 - 2000 + 6000 + 2000 - 2500 = 500 Or Simply (1310 – 1305) × 100 = 500

Merger & Acquisition :

QUESTION NO. 16 The following information is provided related to the acquiring Firm Mark Limited and the target Firm Mask Limited:

	Firm Mark Limited	Firm Mask Limited
Earning after tax (Rs.)	2,000 lakhs	400 lakhs
Number of shares outstanding	200 lakhs	100 lakhs
P/E ratio (times)	10	5

Required:(i) What is the Swap Ratio based on current market prices?(ii) What is the EPS of Mark Limited after acquisition?(iii) What is the expected market price per share of Mark Limited after acquisition, assuming P/E ratio of Mark Limited remains unchanged?(iv) Determine the market value of the merged firm(v) Calculate gain/ loss for shareholders of the two independent companies after acquisition.

Solution :

(i) Swap Ratio based on Current Market Price :

	Mark	Mask
Earning After Tax	2000Lakhs	400 Lakhs
No. of Equity Shares	200Lakhs	100 Lakhs
EPS	10	4
P/E Ratio	10	5
MPS	100	20

$$\text{Swap Ratio} = \frac{20}{100} = .2$$

$$\text{(ii) EPS}_{A+B} = \frac{(2000 + 400)L}{200L + 100L \times .2} = 10.91$$

(iii) Expected MPS of Mark Ltd. after acquisition, assuming P/E Ratio of Mark Ltd. remains unchanged :

$$\text{MPS}_{A+B} = \text{P/E Ratio}_{A+B} \times \text{EPS}_{A+B} = \text{Rs. } 10 \times 10.91 = \text{Rs. } 109.10$$

(iv) Market Value of Merged firm = MPS After Merger $\times$ Total No. Of Equity Shares After Merger = Rs. 109.10 $\times$ 220 Lakhs = 24002 Lakhs.

(v) Gain/Loss from Merger :

Post Merger Market Value of the Merged firm =	Rs. 24002 Lakhs.
Less : Pre-Merger Market Value :	
Mark Ltd : 200 L $\times$ 100 =	Rs. 20000 Lakhs.
Mask Ltd. 100 L $\times$ 20 = 20 Crores =	Rs. 2000 Lakhs.
Gain from Merger	Rs. 2002 Lakhs.

Appropriation of Gains from the merger among shareholders :

	Mark Ltd.	Mask Ltd.
Post Merger Value	21820 Lakhs.	2182 Lakhs.
	[200 L $\times$ 109.10]=	[100 L $\times$.2 $\times$ 109.10]=
Loss : Pre-Merger Market Value	20000 Lakhs.	2000 Lakhs.
Gain to Shareholders	1820 Lakhs.	182 Lakhs.

Leasing :

QUESTION NO. 17 Agrani Ltd. is in the business of manufacturing bearings. Some more product lines are being planned to be added to the existing system. The machinery required may be brought or may be taken on lease. The cost of machine is Rs. 40,00,000 having a useful life of 5 years with the salvage value of Rs. 8,00,000. The full purchase value of machine can be financed by 20% loan repayable in five equal instalments falling due (inclusive of interest) at the end of each year. Alternatively, the machine can be procured on a 5 years lease, year-end lease rentals being Rs. 12,00,000 per annum. The Company follows the written down value method of depreciation at the rate of 25%. Company's tax rate is 35 per cent and cost of capital is 16 per cent.

(i) Advise the company which option it should choose - lease or borrow.

(ii) Assess the proposal from the lessor's point of view examining whether leasing the machine is financially viable at 14% cost of capital (Detailed working notes should be given. Calculations can be rounded off to Rs. lakhs).

Solution :

(i) Present Value of Cash outflow under Lease Option

			(in Rs.)
Year	Lease Rental After tax	PVAF @ 13%	Total Present Value
1-5	12,00,000 (I - T)	20% (I-T)	
	= 7,80,000	3.517	27,43,260

Present Value Cash Outflow under Borrowing Option

5 equal instalments

Rs. 40,00,000 ÷ PVAF (20%, 5 Years) = Rs. 40,00,000 ÷ 2.991 = 13,37,345

Year	Loan Instalments	Tax Advantage		Net Cash Outflow	PVF 13%	Total PV
		On Interest	On Depreciation			
1	13,37,345	2,80,000	3,50,000	7,07,345	.885	6,26,000
2	13,37,345	2,48,386	2,62,500	8,26,459	.783	6,47,117
3	13,37,345	1,97,249	1,96,875	9,43,221	.693	6,53,652
4	13,37,345	1,43,085	1,47,656	10,46,604	.613	6,41,568
5	13,37,345	78,087	1,10,742	11,48,516	.543	6,23,644
Total PV				31,91,981		31,91,981
Less : PV of Salvage Value adjusted for Tax savings on loss of sale of machinery (Rs. 8,00,000 + 52226.5) × .543				4,62,759		

Total Present Value of Cash Outflow 27,29,222

Decision PV of Cash Outflow of Lease Option is greater than borrow option and hence borrow option is recommended.**Working Notes ;****1. Debt and Interest payments :**

Year	Loan at the beginning of the year	Loan Installment	Interest Component	Principal Component	Balance at the end of year
1	40,00,000	1337345	8,00,000	5,37,345	34,62,655
2	34,62,655	1337345	6,92,531	6,44,814	28,17,841
3	28,17,841	1337345	5,63,568	7,73,777	20,44,064
4	20,44,064	1337345	4,08,813	9,28,532	11,15,532
5	11,15,532	1337345	2,23,106	11,14,239	NIL

2. Depreciation Schedule :

Year	Depreciation	Balance
1	40,00,000 × .25 = 10,00,000	30,00,000
2	30,00,000 × .25 = 7,50,000	22,50,000
3	22,50,000 × .25 = 5,62,500	16,87,500
4	16,87,500 × .25 = 4,21,875	12,65,625
5	12,65,625 × .25 = 3,16,406	9,49,219

Therefore Book Value of Machine at the end of Year 5 = 9,49,219

3. Loss on Sale of Machinery:

Sale Value	8,00,000
Less: Book Value	9,49,219
Loss	149219
Tax Saving @ 35 %	52226.65

(ii) Proposal From the View Point of Lessor

Lessor's Cash Flow

	1	2	3	4	5
Lease Rentals	12,00,000	12,00,000	12,00,000	12,00,000	12,00,000
Less : Dep.	10,00,000	7,50,000	5,62,500	4,21,875	3,16,406
EBT	2,00,000	4,50,000	6,37,500	7,78,125	8,83,594
Less : Tax @ 35%	70,000	1,57,500	2,23,125	2,72,344	3,09,258
EAT	1,30,000	2,92,500	4,14,375	5,05,781	5,74,336
CFAT	11,30,000	10,42,500	9,76,875	9,27,656	8,90,742
PVF @ 14%	.877	.769	.675	.592	.519
PV	9,91,010	8,01,683	6,59,391	5,49,172	4,62,295
Total P.V. =			34,63,551		

Add : PV of Sale Value+Tax Saving on sale of asset	442305 (852226.5 × .519)
Total Present Value of Cash Inflow	3905856
Cost of Machine	40,00,000
NPV	-94144

Decision ; Leasing from the point of view of Lessor is not financially viable. Hence, not recommended.

Capital Budgeting :

QUESTION NO. 18 A company is considering two mutually exclusive projects X and Y. Project X costs Rs. 30,000 and Project Y Rs. 36,000. You have been given below the net present value, probability distribution for each project:

Project X		Project Y	
NPV Estimate	Probability	NPV Estimate	Probability
3,000	0.1	3,000	0.2
6,000	0.4	6,000	0.3
12,000	0.4	12,000	0.3
15,000	0.1	15,000	0.2

(i) Compute the Expected Net Present Value of Projects X and Y. (ii) Compute the risk attached to each project i.e., Standard Deviation of each probability distribution. (iii) Which project do you consider more risky and why? (iv) Compute the Profitability Index of each project.

Solution :

(a)

		Project X			
NPV Estimate	Probability	NPV Estimate × Probability	Deviation from Expected NPV	Square of the deviation	Square of the deviation × Probability
3,000	0.1	300	6,000	3,60,00,000	36,00,000
6,000	0.4	2,400	3,000	90,00,000	36,00,000
12,000	0.4	4,800	-3,000	90,00,000	36,00,000
15,000	0.1	1,500	-6,000	3,60,00,000	36,00,000
Expected NPV		9,000			1,44,00,000

		Project Y			
NPV Estimate	Probability	NPV Estimate × Probability	Deviation from Expected NPV i.e. Rs.	Square of the deviation	Square of the deviation × Probability
3,000	0.2	600	6,000	3,60,00,000	72,00,000
6,000	0.3	1,800	3,000	90,00,000	27,00,000
12,000	0.3	3,600	-3,000	90,00,000	27,00,000
15,000	0.2	3,000	-6,000	3,60,00,000	72,00,000
Expected NPV		9,000			1,98,00,000

(i) The Expected Net Present Value of Project X and Y is Rs. 9,000 each.

(ii) Standard Deviation :

$$\text{In case of Project X : Standard Deviation} = \sqrt{\text{Rs. } 1,44,00,000} = 3,795.$$

$$\text{In case of Project Y : Standard Deviation} = \sqrt{\text{Rs. } 1,98,00,000} = 4,450$$

	X	Y
Expected NPV	9,000	9,000
Standard Deviation	3795	4450

We can take decision by calculating Coefficient Of Variation

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Expected Present Value}}$$

Units	Contribution per unit	Total Contribution	Expenses	Net Income	Probability	Expected Value Contribution
Selling Price 36 :						
70,000	26	18,20,000	6,40,000	11,80,000	$0.3 \times 0.6 = 0.18$	2.12,400
	24	16,80,000	6,40,000	10,40,000	$0.3 \times 0.4 = 0.12$	1,24,800
80,000	26	20,80,000	6,40,000	14,40,000	$0.5 \times 0.6 = 0.30$	4,32,000
	24	19,20,000	6,40,000	12,80,000	$0.5 \times 0.4 = 0.20$	2,56,000
90,000	26	23,40,000	6,40,000	17,00,000	$0.2 \times 0.6 = 0.12$	2,04,000
	24	21,60,000	6,40,000	15,20,000	$0.2 \times 0.4 = 0.08$	1,21,600_
						13,50,800

Selling Price 38 :

60,000	28	16,80,000	4,80,000	12,00,000	$0.1 \times 0.6 = 0.06$	72,000
	26	15,60,000	4,80,000	10,80,000	$0.1 \times 0.4 = 0.04$	43,200
80,000	28	19,60,000	6,40,000	13,20,000	$0.7 \times 0.6 = 0.42$	5,54,400
	26	18,20,000	6,40,000	11,80,000	$0.7 \times 0.4 = 0.28$	3,30,400
90,000	28	25,20,000	6,40,000	18,80,000	$0.2 \times 0.6 = 0.12$	2,25,600
	26	23,40,000	6,40,000	17,00,000	$0.2 \times 0.4 = 0.08$	1,36,000
						13,61,600

Selling Price 40 :

30,000	30	9,00,000	4,80,000	4,20,000	$0.4 \times 0.6 = 0.24$	1,00,800
	28	8,40,000	4,80,000	3,60,000	$0.4 \times 0.4 = 0.16$	57,600
60,000	30	18,00,000	4,80,000	13,20,000	$0.5 \times 0.6 = 0.30$	3,96,000
	28	16,80,000	4,80,000	12,00,000	$0.5 \times 0.4 = 0.20$	2,40,000
70,000	30	21,00,000	6,40,000	14,60,000	$0.1 \times 0.6 = 0.06$	87,600
	28	19,60,000	6,40,000	13,20,000	$0.1 \times 0.4 = 0.04$	52,800
						9,34,800

The expected value of profit is maximum at the selling price of £ 38. So the firm should fix up the price at £ 38.

QUESTION NO. 20 XYZ Ltd an infrastructure company is evaluating a proposal to build, operate and transfer a section of 35 kms. of road at a project cost of Rs. 200 crores to be financed as follows:

Equity Shares Capital Rs.50 crores, loans at the rate of interest of 15% p.a. from financial institutions Rs. 150 crores. The Project after completion will be opened to traffic and a toll will be collected for a period of 15 years from the vehicles using the road, The company is also required to maintain the road during the above 15 years and after the completion of that period, it will be handed over to the Highway authorities at zero value. It is estimated that the toll revenue will be Rs. 50 crores per annum and the annual toll collection expenses including maintenance of the roads will amount to 5% of the project cost. The company considers to write off the total cost of the project in 15 years on a straight line basis. For Corporate Income-tax purposes the company is allowed to take depreciation @ 10% on WDV basis. The financial institutions are agreeable for the repayment of the loan in 15 equal annual. Instalments - consisting of principal and interest.

Calculate Project IRR and Equity IRR. Ignore Corporate taxation. Explain the difference in Project IRR and Equity IRR.

Solution :**Computation of Project IRR**

Project IRR means that discount rate at which Project NPV of the project is zero. Therefore we have

$$\text{Rs. } 40 \times \text{PVAF} (r\%, 15 \text{ Years}) - \text{Rs } 200 = 0$$

Let $r = 18\%$

$$\text{Net Present Value} = 40 \times 5.092 - 200 = 3.68$$

Let $r = 19\%$

$$\text{Net Present Value} = 40 \times 4.876 - 200 = -4.06$$

Now exact IRR can be found out by using following relation

$$\text{IRR} = 18\% + \frac{3.68}{3.68 - (-4.06)} \times 1\% = 18.43\%$$

Computation of Equity IRR :

Equity IRR means that discount rate at which Equity NPV of the project is zero. Therefore we have

$$\text{Rs. } 14.35 \times \text{PVAF} (r\%, 15 \text{ Years}) - \text{Rs } 50 = 0$$

Let $r = 28\%$

$$\text{Net Present Value} = \text{Rs. } 14.35 \times 3.484 - \text{Rs } 50 = 0$$

Since Net Present Value comes to zero it means Equity IRR is 28%.

Difference in Project IRR and Equity IRR :

Project IRR: It reflects the overall rate of return earned by a project (both for term lenders and shareholders). It is based

on cash flows before interest and principal payment .

Equity IRR: It reflects the rate of return a project earns for the holders of equity .It is based on cash flows after interest.

Adjusted Net Present Value (APV)

Adjusted Net Present Value is the project 's NPV after considering the effect of financing .

How to Calculate Adjusted NPV :

Step 1 : Compute NPV of the project on the assumption that it is fully financed by Equity Shareholders .This would mean that you would discount the cash flows at cost of equity.This is called Base Case NPV .

Step 2 : Compute the issue cost net of tax . Issue costs are the costs that the firm has to incur to raise the money. This will already be in today's value and it represents an Outflow .

Step 3 : Compute the tax saved on interest payable since the interest paid is tax deductible .

Step 4 : Compute present value of the tax shield / saving . The tax saving takes place at different points in time. They must therefore be brought down to today's value .This is achieved by discounting the tax saving at the pre tax cost of debt.The logic for pretax cost of debt lies in the assumption that the cash flow arising out of tax saving is as risky as the cash flow from debt.

Step 5 : Adjusted Net Present Value = Base Case NPV - Issue Costs + Present Value of Interest Tax Shield

Question No. 21 : The financial management team of Tampem plc is discussing how the company should appraise new investments. There is a difference of opinion between two managers.

Manager A believes that net present value should be used as positive NPV investments are quickly reflected in increases in the company's share price.

Manager B states that NPV is not good enough as it is only valid in potentially restrictive conditions, and should be replaced by APV (adjusted present value).

Tampem has produced estimates of relevant cash flows and other financial information associated with a new investment. These are shown below :

Year	1	2	3	4
Investment pre-tax operating cash flows [£000]	1,250	1,400	1,600	1,800

Notes :

- (i) The investment will cost £5,400,000 payable immediately, including £600,000 for working capital and £400,000 for issue costs. £300,000 of issue costs is for equity, and £100,000 for debt. Issue costs are not tax allowable.
- (ii) The investment will be financed 50% equity, 50% debt which is believed to reflect its debt capacity.
- (iii) Expected company gearing after the investment will change to 60% equity, 40% debt by market values.
- (iv) The investment equity beta is 1.5.
- (v) Debt finance for the investment will be an 8% fixed rate debenture.
- (vi) Capital allowances are at 25% per year on a reducing balance basis.
- (vii) The corporate tax rate is 30%. Tax is payable in the year that the taxable cash flow arises.
- (viii) The risk free rate is 4% and the market return 10%.
- (ix) The after tax realisable value of the investment as a continuing operation is estimated to be £1.5 million (including working capital) at the end of year 4.
- (x) Working capital may be assumed to be constant during the four years.

Required :

- (a) Calculate the expected NPV and APV of the proposed investment. (10 marks)
- (b) Discuss briefly the validity of the views of the two managers. Use your calculations in (a) to illustrate and support the discussion.

Solution :

Calculation Of NPV (Net Present Value) :

Year	0	1	2	3	4
Operating cash flows		1,250	1,400	1,600	1,800
Taxation (30%)		(375)	(420)	(480)	(540)
Tax saving on Depreciation		330	248	186	139
Investment cost	(5,400)				
Realisable value					1,500
Net Cash Flows	(5,400)	1,205	1,228	1,306	2,899
PVF @ 10%		0.909	0.826	0.751	0.683
Present Values	(5,400)	1,095	1,014	981	1,980

The expected NPV is £(330,000)

Decision : Since NPV is negative the investment does not appear to be financially viable

Working Notes :

(i) The tax saving from capital allowances is:

Year	Written down value	Capital allowance (25%)	Tax saving (30%)
1	4,400	1,100	330
2	3,300	825	248
3	2,475	619	186
4	1,856	464	139

(ii) The weighted average cost of capital is : $WACC = 13\% (0.6) + 8\%(1 - 0.3)(0.4) = 10.04\%$

Where , $K_e = 4\% + (10\% - 4\%) 1.5 = 13\%$

Calculation Of APV (Adjusted Present Value) :

Step 1 : Calculate Base case NPV :

Year	0	1	2	3	4
Net Cash Flows	(5,000)	1,205	1,228	1,306	2,899
PVF @ 9%	0.917	0.842	0.772	0.708	
Present Values	(5,000)	1,105	1,034	1,008	2,052

Expected base case NPV is £199,000

Step 2 : Calculate Issue Cost : Rs. 4,00,000

Step 3 : Calculate Present Value Of Tax Saving on Interest [Financing Side Effects] :

Annual tax saving on interest payments on £2.7 million debt $£2,700,000 \times 8\% \times 0.3 = £64,800$

The present value of tax saving over four years discounted at the pre tax cost of debt of 8 % is: $£64,800 \times 3.312 = £214,618$

Step 4 : Calculate Adjusted Present Value :

Base case NPV	199,000
Tax savings	214,618
Issue costs	(400,000)

13,618

Decision : Since APV is positive the investment appears to be marginally viable based upon the APV method.

Working Notes :

(i) The discount rate for the base case NPV is the ungeared cost of equity.

$K_e = 4\% + (10\% - 4\%) 0.882 = 9.29\%$ or 9 % approx.

(ii) Calculation of Ungeared Equity Beta : Overall Beta or Project Beta

$$= \text{Equity Beta} \times \frac{E}{E + D} + \text{Debt Beta} \times \frac{D}{E + D} = 1.15 \times \frac{2700}{2700 + 2700(1 - .30)} + \text{Nil} = .882$$

* In case of all equity firm Overall Beta = Equity Beta

8 Since Debt Beta is not given in question it is assumed to be Nil .

(b)[Theoretical Part , Just Read & Develop an Understanding] Manager A advocates the use of NPV which is used by many companies worldwide. In an efficient market a positive NPV, in theory, should lead to a commensurate increase in the value of the company and share price. However, the use of the weighted average cost of capital (WACC) in NPV is only appropriate if there is no significant change in gearing as a result of the investment, the investment is marginal in size, and the operating risk of the company does not change. If WACC is estimated using the capital asset pricing model, it also relies upon the accuracy of this model which has many unrealistic assumptions.

The adjusted present value model, advocated by manager B, treats the investment as being initially all equity financed and then directly adjusts for the present value of any cash flow effects associated with financing. As gearing is expected to change as a result of the investment, APV might be better suited to the evaluation of this investment. However, it is not always easy to identify all of the relevant financing side effects, or the discount rate that used be used on each of the financing side effects.

APV also relies upon unrealistic assumptions with respect to ungearing beta and the existence of perpetual risk free debt. Both NPV and APV do not consider the potential value of real options (e.g. the abandonment option and the option to undertake further investments) that might exist as a result of undertaking the initial investment.

QUESTION NO.22 Citizen Ltd. of UK has identified that the production of electronic gadgets can be taken up in U.S. for which a subsidiary be incorporated in U.S. The initial cost of the project is estimated at \$ 25 million including \$ 5 million working capital which will be recover at the end of 4 years life of the project when the fixed assets are expected to be salvaged for \$ 8m. The project is expected to contribute on annual profit before interest and depreciation of \$10m. Depreciation on full initial cost is available.

Corporation tax in US is 35% and in UK is 30%, both payable one year in arrears. Citizen plans to part finance the project with a £ 6 million. 4-year loan @ 8%, balance being financed by the retained earnings. The issue cost (for loan) is 2% and is tax deductible immediately. Find out the Adjusted Present Value given :

- (a) Current spot rate \$/£ is 2 and is expected to depreciate @ 5% against the £.
 (b) Base discount rate for similar project in UK is 17%.
 (c) As per the tax treaty between UK and US no tax will arise on the project in U.K.

Calculation Of Base Case NPV :

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Capital Cost	- 20.00	-	-	-	8.00	-
Tax on Sale	-	-	-	-	-	2.80
Working Capital	-5.00	-	-	-	5.00	-
Profit bef Dep & Interest	-	10.00	10.00	10.00	10.00	-
Interest	-	Nil	Nil	Nil	Nil	-
Depreciation	-	5.00	5.00	5.00	5.00	-
Profit Before Tax	-	5.00	5.00	5.00	5.00	-
Tax @ 35%	-	-	1.75	1.75	1.75	-1.75
Profit After Tax	-	5.00	3.25	3.25	3.25	-
Cash Flows (\$)	-25.00	10.00	8.25	8.25	21.25	-4.55
Exchange Rate (£/\$)	2.00	2.10	2.21	2.32	2.43	2.55
Cash flows (m)	-12,500	4.762	3.733	3.556	8.745	-1.784
Disc. Rate @17%	1.000	0.855	0.731	0.624	0.534	0.456
Present Value (£m)	-12.500	4.072	2.729	2.219	4.670	-0.814
Total Present Value or Base Case NPV (£m)						0.376

Additional Analysis : Why Interest has been taken as Nil ? Since we are calculating Base Case NPV. And Base Case NPV is calculated on an assumption that entire money is financed by equity and their is no Debenture and Loan.

Calculation of Present Value of Interest Tax Shield/Saving :

Annual interest cost (£6m x 8%)	£4,80,000
Tax Shield/Saving @ 30%	1,44,000
PVAF @ 8% (for year 2-5)	3.067
Present Value of Interest Tax Shield/Saving (1,44,000 x 3.067)	£ 4,41,648

Additional Analysis : Why PVAF has been taken for Year 2-5 rather than 1-4. since tax is payable one year in arrears. It can be logically concluded that tax saving will be generated from Year 2-5.

Additional Analysis : How to calculate PVAF@8% for year 2-5 ? PVF@8% for Year 2, 3, 4, and 5 are .857, .794, .735 and .681 respectively. now if we add all this PVF we will get PVAF for year 2 to 5 i.e 3.067

Present Value of Issue Cost :

Issue cost (2% x £ 6m)	£ 1,20,000
Tax Shield/Saving @ 30%	36,000
Net Issue Cost	-84,000

Calculation of APV :

Base Case NPV of Cash Flow	+£ 3,76,000
Present Value of Interest Tax Saving	+ £4,41,000
Present Value of Issue Cost	-£84,000
Adjusted Present Value	+£ 7,33,648

Additional Analysis : It may be noted that Cost Of Project was 25 Million. But depreciation will be charged only on 20 Million. Since no depreciation is charged on Working Capital which in the present case is 5 Million .

Additional Analysis : In the question it is written that " Corporation Tax in US is 35% and in UK is 30%, Both payable one year in arrear". What does it mean ? It means that tax will be paid after one year they arise. For example If Profit at the end of Year 1 is Rs 10 and Tax Rate is 40%, It means tax of Rs. 4 will be paid at the end of Year 2 .

Additional Analysis : It is written in the question that "Depreciation on Full Initial Cost is available". It means that we should charge depreciation on the full initial cost of 20 Million in four years. Since nothing is said about method Of Charging Depreciation

we will assume Straight Line Method. Hence Depreciation p.a = $\frac{\text{Original Cost} - \text{Salvage Value}}{\text{Life Of Asset}} = \frac{20}{4} = 5$ million. We should not use this formula

$\frac{\text{Original Cost} - \text{Salvage Value}}{\text{Life Of Asset}}$ as it is clearly written that full initial cost i.e 20 million is to be depreciated .

Additional Analysis : From the above analysis it can be logically concluded that Profit on Sale Of machine will be 8 lakhs i.e Full Salvage Value. In this profit tax @ 40% i.e 2.8 is to be paid one year in arrear i.e at the end of Year 6 .

Question No. 23 Moon Engineering Ltd. Has a Cost of Equity (ke) of 17%, Cost of Debt (kd) 12% and debt ratio of 40%. A new investment is under consideration. The project will need a cash outlay of 120 crore. It is expected that an annual operating profit of Rs.35 crore shall be generated for 8 years. In addition to this, project shall require Rs. 3 crore each year for net working capital and capital expenditure. The company will be able to borrow 50% of the project's cost from a financial institutions. The interest rate is 12% p.a. and the loan will be repaid in five equal instalments after 3 years at end of year. The tax rate applicable is 30%. Assuming that SLM of depreciation and with no salvage value.

(a) What will be APV of the project. (b) Should Moon Engineering Ltd. accept the project.

Solution :

Calculation Of Base Case NPV :

The base NPV of the project shall be as follows = $-120 + 26 \times \text{PVAf}(15\%, 8) = -120 + 26 \times 4.487$ Crore = - Rs. 3.34 Crore. Without considering the financing effect, the project is unattractive as it has negative base NPV

Calculation Of Issue Cost : Nil

Calculation Of Present Value of Interest Tax Shield/Saving

Year	Loan outstanding Rs. in Crores.	Interest at 12% (Rs. in Crores)	Interest Tax Shield (Rs. in Crores.)	PVF @ 12%	Present Value Rs. in Crores.
1	60	7.20	2.16	0.893	1.93
2	60	7.20	2.16	0.797	1.72
3	60	7.20	2.16	0.712	1.54
4	48	7.20	2.16	0.636	1.37
5	36	5.76	1.73	0.567	0.98
6	24	4.32	1.30	0.506	0.66
7	12	2.88	0.80	0.452	0.39
8	0	1.44	0.43	0.404	0.17
Present Value of Tax Shield/Saving					8.76

Calculation Of Adjusted Present Value :

The Adjusted Present Value of the Project

= Base NPV - Issue Cost + PV of Interest Tax Benefit (Shield) = $3.34 - \text{Nil} + 8.76 = \text{Rs. } 5.42$ crores.

Decision : Thus project has positive APV, hence should be accepted.

Working Notes :

(a) **Calculation Cost of Capital :**

$K_0 = 0.17 \times 0.60 + 0.12 \times 0.40 = 0.15$ i.e. 15%

(b) Calculation Of Free Cash Flow For Base case NPV :

FCF = (EBIT - Depreciation) (1-Tax) + Depreciation - (NWC + Capital Expenditure) = (35 - 15) (1-0.30) + 15-3 = 26 Crores.

Foreign Exchange :

QUESTION NO. 24 Ram Pharma Ltd. an Indian based MNC, is evaluating an overseas investment proposal. Ram Pharma's exports of pharmaceuticals products have increased to such an extent that it is considering a project to build a plant in the U.S. The project will entail an initial outlay of \$100 million and is expected to generate the following cash flows over its four year life.

Year	1	2	3	4
Cash Flows (in \$ in million)	30	40	50	60

The current exchange rate is Rs. 45 per US \$, the risk free rate in India 11% and the risk free rate in US is 6%. Ram Pharma's rupee return on a project of this kind is 15%. Should Ram Pharma undertake this project? Solve by both Foreign Currency Approach & Home Currency Approach ?

Solution :**Home Currency Approach :**

Based on the Interest Rate Parity Relationships we have

$$\frac{\text{Forward Rate}}{\text{Spot Rate}} = \frac{(1 + r_H)}{(1 + r_F)} \quad r_h = \text{risk free rate in home country; } r_f = \text{risk free rate in foreign country}$$

We have been given Spot rate 1 \$ = Rs. 45, $r_h = 11\%$, $r_f = 6\%$, Hence forecasted spot exchange rates or Forward Rate for Year 1 to 4 are as follows :

Year Forecasted Spot Exchange rate

1	Rs. 45 (1.11/1.06) ¹	=	Rs. 47.12
2	Rs. 45 (1.11/1.06) ²	=	Rs. 49.35
3	Rs. 45 (1.11/1.06) ³	=	Rs. 51.67
4	Rs. 45 (1.11/1.06) ⁴	=	Rs. 54.11

First we will convert the foreign currency cash flows into home currency cash flows i.e the dollar cash flows into rupees cash flows.

Year	Cash flows in \$ (million)	Expected Exchange Rate (Rs.)	Cash flows in Rs.(million.)
	(1)	(2)	(1) × (2)
0	-100	45.00	-4500.00
1	30	47.12	1413.60
2	40	49.35	1974.00
3	50	51.67	2583.50
4	60	54.11	3246.60

Now given a rupee discount rate of 15%, the NPV in rupees will be :

$$\text{NPV} = -4500 + \frac{1413.60}{(1.15)^1} + \frac{1974.00}{(1.15)^2} + \frac{2583.50}{(1.15)^3} + \frac{3246.60}{(1.15)^4} = \text{Rs. 1776.80 million.}$$

Decision: As the NPV is positive the project should be accepted. **OR**

Foreign Currency Approach

For this approach we will first find the **risk adjusted dollar discount rate** corresponding to the risk adjusted rupee rate of 15%. Calculation Of Risk Premium :

$$(1 + \text{Risk Free Rupee Rate}) (1 + \text{Risk Premium}) = (1 + \text{Risk Adjusted Rupee Rate})$$

$$\Rightarrow (1 + 0.11) (1 + \text{Risk Premium}) = (1 + 0.15) \Rightarrow \text{Risk Premium} = 0.036 = 3.6\%$$

Calculation Of Dollar Discount Rate :

$$(1 + \text{Risk Free Dollar Rate}) (1 + \text{Risk Premium}) = (1 + \text{Risk Adjusted Dollar Rate})$$

$$\Rightarrow (1 + 0.06) (1 + 0.036) = (1 + \text{Risk Adjusted Dollar Rate})$$

Therefore Risk Adjusted Dollar Rate = 0.0982 = 9.82%

Now using the dollar discount rate of 9.82% and the dollar cash flows, the NPV in dollars is :

$$\text{NPV} = -4500 + \frac{30}{(1.0982)^1} + \frac{40}{(1.0982)^2} + \frac{50}{(1.0982)^3} + \frac{60}{(1.0982)^4} = \$39.484 \text{ million.}$$

Since the spot exchange rate for \$ is Rs. 45, we can get NPV = 45 × 39.484 = **Rs. 1776.80 million.**

[Note :Answers under both options must tally)

Interest Rate Swap

In Interest Rate Swap two parties exchange their Interest Rate Obligations .

For Practical Question we will undertake the following steps :

Step 1 : Calculate Total Interest Rate of the parties as per their own objective .

Step 2 : Calculate Total Interest Rate of the parties as per swap agreement. or on the basis Minimum Maximum Approach of Interest

Step 3 : Calculate the Saving due to Swap Agreement taking the difference between Step 1 - Step 2

Step 4 : Distribute the Saving between the various parties as per the terms of the contract .

Step 5 : Finally we will calculate the Net Interest Burden of each parties by using the following relation :

Cost Under Own Choice - Saving Due To Swap

Note : LIBOR : London Inter Bank Offering Rate ; MIBOR : Mumbai Inter Bank Offering Rate ; PLR : Prime Lending Rate

QUESTION NO. 25 Consider two companies rated AAA and BBB. AAA has higher credit rating than BBB. Hence they are rated differently by the market and are offered loans at following rates:

	Fixed Rate	Floating Rate
AAA	10%	LIBOR + .50
BBB	11%	LIBOR+.75

Both are planning to raise loan of \$1 million. AAA is interested in raising loan under floating rate. BBB is interested in raising loan under fixed rate. An intermediary brings them on table and interest swap is arranged. The benefit of interest swap is to be shared equally by the three parties. Find out net interest burden (%) for AAA and BBB?

Solution :

If no Swap is arranged, total interest cost to both the parties if they borrow as per their plan :

AAA: LIBOR + .50

BBB: 11%

Total (A) LIBOR + 11.50%

If Swap is arranged, AAA should borrow on fixed basis and BBB on floating basis, total interest cost in this situation is :

AAA 10%

BBB LIBOR + .75

Total (B) LIBOR + 10.75%

Saving on Interest Cost : A – B = (LIBOR + 11.50%) – (LIBOR + 10.75%) = .75

Since Savings is to be distributed equally as per the requirement of the question we have

Saving for AAA = .25; Saving for BBB = .25; Commission for intermediary = .25.

∴ Net Interest Burden = Cost under own choice – Share in saving.

For AAA : (LIBOR + .50) – .25 = LIBOR + .25 **For BBB :** 11% – .25 = 10.75 %

Question No. 26 Electrometic Limited enjoys a high rating in Indian money market due to its strong financials and track record. Tim software Ltd., is a new but a growing company. Electrometic and Tim Software Ltd., can obtain loans at the rate given below :

	CD (Company Deposit) with Fixed Rate	Mumbai Inter-bank Money Market with Variable Rate
Electronic Ltd.	T*+ 0.50	MIBOR + 0.10
Tim Software Ltd.	T* + 2.10	MIBOR + 0.60

*Here T means the risk free 15 years Government Bonds.

Electrometic Ltd., wants to take a loan at variable rate, while Tim Software wants to take loan at fixed rate. The two companies approached a bank to design a suitable Swaps.

(a) If the bank wants to have a profit of 0.20% to be contributed from Tim Software's (out of total profits of Swap) share of Swap benefit, what would be the two agreements that the bank will enter with these two companies.

(b) What are the likely costs of debts to the two companies.

Solution :

Electrometics Ltd., has a comparative advantage in the fixed rate market of 1.6% per annum but wants to take loan at variable

rates. In variable rate (floating rate) market the comparative advantage is of 0.50%. So, under swap arrangement there will be a total benefit of $1.6\% - 0.5\% = 1.1\%$. **OR**

Total Interest Cost as per their Own Choice :

Electronic Ltd. MIBOR + 0.10
 Tim Software Ltd. $T^* + 2.10$ ____
 Total Cost without Swap Mibor + T + 2.20

Total Interest Cost as per Swap Agreement :

Electronic Ltd. T+ 0.50
 Tim Software Ltd. MIBOR + 0.60
 Total Cost with Swap Mibor + T + 1.10

Saving Due To Swap = [Mibor + T + 2.20]-[Mibor + T + 1.10] = 1.10

(a) Electrometetics will raise money from the fixed rate market and Tim Software will raise money from the floating rate market. The bank will make an agreement with :

Electrometetics, under which bank will borrow fixed rate money and will lend floating rate money.

Similarly, bank will make an arrangements with Tim Software for borrowing at floating rate and lending at fixed rate.

(b) **Distribution Of Saving :** As the total swap benefit is 1.1%, 0.55% benefit belongs to each party.[Assuming that saving is distributed equally]

Saving Of Tim Software Ltd. : The bank's share is 0.20% of Tim Software's share of benefit. As a result, Tim Software's share of profit will decrease to 0.35% per annum;

Saving Of Electronic Ltd. : Electrometetics is gaining 0.55% per annum.

Cost Of Debt To Each Party : Cost Under Own Choice - Saving

For Electronic Ltd. : [MIBOR + 0.10]-.55 = MIBOR - 0.45% per annum

For Tim Software Ltd. : [T + 2.10]- .35 = (T+1.75)% per annum.

Question No. 27 : Arnbrook plc is considering a £50 million three year interest rate swap. The company wishes to have use of floating rate funds, but because of its AA credit rating has a comparative advantage over lower rated companies when borrowing in the domestic fixed rate market. Arnbrook can borrow fixed rate at 6.25% or floating rate at LIBOR plus 0.75%. LIBOR is currently 5.25%, but parliamentary elections are due in six months' time and future interest rates are uncertain. A swap could be arranged using a bank as an intermediary. The bank would offset the swap risk with a counterparty BBB rated company that could borrow fixed rate at 7.25% and floating rate at LIBOR plus 1.25%. The bank would charge a fee of £120,000 per year to each party in the swap. Arnbrook would require 60% of any arbitrage savings (before the payment of fees) from the swap because of its higher credit rating. Any fees paid to the bank are tax allowable. The corporate tax rate is 30%.

Required :

(a) Discuss the risks that Arnbrook and a participating bank might face when undertaking an interest rate swap.

(b) Evaluate whether or not the proposed swap might be beneficial to all parties. (6 marks)

(c) If LIBOR was to increase immediately after the forthcoming election to 5.75% and then stay constant for the period of the swap, estimate the present value of the savings from the swap for Arnbrook plc. Interest payments are made semi-annually in arrears. Comment upon whether the swap would have been beneficial to Arnbrook plc. The money market may be assumed to be an efficient market.

Solution :

(a) The risks faced by Arnbrook and the bank include :

(i) Default risk by the counterparty to the swap. If the counterparty is a bank this risk will normally be very small. A bank would face larger counterparty default risk, especially from counterparties such as the BBB company with a relatively low credit rating.
 (ii) Market or position risk. This is the risk that market interest rate will change such that the company undertaking the swap would have been better off, with hindsight, if it had not undertaken the swap.

(iii) Banks often undertake a 'warehousing' function in swap transactions. The size and/or maturity of the transactions desired by each counterparty to the bank often do not match. In such cases the bank faces gap or mismatch risk which it will normally hedge in the futures or other markets.

(b)	Fixed Rate	Floating Rate
Arnbrook	6.25%	LIBOR + 0.75%
BBB company	7.25%	LIBOR + 1.25%
Difference	1.00%	0.50%_____

There is a potential 0.50% arbitrage saving from undertaking the swap. **OR**

Total Interest Cost in Current Scenario :

AA Rated Company	L+.75
BBB Rated Company	7.25_
Total Cost	L+8%

Total Interest Cost under Swap :

AA Rated Company	6.25
BBB Rated Company	L+1.25
Total Cost under Swap	L+7.5%

Total Saving Due To Swap [%] = [L+8%] - [L + 7.5 %] = .50 %

Total Saving Due To Swap [Amount] = £50 million x . £250,000 per year.

Distribution Of Saving :

Arnbrook would require 60% of any saving, or £150,000 annually (£105,000 after tax).

The **BBB** company would receive 40 % of any saving or £100,000 annually (£70,000 after tax).

Bank Charges : The bank would charge each party £120,000 per year. After tax this is a cost of £84,000 each.

Gain or Loss :

Arnbrook : £105,000 after tax - £84,000 each. = net profit of £21,000

BBB Rated company : £70,000 after tax - £84,000 each. = net loss of £14,000

Decision : The swap is not potentially beneficial to all parties, unless the savings are shared equally.

(c) Arnbrook will pay floating rate interest as a result of the swap.

If Arnbrook receives 60% of the arbitrage savings, it will save 0.5% (0.60) on its interest rates relative to borrowing directly in the floating rate market, and

effectively pay LIBOR + 0.45%, or 5.70% at current interest rates.

If LIBOR moves to 5.75% in six months' time, Arnbrook will then pay 6.20% floating rate interest for the remaining period of the swap.

Interest savings in each six month periods are £50 million x 0.30% x 0.5 = £75,000

If the money market is efficient, the relevant discount rate will be the prevailing interest rate paid by Arnbrook.

Period:	Savings £	Discount factor	Present value (£)
0-6 months	75,000	0.972 (5.7%)	72,900
6 months-1 year	75,000	0.942 (6.2%)	70,650
1 year-18 months	75,000	0.913 (6.2%)	68,475
18 months-2 years	75,000	0.887 (6.2%)	66,525
2 years-30 months	75,000	0.860 (6.2%)	64,500
30 months-3 years	75,000	0.835 (6.2%)	62,625

Total Present Values

405,675__

The interest rate swap is estimated to produce interest rate savings with a present value of £405,675 relative to borrowing floating rate directly. The swap would be beneficial, even after deducting the fee of £120,000 per year.

With hindsight lower interest costs would have been available by borrowing at 6.25% in the fixed rate market.

QUESTION NO. 28 On the same date when the DM spot rate was quoted at \$0.40 in New York, the price of the Pound Sterling was quoted at \$1.80:

(i) What would you expect the price of the Pound to be in Germany?

(ii) If Pound was quoted in Frankfurt at DM 4.40/Pound, what procedure you will follow to do to profit from the situation?

[Additional Analysis : Frankfurt is the capital of Germany]

Solution :

Given, New York 1 DM = \$.40 and New York 1 £ = \$ 1.80

(i) Price of the Pound in Germany :

$$\frac{\text{DM}}{\text{£}} = \frac{\text{DM}}{\text{\$}} \times \frac{\text{\$}}{\text{£}} = \frac{1}{.40} \times 1.80 = 4.5 \quad \therefore 1\text{£} = \text{DM } 4.5$$

(ii) Actual Exchange Rate of Pound in Frankfurt is : 1 £ = DM 4.40.

Cross Currency Exchange Rate of Pound is : 1£ = DM 4.50

Since both rates are not same "Arbitrage Opportunity" is possible. The Rule is "Buy Low and Sell High".

Action : An arbitrageur will take the following action :

Buy 1 Pound in Frankfurt for DM 4.40

Sell 1 Pound in New York and Buy 1.80 Dollar.

With 1.80 Dollar in New York, Buy 4.5 DM $\left(\frac{1.80}{.40}\right)$

Hence the above action by the arbitrageur gives him a risk less gain of DM $(4.50 - 4.40) = \text{DM } .10$ Since he invested 4.40DM initially and is getting 4.50 DM at the end

$$\text{Total \% Profit} = \frac{\text{Return}}{\text{Investment}} \times 100 = \frac{.1}{4.4} \times 100 = 2.27\%$$

QUESTION NO. 29 The spot rate - \$ 0.3197/KR , 3 month forward rate - \$.3180/KR , Rate of interest are \$ = 6.25% p.a. & KR = 7.5% p.a. Is there an arbitrage opportunity here? How would you exploit?

Solution :

If there is no arbitrage opportunity, then the following equation will hold true.

$$\frac{\text{FR } (\$/\text{KR})}{\text{SR } (\$/\text{KR})} = \frac{1 + \$ \text{ Interest Rate}}{1 + \text{KR Interest Rate}} \Rightarrow \frac{.3180}{.3197} = \frac{1 + .0625/4}{1 + .075/4} \Rightarrow .9947 = .9969$$

Since the above equation do not hold true arbitrage opportunities is possible.

Since $.9947 < .9969$ i.e LHS < RHS ,It is better to invest in home country which in our case is USA **OR**

The Theoretical Interest Rate in USA Market can be found by using the following relation :

$$\frac{\text{Forward Rate } (\$/\text{KR})}{\text{Spot Rate } (\$/\text{KR})} = \frac{1 + \$ \text{ Interest Rate}}{1 + \text{KR Interest Rate}} \Rightarrow \frac{.3180}{.3197} = \frac{1 + \$ \text{ Interest Rate}}{1 + \frac{.075}{4}} \Rightarrow \$ \text{ Interest Rate} = 1.33328\%$$

$$\text{Annual Interest Rate : } \frac{1.3328}{3} \times 12 = 5.33\%$$

Since the Theoretical Interest Rate (5.33%) is less than Actual Interest Rate (6.25%) : Money will flow into the home country. Hence in the given case KR is not an investment market and the investor should invest in domestic (\$) market.

He should rather borrow KR, invest in \$ market and make gain in the arbitrage process.

Action to be taken by the arbitrageur :

He should borrow 1000 KR (assumed) at the interest rate of 7.5% p.a. for 3 months.

$$\text{After 3 month he should pay a total amount of } 1000 \text{ KR} + \text{KR} \left(1000 \times \frac{7.5}{100} \times \frac{3}{12} \right) = \text{KR } 1018.75$$

Now 1000 KR which has been borrowed should be first be converted in US \$ by using Spot Rate and then invested in US at the rate of 6.25 p.a. for 3 month.

$$\text{Amount of \$ received by conversion} = 1000 \times .3197 = \$ 319.7$$

Now \$ 319.70 will be invested for 3 month @ 6.25 % p.a

$$\text{After 3 months he will get a total of : } \$ 319.7 + \$ \left(319.7 \times \frac{6.25}{100} \times \frac{3}{12} \right) = \$ 324.6253125$$

$$\text{An amount of } \$ 324.6953125 \text{ will again be converted back into KR at 3 months forward rate : i.e., } \frac{324.6953125}{.3180} = \text{KR } 1021.05$$

Hence by the above action arbitrage has made a riskless gain of KR $(1021.05 - 1018.75) = \text{KR } 2.3$.

QUESTION NO. 30 Exporter is a UK based company. Invoice amount \$ 3,50,000/- to be received . Credit period three months.

Exchange rates in London

\$/£	Spot	1.5865 - 1.5905
3 months	Forward	1.6100 - 1.6140

Money Market rates

	Deposit	Loan
\$	7%	9%
£	5%	8%

(a) Compute and show how a money market hedge can be put in place.

(b) Identify whether it would have been advantageous to take forward cover instead?

Solution :**Money Market Operations :**

(a) When foreign currency is to be received in future the following steps are undertaken.

(i) Borrow in Foreign Currency. The amount of borrowing should be such that " Amount borrowed + Interest on it " should be equal to foreign currency to be received.

Let the borrowed amount be x. Then $x + \left[x \times \frac{9}{100} \times \frac{3}{12} \right] = 3,50,000 \Rightarrow 1.0225 x = 3,50,000 \Rightarrow x = 342298.29$

∴ \$ 342298.29 should be borrowed or we can simply take present value of \$ 3,50,000 which is equal to :

$$\frac{3,50,000}{\left(1 + \frac{.09}{12} \times 3\right)} = \frac{3,50,000}{1.0225} = 342298.28$$

(ii) Convert the borrowed amount into home currency :

The applicable exchange rate in such case will be spot rate. 1£ = \$ 1.5865 – 1.5905

Now since we will be selling \$ and buying £, it means bank is selling £.

Bank Selling Rate of pounds is : \$ 1.5905.

Therefore Amount of pounds to be received on conversion is : $\frac{342298.29}{1.5905} = £ 2,15,214.27$.

(iii) Now we will invest the above amount in home country for the period during which foreign currency receipt is outstanding.

∴ £ 2,15,214.27 will be invested at 5% for 3 months to get : $£ [2,15,214.27 + 2,15,214.27 \times \frac{5}{100} \times \frac{3}{12}] = £ 2,17,904.45$

(iv) Now we will use the foreign currency receipt to repay "amount borrowed + interest on it" in foreign currency.

Therefore, the loan liability of \$ 3,42,298 after 3 month with interest matures to $\left[\$3,42,298 \times \frac{9}{100} \times \frac{3}{12} \right] = \$ 3,50,000$.

This will be settled with the amount of \$ 3,50,000 to be received from customer after 3 months .

(b) If forward contract is used :

Applicable rate for a 3 month forward is 1.6140.

Amount of £ that will be received by UK Company at the end of three months will be $\frac{£ 3,50,000}{1.6140} = £ 216852.54$

Comparing the two hedges :—

Under Money Market Hedge the amount received is £ 2,17,904.45

Under Forward Cover Hedge, the amount received is £ 2,16,852.54

Decision : It is seen that receipts under forward contract are lower than future value of receipts under money market operations. Therefore, the better strategy for the company is to opt for money market hedging.

Question No. 31 An Indian company is planning to set up a subsidiary in US. The initial project cost is estimated to be US \$40 million; Working Capital required is estimated to be \$4 million. The finance manager of company estimated the data as follows:

Variable Cost of Production (Per Unit Sold)	\$2.50
Fixed cost per annum	\$ 3 Million
Selling Price	\$ 10
Production capacity	5 million units
Expected life of Plant	5 years
Method of Depreciation	Straight Line Method (SLM)
Salvage Value at the end of 5 years	NIL

The subsidiary of the Indian company is subject to 40% corporate tax rate in the US and the required rate of return of such types of project is 12%. The current exchange rate is Rs.48/US\$ and the rupee is expected to depreciate by 3% per annum for next five years. The subsidiary company shall be allowed to repatriate 70% of the CFAT every year along with the accumulated arrears of blocked funds at the end of 5 years, the withholding taxes are 10%. The blocked fund will be invested in the USA money market

by the subsidiary, earning 4% (free of taxes) per year.

Determine the feasibility of having a subsidiary company in the USA, assuming no tax liability in India on earnings received by the parent company from the US subsidiary.

Solution :

Working Notes :

(1) Cash Outflow (Initial)	(Figures in Million)
Cost of Plant & Machinery	\$ 40
Working Capital Requirement	\$ 4_
	\$ 44
Cash outflow in Rs [in million]	2112

(2) Annual Cash Inflow	(Figures in Million)
Sales Revenue (5 Million x \$ 10)	50.00
Less : Costs	
Variable cost (5 million units x \$ 2.5)	\$12.5
Fixed Cost	\$ 3
Depreciation (\$ 40 Million/ 5 years)	\$ 8_ 23.50
Earning before tax	26.50
Less : Taxes (40%)	10.60
Earning after tax	15.90
Add: Back Depreciation	08.00
	23.90

(3) Terminal Year Cash Flows	
Release Of Working Capital	\$ 4 Million
Salvage Value	Nil_____
	\$ 4 Million

(4) Calculation of Repatriable/Accessible Funds

Period	Particulars	Millions \$
1-4 years	Operating Cash flow After Tax	23.90
	Less : Retention	7.17
	Repatriable amount	16.73
	Less : Withholding Tax	1.673_
	Accessible Funds	15.057
5 years	Operating Cash Flow After TAx	23.90
	Less : Withholding Tax	2.39_
		21.51
	Add : Repatriation of Blocked Funds	28.50 [see working notes]
		50.00

(5) Repatriation of Blocked Funds

Future Value of Bloked Funds of \$ 7.17 Million shall be computed as follows :

Value of Funds blocked from year 1-4	7.17 Million\$
FVAF (4%, 4)	4.416
Value of Funds at end	31.66272 Million\$
Without Tax	3.0444 Million\$
	28.50 Million\$

Additional Analysis : FVAF can be directly calculated from the table or it can be calculated in the following manner :

$(1+.04)^4 = 1.16985856$
$(1+.04)^3 = 1.124864$
$(1+.04)^2 = 1.0816$
$(1+.04)^1 = 1.04$ _____
4.416_____

Statement showing Net Present Value of the Project

Period	Particulars	US\$	Exchange Rate	Cash Flow Rs.	PVF @ 12%	PV
0	Initial outflow	44	48	(2112)	1	(2112)
1	Annual cash flow	15.057	49.44	744.42	0.893	664.77
2	„	15.057	50.9232	766.75	0.797	611.10
3	„	15.057	52.4509	789.75	0.797	562.30
4	„	15.057	54.0244	813.45	0.797	517.35
5	„	50.00	55.6451	2782.255	0.797	1577.54
5	Release of WC	4.00	55.6451	222.58	0.797	126.20
						1947.26

Decision : Since NPV of the project is positive, the Indian Company should go for its decision of subsidiary in US.

Right Shares :

QUESTION NO. 32 Pragya Limited has issued 75,000 equity shares of Rs. 10 each. The current market price per share is Rs. 24. The company has a plan to make a rights issue of one new equity share at a price of Rs. 16 for every four share held. You are required to :

- Calculate the theoretical post-rights price per share;
- Calculate the theoretical value of the right alone;
- Show the effect of the rights issue on the wealth of a shareholder, who has 1,000 shares assuming he sells the entire rights;
- Show the effect, if the same shareholder does not take any action and ignores the issue.

Solution :

- (i) Calculation of Theoretical Post-Rights (ex-right) price per share :

$$\frac{\text{MPS Cum Right} \times \text{Existing Number Of Equity Share} + \text{Right Share Price} \times \text{Number of Right Shares Issued}}{\text{Existing Number Of Equity Share} + \text{New Number Of Right Share Issued}}$$

$$= \frac{24 \times 75000 + 16 \times 18750}{75000 + 18750} = \text{Rs. 22.40}$$

Working Notes : Number of Right share to be issued = $\frac{75,000}{4} = 18750$

- (ii) Calculation of Theoretical Value of the Rights Alone: = Ex-right price – Cost of rights share = Rs. 22.40 – Rs. 16 = Rs. 6.40

- (iii) Calculation of effect of the rights issue on the wealth of a shareholder who has 1,000 shares assuming he sells the entire rights :

(a) Value of shares before right issue (1,000 shares × Rs. 24)	24,000
(b) Value of shares after right issue (1,000 shares × Rs. 22.40)	22,400
Add : Sale proceeds of rights renunciation (250 shares × Rs. 6.40)	1,600
	24,000

There is no change in the wealth of the shareholder if he sells the entire rights .

- (iv) Calculation of effect if the shareholder does not take any action and ignores the issue :

Value of shares before right issue (1,000 shares × Rs. 24)	24,000
Less : Value of shares after right issue (1,000 shares × Rs. 22.40)	22,400
Loss of wealth to shareholders, if rights ignored	1,600

Question No. 33 THP Co is planning to buy CRX Co, a company in the same business sector, and is considering paying cash for the shares of the company. The cash would be raised by THP Co through a 1 for 3 rights issue at a 20% discount to its current

share price. The purchase price of the 1 million issued shares of CRX Co would be equal to the rights issue funds raised, less issue costs of \$320,000. Earnings per share of CRX Co at the time of acquisition would be 44.8c per share. As a result of acquiring CRX Co, THP Co expects to gain annual after-tax savings of \$96,000. THP Co maintains a payout ratio of 50% and earnings per share are currently 64c per share. Dividend growth of 5% per year is expected for the foreseeable future and the company has a cost of equity of 12% per year.

Information from THP Co's statement of financial position :

Equity and liabilities	\$000
Shares (\$1 par value)	3,000
Reserves	4,300
	7,300
Non-current liabilities	
8% loan notes	5,000
Current liabilities	2,200
Total equity and liabilities	14,500

Required :

(a) Calculate the current ex dividend share price of THP Co and the current market capitalisation of THP Co using the dividend growth model.

(b) Assuming the rights issue takes place and ignoring the proposed use of the funds raised, calculate :

(i) the rights issue price per share;

(ii) the cash raised;

(iii) the theoretical ex rights price per share; and

(iv) the market capitalisation of THP Co.

(c) Using the price/earnings ratio method, calculate the share price and market capitalisation of CRX Co before the acquisition.

(d) Assuming a semi-strong form efficient capital market, calculate and comment on the post acquisition market capitalisation of THP Co in the following circumstances:

(i) THP Co does not announce the expected annual after-tax savings; and (ii) the expected after-tax savings are made public.

(e) Discuss the factors that THP Co should consider, in its circumstances, in choosing between equity finance and debt finance as a source of finance from which to make a cash offer for CRX Co.

Solution :

(a) **Current Ex Dividend MPS \$ Current Market Capitalization :**

$$\text{Current Ex Dividend MPS } [P_0] = \frac{D_0(1+g)}{(k_e - g)} = \frac{[.64 \times 50\%](1+.05)}{.12-.05} = \$ 4.80$$

$$\text{Current Market Capitalization} = \$ 4.80 \times 30,00,000 = \$ 144,00,000$$

(b)

Right Issue Price Per Share :-

As given in the question this will be at a 20% discount to the Current share Price = $4.80 \times 80\% = 3.84$ per share

Number Of Right Shares Issued :

$$\text{Number Of Right Shares Issued} = \frac{3\text{million}}{3} = 1\text{million}$$

Cash Raised :-

$$\text{Cash Raised} = 1\text{million} \times 3.84 = \$ 3.84\text{million} = \$ 38,40,000$$

Theoretical Ex Right Price Per Share :

$$\frac{\text{MPS Cum Right} \times \text{Existing Number Of Equity Share} + \text{Right Share Price} \times \text{Number of Right Shares Issued}}{\text{Existing Number Of Equity Share} + \text{New Number Of Right Share Issued}}$$

$$= \frac{30,00,000 \times 4.80 + 10,00,000 \times 3.84}{30,00,000 + 10,00,000} = \$ 4.56 \text{ per share}$$

The Market Capitalisation of THP Co. :

$$\begin{aligned} \text{The Market Capitalisation of THP Co.} &= \text{Market Cap Before Right} + \text{Increase in Market Cap After Right} - \text{Issue Cost} \\ &= 14.4\text{million} + 3.84\text{million} - .32\text{million} = \$ 17.92\text{million} \end{aligned}$$

(c) Price Earning Valuation Method :

$$\text{P/E Ratio of THP Co.} = \frac{4.80}{.64} = 7.5$$

EPS of CRX Co. = .448 per share

Using P/E Ratio of THP Co. , we can calculate MPS of CRX Co. = .448 x 7.5 = 3.36

Market Capitalization of CRX Co.= 3.36 x 1 million = 33,60,000

Note : Since it given in the question that THP Co. & CRX co. are in the same business sector, we have used P/E Ratio of THP Co. to be equal to P/E Ratio of Crx. Co.

(d) In a semi-strong form efficient capital market, share prices reflect past and public information. If the expected annual after-tax savings are not announced, this information will not therefore be reflected in the share price of THP Co.

In this case, the post acquisition market capitalisation of THP Co will be the market capitalisation after the rights issue, plus the market capitalisation of the acquired company (CRX Co), less the price paid for the shares of CRX Co.

Price paid for CRX Co = 3.84m – 0.32m = \$3.52m

Market Capitalisation = 17.92m + 3.36m – 3.52m = \$17.76m

This is equivalent to a share price of 17.76/4 = \$4.44 per share **or**

$$\text{MPS After Merger} = \frac{17.92 + 3.36 - 3.52}{4}$$

The market capitalisation has decreased from the value following the rights issue because THP Co has paid \$3.52m for a company apparently worth \$3.36m.

If the annual after-tax savings are announced, this information will be reflected quickly and accurately in the share price of THP Co since the capital market is semi-strong form efficient. The savings can be valued using the price/earnings ratio method as having a present value of \$720,000 (7.5 x 96,000). The revised market capitalisation of THP Co is therefore \$18.48m (17.76m + 0.72m), equivalent to a share price of \$4.62 per share (18.48/4).**or**

$$\text{MPS After Merger} = \frac{17.92 + 3.36 - 3.52 + .72}{4}$$

This makes the acquisition of CRX Co attractive to the shareholders of THP Co, since it offers a higher market capitalisation than the one following the rights issue.

Each shareholder of THP Co would experience a capital gain of 14c per share (4.62 – 4.48).

In practice, the capital market is likely to anticipate the annual after-tax savings before they are announced by THP Co.

(e) There are a number of factors that should be considered by THP Co, including the following.

(i) Gearing and Financial Risk **(ii)** Target Capital Structure **(iii)** Availability of Security **(iv)** Economic Expectations **(v)** Control Issues

Valuation Of Business :

Question No. 34 Phobis Co is considering a bid for Danoca Co. Both companies are stock-market listed and are in the same business sector. Financial information on Danoca Co, which is shortly to pay its annual dividend, is as follows :

Number of ordinary shares	5 million
Ordinary share price (ex div basis)	\$3.30
Earnings per share	40.0c
Proposed payout ratio	60%
Dividend per share one year ago	23.3c
Dividend per share two years ago	22.0c
Equity beta	1.4
Other relevant financial information	
Average sector price/earnings ratio	10
Risk-free rate of return	4.6%
Return on the market	10.6%

Required : Calculate the value of Danoca Co using the following methods:

(i) price/earnings ratio method; (ii) dividend growth model; and discuss the significance, to Phobis Co, of the values you have calculated, in comparison to the current market value of Danoca Co.

Solution :

(a)(i) Price/Earnings Ratio Method Valuation :

Earnings per share of Danoca Co = 40c
 Average sector price/earnings ratio = 10
 Implied value of ordinary share of Danoca Co = $40 \times 10 = \$4.00$
 Number of ordinary shares = 5 million
 Value of Danoca Co as per P/E ratio Method = $4.00 \times 5\text{m} = \20 million

(ii) Dividend Growth Model :

Earnings Per Share of Danoca Co = 40c
 Dividend Payout Ratio = 60%
 Dividend of Danoca Co is therefore = $40 \times 0.6 = 24\text{c per share}$
 Cost of Equity of Danoca Co using the Capital Asset Pricing Model (CAPM) = $4.6 + 1.4 \times (10.6 - 4.6) = 4.6 + (1.4 \times 6) = 13\%$
 Value of Ordinary Share from Dividend Growth Model formula = $(24 \times 1 + 0.045) / (0.13 - 0.045) = \2.95
 Value of Danoca Co = $2.95 \times 5\text{m} = \14.75 million

The value as per **current market capitalisation** of Danoca Co is \$16.5m ($\$3.30 \times 5\text{m}$).

The price/earnings ratio value of Danoca Co is higher than this at \$20m, using the average price/earnings ratio used for the

sector. Danoca's own price/earnings ratio is $8.25 \left[\frac{3.30}{40.0} \right]$

The difference between the two price/earnings ratios may indicate that there is scope for improving the financial performance of Danoca Co following the acquisition. If Phobis Co has the managerial skills to effect this improvement, the company and its shareholders may be able to benefit as a result of the acquisition.

The dividend growth model value is lower than the current market capitalisation at \$14.75m. This represents a minimum value that Danoca shareholders will accept if Phobis Co makes an offer to buy their shares. In reality they would want more than this as an inducement to sell. The current market capitalisation of Danoca Co of \$16m may reflect the belief of the stock market that a takeover bid for the company is imminent and, depending on its efficiency, may indicate a fair price for Danoca's shares, at least on a marginal trading basis. Alternatively, either the cost of equity or the expected dividend growth rate used in the dividend growth model calculation could be inaccurate, or the difference between the two values may be due to a degree of inefficiency in the stock market.

Working Notes : Calculation Of Growth Rate :

Year 0	D ₀	22	Year 1	D ₁	23.3	Year 2	D ₂	24
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$$24 = 22(1 + g)^2 \Rightarrow g = 4.5\%$$

*When nothing seems to help, I go & look at a stonecutter hammering away at his rock , perhaps a hundred times, with no crack showing in it. Yet, at the hundred-and-one blow it will spilt into two , and I know it was not that blow that did it but all that had gone before.
 Remember , Failure is not final –until you make it final.*

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Hands started going up.

He said, "I am going to give this \$20 to one of you but first, let me do this." He proceeded to crumple the dollar bill up.

He then asked, "Who still wants it?"

Still the hands were up in the air.

"Well," he replied, "What if I do this?" And he dropped it on the ground and started to grind it into the floor with his shoe.

He picked it up, now all crumpled and dirty. "Now who still wants it?" Still the hands went into the air.

"My friends, you have all learned a very valuable lesson. No matter what I did to the money, you still wanted it because it did not decrease in value. It was still worth \$20.

Many times in our lives, we are dropped, crumpled, and ground into the dirt by the decisions we make and the circumstances that come our way.

We feel as though we are worthless. But no matter what has happened or what will happen, you will never lose your value. You are special - Don't ever forget it!

If you don't have a dream, how are you going to make a dream come true? Real difficulties can be overcome; it is only the imaginary ones that are unconquerable. There are two ways of meeting difficulties: you alter the difficulties, or you alter yourself to meet them. You can't fly a kite unless you go against the wind and have a weight to keep it from turning a somersault. The same with man. No man will succeed unless he is ready to face and overcome difficulties and is prepared to assume responsibilities. No matter how difficult the challenge, when we spread our wings of faith and allow the winds of God's spirit to lift us, no obstacle is too great to overcome.

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